Final Programmatic Environmental Assessment for the General Conservation Plan for Non-Federal Oil and Gas Activities Associated with Issuance of Endangered Species Act Section 10(a)(1)(b) Permits in Santa Barbara County, California

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AFB	Air Force Base
BMP	best management practice
CalGEM	California Geologic Energy Management Division
CCMP	California Coastal Management Program
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CRLF	California red-legged frog
CTS	California tiger salamander
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOI	Department of the Interior
DPS	Distinct Population Segment
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FR	Federal Register
GCP	General Conservation Plan
HCP	Habitat Conservation Plan
HUC	Hydrologic Unit Code
IPaC	Information, Planning, and Confirmation System
ITP	Incidental Take Permit
LCP	Local Coastal Plan
LYS	Lompoc yerba santa
NEPA	National Environmental Policy Act
NOA	Notice of Availability
PCE	Primary Constituent Element
ppt	parts per trillion
Secretary	Secretary of the Interior
Service	U.S. Fish and Wildlife Service
SHPO	State Historic Preservation Office

ACRONYMS AND ABBREVIATIONS

USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service

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SECTION 1
PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The U.S. Fish and Wildlife Service (Service) has prepared this Programmatic Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S. Code [USC] §§4321 *et seq*.); Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); and Section 10(a)(1)(B) of the Federal Endangered Species Act (ESA), as amended (15 USC §1532). This Programmatic EA evaluates the impacts of, and the alternatives to, the approval and implementation of the General Conservation Plan (GCP) that the Service has been prepared to standardize the issuance of Incidental Take Permits (ITPs) that cover take of the federally endangered Santa Barbara County Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*) (CTS) and the federally threatened California red-legged frog (*Rana draytonii*) (CRLF) for non-Federal oil and gas activities in Santa Barbara County, California. Over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable permanent and temporary habitat impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly, the GCP would incorporate established maximum allowable permanent and temporary habitat impacts for the federally endangered Lompoc yerba santa (*Eriodictyon capitatum*) (LYS) based on recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011).

A GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B) of the ESA and enables the construct of a programmatic permitting and conservation process to address a defined suite of proposed activities over a defined planning area. As opposed to individual, Applicant-prepared Habitat Conservation Plans (HCPs) that address conservation on a project-by-project basis (see Section 1.2.2, *Section 10 – Conservation Plans and Incidental Take Permits*), a GCP establishes a framework under which covered activities are reviewed for compliance with standardized requirements as ITP applications are submitted. As with a project-specific, Applicant-prepared HCP, the Service can issue an ITP under a GCP pursuant to Section 10(a)(1)(B) of the ESA. However, unlike HCPs,

which are prepared by the Applicant for a specific project, the Service proactively prepares a single GCP to provide for issuing ITPs for activities that are in compliance with the requirements of the GCP.

The GCP was prepared by the Service's Ventura Field Office in accordance with Section 10(a)(2)(A) of the ESA to provide a more efficient and standardized mechanism for Applicants engaged in commercial oil and gas development, expansion, operations, maintenance, and decommissioning of infrastructure on non-Federal lands. The GCP would allow private individuals, local and state agencies, and other non-Federal entities to meet the statutory and regulatory requirements of the ESA by applying for an ITP and complying with the requirements of the GCP, including all applicable avoidance, minimization, and mitigation actions.

While the GCP does not, and cannot, place a limit on the number of non-Federal oil and gas activities, the GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat, consistent with the species' recovery plans. Similarly, the GCP incorporates established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*.

Additionally, the GCP would not limit or reduce the application of avoidance and minimization measures for non-Federal oil and gas activities. Rather, the GCP would standardize these avoidance and minimization measures and ensure that they are applied consistently throughout the GCP plan area. Additionally, the GCP would ensure that compensatory mitigation would be undertaken in a strategic way such that it contributes to meeting the species' recovery criteria.

This Programmatic EA provides the required NEPA documentation for the Federal action (i.e., approval and implementation of the GCP), providing baseline environmental setting information and a discussion of impacts to the human and natural environment that may occur as a result of implementation of the GCP. Importantly, the scope of this Programmatic EA is limited to the evaluation of the GCP as a mechanism to standardize ITP issuance for covered activities; this Programmatic EA neither evaluates nor results in approval of oil and gas development projects or activities. Land use approval(s) for individual projects

would continue to be the responsibility of the local or state agency(ies) with appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the California Environmental Quality Act (CEQA) (see Section 1.6.1, *California Environmental Quality Act*). Individual non-Federal oil and gas activities would continue be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis prior to issuance of an ITP under the GCP (see Section 2.1.6, *Permit Processing and Implementation*).

1.2 BACKGROUND

Section 9 of the ESA and its implementing regulations prohibit "take" of fish and wildlife species that are listed as endangered or threatened (16 USC §§1531-1544). Exemptions to the prohibition against take may only be obtained through consultation with the Service under Section 7 or Section 10 of the ESA.

1.2.1 Section 7 Inter Agency Consultation

If a proposed project has a Federal nexus (i.e., the proposed project is to be funded, authorized, or carried out by a Federal agency), the applicable Federal agency (i.e., the Federal agency responsible for funding, authorizing, or carrying out the proposed project) must consult with the Service pursuant to Section 7(a)(2) of the ESA. Under Section 7 of the ESA, Federal agencies are directed to utilize their authorities in furtherance of the purposes of the ESA by development of conservation programs (Section 7[a][1]). Federal agencies must also ensure that their or their Applicants' proposed projects do not jeopardize the continued existence of a threatened or endangered species or adversely modify designated critical habitat (Section 7[a][2]). Pursuant to 50 CFR §402.2, "[j]eopardize the continued existence of…" means to "engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." "Destruction or adverse modification" means a "direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species." Such alterations may

include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features. Regulations specifying how Federal agencies fulfill their Section 7 consultation requirements are described in 50 CFR Part 402.

1.2.2 Section 10 Conservation Plans and Incidental Take Permits

In instances where a proposed project has no Federal nexus, Applicants can comply with the ESA by applying for an ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. In order to receive the ITP, the Applicant must submit a conservation plan to the Service under Section 10(a)(2)(A), that must specify:

- The impact that will likely result from such taking;
- The steps the Applicant will take to minimize and mitigate that take to the maximum extent practicable and the funding that will be available to implement such steps;
- The alternative actions to such taking that the Applicant considered and the reasons why such alternatives are not being utilized; and
- Other measures that the Service may require as being necessary or appropriate for the purposes of the HCP.

Issuance criteria under Section 10(a)(2)(B) for an ITP require that the Service find that:

- The taking will be incidental to otherwise lawful activities;
- The Applicant will, to the maximum extent practicable, minimize and/or mitigate the impacts of such taking;
- The Applicant has ensured that adequate funding for the plan will be provided;
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
- The measures, if any, required as necessary or appropriate for the purposes of the plan will be met.

The HCP process for an Applicant to obtain an ITP has four primary phases:

1) *Pre-Application.* The Service provides the Applicant guidance in deciding if an ITP is appropriate and if so, what type and scale of HCP would fit the Applicant's needs.
2) *Development of an HCP.* An HCP that integrates the proposed project with conservation of listed species is prepared by the Applicant.
3) *Processing of the Permit.* A complete application package including an ITP application, HCP, and fee is submitted to the Service by the Applicant. The Service publishes a Notice of Availability (NOA) of the package in the *Federal Register* to allow for public comment as well as interagency comment. The Service issues an ITP pursuant to Section 10(a)(1)(B) upon a determination by that all statutory criteria have been met. The Service notifies the public of permit issuance is through the publication of a notice in the *Federal Register*. The Service also prepares an Intra-Service Section 7 Biological Opinion and a Set of Findings, the latter which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria. HCPs require an evaluation compliant with NEPA: either an EA or an Environmental Impact Statement (EIS), depending on their complexity, and a "Low Effect" screening form is utilized to determine if a project qualifies for a Categorical Exclusion (CE). For those requiring an EA as part of the permit application, the target permit processing time is approximately 6 months. For those requiring an EIS, the target permit processing time is approximately 1 year.
4) *Post-Issuance Compliance.* During the post-issuance phase, the permittee(s) and any other responsible entities are required to implement the HCP in accordance with the terms and conditions of the ITP. The Service monitors permittee(s) compliance with the conservation plan as well as its long-term progress and success.

1.3 PURPOSE AND NEED OF THE PROPOSED ACTION

1.3.1 Purpose

The purpose of the GCP is to provide a programmatic mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with

Section 10(a)(1)(B) of the ESA for oil and gas activities on non-Federal lands in Santa Barbara County that have the potential to impact the CTS, CRLF, and LYS. Rather than processing individual ITP applications and associated project-specific HCPs for individual Applicants, the approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly the GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011).

1.3.2 Need

The Service continually searches for opportunities to improve conservation practices, including the need for comprehensive consideration of protections for federally listed species and designated critical habitat. The GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner. Secondly, processing individual, Applicant-prepared HCPs requires Ventura Field Office staff to conduct lengthy reviews of Applicant-prepared avoidance, minimization, and mitigation measures for each individual project. The GCP would eliminate the need for reviewing and processing project-specific, Applicant-prepared HCPs and would offer a programmatic mechanism by which the Ventura Field Office can authorize incidental take of CTS and CRLF as well as impacts to LYS by a non-Federal entity engaging in otherwise lawfully permitted oil and gas development projects in Santa Barbara County.

1.4 AGENCY AND PUBLIC INVOLVEMENT PROCESS

Scoping is the early and open process for determining the scope of issues to be addressed in the planning process and involves the public in identification of significant issues associated with proposed Federal actions. A 45-day scoping

period for this project was originally held from August 2, 2017 through September 18, 2017 initiated through publication of a Notice of Intent in the *Federal Register* (82 Federal Register [FR] 35988). During the scoping process for the GCP and this Programmatic EA, the Service received eight written response comment letters (see Appendix B). As a result of these comments, clarifications and revisions were made to the Draft GCP. Additionally, the Service reviewed and considered these comments during the preparation of the Draft Programmatic EA.

NEPA, 40 CFR Parts 1500-1508, and the Fish and Wildlife Service NEPA Reference Handbook require public review of the Draft EA before either approval of a Finding of No Significant Impact (FONSI) or determination to prepare an EIS. A NOA was published in the *Federal Register* on March 6, 2020 announcing the availability of the Draft Programmatic EA for review by the public, agencies, and other interested parties (85 FR 13181). Additionally, notification was sent to all interested stakeholders identified during the scoping process to encourage review of and comment on the Draft Programmatic EA. The Service received comment letters from the one Federal agency, two state agencies, two non-governmental organizations, two oil and gas companies, and a biological consulting firm. Additionally, the Service received 58 form letters from concerned members of the public (see Appendix D). All comments received on the Draft Programmatic EA were reviewed, considered, and incorporated into the Final Programmatic EA, as appropriate.

1.5 SCOPE OF THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Per CEQ Regulations for Implementing the Procedural Provisions of NEPA, Fish and Wildlife Service NEPA Reference Handbook, and recent Department of the Interior-issued (DOI) guidance (e.g., Secretarial Order 3355), an EA is intended to be focused, relevant, succinct, etc. As such, resources areas that are anticipated to experience either no impact or negligible impacts associated with the approval of the GCP have been dismissed from detailed analysis.

As previously stated, approval and implementation of the GCP would not directly result in approval of any non-Federal oil and gas activities. An ITP is one of a suite of permits required for project approval. The GCP process neither reduces nor increases the number and types of permits required and would not affect the

required agency coordination and/or consultation required by applicable laws, regulations, guidance, etc. As such, the GCP would not directly result in any ground-disturbing activities that could result in potential impacts to other environmental resource areas. Therefore, as described further in Appendix B, the following resource areas have been dismissed from further analysis:

- Geology and Soils
- Water Resources and Water Quality
- Air Quality
- Greenhouse Gas Emissions
- Socioeconomics and Environmental Justice
- Land Use and Transportation
- Noise
- Cultural Resources

Given the nature of the Proposed Action, a thorough discussion of potential impacts to biological resources has been carried forward for further analysis. Specifically, this Programmatic EA evaluates potential environmental impacts to the following resources that could have the potential to be affected by implementation of the Proposed Action:

- Vegetation
- General Wildlife
- Threatened and Endangered Species
- Wetlands/Waters of the U.S.

1.6 External Regulatory and Consultation Requirements for Non-Federal Oil and Gas Activities

Implementation of the GCP would not require discretionary approval action by a state or local agency; however, as described in Section 1.5, *Scope of the Programmatic Environmental Assessment,* the non-Federal oil and gas activities for which the GCP would address with respect to ESA would continue to require regulatory review

and compliance prior to discretionary approval by a state or local agency. Key regulations guiding project-specific reviews and approval are identified below.

1.6.1 California Environmental Quality Act

Implementation of the GCP would not require discretionary approval action by a state or local agency; therefore, the GCP is not subject to CEQA review. However, land use approval(s) for individual non-Federal oil and gas projects would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, all non-Federal oil and gas activities would continue to require compliance with CEQA, which requires local and/or state agencies to identify any significant environmental impacts of actions and to avoid or mitigate those impacts, as feasible. Similar to NEPA, CEQA provides a multi-tiered process for impact assessment, public comment, and overall environmental review and approval. Non-Federal oil and gas activities addressed by the GCP would continue to be subject to compliance with CEQA as well as all other environmental regulations, laws, and guidance related to the full scope of environmental resources affected by project development per Appendix G of *CEQA Statute and Guidelines* (updated December 2020), including:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

1.6.2 National Historic Preservation Act

All Federal agencies are required to examine the cultural impacts of their actions, including permit issuance. This requires consultation with the State Historic Preservation Office (SHPO) and appropriate federally recognized Native American tribes. A Request for Cultural Resources Compliance Form would also be completed prior to ITP issuance under the GCP.

1.6.3 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) is responsible for designating and managing state-listed, threatened, endangered, and rare species pursuant to the California Endangered Species Act (CESA). CDFW is also responsible for designating and tracking Species of Special Concern, which include sensitive native wildlife that occur in small, isolated populations, show marked population declines, depend on habitat that has shown historical or recent declines, etc.

CESA generally parallels the provisions of the ESA and provides for the state-designation of native species or subspecies of plants, fish, and wildlife as endangered or threatened. Section 2080 of CESA prohibits the take of state-listed endangered or threatened species, but allows for the incidental take of such species as a result of otherwise lawful development projects under Section 2081(b) and (c). CTS and LYS are state listed as threatened and rare, respectively, under CESA.

Individual permittees that obtain an ITP for CTS through the GCP pursuant to Section 10(a)(1)(B) could request that the Director of the CDFW find the Federal ITP consistent with CESA. Permittees would be responsible for submitting individual Section 2080.1 Consistency Determination Request(s) for CTS to the CDFW. The CDFW cannot issue a Section 2080.1 Consistency Determination for LYS because the Service does not include plants on Federal ITPs. Therefore, Applicants seeking coverage for LYS would need to pursue a separate permit with the CDFW. Applicants would be able to use the GCP as the document to seek a Section 2081 Permit for listed plants from the CDFW.

1.6.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) (16 USC §§1451 *et seq.*), creates a Federal-state partnership to ensure the protection of coastal resources. The CZMA requires every Federal action or federally funded action, which has the potential to affect any land or water use or natural resources of the Coastal Zone, to be carried out in a manner that is consistent to the maximum extent practicable with the enforceable policies of the applicable state Coastal Management Program.

The California Coastal Act (Coastal Act) and the California Coastal Commission (Coastal Commission) were established by voter initiative in 1972 to plan for and regulate new development, and to protect public access to and along the shoreline. The Coastal Act requires that planning and development within the Coastal Zone be consistent and compatible with the unique characteristics of coastal resources. To ensure consistency with the regulations of the Coastal Act, each local government located within the Coastal Zone has been directed by the Coastal Commission to prepare a Local Coastal Plan (LCP) with public outreach and participation. The LCP for the County of Santa Barbara was certified by the Coastal Commission in 1982. As such the County is responsible for reviewing and issuing Coastal Development Permits (CDPs). However, under the provisions of Section 30603(a)(5) of the Coastal Act, any action taken by a local government on a CDP application for a major public works project or major energy facility is appealable to the Coastal Commission.

While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an ITP under the GCP. For any such activities, the Applicant would be responsible for determining consistency with the California Coastal Management Program (CCMP) in accordance with Section 307(c)(3)(A) of the CZMA.

For Federal consistency reviews under the CZMA, the Coastal Commission's standard of review is the enforceable policies of the CCMP, found in Chapter 3 of the Coastal Act.

SECTION 2
PROPOSED ACTION AND ALTERNATIVES

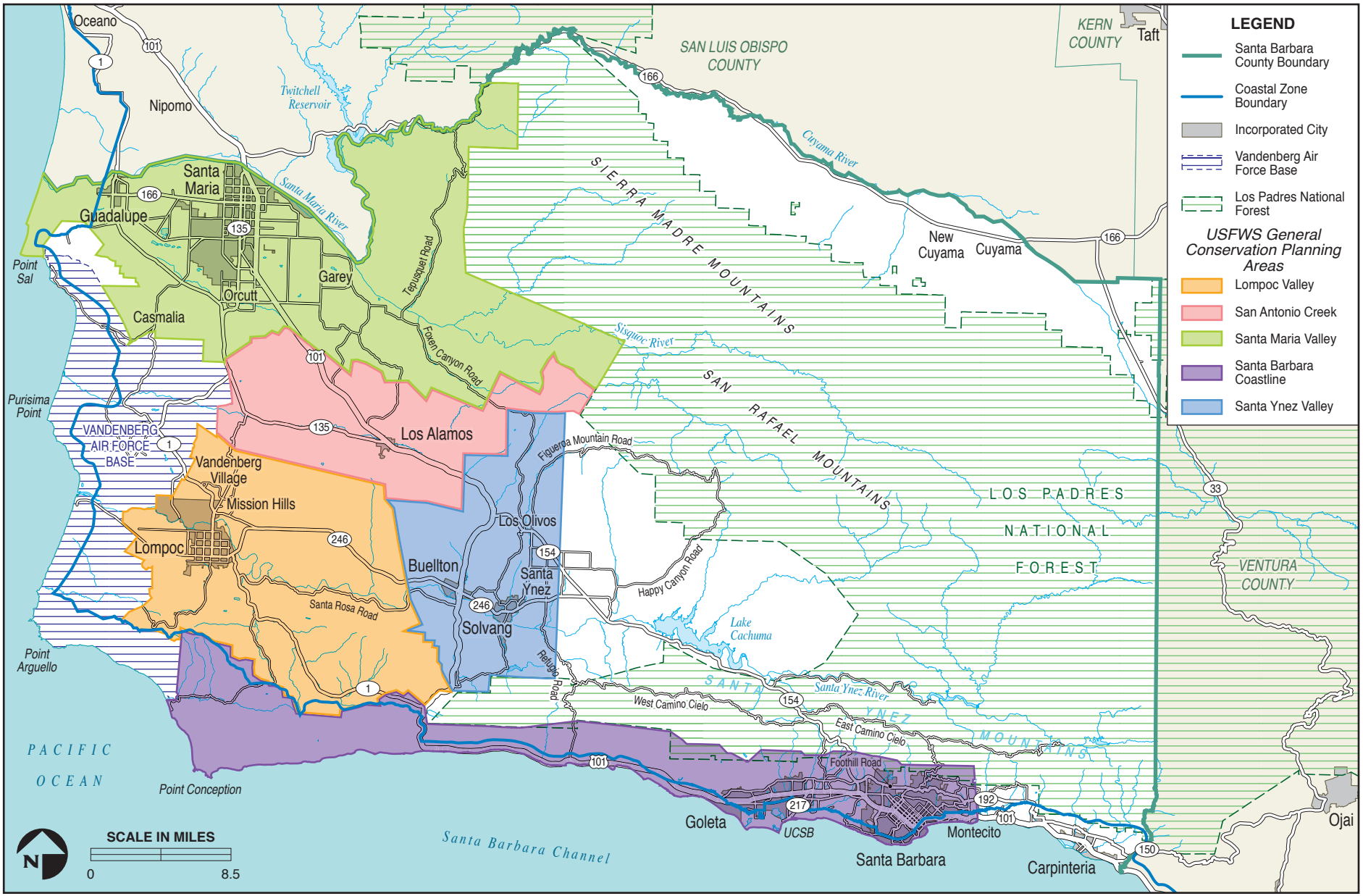
This section describes the Proposed Action, which includes the proposed approval and implementation of the GCP. In addition to the Proposed Action, CEQ regulations require an assessment of potentially effective and reasonably feasible alternatives for implementation of the Proposed Action. Further, CEQ regulations stipulate that the No Action Alternative must be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented.

A description of the Proposed Action and the No Action Alternative are provided below. Although it does not meet the purpose and need to increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA, the No Action Alternative is described in Section 2.2, *No Action Alternative* and is evaluated in the Programmatic EA as required by NEPA. Other alternatives that were initially considered but dismissed for further analysis are described in Section 2.4, *Alternatives Considered but Eliminated from Detailed Analysis*.

2.1 PROPOSED ACTION: APPROVAL AND IMPLEMENTATION OF THE GCP

2.1.1 GCP Planning Area

The entire Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline (see Figure 1-1). This area is located entirely within the Area of Responsibility for the Service's Ventura Field Office, which processes ITP applications for the entire region of Central California (Service 2017a).



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Santa Barbara County
General Conservation Planning Areas

FIGURE
1-1

2.1.2 Federally Listed Species Covered by the GCP

The GCP addresses the incidental take of CTS and CRLF as well as impacts to LYS for non-Federal oil and gas activities in Santa Barbara County. For a complete description of these species, including their life history, habitats, status, and recognized threats, please refer to Section 3 of the GCP, *Environmental Setting and Covered Species*.

The three federally listed species covered under the GCP were selected for inclusion by the Ventura Field Office during the development of the GCP because they account for the majority of individual ITP applications received for non-Federal oil and gas activities in Santa Barbara County and/or to promote thoughtful conservation of such imperiled species. Any other federally listed species that could possibly be affected by non-Federal oil and gas activities would continue to be addressed on a project-by-project basis and would require individual ITPs and associated project-specific, Applicant-prepared HCPs.

2.1.3 Covered Activities and Actions

The Federal Action comprises the approval and implementation of the GCP to govern subsequent issuances of ITPs for covered species within the Planning Area for the proposed 20-year term of the GCP. Activities covered under the GCP that may result in take of CTS and CRLF or impacts to LYS include, but are not limited to, geophysical exploration, development, extraction (i.e., upstream activities) and storage, transport, and distribution (i.e., midstream activities) of crude oil, natural gas, and/or other petroleum products. Some overlap may occur between these two categories and different Federal agencies may define "upstream" and "midstream" differently to the definition in the GCP. For a complete description of the covered activities, refer to Section 2, *Covered Activities* of the GCP (see Appendix A).

All of the covered activities, which are summarized below, must comply with the most current requirements and procedures administered by the California Geologic Energy Management Division (CalGEM; formerly known as the Division of Oil, Gas, and Geothermal Resources [DOGGR]). Further, only covered activities located within the Planning Area would to be eligible to receive an ITP through

the GCP process. Therefore, pipelines or other infrastructure that extend beyond the Planning Area would continue to be addressed on a project-by-project basis and would require individual project-specific, Applicant-prepared HCPs.

2.1.3.1 Upstream Activities

Upstream activities, as defined by the GCP, includes activities associated with oil, natural gas, and other petroleum products and development of the infrastructure required to extract those resources. Covered activities include geophysical exploration (i.e., seismic exploration), which is the process of locating oil and gas deposits beneath the ground surface. This involves generating seismic waves and measuring their reflectance through differing geologic structures. These seismic waves may be initiated by detonating explosives or through a process known as "land vibroseis." Reflected seismic waves are recorded and interpreted to characterize subterranean landforms. Seismic companies often design sound generation points to avoid identified sensitive habitats and hazards and still collect meaningful data.

Covered activities also include construction, operation, and maintenance of new and existing well field infrastructure and decommissioning of obsolete facilities, including:

- Well pads
- Drilling and completion activities
- Pipelines located within the oil field, including gathering lines, header systems and production tanks
- Wells
- Gas flaring
- Work and access roads
- Electric distribution lines (voltage must be 34.5 kilovolts [kV] or less)
- Equipment and multiphase booster pads
- Communication towers
- Tank batteries

Other covered activities include renewable energy (e.g., photovoltaic solar panels, wind turbines, etc.).

Actions common to these activities include vegetation clearing; removal and grading of soils; trenching for underground pipelines and other utilities; drilling operations; installation of or modification to fencing, walls, and roads; and increased impervious pavements and lighting.

Each of these activities and associated actions, along with all of the restrictions described in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A), would be covered under the GCP.

2.1.3.2 Midstream Activities

Midstream activities, as defined in the GCP, includes gathering, processing and treatment, transmission, and/or distribution of crude oil, natural gas, or other petroleum products. Petroleum products may include unprocessed natural gas liquid or condensate streams (e.g., methane, ethane, propane, butane, and pentane). Refined oil products including gasoline, diesel, and kerosene may also be transported via pipeline. Pipelines located within the boundaries of well pads are included in upstream activities, while gathering, transmission, and distribution pipelines are considered midstream activities. Covered activities associated with midstream activities include the following:

- Construction of gathering, transmission, and distribution pipelines
- Construction of associated surface facilities, including:
    - Access roads and bridges
    - Booster, compressor, and pump stations
    - Meter stations, mainline valves, pig launchers/receivers, regulator facilities, and other required facilities
    - Natural gas processing and treatment facilities
    - Communication towers
    - Electric distribution lines (voltage must be 34.5 kV or less)
    - Electric substations
- Oil seep management
- Operation and maintenance of pipeline and associated surface facilities
- Decommissioning and reclamation of pipeline and associated surface facilities

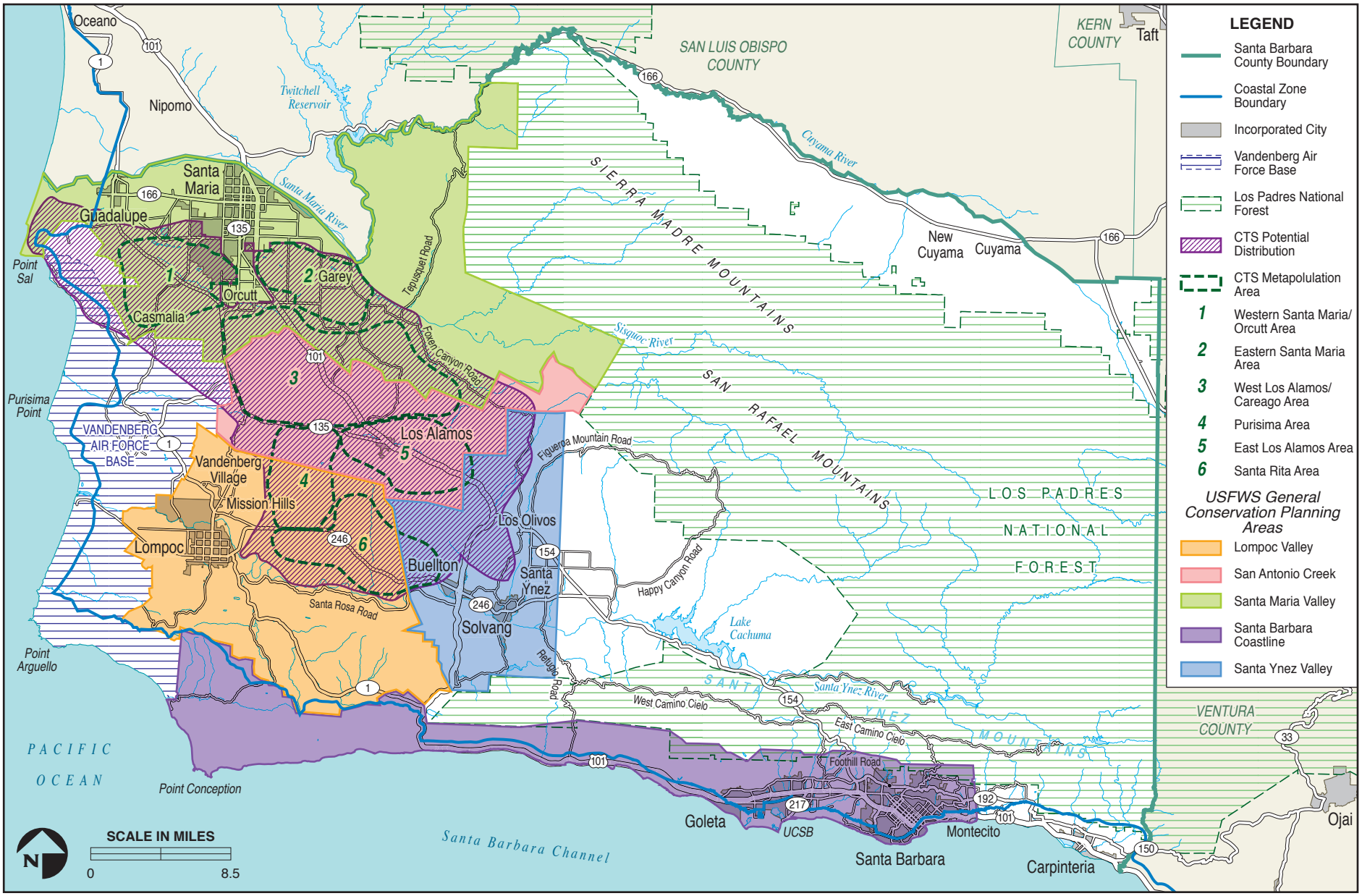
- On-site mitigation areas and/or mitigation banks
- Habitat restoration activities

Actions common to these activities are similar to those described for upstream activities. Each of these activities and associated actions, along with all of the restrictions described in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A), would be covered under the GCP.

2.1.4 Limits on Take and Maximum Allowable Impacts under the GCP

As described in further detail below, the GCP includes defined permitted limits on take for CTS and CRLF as well as impacts to LYS to ensure that the recovery criteria for these species are not precluded. In the event that the maximum permitted take or impacts to a covered species is reached during the 20-year term of the GCP, additional impacts or take authorization would not be available under the GCP for that particular species.

The standardized process would measure and account for take of CTS and CRLF as well as impacts to LYS through established maximum allowable impacts within these species' habitats.



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California Tiger Salamander (CTS) Metapopulations

FIGURE 2-1

2.1.4.1 California Tiger Salamander (Santa Barbara County DPS)

Approximately 67,525 acres of the Planning Area – spanning the Lompoc Valley and San Antonio Creek (see Figure 2-1) – are located within the 1.3-mile dispersal distance of known CTS breeding ponds (see Appendix A).[1,2]

Ground-disturbing activities covered under the GCP could result in temporary and permanent disturbance of CTS upland habitat. While no permanent impacts to CTS breeding ponds would be authorized under the GCP, temporary maintenance activities (e.g., de-sedimentation activities) could occur during the dry season when CTS are not occupying the ponds.

Take of individual CTS in the form of mortality or injury of adults or larvae may result from crushing and collision; impacts to upland habitat; increased habitat fragmentation; and changes from one vegetation community to another. However, the Service cannot predict the number of individual CTS that would be incidentally subject to take because no density estimate (i.e., the number of CTS per acre) has been calculated for the Planning Area. Additionally, take of CTS would be difficult to quantify because: 1) individual CTS are small, making them difficult to locate, which makes encountering dead or injured individuals unlikely; 2) losses of individuals may be masked by normal temporal fluctuations in populations; and 3) CTS spend the majority of their lifespan underground; and 4) CTS are primarily active at night. As such, the Service has calculated permanent and temporary impacts to upland habitat as a proxy to quantify take and define the permitted limits necessary to meet the recovery criteria in the species' Recovery Plan (Service 2016). Occupied CTS habitat is defined as: 1) areas within California tiger salamander dispersal distance (i.e., approximately 1.3 miles) from a documented known breeding pond; or 2) where CTS are assumed present by the

[1] The "metapopulation areas" displayed on Figure 2-1 encompass both currently occupied, and potentially occupied suitable habitat for each metapopulation for regional conservation planning purposes.

[2] CTS Breeding Ponds are defined in the California Tiger Salamander Conservation Strategy (Service 2020), which is also referenced in the GCP, "*[a]quatic breeding habitat for CTS is characterized as ponds with seasonal, shallow wetlands that alternate between dry and wet periods…Ponds with a documented breeding CTS population are identified as known breeding ponds. Ponds with the appropriate hydroperiod to support CTS breeding (i.e., at least 10 weeks) and surrounding upland habitat, but CTS breeding has not been documented, are identified as potential breeding ponds.*"

Applicant (i.e., no surveys have been conducted). Table 2-1 shows the amount of CTS upland habitat loss allowed within each metapopulation, as defined by the Recovery Plan, under the GCP.

Table 2-1. Maximum Allowable Impacts to CTS Upland Habitat under the GCP

CTS Metapopulation	Amount of CTS Upland Habitat (acres)	Allowed Permanent Impacts to CTS Upland Habitat (acres)	Allowed Temporary Impacts to CTS Upland Habitat (acres)
West Santa Maria	12,963	130	260
East Santa Maria	10,411	104	208
West Los Alamos/Careaga	14,570	146	196
East Los Alamos	6,024	60	120
Purisima	11,938	119	238
Santa Rita	11,619	116	232

The amount of California tiger salamander habitat loss allowed under this plan was calculated based on the amount of habitat necessary to meet the recovery criteria and the amount of existing California tiger salamander habitat in each of the six metapopulation areas. While there are six metapopulations of the Santa Barbara County distinct population segment of the CTS, the East and West Santa Maria metapopulation areas are under the greatest threat from land conversion and habitat loss. In order to ensure that there remains enough available habitat to achieve the recovery criteria in this metapopulation area, it may be necessary to acquire conservation easements and restore habitat to properly function as California tiger salamander habitat in these metapopulation areas.

The planning area overlaps with all of the designated critical habitat areas of the CTS across the six metapopulation areas (Service 2004). Critical habitat receives protection under Section 7 of the ESA through the prohibition against destruction or adverse modification with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. Therefore, impacts to CTS within designated critical habitat would not be covered under the GCP. For potential impacts within designated critical habitat, the Service would conduct a Section 7 consultation and analyze the effects of issuing an ITP

to determine whether that action is likely to jeopardize the continued existence of the listed species or to destroy or adversely modify designated critical habitat.

2.1.4.2 California Red-Legged Frog

The entire 674,220-acre Planning Area – including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline – is located within the range of CRLF.

Similar to CTS, the Service cannot predict the number of individual CRLFs that would be incidentally subject to take. As such, the Service has calculated permanent and temporary impacts to occupied CRLF habitat as a proxy to quantify take. Occupied CRLF habitat is defined as: 1) areas where suitable CRLF habitat occurs unless absence is documented in accordance with the Service's *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (2005)*; or 2) where CRLF are assumed present by the Applicant (i.e., no surveys have been conducted). Ground-disturbing activities covered under the GCP could result in temporary and permanent impacts to CRLF dispersal habitat, and less frequently to aquatic or upland habitat. The Service would allow for up to 1 percent of the total planning area (i.e., 6,742 acres) as the cap for allowable impacts to CRLF habitat under the GCP. Applicants would compensate for these impacts in accordance with Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the GCP.

As described for CTS, impacts to CRLF within designated critical habitat would not be covered under the GCP. For potential impacts within designated critical habitat, the Service would conduct a Section 7 consultation and analyze the effects of issuing an ITP to determine whether that action is likely to jeopardize the continued existence of the listed species or to destroy or adversely modify designated critical habitat.

2.1.4.3 Lompoc Yerba Santa

Five subpopulations of LYS are located across three geographic regions in Santa Barbara County, including Solomon Hills (two subpopulations); West Burton

Mesa (two subpopulations within the boundaries of Vandenberg Air Force Base [AFB]); and Santa Ynez Mountains (one subpopulation) (see Figure 2-2).

Solomon Hills: Two large subpopulations occur here, approximately 12 miles north of the City of Lompoc, within the Santa Maria Valley Planning Area. These lands are privately owned and managed for oil extraction by Breitburn Energy Company. One subpopulation is associated with Bishop pine (*Pinus muricata*), while the second subpopulation occurs in coastal sage scrub and chaparral.

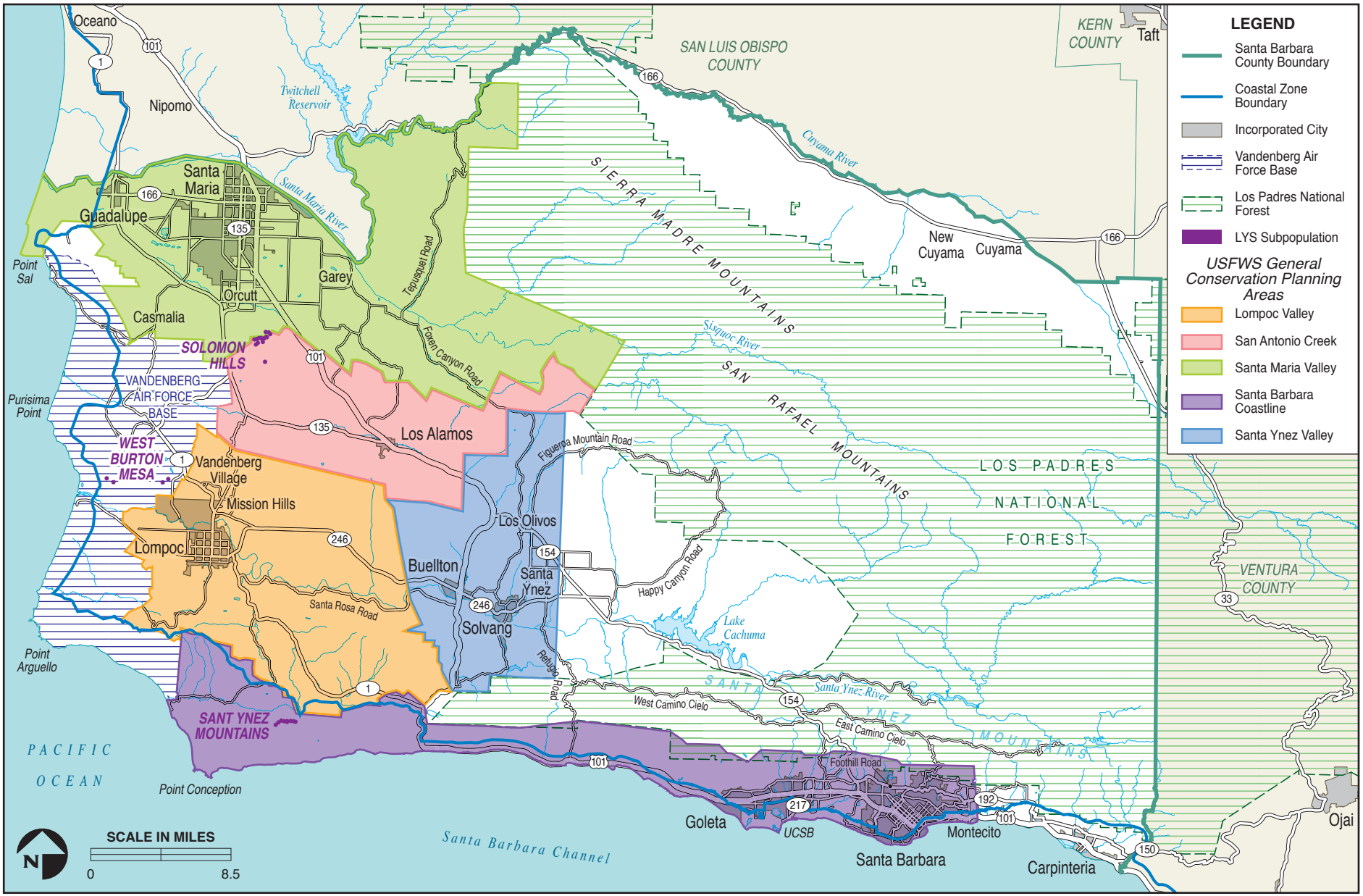
Santa Ynez Mountains: One subpopulation occurs here, approximately 10 miles south of the Lompoc, within the Santa Barbara Coastline region of the Planning Area. LYS are scattered along a 5-mile stretch of the mountains from the ridgeline to halfway down the south-facing slope. The land, known as Hollister Ranch, is privately-owned.

Ground-disturbing activities covered under the GCP could result in the temporary or permanent loss of LYS habitat and removal of individual plants. Indirect effects to LYS may also occur in the form of altered surface hydrology, potentially resulting in erosion; an increase, decrease, or change in the period and amounts of moisture content in the soil to which the subspecies has adapted; an increase in the abundance of nonnative plants species as a result of the project activities; dust that could affect reproduction; and loss or change in the abundance of pollinators.

The GCP would allow for impacts of up to 27.5 acres of LYS habitat across the two geographic areas that encompass three populations of LYS (see Table 2-2).

Table 2-2. Limits on Impacts to LYS under the GCP

Lompoc yerba santa subpopulation	Acres of impacts to habitat
Solomon Hills	11
Santa Ynez	16.5



wood.

Lompoc Yerba Santa (LYS) Subpopulations

FIGURE 2-2

2.1.5 Compensatory Mitigation, Avoidance, and Minimization Measures

As described in Section 5, *Conservation Program / Measures to Minimize and Mitigate for Impacts* of the GCP (see Appendix A), Section 10(a)(2)(A) of the ESA requires that a conservation plan specify the measures that the permittee would take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed species as a result of covered activities.

Under the current process, the Applicant develops avoidance and minimization measures on a project-by-project basis as a part of a project-specific, Applicant-prepared HCP. The GCP would not limit or reduce the application of avoidance and minimization measures for non-Federal oil and gas activities. Rather, the GCP would standardize these avoidance and minimization measures and ensure that they are applied consistently throughout the GCP Planning Area.

Consistent with Goal 3, Objective 3.1 of the GCP as well as ITP issuance criteria, compensatory mitigation for CTS would be implemented in accordance with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* (Service 2020) and would support the recovery needs for this species as described in the species' Recovery Plan (Service 2016). Similarly, compensatory mitigation for CRLF would be implemented in accordance with Section 5, *Conservation Program / Measures to Minimize and Mitigate for Impacts* of the GCP and would support the recovery needs of this species as stated in species' Recovery Plan (Service 2002b). The Service has not developed a Recovery Plan for LYS and therefore, the Service defaults to standard conservation practices for this species.

Section 10 of the ESA requires that conservation plans "minimize and mitigate" the impacts of take authorized by an ITP, and that issuance of an ITP will not "appreciably reduce the likelihood of the survival and recovery of the species in the wild." If an activity or action covered by the GCP is expected to result in permanent habitat loss to CTS, CRLF, and LYS, then permittees under the GCP would provide compensatory mitigation. Further, compensatory mitigation would also be necessary to support Section 2080.1 Consistency Determination or Section 2081 Permit issued by CDFW (refer to Section 1.6.3, *California Endangered Species Act*).

Under the HCP process, the Applicant develops compensatory mitigation proposals on a project-by-project basis, when necessary to off-set unavoidable impacts. Under the GCP, compensatory mitigation would be undertaken in a strategic way such that it contributes to meeting the species' recovery criteria. For example, within the East Santa Maria and West Santa Maria CTS metapopulations the amount of suitable habitat available to meet the recovery criteria described in the Recovery Plan is decreasing. Under the GCP, the Service would be able to focus mitigation in these metapopulation areas to conserve existing habitats and/or create, enhance, or restore degraded CTS habitats to help achieve recover goals.

A complete description of compensatory mitigation as well as additional avoidance and minimization measures is provided in Section 5, *Conservation Program / Measures to Minimize and Mitigate for Impacts* of the GCP (see Appendix A).

2.1.6 Permit Processing and Implementation

The specific process for obtaining an ITP under the GCP is described in Section 6, *Permit Processing and Implementation* of the GCP (see Appendix A). As described in the GCP, to apply for an ITP under the GCP, an Applicant must submit a complete Permit Application Package, beginning with the completion of the *GCP Eligibility Determination Form* to determine whether the individual non-Federal oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the Mitigation Monitoring and Reporting Program (MMRP); and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

Based on the findings of the CEQA-compliant documentation and the record of consultation, the Service would use the "Low Effect" screening form to determine if a project qualifies for a CE or whether an EA would be required. The EA, if necessary, would analyze all project-specific impacts to the full suite of

environmental resources associated with the proposed non-Federal oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology, soils, and vegetation as a result of grading; etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a CE or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

2.2 ALTERNATIVES CARRIED FORWARD FOR DETAILED ANALYSIS

CEQ regulations implementing NEPA require that the No Action Alternative be analyzed to provide a baseline for comparison with the Proposed Action. The No Action Alternative identifies and describes the potential environmental impacts of the *status quo* (i.e., if the Proposed Action were to not be implemented).

2.2.1 No Action Alternative

Under the No Action Alternative, the Service would not implement the GCP. Applicants would be required to continue comply with the ESA by avoiding take of federally listed species or, in the instances where take could not be avoided, Applicants would need to apply for an individual ITP and develop a project-specific, Applicant-prepared HCP in order to comply with the ESA. No defined maximum impact limits to CTS, CRLF, and LYS habitat would be established; non-Federal oil and gas activities would continue without consideration of such limits. Conservation measures, including any compensatory mitigation, would also continue to be developed by the Applicant on a project-by-project and piecemeal basis instead of collectively. Thus, the benefits of cohesive planning for species recovery efforts may not be achieved.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Several alternatives to the Proposed Action were identified and preliminarily evaluated during project planning and development.

For example, the GCP was initially written to only cover take of CTS. However, non-Federal oil and gas activities and actions that have the potential to take CTS often have the potential to take CRLF. As such, CRLF was included in the GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp (*Branchinecta lynchi*), were considered for analysis but eliminated due to the limited potential for non-Federal oil and gas activities to affect these species. In the event that proposed activities would have the potential to impact species that are not covered under the GCP, they would continue to be addressed on a project-by-project basis and would need project-specific, Applicant-prepared HCPs to comply with the ESA. These alternatives were eliminated from further consideration and are not analyzed in detail in this Programmatic EA.

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SECTION 3
AFFECTED ENVIRONMENT

This section describes pertinent existing environmental conditions for resources potentially affected by the Proposed Action and the No Action Alternative. In compliance with NEPA, CEQ regulations, U.S. Fish and Wildlife Service Manual 550, and Secretarial Order 3355 the description of the affected environment focuses on only those resources that are potentially subject to impacts, including:

- Vegetation
- General Wildlife
- Threatened and Endangered Species
- Wetlands/Waters of the U.S.

Resources that are anticipated to experience either no impacts or negligible impacts are not examined in detail within this Programmatic EA (refer to Section 1.5, *Scope of the Programmatic Environmental Assessment*). A summary of the rationale for not undergoing detailed analyses of these resources is provided in the Scoping Report (2018) for the Proposed Action (see Appendix B).

As described in Section 2.1.1, *GCP Planning Area*, the Planning Area covers approximately 674,200 acres including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline (refer to Figure 1-1). A detailed description of the existing physical environment (i.e., climate, topography/geology, and hydrology) is provided in Section 3, *Environmental Setting and Covered Species* of the GCP (see Appendix A).

3.1 VEGETATION

Distribution of vegetation is a function of climate and soils within a given geographic area, which can be summarized as an "ecoregion." Ecoregions are broadly defined areas that share similar characteristics and represent ecosystems of regional extent. The boundaries of an ecoregion are not fixed but rather depict a general area with similar ecosystem types, functions, and quality.

The U.S. Forest Service (USFS) has identified and mapped ecoregions using a hierarchical system with four levels detail:

- **Domains** are the largest ecoregions and are classified as groups of related climates that are differentiated based on broad averages of temperature and precipitation.

- **Divisions** represent the microclimates within Domains and are differentiated based on regional temperature and precipitation.

- **Provinces** are differentiated based on vegetation cover or other natural land covers (e.g., waterbodies) within each Division.

- **Subregions** are the finest level of detail and are classified based on local terrain features.

Santa Barbara County – including the Planning Area – spans the California Coastal Chaparral Forest Shrub Province and the California Coastal Range Open Woodland-Shrub-Coniferous Forest-Meadow Province, which are described in further detail below. For a more detailed description of vegetation communities within Santa Barbara County, refer to Appendix C, which provides CALVEG mapping, and vegetation alliance descriptions for USFS Region 5 and 6.

3.1.1 California Coastal Chaparral Forest Shrub Province

The California Coastal Chaparral Forest Shrub Province spans the western half of the Santa Maria Valley region and San Antonio Creek region, the majority of the Santa Ynez Valley region, and the entire Santa Maria Valley and Santa Barbara Coastline regions of the Planning Area.

Land Form and Topography. This province includes the discontinuous coastal plains, low mountains, and interior valleys adjacent to the Pacific Ocean ranging from sea level to approximately 2,400 feet.

Climate. The climate in this province is characterized by hot, dry summers and rainy, mild winters. Annual average temperature ranges from 50 to 65 degrees Fahrenheit (°F) and annual precipitation ranges from 10 to 50 inches, with a

pronounced summer drought. Fire is common and has historically been ignited primarily by lightning occurring during the summer dry season.

Vegetation Communities. The coastal plains and larger valleys within this province are characterized by sagebrush and grassland communities. Riparian habitats containing broadleaf species and emergent vegetation occur along rivers, creeks, and other water features. Foothills and lower elevation mountains are characterized by sclerophyll forests consisting of low-growing trees with small, leathery leaves that can withstand the lack of summer precipitation (e.g., coast live oak [*Quercus agrifolia*]). On steeper hills and mountain slopes much of the vegetation is chaparral, which varies in composition with elevation and exposure. In general, chaparral consists of chamise (*Adenostoma fasciculatum*) and various manzanitas that are adapted to periodic occurrence of fire. Exposed coastal areas support desert-like shrub communities called coastal scrub, dominated by coyote bush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), and bush lupine (*Lupinus albifrons*).

Most of the coastal plains and interior valleys have been converted to urban use or irrigated agriculture. Citrus, grapes, avocados, nuts (e.g., almonds and walnuts), and deciduous fruits are grown extensively. Irrigated alluvial soils are also highly productive of vegetable crops. Blue gum eucalyptus (*Eucalyptus globulus*) and other species imported from Australia are abundant along roadsides and much of the coastline as well as farther inland.

3.1.2 California Coastal Range Open Woodland-Shrub-Coniferous Forest-Meadow Province

The California Coastal Range Open Woodland-Shrub-Coniferous Forest-Meadow Province spans the eastern half of the Santa Maria Valley region and the San Antonio Creek region as well as the northern third of the Santa Ynez Valley region of the planning area.

Land Form and Topography. This province occupies the central part of the California Coast Ranges and the mountains of Southern California. The Coast Ranges – including the Santa Ynez Mountains and the San Rafael Mountains within and adjacent to the Planning Area – are gently to steeply sloping low

mountains underlain by shale, sandstone, and igneous and volcanic rocks. Elevations generally range from 500 to 2,500 feet; however, La Cumbre Peak in the Santa Ynez Mountains reaches 3,997 feet.

Climate. The climate is characterized by hot, dry summers and rainy, mild winters. Temperatures average 53 to 65°F in the Coast Range, with the lowest average temperatures occurring at the highest elevations. Precipitation ranges from 12 to 40 inches per year and is evenly distributed through fall, winter, and spring. In lower elevations, precipitation comes in the form of rain; however, frost and short periods of freezing weather occur occasionally in winter. Coastal areas have a more moderate climate than the interior and receive some moisture from fog in summer.

Vegetation. The montane vegetation within this province consists of species with thick, hard evergreen leaves including sclerophyll forests and chaparral. Sclerophyll forest consistently appear on north-facing slopes and on wetter sites, while chaparral occupies south-facing slopes and drier sites.

The most important evergreen trees of the sclerophyll forest in this province are canyon live oak (*Quercus chrysolepis*), interior live oak (*Quercus wislizeni*), tanoak (*Notholithocarpus densiflorus*), California laurel (*Umbellularia californica*), Pacific madrone (*Arbutus menziesii*), and California wax myrtle (*Myrica californica*). Several deciduous trees, shrubs, and herb associates are also characteristic.

The chaparral community of fire-adapted shrubs extends over a wide area with a diversity of habitats. It includes at least 40 species of evergreen shrubs with varying degrees of dominance and importance. Some are so dense that they practically eliminate understory vegetation; other types support a highly productive understory. The most important species are chamise and manzanita. Other common species are Christmasberry (*Heteromeles arbutifolia*), California scrub oak, mountain mahogany (*Cercocarpus betuloides*), and many species of ceanothus.

At higher elevations and near the ocean, chaparral is often interspersed with, or alternates with, coniferous forests. The interior valleys are characterized by

sagebrush and grassland communities. Riparian forests with many broadleaf species occur along major rivers and other water features.

3.2 GENERAL WILDLIFE

Wildlife within Santa Barbara County corresponds to distinctive elevations, climates, and vegetation communities within an ecoregion (refer to Section 3.1, *Vegetation*). There are approximately 50 mammals, 500 resident and migratory birds, 50 reptiles and amphibians, dozens of fish, and innumerable invertebrates known to occur within Santa Barbara County. Representative common species are summarized below.

3.2.1 Mammals

Over 50 species of mammals have been documented in Santa Barbara County (Collins 2000). Large mammals – including bobcat (*Lynx rufus*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargentus*), and mountain lion (*Felis concolor*) – generally occur in undeveloped and/or mountainous areas of the County (Collins 2000; USDA 2018). Two subspecies of mule deer – Columbian black-tailed deer (*Odocoileus hemionus columbianus*) and California mule deer (*Odocoileus hemionus californicus*) – comprise the majority of big game adjacent to and within the Los Padres National Forest, which is located with the Santa Barbara Coastline region of the Planning Area. Black-tailed deer are most commonly found near coastal areas, and California mule deer are more commonly found in inland areas. Additionally, black bears are most commonly found near the Santa Cruz and upper Santa Ynez drainages and around the Sisquoc River area within the eastern half of the Santa Maria Valley region of the Planning Area (USDA 2018).

Smaller mammals – including rabbits, raccoons, and rodents (e.g., gophers, squirrels, etc.) – are found throughout the County (Collins 2000). Additionally, at least 11 bat species also occur throughout the County (Collins 2000). Year-round residents include the California myotis (*Myotis californicus*) and Brazilian free-tailed bat (*Tadarida brasiliensis*); summer migrants include fringed myotis (*Myotis thysanodes*) and western Mastiff bat (*Eumops perotis*); and spring and fall migrants include western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*).

3.2.2 Birds

Santa Barbara County is located within the Pacific Flyway, which spans from Alaska to the southern tip of South America and is generally bounded between the Pacific Ocean and Sierra Nevada mountain range. Large numbers of waterfowl and other migratory birds utilize this flyway during their annual migrations northward in the spring and southward in the fall (Audubon 2018a). Aquatic habitats and forested corridors are important ecological resources for migrating birds.

Approximately 500 species of birds have been documented in Santa Barbara County (California Bird Records Committee 2018). Common species located throughout the County include house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), black phoebe (*Sayornis nigricans*), California towhee (*Melozone crissalis*), northern mockingbird (*Mimus polyglottos*), and Anna's hummingbird (*Calypte anna*). Ocean shorebirds, such as plovers, western sandpiper (*Calidris mauri*), and long-billed curlew (*Numenius americanus*), inhabit areas along the shoreline within the Santa Barbara Coastline region (California Bird Records Committee 2018). Estuaries support herons, egrets, and other waterfowl and wetland bird species. Forested areas adjacent to grasslands adjacent to the water features and/or support raptors red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperi*), and white-tailed kite (*Elanus leucurus*).

3.2.3 Reptiles and Amphibians

Approximately 51 species of amphibians and reptiles are known to occur in Santa Barbara County, including approximately 6 salamanders, 8 frogs, 7 turtles, 13 lizards, and 17 snakes (Santa Barbara Botanic Garden [SBBG] 2018).

Common reptiles and amphibians found throughout the County include the western fence lizard (*Sceloporus occidentalis*), coast horned lizard (*Phrynosoma coronatum*), gophersnake (*Pituophis catenifer*), western rattlesnake (*Crotalus oreganus*), and Pacific tree frog (*Pseudacris regilla*). The western pond turtle (*Clemmys marmorata*) is the only native turtle in Santa Barbara County, and winters on land away from flooding stream channels throughout the County. The common

kingsnake occurs in every habitat of the County, though is primarily found in lower elevation areas; the California mountain kingsnake (*Lampropeltis zonata*) is primarily found in Santa Ynez Mountains (SBBG 2018).

3.2.4 Invertebrates

Santa Barbara County is home to an innumerable invertebrate species, including bees, hornets, wasps, butterflies, moths, beetles, flies, dragonflies, damselflies, spiders, mites, crustaceans, and nematodes. These invertebrates provide an abundant food source for mammals, birds, reptiles and amphibians, and other invertebrates.

3.2.5 Freshwater Fish

Santa Barbara County provides freshwater aquatic habitat for dozens of species of freshwater fish, ranging in size from small minnows to larger diadromous species (e.g., Southern California steelhead trout [*Oncorhynchus mykissi*]) (University of California 2019). The Santa Ynez River is home to approximately two dozen types of fish, including bluegill (*Lepomis macrochirus*), golden shiner (*Notemigonus crysoleucas*), and largemouth bass (*Micropterus salmoides*). The Santa Maria River contains similar types of fish, with some unique species such as the threadfin shad (*Dorosoma petenense*) and inland threespine stickleback (*Gasterosteus aculeatus microcephalus*). The Orcutt Creek also contains similar types of fish with some unique species such as the Arroyo chub (*Gila orcutti*). Drainages within the Santa Barbara Coastal watershed, such as Tajiguas Creek, contain Pacific lamprey (*Entosphenus tridentate*) and the staghorn sculpin (*Leptocottus armatus*) (University of California 2019).

3.3 THREATENED AND ENDANGERED SPECIES

Based on the Service's Information, Planning, and Consultation System (IPaC) as well as additional records from the Ventura Field Office, approximately 14 federally listed species have been identified or have the potential to occur within the Planning Area. Three of these species – CTS, CRLF, and LYS – are covered by the GCP process. The other federally listed species have the potential to occur

within the GCP Planning Area; however, the GCP process would not address these species.

3.3.1 Covered Species

3.3.1.1 California Tiger Salamander (Santa Barbara County DPS)

CTS is a fairly large and stocky salamander, with a broad, rounded snout. Adult males are approximately 8 inches in length and adult females are approximately 6.8 inches in length. CTS have some quantity of dots or bars in pale yellow or white against the black background of its back, sides, legs, and tail. Their bellies may be white, pale yellow, or a variegated pattern of white, pale yellow, and black (Service 2016).

CTS spend the majority of their life underground in small mammal burrows. CTS may also use landscape features such as leaf litter or cracks in the soil as upland refugia. Such refugia provide protection from the sun and wind associated with the dry climate. Winter rain events trigger CTS to emerge from refugia and seek breeding ponds (Storer 1925). Requiring a relatively short period to complete development of the aquatic larvae as compared to other salamanders, CTS may breed successfully in pools or ponds that are inundated with water for little more than 2 months. However, lifetime reproductive success of CTS is typically low because they require approximately 4 to 5 years before they reach sexual maturity (Trenham et al. 2000). Less than 50 percent of first-time breeding California tiger salamanders typically survive to breed more than once (Trenham et al. 2000). Metamorphs also have low survivorship; in some populations, less than 5 percent survive to breed (Trenham 1998). Thus, isolated metapopulations can decline substantially from unusual, randomly occurring, natural events (e.g., disease, drought) as well as from human-caused factors that reduce breeding success and individual survival.

The Santa Barbara County DPS is endemic to the northern portion of Santa Barbara County and currently consists of six distinct metapopulations spanning the Lompoc Valley and San Antonio Creek region of the Planning Area (refer to Figure 2-1). Currently, there are approximately 60 known extant CTS breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations.

The Santa Barbara County DPS of the CTS was federally listed as endangered throughout its entire range in 2000 (65 FR 3096). In 2004, the Service designated critical habitat for the Santa Barbara County DPS within portions of each of the six metapopulations. The Service approved a recovery plan for the species in 2016 (Service 2016).

For a more detailed description of the CTS, its life history, habitat, range, reasons for decline, and threats, see Section 3, *Environmental Setting and Covered Species* of the GCP (see Appendix A).

3.3.1.2 California Red-Legged Frog

CRLF is the largest native frog in the western U.S., with adult males reaching approximately 5.4 inches in length and adult females reaching approximately 4.5 inches in length (Hayes and Miyamoto 1984). The abdomen and hind legs of adults are often red or salmon pink and the back is characterized by small black flecks and larger irregular blotches with indistinct outlines on a brown, gray, olive, or reddish-brown background color (Service 2002b).

CRLF spend most of their lives in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. Deep pools with dense stands of overhanging willows and an intermixed fringe of cattails are considered optimal habitat; however, CRLF can breed in many aquatic habitats. CRLF breed from November through April (Storer 1925). Males appear at breeding sites from 2 to 4 weeks before females and call in small groups of two to seven individuals. Eggs are fertilized while being attached to a brace (i.e., emergent vegetation such as bulrushes [*Scirpus* spp.] and cattails [*Typha* spp.] or roots and twigs) (Hayes and Miyamoto 1984). CRLF larvae are highly vulnerable to fish predation, especially immediately after hatching, when the non-feeding larvae are relatively immobile (Schmieder and Nauman 1994).

The historical range of CRLF extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985; Storer 1925). CRLF have been found at elevations that range from sea level to approximately 5,000 feet. Currently, CRLF are known from three disjunct regions in 26 California counties

and one region in Baja California (Grismer 2002; Fidenci 2004). The CRLF was federally listed as threatened in 1996 (61 FR 25813). The Service approved a recovery plan for the species in 2002 (Service 2002b). Critical habitat for the CRLF was finalized in 2010 (75 FR 12816) after multiple revisions.

For a more detailed description of the CRLF, its life history, habitat, range, reasons for decline, and threats, see Section 3, *Environmental Setting and Covered Species* of the GCP (see Appendix A).

3.3.1.3 Lompoc Yerba Santa

LYS is an evergreen shrub with narrow, leathery leaves that grows to approximately 9.8-feet tall. The lavender flowers are tubular and clustered in heads that bloom from May to August.

Near the coast, LYS occurs within maritime chaparral and coastal sage scrub on sandstone soils of the Orcutt, Marina, and Oceano soil series. In this habitat type, LYS typically occupies disturbed areas near roads or exposed ridgetops (Jacks et al. 1984). Associated species include buck brush, black sage, coyote brush (*Baccharis* spp.), California sagebrush, bush poppy, California scrub oak, and manzanita (Jacks et al. 1984). Farther inland, LYS occurs within Bishop pine forest on diatomaceous Monterey shales. These sites have characteristic soils that are highly acidic and have a high water-retaining capacity (Cole 1974).

As described in Section 2.1.4.3, *Lompoc Yerba Santa*, LYS occurs in five subpopulations within three geographic regions in Santa Barbara County, including Solomon Hills (two subpopulations); West Burton Mesa (two subpopulations within the boundaries of Vandenberg AFB); and Santa Ynez Mountains (one subpopulation). The Solomon Hills subpopulation is located within the Santa Maria Valley region of the Planning Area and the Santa Ynez Mountain subpopulation is located within the Santa Barbara Coastline region of the Planning Area. LYS was listed as federally endangered in 2000 (65 FR 14888). Critical habitat was designated for the species in 2002 (67 FR 67968). A 5-year review for the species was published in 2011.

For a more detailed description of the LYS, its life history, habitat, range, reasons for decline, and threats, see Section 3, *Environmental Setting and Covered Species* of the GCP (see Appendix A).

3.3.2 Noncovered Sensitive Species

As described in Section 2.1.2, *Federally Listed Species Covered by the GCP*, the three federally listed species covered under the GCP were selected for inclusion by the Service during development of the GCP because they account for the majority of individual ITP applications received for non-Federal oil and gas activities in Santa Barbara County and are known to occur in areas with potential for oil and gas development. A total of 11 other federally listed species are known to occur or have the potential to occur in the Planning Area (see Table 3-1), but would not be covered under the GCP process.

Table 3-1. Federally-Listed Species with Potential to Occur within the GCP Planning Area

Common Name	Scientific Name	Federal Status	Habitat
Birds			
California condor	*Gymnogyps californianus*	E	Occurs in rocky shrubland, coniferous forests, and oak savannas within the mountainous areas of the Santa Barbara Coastline region (i.e., Santa Ynez Mountains).
Least Bell's vireo	*Vireo bellii pusillus*	E	Inhabits low-elevation, riparian habitats with a dense shrub understory near perennial or intermittent water features. Potential habitat within the Planning Area include the Santa Maria River and Cuyama River within the eastern half of the Santa Maria Valley region.
Southwestern willow flycatcher	*Empidonax traillii extimus*	E	Occurs within coastal areas near water with thickets of willow and other low shrubs that provide nesting and roosting cover. Known to occur along the Santa Ynez River within the Santa Ynez Valley and Lompoc Valley regions of the Planning Area.
Insects			
El Segundo blue butterfly	*Euphilotes battoides allyni*	E	Inhabit dunes with high sand content and where its host plant (i.e., coast buckwheat [*Eriogonum parvifolium*]) is found. Documented within Vandenberg AFB with potential to occur within the Santa Maria Valley and Santa Barbara Coastline regions of the Planning Area.
Crustaceans			
Vernal pool fairy shrimp	*Branchinecta lynchi*	T	Occurs within vernal pools occur on coastal terraces in Southern California. Potential to occur in the Santa Maria Valley and Santa Barbara Coastline regions of the Planning Area.

Table 3-1. Federally-Listed Species with Potential to Occur within the GCP Planning Area (Continued)

Common Name	Scientific Name	Federal Status	Habitat
Plants			
Gambel's watercress	*Rorippa gambellii*	E	Occurs within coastal wetland areas. Documented within Vandenberg AFB with potential to occur in the Santa Maria Valley and Santa Barbara Coastline regions of the Planning Area.
Gaviota tarplant	*Deinandra increscens* ssp. *villosa*	E	Occurs along the coastline in needlegrass that intergrades with coastal sage scrub. Known to occur within Santa Barbara Coastline region of the Planning Area along the coastal terrace between the Santa Ynez Mountains and the ocean.
La Graciosa thistle	*Cirsium loncholepis*	E	Grows in riparian habitat, often around seeps or in marshes. Known to occur within the Guadalupe Dunes and along the Santa Maria River within the Santa Maria Valley region of the Planning Area.
Marsh sandwort	*Arenaria paludicola*	E	Marsh sandwort is known to occur in marshes, swamps and areas that are wet year-round. This species is known to occur in southern San Luis Obispo County and has the potential to occur within Guadalupe Dunes located within the Santa Maria Valley region of the Planning Area.
Nipomo Mesa lupine	*Lupinus nipomensis*	E	Nipomo mesa lupine grows in stabilized back dune habitat. Known to occur within the Guadalupe Dunes located within the Santa Maria Valley region of the Planning Area.
Spreading navarretia	*Navarretia fossalis*	T	Spreading navarretia is primarily found in vernal pools, alkali grasslands, alkali playas, and alkali sinks. The species occurs in San Diego County, Riverside County, and Los Angeles County but has the potential to occur within the Planning Area.

Notes: California Natural Diversity Database (CNDDB) 2018; Service 2018a, 2018b.

3.4 WETLANDS/WATERS OF THE U.S.

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR §328.3[b]). USACE technical guidelines for identifying wetlands require that at least one positive indicator for each of three criteria (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) exist in order to designate a wetland. *Hydrophytic vegetation* refers to wetland plant species adapted for life within habitats that have permanent or alternating dry and inundated and/or saturated soil conditions. *Hydric soils* are those that are saturated, flooded, or ponded for sufficient periods during the growing season and that develop anaerobic conditions in their upper horizons (i.e., layers). *Wetland hydrology* is determined by the frequency and duration of inundation and soil saturation; permanent or periodic water inundation or soil saturation is considered an important force in wetland establishment and proliferation. Jurisdictional wetlands are those subject to regulatory authority under Section 404 of the Clean Water Act (CWA) and Executive Order (EO) 11990, *Protection of Wetlands*.

Santa Barbara County spans five principal watersheds: Cuyama (Hydrologic Unit Code [HUC] 1806007); Santa Maria (HUC 18060008); San Antonio (18060009); Santa Ynez (18060009); and Santa Barbara Coastal (HUC 18060013). The major rivers within the County that drain these watersheds include the Cuyama River, Santa Maria River, San Antonio Creek, Sisquoc River, and Santa Ynez River. The Santa Barbara Coastal watershed is drained by a number of smaller creeks that drain directly to the Pacific Ocean. Each of these drainage features provide wetland and/or riparian habitat within and immediately adjacent to the top-of-bank channel width (i.e., wetted channel width).

The most biologically important wetlands in the County include estuaries where major rivers or other drainages empty into the Pacific Ocean (e.g., Santa Maria river mouth, Santa Ynez river mouth, Jalama Creek mouth, Carpinteria Marsh, Devereux Lagoon, Barka Slough [a freshwater marsh], and Goleta Slough). These

areas support migratory birds, aquatic species, and a variety of special status plant and wildlife species. Other types of wetlands found throughout the County include freshwater emergent wetlands, freshwater forested/shrub wetlands, and freshwater ponds. The Planning Area contains numerous seasonal ponds, such as vernal pools (i.e., seasonal, shallow wetlands that alternate between dry and wet periods) and sag ponds (i.e., ponds located in depressions formed at a strike-slip fault), which range in size from small pools to shallow lakes. There are also several man-made ponds or modified natural ponds that create various types of artificial aquatic habitat. These features are often created when a berm is constructed in a natural drainage corridor, forming a pond to be used for the purposes of providing water for cattle. These wetland features are also important for a variety of wildlife species, including special status amphibian species, including CTS and CRLF, which are covered under the GCP (refer to Section 3.3, *Threatened and Endangered Species*).

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SECTION 4
ENVIRONMENTAL CONSEQUENCES

Environmental impacts that would result from implementation of the Proposed Action and the No Action Alternative are evaluated in this section. Analyses are presented by resource area, as presented in Section 3, *Affected Environment*. Analysis of potential impacts to resources typically includes: 1) identification and description of resources that could potentially be affected; 2) examination of the Proposed Action and the potential effects the Proposed Action may have on the resource; 3) assessment of the significance of potential impacts; and 4) development of mitigation, special procedures, or adaptive management measures in the event that potentially significant impacts are identified.

For this analysis potential impacts are described as:

- *Direct Impact:* An effect that is caused by an action and occurs in the same time and place.
- *Indirect Impact:* An effect that is caused by an action but is later in time or further removed in distance but is still reasonably foreseeable.
- *Adverse Impact:* A change that moves the resource away from a desired condition or detracts from its appearance or condition.
- *Beneficial Impact:* A positive change in the condition or appearance of the resources or a change that moves the resource toward a desired condition.
- *No Impact:* No change in the condition or appearance of the resource.

As previously described, the GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B) of the ESA and enables the construct of a programmatic permitting and conservation process to address a defined suite of proposed activities over a defined planning area. As described in Section 1.5, *Scope*

of the Programmatic Environmental Assessment, implementation of the Proposed Action or the No Action Alternative would not result in direct or immediate approval of any non-Federal oil and gas activities. An ITP is one of a suite of permits required for project approval. The GCP process neither reduces nor increases the number or types of permits required and would not affect agency coordination and/or consultation required by applicable laws, regulations, guidance, etc. Further, all existing compliance requirements for ITP issuance would remain in place under implementation of the Proposed Action. As such, implementation of the GCP would neither directly induce nor ease permitting compliance of ground-disturbing activities that could result in potential impacts to other environmental resource areas. Proposed non-Federal oil and gas activities for which the GCP would address with respect to ESA would continue require regulatory review and compliance prior to discretionary approval. Key regulations guiding project-specific reviews and approval are identified in Section 1.6, *External Regulatory and Consultation Requirements for Non-Federal Oil and Gas Activities*.

4.1 VEGETATION

4.1.1 Proposed Action

As described in Section 3.1, *Vegetation*, the Planning Area spans the California Coastal Chaparral Forest Shrub Province and the California Coastal Range Open Woodland-Shrub-Coniferous Forest Province. Vegetation alliances across the entire Planning Area are mapped and described in Appendix C. Impacts to vegetation resulting from non-Federal oil and gas activities (e.g., geophysical exploration, construction of new facilities, and maintenance of existing facilities) could include short-term effects resulting from physical disturbance (e.g., removal or trampling) during construction as well as long-term effects resulting from habitat modification and fragmentation (e.g., from the construction of pipelines, roads, utility lines, fencing, etc.) (see Appendix A). However, implementation of the Proposed Action would not result in direct or immediate approval of any non-Federal oil and gas activities, rather implementation of the Proposed Action would streamline the existing permitting process and identify limits of take for CTS and

CRLF as well as impacts to LYS. As such, implementation of the Proposed Action would not directly generate short-term or long-term impacts to vegetation.

As described in Section 1.5, *Scope of the Programmatic Environmental Assessment*, land use approval(s) for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, all non-Federal oil and gas activities would continue to require compliance with CEQA, which requires local and/or state agencies to identify any significant environmental impacts of actions and to avoid or mitigate those impacts, as feasible. Impacts to biological resources – including vegetation – would continue to be assessed on a project-by-project basis under CEQA, as applicable. Based on the findings of the CEQA compliant documentation and the record of consultation, the Service would use the "Low Effect" screening form to determine if a project qualifies for a CE or whether an EA would be required. The EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed non-Federal oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology, soils and vegetation as a result of grading; etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a CE or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

The purpose of the GCP is to provide a mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas activities on non-Federal lands within Santa Barbara County. Rather than processing individual ITP applications and associated project-specific HCPs for individual Applicants, the implementation of the Proposed Action would allow the Ventura Field Office to issue ITPs for non-Federal oil and gas activities that are in compliance with the scope and requirements of the GCP.

The following objectives from the GCP apply to vegetation across the Planning Area:

- **Objective 1.3:** Restore disturbed areas to original conditions, as feasible, to restore the area to previous conditions.

- **Objective 2.3:** Restore disturbed areas to original conditions as feasible through topsoil conservation.

Under the GCP an Applicant would be required to submit a complete Permit Application Package that includes a map and description of the impacts to vegetation. Non-Federal oil and gas activities that include short-term or long-term impacts to vegetation would be required to provide photographic records of existing conditions. These photographs would be used to ensure successful revegetation of disturbed areas following construction and after decommissioning. During compliance monitoring, a Service-approved biologist would inspect the project site to ensure that the final construction restoration measures are implemented in compliance with the GCP. Additionally, a post-construction monitoring report summarizing the compliance monitoring effort would be provided to the Service.

For construction activities occurring in areas with a predominance of native plants, the upper 6 inches of topsoil material would be segregated during excavations to preserve the seed bank. The preserved topsoil will be covered to protect it from erosion and invasion of non-native plants until completion of the activity, when the topsoil would be replaced in the affected area (refer to Measures to Avoid and Minimize Impacts No. 22 in the GCP; Appendix A).

For non-Federal oil and gas activities involving oil drilling, oil wells and/or oil pipelines the GCP requires that Applicants prepare an Emergency Response Action Plan that addresses protection and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan would, at a minimum, include specific measures to avoid impacts to native vegetation during response and cleanup operations. For example, low-pressure water flushing would be specified to remove spilled material from particularly

sensitive native vegetation, such as riparian woodlands (refer to Measures to Avoid and Minimize Impacts No. 21 in the GCP; Appendix A).

This standardized approach to the implementation of avoidance, minimization, and mitigation measures would ensure greater consistency with regard to the protection of native vegetation relative to the existing permitting mechanisms. This would result in minor overall *beneficial* impacts to native vegetation.

4.1.2 No Action Alternative

Under the No Action Alternative, the Service would not establish the GCP as a standardized mechanism for compliance with Section 10 of the ESA. Non-Federal oil and gas activities involving potential impacts to CTS and/or CRLFwould continue to be required to obtain ITPs with associated project-specific, Applicant-prepared HCPs to comply with the ESA. Processing ITP applications under these existing conditions requires Ventura Field Office staff to conduct lengthy reviews of individual HCPs – including a review of all project-specific avoidance, minimization, and mitigation measures and associated compliance reporting – submitted by individual ITP Applicants. There would be *no impact* to native vegetation relative to existing conditions; however, the standardization of avoidance, minimization, and mitigation measures and compliance reporting would not be achieved.

4.2 GENERAL WILDLIFE

4.2.1 Proposed Action

The Planning Area includes a wide variety of mammals, birds, reptiles and amphibians, invertebrates, and freshwater fish. Impacts to these species resulting from non-Federal oil and gas activities (e.g., geophysical exploration, construction of new facilities, and maintenance of existing facilities) could include short-term effects during construction (e.g., noise, roadway mortality) as well as long-term operational effects (e.g., habitat modification and fragmentation). However, implementation of the Proposed Action would not result in direct or immediate approval of any non-Federal oil and gas activities, rather implementation of the

Proposed Action would streamline the existing permitting process and identify limits of take for each of three species it addresses. As such, implementation of the Proposed Action would not directly generate short-term or long-term impacts to wildlife. As described in Section 1.5, *Scope of the Programmatic Environmental Assessment*, land use approval(s) for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, all non-Federal projects would continue to require compliance with CEQA, which requires local and/or state agencies to identify any significant environmental impacts of actions and to avoid or mitigate those impacts, as feasible. Impacts to biological resources – including wildlife – would continue to be assessed on a project-by-project basis under CEQA, as applicable. Based on the findings of the CEQA compliant documentation and the record of consultation, the Service would use the "Low Effect" screening form to determine if a project qualifies for a CE or whether an EA would be required. The EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed non-Federal oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology, soils and vegetation as a result of grading; etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a CE or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

The purpose of the GCP is to provide a mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas activities on non-Federal lands within Santa Barbara County. Rather than processing individual ITP applications and associated project-specific HCPs for individual Applicants, the GCP would allow the Ventura Field Office to issue ITPs for non-Federal oil and gas activities that are in compliance with the scope and requirements of the GCP.

A number of the objectives from the GCP, intended for CTS and CRLF, also apply to general wildlife across the Planning Area. Similarly, a number of the avoidance and minimization measures from the GCP also apply to general wildlife. For example, exclusionary silt fencing (or other suitable fence material) would be installed at the discretion of a Service-approved biologist. If CTS, CRLF, or another wildlife species were observed within an enclosed project site, a portion of the fencing would be temporarily removed to allow the individual to vacate the area (refer to Measures to Avoid and Minimize Impacts Nos. 14 and 15 in the GCP; Appendix A). Additionally, steep-walled excavations and pipelines would be inspected on a daily basis or covered/sealed to prevent wildlife entrapment (refer to Measures to Avoid and Minimize Impacts No. 16 in the GCP; Appendix A).

This standardized approach to the implementation of avoidance, minimization, and mitigation measures would ensure greater consistency with regard to protection of wildlife relative to the existing permitting mechanisms. This would result in minor overall *beneficial* impacts to general wildlife.

4.2.2 No Action Alternative

Under the No Action Alternative, the Service would not establish the GCP as a standardized mechanism for compliance with Section 10 of the ESA. Non-Federal oil and gas activities involving potential impacts to CTS and/or CRLF would continue to be required to obtain ITPs with associated project-specific, Applicant-prepared HCPs to comply with the ESA. Processing ITP applications under these existing conditions requires Ventura Field Office staff to conduct lengthy reviews of individual HCPs – including a review of all project-specific avoidance, minimization, and mitigation measures and associated compliance reporting – submitted by individual ITP Applicants. There would be *no impact* to general wildlife relative to existing conditions; however, the standardization of avoidance, minimization, and mitigation measures and compliance reporting would not be achieved.

4.3 THREATENED AND ENDANGERED SPECIES

"Take" is defined in Section 3 of the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" has been further defined to include significant habitat modification or degradation to the extent that it kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR §17.3). As described in the Habitat Conservation Planning and Incidental Take Permit Processing Handbook (Service and National Marine Fisheries Service 2016), take of federally listed can be measured in a number of ways including "numbers of affected individuals, nesting groups, or a surrogate measure like acres of habitat or stream miles." Specific to the GCP, it is impossible to definitively estimate the number of CTS, CRLF, or LYS that would potentially be taken over the 20-year term of the GCP. Therefore, the GCP uses impacts to habitat for each of the covered species as a proxy to quantify take levels and define the permitted limits.

The following analysis provides a description of potential impacts to the three covered species – CTS, CRLF, and LYS – as well as other federally listed species occurring in the Planning Area but not covered by the GCP.

4.3.1 Proposed Action

4.3.1.1 Covered Species

As described in Section 4.2, *General Wildlife* impacts resulting from non-Federal oil and gas activities (e.g., geophysical exploration, construction of new facilities, and maintenance of existing facilities) could include short-term effects during construction (e.g., noise, roadway mortality) as well as long-term operational effects (e.g., habitat modification and fragmentation). However, implementation of the Proposed Action would not result in direct or immediate approval of any non-Federal oil and gas activities, rather implementation of the Proposed Action would streamline the existing permitting process and identify limits of take for each of the three covered species. As such, implementation of the Proposed Action

would not directly generate short-term or long-term impacts to federally listed species.

The purpose of the GCP is to provide a mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas activities on non-Federal lands within Santa Barbara County. Rather than processing individual ITP applications and associated project-specific HCPs for individual Applicants, the GCP would allow the Ventura Field Office to issue ITPs for non-Federal oil and gas activities that are in compliance with the scope and requirements of the GCP.

As thoroughly described in the GCP, issuance of ITPs under either scenario – under the GCP or individually on a project-by-project basis – could result in adverse impacts to individuals of the species; however, standardizing ESA compliance would benefit the three covered species by ensuring that anticipated habitat loss would be comprehensively balanced with conservation actions, such as habitat protection and management in perpetuity (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the GCP; Appendix A). The measures provided under the GCP would result in larger, contiguous tracts of land being protected, with greater conservation value, than would likely be achieved if similar acreage were protected on a project-by-project basis under the No Action Alternative.

California Tiger Salamander (Santa Barbara County DPS)

Currently, there are approximately 60 known extant CTS breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations (refer to Figure 2-1). Approximately 67,525 acres of the Planning Area are located within the dispersal distance of CTS from known breeding ponds. As described in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A).

The GCP implements the methodology from the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* to quantify take (Service 2020; Searcy and Shaffer 2008). As described in further detail in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A), there are two components of permanent impacts to CTS habitat (i.e., take): 1) "project footprint,"

which is the area of ground disturbance within CTS habitat; and 2) "deficit wedge," which is the area of habitat that becomes isolated from a given breeding pond and is rendered inaccessible to CTS migrating in a straight line from the center of a breeding pond. The deficit wedge is only created by permanent, long-term, or vertical impacts that impede CTS from dispersing across the landscape.

Over the 20-year term of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS upland habitat consistent with the Recovery Plan (Service 2016). Specifically, the GCP would allow permanent and temporary impacts up to 675 acres (i.e., 1 percent) and 1,254 acres (i.e., 2 percent), respectively. Refer to Table 2-1 for a complete description of maximum allowable impact to CTS upland habitat under the GCP.

No permanent impacts to potential CTS breeding ponds would be permitted under the GCP. Impacts to potential CTS breeding ponds would be limited to short-term temporary impacts associated with temporary maintenance activities (e.g., de-sedimentation activities), which could occur during the dry season when CTS are not occupying the ponds. Consistent with Objective 1.1 and Objective 1.2 of the GCP, impacts to CTS would be avoided and minimized to the maximum extent practicable (refer to Measures to Avoid and Minimize Impacts Nos. 1 through 24 in the GCP; Appendix A). However, consistent with Objective 3.1 of the GCP as well as ITP issuance criteria, Applicants would also be required to implement compensatory mitigation for individual non-Federal oil and gas activities that would result in permanent and/or temporary impacts to CTS upland habitat.

Impacts to CTS upland habitat would be mitigated in accordance with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander*. Compensatory mitigation would be provided by an Applicant (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the GCP; Appendix A). A mitigation ratio of 1.25:1 of the reproductive value of the habitat impacted and conserved would be required for impacts to CTS upland habitat. Mitigation would be undertaken in a strategic way such that it contributes to meeting the recovery criteria described in the Recovery Plan (Service 2016). The GCP would more effectively support these types of coordinated conservation efforts as compared to project-specific, Applicant-prepared HCPs under the No

Action Alternative. Together with standardized monitoring and reporting activities as well as the implementation of adaptive management strategies, implementation of compensatory mitigation described in the GCP would offset impacts to CTS habitat.

As such, the implementation of the GCP – which would standardize the approach to implementation of avoidance, minimization, and mitigation measures and incorporate established maximum allowable impacts within CTS upland habitat consistent with the Recovery Plan – would result in minor overall *beneficial* impacts to CTS.

California Red-Legged Frog

As described in Section 3.3.1.2, *California Red-Legged Frog*, CRLF is known to occur throughout Santa Barbara County from sea level to approximately 5,000 feet. Additionally, there are seven designated critical habitat units for CRLF within Santa Barbara County (Service 2010). As described in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A), covered activities could occur in upland and dispersal habitat occupied by CRLF.

Over the 20-year term of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CRLF habitat consistent with the Recovery Plan (Service 2002b). The Service would allow for up to 1 percent of the total planning area (i.e., 6,742 acres) as the cap for allowable impacts to CRLF habitat under the GCP. Applicants would compensate for these impacts in accordance with Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the GCP.

No permanent impacts to aquatic habitat or riparian habitat would be permitted under the GCP; therefore, breeding habitat and non-breeding aquatic and riparian habitat would not be adversely affected. Rather, the GCP may result in beneficial effects because aquatic and riparian habitats would be protected and enhanced through the implementation of compensatory mitigation actions for CRLF. Refer to Table 2-3 for a complete description of the maximum potential loss of upland refuge and dispersal habitat that may occur under the GCP.

Consistent with Objective 1.1 and Objective 1.2 of the GCP, impacts to CRLF would be avoided and minimized to the maximum extent practicable (refer to Measures to Avoid and Minimize Impacts Nos. 1 through 24 in the GCP; Appendix A). However, consistent with Objective 3.1 of the GCP and ITP issuance criteria, Applicants would also be required to implement compensatory mitigation for individual non-Federal oil and gas activities that would result in permanent and/or temporary impacts to CRLF habitat.

Mitigation for impacts to CRLF and its habitat would be implemented to address the conservation needs of the species. Compensatory mitigation would be provided by an Applicant through: 1) payment of mitigation fees into a CRLF Conservation and Mitigation Account; or 2) by establishing a mitigation site that meets the Service's specification for approved mitigation (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the GCP; Appendix A). As described in Section 5 of the GCP, a mitigation ratio of 1:1 would be required for temporary impacts and a mitigation ratio of 3:1 would be required for permanent impacts. Together with standardized monitoring and reporting activities as well as the implementation of adaptive management strategies, implementation of compensatory mitigation described in the GCP would offset impacts to CRLF habitat.

As such, the implementation of the GCP – which would standardize the approach to implementation of avoidance, minimization, and mitigation measures and incorporate established maximum allowable impacts within CRLF habitat consistent with the Recovery Plan – would result in minor overall *beneficial* impacts to CRLF.

Lompoc Yerba Santa

As described in Section 3.3.1.3, *Lompoc Yerba Santa*, LYS occurs in five subpopulations within three geographic regions in Santa Barbara County, including Solomon Hills (two subpopulations); West Burton Mesa (two subpopulations within the boundaries of Vandenberg AFB); and Santa Ynez Mountains (one subpopulation). As described in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A), no impacts to designated critical habitat for LYS would be covered under the GCP; however, covered activities

could affect adjacent habitat that supports LYS or is otherwise suitable for LYS. Covered activities could remove individual plants or otherwise affect the habitat suitability as a result of altered surface hydrology, potentially resulting in increased erosion; changes in the period and amounts of moisture content in the soil to which the subspecies has adapted; increases in the abundance of nonnative plants species as a result of the project activities; dust that could affect reproduction; and loss or change in the abundance of pollinators.

Over the its 20-year term, the GCP would incorporate established maximum allowable impacts within LYS habitat consistent with the recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011). Specifically, the implementation of the GCP would allow for impacts of up to 27.5 acres of LYS habitat across the two geographic areas that encompass three populations of LYS (refer to Table 2-2).

Consistent with Objective 1.1 and Objective 1.2 of the GCP, impacts to LYS would be avoided and minimized to the maximum extent practicable (refer to Measures to Avoid and Minimize Impacts Nos. 1 through 7, No. 11, No. 15 and Nos. 19 through 23 in the GCP; Appendix A). However, consistent with Objective 3.1 of the GCP, Applicants would also be required to implement compensatory mitigation for individual non-Federal oil and gas activities that would result in permanent and/or temporary impacts LYS.

Impacts to LYS would be mitigated through: 1) restoration of habitat suitable for LYS; or 2) through acquisition of habitat that was historically or is currently occupied by LYS (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the GCP; Appendix A). A mitigation ratio of 3:1 would be required for impacts to LYS habitat. If an Applicant pursues mitigation through restoration of suitable habitat, the Applicant would be responsible for developing a habitat restoration plan that is approved by the Service and helps to reduce threats to the species that are described in the species' *5-year Review: Summary and Evaluation* (Service 2011). The habitat restoration plan must include consideration of the following criteria: defined schedules for restoration efforts, success criteria, weed management methods, monitoring schedules, reporting requirements, and long-term monitoring requirements. Restoration monitoring would continue for 5 years or until the predetermined success criteria have been documented and met.

Together with standardized monitoring and reporting activities as well as the implementation of adaptive management strategies, implementation of compensatory mitigation described in the GCP would offset impacts to LYS habitat.

As such, the implementation of the GCP – which would standardize the approach to implementation of avoidance, minimization, and mitigation measures and incorporate established maximum allowable impacts within LYS habitat consistent with the species' *5-year Review: Summary and Evaluation* (Service 2011) – would result in minor overall *beneficial* impacts to LYS.

4.3.1.2 Noncovered Sensitive Species

As described in Section 3.3.2, *Noncovered Sensitive Species*, a total of 11 other federally listed species are known to occur or have the potential to occur in the Planning Area (see Table 3-1), but would not be covered under the GCP process. For proposed non-Federal oil and gas activities involving take of noncovered species, Applicants would be required to comply with the ESA by applying for and receiving an ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA (refer to Section 1.3.2, *Section 10 – Incidental Take Permits and Conservation Plans*). As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the GCP – intended for CTS, CRLF, and LYS – would also apply to the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species. Therefore, the implementation of the GCP would result in minor overall *beneficial* impacts to noncovered species.

4.3.2 No Action Alternative

4.3.2.1 Covered Species

Under the No Action Alternative, the Service would not establish the GCP as a standardized mechanism for compliance with Section 10 of the ESA. Non-Federal oil and gas activities involving potential impacts to CTS and/or CRLF would

continue to be required to obtain ITPs with associated project-specific, Applicant-prepared HCPs to comply with the ESA. Processing ITP applications under these existing conditions requires Ventura Field Office staff to conduct lengthy reviews of individual HCPs – including a review of all project-specific avoidance, minimization, and mitigation measures and associated compliance reporting – submitted by individual ITP Applicants. There would be *no impact* to threatened and endangered species relative to existing conditions; however, the standardization of avoidance, minimization, and mitigation measures and compliance reporting would not be achieved.

4.3.2.2 Noncovered Sensitive Species

Under the No Action Alternative, the Service would not establish the GCP as a standardized mechanism for compliance with Section 10 of the ESA. Non-Federal oil and gas activities involving potential impacts to CTS, CRLF, and/or LYS would continue to be required to obtain ITPs with associated project-specific, Applicant-prepared HCPs to comply with the ESA. There would be *no impact* to noncovered species relative to existing conditions; however, the standardization of avoidance, minimization, and mitigation measures and the associated co-benefits to noncovered species with similar habitat requirements and overlapping would not be achieved.

4.4 WETLANDS/WATERS OF THE U.S.

4.4.1 Proposed Action

Wetlands in the Planning Area include rivers, estuaries, freshwater emergent wetlands, freshwater forested/shrub wetlands, and freshwater ponds. The Planning Area also contains numerous seasonal ponds (e.g., vernal pools and sag ponds) as well as several man-made ponds or modified natural ponds that create various types of artificial aquatic habitat.

As described in Section 4.3, *Threatened and Endangered Species* there are approximately 60 known extant (i.e., existing) CTS breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations. Since

listing, the Service and CDFW developed guidance for protocol survey efforts (Service and Department 2003), and this guidance aided in the detection of additional breeding ponds discovered post-listing. Several of the additional ponds were discovered as a result of surveys conducted as a part of proposed development or land conversion projects.

The GCP would not authorize permanent impacts to potential CTS breeding ponds. Impacts to potential CTS breeding ponds would be limited to short-term temporary impacts associated with temporary maintenance activities (e.g., de-sedimentation activities), which could occur during the dry season when CTS are not occupying the ponds. Non-Federal oil and gas activities (e.g., geophysical exploration, construction of new facilities, and maintenance of existing facilities) covered by the GCP could result in impacts to other wetland habitats that are not CTS breeding ponds. As with any development project with the potential to directly impact (i.e., fill) a surface water feature, covered non-Federal oil and gas activities would require a wetland delineation and associated jurisdictional determination in order to determine the presence, location, acreage, and jurisdictional nature (or lack thereof) of affected wetland features. Such jurisdictional wetland determinations would be submitted to USACE and the Central Coast Regional Water Quality Control Board (RWQCB) for confirmation and approval. A Section 404 permit and Section 401 Water Quality Certification would need to be obtained pursuant to the CWA, as necessary, prior to initiation of construction-related activities. Additionally, a Lake and Streambed Alternation Agreement may be required from the CDFW pursuant to Section 1600 of the California Department of Fish and Game Code.

In addition to standard best management practices (BMPs) (e.g., use of silt fences, straw bales, seeding or sodding of exposed soil), additional standard mitigation measures would be specified in the permit requirements. For example, the CWA permit mitigations would require that covered non-Federal oil and gas activities:

- Avoid wetland and water impacts where practicable;
- Minimize potential impacts to wetlands and waters; and

- Compensate for any remaining, unavoidable impacts to wetlands or waters through activities to enhance or create wetlands and/or waters (USEPA 2005).

This permit process and associated avoidance, minimization, and mitigation measures are currently enforced, are independent of the GCP, and would continue to be enforced as a separate but companion permit process for covered non-Federal oil and gas activity approval.

A number of the avoidance, minimization, and mitigation measures from the GCP – intended to protect the habitats of the three covered species – would have the secondary effect of reducing potential impacts on wetlands. For example, restrictions on activities before, during, and immediately after significant rain events (> 0.5 inches) would reduce the potential for erosion and sedimentation into waterbodies (refer to Measures to Avoid and Minimize Impacts No. 19 in the GCP; Appendix A). Further, restricting staging and refueling areas from 100-foot buffers around wetlands minimize the potential for releases into surface water or wetland habitat (refer to Measures to Avoid and Minimize Impacts No. 20 in the GCP; Appendix A). Further, compensatory mitigation for CTS and CRLF under the GCP would preserve and protect core habitat areas for these species including breeding ponds and adjacent wetland and upland areas would provide additional protection for these wetland features.

This standardized approach to the implementation of avoidance, minimization, and mitigation measures would ensure greater consistency with regard to the protection of wetlands and waters of the U.S. relative to the existing permitting mechanisms. This would result in minor overall *beneficial* impacts to wetlands and waters of the U.S.

4.4.2 No Action Alternative

Under the No Action Alternative, the Service would not establish the GCP as a standardized mechanism for compliance with Section 10 of the ESA. Non-Federal oil and gas activities involving potential impacts to CTS and/or CRLF would continue to be required to obtain ITPs with associated project-specific, Applicant-prepared HCPs to comply with the ESA. Processing ITP applications under these

existing conditions requires Service staff to conduct lengthy reviews of individual HCPs – including a review of all project-specific avoidance, minimization, and mitigation measures and associated compliance reporting – submitted by individual ITP Applicants. There would be *no impact* to wetlands relative to existing conditions; however, the standardization of avoidance, minimization, and mitigation measures and compliance reporting would not be achieved. Any impact to wetlands or Waters of the U.S. would require permitting by the agency for which the wetland/water jurisdiction falls.

SECTION 5
CUMULATIVE IMPACTS

Cumulative impacts result from incremental impacts of the Proposed Action which, when combined with other past, present, and reasonably foreseeable future actions in an affected area, may collectively cause more substantial impacts. As previously described, this Programmatic EA neither evaluates nor results in approval of non-Federal oil and gas activities, rather it evaluates a streamlined permitting process related solely to the issuance of ITPs which are a component permit for overall project approval. Land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with appropriate jurisdiction(s) over an individual project site. Therefore, in the instance of the Proposed Action, which would establish the GCP as a mechanism to standardized ITP issuance for covered activities, past, present, and reasonably foreseeable future actions are limited to permitting processes. Cumulative impact analysis neither considers, nor is required to consider, all planned, pending, and recently completed non-Federal oil and gas activities in Santa Barbara County.

5.1.1 Incidental Take Permits and Individual Habitat Conservation Plans

As described in Section 1.1, *Introduction*, the GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B) of the ESA. The GCP would enable the construct of a programmatic permitting and conservation process to address non-Federal oil and gas activities in Santa Barbara County. This programmatic permitting and conservation process, which is only applicable to covered species included in a GCP, would provide for a standardized approach to the implementation of avoidance, minimization, and mitigation measures. The GCP process would not be available to Applicants under the following circumstances:

- Applicant cannot or chooses not to comply with the requirements of the GCP, including standardized avoidance, minimization, and mitigation measures.

- Applicant requires coverage for other non-covered species that are not included in the GCP.

- Applicant proposes a project that is likely to result in significant impacts under NEPA.

In these instances, the standardized approach avoidance, minimization, and mitigation measures under the GCP would not be implemented. Further, the established maximum allowable impacts within CTS, CRLF, and LYS habitat would not be applicable outside of the GCP process. However, the Applicant would be required to prepare an individual project-specific HCP to comply with the ESA (refer to Section 1.2.2, *Section 10 – Incidental Take Permits and Conservation Plans*). The individual HCP, which could be prepared in consultation with the Service under Section 10(a)(2)(A), would be required to describe the measures that the Applicant would follow to minimize and mitigate take to the maximum extent practicable as well as the funding that will be available to implement such steps. The Service may also require additional measures that the Service may require as being necessary or appropriate for the purposes of the HCP. Both the Service and the Applicant will be responsible to ensure that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. In the event that these assurances cannot be made by the Service, an ITP would not be issued. As such, with the on-going requirement for project-specific, Applicant-prepared HCPs in instances where the GCP is not applicable, implementation of the Proposed Action would not result in significant cumulative impacts.

5.1.2 Exceedance of Maximum Allowable Impacts

As previously described, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly the standardized ITP process would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011). For a description of maximum allowable impacts within CTS, CRLF, and LYS habitat, refer to Tables 2-1, 2-2, 2-3, and 2-4. In the event that any of the established maximum allowable permanent or temporary impacts are reached, no additional ITPs would be issued under the GCP process for non-Federal oil and gas activities in that area(s). The established recovery plans and recovery criteria would function as a back-stop to future species impacts. Subsequent analysis under Section 10 of the ESA as well as

subsequent NEPA-compliant documentation would be required prior to any revisions to the GCP to raise established maximum allowable impacts.

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SECTION 6
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

In accordance with 40 CFR §1502.16 the discussion of environmental consequences must include "any irreversible or irretrievable commitments of resources which would be involved with the proposal should it be implemented." Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use could have on future generations. Irreversible effects primarily result from the use or destruction of specific resources that cannot be replaced within a reasonable time frame, such as energy or minerals. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action, such as extinction of a threatened or endangered species or the disturbance of a cultural resource.

Implementation of the Proposed Action would not result in the direct approval of non-Federal oil and gas activities in Santa Barbara County. Land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with appropriate jurisdiction(s) over an individual project site. The Proposed Action would establish a procedural streamlined framework under which covered activities are reviewed for compliance with the GCP as ITP applications are submitted. Procedural reviews of ITP applications for compliance with the GCP would not result in the destruction or consumption of specific irreplaceable materials and would require no commitment of irreversible or irretrievable resources. The covered activities of the Proposed Action would allow for take of covered species within the Planning Area. However, the GCP would establish maximum allowable impacts on development within CTS, CRLF, and LYS habitats and would include prescribed avoidance, minimization, and mitigation measures, in order to preserve habitat for the CTS, CRLF, and LYS and aide in these species' overall recovery; thus, the long-term viability of all three species would not be adversely affected.

The commitment and funding by each Applicant for acquisition and permanent management of mitigation properties would be irreversible. The commitment and funding of mitigation and monitoring activities for the duration of the permit would also be irretrievable.

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SECTION 7
SHORT-TERM USE OF THE ENVIRONMENT VERSUS LONG-TERM PRODUCTIVITY

In accordance with 40 CFR §1502.16, this section provides a discussion of the long-term effects of the GCP by evaluating the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity.

The objective of the GCP is to conserve federally listed species in an organized and effective manner with the anticipated short-term construction, operation, and/or maintenance activities associated with non-Federal oil and gas activities within the Planning Area. Long-term environmental productivity would be maintained through the implementation of standardized avoidance and minimization measures as well as appropriate mitigation, which would aid in the overall recovery of imperiled species. Over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly the standardized ITP process would incorporate established maximum allowable impacts on development within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011).

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SECTION 8
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SECTION 9
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Appendix A
Final General Conservation Plan for Non-Federal Oil and Gas Activities in Santa Barbara County

GENERAL CONSERVATION PLAN FOR OIL AND GAS ACTIVITIES

Santa Barbara County, California

Prepared by

U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
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June 2022

COVER SHEET

TITLE: General Conservation Plan for Oil and Gas Activities in Santa Barbara County (GCP)

PERMIT(S): See individual Applicants / Projects

SPECIES: Santa Barbara County Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and Lompoc yerba santa (*Eriodictyon capitatum*); collectively Covered Species.

PLANNING AREA: The GCP Planning Area is shown in Figure 1. The area generally encompasses the Santa Maria Valley, San Antonio Creek Watershed, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline.

COVERED ACTIVITIES: The GCP covers geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure.

COOPERATORS: U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and individual oil and gas project proponents engaged in exploration, development, extraction, or transport of crude oil, natural gas, and/or petroleum products.

TAKE/IMPACT: The Service will use the following means to estimate the amount of take that is likely to occur to each of the species covered in the permit:

> California tiger salamander: The Service is using number of acres of California tiger salamander habitat disturbed as a surrogate for the number of individuals in order to estimate the amount of take that is likely to occur (Section 4). Disturbance of California tiger salamander habitat may occur within the Planning Area. These impacts may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities. Additionally, habitat may be affected during operations, maintenance, and emergency response (excluding crude oil spills) during the life of the permit. We expect some level of effects to any California tiger salamanders located within the disturbed areas.
>
> California red-legged frog: The Service is using number of acres of California red-legged frog habitat disturbed as a surrogate for the number of individuals in order to estimate the amount of take that is likely to occur (Section 4). Disturbance of California red-legged frog habitat may occur within the Planning Area. These impacts may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities. Additionally, habitat may be affected during operations, maintenance, and emergency response (excluding crude oil spills) during the life of the permit. We expect some level of effects to any California red-legged frogs located within the disturbed areas.

Lompoc yerba santa: The Service is using number of acres of Lompoc yerba santa habitat disturbed as a surrogate for the number of individual plants in order to estimate the amount of adverse impacts that are likely to occur (Section 4). Disturbance of Lompoc yerba santa habitat may occur within the Planning Area. These impacts may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities. Additionally, habitat may be affected during operations, maintenance, and emergency response (excluding crude oil spills) during the life of the permit. We expect some level of effects to any Lompoc yerba santa plants located within the disturbed areas.

FUNDING PLAN: Applicants commit to full implementation of the GCP. Applicants will minimize and mitigate for all unavoidable impacts according to the Mitigation Strategies for the California tiger salamander, California red-legged frog, Lompoc yerba santa, and the anticipated impacts described in their Individual Project Package application (Section 6). Funding assurances will be provided with their Individual Project Package application.

MONITORING PLAN: An annual report is due from each applicant on March 31 each year that the Permit is in effect.

DURATION OF PERMITS ISSUED UNDER THE PLAN: 20 years for construction, operations, maintenance, and decommissioning activities.

Section 1
Introduction

Purpose and Need

Section 9 of the Endangered Species Act of 1973, as amended (Act), and federal regulation pursuant to section 4(d) of the Act prohibit the taking of endangered and certain threatened fish or wildlife species, respectively, without special exemption. Section 10(a)(1)(B) of the Act allows non-federal entities to apply for incidental take permits to take listed fish or wildlife species in the course of otherwise legal activity.

The U.S. Fish and Wildlife Service (Service; Service 2007, 2016) developed the concept of general conservation plans to streamline the process associated with the habitat conservation planning process. This process streamlines the application for a section 10(a)(1)(B) incidental take permit by allowing the Service to develop a single general conservation plan for a local area. The Service then completes all documents required by the Act and National Environmental Policy Act (NEPA). Individual non-federal entities may apply for an incidental take permit, provided they commit to complying with the monitoring, minimization, and mitigation measures in the general conservation plan.

The Service developed this Oil and Gas General Conservation Plan (GCP or Plan) to provide a streamlined mechanism for proponents engaged in oil and gas development, expansion, operations, maintenance, and decommissioning of infrastructure to meet statutory and regulatory requirements while promoting conservation of California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and Lompoc yerba santa (*Eriodictyon capitatum*). The Act, and its implementing regulations, prohibits "take" of wildlife species listed as threatened or endangered. The term "take" means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 USC § 1532(3)(19)).

This GCP is a conservation plan as required in Section 10(a)(2)(A) of the Act for issuance of an incidental take permit pursuant to section 10(a)(1)(B) (Permit). Participation in the GCP and an application for take authorization is voluntary. To be permitted to take listed wildlife species through this streamlined process, applicants must:

- Meet the issuance criteria found at 50 CFR 13 and 17;
- Document that their projects meet various qualifying criteria (described below);
- Agree to implement the avoidance, minimization, and mitigation actions described in this document and comply with the terms and conditions of any Permit(s) issued under this GCP; and

- Provide documentation that they have met the minimization and mitigation requirements for their project as described in this document.

Following GCP approval, applicants must submit an Individual Project Package for Service approval. If approved, the Service will issue an individual Permit prior to the initiation of impacts occurring in California tiger salamander, California red-legged frog, and Lompoc yerba santa habitats. For covered species that are both federal and California State-listed, the State will decide what type of CEQA document is needed. The requirements for Individual Project Package approval are described in Section 6 of this Plan.

The Service recognizes that actions associated with the exploration, development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and petroleum products may result in take of the endangered California tiger salamander and the threatened California red-legged frog and remove, displace, disturb and/or destroy Lompoc yerba santa. California tiger salamanders and California red-legged frogs could be taken through crushing or getting struck by equipment or vehicles, and through impacts to habitat for the species. Lompoc yerba santa could be impacted by ground-disturbing activities, crushing, and impacts to its habitat. Section 4 discusses the use of impacts to habitat as a proxy for take for California tiger salamander and California red-legged frog, and impacts to Lompoc yerba santa. This GCP describes a range of projects for which avoidance actions alone are not sufficient to prevent take of covered species, and describes actions that can serve to minimize and mitigate the impacts of such taking to the maximum extent practicable.

This GCP is focused on exploration, development, extraction, storage, transport, remediation and distribution of crude oil, natural gas, and petroleum products within northern Santa Barbara County, California. Project proponents engaged in actions described as “Covered Activities” in this document may participate through the GCP. This document specifies the type of incidental take anticipated to occur over the duration of the GCP, minimization and mitigation requirements, and all other measures necessary to meet permit issuance criteria described in Section 10(a)(2)(B) of the Act. Project proponents that choose to participate in the GCP and meet issuance criteria would subsequently be granted a permit through the GCP.

The Service is required by statute to provide public notice before issuing a Permit under Section 10(a)(1)(B) of the Act. The Service will publish notices of Permit applications (potentially in batches) in the *Federal Register* in accordance with 50 CFR 17.22 and 17.32 b(1)(ii) with a request to the public to submit written data, views, or comments with respect to the application.

We developed this document in cooperation with the local oil and gas project proponents, other interested oil and gas companies, and the California Department of Fish and Wildlife (Department) in an effort to best meet the current and anticipated needs of the industry and the Service’s statutory and regulatory requirements. Despite the best efforts of all stakeholders involved, some projects may result in take that was not foreseen during the development of this GCP, or affect candidate or listed species not covered by the GCP. If Covered Activities may result in take of non-covered, federally listed species, projects should obtain a permit from the Service for the non-covered species. A permit may be suspended or revoked for noncompliance with permit conditions or with any applicable laws or regulations governing the conduct of the

permitted activity (50 CFR 13.27, 13.28); revocation can further disqualify an applicant from receiving or exercising the privileges of a similar permit for a period of five years from date of agency decision on the revocation (50 CFR 13.21(c)(2)).

Planning Area

The Planning Area consists of the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. The entire Planning Area is 674,220 acres. The figure below shows the Planning Area for this GCP.

Figure 1. GCP Planning Area

Land within the Planning Area includes developed oil and gas fields, undeveloped land, agricultural lands, and rural and urban development. The Planning Area encompasses diverse

habitats, resources, and degrees of development. The Covered Activities would not affect all of the Planning Area.

Throughout this document the terms Planning Area, Project Area and impact area are used. The Planning Area is defined as the total 674,220-acre area covered by this plan. The Project Area refers to the area covered by an individual project seeking an incidental take permit under this plan. The impact area refers to the habitat that could be impacted by project activities within an individual Project Area.

Permittees

Project proponents planning to engage in Covered Activities (as identified in Section 2) within the Planning Area may be eligible for a Permit, if specific conservation measures identified in the GCP are being or will be implemented. Those measures include minimization and mitigation measures for the California tiger salamander, California red-legged frog, and Lompoc yerba santa, (Section 5). Following issuance of a Permit, these project proponents are referred to as Permittees.

GCP and Permit Duration

This GCP will be approved once: (1) a decision is made under NEPA following publication of the *Federal Register* Notice of Availability of the draft NEPA document and draft GCP, (2) public comment period, (3) the Service addresses public comments, and (4) signed by the Service. Permits issued under the GCP will cover only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance.

Regulatory Context

Permits issued under this GCP cover only take incidental to, and not the purpose of, the carrying out of an otherwise lawful activity (50 CFR 17.3). Project proponents seeking a Permit under this GCP, therefore, must comply with all applicable Federal, State, and local statutes and regulations to ensure that the action is otherwise lawful.

Permittees under this GCP will work with the Service to assist in fulfilling the requirement of Section 106 of the National Historic Preservation Act, 16 U.S.C. 470f, and its implementing regulations at 36 C.F.R. part 800.

Regulatory Framework

Federal Endangered Species Act

The Service's responsibilities include administering the Act. Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the taking of endangered and certain threatened fish or wildlife species, respectively, without special exemption. Take is defined in Section 3(19) of the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The Service regulations at 50 CFR 17.3

further define harm as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns such as breeding, feeding or sheltering." The Act provides for civil and criminal penalties for the unlawful taking of listed species.

Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways. If a project is to be funded, authorized, or carried out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service pursuant to section 7(a)(2) of the Act. Private individuals and State and local or other entities who propose an action that is likely to result in the take of federally listed fish or wildlife species, and for which no Federal nexus exists, may comply with the Act by applying for, and receiving, an incidental take permit pursuant to section 10(a)(1)(B) of the Act. The application for an incidental take permit must be accompanied by a habitat conservation plan. The criteria for issuance of an incidental take permit pursuant to section 10(a)(1)(B) of the Act require that the effects of permitted incidental take be minimized and mitigated to the maximum extent practicable; that the proposed action also must not appreciably reduce the likelihood of survival and recovery of the species in the wild; and that adequate funding of identified actions to minimize and mitigate impacts must also be ensured [(section 10 (a)(2)(A)]. All of the issuance criteria are described below under *Incidental Take Permit Process*.

Section 7(a)(2) of the Act requires that Federal agencies ensure that their actions, including permit issuance, do not jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Pursuant to 50 CFR 402.2, "Jeopardize the continued existence of…" means to engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features. Issuance of an incidental take permit by the Service, pursuant to section 10(a)(1)(B), constitutes a Federal action that is subject to the requirements of section 7(a)(2), and the Service must prepare an internal consultation to address the effects of the permit issuance.

Incidental Take Permit Process

The process for obtaining an incidental take permit has four primary phases: (1) pre-application; (2) development of a habitat conservation plan; (3) processing of the permit; and (4) post-issuance compliance. First, the Service provides the potential applicant guidance in deciding if an incidental take permit is appropriate and if so, what type and scale of habitat conservation plan would fit the applicant's needs. During the second phase, a plan that integrates the proposed project or action with conservation of listed species is prepared. Every conservation plan submitted in support of an incidental take permit application must include the following information: (1) those impacts likely to result from the proposed taking of the species for which permit coverage is requested; (2) measures that will be implemented to monitor, minimize, and mitigate impacts; funding that will be made available to undertake such measures; and procedures to deal with unforeseen circumstances; (3) alternatives to the proposed action that

would not result in take; and (4) any additional measures Service may require as necessary or appropriate for purposes of the plan.

Development of a conservation plan concludes, and the permit processing phase begins when a complete application package is submitted to the appropriate permit-issuing office. A complete application package for a private citizen consists of: (1) a conservation plan; (2) a permit application; and (3) payment of a $100 fee by the applicant. The Service publishes a Notice of Availability of the package in the Federal Register (FR) to allow for public comment. A Section 10(a)(1)(B) incidental take permit is issued upon a determination by the Service that all requirements for permit issuance have been met. Statutory criteria for issuance of the permit specify that: (1) the taking will be incidental; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) the applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) the Service has received assurances, as may be required, that the conservation plan will be implemented. Notification to the public regarding permit issuance is through the publication of a notice in the Federal Register (FR). The Service also prepares an Intra-Service Section 7 Biological Opinion and a Set of Findings, the latter which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria. Issuance of an incidental take permit is a federal action that requires Section 7 and NEPA compliance.

Throughout this document the terms “applicant” and “permittee” are used. The term “applicant” is used to refer to a party that is applying for an incidental take permit under this plan. The term “permittee” refers to an applicant that has been issued an incidental take permit under this plan.

During the post-issuance phase, the permittee(s) and any other responsible entities are required to implement the conservation plan in accordance with the terms and conditions of the incidental take permit. The Service monitors permittee(s) compliance with the conservation plan as well as its long-term progress and success.

National Environmental Policy Act

The purpose of the NEPA is two-fold: (1) to ensure that Federal agencies examine environmental impacts of their actions (in this case, the federal action is deciding whether to issue an incidental take permit); and (2) to ensure public participation. The NEPA serves as an analytical tool to address direct, indirect, and cumulative impacts of the proposed project alternatives to help the Service decide whether to issue an incidental take permit. Compliance with the NEPA is required of the Service for each HCP as part of the incidental take permit application process. For approval of this Plan as a permitting mechanism for Section 10(a)(1)(B) incidental take permits, NEPA compliance consists of an Environmental Assessment. For each application received under the GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment resulting from the specific project.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on cultural resources that are, or may be, eligible for inclusion on the National Register of Historic Places. An undertaking is a project, activity, or program under the direct or indirect jurisdiction of a Federal agency. Issuance of an incidental take permit are an undertaking and subject to compliance with section 106 of the NHPA.

The Service drives consultation and remains legally responsible for all required findings and determinations associated with the NEPA and NHPA review and compliance process. The Service may use information provided by applicants, consultants, or designees for completing documents associated with NEPA and NHPA.

Other Relevant Laws and Regulations

- *California Endangered Species Act*: The California Endangered Species Act (CESA) generally parallels the main provisions of the Act and provides for the designation of native species or subspecies of plants, fish, and wildlife as endangered or threatened. Section 2080 of the CESA prohibits the take of state-listed endangered or threatened species, but allows for the incidental take of such species as a result of otherwise lawful development projects under section 2081(b) and (c). The California tiger salamander and Lompoc yerba santa are listed under the CESA. Individual permittees who obtain a federal incidental take permit for the California tiger salamander pursuant to section 10(a)(1)(B) could request that the Director of the Department find the federal documents consistent with CESA. Applicants under this GCP would be responsible for submitting individual 2080.1 consistency determination requests for the California tiger salamander to the Department. The Department cannot issue a 2080.1 consistency determination for the Lompoc yerba santa because there are no federal take prohibitions for plants. Therefore, applicants seeking coverage for the Lompoc yerba santa will need to pursue a separate permit with the Department. The Service will notify the Department of any applications submitted for coverage under this GCP.

- *California Environmental Quality Act:* The California Environmental Quality Act (CEQA) is a state statute that is generally analogous to NEPA on the Federal level in requiring the completion of an environmental review for projects that may impact environmental resources. It requires public agencies to review the environmental impacts of proposed projects, prepare and review negative declarations, mitigated negative declarations or environmental impact reports and to consider feasible alternatives and mitigation measures that would substantially reduce significant adverse environmental effects. It applies to a broad range of environmental resources, such as air quality, water, traffic, and including any state and federally listed wildlife and plant species, as well as sensitive natural communities. Impacts to such species and natural communities must be evaluated under the CEQA. The County of Santa Barbara (County) will evaluate a project's consistency with CEQA. Impacts to biological resources represent one aspect of a CEQA review; however, the potential for impacts to other environmental resources is also reviewed as part of the CEQA compliance process.

- *California Geologic Energy Management Division (CalGEM; formerly known as the Division of Oil, Gas, and Geothermal Resources [DOGGR]):* All California oil and gas wells (development and prospect wells), enhanced-recovery wells, water-disposal wells, service wells (i.e. structure, observation, temperature observation wells), core-holes, and gas-storage wells, onshore and offshore (within three nautical miles of the coastline), located on state and private lands, are permitted, drilled, operated, maintained, plugged and abandoned under requirements and procedures administered by the CalGEM.

  The CalGEM has the following Memoranda of Understanding (MOU) and Memoranda of Agreement (MOA) with:

  - **California Air Resources Board and Local Air Districts** - Regarding well stimulation treatments and well stimulation treatment- related activities.

  - **California Coastal Commission** - Regarding well stimulation treatments and well stimulation treatment- related activities.

  - **California Air Resources Board and San Joaquin Valley Air Pollution Control District** - Regarding well stimulation treatments and well stimulation treatment- related activities.

  - **California Department of Resources Recycling and Recovery** - Regarding well stimulation treatments and well stimulation treatment- related activities.

  - **California Department of Toxic Substances Control** - Regarding well stimulation treatments and well stimulation treatment- related activities.

  - **State Water Resources Control Board and Regional Water Quality Control Boards** - Regarding well stimulation treatments and well stimulation treatment-related activities.

  - **Bureau of Land Management (BLM)** - The purpose of this MOU is to delineate procedures for regulating oilfield operations where both the BLM and the Division have jurisdictional authority, to streamline operations, and minimize duplication.

  - **Minerals Management Service, Pacific Outer Continental Shelf Region, U.S. Department of the Interior; Western Region, Office of Pipeline Safety, Research and Special Program Administration, U.S. Department of Transportation; The California State Lands Commission; The California State Fire Marshal** - The purpose of this MOA is to implement the Offshore California Pipeline Inspection Survey (OCPIS) Plan process and procedures. The OCPIS Plan will provide a coordinated analytical framework for assessing the present condition and inspection needs of offshore pipelines.

- **California Public Utilities Commission (CPUC)** - The purpose of this MOA clarifies the regulatory responsibilities under which the Division and the CPUC will manage the gas-storage pipelines that fall under joint jurisdiction.

- **Department of Forestry and Fire Protection, State Fire Marshal's Office of Pipeline Safety (SFM)** - This MOA clarifies the jurisdictional boundary between the Division and the SFM, and eliminates any potential gaps in jurisdiction between the two agencies.

- **Department of Fish and Game (DFG)** - The purpose of this MOA is to establish procedures by which the DFG and the Division will participate in Coastal Sage Scrub Natural Community Conservation Planning.

- **Department of Fish and Game, State Water and Resources Control Board** - The purpose of this MOA is to outline the procedures for modifying notification requirements for onshore drilling and production oil spills.

- **Joint Coordination Committee** - The purpose of this MOU is to establish a Joint Coordination Committee for Natural Resources Damage Assessment, California Environmental Quality Act and other studies related to the assessment of environmental impacts of Guadalupe Oil Field diluent releases.

- **Department of Fish and Game (DFG), Office of Oil Spill Prevention and Response (OSPR)** -The purpose of this MOA is to establish procedures between the DFG, OSPR and the Division whereby, the Division will participate in monthly marine aircraft patrol flights to monitor offshore oil and gas operations and provide reports of such activities to OSPR.

- **Office of Oil Spill Prevention and Response, State Lands Commission, California Coastal Commission, State Water Resources Control Board** - The purpose of this MOA is to establish the Review Subcommittee, which is responsible for reviewing regulations, guidelines, and amendments to the state oil spill contingency plan.

- **Santa Barbara County** - The purpose of this MOU is to establish procedures between the Division and Santa Barbara County for delineating administrative field boundaries for new oil and gas fields and altering the administrative field boundaries of existing oil and gas fields within Santa Barbara County.

- **U.S. Environmental Protection Agency (USEPA) for Geothermal Wells** - The purpose of this MOA is to establish the responsibilities of and procedures to be used by the USEPA and the Division in the administration of the Underground Injection Control program for geothermal energy Class V injection wells.

- **U.S. Fish and Wildlife Service, Bureau of Land Management, Department of Fish and Game, California Energy Commission, County of Kern** - The

purpose of this MOU is to define relationships among agencies with permit or regulatory authority over Species of Concern and to develop a cooperative program called the Kern County Endangered Species Program, which will ensure that the activities of private parties will comply with applicable laws and regulations concerning the Species of Concern in Kern County, and which will provide long-term protection of such species.

- **California State Water Resources Control Board** - The purpose of this MOA is to outline the procedures for reporting proposed oil, gas, and geothermal field discharges and for prescribing permit requirements.

- **South Coast Air Quality Management District** - The purpose of this MOU is to outline the areas of responsibility between the South Coast Air Quality Management District (SCAQMD) and the Division for the inspection of oilfield valves and flanges that fall under the provisions of SCAQMD Rule 466.1.

- **Minerals Management Service (MMS)** - The purpose of this MOU is to establish that MMS and the Division will notify each other and exchange information as soon as offshore, non-routine well-control problems occur in waters adjacent to California that are under the jurisdiction of each respective agency.

- **Addendum to the Primacy Memoranda Agreement** - As of March 30,2017

- **Primacy Memoranda of Agreement** -Two competing versions of the September 29, 1982 Memorandum of Agreement between the Division of Oil, Gas and Geothermal Resources and the United States Environmental Protection Agency. California's primacy delegation was made based on one or both of versions of this document. Some related documentation is also included.

- **U.S. Geological Survey (USGS)** - This MOU establishes that the USGS has the responsibility to permit and inspect all exploration, development, production, and utilization operations where the lessee or his operator is conducting the activity to recover Federal geothermal resources.

Covered Species

The California tiger salamander, California red-legged frog, and Lompoc yerba santa are the only species covered under this GCP, and therefore it only addresses impacts to and conservation of these species. The California tiger salamander, California red-legged frog, and Lompoc yerba santa are described further in Section 3 of this GCP.

The Service evaluated the potential for other federally listed species, candidate species, species proposed for Federal listing, eagles, and migratory birds with the GCP Planning Area that could be affected by the Covered Activities (Section 2). Project proponents must avoid or receive separate take authorization for other federally protected species that occur within their respective

project area(s) to meet issuance criteria for participation in the GCP. Failure to provide for compliance with the Act for other regulated species may constitute a violation of Section 9, and may result in suspension or revocation of Permits issued under the GCP.

Alternatives to the Taking

Section 10(a)(2(A)(iii) of the Act requires that the applicant describe "what alternative actions to the taking the applicant considered, and the reasons why such alternatives are not being utilized." The only alternative to the proposed incidental taking we considered is for project proponents to avoid any actions that could result in take of federally listed species. This is synonymous with a no-action alternative, in which the project proponent would modify their project to avoid take of listed species altogether. Under this alternative, exploration, storage, remediation, development, and transportation of crude oil, natural gas, and petroleum products would be curtailed within the range of these federally listed species (to avoid take of the species) and therefore would not meet the needs of project proponents. Complete avoidance of federally listed species and their associated habitats is not practical or feasible for most oil and gas industry activities within the Planning Area.

Section 2
Covered Activities

Only actions listed and described here as "Covered Activities" are eligible to receive incidental take authorization through this GCP. Industry standards, disturbance area estimates, and averages were obtained primarily from representatives of the oil and gas industry and were used when estimating the overall oil and gas development that may occur within the Planning Area over the term of the GCP.

All Covered Activities associated with each project must be fully contained within the Planning Area to be eligible to participate through the GCP. Therefore, pipelines or other infrastructure that extend beyond the GCP Planning Area are not eligible to participate in this GCP and project proponents should seek incidental take authorization independent of the GCP, if needed.

For the purposes of this GCP, Covered Activities are categorized and defined as "Upstream Activities" and "Midstream Activities," which are commonly used terms in the crude oil, natural gas, and petroleum products industries. Some overlap between the two categories may occur, and different Federal agencies may define "upstream" and "midstream" differently than the definitions in this GCP. The following descriptions provide an overview of the activities analyzed and for which incidental take coverage will be available through this GCP.

Given the potential significant effects that are likely to result from the establishment of new oil fields, construction of well pads is generally limited to existing oil field facilities and must meet the scope of this GCP and associated NEPA document. As described in Section 6 *Permit Processing and Implementation*, the Service will review each application for take coverage received under this GCP to ensure the proposed project fits within the scope of this Plan and associated NEPA document.

Upstream Activities

Upstream activities, as defined by this GCP, includes activities associated with oil, natural gas, and other petroleum products and development of the infrastructure required to extract those resources. Upstream activities include the following:

1. Geophysical exploration (seismic exploration)

2. Well field development (construction, operation, and maintenance of new and existing well field infrastructure and decommissioning of obsolete facilities) including:
    a) Well pads
    b) Drilling and completion activities

c) Pipelines located within the oil field, including gathering lines, header systems and production tanks
d) Wells
e) Gas flaring
f) Work and access roads
g) Electrical distribution lines (voltage must be 34.5 kilovolts (kV) or less)
h) Equipment and multiphase booster pads
i) Communication towers
j) Tank batteries

3. Renewable energy production facilities and infrastructure

The following sections provide a description of the upstream activities listed above.

Geophysical Exploration

Geophysical exploration is the process of locating oil and gas deposits beneath the earth's surface. This involves generating seismic waves and measuring their reflectance through differing geologic structures. These seismic waves may be initiated by detonating explosives or through a process known as "land vibroseis." Reflected seismic waves are recorded and interpreted to characterize subterranean landforms. Seismic companies often design sound generation points to avoid identified sensitive habitats and hazards and still collect meaningful data. Ground disturbance associated with geophysical exploration may include clearing vegetation or construction of roads. In some instances, hand crews are used to place source and receiver lines and drill shot holes, avoiding the necessity of road building. Hand crews and their equipment can be brought in to remote or environmentally sensitive sites by helicopter, known as heliportable drilling. In other cases, small off-road vehicles can be used for equipment and personnel. Vehicles used in the course of geophysical exploration activities sometimes include the use of wide track or rubber tires and smooth treads on vibroseis trucks to minimize disturbance and soil compaction. Road building or clearing may result in a maximum ground disturbance of 2 acres per square mile (0.8 hectares per 2.6 square kilometers).

Well Field Development

Well Pad Construction

Areas determined to have recoverable crude oil or natural gas deposits must be developed as well fields to initiate extraction of these resources. Well fields include facilities and infrastructure that support oil and gas production. Well pads include all structures and equipment necessary for recovering crude oil and/or natural gas (production wells). Well pads may also be necessary for obtaining water for oil and gas recovery (water wells) or disposal of fluids used in the oil and gas recovery following production (disposal wells). This includes the primary facilities including the pad, drilling rig, pump or well head, and baker tanks for the containment of drilling muds and cuttings. The well pad may also include facilities such as storage tanks for extracted water and crude oil, fuel tanks, water tanks, mist pumps, mud pumps, flow lines, pipelines, and associated electrical equipment. The pad also houses structures such as the cellar (where the well's main

borehole is drilled), drilling pipe storage areas (referred to as the rat and mouse holes), and various trenches and sumps, which collect liquids.

Typical well pad construction requires vegetation clearing; grading to level the site; construction of stormwater and erosion control structures; laying shale, gravel, and/or rock over the well pad; and constructing reserve/cutting pits, trenches, sumps, a cellar, and the rat and mouse holes. Land clearing, grading, and construction are typically performed with a bulldozer or other heavy equipment. Soil is typically excavated to a depth of approximately 6 inches during routine well pad installation.

Topsoil removed from the construction area is typically stored for use during site restoration. Vegetation debris piles are stored along the edges of the construction site and are typically buried in the reserve pit or left in place after drilling operations are completed.

Additional shale, gravel, and/or rock may be delivered to the construction site via dump trucks to aid in leveling the site and raise the pad above grade. Once completed, additional gravel or rock is hauled in to cover the vehicular traffic areas and trailer areas associated with drilling operations. Once constructed, the majority of the pad site is a long-term installation (30-40 years or more for a productive well). Once a well is ready for production, reserve pits and slopes used for drilling purposes are restored with topsoil and revegetated. Standard erosion control measures are incorporated into each well pad site.

Pipeline Construction

Oil and gas pipeline construction involves land clearing activity where right-of-ways (ROWs) are cleared and graded. Pipeline construction ROWs are typically divided into four areas of activity: trenching, spoil piles (excavated materials consisting of topsoil or sub-soils that have been removed and temporarily stored during the construction activity), pipeline assembly, and vehicle traffic areas. Clearing and installation of the pipeline typically requires the use of heavy equipment. The types of equipment used during construction may include track-hoes, bulldozers, side booms, bending machines, ditching machines, boring machines, and in some cases hydraulic directional drilling rigs. Pipe hauling and welding trucks as well as miscellaneous smaller vehicles are also used on most projects.

Pipeline ROW widths are determined by the pipeline diameter and material, as well as terrain and site-specific conditions. Trench widths are determined by the pipeline diameters (e.g., typically the diameter of the pipe plus 6 to 12 inches clearance between the pipe and the trench wall) and pipeline burial depths (e.g., deeper trenches usually dictate greater trench widths to address sidewall instability and worker safety). Pipeline construction ROWs also vary based on the type of pipeline. Gathering pipeline ROWs (the smaller interconnected pipeline networks which bring crude oil and/or natural gas from wells to treatment plants or processing facilities) average 50 feet in width. Transmission pipeline (longer pipes with larger diameters that move oil and gas longer distances) typically have construction ROWs of 75 feet to 150 feet depending on pipe sizes. Distribution pipelines (pipelines used to take products to the final consumer, including feeder lines) typically consist of small diameter, pipelines with construction ROWs of 10 to 50 feet.

Typical pipeline construction proceeds along the ROW in one continuous operation. Prior to initiating ground-disturbing activities, existing underground utilities (i.e., cables, conduits, and pipelines) must be located, identified, and flagged to prevent accidental damage during pipeline construction. Project areas are cleared of vegetation and large obstacles, such as trees, rocks, brush, and logs. Timber is only removed where necessary for construction purposes. Timber and other debris are burned or disposed of in accordance with applicable regulations.

Following clearing, the construction workspace is graded where necessary to allow safe passage of equipment. Temporary erosion and sediment controls are installed after initial disturbance of the soils, in accordance with local, state, and Federal regulations. Also, during grading, topsoil may be stripped from the area overlying the pipeline trench and spoil piled in the ROW. The topsoil is stockpiled separately from the subsoil. The segregated topsoil is typically restored to its original location immediately following installation of the pipe and backfill of the trench to reduce erosion and preserve native seed stock.

In some instances, pipelines may be constructed above ground and placed on double “tee” stands to minimize impacts to habitat edges and rare plants. In steep or other constrained areas, concrete anchors can be used to support the tee stands.

Trenching may be accomplished with back-hoes, track-hoes, or similar other ditching equipment. Excavated soil is placed to one side of the trench in a spoil pile. After a trench is excavated and pipeline assembled, the pipe is laid in the open trench using a side boom. The excavated trench is backfilled with the previously removed soil.

Depending on pipeline size and type, hydrostatic tests may be conducted by filling the pipeline with water and pressurizing it to ensure integrity at operating pressures. After backfilling the trench, work areas are graded and restored as closely as possible to preconstruction contours, and previously segregated topsoil is spread across the construction right-of-way. Surplus construction material and debris is removed, and typically vegetation is reestablished (usually through seeding). To minimize future settling, the trench may be compacted with tracked construction equipment or left crowned. Permanent erosion controls are installed within the right-of-way as needed during the restoration phase.

Pipe installation by conventional or directional boring, also known as horizontal direction drilling, may be utilized at roads, railroad crossings, water crossings, or in other sensitive areas. Conventional road boring requires excavation of a pit on either side of the feature, the placement of boring equipment in the pit, and boring under the feature. Horizontal directional drilling is a trenchless crossing method that is typically carried out in three stages: (1) directional drilling of a small diameter pilot hole; (2) enlarging the pilot hole to a sufficient diameter to accommodate the pipeline; and (3) pulling the prefabricated pipeline into the enlarged bore hole.

Contractor yards and pipe storage areas are generally located in existing commercial/industrial sites or other previously disturbed areas, but may require land clearing in areas with native vegetation. Extra workspace, such as areas needed for equipment storage and trenching, is

sometimes required at stream, wetland, railroad, road, and other pipeline crossings due to extra safety and environmental precautions often taken in these areas.

Road Construction

Development of well fields relies on existing roadways or may require construction of new roads. Newly constructed roads are first cleared of vegetation with a bulldozer and leveled with a road grader. Shale/rock/gravel and/or asphalt is used to stabilize the length of the road. Approximately 80 percent of newly constructed roads remain in permanent use, and 20 percent are temporary (existing for less than five years) and are restored to natural conditions. Road length can vary significantly, however the average road length per well pad is 300 feet. Rights-of-way (ROW) for access roads average 25 feet in total width for permanent roads and 15 feet for temporary roads. Roads require periodic maintenance to correct washouts or other deterioration. Where necessary, culverts and ditches may be installed to facilitate drainage away from the road. Culverts that require a waterway crossing would trigger the need for project proponents to apply for a permit with the Army Corps of Engineers.

Electrical Distribution Lines

Each well pad has its own electrical distribution line (voltage must be 34.5 kV or less to be covered under this GCP), unless power is provided by a generator. Vegetation clearing and grading along the electric transmission ROW are typically necessary prior to installation. The length of electric distribution line necessary at each facility is determined by the location and distance to the nearest existing active line and is, on average, 300 feet in length. ROWs average 30 feet in width. Distribution lines are typically suspended 30 feet above grade and are typically constructed above-ground, with 18-inch diameter poles approximately every 75 – 80 feet. Electrical distribution lines and poles are needed throughout the life of the well.

Less often, electrical distribution lines may be buried to meet the needs of the project design. If distribution lines are buried below-ground, trenching is accomplished with back-hoes, trackhoes, or similar other ditching equipment. Excavated soil is placed to one side of the trench in a spoil pile. After the trench is excavated, the electric line is then strung in the open trench. The excavated trench is backfilled with the previously removed soil. If a high voltage (12k or above) electric line is used, the trench may be cemented to prevent accidental uncovering or impact.

Drilling, Completion, and Production

Following construction of access roads and well pads, drilling rigs and associated equipment are transported to the well pad and installed. Drilling rigs are approximately 140 to 180 feet in height. All drilling activities occur within the previously disturbed (cleared and graded) well pad. After drilling is completed, the rig is removed. All activities associated with drilling and well completion occurs on previously disturbed areas or newly constructed pads. Drilling rigs typically include multiple sources of light to allow for 24-hour drilling activity.

Gas Flaring

Some operations may produce natural gas as a byproduct of other operations at rates that are not economically feasible to collect for sale. In some locations, no pipeline infrastructure is available to transport natural gas offsite. If no other use for the gas is found, such gas may be flared (burned in the air) for disposal over a 3 to 6-day initial period during drilling and production. This gas passes through a vent away from the well and is burned in the presence of a pilot flame. Additionally, smaller flares may be associated with tanks at production sites. These smaller flares may be burning constantly throughout the production process. Gas flaring must be in compliance with the Santa Barbara County Air Pollution Control District and California Air Resources Board.

Communication Towers

Communication towers may be required at some facilities, are usually constructed within the permanent footprint of the well pad, and typically range from 10 – 200 feet in height. Under the GCP, communication towers must be less than 200 feet in height, shall not use any guy wires, and not use lighting, unless required by the Federal Aviation Administration. Communication towers that exceed 200 feet in height or require guy wires are not eligible for inclusion under this GCP. Project proponents with these towers should seek consultation with the Ventura Fish and Wildlife Office to address potential impacts to listed species through a separate permitting process. Towers exceeding 200 feet in height typically have Federal oversight through the Federal Aviation Administration or Federal Communications Commission.

Tank Batteries

One or more tank batteries may be required at some facilities. Tank batteries are connected to receive and store crude oil production from a well or a producing lease. A Tank Battery is typically made up of two or more storage tanks which have crude oil storage capacities up to 4 days production. Tank Batteries are equipped with all the measuring equipment and fireproof equipment.

Operation, Maintenance, and Decommissioning of Wells, Roads, and Electrical Distribution Lines

Covered Activities for the purposes of this GCP include operation and maintenance of newly built and existing crude oil, natural gas, and petroleum facilities and decommissioning of obsolete facilities. Operation and maintenance activities may be routine (e.g.., planned upgrades to equipment) or emergency (i.e., unplanned repairs).

Well operation and maintenance activities typically occur within the existing well pad. Erosion affecting adjoining property may require disturbance outside of the existing well pad to repair and install additional erosion control features. Decommissioning of wells may involve removing or capping the permanent structures and restoring the area of the well pad to its original condition.

Operation and maintenance of permanent access roads includes adding additional surface material (e.g., asphalt, gravel, dirt) to the road and maintaining bar ditches. Roads would require

periodic maintenance to correct washouts or deterioration. To minimize dust, water may be applied to roads. All additional disturbances would occur within previously disturbed areas or newly constructed pads.

If a road is no longer needed, surface material would be removed and native vegetation is typically restored by seeding. Temporary roads may be restored with native vegetation following construction and would not require any operation and maintenance activities.

Operation and maintenance of electric distribution lines may include pole replacement and repairing above-ground lines. Most repairs require less than 1 acre of disturbance, typically about 50 square feet. Electric distribution line ROWs are kept clear of trees and brush to provide for line maintenance. Vegetation is typically maintained with mowing equipment (tractor, brush hog, etc.) or herbicide application (by applicators on foot or all-terrain vehicles) once every one to three years. Decommissioning of above ground electric distribution lines may involve removal of poles and distribution lines for above-ground lines. Buried electric lines would likely be left in place once disconnected from power sources.

Renewable Energy Production Facilities and Infrastructure

Some applicants may construct renewable energy sources in the form of PV solar panels and/or small wind projects to provide energy for oil and gas production activities. Solar facilities would generally include photovoltaic energy panels, an interconnecting power line (gen-tie line) to a substation, access roads, electrical switch station, and other necessary infrastructure. Wind projects would generally include wind turbines, an interconnecting power line (gen-tie line) to a substation, access roads, electrical switch station, and other necessary infrastructure. Wind turbines would range from 50 kilowatts (kW) to 300kW. Their blades typically range from 4 feet to 12 feet. Project proponents with wind turbines should seek consultation with the Ventura Fish and Wildlife Office to address potential impacts to listed species through a separate permitting process. Turbines exceeding 200 feet in height typically have Federal oversight through the Federal Aviation Administration or Federal Communications Commission.

The method used to construct the gen-tie lines and access roads would occur in a manner similar to what is described in this section for transmission lines and access road, respectively. Operations and maintenance of renewable energy projects would occur in a manner similar to what is described throughout this section for operations and maintenance of other infrastructure.

Midstream Activities

Midstream activities, as defined in this GCP, includes gathering, processing and treatment, transmission, and distribution of crude oil, natural gas, or other petroleum products. Petroleum products may include unprocessed natural gas liquid or condensate streams (including methane, ethane, propane, butane, and pentane). Refined oil products including gasoline, diesel, and kerosene may also be transported via pipeline. Midstream activities include the following:

1. Pipeline construction (gathering, transmission, and distribution pipelines)

2. Construction of associated surface facilities, including:
    a) Access roads and bridges
    b) Booster, compressor, and pump stations
    c) Meter stations, mainline valves, pig launchers and receivers, regulator facilities, and other required facilities
    d) Natural gas processing and treatment facilities
    e) Communication towers
    f) Electric distribution lines (voltage must 34.5 kV or less)
    g) Electric substations

3. Oil seep management

4. Operation and maintenance of pipeline and associated surface facilities

5. Decommissioning and reclamation of pipeline and associated surface facilities

6. Onsite mitigation areas and/or mitigation banks

7. Habitat restoration activities

The following sections provide a description of the midstream activities listed above.

Pipeline Construction

Oil and gas pipeline construction involves land clearing activity where ROWs are cleared and graded. Pipeline construction ROWs are typically divided into four areas of activity: trenching, spoil piles (excavated materials consisting of topsoil or sub-soils that have been removed and temporarily stored during the construction activity), pipeline assembly, and vehicle traffic areas. Clearing and installation of the pipeline typically requires the use of heavy equipment. The types of equipment used during construction may include track-hoes, bulldozers, side booms, bending machines, ditching machines, boring machines, and in some cases hydraulic directional drilling rigs. Pipe hauling and welding trucks as well as miscellaneous smaller vehicles are also used on most projects.

Pipeline ROW widths are determined by the pipeline diameter and material, as well as terrain and site-specific conditions. Trench widths are determined by the pipeline diameters (e.g., typically the diameter of the pipe plus 6 to 12 inches clearance between the pipe and the trench wall) and pipeline burial depths (e.g., deeper trenches usually dictate greater trench widths to address sidewall instability and worker safety). Pipeline construction ROWs also vary based on the type of pipeline. Gathering pipeline ROWs (the smaller interconnected pipeline networks which bring crude oil and/or natural gas from wells to treatment plants or processing facilities) average 50 feet in width. Transmission pipeline (longer pipes with larger diameters that move oil and gas longer distances) typically have construction ROWs of 75 feet to 150 feet depending on pipe sizes. Distribution pipelines (pipelines used to take products to the final consumer, including feeder lines) typically consist of small diameter, pipelines with construction ROWs of 10 to 50 feet.

Typical pipeline construction proceeds along the ROW in one continuous operation. Prior to initiating ground-disturbing activities, existing underground utilities (i.e., cables, conduits, and pipelines) must be located, identified, and flagged to prevent accidental damage during pipeline construction. Project areas are cleared of vegetation and large obstacles, such as trees, rocks, brush, and logs. Timber is only removed where necessary for construction purposes. Timber and other debris are burned or disposed of in accordance with applicable regulations.

Following clearing, the construction workspace is graded where necessary to allow safe passage of equipment. Temporary erosion and sediment controls are installed after initial disturbance of the soils, in accordance with local, state, and Federal regulations. Also, during grading, topsoil may be stripped from the area overlying the pipeline trench and spoil piled in the ROW. The topsoil is stockpiled separately from the subsoil. The segregated topsoil is typically restored to its original location immediately following installation of the pipe and backfill of the trench to reduce erosion and preserve native seed stock.

In some instances, pipelines may be constructed above ground and placed on double “tee” stands to minimize impacts to habitat edges and rare plants. In steep or other constrained areas, concrete anchors can be used to support the tee stands.

Trenching may be accomplished with back-hoes, track-hoes, or similar other ditching equipment. Excavated soil is placed to one side of the trench in a spoil pile. After a trench is excavated and pipeline assembled, the pipe is laid in the open trench using a side boom. The excavated trench is backfilled with the previously removed soil.

Depending on pipeline size and type, hydrostatic tests may be conducted by filling the pipeline with water and pressurizing it to ensure integrity at operating pressures. After backfilling the trench, work areas are graded and restored as closely as possible to preconstruction contours, and previously segregated topsoil is spread across the construction right-of-way. Surplus construction material and debris is removed, and typically vegetation is reestablished (usually through seeding). To minimize future settling, the trench may be compacted with tracked construction equipment or left crowned. Permanent erosion controls are installed within the right-of-way as needed during the restoration phase.

Pipe installation by conventional or directional boring, also known as horizontal direction drilling, may be utilized at roads, railroad crossings, water crossings, or in other sensitive areas. Conventional road boring requires excavation of a pit on either side of the feature, the placement of boring equipment in the pit, and boring under the feature. Horizontal directional drilling is a trenchless crossing method that is typically carried out in three stages: (1) directional drilling of a small diameter pilot hole; (2) enlarging the pilot hole to a sufficient diameter to accommodate the pipeline; and (3) pulling the prefabricated pipeline into the enlarged bore hole.

Contractor yards and pipe storage areas are generally located in existing commercial/industrial sites or other previously disturbed areas, but may require land clearing in areas with native vegetation. Extra workspace, such as areas needed for equipment storage and trenching, is

sometimes required at stream, wetland, railroad, road, and other pipeline crossings due to extra safety and environmental precautions often taken in these areas.

Construction of Associated Surface Facilities

Surface facilities associated with crude oil, natural gas, and petroleum product pipelines may include access roads, booster stations, pump stations, compressor stations, generators, valve sites, meter stations, pig (a device used to clean and/or inspect pipelines) launchers and receivers (locations where pigs are inserted into or removed from a pipeline), processing/treatment plants, communication towers, electric distribution lines and other utilities, electric substations, equipment yards, field offices and other infrastructure within the oil field. The number, type, and size of facilities required for each pipeline varies depending on the size of the pipeline, product being transported, topography of the area, existing infrastructure in the area, and needs of the project proponents.

Construction of access roads may be necessary to reach oil wells, pipelines and/or associated facilities if existing roads are not available. Some of these access roads may be reclaimed following construction; however others remain for operation and maintenance of the pipeline and associated facilities. Roads typically range in widths from 15 to 30 feet, with an average length of 0.25 miles, depending on the location and necessary use. Roads are expected to require periodic maintenance to correct washouts or other deterioration. Where necessary, culverts and ditches may be installed to facilitate drainage away from the road. Additionally, the construction of bridges may be necessary if a creek crossing or drainage is located within a project area.

Booster, compressor and/or pump stations are generally required at intervals between 25 and 100 miles along a pipeline to maintain or increase internal pressures and keep the flow of oil or gas moving through the pipeline at an appropriate rate. The location of these stations is typically determined by topography, the type of product being transported, and system hydraulic requirements. Compressor, booster, and pump stations are usually built within or adjacent to the pipeline right-of-way. Additional clearing and grading may be required at these facilities during construction. Office, control, utility, storage, and maintenance buildings and parking areas may be associated with these facilities. These associated facilities range in size from approximately 0.1 acres to over 5 acres. Compressor and pump station facilities generally incorporate gravel or other hardened surfaces, lighting, and perimeter fencing.

Associated surface facilities that occur within pipeline ROWs may include meter stations, mainline valves, pig launchers/receivers, regulator facilities, lease automatic custody transfer (LACT) units and other required facilities. Connections between large transmission pipelines and smaller pipelines require meter/regulator stations to control the metering and flow control. Mainline valves are installed along transmission pipelines to enable portions of the pipeline to be shut down or isolated, if necessary. Pig launcher/receiver facilities are usually installed at locations of other aboveground facilities such as compressor stations or meter stations, but these facilities may also be required at points of pipeline diameter change or to accommodate the maximum practical distance that can be recorded by a pig during internal inspections. Regulators, which control the pressure of sections of pipeline, are associated surface facilities for natural gas distribution pipelines. Gas flaring may be associated with tanks at surface facilities.

Each meter station, mainline valve site, pig/launcher/receiver, and regulator facility may be surrounded by security fencing.

Other accessories include miscellaneous facilities such as filter/separators, miscellaneous valves, sumps, tanks, yard piping, pipeline markers, cathodic protection system (a method of protection for iron and steel against electrochemical corrosion) components, generators, offices, storage buildings, equipment yards, and sheds. These are often associated with other surface facilities like compressor stations, but some, such as pipeline markers, may be located independently on pipeline ROWs.

Additional processing or treatment facilities may be required to process natural gas before it can be transported. Relatively few natural gas processing facilities are necessary, as gathering systems may interconnect more than 100 wells to a processing facility. These facilities generally range in size from approximately 5 to 30 acres. Processing facilities generally include hardened surfaces, lighting, and perimeter fencing.

Communication towers may be required at some of the associated surface facilities, are usually constructed within the permanent footprint of the facility, and typically range from 10 to 200 feet in height. Under the GCP, communication towers must be less than 200 feet in height, would not use any guy wires, and not use lighting, unless required by the Federal Aviation Administration. Communication towers that exceed 200 feet in height or require guy wires are not eligible for inclusion under this GCP. Towers exceeding 200 feet in height typically have Federal oversight through the Federal Aviation Administration or Federal Communications Commission.

Electric distribution lines (voltage of 34.5 kV or less) and other utilities are often constructed to serve facilities that need a source of electricity, such as compressor and pump stations, valve sites, and processing plants. Vegetation clearing and potentially grading along the electric distribution right-of-way are typically necessary prior to installation. The length of electric distribution line necessary is determined by the location and distance to the nearest substation. Distribution lines are usually between 0.5 miles and 5 miles in length. If distribution lines are buried below-ground, trenching is accomplished with back-hoes, trackhoes, or similar other ditching equipment. Excavated soil is placed to one side of the trench in a spoil pile. After the trench is excavated, the electric line is then strung in the open trench. The excavated trench is backfilled with the previously removed soil. If above-ground, distribution lines are approximately 18 to 40 feet high, depending on the voltage required. Poles are usually constructed every 75 to 80 feet. The typical permanent ROW is approximately 20 feet wide. Electrical distribution lines and poles are needed throughout the life of the well pad and are considered permanent structures; however, ROWs associated with these lines may be maintained as native vegetation.

Electric substations may be associated with electric distribution lines. These substations generally require approximately 2 to 5 acres of disturbance. Electric substations are usually located off a county road but occasionally require an access road to be built to the site. Electric substations are typically surrounded by fencing. When constructed in association with an associated facility, the substation may be constructed on the same facility site within an easement granted to the electric service provider.

Oil Seep Management

Oil seeps are releases of crude oil from the ground surface that occur naturally from the shallow, Careaga Formation but may increase in frequency of occurrence and volume with the addition of steam. State and local regulations require control and containment of oil seep flow on the ground and removal and disposal of discharged material. Seep oil that is collected is removed from seep can receptacles via pump or vacuum truck and sent to existing facilities for processing and shipping.

A seep can is a temporary receptacle consisting of a perforated galvanized culvert placed vertically in the ground to collect and contain seep oil. In some cases, an electric pump is attached to the seep can. A seep can's depth is approximately 15 to 20 feet, with a diameter of approximately 24 to 48 inches. Seep cans are removed when seep oil ceases to flow. Installation, management and removal of seep cans can result in habitat disturbance.

Operation and Maintenance of Pipelines and Associated Surface Facilities

Covered Activities include operation and maintenance of existing and newly built facilities and decommissioning of obsolete facilities as described above. Operation and maintenance activities may be routine (i.e., planned upgrades to equipment) or emergency (i.e., unplanned repairs).

During the operation and maintenance phase of midstream activities, visual inspections are performed in accordance with California Department of Transportation regulations and pipeline operator procedures. Such inspections may be carried out by personnel on foot, in all-terrain vehicles, or aerially. Pipeline integrity is checked throughout the pipeline's lifespan, sometimes requiring soil disturbance. Digging to, exposing, and in some instances replacing pipeline, may be necessary based on inspection results. Annual pipeline maintenance generates from 0.005 to 0.015 acres of soil disturbance per mile of pipeline. The Service therefore estimates an average annual total of 0.01 acres per mile of pipeline may be disturbed due to maintenance activities.

The permanent ROWs of larger transmission pipeline, pipeline spans, some gathering lines, and the electric distribution lines are kept permanently clear of trees and brush to allow future maintenance and inspections. Vegetation maintenance is typically done by large mowing equipment (tractor, brush hog, etc.) or herbicide application, by foot or all-terrain vehicles, once every 1 to 3 years.

Gas flaring may be used at associated surface facilities and pipelines. Smaller gas flares may be burning constantly throughout the life of the project, while others may be short-term (20 to 30-minute intervals) that are used as control of pressure for emergency releases.
Operation and maintenance of permanent access roads includes adding additional surface material (i.e., gravel, dirt) to the road and maintaining bar ditches. Disturbances are expected to occur within previously disturbed areas. Roads would require periodic maintenance to correct washouts or deterioration. To minimize dust, water may be applied to roads.

Operation and maintenance of electric distribution lines may include pole replacement for aboveground lines. Repair of buried lines may require soil disturbance to locate problems. These repairs typically rely on existing roads. Most repairs require less than 1 acre of disturbance, typically about 50 square feet.

Decommissioning and Reclamation

Decommissioning a pipeline and associated facilities occurs when the pipeline or facility is no longer functional or necessary. Such facilities are typically removed and the area may be restored to native vegetation conditions. Decommissioned pipelines are either dismantled and removed or left in place. Pipelines left in place are capped and grouted at locations of road/railroad crossings, which requires minor soil disturbance at the locations of the capping. Removing pipelines involves excavating to expose the pipeline, cutting and removing the pipe, and backfilling and reclaiming the area.

If an access road is no longer needed, surface material would be removed and native vegetation is typically restored by seeding. Decommissioning of above ground electric distribution lines involves removal of poles and distribution lines. Buried electric lines would likely be left in place following disconnection from power sources.

Onsite Mitigation Areas and/or Offsite Mitigation Banks

As part of this GCP, compensation lands may be permanently conserved to mitigate project impacts to Covered Species. These lands may be immediately adjacent, or in proximity to, project sites on land owned by applicants, or may consist of offsite compensation lands that are adjacent to or in close proximity to existing blocks of conserved lands that support the Covered Species. All compensation lands should meet the criteria in the Covered Species Recovery Plans and other supporting documents (i.e., conservation strategy, strategic conservation plan, etc.). Section 5 of this GCP further describes these criteria and supporting documents.

Habitat Restoration and Maintenance Activities

Applicants may propose to restore lands that are temporary impacted by Covered Activities to minimize impacts to Covered Species. These lands would be restored and stabilized to reflect pre-existing contours and gradients to the extent practicable. Erosion and sediment controls (e.g., silt fences, fiber rolls, sandbags) would be installed, where necessary, utilizing weed-free materials in areas with a predominance of native plants. Applicants proposing to restore habitat would prepare a Habitat Restoration Plan. The applicant would monitor restoration sites for a minimum of 5 years, or until the Service determines that the Project's long-term performance standards to be satisfied. If habitat restoration is proposed as part of the applicant's mitigation for unavoidable impacts to Covered Species and their habitat, the Service would have the option to require that the applicant provide permanent protection of habitat as suitable mitigation.

The Habitat Restoration Plan would include detailed specifications for restoring all temporarily disturbed areas, such as seed mixes and application methods. The Plan would also indicate the best time of year for seeding to occur. Restored areas would be maintained and monitored,

including weed removal (focused on noxious weeds and excluding non-native annual grasses), to reach a goal of a self-regenerating grassland. All planting and seeding would occur the first year after construction is complete, after the first significant rain event of the year (i.e., more than 0.25 inches of precipitation). The Plan would also include success criteria for all habitat restoration that is based on suitability for the Covered Species.

Applicants may also propose to implement habitat maintenance activities within livestock ponds or other aquatic features that serve as suitable breeding habitat for Covered Species. Many livestock ponds have a lifespan of 30 to 50 years and require spillway/berm repair and sediment or vegetation removal during this time span. Other aquatic features such as modified ponds may also require regular sediment or vegetation removal.

Section 3
Environmental Setting and Covered Species

Climate

The regional climate is mild and typifies a Mediterranean coastal climate throughout the year that is characterized by long, dry summers and short, wet winters. Fog is common during the late spring and summer months and moderate summer temperatures. Temperatures range from 50 degrees Fahrenheit to 74 degrees Fahrenheit during the summer, with an average of 62 degrees Fahrenheit, and from 40 degrees Fahrenheit to 64 degrees Fahrenheit during the winter months, with an average temperature of 52 degrees Fahrenheit. On average the warmest month is September and the coolest month is January. Precipitation within the planning area varies greatly from season to season and with each location. The average annual precipitation in the northern and southern portions of the planning area is 13.31 inches and 16.7 inches, respectively (County of Santa Barbara, 2017). Most of the precipitation occurs from November to April and highest rainfall occurring in February (Western Regional Climate Center [WRCC], 2016). Climate studies have determined that drought periods occur regularly and may last as long as a decade or more. Prior to the current, the most recent drought lasted from 1986 to 1991, during which water storage in the county's major reservoirs was nearly depleted. With a mean annual rainfall of 18.55 inches, only 6.41 inches of rain were recorded in Santa Barbara in 2007; this was the driest year of record.

Topography/Geology

In general, the planning area is characterized by low elevation (generally under 1,500 feet) grassland, oak savannah, and coastal scrub plant communities of the Santa Maria, Los Alamos, and Santa Rita Valleys in the northwestern area of Santa Barbara County. The underlying soils generally consist of unique soil formations, including dune fields (e.g., Orcutt Terrace Dune Sheet), folded and faulted ridges (e.g., Casmalia, Purisima, and Santa Rita Hills), and adjacent valleys (e.g., Los Alamos and Santa Rita Valleys) (Hunt 1993, Ferren and Hecht 2003).

Hydrology/Streams, Rivers, Drainages

The planning area is located within the Central California Coastal Hydrologic Unit and crosses the Santa Maria, Los Alamos, Lompoc, Santa Ynez Valleys, and covers a portion of the Santa Barbara Coastline.

The Santa Maria Valley is bound by the Santa Maria River to the north and the Casmalia and Solomon Hills to the south, which creates a valley that opens toward the Pacific Ocean. The

Santa Maria River watershed includes all areas tributary to the Cuyama River, Sisquoc River, and Santa Maria River. At 1.2 million acres, the Santa Maria River watershed is one of the larger coastal drainage basins of California. The Santa Maria River is formed by the confluence of the Cuyama and Sisquoc approximately seven miles southwest of Santa Maria.

The Los Alamos Valley is largely characterized by high quality pastoral, agricultural, and natural landscapes along San Antonio Creek, which is situated before the Solomon and Purisima Hills. The watershed is drained westerly by the San Antonio Creek and discharges into the San Antonio Lagoon at the Pacific Ocean.

The Lompoc Valley encompasses the City of Lompoc and the unincorporated areas of Vandenberg Village and Mission Hills. The Lompoc Valley is located along the Santa Ynez River watershed. Other surface water features in the Lompoc Valley include the San Miguelito Creek, which joins the Santa Ynez River just west of Lompoc.

The Santa Ynez Valley is broad and flat, with marine terraces, as well as some rolling hills and rugged mountains. Major waterways in the Santa Ynez Valley include the Santa Ynez River, Alamo Pintado Creek, Zaca Creek, and Zanja de Cota Creek. The Santa Ynez River is 75 miles long and drains the north slope of the Santa Ynez Mountains and the south slope of the San Rafael Mountains. It also drains much of the southern half of Santa Barbara County.

The Santa Ynez Mountains drop steeply to the Santa Barbara coast, and the many small watersheds deliver high sediment yields directly to the shoreline. The Santa Barbara Coastline is a south-facing section of coastline characterized by rapid geologic uplift, as evidenced by the coastal bluffs and narrow beaches that are present along most of the coastline. Coastal sand dunes are scattered along the coastline that are affected by wave action, tides, and wind. Plants found on coastal sand dunes are mostly prostrate herbs with creeping stems and long fleshy taproots.

The planning area contains numerous seasonal ponds, such as vernal pools (seasonal, shallow wetlands that alternate between dry and wet periods) and sag ponds (ponds located in depressions formed at a strike-slip fault). These pools range in size from small pools to shallow lakes. There are also numerous man-made ponds or modified natural ponds that create various types of artificial aquatic habitat. These features are often ponds that are created for the purposes of providing water for cattle when a berm is created in a natural drainage corridor, forming a pond behind it. Along the Santa Barbara coast, many small watersheds drain from Santa Ynez Mountains to the ocean.

Existing and Surrounding Land Uses

Land use within the planning area includes agriculture, residential, recreation, open lands, and urban areas. Highway 101 runs north to south through the eastern portion of the planning area. Due to the size and heavy traffic, Highway 101 is mostly an impermeable barrier to the dispersal of species across the landscape. Many other paved and unpaved roads, which are much smaller in size and traffic, traverse the planning area.

Covered Species

The California tiger salamander, California red-legged frog and Lompoc yerba santa are addressed in this plan. This section provides a concise review of pertinent information on the California tiger salamander, California red-legged frog, and Lompoc yerba santa, including a species description, review of the species' life history, status and distribution, reasons for the species decline, as well as the threats and survival and recovery needs of these species.

California Tiger Salamander Species Information

Description of the California Tiger Salamander

The California tiger salamander is an amphibian in the family Ambystomatidae. The California tiger salamander is a large, stocky salamander, with a broad, rounded snout. It has small eyes, with black irises that protrude from its head.

Adult males are about 8 inches long. Females are about 7 inches long. Adult California tiger salamanders are black or dark grey, with oval to bar-shaped spots ranging in color from white to yellow. The belly varies from almost uniform white or yellow to a variegated pattern of white or pale yellow and black. Males can be distinguished from females, especially during the breeding season, by their swollen cloacae, a common chamber into which the intestinal, urinary, and reproductive canals discharge. They also have more developed tail fins.

Juveniles are dark olive green in color and do not generally have any lighter markings. Larval tiger salamanders have external gills and are olive green in color, generally with very fine dark markings. Eggs are laid underwater singularly or in small groups, on subsurface portions of emergent vegetation or other debris. Each egg is approximately 0.5 to 0.75 of an inch in diameter, including a thick gelatinous layer.

Life History of the California Tiger Salamander

Like other members of family Ambystomatidae, California tiger salamanders spend the majority of their lives underground in small mammal burrows. California tiger salamanders may also use landscape features such as leaf litter or desiccation cracks in the soil for upland refugia. Such refugia provide protection from the sun and wind associated with a dry California climate, which can otherwise desiccate and kill amphibians in upland terrain.

Little is known about the fossorial behavior of California tiger salamanders as they are difficult to observe while underground; most evidence suggests that California tiger salamanders remain active. Because California tiger salamanders arrive at breeding ponds in good condition and are heavier when entering a pond than when leaving, researchers infer that California tiger salamanders are feeding while underground. Trenham (2001) recorded underground movements within burrow systems, and other researchers have used fiber optic or infrared scopes to observe active California tiger salamanders while underground (Semonsen 1998).

Winter rain events trigger California tiger salamanders to emerge from refugia and seek breeding ponds (Storer 1925). After mating, females attach their eggs to submerged twigs, grass stems, vegetation, or debris (Storer 1925; Twitty 1941). California tiger salamander eggs hatch into larvae within 10 to 28 days, (Petranka 1998; Hansen and Tremper 1993), with observed differences likely related to water temperatures. Requiring a relatively short period to complete development of the aquatic larvae as compared to other salamanders, California tiger

salamanders may breed successfully in pools or ponds that are inundated with water for little more than 2 months. The developmental period can be prolonged in colder weather, commonly in excess of 4 months, after which they emerge as terrestrial metamorphic salamanders, between approximately May and August (Trenham et al. 2000).

Lifetime reproductive success of California tiger salamanders is typically low because they require an extended amount of time before they reach sexual maturity (4 to 5 years) (Trenham et al. 2000). Less than 50 percent of first-time breeding California tiger salamanders typically survive to breed more than once (Trenham et al. 2000). Metamorphs also have low survivorship. In some populations, less than 5 percent survive to breed (Trenham 1998). Thus, isolated metapopulations can decline substantially from unusual, randomly occurring, natural events (e.g., disease, drought) as well as from human-caused factors that reduce breeding success and individual survival.

Migration is defined as movements, primarily by resident adults, toward and away from aquatic breeding sites (Semlitsch 2008). For the adult residents using a breeding pond, migrations are reoccurring events (often, but not always annually), round-trip, and intrapopulational (within populations). Dispersal is defined as unidirectional movements that are interpopulational (between different populations) in scale, are ultimately greater in distance than for migrating adults, and may occur only once in a lifetime (Semlitsch 2008). For dispersing juveniles, movement occurs from natal sites to future breeding sites that are not the pond of birth and not part of the local population. For dispersing adults, movement occurs out of the local population and/or between metapopulations. A local population can be either one pond or clusters of ponds in close proximity occupied by one breeding group.

California tiger salamanders can undertake long-distance migrations, and can disperse long distances as well. They have been recorded traveling the second-longest distance among salamanders, which is also the longest of any salamander in the family Ambystomatidae (reviewed in Searcy et al. 2013). California tiger salamanders move more readily among breeding ponds than other members of the family, a characteristic found consistently among different study sites (Trenham et al. 2001, Wang et al. 2011).

Many studies have recorded migration and dispersal distances by adult and juvenile California tiger salamanders, both through radio-tracking (Loredo et al. 1996, Trenham 2001) and upland drift fence capture (Trenham and Shaffer 2005, Orloff 2007, Orloff 2011). None of these studies were conducted within the range of the Santa Barbara County distinct population segment (DPS) of the California tiger salamander, but are considered to be the best available scientific information on the species. Movement of California tiger salamanders is reviewed in Service (2009) and Searcy et al. (2013). In general, adults may migrate up to 1.2 miles from upland habitats to aquatic breeding sites (Service 2000a). Trenham et al. (2001) observed a substantial number of California tiger salamanders moving between ponds separated by up to 2,200 feet. Trenham and Shaffer (2005) used capture data and models to calculate that 95 percent of migrating salamanders remain within 2,034 feet of a breeding pond. Orloff (2011) found that a considerable number of adult and juvenile California tiger salamanders moved more than 2,625 feet from their breeding pond, and some more than 1.4. Based on the numbers captured, Orloff (2011) hypothesized that substantially more than 5 percent of the pond's population must be migrating beyond 2,200 feet from their breeding pond. Based on studies at Jepson Prairie (Central DPS), researchers estimated that California tiger salamanders use a much greater area

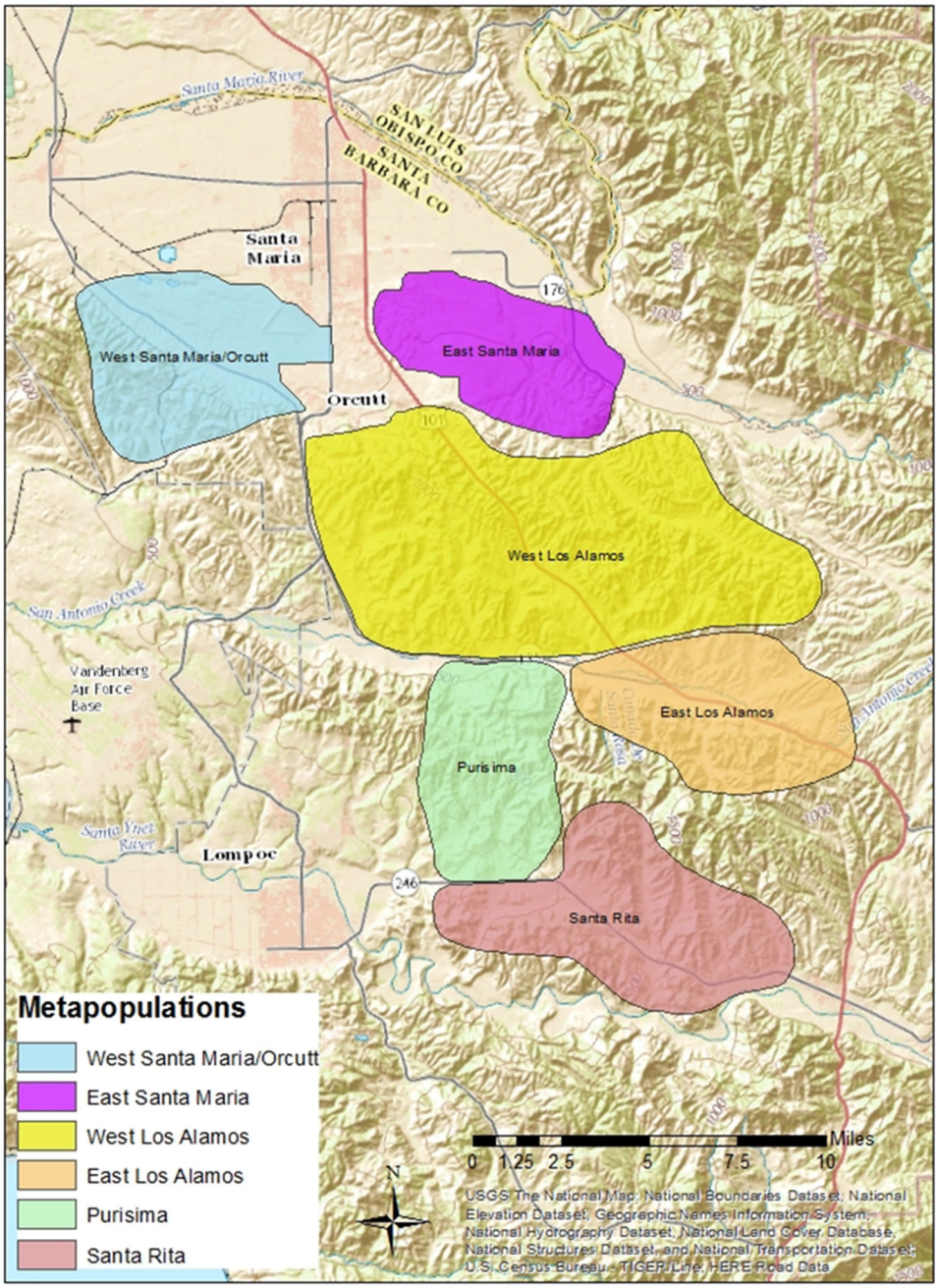
around the pond, as compared to Trenham and Shaffer's (2005) original 2,200-foot estimate, with 95 percent of salamanders found within 1.1 miles of a breeding pond from the most outlying pool edge (Searcy and Shaffer 2008, 2011, Searcy et al. 2013, C. Searcy in litt, 2014).

California tiger salamander larvae typically feed on invertebrate prey. This includes zooplankton, small crustaceans, and aquatic insects until the salamanders grow large enough to switch to larger prey (Anderson 1968, Fisher and Shaffer 1996). Larger larvae consume aquatic invertebrates, as well as the tadpoles of other amphibians such as Pacific chorus frogs (*Pseudacris regilla*), western spadefoot toads (*Spea hammondii*), California red-legged frogs (*Rana draytonii*), bullfrogs (*Lithobates catesbeianus*), and even juvenile mice (Anderson 1968; Trenham et al. 2000, Bobzien and DiDonato 2007). Less is known about the dietary habits of subterranean life stages. Stomach contents of several California tiger salamander sub-adults from the Santa Barbara County DPS included spiders, earthworms, and aquatic insects (Hansen and Tremper 1993). Van Hattem (2004) anecdotally reported a Central DPS California tiger salamander eating a moth while being observed underground.

Status of the California Tiger Salamander

The Santa Barbara County DPS of the California tiger salamander was listed as endangered throughout its entire range in 2000 under the Act. The DPS is endemic to the northern portion of Santa Barbara County, California, and currently consists of six distinct metapopulations (see map below). The recovery priority number for the Santa Barbara County California tiger salamander is 3C, indicating a high potential for recovery and a high degree of threat in conflict with development.

Figure 2. Santa Barbara County Distinct Population Segment of the California Tiger Salamander



A study of genetic effective population sizes (effective number of breeders, as measured by the molecular co-ancestry method) across 30 unique breeding ponds measured effective populations sizes ranging from 0.9 (CI: 0.9 -1.1) to 141.2 (CI: 23.4-362.4). The median effective population size was 12.10, and 22 of 33 ponds exhibited Ne of less than 20 (Toffelmier 2021). Effective population size measurements can be used to estimate the size of the population and trends over time. Recent research on the Central DPS of the California tiger salamander shows Ne is positively related to the area of individual vernal pools; however, no relationship was found with stock ponds (Wang et al. 2011, Shaffer et al. 2013). This suggests that larger vernal pools are

more valuable for the conservation of the species than smaller ones. Although small mammal burrows provide important habitat for California tiger salamander during the terrestrial part of their life cycle, the density of adults in a population has been observed to decrease as burrow densities increase, suggesting that the species is sensitive to other factors than burrow density (Searcy et al. 2013).

California tiger salamander breeding populations can fluctuate substantially due to random, natural processes. At one study site monitored for seven years in Monterey County (Central DPS of the California tiger salamander), the number of breeding adults visiting a site ranged from 57 to 244 individuals (Trenham et al. 2000). Similar work also conducted in Monterey County showed a comparable pattern of variation, suggesting that such fluctuations are typical (Loredo and Van Vuren 1996). Further complicating estimating population size is that salamanders move between ponds (Trenham et al. 2001), or even forego breeding for 2 to 8 years, resulting in negative aquatic surveys despite the presence of the species in adjacent uplands (Trenham et al. 2000, Alvarez et al. 2013)

All occurrences of California tiger salamanders in Santa Barbara County are within the Santa Maria Basin Geomorphic Province, which occurs between the interface of the westernmost extent of the east-west trending Transverse Ranges (i.e., the Santa Ynez Mountains) and the southernmost extent of the north-south trending Coast Ranges (i.e., the San Luis Range and San Rafael Mountains). The Santa Barbara County DPS of the California tiger salamander is restricted to Santa Barbara County in southern California. This population constitutes the southernmost range of the species and is the only one west of the outer Coast Ranges (Service 2000b). At the time of publication of the emergency listing rule in January 2000, the Santa Barbara County DPS of the California tiger salamander was known from 14 ponds in Santa Barbara County. The emergency and final listing rules acknowledged that other potential breeding ponds or pond complexes may exist, but could not be surveyed at that time because of restricted access.

The California tiger salamander has a metapopulation structure. A metapopulation is a set of local populations or breeding sites within an area, where typically dispersal from one local population or breeding site to other areas containing suitable habitat is possible, but not routine. California tiger salamanders appear to have high site-fidelity, returning to their natal pond as adults and commonly returning to the same terrestrial habitat areas after breeding (Orloff 2007, 2011; Trenham 2001). Wang et al. (2009) studied genetic distinctness across 16 Central DPS California tiger salamander breeding sites (Fort Ord, Monterey County), and confirmed genetic differences at almost every site. More work is needed to determine the genetic distinctness across metapopulations in the Santa Barbara County DPS of the California tiger salamander; however, the metapopulation structure of the DPS suggests that there would be similar genetic differences.

The Santa Barbara County California tiger salamander is found in six metapopulation areas: (1) West Santa Maria/Orcutt, (2) East Santa Maria, (3) West Los Alamos, (4) East Los Alamos, (5) Purisima Hills, and (6) Santa Rita Valley (Service 2009). For the purposes of this document, a "metapopulation" is defined as a set of local populations or breeding sites within an area, where typically, dispersal from one local population or breeding site to other areas containing suitable habitat is possible, but not routine. The "metapopulation areas" displayed on the maps in this plan (see the map below) encompass both existing, occupied, and potentially occupied, suitable habitat for each metapopulation for regional conservation planning purposes. Critical habitat for

the Santa Barbara County DPS of the California tiger salamander has been designated within portions of each of the six metapopulations (Service 2004b).

Areas designated as critical habitat for the Santa Barbara County DPS of the California tiger salamander is determined by areas that have the physical and biological features that are essential to the conservation of the species. These physical and biological features, or primary constituent elements, for the California tiger salamander are: (1) standing bodies of fresh water, including natural or man-made ponds, vernal pools, and dune ponds, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a sufficient length of time (i.e., 12 weeks) necessary for the species to complete the aquatic portion of its life cycle; (2) barrier-free uplands adjacent to breeding ponds that contain small mammal burrows; and (3) upland areas between breeding locations (primary constituent element 1) and areas with small mammal burrows (primary constituent element 2) that allow for dispersal among such sites.

Currently, there are approximately 60 known extant tiger salamander breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations (Table 1). Since listing, the Service and the Department, developed guidance for protocol survey efforts (Service and Department 2003), and this guidance aided in the detection of additional breeding ponds discovered post-listing. Several of the additional ponds were discovered as a result of surveys conducted as a part of proposed development or land conversion projects.

Threats and the Decline to the California Tiger Salamander

The California tiger salamander requires a combination of pond habitat for breeding and upland habitat for its life cycle. The species depends on a series of interconnected breeding and upland habitats as a metapopulation, making it particularly sensitive to changes in the amount, configuration, and quality of these habitats. The loss, destruction, degradation, and fragmentation of habitat represent the primary threats to the California tiger salamander (Service 2000a, b; 2009). Within the range of the Santa Barbara County DPS of the California tiger salamander, significant portions of its habitat have been altered or destroyed. Additional threats to the species include hybridization with non-native tiger salamanders, predation and competition by non-native species, vehicle-strike mortality, and lack of regulatory compliance. Other potential threats include contaminants, disease, and climate change. A majority of the known California tiger salamander occurrences in Santa Barbara County currently occur on private lands, requiring continual coordination with multiple private and local government entities for management.

The ponds available to Santa Barbara County California tiger salamanders for breeding, and the associated upland habitats inhabited by salamanders for most of their life cycle, have been degraded and reduced in area through agricultural conversion, urbanization, and the building of roads and highways. Maintaining inter-pond dispersal potential (connectivity between ponds) is important for the long-term viability of California tiger salamanders; however, the inter-pond linkages between populations of California tiger salamanders in Santa Barbara County are considerably degraded (Pyke 2005).

Habitat loss reduces the available feeding, breeding, and sheltering opportunities required for California tiger salamander survival and reproduction and thus, lowers the carrying capacity of the landscape and threatens the continued existence of the species. Habitat fragmentation reduces

population connectivity needed for dispersal and migration, resulting in isolation of metapopulations within the DPS, making them more vulnerable to small population and stochastic effects. Conversion of California tiger salamander habitat to intensive agricultural uses results in the habitat loss and fragmentation that threatens the Santa Barbara County DPS. Agriculture is the foremost industry in northern Santa Barbara County, and some of the largest agricultural operations of over 1,000 acres are located in the Santa Maria Valley (Santa Barbara County Association of Governments 2007), where two of the six metapopulations occur. Grading and leveling or deep-ripping operations associated with agricultural conversion of uplands have destroyed ponds and pools (Coe 1988), reducing breeding habitat and causing direct injury and mortality to larvae and juveniles occupying the pools. Also, conversion to intensive agriculture can create permanent barriers that can isolate California tiger salamanders and prevent them from moving to new breeding habitat, or prevent them from returning to their breeding ponds or upland habitat.

In addition to agricultural conversion, habitat loss and fragmentation resulting from urban development also threatens aquatic and upland habitat in the range of the Santa Barbara County DPS of the California tiger salamander. Urban growth causes habitat loss and fragmentation as build-outs convert habitat to pavement and creates structures that inhibit normal California tiger salamander movements. The City of Santa Maria and surrounding land is the fastest-growing area in the County, and the population within the City of Santa Maria is forecasted to grow 35 percent by 2040 (City of Santa Maria 2006). To meet the needs of the increasing population, several thousand acres of residentially zoned land will be needed for residences, and several thousand more acres of commercial and industrial development (e.g., schools, parks, and other urban infrastructure) will be needed to support the new residents. Service (2009) contains a detailed description of the threats of agricultural and urban development to each metapopulation of the California tiger salamander in Santa Barbara County.

Roads and highways also create permanent physical obstacles and increase habitat fragmentation. Road construction can reduce or completely eliminate the viability of a breeding site, and in some cases, large portions of a metapopulation. Large roads and highways represent physical obstacles to California tiger salamanders and can prevent them from returning to their breeding ponds or upland habitat, hinder their ability to move to new breeding habitat, and prevent the recolonization of breeding sites; thus, significantly reducing the local breeding population (Trombulak and Frissell 2000).

Santa Barbara County California tiger salamanders are also negatively affected by factors that alter the quality of their habitat, including: measures to control burrowing rodents; dense vegetation, often non-native invasive species, that overtakes vernal pool habitats in the absence of grazing; alteration of hydrology; and pond water quality due to agricultural runoff. California tiger salamanders are strongly associated with California ground squirrel and pocket gopher populations, as the burrows created by active colonies of ground squirrels are necessary for the salamanders to survive (Shaffer et al. 1993, Loredo et al. 1996). Because ground squirrels and pocket gophers are critical for burrow construction and maintenance, and therefore critical to the California tiger salamander, rodent population control efforts are a threat to salamander habitat quality (Shaffer et al. 1993, Loredo-Prendeville et al. 1994). Recovery of ground squirrel populations can be very rapid through immigration from nearby populations with high levels of

reproductive success (Gilson and Salmon 1990), so once control efforts are halted, and the California tiger salamander habitat can recover relatively quickly.

Although poor grazing practices can have negative impacts on California tiger salamanders, grazing generally is compatible with the continued use of rangelands by the California tiger salamander as long as best management practices are followed, intensive burrowing animal control programs are not implemented, and grazing is not excessive (Jones 1993, Shaffer et al. 1993). Cattle ranching can be compatible with California tiger salamander conservation (Service 2003) because cattle also need open grasslands and ponds. Cattle grazing may mediate the effects of increased drying rates on vernal pools due to climate change, by reducing vegetation and allowing for longer periods of inundation that are adequate enough for California tiger salamanders to successfully breed (Pyke and Marty 2005). By keeping vegetation cover low, grazing can make areas more suitable for ground squirrels (whose burrows are used by California tiger salamanders), can facilitate the movement of California tiger salamanders from upland areas to breeding ponds (Service 2003), and allows more surface runoff into the pool basin thereby helping to maintain water available for California tiger salamander breeding. Exclusion of livestock grazing may also allow invasion of aquatic habitat by non-native annual grasses and forbs within and around the bed and shoreline of the pond (Barry 1998). In Santa Barbara County, the remaining vernal pool complexes and isolated ponds with large amounts of suitable California tiger salamander habitat are currently being grazed. Some seasonal ponds have been converted to irrigation ponds, which are often modified or managed in ways that reduce the quality of these pools as California tiger salamander breeding habitat. Such modifications and management include: lining of ponds that cause changes in substrate and water quality; pumping methods that can result in mortality of California tiger salamander larvae; and frequent (often daily) changes in water levels that can result in desiccation of eggs (Collins 2000). Ponds and California tiger salamander larvae inhabiting the ponds are also subject to indirect effects of conversion to row crops such as increased siltation and eutrophication (the process of increased nutrient input) from runoff containing fertilizers which reduces water quality and introduces toxins that can interfere with normal larval development.

Disease is an important causative factor in the global amphibian decline crisis (Daszak et al. 2003). Because the Santa Barbara County DPS of the California tiger salamander has limited genetic variation, it is likely to be more vulnerable to unpredictable factors, including disease (Shaffer et al. 2013). A pathogenic (disease-causing) chytrid fungus (*Batrachochytrium dedrobatidis*), the causative agent of the amphibian disease chytridiomycosis, has been linked to amphibian declines worldwide (Berger et al. 1998, Bosch et al. 2001, Fellers et al. 2001, Skerratt et al. 2007, Kilpatrick et al. 2010). Chytrid fungus was first documented in California tiger salamanders in Santa Clara County, California (Central DPS) (Padgett-Flohr and Longcore 2005). In a short-term laboratory study of the effects of chytrid fungus on California tiger salamanders, the species was found to be susceptible to chytrid fungus, but did not die from chytridiomycosis infection (Padgett-Flohr 2008). Longer-term studies are needed to determine the negative effects of chytrid fungus infection in California tiger salamanders in the wild. Chytrid fungus has been documented in a population of California red-legged frogs in southern Santa Barbara County (AECOM 2009), and from Vandenberg Space Force Base in northern Santa Barbara County (J. LaBonte et al., unpublished data). Although chytrid fungus has not been found responsible for California tiger salamander mortality in the laboratory conditions or the field, its potential to cause mortality or reduced fitness cannot be ruled out (Department

2010). A recently discovered, salamander-specific species of pathogenic chytrid fungus, *Batrachochytrium salamandrivorans* Bsal, has been associated with a mass die-off of salamanders in the Netherlands (Martel et al. 2013); however, the pathogenicity of Bsal to California tiger salamanders, as well as its distribution in North America, is unknown.

Although their impact on the Santa Barbara California tiger salamander is unknown, several disease-causing agents have been associated with die-offs of closely related tiger salamanders and other amphibian species, including: the bacterium Acinetobacter (Worthylake and Hovingh 1989); Ambystoma tigrinum virus, an iridovirus that has caused amphibian die-offs and is lethal to California tiger salamanders (Picco et al. 2007, Picco and Collins 2008); and the water mold Saprolegnia parasitica (Lefcort et al. 1997).

California tiger salamanders in Santa Barbara County are susceptible to predation by several non-native species (Morey and Guinn 1992) such as non-native tiger salamanders (*Ambystoma tigrinum mavortium*), bullfrogs, mosquitofish, other introduced fish, and non-native crustaceans. Bullfrogs prey on California tiger salamander larvae (Anderson 1968) and have been found in at least four California tiger salamander breeding ponds in Santa Barbara County (Service 2009). Introduced predators can be indicators of ponds that are so highly disturbed that California tiger salamanders cannot survive to reproduce successfully (Shaffer et al. 1993). Non-native tiger salamanders from the central United States, which are known to prey on many native amphibians, were introduced to California for fishing bait over 60 years ago (Ryan et al. 2009). Non-native tiger salamanders can have negative effects on California tiger salamander populations through hybridization, resulting in loss of genetically pure native salamanders (Shaffer et al. 1993, Riley et al. 2003).

Two co-occurrence sites have been documented within the Purisima Hills metapopulation, making the Santa Barbara County DPS of the California tiger salamander susceptible to predation (and hybridization) by non-native tiger salamanders. Until recently, it was not known whether non-native tiger salamanders co-occurred with native California tiger salamanders within Santa Barbara County. Ongoing work by the University of California, Los Angeles indicates that hybrid genes are not present in known ponds that are occupied by the Santa Barbara County DPS of the California tiger salamander (Toffelmier 2021).

Mosquitofish, which prey on mosquito larvae, have been widely introduced in California by vector control agencies to control mosquitoes. Mosquitofish are also known to prey on the eggs and larvae of many amphibian species, including the California newt (*Taricha torosa*) (Graf and Allen-Diaz 1993, Gamradt and Kats 1996), California red-legged frog (Schmieder and Nauman 1994), and Pacific tree frog (Goodsell and Kats 1999). Significantly reduced survival of California tiger salamanders has been observed in permanent ponds with high densities of adult mosquitofish (Leyse and Lawler 2000, Loredo-Prendeville et al. 1994), suggesting that mosquitofish also prey on eggs and larvae of California tiger salamanders. California tiger salamanders may be especially vulnerable to mosquitofish predation due to their fluttering external gills, which may attract these visual predators (Graf and Allen-Diaz 1993). Although we do not have specific presence/absence data, mosquitofish may become a more serious threat to California tiger salamander breeding ponds within Santa Barbara County as they are increasingly used for mosquito control. As urban areas continue to expand, the introduction of mosquitofish into previously untreated ponds, in combination with other threats, may result in the elimination of California tiger salamanders from these breeding sites.

In addition to mosquitofish, predation from other introduced, non-native fish threatens the California tiger salamander. Bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), and fathead minnow (*Pimephales promelas*) are some of the fish species that have been found in California tiger salamander breeding ponds in Santa Barbara County (Collins 2000). A number of ponds in or near occupied California tiger salamander habitat in the west Orcutt area have been occupied by introduced fish for more than 20 years (B. Daniels, pers. comm. 2000), likely extirpating any California tiger salamanders that may have bred there. The distribution of the California tiger salamander in the West Los Alamos metapopulation may be limited by catfish (order Siluriformes) that were introduced several years ago (Sweet 2000). California tiger salamanders are absent from a pond with introduced catfish that appears to have suitable breeding habitat, although a pond less than 250 feet away that appears less suitable for breeding, but is free of catfish, is occupied by California tiger salamanders (Sweet 2000). Louisiana red swamp crayfish (*Procambarus clarkii*) may have eliminated some California tiger salamander populations in the Central DPS (Shaffer et al. 1993, Jennings and Hayes 1994), and have been documented in California tiger salamander ponds in Santa Barbara County (Sweet, pers. comm. 1999).

Additionally, California tiger salamander eggs, larvae, and adults are also prey for a variety of native species. Native predators include great blue heron (*Ardea herodias*), great egret (*Casmerodius albus*), western pond turtle (*Clemmys marmorata*), various garter snakes (*Thamnophis spp*.), larger California tiger salamander larvae, larger western spadefoot (*Spea hammondii*) larvae, California red-legged frogs, and raccoons (*Procyon lotor*) (Baldwin and Stanford 1987, Hansen and Tremper 1993, Petranka 1998). Predation by native species is not considered a threat to the Santa Barbara County DPS of the California tiger salamander; however, when combined with other impacts, such as predation by non-native species and habitat alteration, the collective result may be a substantial decrease in population abundance and viability and constitute a significant threat to the DPS.

Introduced species also can have negative effects on California tiger salamander populations through competition (Shaffer et al. 1993). Competition with non-native tiger salamanders can reduce metamorphic size and lengthen time to metamorphosis in California tiger salamanders (Ryan et al. 2009), which can increase desiccation and predation risk as well as competitive ability (Trenham et al. 2000). Therefore, when competing with non-native tiger salamanders and hybrids in ponds, California tiger salamanders are at a distinct disadvantage (Ryan et al. 2009). Competition from fish that prey on mosquito larvae and other invertebrates can reduce the survival of salamanders. Both California tiger salamanders (Stebbins 1962, Anderson 1968, Holomuzki 1986) and mosquitofish feed on microinvertebrates and macroinvertebrates. Large numbers of mosquitofish may out-compete California tiger salamander larvae for food (Graf and Allen-Diaz 1993). The introduction of other fish inadvertently (e.g., fathead minnow; P. Collins, Santa Barbara Museum of Natural History, pers. comm. 1999), for recreational fishing (e.g., largemouth bass, green sunfish; Sweet, pers. comm. 1999), or other purposes may also affect the prey base, reducing survival and growth rates of salamanders.

Climate variability, such as fluctuations between wet and dry periods, is part of natural processes; however, climatic models suggest that much of the recent trends in climate are driven by anthropogenic causes, and models indicate that these trends are likely to continue into the future (Barnett et al. 2008). Current climate change predictions for terrestrial areas in the

Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field et al. 1999, Cayan et al. 2005, Intergovernmental Panel on Climate Change 2014). Climate simulations have shown that California temperatures are likely to increase by 2.7 degrees Fahrenheit under a lower emissions scenario, and by up to 8.1 degrees Fahrenheit under a higher emissions scenario (Cayan et al. 2008). Because of the diversity of California's landscape, however, it is unknown at this time what effect (e.g., changes in precipitation, number and severity of storm events) increasing temperatures will have at the local level.

While it appears reasonable to assume that California tiger salamanders may be affected by factors resulting from climate change, it is difficult to predict how such climatic changes will affect the Santa Barbara County DPS of the California tiger salamander. Because California experiences highly variable annual rainfall events and droughts, environmental conditions for California tiger salamander breeding and metamorphosis are not consistent. In years of drought, some pools/ponds may not fill at all. Breeding migrations and breeding events are dependent on weather. A lack of rain results in the temporal loss of vernal pools and can result in the degradation of complexes of long-lasting pools that provide important breeding habitat. Droughts may occasionally preclude reproductive success at a given pond; therefore, maintaining connectivity between ponds is important for the long-term viability of the Santa Barbara County California tiger salamander. In addition to direct climatic effects on habitat, warmer temperatures are associated with increased locomotor performance of hybrids, suggesting that increased temperatures may translate to increased movement of the "hybrid swarm" (hybrid population with interbreeding between hybrid individuals and its parent types) of non-native tiger salamander alleles through the landscape (Johnson et al. 2010a).

California Tiger Salamander Conservation Priority Areas

In general, large sites functionally connected to other permanently conserved lands are essential for conservation as they would likely contribute the greatest toward meeting recovery criteria. Within each metapopulation, areas prioritized for conservation should be directed to areas encompassing known breeding ponds and their associated upland habitat that contribute in the greatest extent to meeting the aforementioned recovery criteria. Areas sought for conservation should be steered away from ponds that are isolated from other ponds in a metapopulation area and/or that do not have sufficient functional upland habitat to support long-term viability of a metapopulation. Conservation areas should aim to protect and manage sufficient habitat to support long-term viability of the Santa Barbara County DPS of the California tiger salamander in each metapopulation. These areas should be located within areas that are capable of supporting a minimum viable population of California tiger salamanders. As specified in the Service's (2016) recovery plan, a minimum of 623 acres of fully preserved, functional upland habitat around a preserved pond is necessary to support a minimum viable population.

California Red-legged Frog Species Information

Description of the California Red-legged Frog

The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949). Adult females attain a significantly longer body length than males (5.4 inches versus 4.5 inches snout-urostyle length) (Hayes and Miyamoto 1984). The posterior abdomen

and hind legs of adults are often red or salmon pink; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish-brown background color. Dorsal spots usually have light centers (Stebbins 1985). Dorsolateral folds (the ridges of skin along the back) are prominent. Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown or olive with darker spots (Storer 1925). A line of very small, indistinct gold-colored spots becomes the dorsolateral fold (G. Rathbun *in litt*. 1998).

The California red-legged frog has paired vocal sacs and calls in air. Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water (Hayes and Miyamoto 1984).

Life History of the California Red-legged Frog

California red-legged frogs breed from November through April (Storer 1925). Males appear at breeding sites from 2 to 4 weeks before females (Storer 1925). At these sites, males frequently call in small groups of two to seven individuals, although in some instances they may call individually (Jennings *et al. in litt.* 1992). Females are attracted to the calling males. A pair in amplexus (breeding position) moves to an oviposition site (the location where eggs are laid) and the eggs are fertilized while being attached to a brace. Braces include emergent vegetation such as bulrushes (Scirpus spp.) and cattails (Typha spp.) or roots and twigs; the egg masses float on the surface of the water (Hayes and Miyamoto 1984). Each mass contains about 2,000 to 5,000 eggs that are each about 0.08 to 0.11 inches in diameter. The eggs are dark reddish brown (Storer 1925).

Eggs hatch in 6 to 14 days depending on water temperatures (Jennings 1988b). Egg predation is infrequent and most mortality probably occurs during the tadpole stage (Licht 1974), although eggs are susceptible to being washed away by high stream flows. Schmeider and Nauman (1994) report that California red-legged frog eggs have a defense against predation which is possibly related to the physical nature of the egg mass jelly, although Rathbun (1998) has documented newt predation on eggs and suggested that this predation may be an important factor in the population dynamics of the California red-legged frog. Typically, most adult frogs lay their eggs in March. Eggs require approximately 20-22 days to develop into tadpoles, and tadpoles require 11 to 20 weeks to develop into terrestrial frogs. (Bobzien et. al. 2000, Storer 1925, Wright and Wright 1949).

Sexual maturity can be attained at 2 years of age by males and 3 years of age by females (Jennings and Hayes 1985); adults may live 8 to 10 years (Jennings *et al. in litt*. 1992). Schmieder and Nauman (1994) reported that California red-legged frog larvae are highly vulnerable to fish predation, especially immediately after hatching, when the non-feeding larvae are relatively immobile.

Hayes and Tennant (1985) found juvenile frogs to be active diurnally and nocturnally, whereas adult frogs were largely nocturnal. The season of activity for the California red-legged frog seems to vary with the local climate (Storer 1925); individuals from coastal populations, which rarely experience low temperature extremes because of the moderating maritime effect, are rarely inactive. Individuals from inland sites, where temperatures are lower, may become

inactive for long intervals (Jennings *et al. in litt*. 1992) and no information is available on the activity levels of California red-legged frogs at higher elevations.

The diet of California red-legged frogs is highly variable. The foraging ecology of larvae has not been studied, but they are thought to be algal grazers (Jennings *et al. in litt*. 1992). Hayes and Tennant (1985) found invertebrates to be the most common food items of adult frogs. Vertebrates, such as Pacific tree frogs (*Hyla regilla*) and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs, although invertebrates were the most numerous food items. Feeding typically occurs along the shoreline and on the surface of the water; juveniles appear to forage during both daytime and nighttime, whereas subadults and adults appear to feed at night (Hayes and Tennant 1985).

California red-legged frogs spend most of their lives in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. Deep pools with dense stands of overhanging willows and an intermixed fringe of cattails are considered optimal habitat. However, California red-legged frogs can breed in many aquatic habitats. Eggs, larvae, transformed juveniles, and adults also have been found in ephemeral creeks and drainages and in ponds that do not have riparian vegetation. California red-legged frogs frequently breed in artificial impoundments such as stock ponds, if conditions are appropriate. Although California red-legged frogs successfully breed in streams and riparian systems, high seasonal flows and cold temperatures in streams often make these sites risky environments for eggs and larvae.

The importance of riparian vegetation for this species is not well understood. When riparian vegetation is present, California red-legged frogs spend considerable time resting and feeding in it; the moisture and camouflage provided by the riparian plant community likely provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting population numbers and distribution.

Juvenile and adult California red-legged frogs may disperse long distances from breeding sites throughout the year. They can be encountered living within streams at distances exceeding 1.8 miles from the nearest breeding site, and have been found up to 400 feet from water in adjacent dense riparian vegetation (Bulger et al. 2003). Some California red-legged frogs have moved long distances over land between water sources during winter rains. Adult California red-legged frogs have been documented to move more than 2 miles in northern Santa Cruz County “without apparent regard to topography, vegetation type, or riparian corridors” (Bulger et al. 2003). Most of these overland movements occur at night. These individual California red-legged frogs were observed to make long-distance movements that are straight-line, point to point migrations over variable upland terrain rather than using riparian corridors for movement between habitats. For the California red-legged frog, suitable habitat is considered to include all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture (61 FR 25813). California red-legged frogs exhibit strong site fidelity, traveling over 1 mile of steep terrain to return to a pool from where they were translocated (AECOM 2011).

<u>Status of the California Red-legged Frog</u>

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 FR 25813). The Service completed a recovery plan for the species in 2002 (Service 2002). Critical habitat for the California red-legged frog was finalized on March 17, 2010 (75 FR 12816) after multiple revisions. Detailed information on the biology of California red-legged frogs can be found in Storer (1925), Stebbins (2003), and Jennings et al. (1992).

The historical range of the California red-legged frog extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985, Storer 1925). California red-legged frogs have been found at elevations that range from sea level to about 5,000 feet. The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this species was found throughout the Central Valley and Sierra Nevada foothills. In the Sierra Nevada Mountains, California red-legged frogs typically occur below 4,000 feet in elevation.

At present, California red-legged frogs are known to occur in 243 streams or drainages in 22 counties, primarily in central coastal California. Four additional occurrences have been recorded in the Sierra Nevada foothills since listing, bringing the total to five extant populations, compared to approximately 26 historical records in that area (61 FR 25813). Currently, California red-legged frogs are known from three disjunct regions in 26 California counties and one region in Baja California, Mexico (Grismer 2002, Fidenci 2004).

The recovery plan for the California red-legged frog identifies eight recovery units. These recovery units are based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The recovery status of the animal is considered within the scale of Recovery Units as opposed to the overall range. Because of the varied status of this species and differing levels of threats throughout its range, recovery strategies differ per recovery unit to best meet the goal of delisting the species. For example, in areas where California red-legged frog populations appear to be stable, recovery strategies are intended to protect existing population numbers, whereas in areas where California red-legged frogs have been extirpated or are declining, strategies are to stabilize, increase, augment, or reestablish populations.

The recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long-term viability within existing populations. This management strategy allows for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of the California red-legged frog.

Threats and the Decline to the California Red-legged Frog

Over-harvesting, habitat loss, non-native species introduction, and urban encroachment are the primary factors that have negatively affected the California red-legged frog throughout its range (Jennings and Hayes 1985, Hayes and Jennings 1988). Habitat loss and degradation, combined with over-exploitation and introduction of exotic predators, were important factors in the decline of the California red-legged frog in the early to mid-1900s. Continuing threats to the California red-legged frog include direct habitat loss due to stream alteration and loss of aquatic habitat, indirect effects of expanding urbanization, competition or predation from non-native species including the bullfrog, catfish, bass (*Micropterus spp*.), mosquitofish, red swamp crayfish , and signal crayfish (*Pacifastacus leniusculus*). Chytrid fungus (*Batrachochytrium dendrobatidis*) is a waterborne fungus that can decimate amphibian populations, and is considered a threat to California red-legged frog populations.

As we mentioned above, Chytrid fungus, the causative agent of the amphibian disease chytridiomycosis, has been linked to amphibian declines worldwide (Berger et al. 1998, Bosch et al. 2001, Fellers et al. 2001, Skerratt et al. 2007, Kilpatrick et al. 2010). Chytrid fungus has been documented in a population of California red-legged frogs in southern Santa Barbara County (AECOM 2009), and from Vandenberg Air Force Base in northern Santa Barbara County (J. LaBonte et al., unpublished data).

The most secure aggregations of California red-legged frogs are found in aquatic sites that support substantial riparian and aquatic vegetation and lack non-native predators. Although the presence of California red-legged frogs is correlated with still water deeper than approximately 1.6 feet, riparian shrubbery, and emergent vegetation (Jennings and Hayes 1985), there are numerous locations in the species' historical range where these elements are well represented yet California red-legged frogs appear to be absent. The cause of local extirpations does not appear to be restricted solely to loss of aquatic habitat. The most likely causes of local extirpation are thought to be changes in faunal composition of aquatic ecosystems (i.e., the introduction of non-native predators and competitors) and landscape-scale disturbances that disrupt California red-legged frog population processes, such as dispersal and colonization. The introduction of contaminants or changes in water temperature may also play a role in local extirpations. These changes may also promote the spread of predators, competitors, parasites, and diseases.

California Red-legged Frog Conservation Priority Areas

Conservation priority areas for California red-legged frog and their habitat are areas within all core areas are protected and/or managed for California red-legged frogs in perpetuity, and the ecological integrity of these areas is not threatened by adverse anthropogenic habitat modification (including indirect effects of upstream/downstream land uses). Protecting areas that support known populations of California red-legged frogs and protecting suitable habitat, corridors, and core areas are the highest conservation priority areas.

Lompoc Yerba Santa Species Information

Description of Lompoc Yerba Santa

Lompoc yerba santa is an evergreen shrub with narrow, leathery leaves in the borage family (*Boraginaceae*) and grows to approximately 9.8 feet tall. The lavender flowers are tubular and clustered in heads that bloom from May to August. Historically and currently, the species is known only from five populations scattered across the southwestern corner of Santa Barbara County. It is found in association with central coast maritime chaparral (maritime chaparral) and stands of Bishop Pine (*Pinus muricata*). Although each population appears to be comprised of a number of separate individuals, genetic analyses of several of the populations have determined that they are comprised of only 11 to 20 individuals. Several populations occur in remote areas and are presumably far from human activities that could cause changes in habitat conditions, while populations in closer proximity to human activities are more vulnerable to such changes. Since the time of listing, the most recent surveys for Lompoc yerba santa were those of the populations on Vandenberg.

Life History of Lompoc Yerba Santa

Lompoc yerba santa was first described by Alice Eastwood in 1932 based on a collection made by Ralph Hoffmann a year earlier "5 miles north of Lompoc on the road to Casmalia" (Eastwood 1933). Research indicates that Lompoc yerba santa is a self-incompatible species; intentionally cross-pollinated flowers produced a mean of 1.77 seeds per fruit, and intentionally self-pollinated flowers produced a mean of 0.03 seed per fruit (Elam 1994). This species spreads vegetatively through the production of rhizomes (underground stems), and thus producing colonies of ramets (genetically identical stems) from only a few individuals. The species has been observed to readily resprout following fire (Jacks et al. 1984). A recent germination study showed that germination of Lompoc yerba santa seeds was strongly cued when treated with liquid smoke treatment and in dark conditions, suggestive that the species is adapted to periodic fire (Schneider et al. 2021 in prep). Pollination ecology has not been specifically studied for Lompoc yerba santa, other *Eriodictyon* taxa are known to be pollinated by wasps, butterflies, and a variety of bee taxa, especially from the genera *Anthophora, Bombus, Chelostoma, Hylaeus, Osmia*, and *Nomadopsis* (Moldenke 1976).

Lompoc yerba santa occurs within two different habitat types. Near the coast, it occurs within maritime chaparral and coastal sage scrub on sandstone soils from the Orcutt, Marina, and Oceano series. In this habitat type, it typically occupies disturbed areas near roads or exposed ridgetops (Jacks et al. 1984). Associated species include buckbrush (*Ceanothus cuneatus*), chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), coyotebrush (*Baccharis pilularis*), California sagebrush (*Artemsia californica*), bush poppy (*Dendromecon rigida*), California scrub oak (*Quercus berberidifolia*), and manzanita (*Arctostaphylos* spp.) (Jacks et al. 1984; California Natural Diversity Database [CNDDB] 2021). On sites that are farther inland, Lompoc yerba santa is found on diatomaceous Monterey shales. The structurally dominant Bishop pine (*Pinus muricata*) is one species that occurs at these sites. These sites have characteristic soils that are highly acidic and have a high water-retaining capacity (Cole 1974). Both maritime chaparral and Bishop Pine forest were identified by Holland (1986) as rare plant communities with a limited distribution.

Distribution of Lompoc Yerba Santa

Currently, two Lompoc yerba santa populations are documented to occur on Vandenberg and the other three occur on private lands. As previously mentioned, Lompoc yerba santa occurs within maritime chaparral and coastal sage scrub near the coast. Originally, there was an estimated 22, 239 acres of maritime chaparral on Vandenberg; however, by 1988, approximately 8,649 acres remained (Hickson 1988). Surrounded by a dense human population and development, the remaining maritime chaparral has been further degraded and fragmented (Hickson 1988).

According to records available through the CNDDB (2010) and the Consortium of California Herbaria (2010), all historical collections and unvouchered observations of Lompoc yerba santa are from the southwestern corner of Santa Barbara County. Other studies (Elam 1994, Jacks et al. 1984) recognized seven populations of Lompoc yerba santa based on the number of "Element Occurrences" (occurrences) at the time and as defined by CNDDB criteria. For the purposes of this review, we are recognizing five populations (comprised of six occurrences) based on differences in location and habitat type. These five populations are from three geographically distinct areas referred to here as Solomon Hills, west Burton Mesa, and Santa Ynez Mountains. The five populations are distributed within these three geographic areas as follows:

1. Solomon Hills: two large populations occur here on privately owned lands, approximately 12 miles north of the city of Lompoc. One population (occurrence 1) is associated with Bishop Pine, while the second population (occurrence 11) occurs in coastal sage scrub and chaparral.

2. West Burton Mesa: two populations encompassing three occurrences are located within the boundaries of Vandenberg. The 35th Street population adjacent to the cantonment area (occurrences 9 and 10) occurs in maritime chaparral. The Pine Canyon population (occurrence 2) is on the less-used eastern edge of the base and occurs in chaparral and Bishop Pine forest.

3. Santa Ynez Mountains: approximately 10 miles south of Lompoc, one population (occurrence 5) is scattered along a 5-mile stretch of the mountains, from the ridgeline to halfway down the south-facing slopes. The land, known as Hollister Ranch, is privately-owned.

Overall, few surveys have been completed for Lompoc yerba santa across its range since it was federally listed in 2000. The most recent information available on surveys for Lompoc yerba santa is from those conducted on Vandenberg. In 2006, special status plant surveys were conducted on Vandenberg and included surveys for Lompoc yerba santa (SRS 2007). In 2010, special status plant surveys were again conducted on Vandenberg. During the 2010 surveys, Lompoc yerba santa populations surveyed in 2006 were revisited and invasive species were documented (SRS 2010). The 2010 surveys were conducted during the peak blooming period for Lompoc yerba santa to locate any new populations; however, no new populations were found (SRS 2010). Helicopter surveys were conducted during the summer on Vandenberg in 2015 and were able to locate multiple new populations and subpopulations within the Lake, Santa Lucia and Pine Canyon areas (Spears 2021). Surveys conducted in 2018 and 2019 identified two new populations, one in upper LaSalle Canyon, south base, and another at the southern end of an airfield located in north base, Vandenberg (Spears 2021). One additional new small population was found on the Jack and Laura Dangermond Preserve in 2012 (Batuik 2020)

An updated 5-year review (in prep) will contain changes on the information on the distribution of Lompoc yerba santa since the time of listing. The majority of the updated information available is from the surveys for Lompoc yerba santa conducted on Vandenberg.

Threats to and Decline of the Lompoc Yerba Santa

Threats to Lompoc yerba santa populations on Vandenberg were documented during the Space Force's 2006 and 2010 surveys. The information on the degree and type of threat to each population helps to inform future management decisions. During the 2006 surveys, extensive damage from feral pigs (*Sus scrofa*) was noted at the 35th Street population; however, little evidence of feral pigs was found during the 2010 surveys. Habitat degradation from erosion and the increasing spread of the invasive species jubata grass (*Cortaderia jubata*) threatens the Pine Canyon population. Maritime chaparral has been converted to residential, agricultural, and military uses, with the remaining habitat threatened by development and invasion by weeds such as iceplant and jubata grass (D'Antonio et al. 1993, Griffin 1978, Jacks et al. 1984). At the time of listing Lompoc yerba santa (Service 2000c), activities related to increased use of Vandenberg as other military bases closed, alteration of habitat due to an increase in nonnative species, and altered fire regimes were threats to the species.

Human activities have the potential to alter important ecosystem processes such as fire. The Burton Mesa fire regime (frequency, intensity, extent, and seasonality of fire) and its effects on the surrounding vegetation have been studied by both Hickson (1988) and Davis et al. (1988). Historically, the vegetation of Burton Mesa has been subjected to varying fire regimes because of fires intentionally started by indigenous people and early settlers (Hickson 1988). Presently, the Space Force is developing a Wildfire Management Plan to implement a controlled burning program with the intended purpose of protecting the surrounding population and development on Burton Mesa. However, presently, the manipulation of the vegetation (i.e., proliferation of nonnative species concurrent with a reduction in the number of native species) at Burton Mesa may have resulted in a fire regime that is, according to Davis et al. (1988), "entirely anthropogenic."

Habitat alteration and loss from development for military and commercial purposes was identified as a threat to this species at the time of its listing (Service 2000c). Habitat fragmentation within the Burton Mesa area continues. The original extent of Burton Mesa chaparral was approximately 22,000 acres; by 1938, the extent had been reduced to 14,554 acres, and by 1988, less than 8,649 acres remained (Davis et al. 1988). Two populations of Lompoc yerba santa on Vandenberg that could be threatened by future development include the 35th Street population as well as a newly discovered population adjacent to the north base airfield (SRS 2020). These population are subject to disturbance from human activities because of their close proximity to paved and unpaved roads and the cantonment area. At present, it appears that the destruction and alteration of habitat due to an increased use of Vandenberg remains a threat to Lompoc yerba santa.

Lompoc yerba santa populations are threatened by nonnative species that compete with them for light, space, and other resources. On Vandenberg, veldt grass (*Ehrharta calycina*) was planted to stabilize sand dunes in the 1950s; with the aid of the prevailing onshore winds, it rapidly spread

across Vandenberg and onto Burton Mesa between 1979 and 1996 (Air Force 1996). This species spreads rapidly, both vegetatively and through a persistent seedbank, and is extremely difficult to eradicate once it has become established (Bossard et al. 2000). Iceplant and sea fig (*Carpobrotus* spp.) are other nonnative species that threaten to alter the maritime chaparral habitat by forming dense mats (Odion et al. 1992).

The Lompoc yerba santa population located at 35th Street is the only population on Vandenberg whose habitat is actively managed (e.g., removal of nonnative and invasive plant species). This population is located next to paved and unpaved roads and the cantonment area. Nonnative species have all invaded Lompoc yerba santa habitat in this area. Alteration of habitat due to an increase in nonnative species is a threat to Lompoc yerba santa populations located on Vandenberg. There is no information available on nonnative species that may threaten the populations of Lompoc yerba santa located in the Solomon Hills and Santa Ynez Mountains.

Habitat for Lompoc yerba santa may be altered by the increase in veldt grass and subsequent increases in the frequency of wildfires. The corresponding type conversion of habitat from scrub with openings to fields of veldt grass has been discussed by numerous researchers including D'Antonio and Vitousek (1992), Bossard et al. (2000) and Brooks et al. (2004). Invasive plants such as veldt grass can change the fuel properties of a site, which can in turn affect fire behavior, and ultimately alter fire regime characteristics such as frequency, intensity, extent, and seasonality of fire. If the regime changes subsequently promote the dominance of invasive species, then an invasive plant-fire regime cycle may be established, and restoration to native conditions becomes more difficult (Brooks et al. 2004). The fire return interval, or fire frequency, on Vandenberg has been estimated in different ways and ranges from 15 to 35 years (Coulombe and Copper 1976, Zedler 1977), while others estimate that, because of the coastal location, the fire return interval in central coastal California could be as long as 100 years (Wells 1962, Keeley and Keeley 1986). Although the natural fire return interval is unknown, because of its low elevation and infrequent lightning strikes, it was probably greater than the 20 to 30-year fire return interval found across most of Vandenberg (Hickson 1988). A shorter fire return interval than the one that naturally occurs could negatively impact native plant species if seedlings are unable to reach sexual maturation or if non-native species post-fire invasion occurs, outcompeting native vegetation recruitment. The effects of fire on Burton Mesa chaparral (i.e., maritime chaparral) have been specifically studied by Hickson (1988) and Davis et al. (1988).

Oil extraction and refinement (e.g., maintenance activities, hazardous waste cleanup) are activities taking place at the Solomon Hills site where this species occurs. These oil extraction activities are ongoing, but are restricted to existing areas and trimming and removal of Lompoc yerba santa does not occur frequently.

At the time of listing, development of Hollister Ranch was not identified as a threat to Lompoc yerba santa. Hollister Ranch is designated as an "agricultural preserve" through the County of Santa Barbara's Agricultural Preserve Program. Although the entire ranch is in an agricultural preserve, the 14,000-acre ranch has been subdivided into 100-acre parcels. The County of Santa Barbara has since recognized that because of the 100-acre parcellation of the ranch, grazing is no longer a viable economic activity and is secondary to residential uses (County of Santa Barbara Planning and Development Department 2009). While development on Hollister Ranch is

considered low-density (approximately 50 single-family homes as of 2009), these residential homes are often associated with other development including accessory buildings, agricultural development, reservoirs and roads, all of which have increased the demand on limited water resources and have resulted in the alteration and degradation of portions of the natural landscape (County of Santa Barbara Planning and Development Department 2009).

Vandenberg Space Force Base includes Lompoc yerba santa in their drafted Integrated Natural Resource Management Plan (INRMP). The INRMP incorporates specific measures that addressed the conservation of Lompoc yerba santa (Service 2002). The INRMP identifies management strategies to protect Lompoc yerba santa from degradation or destruction of its habitat. These management strategies include: the development of a Fire Management Plan and Invasive Plant Species Management Plan and restricting development in Lompoc yerba santa habitat unless required to fulfill the Space Force's mission. The INRMP does not replace the interagency consultation process required for effects on federally listed species pursuant to section 7(a)(2) of the Act.

The existence of five recognized populations of Lompoc yerba santa and the species' restricted distribution place this species at risk of extinction from stochastic events. The conservation biology literature commonly notes the vulnerability of taxa known from very few locations and/or from small and highly variable populations (e.g., Shaffer 1981, 1987; Groom et al. 2006; Primack 2006). This vulnerability can arise due to uncertainty with stochastic events, such as environmental stochasticity, natural catastrophes, genetic stochasticity, and demographic stochasticity. Populations of Lompoc yerba santa are subject to all of these stochastic events. Elam (1994) found that two of the six populations she studied were uniclonal (comprised of a single genetic unique individual). Being that Lompoc yerba santa is self-incompatible and cannot produce viable seed, a uniclonal population can be extirpated by both environmental stochasticity (e.g., prolonged drought) and natural catastrophes (e.g., wildfire). Furthermore, genetic stochasticity can result in a loss of genetic variation and subsequently decrease population viability. While demographic stochasticity can be viewed as a natural flux of the population, a uniclonal population with a low reproductive and survival rate could be at higher risk of extinction.

Current climate change predictions for terrestrial areas in the Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field et al. 1999, Cayan et al. 2005, Intergovernmental Panel on Climate Change 2007). Recently, the potential impacts of climate change on the flora of California were discussed by Loarie et al. (2008). Based on modeling, they predicted that species' distributions will shift in response to climate change, specifically that the species will "move" or disperse to higher elevations and northward, depending on the ability of each species to do so. Species diversity will also shift in response to these changes with a general trend of increasing diversity shifting towards the coast and northwards with these areas becoming defacto future refugia. However, predictions of climatic conditions for smaller sub-regions such as California remain uncertain. It is unknown at this time if climate change in California will result in a warmer trend with localized drying, higher precipitation events, or other effects. While we recognize that climate change is an important issue with potential effects to listed species and their habitats, we lack

adequate information to make accurate predictions regarding its effects to Lompoc yerba santa at this time.

Status of Lompoc Yerba Santa

Because of its clonal habit (reproducing asexually such that all "individuals" in a population are genetically identical), the number of genetically unique Lompoc yerba santa individuals is difficult to count. Most surveys have counted stems or what appear to be separate shrubs without knowing how many different genotypes were represented. A genetic study of several Lompoc yerba santa populations indicated that one-half of the Pine Canyon population and the 35th Street population were a single genotype, while the other half of the Pine Canyon population, as well as the Santa Ynez Mountains (i.e., Hollister Ranch) population, were comprised of several genetically unique genotypes (Elam 1994). Therefore, populations that appear to be comprised of many separate individuals may be one clone. In an effort to monitor known populations of Lompoc yerba santa on Vandenberg, surveys conducted during 2010 also focused on documenting population health and identifying any potential threats to the populations (SRS Technologies (SRS 2010). Surveyors also attempted to quantify the number of individual plants instead of counting the number of ramets (an independent member or stem of a clone). The surveyors counted a plant as one individual based on the proximity of ramets or if they could trace the rhizome back to a specific individual/ramet (L. Lum, Vandenberg, pers. comm. 2010).

During surveys for Lompoc yerba santa at Vandenberg in 2010, approximately 1,520 individuals were documented within known populations (SRS 2010). The results of this monitoring effort were used to approximate the percent change in number of individuals between surveys conducted in 2006 and 2010. The stands located at 35th Street, Lompoc Gate, and two of the four Pine Canyon stands showed a decrease in the number of individuals, while the Lake Canyon and the other two Pine Canyon stands showed an increase. Between 2010 and 2006, there was an 8.5 percent decrease in the total number of individuals. This decline in the number of individuals has been attributed to low rainfall in previous years (SRS 2010). The Service recently received additional information on multiple newly encountered populations on Vandenberg between 2015-2019. This information is currently being reviewed and will be incorporated into the Service's next 5-year review on the species.

Although the Space Force noted an increase or decrease in the Lompoc yerba santa populations in 2010, we consider the data inconclusive. The monitoring information for the populations is limited to 2 years; therefore, we cannot conclude that the populations are in decline or increasing. Additionally, because of the species' clonal habit, the number of genetically unique individuals could be less than the number of individuals counted during the survey. Finally, there is no information documenting the consistency in survey protocol between the two survey years.

As mentioned above, several oil extraction and refinement activities have been conducted within habitat for this species in the Solomon Hills. In 2007 and 2010, projects to maintain well pads and adjacent roads were undertaken by Breitburn Energy Company. The purpose of these projects was to trim or remove Lompoc yerba santa stems that had encroached onto cleared well pads, oil drilling and processing equipment, wells, power poles, and other areas. During such activities, only stems that are in areas where they pose a fire safety risk or operational constraint are removed.

In a botanical survey conducted on Hollister Ranch before Lompoc yerba santa was listed, the species was described as occurring in mixed chaparral along a ridge crest west of Bulito Canyon and common in previously disturbed areas (Fletcher 1983). An undated botanical survey (Hollister Ranch Conservancy 2003) indicates that Lompoc yerba santa occurs on six contiguous parcels in the western portion of Hollister Ranch. All six of these parcels are located within designated critical habitat for the species and could be developed. Development on Hollister Ranch is regulated under CEQA and requires the lead agency (i.e., County of Santa Barbara) to avoid or mitigate a project's significant environmental impacts if alternatives or mitigation measures are feasible. However, the Service anticipates that development is a threat to the population of Lompoc yerba santa located on Hollister Ranch.

Lompoc Yerba Santa Conservation Priority Areas

The current distribution of Lompoc yerba santa is restricted and only five recognized populations exist. These factors make Lompoc yerba santa populations vulnerable and at risk of extinction from stochastic events. Uniclonal populations are especially vulnerable to stochastic events because of limited genetic diversity which consequently, restricts a species' ability to adapt to changing conditions. Climate change and its effects on Lompoc yerba santa are largely uncertain. Presently, we cannot adequately predict climatic changes at the sub-region level. Research has shown that species will "move" or disperse to higher elevations and northward; however, this depends on the ability of each species to do so. Therefore, the conservation priority areas for Lompoc yerba santa are these five areas that support known populations of Lompoc yerba santa and protecting suitable habitat for the species.

California Tiger Salamander

Anticipated Effects on the California Tiger Salamander

Approximately 67,525 acres of the Planning Area is within the known dispersal distance (1.3 miles) of known or potential California tiger salamander breeding ponds. Construction of well pads and associated infrastructure, including project roads, and telecommunication and power line infrastructure, will result in the temporary and permanent disturbance of California tiger salamander upland habitat. We also anticipate some projects may need to conduct activities within suitable aquatic California tiger salamander habitat. Artificial and natural breeding ponds may require maintenance during the non-breeding season. These activities can provide important habitat benefits for future breeding seasons and would only result in temporary impacts to the aquatic feature and overall provide benefits to the California tiger salamander by keeping these suitable breeding features functioning. No permanent impacts to or loss of California tiger salamander aquatic habitat is allowed under this Plan.

Ground disturbance associated with geophysical exploration (seismic), development, extraction, transport, and/or distribution of crude oil, natural gas, and/or other petroleum products, electrical distribution lines and substations, and offsite reservoirs have the potential to result in take of California tiger salamanders that occur in or within dispersal distance of the project areas. California tiger salamanders dispersing from areas adjacent to covered lands are subject to mortality or injury from earth-moving equipment, debris, and worker foot traffic vehicle strikes and construction activities associated with the proposed projects.

California tiger salamanders may experience a significant disruption of normal behavioral patterns from work activities and the associated noise and vibration that makes them susceptible to injury or mortality. This disruption could cause California tiger salamanders to leave or avoid suitable habitat and may increase the potential for predation, desiccation, competition for food and shelter, or strike by vehicles on roadways.

The area surrounding the individual projects may be altered due to changes in vegetation structure and environmental conditions to the extent that rodent and small mammal abundance or use is reduced. This would constitute a loss of suitable refugia habitat for California tiger salamanders. California tiger salamanders remaining in burrows may be killed or injured by the large machinery used to dig trenches; by project filling or grading activities; or they may become entombed in their burrows and die if the entrance to their upland sheltering habitat is crushed or covered. Large machinery and other vehicles and construction equipment could also spill or leak

industrial chemicals, fuels, and lubricants that could result in fouling or poisoning of California tiger salamanders and contamination of their habitat.

Activities that occur during the rainy season would likely cause greater impacts to California tiger salamanders than activities during the dry season because the species is typically more active during the rainy season. During periods of rainfall (typically greater than 0.5 inch of rain in a 24-hour period), we expect a higher likelihood of California tiger salamanders dispersing above ground towards or away from breeding ponds in the vicinity of the project areas. Any salamanders moving through the project areas would be at risk of injury or death caused by vehicles, equipment, or workers.

Roads are a source of direct mortality for California tiger salamanders traveling to and from breeding areas. Significant numbers of California tiger salamanders are killed by vehicular traffic while crossing roads (Hansen and Tremper 1993, S. Sweet in litt. 1993, J. Medeiros pers. comm. 1993; all cited in Service 2005). California tiger salamander road-kill mortality in the vicinity of breeding sites has been reported to be 25 to 72 percent of the observed salamanders crossing roads (Twitty 1941, S. Sweet in litt. 1993, Launer and Fee 1996). Jackson (1996) stated that roads separating breeding and upland habitat can be the cause of significant population declines and even local extinctions for the related spotted salamander (*Ambystoma maculatum*). The construction of new roads could result in increased mortality of California tiger salamanders. California tiger salamanders could be killed or injured by being hit or run over by nighttime worker traffic during operations and maintenance activities. California tiger salamanders most often killed by vehicle strikes are those making breeding migrations. This risk would be greatest during or after rainfall when individuals may be moving through the project area towards or away from breeding ponds.

Roads and highways can create permanent barriers, isolating metapopulations (Service 2016) and contribute to habitat fragmentation and salamander mortality. California tiger salamanders require both breeding and upland habitat in proximity such that the animals can move between the two. Consequently, impediments to movement such as roads or barriers, or loss of either habitat type are a threat to the species' normal habitat use. Barrier-free landscapes are essential for California tiger salamander dispersal and annual migration (Loredo et al. 1996). Access roads proposed as part of the covered activities would contribute to this habitat fragmentation and salamander mortality. Barriers to migration and dispersal also include habitat entirely lost to development, as well as suboptimal habitats that do not provide adequate refuge in the form of small mammal burrows or other cover. Covered activities such as construction of well pads, wells, pipelines, communication towers, tank batteries, etc., would result in loss of upland habitat that could contribute to barriers to migration and dispersal.

Other impacts of roads to California tiger salamanders include mortality during road construction, the effects of habitat fragmentation, predator attraction, disruption of normal animal behavior, home range shifts, altered movement patterns, altered reproductive success, invasive species (by serving as dispersal corridors), landscape pollution (via hydrological changes, increased sedimentation, vehicle by-products and compounds), and increased human use of an area (Trombulak and Frissel 2000, Andrews et al. 2008).

Trash left during or after project activities could attract predators to work sites, which could, in turn, prey on California tiger salamanders. For example, raccoons (*Procyon lotor*) and feral cats (*Felis catus*) are attracted to trash and also prey opportunistically on California tiger salamanders.

While capture and relocation of California tiger salamanders is expected to reduce the number killed or injured by project construction activities, capture and relocation could result in the injury or death of individual California tiger salamanders. Although survivorship for translocated California tiger salamanders has not been estimated, survivorship of translocated wildlife, in general, is reduced due to intraspecific competition, lack of familiarity with the location of potential breeding, feeding, and sheltering habitats, and increased risk of predation.

Releasing amphibians following a period of captivity, during which time they can be exposed to infections, may cause an increased risk of mortality in wild populations. Amphibian pathogens and parasites can also be carried between habitats on the hands, footwear, or equipment of fieldworkers, who can spread them to localities containing populations which have had little or no prior contact with such pathogens or parasites. For example, chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus only attacks the parts of an animal's skin that have keratin (thickened skin), such as the mouthparts of tadpoles and the tougher parts of adults' skin, such as the toes. It can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks. Infected animals may spread the fungal spores to other ponds and streams before they die. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. Relocation of individuals captured from the project area could contribute to the spread of chytrid fungus. In addition, infected equipment or footwear could introduce chytrid fungus into areas where it did not previously occur. Other pathogens could be similarly introduced into uninfected localities.

Use of Impacts to Habitat as a Proxy for Take

Because quantification of the number of California tiger salamanders that would be taken incidental to Covered Activities is not possible given available data, relying on impacts to occupied California tiger salamander habitat is a suitable surrogate to estimate the amount of take that is likely to occur. Within this plan, "occupied California tiger salamander habitat" is defined as:

1) Areas within California tiger salamander dispersal distance (1.3 miles) from a documented known breeding pond;

OR

2) Where California tiger salamanders are assumed present by the applicant/permittee (no surveys have been conducted).

Calculating Impacts to California Tiger Salamanders

The California Tiger Salamander Conservation Strategy and Mitigation Guidance (Service 2019) explains the methodology for calculating impacts to California tiger salamander and its habitat. The mitigation methodology outlined in the California Tiger Salamander Conservation Strategy

is based on work by Searcy and Shaffer (2008) who demonstrate that there are two components of habitat loss for California tiger salamanders: (1) project footprint plus (2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, which is straight-forward in concept. More complex is the "deficit wedge" that results from the impact to habitat. The deficit wedge is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a California tiger salamander migrating in a straight line away from the center of a pond. The total impact of the project includes a sum of the footprint and the deficit wedges (or shadows) where habitat has become inaccessible to salamanders from ponds within dispersal distance of the project.

In calculating mitigation necessary to offset impacts to California tiger salamander and/or the habitat that supports them, impacts that impede dispersing salamanders (shadowed impacts) are treated differently from impacts that do not impede dispersing salamanders. Impacts that impede dispersing California tiger salamander are calculated using the methodology outlined in Searcy and Shaffer (2008), as described above. The deficit wedge (shadow) described above is only created by impermeable, long-term, or vertical impacts that impede California tiger salamanders that are dispersing across the landscape. Examples of impacts that do not impede dispersing California tiger salamander include: temporary impacts occurring over one dry season, certain linear features such as roads without curbs or medians, buried pipelines, restoration activities, etc. For temporary impacts occurring over one dry season (approximately May to October), there is no shadow because California tiger salamanders are not migrating or dispersing during the dry season. Calculating mitigation owed for permeable impacts only includes the direct loss of habitat within the project footprint where the impact to habitat occurs.

Not all permeable or temporary impacts occur over one dry season. For impacts spanning more than one dry season, the aforementioned methodology does not account for impacts that could occur to migrating California tiger salamanders over a rainy season. While the effects are still temporary, a temporary deficit wedge is created over the rainy season because the impact would impede salamanders that are migrating or dispersing across the landscape during the rainy season rendering the habitat within the deficit wedge unusable to individuals. We assess the temporary effects by examining the lifetime reproductive success of California tiger salamanders. Lifetime reproductive success is typically low because metamorphs have low survivorship; in some populations, less than 5 percent survive to breed (Trenham 1998). In addition, metamorphs require an extended amount of time before they reach sexual maturity (4 to 5 years) (Trenham et al. 2000). Less than 50 percent of first-time breeding California tiger salamanders typically survive to breed more than once (Trenham et al. 2000). Therefore, we assume that an impact lasting more than 5 years could affect the entire reproductive output of an individual California tiger salamander, such that the impact is the same as a permanent impact. Thus, any impact lasting 5 or more years will be treated as a permanent impact as described above. If an impact occurs over one rainy season, we assume that 1/5 of the entire population is affected during that rainy season and we calculate the impact of the deficit wedge as 1/5 of the total reproductive value of the wedge. The following table shows the percentage of the population and the associated percentage of the deficit wedge for which mitigation would be required.

Years of Disturbance	Percent of Deficit Wedge to Mitigate

1	20
2	40
3	60
4	80
5	100

While use of the methodology outlined in Searcy and Shaffer (2008) provides biologically meaningful mitigation, the methodology may not account for all effects to the species. Project components, such as roads or artificial aquatic features that could act as an attractive nuisance, can have effects that extend far beyond the loss of habitat that is used as a proxy to calculate effects to the species. These project components and associated effects will be assessed by the Service on a project-by-project basis and additional mitigation may be required for such components to ensure the effects of the action are being mitigated to the maximum extent practicable.

Impacts Analysis and Estimated Incidental Take

Covered Activities under this GCP are likely to result in take of California tiger salamander and impacts to their habitat. Take of California tiger salamanders in the form of mortality or injury of adults or larvae may result from crushing and collision; impacts to upland habitat; increased habitat fragmentation; and changes from one vegetation community to another. Take of California tiger salamanders is expected to result from human and equipment movement and ground disturbance associated with construction and installation of well pads, pipelines, access roads, electrical distribution lines and substations, and offsite reservoirs. Operation and maintenance, and decommissioning of these activities, are also expected to result in take of the California tiger salamander. Take of California tiger salamanders and impacts to their habitat will differ with methodologies implemented and with activity level when these activities occur.

We cannot definitively estimate the number of California tiger salamanders that will be taken because no density estimate (e.g., number of California tiger salamanders/acre) for the planning area has been or could be calculated. Take of California tiger salamanders is also difficult to quantify because: 1) individuals are small, making them difficult to locate, which makes encountering dead or injured individuals unlikely; 2) California tiger salamander losses may be masked by temporal fluctuations in numbers; 3) California tiger salamanders spend the majority of their lifespan underground; and 4) the species is primarily active at night. Although we cannot predict the exact number of individual California tiger salamanders that will be incidentally taken, the Service is providing impacts to habitat as a proxy to quantify take levels and define the permitted limits. The following table shows the amount of California tiger salamander habitat loss allowed under this plan.

California Tiger Salamander Metapopulation	**Amount of California Tiger Salamander Habitat (Acres)**	**Allowed Permanent Impacts to Habitat (Acres)**	**Allowed Temporary Impacts to Habitat (Acres)**
West Santa Maria	12,963	130	260

East Santa Maria	10,411	104	208
West Los Alamos/Careaga	14,570	146	196
East Los Alamos	6,024	60	120
Purisima	11,938	119	238
Santa Rita	11,619	116	232

The amount of California tiger salamander habitat loss allowed under this plan was calculated based on the amount of habitat necessary to meet the recovery criteria and the amount of existing California tiger salamander habitat in each of the six metapopulation areas. While there are six metapopulations of the Santa Barbara County distinct population segment of the California tiger salamander, the East and West Santa Maria metapopulation areas are under the greatest threat from land conversion and habitat loss. In order to ensure that there remains enough available habitat to achieve the recovery criteria as described in the California tiger salamander final Recovery Plan (Service 2016) in this metapopulation area, it may be necessary to acquire conservation easements and restore habitat to properly function as California tiger salamander habitat in these metapopulation areas.

While we cannot estimate the number of California tiger salamander that will be taken as a result of most covered activities, access roads are a common aspect of oil and gas facilities where the potential exists to document injury or mortality of individual California tiger salamanders. Therefore, we provide take coverage for access roads in the form of injury or mortality of individual California tiger salamanders. Under each permit issued under this GCP, we allow for the take in the form of injury or mortality of up to two individual California tiger salamanders per year as a result of vehicles using access roads.

The planning area overlaps with all of the designated critical habitat areas of the California tiger salamander across the six metapopulation areas (Service 2004). Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. As a federal agency authorizing and approving use of this Plan, the Service is required to evaluate the effects of authorizing and approving this Plan, which is a federal nexus, on both the California tiger salamander and its critical habitat under a section 7 consultation. The Service will conduct a section 7 consultation in which we will analyze the effects of issuing the permit on affected listed species and critical habitat to determine whether that permit action is likely to jeopardize the continued existence of the listed species or to destroy or adversely modify designated critical habitat.

Aside from the added protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 of the Act does not apply to activities on private or other non-Federal lands that do not involve a Federal nexus, critical habitat designation would not afford any additional protections

under the Act against such activities. Therefore, the Service did not include critical habitat in this Plan.

California Red-legged Frog

Anticipated Effects on the California Red-legged Frog

The entire 674,220-acre plan area is within the range of the California red-legged frog and the majority of the project area contains suitable California red-legged frog habitat. Construction of well pads and associated infrastructure including project roads, telecommunication lines, and power lines will result in the temporary and permanent disturbance and loss of California red-legged frog upland and dispersal habitat. Furthermore, artificial and natural breeding ponds may require maintenance during the non-breeding season. These activities can provide important habitat benefits for future breeding seasons and would only result in temporary impacts to the aquatic feature and overall provide benefits to the California red-legged frog by keeping these suitable breeding features functioning. No permanent impacts to or loss of California red-legged frog aquatic breeding habitat is allowed under this Plan.

Ground disturbance associated with geophysical exploration (seismic), development, extraction, transport, and/or distribution of crude oil, natural gas, and/or other petroleum products, electrical distribution lines and substations, and offsite reservoirs have the potential to result in take California red-legged frogs that occur in or within dispersal distance of the project areas. Ground disturbing activities in the project areas could result in long-term and short-term effects on California red-legged frogs from permanent and temporary disturbance to their habitat. California red-legged frogs dispersing from areas adjacent to the covered lands are subject to mortality or injury from earth-moving equipment, debris, and worker foot traffic vehicle strikes and construction activities associated with the proposed projects. Accidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade aquatic or upland habitat to a degree where California red-legged frogs are adversely affected or killed.

California red-legged frogs may experience a significant disruption of normal behavioral patterns from work activities and the associated noise and vibration that makes them susceptible to injury or mortality. This disruption could cause California red-legged frogs to leave or avoid suitable habitat and may increase the potential for predation, desiccation, competition for food and shelter, or strike by vehicles on roadways.

Activities that occur during the rainy season could cause greater impacts to California red-legged frogs than activities during the dry season, because the species is typically more active during the rainy season. During periods of rainfall (typically greater than 0.5 inch of rain in a 24-hour period), we expect a higher likelihood of California red-legged frogs dispersing above ground towards or away from breeding habitats in the vicinity of the project areas. Any California red-legged frogs moving through project areas would be at risk of injury or death caused by vehicles, equipment, or workers.

California red-legged frogs could be killed or injured by being hit or run over by nighttime worker traffic during operations and maintenance activities. California red-legged frogs most often impacted by vehicle strikes are those making breeding migrations; that is, those in breeding

condition. This risk would be greatest during or after rainfall when individuals may be moving through the project area towards or away from breeding habitat.

Threats to the California red-legged frog are primarily continued and long-term habitat loss/conversion and fragmentation. California red-legged frogs require both breeding and upland habitat in proximity such that the animals can move between the two. Consequently, impediments to movement such as roads or barriers, or loss of either habitat type, are a threat to the species' normal behavioral patterns and could lead to injury or mortality of individuals. Other impacts of roads to California red-legged frogs include mortality during road construction, the effects of habitat fragmentation, predator attraction, disruption of normal behaviors, home range shifts, altered movement patterns, altered reproductive success, invasive species (by serving as dispersal corridors), landscape pollution (via hydrological changes, increased sedimentation, vehicle by-products and compounds) and increased human use of an area (Trombulak and Frissel 2000, Andrews et al. 2008).

Trash left during or after project activities could attract predators to work sites, which could, in turn, prey on California red-legged frogs. For example, raccoons and feral cats are attracted to trash and also prey opportunistically on California red-legged frogs.

While capture and relocation of California red-legged frogs is expected to reduce the number killed or injured by project construction activities, capture and relocation could result in the injury or death of individual California red-legged frogs. Although survivorship for translocated California red-legged frogs has not been studied, survivorship of translocated wildlife, in general, is reduced due to intraspecific competition, lack of familiarity with the location of potential breeding, feeding, and sheltering habitats, and increased risk of predation. Recent observations suggest that California red-legged frogs exhibit strong site fidelity (AECOM 2011). Therefore, relocated individuals may attempt to return to the site of their capture, making them susceptible to fatigue, desiccation, or predation

Releasing amphibians following a period of captivity, during which time they can be exposed to infections, may cause an increased risk of mortality in wild populations. Amphibian pathogens and parasites can also be carried between habitats on the hands, footwear, or equipment of fieldworkers, who can then spread them to localities containing populations that have had little or no prior contact with such pathogens or parasites. For example, chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus only attacks the parts of an animal's skin that have keratin (thickened skin), such as the mouthparts of tadpoles and the tougher parts of adults' skin, such as the toes. It can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks. Infected animals may spread the fungal spores to other ponds and streams before they die. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. Relocation of individuals captured from the project area could contribute to the spread of chytrid fungus. In addition, infected equipment or footwear could introduce chytrid fungus into areas where it did not previously occur. Other pathogens could be similarly introduced into uninfected localities.

Use of Impacts to Habitat as a Proxy for Take

Because quantification of the number of California red-legged frogs that would be taken incidental to Covered Activities is not possible given available data, relying on impacts to occupied California red-legged frog habitat is a suitable surrogate to estimate the amount of take that is likely to occur. Within this plan, "occupied California red-legged frog habitat" is defined as:

1) Areas where suitable California red-legged frog habitat occurs unless absence is documented in accordance with the Service's (2005) Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog.

OR

2) Where California red-legged frogs are assumed present by the applicant/permittee (no surveys have been conducted).

Factors Influencing Impacts to the California red-legged frog

Temporary vs. Permanent Impacts

The average lifespan of a California red-legged frog adult following metamorphosis is approximately 3 years. Accordingly, impacts with a duration of 1 year or fewer would impact only one-third of the adult lifespan of the average California red-legged frog and mitigation required to offset impacts would be one-third that of an equivalent permanent impact. Similarly, impacts with a duration of 2 years or fewer would impact only two-thirds of the adult lifespan of the average California red-legged frog and mitigation required to offset impacts would be two-thirds that of an equivalent permanent impact. Conversely, temporary impacts with durations of 3 years or greater would affect the entire adult lifespan of an average adult California red-legged frog and would be regarded as permanent impacts.

Differentiating Habitat Impacts

Approximately 80 percent of California red-legged frogs in coastal California remain in aquatic habitat or upland habitat within approximately 328 feet of aquatic habitat for their entire lives (Bulger et al. 2003). The remaining 20 percent utilize dispersal habitat (up to approximately 1.7 miles away from aquatic habitat) to migrate between aquatic habitat areas during the wet season. Because only approximately 20 percent of California red-legged frogs use dispersal habitat, projects with permanent or temporary impacts to dispersal habitat may require less compensation to offset impacts.

Impacts Analysis and Estimated Incidental Take

Covered Activities under this GCP are likely to result in take of California red-legged frogs and result in adverse impacts to their habitat. Take of California red-legged frogs in the form of mortality or injury of adults or larvae may result from crushing and collision; impacts to upland habitat; increased habitat fragmentation; and changes from one vegetation community to another. Take of California red-legged frogs is expected to result from human and equipment movement and ground disturbance associated with construction and installation of well pads, pipelines, access roads, electrical distribution lines and substations, and offsite reservoirs. Operations,

maintenance, and decommissioning of these features are also expected to result in take of the California red-legged frogs. Take of California red-legged frogs and impacts to their habitat will differ with methodologies implemented and with activity level when these activities occur.

We cannot definitively estimate the number of California red-legged frogs that will be taken because no density estimate for the planning area has been or could be calculated. Take of California red-legged frogs is also difficult to quantify because: 1) individual California red-legged frogs are small, making them difficult to locate, which makes encountering dead or injured individuals unlikely; 2) losses of individuals may be masked by normal temporal fluctuations in numbers; and 3) the species is primarily active at night. Although we cannot predict the exact number of individual California red-legged frogs that will be incidentally taken, the Service is providing impacts to habitat as a proxy to quantify take levels and define the permitted take limits. The Service will allow for up to 1% of the total planning area (6,742 acres) as the cap for allowable impacts to California red-legged frog habitat under this plan. Applicants would compensate for these impacts according to the requirements described in Section 5 of this document.

While we cannot estimate the number of California red-legged frogs that will be taken as a result of most covered activities, access roads are a common aspect of oil and gas facilities where the potential exists to document injury or mortality of individual California red-legged frogs. Therefore, we provide take coverage for access roads in the form of injury or mortality of individual California red-legged frogs. Under each permit issued under this GCP, we allow for the take in the form of injury or mortality of up to three individual California red-legged frogs per year as a result of vehicles using access roads.

Lompoc Yerba Santa

Anticipated Effects on the Lompoc Yerba Santa

All of the Solomon Hills population and the Santa Ynez Mountains population of Lompoc yerba santa are located within the project area. These populations also makeup the two units designated critical habitat: the first unit encompasses 2,239 acres of private land in the Solomon Hills, and the second unit encompasses 4,162 acres of private land in the Santa Ynez Mountains. Construction of well pads and associated infrastructure, including project road, and telecommunication and power line infrastructure, will result in the temporary and permanent disturbance, loss of Lompoc yerba santa habitat, and remove individual plants. Indirect effects to Lompoc yerba santa may occur in the form of altered surface hydrology, potentially resulting in increased erosion; an increase, decrease, or changes in the period and amounts of moisture content in the soil to which the subspecies has adapted; increases in the abundance of nonnative plants species as a result of the project activities; dust that could affect reproduction; and loss or change in the abundance of pollinators.

Road maintenance activities could adversely affect existing Lompoc yerba santa if individuals occur immediately adjacent to roads and are removed or destroyed as a result of maintenance activities. However, Lompoc yerba santa establishes well in disturbed soils so roadside habitat that is disturbed can be beneficial to the species by stimulating proliferation. Lompoc yerba santa sprouts adventitiously when roots are exposed following mechanical site preparation (Howard 1992). In addition, seeds may germinate in disturbed areas.

Ground disturbance associated with geophysical exploration (seismic), development, extraction, transport, and/or distribution of crude oil, natural gas, and/or other petroleum products, electrical distribution lines and substations, and offsite reservoirs has the potential to result in adverse effects to Lompoc yerba santa by removing plants, damaging root systems, disturbing soils, and/or stimulating growth of non-native plant species. Operations and maintenance activities could adversely affect the Lompoc yerba santa if it occurs in an area that is occupied by Lompoc yerba santa. Personnel and vehicles moving within occupied habitat could crush individual plants.

Habitat fragmentation as a result of the covered activities has the potential to adversely affect Lompoc yerba santa within the planning area. While pollination ecology has not been specifically studied for Lompoc yerba santa, other plants in the same taxa are known to be pollinated by wasps, butterflies, and a variety of bee taxa, especially *Anthophora*, *Bombus*, *Chelostoma*, *Hylaeus*, *Osmia*, and *Nomadopsis* (Moldenke 1976). Evidence shows that habitat size and connectivity directly or indirectly influence the abundance of both plant and pollinator species. In general, plant and pollinator diversity and population size decrease with the decreasing size and habitat connectivity (Xiao et al. 2016). Habitat fragmentation can clearly disrupt plant-pollinator interactions and threaten the local persistence of plants and pollinators (Rathcke and Jules 1993). Fragmentation can also restrict pollinator movement which may reduce gene flow and result in increased inbreeding. Inbreeding depression could further lower the reproductive success of plants in fragments (Rathcke and Jules 1993). In areas where the covered activities isolate Lompoc yerba santa from other populations of the plant or surrounding native habitat, or introduce sensory pollutants including persistent noise, light, or herbicides, may overall disrupt plant-pollinator interactions. Inhibition of successful out-crossing of pollen may overall decrease seed set and contribute to population decline.

This plan allows for impacts of up to 27.5 acres of Lompoc yerba santa habitat. The planning area spans the two geographic areas that encompass three populations of Lompoc yerba santa. Because the Service does not want all 27.5 acres of impacts to occur within either of the two populations given the relatively small size of each of the populations, we have further categorized the allowed impacts by area. The following table shows the amount of impacts we anticipate as a result of the covered activities allowed within each subpopulation.

Lompoc yerba santa subpopulation	**Acres of impacts to habitat**
Solomon Hills	11
Santa Ynez	16.5

Documented habitat requirements for Lompoc yerba santa consist of: (1) Soils with a large component of sand and that tend to be acidic; (2) Plant communities that support associated species, including maritime chaparral (Burton mesa chaparral), particularly where the following associated species are found: bush poppy (*Dendromecon rigida*), chamise (*Adenostoma fasciculatum*), manzanita (*Arctostaphylos* spp.), coyotebrush (*Baccharis pilularis*), coast live oak (*Quercus agrifolia*), California scrub oak (*Quercus berberidifolia*), Santa Cruz Island oak (*Quercus parvula*), and buck brush (*Ceanothus cuneatus*); and in southern bishop pine forests that intergrade with manzanita and black sage (*Salvia mellifera*); and (3) frequently along ridgelines in open, disturbed areas within chaparral. Compensatory mitigation for the Lompoc

yerba santa may result in the protection of habitat that supports these requirements, which would benefit the species.

Biological Goals and Objectives

Section 10(a)(2)(A) of the Act requires that a conservation plan specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed wildlife species as a result of covered activities addressed by the plan.

Conservation plans must establish biological goals and objectives. The purpose of the biological goals is to ensure that the operating conservation program in the conservation plan is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide the applicant with an understanding of why these actions are necessary. These goals are developed based upon the species' biology, threats to the species, the potential effects of the Covered Activities, and the scope of the conservation plan.

Goal 1: Avoid and minimize take and related disturbance to the California tiger salamander and California red-legged frog and their habitats within the project areas.

- Objective 1.1 Avoid and minimize the potential for migrating California tiger salamanders and California red-legged frogs to come in contact with project related equipment or be taken as a result of construction-related activities.

- Objective 1.2 Remove any California tiger salamanders or California red-legged frogs from impact areas by performing surveys prior to and, if necessary, during construction, and relocate any individuals to suitable habitat outside impact areas.

- Objective 1.3 Site project impacts in areas outside of occupied and suitable habitat for the California tiger salamander and/or California red-legged frog to the maximum extent feasible.

- Objective 1.4 Restore disturbed areas to original conditions, as feasible, to emulate the previous conditions.

Goal 2: Preserve, maintain, and restore occupied and suitable aquatic and upland habitat for California tiger salamander and California red-legged frog in the Plan Area.

Objective 2.1 Maintain or increase the value of all aquatic habitats in project or mitigation areas known to support or with potential to support the California tiger salamander and/or California red-legged frog.

Objective 2.2 Maintain or increase the suitable and accessible upland habitat adjacent to all known or potential breeding ponds in project or mitigation areas for California tiger salamander and California red-legged frog.

Objective 2.3 Eliminate or reduce non-native wildlife that depredates California tiger salamander and California red-legged frog in known and potential upland and aquatic habitat within the Planning Area.

Objective 2.4 Control hybrid California tiger salamanders in aquatic habitat.

Goal 3: Avoid and minimize disturbance to the Lompoc yerba santa and its habitat within the project areas.

Objective 3.1: Avoid and minimize the potential for project-related equipment to affect Lompoc yerba santa plants or be adversely affected as a result of construction-related activities.

Objective 3.2 Site project impacts in areas unoccupied by the Lompoc yerba santa to the maximum extent feasible.

Objective 3.3 Remove any Lompoc yerba santa plants from impact areas by performing surveys prior to and, if necessary, during construction, and relocating and transplanting any individuals to suitable habitat outside impact areas.

Objective 3.4 Restore disturbed areas to original conditions, as feasible, to emulate the previous conditions.

Goal 4: Preserve and maintain or enhance the Lompoc yerba santa populations within the Planning Area.

Objective 4.1: Maintain or increase the distribution of Lompoc yerba santa individuals and/or populations within project areas wherever surveys indicate occurrence or areas known to be occupied.

Objective 4.2 Maintain or increase the abundance of Lompoc yerba santa individuals and/or populations within project areas wherever surveys indicate occurrence or areas known to be occupied.

Objective 4.3 Reduce anthropogenic factors that negatively affect Lompoc yerba santa, including exotic plants and unnatural disturbances and erosion.

Objective 4.4 Increase understanding of the ecological factors influencing the distribution, abundance, and population persistence of the Lompoc yerba santa within project areas in order to inform management and monitoring.

Goal 5: Provide compensatory mitigation to help meet recovery criteria and/or support long-term viability of the California tiger salamander, California red-legged frog, and Lompoc yerba santa.

Objective 5.1 To mitigate impacts on the California tiger salamander, California red-legged frog, Lompoc yerba santa, applicants will protect and manage habitat to ensure conservation benefits for the California tiger salamander, California red-legged frog, and Lompoc yerba santa.

Compensatory Mitigation for the California Tiger Salamander

In support of goal 5, objective 5.1, compensatory mitigation will be implemented in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander (Service 2019) or the most current version and support recovery needs as stated in the recovery plan (Service 2016) for the California tiger salamander, Santa Barbara DPS. The final recovery plan (Service 2016) for the California tiger salamander, Santa Barbara DPS establishes the following recovery criteria to support long-term viability:

1. At least four functional breeding ponds are in fully preserved status per metapopulation area.

2. A minimum of 623 acres of functional upland habitat around each preserved pond is in fully preserved status.

3. Adjacent to the fully preserved ponds and fully preserved upland habitat, a minimum of 1,628 acres of additional contiguous, functional upland habitat is present, which is at least 50 percent unfragmented and partially preserved.

4. Effective population size in the metapopulation is, on average, increasing for 10 years.

5. Management is implemented to maintain the preserved ponds free of non-native predators and competitors (e.g., bullfrogs and fish).

6. Risk of introduction and spread of non-native genotypes is reduced to a level that does not inhibit normal recruitment and protects genetic diversity within and among metapopulations.

Compensatory Mitigation for the California Red-legged Frog

In support of goal 5, objective 5.1, compensatory mitigation will be implemented to address conservation needs for the California red-legged frog within the Plan Area. The recovery plan

(Service 2002) for the California red-legged frog establishes the following recovery criteria to support long-term viability:

1. Suitable habitats within all core areas are protected and/or managed for California red-legged frogs in perpetuity.

2. Existing populations, throughout the range, are stable (i.e., reproductive rates allow for long term viability without human intervention).

3. Populations are geographically distributed in a manner that allows for the continued existence of viable metapopulations despite fluctuations in the status of individual populations (i.e. when populations are stable or increasing at each core area).

4. The species is successfully reestablished in portions of its historic range such that at least one reestablished population is stable/increasing at each core area where frogs are currently absent.

5. The amount of additional habitat needed for population connectivity, recolonization, and dispersal has been determined, protected, and managed for California red-legged frogs.

Over fifteen years have passed since the publication of the Service's 2002 Recovery Plan for the California red-legged frog and the status of the species within the Planning Area has changed during this period. Therefore, the Service conducted an expert elicitation workshop on November 18, 2016, to update conservation needs of California red-legged frogs within the Planning Area. Following this expert elicitation workshop the Service identified the following updated conservation needs for the California red-legged frog within the Plan area: (1) Removal of non-native predators from the Burton Mesa area, (2) Permanent protection and management of aquatic features occupied by the California red-legged frog on or near Burton Mesa, Shuman Canyon Creek, backdune areas near the town of Callender, Oso Flaco Creek, Campbell road, Gypsy Canyon Road, Refugio Road near the Santa Ynez River, and Guadalupe Lake. Of these priority recovery actions, the highest priority recovery action is the permanent protection and management of aquatic features near Guadalupe Lake.

In general, compensatory mitigation implemented under this Plan must address these updated conservation needs for the California red-legged frog within the Planning area. The Service is developing a conservation strategy for the California red-legged frog to provide guidance when assessing land use and project development impacts to the California red-legged frog and to strategically identify our preferred approaches to offset unavoidable impacts through compensatory mitigation when triggered under the Act. The document will be based on the best available science. The work represented in the document draws from our listing documents, in-house analysis, work products, and best professional judgement of the Service and species experts. This work is informed by Service policy and guidance. This document will be updated as needed to reflect new scientific information, species needs, or policy changes.

<u>Conservation Benefit for the Lompoc Yerba Santa</u>

We have not developed a recovery plan for the Lompoc yerba santa to which we can refer to recovery criteria for developing a compensatory mitigation program. In the absence of a recovery plan, we default to standard conservation practices for this species. For the Lompoc yerba santa with a narrow, limited distribution, recovery focuses on the preservation the remaining habitat that supports the species. In support of goal 5, objective 5.1, compensatory mitigation actions for Lompoc yerba santa will be implemented in accordance with the quantifiable criteria discussed below under Measures to Mitigate Unavoidable Impacts – Lompoc Yerba santa. The intent of these actions is to contribute to recovery of this species.

Avoidance, Minimization, and Mitigation Measures

Section 10 of the Act requires that conservation plans "minimize and mitigate" the impacts of take authorized by an incidental take permit, and that issuance of the permit will not "appreciably reduce the likelihood of the survival and recovery of the species in the wild." In general, conservation plans should include mitigation programs that are based on sound biological rationale, and are practicable and commensurate with the impacts of the project on species for which take is requested. If the proposed project is expected to result in permanent habitat loss, then the mitigation strategy must include compensatory mitigation consisting of the permanent preservation of suitable habitat or similar measures. Applicants under this plan must provide mitigation for permanent impacts to the California tiger salamander, California red-legged frog, and Lompoc yerba santa.

In accordance with these guidelines and the requirements of the federal Endangered Species Act, the conservation program of this General Conservation Plan is intended to achieve its biological goals and objectives and to ensure that the impacts of Covered Activities on California tiger salamander, California red-legged frog, and Lompoc yerba santa are minimized and mitigated to the maximum extent practicable. If applicants intend to fulfill State permitting requirements, the Department should be included in any approval processes for avoidance, minimization, and mitigation measures (e.g., biologists, mitigation plans, conservation easements, etc.). Avoidance and minimization measures are provided below.

Measures to Avoid and Minimize Impacts

1. At least 15 days prior to ground-disturbing activities, the applicant will submit the names and credentials of biologists and monitors to the Service for approval to conduct the minimization measures outlined below. Excluding an emergency activity, no project activities will begin until the applicant has received notice from the Service that the biologists and monitors are approved to do the work.

2. During the project planning phase, applicants will site all impacts away from known and potential California tiger salamander and California red-legged frog breeding habitats, avoid high quality upland and dispersal habitat, and avoid habitats supporting or immediately surrounded Lompoc yerba santa to the maximum extent feasible.

3. A Service-approved biologist will conduct a biological resources training program for all construction workers and their contractors to minimize potential impacts to Covered

Species and sensitive habitats. Training will occur prior to initial construction activities and be repeated, annually and as needed for new workers for the duration of each project covered by the permit. The training program will be reviewed and approved by the Service and will include a description of: (1) important biological resources within their project site, specifically California tiger salamander, California red-legged frog, and Lompoc yerba santa that have potential to occur within or adjacent to work areas; (2) the applicable avoidance and minimization measures; (3) the roles and responsibilities of personnel; and (4) communication protocols if Covered Species are detected. Applicants who submit their training programs along with their permit applications should expect to receive an approval at the time they receive their Permit. Applicants who submit their training programs after they submit their permit application should expect to receive an approval within 30 days of receipt of the training program.

4. A Service-approved biologist will periodically review and monitor construction and restoration efforts and will be responsible for ensuring that conditions of approval are being enforced and that success criteria are being met. Except for emergency situations, a Service-approved biologist will have the authority to temporarily halt activities if permit requirements and conditions are not being met.

5. Prior to construction activities, all grading limits and construction boundaries, including staging areas, parking, and stockpile areas, will be delineated and clearly marked in the field. All Covered Species' habitats located within 10 feet of construction activities will be delineated with specific sensitive species labeling (e.g., permanent signage stating "No Entry — Sensitive Habitat."). A service-approved biologist(s) will work with the Service to identify these areas.

6. All proposed linear routes (i.e., roads and pipelines) will be reviewed and modified, if necessary, in the field to minimize impacts to Covered Species with assistance by the onsite biologist or environmental monitor.

7. Personnel will limit their vehicle use to existing routes of travel. Travelling off designated roads will be prohibited unless access is determined critical for a particular activity and the route has been flagged to avoid or minimize adverse effects.

8. To minimize the potential for road mortality of covered wildlife within their habitats, nighttime traffic will be minimized during the construction phase to the extent feasible; all hauling activities within habitat for covered wildlife will be restricted to daylight hours, defined as the hours after sunrise and before sunset.

9. Except in areas with posted speed limits greater than 10 miles-per-hour, project-related vehicle speeds will not exceed 10 miles-per-hour when driving within California tiger salamander or California red-legged frog habitats.

10. Prior to moving vehicles or equipment, personnel will look under the vehicles or equipment for the presence of California tiger salamanders or California red-legged frogs. If a California tiger salamander, California red-legged frog or any other wildlife species

is observed, the vehicle will not be moved until the animal has vacated the area on its own accord or has been relocated out of harm's way in accordance with Measure 12.

11. A Service-approved biologist will conduct pre-construction surveys of Covered Species' habitats within project disturbance boundaries immediately prior to the onset of any ground disturbance associated with the project to determine if any individuals of the Covered Species are present, and to refine the final habitat mitigation acreages. The Service-approved biologist will monitor construction activities in the vicinity of habitats to be avoided. Upon completion of initial ground disturbance, the biologist or monitor will periodically (minimum twice per week) visit the project site throughout the construction period to ensure that impacts to the project site are in compliance with the permit. After periods of rain, a Service-approved biologist will conduct daily pre-activity surveys to ensure no California tiger salamanders or California red-legged frogs have migrated into the work area prior to ground disturbing activities resuming. No construction work will be initiated until a Service-approved biologist determines that the work area is clear of California tiger salamanders and California red-legged frogs. Should any California tiger salamanders or California red-legged frogs be observed within harm's way, the animal will be allowed to vacate the area on its own accord or be relocated in accordance with Measure 12.

    Biologists will conduct surveys for Lompoc yerba santa in areas that have potential to support the species. Applicants will perform an Information, Planning, and Consultation System (IPaC) query for the project area to inform biologists where surveys should occur. An IPaC query can be obtained from: https://ecos.fws.gov/ipac/.

12. Any California tiger salamander, California red-legged frog, or individuals of other wildlife species will be allowed to vacate the project areas on its own accord under the observation of a Service-approved biologist. If any California tiger salamander, California red-legged frog or individuals of other wildlife species does not relocate on their own, or if they are in harm's way, they will be relocated out of harm's way to nearby suitable habitat, similar to that in which it was found, and outside the project area. Only a Service-approved biologist will relocate California tiger salamanders or California red-legged frogs. The biologists conducting relocation activities will follow the Declining Amphibian Task Force Fieldwork Code of Practice.

    A Service-approved biologist will relocate any California tiger salamanders found within the project footprint to an active rodent burrow system located no more than 300 feet outside of the project area unless otherwise approved by Department and the Service. A Service-approved biologist will relocate any California red-legged frogs found within the project footprint to habitat similar to where it was captured but no more than 300 feet outside of the project area, unless otherwise approved by the Service. The individuals will be handled with clean and wet hands. During relocation they will be placed in a clean, covered plastic container with a wet non-cellulose sponge. Captured California red-legged frogs will be relocated immediately; individuals will not be stored for lengthy periods or in heated areas. The relocation container will be kept out of direct sunlight.

A Service-approved biologist will monitor relocated California tiger salamanders or California red-legged frogs until they enter a burrow and are concealed underground or otherwise deemed safe in the relocation area by the biologist. Relocation areas will be identified by the Service-approved biologist based on the best suitable habitat available. The Service-approved biologist will document both the capture site and the relocation site by photographs and GPS positions. The Covered Species will be photographed and measured (Snout-Vent) for identification purposes prior to relocation. All documentation will be provided to the Service within 24 hours of relocation.

13. Rodent burrows within the project areas that overlap the Covered Species' habitat will be excavated by a Service-approved biologist using hand tools until it is certain that the burrows are unoccupied. In lieu of burrow excavation, steel plates or plywood may also be utilized to protect small mammal burrows from ground disturbance. Plates and plywood will be removed nightly and will be removed if work is scheduled to cease for consecutive days. Any individual California tiger salamanders or California red-legged frogs encountered will be allowed to vacate the area on their own accord or be relocated out of harm's way in accordance with Measure 12.

14. Exclusionary silt fencing (or other suitable fence material) will be installed at the discretion of a Service-approved biologist to minimize the potential for California tiger salamanders or California red-legged frogs to enter the worksite. Exclusionary fencing will be maintained for the duration of the project. If an individual of the Covered Species or other wildlife species is observed within an enclosed worksite, a portion of the fencing will be removed to allow the individual to vacate the area on its own. Alternatively, the animal may be relocated out of harm's way in accordance with Measure 12.

15. Exclusionary silt fencing (or other suitable fence material) will be installed at the discretion of a Service-approved biologist to minimize potential impacts to Lompoc yerba santa plants located near proposed activities. In addition, excavations adjacent to Lompoc yerba santa (within 30 feet) should be conducted so that impacts to the root/rhyzomes are minimized. A Service-approved biologist will be retained to ensure that effects are minimized to the maximum extent practicable.

16. All construction and sediment control fencing will be inspected each workday during construction activities to ensure they are functioning properly.

17. Steep-walled excavations (e.g., trenches) that may act as pitfall traps will be inspected for wildlife at least once per day and immediately before backfilling. In lieu of daily inspections (weekends, etc.), exclusionary fencing, covers, ramps, or similar measures will be taken to prevent wildlife entrapment.

18. Open pipe segments will be capped or sealed with tape (or equivalent material) nightly, or otherwise stored at least three feet above ground. Should a pipe segment become occupied by a California tiger salamander, California red-legged frog, or any other wildlife species, the animal will be allowed to vacate the pipe on its own or will be removed and relocated in accordance with Measure 12.

19. If covered activities must occur during the rainy season, permittees will not work during rain events, 48 hours prior to significant rain events (>0.5 inch), or during the 48 hours after these events, to the extent practicable. If work must occur 48 hours prior to significant rain events (>0.5 inch), or during the 48 hours after these events, a Service-approved biologist will conduct a pre-activity survey to ensure that the work area is clear (refer to Measure 10 above).

20. The applicant will ensure that all staging areas, equipment storage areas, stockpile sites, and refueling areas are located at least 100 feet from surface water bodies and wetland habitats to minimize the potential for releases into surface water or wetland habitat. In lieu of the 100-foot buffer, secondary containment measures may be employed to prevent contamination of soil and water.

21. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low-pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species).

22. When working in areas with a predominance of native plants, the upper layer of topsoil material (6 inches) will be segregated during excavations to preserve the seed bank. The preserved topsoil will be covered to protect it from erosion and invasion of non-native plants until completion of the activity, when the topsoil will be replaced in the affected area. Existing access roads are not subject to this measure.

23. Disturbed areas will be restored and stabilized to reflect pre-existing contours and gradients to the extent practicable. Erosion and sediment controls (e.g., silt fences, fiber rolls, sandbags) will be installed, where necessary, utilizing weed-free materials in areas with a predominance of native plants. Where necessary, restored areas will be maintained and monitored, including weed removal (focused on noxious weeds and excluding non-native annual grasses). All planting and seeding will occur the first year after construction is complete, after the first significant rain event of the year (i.e., > 0.25 inch of precipitation.

24. Upon locating California tiger salamander or California red-legged frog individuals that may be dead or injured as a result of project-related activities, notification will be made within 72 hours to the Service Ventura Field Office at (805) 644-1766. Notification of dead or injured California tiger salamander should also be made to the Department at (562) 342-7100.

Measures to Mitigate Unavoidable Impacts

For projects that have unavoidable adverse impacts on the California tiger salamander, California red-legged frog, Lompoc yerba santa, and/or their habitats, mitigation is needed to compensate for impacts to these species. Mitigation would be undertaken in a strategic way such that it contributes to meeting the recovery criteria in the affected population. The amount of compensatory mitigation to offset a proposed project's impacts should be determined by assessing a project's level of impacts to California tiger salamanders, California red-legged frogs, Lompoc yerba santa, and their habitat. Compensatory mitigation, in this plan, refers to actions that support the permanent conservation, management, and endowment of habitat to ensure conservation benefits for the Covered Species.

<u>California Tiger Salamander</u>

The strategy to recover the Santa Barbara County California tiger salamander focuses on alleviating the threat of habitat loss and fragmentation. The goal of the final Recovery Plan (Service 2016), which was drafted in partnership with the Department, is to reduce the threats to the Santa Barbara County California tiger salamander to ensure its long-term viability in the wild, and allow for its removal from the list of threatened and endangered species. Recovery of this species can be achieved by addressing the conservation of remaining aquatic and upland habitat that provides essential connectivity, reduces fragmentation, and sufficiently buffers against encroaching development. To recover the species, recovery criteria must be met in a sufficient number of metapopulation areas to support long-term viability of the Santa Barbara County California tiger salamander. The Service presently believes that the recovery criteria must be met in all six metapopulation areas for delisting to be warranted; further research and monitoring should clarify the exact number of metapopulations necessary.

Unavoidable impacts to the California tiger salamander or its habitat will be mitigated in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander (Service 2019). The Conservation Strategy and Mitigation Guidance provides

guidance for assessing land use and project development impacts to the Santa Barbara County DPS of the California tiger salamander and identifies our preferred approaches to offset unavoidable impacts through compensatory mitigation. Compensatory mitigation can be provided by the project proponent by buying credits from a mitigation provider (mitigation bank) or by establishing a mitigation site that meets the Service's specification for approved mitigation (permittee-responsible mitigation). Any future mitigation options would be approved by the Service and may be available for use by applicants seeking take coverage under this plan.

In general, the Conservation Strategy and Mitigation Guidance (Service 2019) states that the value of the impacted habitat should be calculated using the methodology outlined in Searcy and Shaffer (2008), which incorporates the amount of California tiger salamander aquatic breeding habit and upland habitat covering the site to be impacted. The value of the land proposed for mitigation habitat should also be calculated using the Searcy and Shaffer methodology. A mitigation ratio of 1.25:1 [as calculated in Searcy and Shaffer (2008)] will be required for applicants seeking take coverage for the California tiger salamander under this plan. In other words, the reproductive value of habitat proposed for mitigation should be 25% more than the calculated reproductive value of the impacted habitat.

Mitigation Bank

Applicants may purchase credits from an approved conservation bank commensurate with the required mitigation, to provide compensation for impacts to California tiger salamanders. Performance and success criteria for providing compensation for impacts to the California tiger salamander will be deemed to have been met upon purchase of such credits.

In order to determine how many credits an applicant must purchase, the applicant must calculate the loss of reproductive value that would result from their project. The Service has calculated the average reproductive value of one credit at approved conservation banks as a means to determine how many credits a project proponent must purchase to offset the loss in reproductive value resulting from a project. An applicant must purchase as many credits needed to reach a mitigation ratio of 1.25:1 for reproductive value. For example, if a credit at a conservation bank has a reproductive value of 125 and a project results in a reproductive loss of 200, that project proponent must purchase 2 credits from that bank to offset the loss in reproductive value. Project proponents that are proposing to purchase mitigation credits from a conservation bank should coordinate with the Service to ensure they are using the correct reproductive value of one credit from the conservation bank in which the project proponent proposes to purchase credits from.

Permittee-Responsible Mitigation

Applicants may acquire compensation land to satisfy compensation requirements for impacts to the California tiger salamander. Compensation land must be acquired prior to initiating ground-disturbing activities within the Planning Area and financial assurances must be provided to ensure funding for the long-term management of the compensation lands. All compensation land must be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. The compensation land will conserve sufficient reproductive value, as addressed in the Conservation Strategy and Mitigation Guidance for the California tiger

salamander (Service 2019), to offset the impacts to the California tiger salamander. As stated above, a mitigation ratio of 1.25:1 [as calculated in Searcy and Shaffer (2008)] will be required for applicants seeking take coverage for the California tiger salamander under this plan. In other words, the reproductive value of habitat proposed for mitigation should equal the calculated reproductive value of the impacted habitat. When potentially suitable compensation land is identified, the applicant will prepare and submit a report to the Service outlining the suitability of the land for compensatory purposes. Once the Service agrees to the suitability of the compensatory land and the land is placed into conserved status, the performance and success criteria for the provision of onsite compensation lands will be deemed to have been met.

For permittee-responsible onsite or offsite mitigation, applicants will provide for the long-term monitoring and management of the compensation lands by providing initial funding for a long-term, non-wasting endowment. All compensation land must be protected under a perpetual Conservation Easement and be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. Applicants must develop a management plan for mitigation lands to be included in a Conservation Easement. The management plan provides for: 1) annual easement inspections, which will generate up-to-date information on the Easement Area's overall condition and biological resources; 2) periodic biological monitoring, which will generate detailed data describing onsite species: including population abundance, condition of habitat and condition of related human infrastructure, particularly water impoundment structures; 3) management, maintenance and enhancement tasks, which will ensure the sustainability of these resources and the health of the species' habitat; and 4) annual reports, which will summarize maintenance and management activities undertaken during the previous year, and provide an opportunity to creatively consider future needs and adaptive responses.

Other Mitigation Options

The Service is always looking for conservation opportunities that support recovery of listed species and protect the habitats in which they depend on. As such, future mitigation options may be approved by the Service and would be available for use by applicants seeking take coverage under this plan. The Service will consider such opportunities on a case-by-case basis to ensure the mitigation option fits within the scope of this Plan's conservation strategy.

<u>California Red-Legged Frog</u>

In the Service's 2002 Recovery Plan for the California red-legged frog (Service 2002), the Service identified conservation needs for the Santa Maria-Santa Ynez Core Recovery Area which encompasses the Plan Area. In general, the conservation needs for this Core Recovery Area within the 2002 Recovery Plan focused on protection of existing populations, removal of invasive species and non-native predators in particular, reducing contamination of habitat, and managing water availability for the species.

Unavoidable impacts to the California red-legged frog or its habitat will be mitigated by the project proponent by payment of mitigation fees into a mitigation account to provide the required compensation value (mitigation and conservation account), by establishing a mitigation site that meets the Service's specification for approved mitigation (permittee-responsible mitigation), or

through the purchase credits from an approved conservation bank (conservation bank). While the Service typically requires a mitigation ratio of 1:1 for temporary impacts and 3:1 for permanent impacts, the amount of mitigation that would be required for a project would be evaluated on a project-by-project basis to ensure that unavoidable take of California red-legged frog is mitigated to the maximum extent practicable.

California Red-Legged Frog Mitigation and Conservation Account

The Service is considering creating a California red-legged frog Mitigation and Conservation Account that would be intended to collect mitigation fees for impacts to the California red-legged frog within the Planning Area. The Account would be held, managed and administered by an entity qualified to receive monies paid by project applicants in connection with mitigation. These monies will be received as compensation for unavoidable impacts to the California red-legged frog and its habitat and be used to implement projects that will contribute to recovery of the species. A technical advisory committee, or other similar group, will inform the Service of appropriate projects available for funding.

To assist in project planning, the Service will develop advisory guidance for project proponents on appropriate payments to the account to compensate for project impacts to the California red-legged frog under this Plan. The Service will facilitate project planning during the design planning stage by providing such advisory guidance upfront in a simple, repeatable, transparent manner. As part of the Service's effort to develop a conservation strategy for the California red-legged frog, we are developing our advisory guidance on in-lieu fee payments. This guidance will be appended to the conservation strategy and be based upon various factors such as project implementation costs, per-acre cost of land, annual management, transaction, easement recording, endowment, environmental assessment, appraisal, and third-party fees, etc.

Permittee-Responsible Mitigation

Applicants may acquire compensation land to satisfy compensation requirements for impacts to the California red-legged frog. Compensation land must be acquired prior to initiating ground-disturbing activities within the Planning Area and financial assurances must be provided to ensure funding for the long-term management of the compensation lands. All compensation land must be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. The compensation land will conserve sufficient habitat to offset the impacts to the California red-legged frog. This compensation would follow the advisory guidance provided for compensation in the form of mitigation account payments as described in the conservation strategy for the California red-legged frog. Typically, applicants would apply a mitigation ratio of 1:1 for temporary impacts and 3:1 for permanent impacts. Additionally, the Service would value compensation land within dispersal habitat for the California red-legged frog as 20 percent of the value of an equivalent amount of habitat within aquatic or upland habitat. When potentially suitable compensation land is identified, the applicant will prepare and submit a report to the Service outlining the suitability of the land for compensatory purposes. Once the Service agrees to the suitability of the compensatory land and the land is placed into conserved status, the performance and success criteria for the provision of onsite compensation lands will be deemed to have been met.

For permittee-responsible onsite or offsite mitigation, applicants will provide for the long-term monitoring and management of the compensation lands by providing initial funding for a long-term, non-wasting endowment. All compensation land must be protected under a perpetual Conservation Easement and be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. Applicants must develop a management plan for mitigation lands to be included in a Conservation Easement. The management plan provides for: 1) annual easement inspections, which will generate up-to-date information on the Easement Area's overall condition and biological resources; 2) periodic biological monitoring, which will generate detailed data describing onsite species: including population abundance, condition of habitat and condition of related human infrastructure, particularly water impoundment structures; 3) management, maintenance and enhancement tasks, which will ensure the sustainability of these resources and the health of the species' habitat; and 4) annual reports, which will summarize maintenance and management activities undertaken during the previous year, and provide an opportunity to creatively consider future needs and adaptive responses.

Lompoc Yerba Santa

Unavoidable impacts to Lompoc yerba santa will be mitigated at a minimum of a 3:1 ratio (mitigation area: impact area) through onsite restoration of habitat suitable for Lompoc yerba santa directly adjacent to existing populations, establishment of new populations offsite within suitable habitat, or through acquisition of habitat that is currently occupied by Lompoc yerba santa. The Service believes that recovery of the Lompoc yerba santa will likely require establishment of new populations by propagation and such activities may be given precedence to habitat restoration. If an applicant decides to mitigate through restoration of suitable habitat or establishment of a new population through plant propagation, the applicant will develop a habitat restoration plan that is approved by the Service and Department that helps to reduce threats to the species that are described in the 5-year review (Service 2011). The habitat restoration plan must include consideration of the following criteria: defined schedules for restoration efforts, success criteria, weed management methods, propagation and outplanting methods, planting maintenance methods and monitoring schedules, reporting requirements, and long-term monitoring requirements. The plan must also carefully consider the use of fire as a management tool for this species due to the species' life history requirements as well as potential negative effects of post-fire invasive species competition. The objective of the long-term monitoring schedule will be to determine if the restored habitats are functioning equal to or better than pre-project conditions. Restoration monitoring would continue for five years or until the predetermined success criteria have been documented and met. The assessment of function would be based on indicators such as Lompoc yerba santa survivorship, wildlife use, and native and non-native floristic composition within the habitats compared to pre-project conditions. The habitat restoration plan will include sufficient funding for a period of five years to support research to determine whether and to what extent individual Lompoc yerba santa plants may be propagated to establish a new population in the wild. Any research project receiving such funding will first be reviewed and approved by the Service and Department.

If an applicant acquires habitat that supports Lompoc yerba santa as mitigation, the applicant will provide for the long-term monitoring and management of the compensation lands by providing initial funding for a long-term, non-wasting endowment. All compensation land must be

protected under a perpetual Conservation Easement and be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. Applicants must develop a management plan for mitigation lands to be included in a Conservation Easement. The management plan provides for: 1) annual easement inspections, which will generate up-to-date information on the Easement Area's overall condition and biological resources; 2) periodic biological monitoring, which will generate detailed data describing onsite species: including population abundance, condition of habitat and condition of related human infrastructure; 3) management, maintenance and enhancement tasks, which will ensure the sustainability of these resources and the health of the species' habitat; and 4) annual reports, which will summarize maintenance and management activities undertaken during the previous year, and provide an opportunity to creatively consider future needs and adaptive responses.

The following table shows a summary of minimization and mitigation measures and corresponding biological goals and objectives resulting from threats associated with the covered activities.

Covered Activity	**Species Affected**	**Type of Impact (Take[1] or Impact – Take not applicable to Lompoc yerba santa)**	**Avoidance, Minimization, & Mitigation Measures**	**Biological Goals and Objectives met**
Ground Disturbance	California tiger salamander California red-legged frog Lompoc yerba santa	Injury or mortality Injury or mortality Removal (Destruction)	Surveys and relocation; Protective fencing; Personnel education; Minimizing impacts to natural areas; Habitat restoration to disturbed areas; Compensatory mitigation	Goal 1 Objectives 1.1, 1.2, 1.3 and 1.4 Goal 3 Objectives 3.1, 3.2, 3.3 and 3.4 Goal 5 Objective 5.1
Driving on Roads	California tiger salamander California red-legged frog	Injury or mortality	Surveys and relocation; Personnel education;	Goal 1 Objectives 1.1, 1.2

Human Presence	California tiger salamander California red-legged frog	Injury or mortality	Surveys and relocation; Personnel education; Minimizing impacts to natural areas	Goal 1 Objectives 1.1, 1.2 and 1.3
Vegetation Removal	California tiger salamander California red-legged frog Lompoc yerba santa	Harassment, injury or mortality	Surveys and relocation; Protective fencing; Personnel education; Minimizing impacts to natural areas; Habitat restoration to disturbed areas; Compensatory mitigation	Goal 1 Objectives 1.1, 1.2, 1.3 and 1.4 Goal 3 Objectives 3.1, 3.2, 3.3 and 3.4 Goal 5 Objective 5.1
Loss of Upland Habitat	California tiger salamander California red-legged frog	Harm, harassment, injury or mortality	Compensatory mitigation; Restore disturbed areas	Goal 1 Objective 1.4 Goal 2 Objective 2.2 Goal 5 Objective 5.1
Loss of Habitat (General)	Lompoc yerba santa	N/A	Compensatory mitigation; Restore disturbed areas onsite adjacent to existing populations or establish new populations offsite in suitable habitat	Goal 3 Objective 3.4 Goal 5 Objective 5.1
Capture/ Relocation	California tiger salamander California red-legged frog	Harassment, injury or mortality	Species surveys and relocation will be performed by a Service-approved Biologist	Goal 1 Objectives 1.1, 1.2

Barrier to Movement	California tiger salamander California red-legged frog	Harm, harassment, injury or mortality	Minimize impacts to natural resources; Compensatory mitigation	Goal 1 Objectives 1.1, 1.2 and 1.3 Goal 5 Objective 5.1
Onsite Restoration	California tiger salamander California red-legged frog Lompoc yerba santa	N/A	Surveys and relocation; Protective fencing; Personnel education; Restore disturbed and degraded areas	Goal 1 Objective 1.1, 1.2 and 1.4 Goal 3 Objective 3.1, 3.2 and 3.4
Offsite Mitigation	California tiger salamander California red-legged frog Lompoc yerba santa	Beneficial Impact	N/A	Goal 5 Objective 5.1

Monitoring

Monitoring tracks compliance with the terms and conditions of the HCP and incidental take permit. There are three types of monitoring: (1) compliance monitoring tracks the permit holder's compliance with the requirements specified in the GCP and permit; (2) effects monitoring tracks the impacts of the covered activities on the Covered Species; and (3) effectiveness monitoring tracks the progress of the conservation strategy in meeting the HCP's biological goals and objectives (includes species surveys, reproductive success, etc.). Monitoring provides information for making adaptive management decisions.

Compliance Monitoring

Compliance monitoring will be implemented via onsite construction monitoring, daily monitoring logs, and preparation of a post-construction compliance report.

Effects Monitoring

To quantify the incidental take at the end of the project, a biologist will measure the disturbance footprint (with sub-meter GPS) and count the number of individual California tiger salamanders and California red-legged frogs that were found and translocated, or injured or killed during construction. The biologist will measure the number of Lompoc yerba santa plants that were removed or damaged as a result of the covered activities.

Effectiveness Monitoring

The effectiveness of the conservation strategy will be determined during monitoring of initial ground-disturbing activities and periodic follow-up visits for onsite construction monitoring and daily monitoring logs. The post-construction compliance report will include an evaluation of the effectiveness of the Avoidance, Minimization, and Mitigation Measures. Permittees are responsible for management, monitoring, and reporting the biological monitoring on mitigation land for which the Permittee is responsible. Management, monitoring, and reporting the biological monitoring on Conservation Banks or other mitigation land is the responsibility of the banker or third party that is holds the easement on the mitigation land, respectively. Other than the biological monitoring that is being conducted on the mitigation land, the Service will monitor and evaluate biological effectiveness of the GCP through review of annual reports and subsequent surveys for listed species. Permittees will allow Service staff, or other persons designated by the Service, to access the property at any reasonable hour for the purpose of monitoring California tiger salamander, California red-legged frog, and Lompoc yerba santa populations or trapping California tiger salamanders or California red-legged frogs (50 CFR 13.47). Permittees will monitor restoration on project sites with temporary impacts to ensure that restoration goals are achieved. Results will be included in annual reports and restoration reports as described in the Reporting section of this document.

Adaptive Management Strategy

Service policy (65 CFR 35242) defines adaptive management as a formal, structured approach for addressing the uncertainty inherent in all natural systems. It involves examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future conservation, management, monitoring, or mitigation actions based upon what is learned. Adaptive management plans are required for conservation plans where there is substantial uncertainty regarding the effects of the action on the covered species or the efficacy of minimization and mitigation measures. The adaptive management program identifies the potential need for modification of a project and uses research and monitoring as an on-going feedback loop for continuous improvement. It should also identify triggers for certain responses and incorporate those triggers and responses into conservation plan implementation. Monitoring and reporting described in Section 5 of this plan as well as other project and survey information will provide the basis for determining when adaptive management strategies should be discussed and/or implemented. Minimization and mitigation actions prescribed in this conservation plan will be monitored and analyzed to determine whether they are producing the anticipated results. If the desired results are not being achieved, adjustments based on monitoring and the analysis of monitoring results can be made to increase the conservation plan's implementation effectiveness.

The conservation strategy described in this conservation plan is intended to minimize and mitigate for impacts to the California tiger salamander, California red-legged frog, and Lompoc yerba santa resulting from Covered Activities. The process of adaptive management is integral to ensuring that the biological goals and objectives specified in the conservation strategy will be achieved. The adaptive management strategy for this GCP involves new or refined management techniques to respond to new information about distribution of the Covered Species in the Plan Area as well as identifies adjustments to the conservation program that could be implemented as new information or data is obtained. The adaptive management strategy opens reassessment of an adopted strategy and identifies a specific threshold(s) that triggers implementation of a particular adaptive management strategy.

Biological Goal 1 and Biological Goal 2 is to avoid and minimize take and related disturbance to the California tiger salamander and California red-legged frog and their habitats within the project areas and to preserve, maintain, and restore occupied and suitable aquatic and upland habitat, respectively, for California tiger salamander and California red-legged frog in the Planning Area. Measures to avoid, minimize, and offset project impacts to California tiger salamander and California red-legged frog are described above under *Measures to Avoid and Minimize Impacts*. Modification or augmentation of these measures (such as newly developed methods to protect California tiger salamanders or California red-legged frogs) may be necessary to ensure maximum protection of the species. To that end, applicants will monitor the efficacy of the avoidance, minimization and mitigation measures and will quantify the actual extent of project impacts in annual reports. The review of mitigation measure effectiveness will be done by the Service at least once per year or as determined to be necessary. Annual reports will be submitted to Service for review in order to determine the quantification of actual take and assessment of avoidance and minimization effectiveness.

Biological Goal 3 and Biological Goal 4 is to avoid and minimize disturbance to the Lompoc yerba santa and its habitat within the project areas and to preserve and maintain or enhance the Lompoc yerba santa populations within the Planning Area, respectively. Measures to avoid, minimize, and offset project impacts to Lompoc yerba santa are described above under *Measures to Avoid and Minimize Impacts*. Modification or augmentation of these measures (such as newly developed methods to protect Lompoc yerba santa) may be necessary to ensure maximum protection of the species. To that end, applicants will monitor the efficacy of the avoidance, minimization and mitigation measures and will quantify the actual extent of project impacts in annual reports. The review of mitigation measure effectiveness will be done by the Service at least once per year or as determined to be necessary. Annual reports will be submitted to Service for review in order to determine the quantification of actual take and assessment of avoidance and minimization effectiveness.

Biological Goal 5 is to provide compensatory mitigation to further meet recovery criteria and support long-term viability of the California tiger salamander, California red-legged frog, and Lompoc yerba santa. While compensatory mitigation for a permit issued under this Plan will be completed in one step (i.e., purchasing credits from a conservation bank, making payment to a mitigation account, establishment of a conservation easement) and prior to the onset of project impacts, it is important to ensure that the mitigation is helping to meet recovery criteria and support the long-term viability of the Covered Species. Therefore, adaptive management actions

may be necessary to ensure the conservation program is supporting recovery of the covered species. Monitoring efforts will be used to determine if the biological goals and objectives of this plan are being met. If desired results are not being achieved, adjustments can be made to increase the conservation plan's implementation effectiveness.

For purposes of this Plan, specific thresholds are identified that trigger implementation of a particular adaptive management strategy or open reassessment of an adopted strategy for each of the covered species. We developed these triggers based on the species' biology and goals of the Santa Barbara County distinct population segment of the California tiger salamander's Recovery Plan (Service 2016), the California red-legged frog Recovery Plan (Service 2002) and the Lompoc yerba santa 5-Year Review (Service 2011). Each applicant must include a line item in the funding section of a project's individual project plan for adaptive management. Prior to approval of each individual permit package (see Section 6), there must be a clear understanding and agreement between the Service and the applicant as to what the funds are intended for and what thresholds would trigger collection of the adaptive management funds. The Service anticipates that the line item will be approximately 10 percent of the overall cost of the mitigation. This process will enable the applicant to assess the potential economic impacts of adjustments before agreeing to the Plan.

California Tiger Salamander Adaptive Management

Adaptive management actions will be implemented for the California tiger salamander if less than the required number of known breeding ponds required to meet recovery criteria in a metapopulation either: (1) do not have documented breeding for a period of five or more years or, (2) fewer than 10 larvae are captured during surveys for a period of five or more years, or (3) any combination of these scenarios. For example, if, over a five-year survey period, 9 California tiger salamander metamorphs are captured during aquatic surveys in year 3, and no California tiger salamanders are caught in years 1, 2, 4, and 5, adaptive management actions would be implemented. Results from annual range-wide surveys, project surveys and other information would be used to inform the Service when implementation of adaptive management actions is warranted. The number of known breeding ponds required to meet recovery criteria is shown in the table below.

A five-year period is significant because California tiger salamander metamorphs require 4 to 5 years before they reach sexual maturity (Trenham et al. 2000). Less than 50 percent of first-time breeding California tiger salamanders typically survive to breed more than once (Trenham et al. 2000). Therefore, we assume that the entire reproductive output of individual California tiger salamanders could be affected over a 5-year period. If the entire reproductive output of an individual California tiger salamander is affected, the same is assumed to be true for an entire metapopulation area or range of the species.

The Service and Department should be consulted with prior to implementation of adaptive management actions should the aforementioned triggers be met. Adaptive management actions that should be considered include, but are not limited to:

1) Construction of new pools - A hydrologist should conduct a thorough analysis to determine where suitable soils and other aspects necessary to ensure pond success. Proposed pond locations should be within 2,200 feet of existing known California tiger salamander breeding ponds. Pond success will be measured by its ability to maintain water for at least 12 weeks.

2) Enhancement of existing pools - Human-made water features and natural pools may be enhanced by adding water to them to ensure that they hold water for a longer period of time (at least 12 weeks for California tiger salamander metamorphosis to occur). If a human-made water feature or natural pools have some water present, additional water should be added slowly to existing ponds to minimize turbidity.

3) Removal of noxious species - Non-native fish (e.g., mosquitofish, bass, sunfish, goldfish), bullfrogs, crayfish, non-native tiger salamanders, and exotic aquatic turtles should be removed from any water body with within the geographic range of the California tiger salamander in Santa Barbara County. Noxious weeds that are invading breeding pools will be removed and managed according to the accepted standards of the Service and recommendations of a Service-approved biologist.

4) Livestock grazing - Manage grazing to maintain the desired amount of emergent vegetation in ponds and vernal pools, and to keep annual grassland generally short (Ford et al. 2013). Do not exclude grazing from extensive areas of grassland for more than one year.

5) Habitat restoration - Restoration of breeding and upland habitat can help to achieve proper functioning features that may support a stable and well-distributed population. Such activities include, but are not limited to, voluntary replacement of crops with native grassland or scrub (see Wang et al. 2009) and instituting low-intensity grazing or mowing in lieu of ground-disturbing activities such as tilling, deep ripping, or grading. If a breeding pond was historically ephemeral but converted through human-caused activities to become perennial, the breeding pond should be restored back to ephemeral to the extent feasible.

6) Headstarting program - A headstarting program can be used to help bolster local populations of California tiger salamanders. A headstarting program can help to reduce the mortality of California tiger salamander larvae while still providing all of the necessary factors for their proper development.

7) Reduction of threats - A number of management actions that could reduce threats include, but are not limited to: use of fencing (e.g., fencing roads), restrict the use of pesticides and herbicides, ensure proper water quality (e.g., dissolved oxygen, nitrate), etc.

<u>California Red-legged Frog Adaptive Management</u>

Adaptive management actions will be implemented for the California red-legged frog if survey and monitoring data provided to the Service on California red-legged frogs in the plan area

indicates a severe decline in California red-legged frog abundance within the plan area across a three-year period. For example, if annual monitoring reports from multiple areas permanently preserved and management for the California red-legged frog (e.g. Baron Ranch in Arroyo Quemado and Santa Barbara Land Conservancy Land in Arroyo Hondo) indicate severe (over 50 percent) declines in California red-legged frog abundance over a three-year period. Female California red-legged frogs require three years to reach sexual maturity, therefore a severe decline over a three-period period would represent a decline across entire generational cohort.

The Service should be consulted with prior to implementation of adaptive management actions should the aforementioned triggers be met. Adaptive management actions that should be considered include, but are not limited to:

1) Protection and enhancement of aquatic breeding habitat - Protection of existing aquatic breeding habitat for the California red-legged frog by either fee title purchase or establishment of conservation easements. Enhancement of water features via water supplementation to ensure that these features hold water for a period sufficient to support the entire obligate aquatic development stage of California red-legged frogs (up to eight and a half months).

2) Removal of noxious species - Removal of non-native fish (e.g., mosquitofish, bass, sunfish, goldfish), bullfrogs, and crayfish within aquatic habitat of the California red-legged frog. Removal of invasive plants (e.g. *Arundo donax*) that reduce availability of aquatic habitat for the California red-legged frog to the accepted standards of the Service and recommendations of a Service-approved biologist.

3) Population augmentation of California red-legged frogs - Development of a captive breeding program for the California red-legged frog and/or translocation to augment or reintroduce California red-legged frogs.

4) Scientific research on threats to the California red-legged frog.

<u>Lompoc Yerba Santa Adaptive Management</u>

Adaptive management actions will be implemented for the Lompoc yerba santa if survey, project and monitoring data for Lompoc yerba santa in the plan area indicates a severe decline in Lompoc yerba santa abundance or site-specific conditions within the planning area. A severe decline for the species would be if:

1) Site conditions deteriorate such that:
    a. A 20 percent increase in nonnative species is detected (density); or
    b. Nonnative species within or adjacent to occupied Lompoc yerba santa habitat makeup 20 percent of the plant cover.

2) A significant/notable decline in number of ramets (an individual or stalk of a clone) or occupied area such that:

a. A 20 percent decline in number of ramets is detected from the start the permit issuance; or
b. A 20 percent decline in the occupied area is detected from the start the permit issuance date.

The Service and Department should be consulted prior to implementation of adaptive management actions should the aforementioned triggers be met. Adaptive management actions that should be considered to include, but are not limited to:

1) Propagation/Population augmentation – Working in close coordination with the Service, the Department, and the Santa Barbara Botanic Garden, propagate Lompoc yerba santa for outplanting. Collection of seeds and cuttings must be properly permitted and must be sourced from the closest genetically diverse seed producing populations. Propagation may occur in both natural habitat and in controlled environments (e.g., botanical garden nursery, lab). Individuals produced will be outplanted into appropriate restored habitat in an effort to increase the species' distribution. A habitat restoration plan that includes propagation, experimental outplanting design, and long-term maintenance must be submitted and approved by the Service and the Department prior to restoration implementation. Propagation conducted in controlled environments must be tested for potential contaminants, including phytophthora, to avoid introduction into natural settings. The plan must also carefully consider the use of fire as a management tool for this species due to the species' life history requirements as well as potential negative effects of post-fire invasive species competition.

2) Habitat enhancement and restoration - In areas directly adjacent to where Lompoc yerba santa occurs, restore and enhance habitat to achieve suitable conditions for the species to increase the species survival and distribution. Restoration and enhancement activities may include (but is not limited to) removing nonnative weeds, planting associated native species, and removing waste or toxic materials.

3) Scientific research – Coordinated conservation and research are needed to further understand the species. Efforts should include management actions to benefit existing occurrences, searches for additional locations (helicopter or drone surveys conducted in summer months following bloom period in coordination with ManTech SRS), investigations of potential barriers to recruitment, studies on the associated pollinator network and potential disruptions that may preclude successful outcrossing, and investigations of the species' relationship with fire. Following thoughtful consideration for the use of fire as a management tool, in coordination with the Service and Department, establish experimental seed plots treated with variable levels of prescribed burn followed by supplemental irrigation. If transplantation is attempted, an excavation study should be performed to document Lompoc yerba santa's specific rooting depth as well as transplantation efficacy. Additionally, to contribute to existing study of population genetics, tissue analysis from CNDDB occurrences 11 and 12 should be performed in coordination with the Santa Barbara Botanic Garden.

4) Reduction of threats - A number of management actions that could reduce threats include, but are not limited to: redesign development projects that may encroach upon or near occupied habitat, use of fencing (e.g., fencing roads) to maintain appropriate distance from occupied habitat, restrict the use of pesticides and herbicides, remove trash and waste materials, etc.

Changed Circumstances

Section 10 of the Act regulations [(69 FR 71723, as codified in 50 CFR Sections 17.22(b)(2) and 17.32(b)(2))] require that a habitat conservation plan specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the habitat conservation plan. In addition, the No Surprises Rule [50 CFR 17.22 (b)(5) and 17.32 (b)(5)] describes the obligations of the permittee and the Service. The purpose of the No Surprises Rule is to provide assurance to the non-federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented habitat conservation plan, in light of unforeseen circumstances, without the consent of the permittee.

If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. However, if additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the Service will not require these additional measures absent the consent of the applicant, provided that the GCP is being "properly implemented" (properly implemented means the commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented).

Applicants should identify up-front the range of possible operating conservation program adjustments that could be implemented as new information or data is obtained. This range defines the limits of what resource commitments may be required of the applicant. The applicant should identify specific actions that must be taken, not merely provide a general review of strategies. Prior to permit issuance, there must be a clear understanding and agreement between the Service and the applicant as to the range of adjustments to the management actions that might be required as a result of any changed or unforeseen circumstances. This process will enable the applicant to assess the potential economic impacts of adjustments before agreeing to the GCP.

To fund the remedial management to address changed circumstances, applicants must add a line item to the estimated management costs. The amount should be commensurate with the costs to address the changed circumstances, based on the anticipated restoration, management and/or monitoring costs. The following sections outline reasonably foreseeable circumstances and their anticipated effects on the covered species.

<u>Newly Listed Species</u>

If a new species is listed or critical habitat is designated under the Act and could be taken by Covered Activities, any incidental take permits issued under this plan will be reevaluated by the Service. If, after reevaluation, the Service determines that modification of Covered Activities for any specific project would be necessary to avoid or minimize the likelihood of take of this newly listed species, then the permittee and the Service will work together to develop and implement mutually agreeable measures to the Covered Activities in the incidental take permit ("Modification Measure(s)"). Each Modification Measure must be approved by the Service and the permittee before implementation. The permittee will be allowed to continue undertaking Covered Activities that would not result in take of the newly listed species while such Modification Measures are being developed. The permittee, or their legal successor(s) in ownership, will continue to implement such Modification Measures until such time as the permittee has applied for and the Service has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies the permittee in writing that the Modification Measures to the Covered Activities are no longer required to avoid the take of the newly listed species and/or impacting any newly designated critical habitat.

Newly Discovered Listed Species

In the event that an already listed species is discovered in a project area, and, after evaluation of this already listed species, the Service determines that modification of the Covered Activities would be necessary to avoid or minimize the likelihood of take of this already listed species, then the permittee and the Service will work together to develop and implement mutually agreeable Modification Measures to the Covered Activities in the incidental take permit. Each Modification Measure must be approved by the Service and the permittee before implementation. The permittee will be allowed to continue undertaking Covered Activities that would not result in take of the newly listed species while such Modification Measures are being developed. The permittee, or their legal successor(s) in ownership, will continue to implement such Modification Measures until such time as the permittee has applied for and the Service has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the listed species or until the Service notifies the permittee in writing that the Modification Measures to the Covered Activities are no longer required to avoid the likelihood of take of the listed species.

Oil Spill

Oil and gas activities could result in spills due to geologic hazards, mechanical failure, structural failure, corrosion, or human error. Such spills could potentially result in water quality impacts to nearby creeks. Small leaks or spills, which are contained and remediated quickly, may have minor or negligible impacts to water resources. In contrast, large spills such as from pipelines or tank ruptures, which could spread to surface waters and/or offsite groundwater, may substantially degrade water quality, with potential long-term impacts to beneficial uses and biological resources. Spills have the potential to harm and/or kill the covered species and/or destroy their habitats or food sources. Incidental take that occurs from spills or associated cleanup activities are unlawful and not covered by the permit.

In compliance with County and United States Environmental Protection Agency requirements, the permittee has on file with CalGEM and the County a Spill Prevention Control and Countermeasure (SPCC) Plan. The SPCC Plan contains operating procedures to prevent oil spills, control measures to prevent a spill from reaching navigable waters, and countermeasures to contain, clean up and mitigate the effects of an oil spill. and gas companies are required to develop protocols to respond to potential spills as defined in the Spill Control and Countermeasures section of the Oil Pollution Act (40 CFR §112.3). The Spill Control and Countermeasures plans describe how a company would implement oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. Operation and maintenance activities are not expected to impact water quality.

If a spill occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:

- Assess the damage caused by the spill, including the areal extent of natural communities and covered species habitat affected;
- Employ Best Management Practices;
- Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and
- If monitoring indicates that indirect effects of the spill are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.

The permittee will coordinate with the Service throughout implementation of the cleanup and response actions until it is decided by both parties that impacts of the spill have been adequately assessed and remediated.

Fire

Fire is a component of the natural disturbance regime in the Planning Area. While the covered species exhibit many important adaptations to fire and/or the habitat conditions it creates, fire can have detrimental effects on the populations, particularly if the fire occurs outside of the range of natural variation of the disturbance regime (e.g., inappropriate season, intensity, severity, or frequency), or if it promotes the invasion and spread of invasive plants. Fire may negatively impact the covered species populations by causing soil erosion, which can preclude native plant re-establishment, and by promoting the invasion and spread of exotic plant species.

Habitat for Lompoc yerba santa may be altered by the increase in veldtgrass (*Ehrharta calycina*), a perennial grass that is not native to California, and subsequent increases in the frequency of wildfires. The corresponding type conversion of habitat from scrub with openings to fields of veldtgrass has been discussed by numerous researchers including D'Antonio and Vitousek (1992), Bossard et al. (2000) and Brooks et al. (2004). Invasive plants such as veldtgrass can change the fuel properties of a site, which can in turn affect fire behavior, and ultimately alter fire regime characteristics such as frequency, intensity, extent, and seasonality of fire. If the fire regime changes subsequently promote the dominance of invasive plants, restoration to pre-invasion conditions becomes more difficult (Brooks et al. 2004).

The effects of wildfire on watersheds include first-order impacts, such as burned vegetation and reduced soil infiltration, and second order impacts, such as increased runoff, hillslope erosion, stream sedimentation, and significant alteration of terrestrial and aquatic habitat. Increased erosion and flooding emanating from burned areas not only impacts rates of sediment delivery and transport but also the structure and function of streams downslope and downstream. Greater flow and increased sediment loading can produce episodes of exceptionally high rates of sediment transport (Ryan et al. 2010). Increased erosion can lead to sedimentation that could smother California red-legged frogs or reduce the availability of plants and insects that serve as their habitat and food sources. Increased erosion and sediment delivery could also cause a decrease in the holding capacity of the vernal pools that function as breeding habitat for California tiger salamanders.

If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:

- Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;
- Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;
- Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and
- If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.

The permittee will coordinate with the Service after implementing the aforementioned actions to discuss the magnitude of impacts the fire had on the covered species and what appropriate actions should be taken to help the species recover.

Drought

Climate variability, such as fluctuations between wet and dry periods, is part of natural processes; however, climatic models suggest that much of the recent trends in climate are driven by anthropogenic causes, and models indicate that these trends are likely to continue into the future (Barnett et al. 2008). Current climate change predictions for terrestrial areas in the Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field et al. 1999, Cayan et al. 2005, Intergovernmental Panel on Climate Change 2014). Climate simulations have shown that, by 2100, California temperatures are likely to increase by 2.7 degrees Fahrenheit (1.5 degrees Celsius) under a lower emissions scenario, and by up to 8.1 degrees Fahrenheit (4.5 degrees Celsius) under a higher emissions scenario (Cayan et al. 2008). Because of the diversity of California's landscape, however, we do not know what effect (e.g., changes in precipitation, number and severity of storm events) increasing temperatures will have at the local level.

Global amphibian declines have been increasingly attributed to factors resulting from global climate change over the last decade (Corn 2005, Wake 2007, Reaser and Blaustein 2005). Factors such as epidemic disease (Pounds et al. 2006), changes in breeding phenology (Terhivuo 1988; Gibbs and Breisch 2001; Beebee 1995), changes in environmental conditions such as leaf litter (Whitfield et al. 2007), increased evaporation rate (Corn 2005, but see Pyke and Marty 2005), increased frequency of storm events and drought (Kagarise-Sherman, and Morton 1993) and ultraviolet radiation (Blaustein et al. 1998) have been linked to climate change and declines in amphibian populations.

Diseases, such as the amphibian chytrid fungus, may become more virulent in changing climatic conditions (Pounds et al. 2006). Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks. Infected animals may spread the fungal spores to other ponds and streams before they die. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. If drought causes the amphibian chytrid fungus to become more virulent, California tiger salamanders and California red-legged frogs could be impacted.

Changes to the hydroperiod of ephemeral ponds due to changing weather patterns have significant implications for the diversity of amphibians that rely on those ponds for breeding (Corn 2005). California tiger salamanders and California red-legged frogs may also be adversely affected by drought conditions if the hydroperiods of ephemeral ponds that these species use as breeding habitat is limited to a point where the ponds do not retain water long enough for successful breeding to occur. Ultraviolet radiation has been shown to have negative effects on amphibian eggs and embryos around the world (Blaustein et al. 1998). The precise effects that climate change will have on the Santa Barbara County DPS of the California tiger salamander and the California red-legged frog are unknown. Drought is a natural part of the climatic variability of the ecoregion; however, drought may be exacerbated by climate change.

Populations of Lompoc yerba santa and the species' restricted distribution place this species at risk of extinction from stochastic events (Service 2011). The conservation biology literature commonly notes the vulnerability of taxa known from very few locations and/or from small and highly variable populations (e.g., Shaffer 1981, 1987; Groom et al. 2006; Primack 2006). This vulnerability can arise due to uncertainty with stochastic events, such as unpredictability in environmental conditions, natural catastrophes (e.g., floods, earthquakes), variability in population growth, etc. Populations of Lompoc yerba santa are subject to all of these stochastic events. Elam (1994) found that two of the six populations she studied were uniclonal meaning a single plant is made up of many stems produced by the vegetative spread of the root system. Because Lompoc yerba santa is self-incompatible (which prevents inbreeding and promotes outcrossing) and cannot produce viable seed, a uniclonal population can be extirpated by environmental stochasticity such as prolonged drought.

The potential impacts of climate change on the flora of California were discussed by Loarie et al. (2008). Based on modeling, they predicted that species' distributions will shift in response to

climate change, specifically that the species will "move" or disperse to higher elevations and northward, depending on the ability of each species to do so. Species diversity will also shift in response to these changes with a general trend of increasing diversity shifting towards the coast and northwards with these areas becoming de facto future refugia. However, predictions of climatic conditions for smaller sub-regions such as California remain uncertain. We don't know at this time if climate change in California will result in a warmer trend with localized drying, higher precipitation events, or other effects. While we recognize that climate change is an important issue with potential effects to Lompoc yerba santa, we lack adequate information to make accurate predictions regarding its effects to this species at this time (Service 2011).

For purposes of this GCP, a drought is defined as two or more consecutive years with rainfall below 75% of average. Over the 62-year period of record for which daily rainfall was measured at weather stations in Santa Maria City and Lompoc City Hall (Santa Barbara County 2017), 23 and 27 years, respectively, had precipitation under 75% average rainfall; however, two or more consecutive dry years occurred just four times in Santa Maria: 1970 – 1972, 1984 – 1985, 1989 – 1990, and 2012 – 2016, and seven times in Lompoc: 1959 – 1961, 1970 – 1972, 1976 – 1977, 1981 – 1982, 1984 – 1985, 1989 – 1990, and 2012 – 2016.

Recognizing that climate change may increase the frequency of drought, for purposes of the GCP, drought is defined as a changed circumstance if it occurs more than four times during the 20-year permit term, or if a single drought extends up to four years in duration.

In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service.

Exotic Species

Habitat within the Planning Area has been degraded by a suite of invasive species not native to the area. These species include both invasive plants and aquatic species. Exotic species can have strong, negative impacts on the covered species and their habitats through a variety of direct and indirect mechanisms, including competition for resources, predation, habitat degradation, and promotion of fire.

The introduction of exotic predators was an important factor in the decline of the California red-legged frog in the early to mid-1900s (Service 2002). Competition and/or predation from non-native species including the bullfrog, catfish (*Ictalurus* spp.), bass (*Micropterus* spp.), mosquito fish (*Gambusia affinis*), red swamp crayfish (*Procambarus clarkii*), and signal crayfish (*Pacifastacus leniusculus*) is a continuing threat to the California red-legged frog. These species prey on California red-legged frog larvae and have adverse impacts on the species' survivability. The California red-legged frog relies on aquatic habitat for breeding and an important factor influencing the suitability of aquatic breeding sites is a general lack of introduced aquatic predators. The suite of invasive species that compete and/or prey on California red-legged frog larvae, affect California tiger salamander larvae in the same fashion.

Larval and adult individuals of the non-native tiger salamander (*Ambystoma tigrinum mavortium*) were widely sold as fish bait in California during the past century, and a number of populations of the species have become established in the state, some within the range of the California tiger salamander. Non-native tiger salamanders can have negative effects on California tiger salamander populations through hybridization, resulting in loss of genetically-pure native salamanders (Shaffer et al. 1993, Riley et al. 2003). Non-native tiger salamanders are present at the Lompoc Federal Penitentiary grounds in Santa Barbara County (outside of but near the Santa Barbara County California tiger salamander's range), and a hybrid was discovered at a site in the Purisima Hills metapopulation area in 2009, which is the closest metapopulation to the penitentiary. The potential loss of any metapopulation of the Santa Barbara County DPS of the California tiger salamander to hybridization is a serious threat.

In this GCP, the detection of new invasive aquatic species within suitable California tiger salamander or California red-legged frog aquatic habitat within an individual project area is considered a changed circumstance for which remedial actions will be implemented. The permittee will conduct an assessment and develop a plan to control and to the extent possible, eradicate, the hybridized individuals and, if necessary, remediate the impacts caused to the covered species and habitats.

Habitat for Lompoc yerba santa may be altered by an increase in invasive plants. Invasive plants can change the fuel properties of a site, which can in turn affect fire behavior, and ultimately alter fire regime characteristics such as frequency, intensity, extent, and seasonality of fire. If the fire regime changes subsequently promote the dominance of invasive non-native plants, an invasive plant-fire regime cycle may be established, and restoration to pre-invasion conditions becomes more difficult (Brooks et al. 2004).

In this GCP, the invasion of new invasive plants up to 25% total percent cover within an individual project area is considered a changed circumstance for which remedial actions will be implemented. The nature of the actions will depend on the exotic species and its impacts. The permittee will be responsible for conducting an assessment and develop a plan to control and to the extent possible, eradicate, the species; and, if necessary, remediate the impacts it caused to the covered species and habitats, including through restoration of the affected areas.

Unforeseen Circumstances

Unforeseen circumstances are defined at 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the Service at the time of the conservation plan's negotiation and development, and that result in a substantial and adverse change in status of the covered species (50 CRF 17.3). The term "Unforeseen Circumstances" is used to define the limit of the applicant's obligation under the "No Surprises" regulations set forth in 50 code of Federal Regulations, Sections 17.22 (b)(5) and 17.32 (b)(5).

In case of an unforeseen circumstance, the Permittee will immediately notify the Service. In deciding whether Unforeseen Circumstances exist, which might warrant requiring additional

conservation measures, the Service will consider, but not be limited to, the factors identified in 50 CFR, 17.22(b)(5)(C) and 17.32(b)(5)(C) (the No Surprises Rule), which are: size of the current range of the affected species, percentage of range affected by the GCP, percentage of range conserved by the GCP, ecological significance of that portion of the range affected by the GCP, level of knowledge about the affected species and the degree of specificity of the species' conservation program under the GCP, and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

As described in 50 C.F.R., Sections 17.22(b)(5)(C) and 17.32(b)(5)(C), the Service will have the burden of demonstrating that Unforeseen Circumstances exist, using the best data available. Any findings of Unforeseen Circumstances must be clearly documented and based upon reliable technical information regarding the biological status and habitat requirements of the affected species

Except where substantial threat of imminent, significant adverse impacts to a Covered Species exists, the Service will provide the Permittee at least sixty (60) calendar-days written notice of a proposed finding of Unforeseen Circumstances, during which time the Service will meet with the Permittee to discuss the proposed finding, to provide the Permittee with an opportunity to submit information to rebut the proposed finding, and to consider any proposed changes to the conservation program or the incidental take permit.

Pursuant to the No Surprises rule, if the Service determines that additional conservation and mitigation measures are necessary to respond to the Unforeseen Circumstances, the additional measures must be as close as possible to the terms of the original GCP. If the Service determines that additional conservation and mitigation measures are necessary to respond to Unforeseen Circumstances, then the Permittee will work with the Service to develop mutually agreeable conservation and mitigation measures, each of which must be approved by the Service and the Permittee before implementation. Additional conservation and mitigation measures will not involve the commitment of additional land, additional financial commitment or funding by the Permittee, additional restrictions on the use of a project's area or covered activities, or the commitment of other natural resources otherwise available for development or use under original terms of the GCP without the consent of the Permittee.

Reporting

By March 31st following each year of permit issuance and project implementation, permittees will submit a report to the Ventura Fish and Wildlife Office to document the status of the project. The reports will be sent to the Ventura Fish and Wildlife Office by email or other means. Annual reports to the Service will include the following information:

1. Brief summary or list of project activities accomplished during the reporting year (e.g. this includes development/construction activities, and other covered activities);

2. Project impacts (e.g. number of acres graded, number of buildings constructed, etc.);

3. Description of any take that occurred to California tiger salamander, California red-legged frog, and/or their habitats (includes cause of take, form of take, take amount, location of take and time of day, and deposition of dead or injured individuals), and/or any impacts that occurred to Lompoc yerba santa and/or its habitat (includes cause of impact, form of impact, amount of impact, and location of impact);

4. Brief description of the use of access roads (estimation of use and general description of use) and any take that occurred as a result of vehicles using the roads as well as any California red-legged frogs or California tiger salamander that were observed on the roads;

5. Brief description of conservation strategy implemented;

6. Monitoring results (compliance, effects, and effectiveness monitoring) and survey information (if applicable);

7. Description of circumstances that made adaptive management necessary and how it was implemented, including a table showing the cumulative totals; by reporting period all adaptive management changes to the GCP, including a very brief summary of the actions;

8. Description of any changed or unforeseen circumstances that occurred and how they were dealt with;

9. Funding expenditures, balance, and accrual;

10. Description of any minor or major amendments; and

11. Description of any surveys that were conducted for each Covered Species and/or their habitats.

Once an applicant completes activities covered by a permit, the applicant will notify the Ventura Fish and Wildlife Office that they have completed all covered activities and mitigation measures and provide a final report to the Ventura Fish and Wildlife Office; subsequent annual compliance reports will not be necessary thereafter.

To apply for a Permit under the GCP, project proponents must submit a complete Permit Application Package. This section describes the Permit Application Package and provides information on the development and submission of the package. The Permit Application Package includes the following items:

- Submission of a 3-200-56 Federal Fish and Wildlife Permit Application Form (including supplementary information requested in the Permit application form: total number of acres, covered activities requested under the Permit, etc.);
- Application processing fee of $100;
- A copy of the GCP Eligibility Determination document:
    - Project proponents interested in applying for a Permit must complete the Eligibility Determination document. This document can assist potential applicants with determining whether their project, or projects, may be eligible for a Permit under this GCP. If a proposed project is determined to not be eligible to participate through the GCP, the Eligibility Determination document provides recommendations intended to assist project proponents to identify alternate processes that can help them achieve compliance with the Act. If project proponents determine that their project, or projects, may be eligible for coverage, they may seek Permit issuance through the application process.
- Individual Project Package, which includes:
    - Map and description of the location of impacts, including photographs;
    - Duration of proposed Covered Activities;
    - Description or proposed Covered Activities;
    - Survey results for the Covered Species or notification that the presence of these species will be assumed based on habitat;
    - Species assessment and estimation of take (more information below);
    - List of minimization measures appropriate for the project;
    - Proposed mitigation and associated calculations; and
    - Funding assurances and commitment necessary to implement the proposed minimization and mitigation measures (more information below).
        - If conservation banks are the selected mitigation method, documentation of credit purchase must be provided to the Service prior to the onset of any activities that have the potential to result in take of California tiger salamander or California red-legged frog, or impacts to Lompoc yerba santa. If Permittee-responsible mitigation is the selected mitigation method, these lands must be acquired, have established endowments and completed management plans, and be approved by the Service prior to any

impacts that may result in take of California tiger salamander or California red-legged frog, or impacts to Lompoc yerba santa. If payment into a mitigation account is the selected mitigation method, documentation of payment must be provided to the Service prior to the onset of any activities that have the potential to result in take of California tiger salamander or California red-legged frog, or impacts to Lompoc yerba santa.

Applicants with newly-constructed oil and gas projects covered by the GCP may include both construction and operation and maintenance activities within the same Permit Application Package or may submit one Individual Project Package for construction and one for operation and maintenance activities. Applicants with oil and gas facilities existing prior to the GCP may submit Permit Application Package for their ongoing operation and maintenance activities. The Service recognizes that it may not be feasible to submit a Permit Application Package for each individual operation and maintenance activity proposed within the Planning Area. Therefore, Permittees may lump these activities for multiple projects into one Permit Application Package. Permit Application Package for operation and maintenance activities must include a general description of types of activities, estimations of typical size and frequency of operation and maintenance activities based on past activities, and typical impact type associated with activities. Operation and maintenance applications should provide as much information as possible for the Service to adequately evaluate proposed potential project(s). Mitigation completion for operation and maintenance must be documented in the Individual Project Package and be in place prior to impacts, unless it is an emergency repair.

Estimating the Amount of Take for the California Tiger Salamander

Take of California tiger salamanders would be in the form of harm, capture, injury, and/or mortality. Take for each permit that will be issued under the GCP will be determined by the amount of the impacted habitat. The Service will work with each Permittee to determine the amount of mitigation required to offset the impacts of incidental taking resulting from Covered Activities. The amount of mitigation required to offset the impacts will be calculated in accordance with the California Tiger Salamander Conservation Strategy and Mitigation Guidance (Service 2019) and is further described in Section 5 of this plan under *Measures to Mitigate Unavoidable Impacts*. Before the Service can approve a Permit Application Package, assurances of adequate mitigation must be provided. The Service will calculate the potential amount of mitigation needed prior to Permit Application Package approval.

Estimating Amount of Take for California Red-Legged Frog

Take of California red-legged frogs would be in the form of harm, capture, injury, and/or mortality. Take for each permit that will be issued under the GCP will be determined by the amount of the impacted habitat. The Service will work with each Permittee to determine the amount of mitigation required to offset the impacts of incidental taking resulting from Covered Activities. The amount of mitigation required to offset the impacts will be calculated in accordance with Section 5 of this plan under *Measures to Mitigate Unavoidable Impacts*. Before the Service can approve a Permit Application Package, assurances of adequate mitigation must

be provided. The Service will calculate the potential amount of mitigation needed prior to Permit Application Package approval.

Estimating Amount of Impacts to Lompoc Yerba Santa

Adverse impacts associated with the Covered Activities include crushing of plants and/or seeds by foot traffic and vehicles, surface disturbance and soil compaction, and erosion and/or changes in the hydrology. The amount of impact for each permit that will be issued under the GCP will be determined by the amount of impacted habitat. The Service will work with each Permittee to determine the amount of mitigation required to offset the impacts of incidental taking resulting from Covered Activities. The amount of mitigation required to offset the impacts will be calculated is described in Section 5 of this plan under *Measures to Mitigate Unavoidable Impacts*. Before the Service can approve a Permit Application Package, assurances of adequate mitigation must be provided. The Service will calculate the potential amount of mitigation needed prior to Permit Application Package approval.

Mitigation Assurances

Permittees must demonstrate adequate funding for mitigation. If conservation banks are the selected mitigation method, documentation of credit purchase must be provided to the Service prior to initiation of impacts. If Permittee-responsible mitigation lands are the selected mitigation method, these lands must be acquired, have completed management plans and perpetual protection (for example, a conservation easement) and be approved by the Service prior to the initiation of impacts. Applicants must submit their plans for mitigation (type, location, and status) in their Individual Project Packages.

Funding Assurances

In addition to mitigation funding, applicants must also demonstrate adequate funding sources to fully implement the GCP, complete and maintain required minimization and mitigation measures, conduct compliance and effectiveness monitoring, and implement measures that may be required due to changed circumstances. Funding options for changed circumstances and post-construction restoration are described below in Section 7. For each Permit Application Package, applicants must identify the selected funding option, submit applicable documentation of the selected funding assurance (as discussed in Section 7), and include an estimation of the cost to implement the GCP.

Service Review and Notification of Permit Application Package Approval or Denial

Following the receipt of a complete Permit Application Package, the Service will review the package for potential approval. The Service will notify applicants via e-mail (to the e-mail address included in the Individual Project Package Checklist) if and when their Permit Application Package is approved. The Service will also correspond via e-mail if the Permit Application Package is incomplete or has been denied for any reason within 30 days of receipt of Permit Application Package. The Service will provide the applicant with an explanation of why the Permit Application Package was deemed incomplete or not approved.

The number of acres to be covered by a permit for the specific project will be estimated in accordance with the activities proposed on their individual project site. Applicants that seek a permit for a specific project are eligible to seek further permits in the future. That is, if an applicant requests a permit for proposed activities and may need further coverage in the future, they can reapply for additional take coverage for future projects. The Service will track the amount of take permitted for each project under the GCP through the approval of incidental take permits (approval process described below). If the total take approved in incidental take permits reaches the total take analyzed under this GCP for a Covered Species, no additional Permit Application Packages will be approved by the Service for that Covered Species. Applicants can still apply for incidental take permits for the other species covered in this plan for which the take limit has not been reached.

The total amount of take approved by the Service in incidental take permits and the amount of take remaining within the GCP will be posted on the Service's website, http://www.fws.gov/ventura/. The amount of take will be updated following each approval of an incidental take permit or as end of year reports are submitted.

Permit Application Submission

Permit Application Packages, all associated information described above (and in the application instructions), and the processing fee must be submitted to the Service's Ventura Fish and Wildlife Office. Applicants should also submit an electronic copy of the application by email to sbc-oilandgasgcp@fws.gov and rachel_henry@fws.gov with the subject heading "GCP Application – <Your Company Name>."

Under section 10(c) of the Act and Federal regulations (50 CFR 17.22 and 17.32 or 50 CFR 222.302 and 222.303), the Services must publish a notice of receipt for each section 10 permit application received in the Federal Register. The information received by the Services as part of an application package must be made available for public review (section 10(c) of the Act). Notification to the public regarding permit issuance is through the publication of a notice in the Federal Register. A Section 10(a)(1)(B) incidental take permit may be issued upon a determination by the Service that all requirements for permit issuance have been met. Statutory criteria for issuance of the permit specify that: (1) the taking will be incidental; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) the applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) the Service has received assurances, as may be required, that the conservation plan will be implemented. The Service also prepares an Intra-Service Section 7 Biological Opinion and a Set of Findings, the latter which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria. Issuance of an incidental take permit is a federal action that requires Section 7 and NEPA compliance.

Permit Implementation

If a Permit is issued, the Permittee will be responsible for:

1) Fully implementing the actions described in this GCP;
2) Complying with all terms and conditions of the Permit;
3) Ensuring that minimization measures are implemented;
4) Providing receipt of mitigation to the Service prior to onset of any activities that have the potential to result in take of California tiger salamander or California red-legged frog, or impacts to Lompoc yerba santa. Permittees should submit documentation to sbc-oilandgasgcp@fws.gov and rachel_henry@fws.gov with the subject heading "GCP Mitigation Fulfillment – <Your Company Name>";
5) Monitoring and tracking their total take of and impacts to the Covered Species and their habitats; and
6) Reporting impacts to Covered Species, their habitats, and mitigation on an annual basis.

Impact, Mitigation, and Post-Construction Restoration Tracking

Following Service's issuance of a Permit, Covered Activities included in the Individual Project Package may begin. During and after implementation of Covered Activities, Permittees must:

1) Track Take of Covered Species

   After project completion, the Permittee will document the actual amount of impact to California tiger salamanders, California red-legged frogs, and Lompoc yerba santa and their habitats. This will be necessary for two reasons: 1) impacts to California tiger salamanders, California red-legged frogs, and their habitats must be monitored and tracked to ensure that incidental take identified in the Service's Biological Opinion for the GCP has not been exceeded and 2) the Permittee must ensure that impacts to habitat did not exceed project specific estimates identified in the Individual Permit Package.

2) Ensure Minimization and Mitigation

   The Act requires that the conservation program meeting the requirements for Permit issuance must include measures to minimize and mitigate impacts to covered species to the maximum extent practicable. All minimization and mitigation measures, as identified in Section 5 of this document, should be tracked by the Permittee and reported in accordance with Section 7 below. Adequate mitigation must be in place before the corresponding take occurs.

3) Tracking Restoration of Temporarily Impacted Areas and Mitigation

   An impact may be considered temporary if: (1) the impacted area within California tiger salamander habitat will be restored to an area suitable for use within 5 years of the initial impact or (2) the impacted area within California red-legged frog habitat will be restored to an area suitable for use within 3 years of the initial impact. Applicants will determine whether Covered Activities will cause temporary or permanent impacts and mitigate appropriately for those impacts (see Temporary and Permanent Impacts sections in Section 5). Following initial temporary impacts, the Permittee may conduct additional

Covered Activities within the impacted area without additional mitigation if the area has not yet been Service-validated as restored to suitable California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat (not to exceed 5 years or 3 years from impact start date for California tiger salamander or California red-legged frog, respectively). For example, a Permittee determines that construction of a pipeline results in temporary impacts to California tiger salamander habitat and mitigates appropriately prior to impacts, additional Covered Activities (i.e., maintenance or repair) occurring within the original construction area would not need additional mitigation if the area has not yet been restored. If subsequent impacts or failure of restoration techniques will prevent the area from being restored to a condition suitable for Covered Species use within 5 years of the impact start date, then additional mitigation would be required before the 5th anniversary of the impact start date. Additional mitigation would be required because any temporary impact lasting more than 5 years is considered a permanent impact as discussed under Section 5 above. All additional mitigation provided for these impacts must be reported in the annual report.

Reporting

An annual report of Covered Activities, as well as management activities undertaken under the terms of this GCP, will be prepared by Permittees and submitted electronically to sbc-oilandgasgcp@fws.gov and rachel_henry@fws.gov. E-mail subject heading should read "Annual Report – Permit XXXXXXX – Individual Project Package #XXX" with the applicable year in four-digit format, Permit number (found in Box 3 of Permit) and Individual Project Package number (found in Permit Application Package approval e-mail from Service) for the project. A copy of the cover letter (or e-mail) must be submitted to the Ventura Fish and Wildlife Office with the same subject line as the e-mail. Annual reports will be submitted by March 31 of each year that the Permit is in effect (i.e., the Permittee is working under an active Permit). The report will summarize information on the monitoring and management activities for all issued Permits, including:

- Permit number;
- Description of activity conducted within California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat;
- Location (County, Township/Range/Section) of impacts;
- Map identifying the location of impacts;
- Habitat type impacted;
- Annual area (in acres) disturbed within California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat occurring within each reporting year;
- Type of impact (temporary/permanent) to California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat occurring within each reporting year;
- Duration of all impacts in California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat;
- Minimization measures implemented within California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat;
- Amount and type (permittee-responsible, purchase of conservation bank credits, mitigation account) of mitigation required based on impacts;

- Date of mitigation fulfillment (credit purchase, deposit to mitigation account, approval of conservation easement);
- Total acres of mitigation provided for impacts but not yet applied to impacts;
- Summary of the above information by year and cumulative for entire duration of the Permit; and
- All Permits that include temporary impacts must also include:
    - Impact start date (used to determine 5-year restoration period for temporary impacts);
    - Map identifying the areas with temporary impacts and restoration status;
    - Number of acres with temporary impacts;
    - Number of acres with restoration still in progress;
    - Number of acres considered by Permittee to be restored;
    - Techniques implemented to restore areas with temporary impacts to California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat; and
    - All color digital images previously taken for annual reports. Additionally, Permittees must submit photographs taken annually within two weeks of the date the pre-impact photographs were taken during the calendar year of the restoration report (for example, if pre-impact photographs were taken on July 15, 2015, the restoration report must include photographs taken within two weeks of July 15 of the given calendar year). Permittees will submit color digital images, the date the photograph was taken, and the location of established photograph points (latitude and longitude recorded in NAD83). Photographs must be taken in the four cardinal directions (North, South, East, and West) at the established photograph points. The established photograph points used for reporting must be the same photograph points identified during the Permit Application Package approval process (described above in Section 6) and annual reports.

Restoration reports must be submitted electronically to sbc-oilandgasgcp@fws.gov and rachel_henry@fws.gov. E-mail subject heading should read "Restoration Report – Permit XXXXXXX" with the applicable Permit number (found in Box 3 of Permit) for the project. This report, including the amount and type of information required, is subject to change as data organization or data needs are determined by the Service.

Permittees are not required to submit an annual report if their project activities conclude before the permit duration expires. If no impacts to California tiger salamander occur during a given year of the Permit's duration, Permittees may send an e-mail to the Ventura Fish and Wildlife Office at (sbc-oilandgasgcp@fws.gov and rachel_henry@fws.gov) stating that no impacts occurred during that calendar year. E-mail subject heading should read "Annual Report – Permit XXXXXXX – No Impacts."

Permit Amendments

<u>Clarifications and Administrative Changes</u>

Provisions of the GCP or Permits may need to be clarified to address issues with respect to administration of the process or the precise meaning and intent of the language contained within those documents. Permittees may also wish to have provisions clarified and may request that the Service provide such clarifications. Clarifications do not change the substantive provisions of any of the documents in any way but merely clarify and make more precise the provisions as they exist.

In addition, administrative changes to the GCP may be necessary that do not make substantive changes to any of the provisions, but which may be necessary or convenient, over time, to more fully represent the overall intent of the Permittee and the Service. Any request for clarification or any proposed clarification or administrative change will be reviewed by the Service. If the Service approves the clarification or administrative change, it will be processed and the Service will provide a response. Clarifications may be approved locally by the Field Supervisor of the Ventura Fish and Wildlife Office. Clarification or administrative changes to the GCP may be approved by the Field Supervisor of the Ventura Fish and Wildlife Office depending on the nature of the amendment. Clarifications or administrative changes to the GCP will be memorialized by a letter of agreement that will be archived at the Ventura Fish and Wildlife Office at http://www.fws.gov/ventura/.

Changes to the GCP may be made without amending issued Permits when the clarifications or changes are of a minor or technical nature such that the net impacts on Covered Species and levels of take resulting from the changes are not increased over those described in the original GCP and the Service's decision documents. Examples of clarifications or changes to the GCP that would not require a Permit amendment include, but are not limited to: (a) minor revisions to monitoring or reporting procedures; (b) minor revisions in accounting procedures; and (c) minor modifications to Covered Activities in response to evolving technologies (provided that impacts associated with such activities will not exceed the level of take authorized under the Permit and are compliant with other local and state laws and regulations). To propose a clarification or change to the GCP without amending their Permit, applicants must submit to the Service, in writing, a description of: (a) the proposed amendment; (b) an explanation of why the clarification or change is necessary or desirable; and (c) an explanation of why the applicant believes the effects of the proposal are not different from those described in the original GCP. If the Service concurs with the proposed amendment, then it will authorize the GCP amendment in writing, and the amendment will be considered effective upon the date of the written authorization from the Service. Other circumstances which may require clarifications or changes include (but are not limited to) requests to update Permits with changes to Permittee name (such as after merger or acquisition) or mailing address.

Major Amendments

Major Amendments are modifications that result in impacts not previously analyzed, such as (but not limited to), new listing as threatened or endangered of species not addressed by this GCP that may be affected by Covered Activities, expansion of the GCP Plan Area, or the addition of Covered Activities. Substantive changes will be processed as an amendment in accordance with the provisions of the Act and regulations at 50 CFR Parts 13 and 17 and will be subject to appropriate environmental review under the provisions of NEPA. Major Amendments to the

GCP may be implemented by the Service following publication of the approved, amended GCP. Following completion of a Major Amendment to the GCP, all future Permits would contain the modifications contained within the Major Amendment. Previously-existing Permits will not be required to incorporate any changes caused by a Major Amendment, unless a Permittee voluntarily chooses to modify their Permit.

Major Amendments to individual Permits would be required for any modification of the Covered Activities that is expected to cause take of Covered Species not analyzed or authorized in the original Permit or if the authorized amount of take is insufficient for the Permittee's need. These amendments must be completed prior to the activities causing take. If Permittees need to expand project areas, the Service recommends that Permittees apply for an additional Permit under the GCP, rather than requesting a Major Amendment to an existing Permit.

Permit Renewal

Section 10(a)(1)(B) permits may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting Covered Species are not significantly different than those described in the original conservation plan. To renew a permit issued under this plan, the permittee will submit to the Service, in writing: (1) a request to renew the permit with reference to the original permit number; (2) certification that all statements and information provided in the original Individual Permit Package, together with any approved amendments, are still true and correct, and inclusion of a list of changes; (3) a description of any take that has occurred under the existing permit; and (4) a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the Service concurs with the information provided in the request, it will renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If the applicant files a renewal request and the request is on file with the issuing Service office at least 30 days prior to the permit expiration date, the permit will remain valid while the renewal is being processed. However, the applicant may not take listed species beyond the quantity authorized by the original permit. If the applicant fails to file a renewal request within 30 days prior to the permit expiration date, the permit will become invalid upon expiration. The applicant must have complied with all annual reporting requirements to qualify for a permit renewal.

Permit Transfer

In the event of a sale or transfer of ownership of a company, property or project during the life of the permit, the following will be submitted to the Service by the new owner(s): (1) a new permit application; (2) permit fee; and (3) written documentation providing assurances pursuant to 50 CFR 13.25 (b)(2) that the new owner will provide funding adequate to fully implement the actions described in their Individual Permit Package and the relevant terms and conditions of the permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this Plan unless otherwise specified in writing and agreed to in advance by the Service.

Such Other Measures that the Service May Require

If dead, injured, or sick endangered or threatened species, migratory birds, or eagles are discovered, Permittees are required to contact the Ventura Fish and Wildlife Office at (805) 644-1766 for care and disposition instructions within 72 hours of discovery. Extreme care must be taken in handling sick or injured individuals to ensure effective and proper treatment. Care must also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from any dead specimens, Permittees and their contractors/subcontractors have the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

Permittees will notify the Service (by e-mail to sbc-oilandgasgcp@fws.gov and rachel_henry@fws.gov) within 24 hours of spills or releases of crude oil, natural gas, and petroleum products (including fuel and other operational fluids) in areas with California tiger salamander, California red-legged frog, and/or Lompoc yerba santa habitat. A spill is defined as more than 42 gallons (1 barrel), or any oil spills that threaten or enter a waterway.

If during the tenure of Permits issued through participation in the GCP, the project design and/or the extent of habitat impacts is altered, such that there may be an increase in the anticipated take of the Covered Species, Permittees are required to contact the Service and obtain a new Permit or Individual Project Package approval and/or amendment of their Permit before commencing any construction or other activities that might result in take beyond that described in their Permit.

The incidental take authorization granted by Permits issued through participation in the GCP will be subject to full and complete compliance with, and implementation of, the GCP and all specific conditions contained in resulting Permits. Permit terms and conditions will supersede and take precedence over any inconsistent provisions in the GCP or other Permit documents.

Acceptance of Permits serves as evidence that Permittees understand and agree to abide by the terms of the Permit and all applicable Sections of 50 CFR Parts 13 and 17.

Section 7
Funding

Section 10(a)(2)(A)(ii) of the Act requires that funding will be available to implement actions that will be enacted to minimize and mitigate the impacts of the taking must be specified. The Act also requires that the Service must find that "the applicant will ensure that adequate funding for the plan will be provided" (Section 10(a)(2)(B)(iii)). Applicants must therefore demonstrate adequate funding sources to fully implement the actions described in this GCP and their Individual Project Package. Expenses related to these activities are the sole responsibility of the Permittee. Failure to commit appropriate funding prior to approval (discussed above in Section 6) or to meet funding obligations after the Permit is issued may be grounds for denying Individual Project Packages for future projects or revoking or suspending an existing Permit. Permittees unable to meet the financial requirements described here may not meet qualifications for approval of Individual Project Packages and should contact the Service for additional guidance or potential approval of alternative funding mechanisms.

Applicants must ensure that adequate funding sources for implementation, actions to be taken for changed circumstances and unforeseen events, alternatives to the proposed project, and other measures are included in their Individual Permit Package. Funding for mitigation obligations are directly related to the mitigation option(s) selected by the applicant. If a Permittee chooses to fulfill mitigation requirements through the purchase of credits from a Service-approved conservation bank, the conservation bank will be responsible for the management of the mitigation lands secured through the purchase of bank credits. If a Permittee elects to fulfill mitigation obligations through Permittee-responsible all management responsibilities, including adaptive management procedures associated with those lands, must be fully funded and managed by the Permittee or designated third party entity.

Section 8
References

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Appendix B
Scoping Report

GENERAL CONSERVATION PLAN FOR
OIL AND GAS ACTIVITIES IN
SANTA BARBARA COUNTY

SCOPING REPORT

October 2018

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1.0 INTRODUCTION

The U.S. Department of the Interior, Fish and Wildlife Service's (Service's) Ventura Field Office is preparing a General Conservation Plan (GCP) in compliance with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S. Code [USC] §§1531 *et seq.*). The proposed GCP is being developed in accordance with Section 10(a)(2)(A) of the ESA to provide a more efficient and standardized mechanism for proponents engaged in commercial oil and gas development, expansion, operations, maintenance, and decommissioning of infrastructure on non-Federal lands. The proposed GCP would allow private individuals, local and state agencies, and other entities to meet the statutory and regulatory requirements of the ESA, while also promoting comprehensive and standardized conservation of California tiger salamander (*Ambystoma californiense*) (CTS), California red-legged frog (*Rana draytonii*) (CRLF), and Lompoc yerba santa (*Eriodictyon capitatum*) (LYS) in Santa Barbara County, California (see Section 2.0, *Background*).

Following the preparation of the Draft GCP, the Service published a Notice of Intent (NOI) in the Federal Register (Federal Register, Vol. 82., No. 147 [August 2, 2017]). The NOI announced the forthcoming Environmental Assessment (EA) to be prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 USC §§4321 *et seq.*) and solicited input from Federal, state, and local government agencies, non-governmental organizations, oil and gas proponents, and interested members of the public. Following the receipt of comments in response to the NOI, Ventura Field Office staff met with select stakeholders (e.g., Environmental Defense Center [EDC]) to discuss concerns regarding the proposed GCP and the level of required documentation necessary to fulfill the Service's requirements under NEPA.

This scoping report has been prepared to document the scoping process for the proposed GCP and includes the following information:

- Background information on the regulatory framework relative to the GCP as a programmatic mechanism for the issuance of Incidental Take Permits (ITPs) under Section 10 of the ESA;
- Purpose and need for the Proposed Action including a description of the GCP;
- Summary of the proposed scope of NEPA analysis as well as a description of resource area screening;
- Summary of the scoping process;
- Public scoping results; and
- Summary of potential alternatives developed based on scoping process.

2.0 BACKGROUND

2.1 Prohibition Against Take of Federally Listed Species

Section 9 of the ESA and its implementing regulations prohibit "take" of fish and wildlife species listed as endangered or threatened (16 USC §§1531-1544). Under Section 3 of the ESA, the term "take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (Section 3[19]). The term "harm" is further defined by regulation as "an act that actually kills or injures wildlife. Such acts may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering" (50 Code of Federal Regulations [CFR] §17.3). The term "harass" is also further defined in the regulations as "an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering" (50 CFR §17.3). As described in Section 2.2, *Section 7 Consultation* and Section 2.3, *Incidental Take Permits and Habitat Conservation Plans*, exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways:

1) If a proposed project is to be funded, authorized, or carried out by a Federal agency and may affect a federally listed species, the Federal agency must consult with the Service, pursuant to ESA Section 7(a)(2); or
2) If the proposed project does not involve a Federal agency, but may result in the take of a federally listed species, the project proponent must apply to the Service for an ITP, pursuant to ESA Section 10(a)(1)(B).

2.2 Section 7 Consultation

If a proposed project has a Federal nexus, the applicable Federal agency (i.e., the Federal agency responsible for funding, authorizing, or carrying out the proposed project) must consult with the Service pursuant to Section 7(a)(2) of the ESA. Under Section 7 of the ESA, Federal agencies are directed to ensure that proposed projects with a Federal nexus do not jeopardize the continued existence of a threatened or endangered species or proposed critical habitat through the development of conservation programs (Section 7[a][1]) and avoidance of detrimental actions (Section 7[a][2]). Pursuant to 50 CFR §402.2, "Jeopardize the continued existence of…" means to engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. "Destruction or adverse modification" means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such

features. Regulations specifying how Federal agencies fulfill their Section 7 consultation requirements are described in 50 CFR §402.

2.3 Incidental Take Permits and Conservation Plans

Under Section 7 of the ESA, Federal agencies must consult with the Service when any action the agency funds, authorizes, or carries out may affect a federally listed species. For projects that do not have a Federal nexus, proponents must comply with the ESA by applying for, and receiving, an ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. Under Section 10(a)(1)(B) of the ESA, the Secretary of the Interior may authorize the take of federally listed wildlife species if such take occurs incidental to otherwise legal activities and a Habitat Conservation Plan (HCP) has been developed by the proponent (i.e., Applicant) in consultation with the Service under Section 10(a)(2)(A) to describe:

- The impact that will likely result from such taking;
- The steps the Applicant will take to minimize and mitigate that take to the maximum extent practicable and the funding that will be available to implement such steps;
- The alternative actions to such taking that the Applicant considered and the reasons why such alternatives are not being utilized; and
- Other measures that the Service may require as being necessary or appropriate for the purposes of the HCP.

Issuance criteria under Section 10(a)(2)(B) for an ITP require that the Service find that:

- The taking will be incidental to otherwise lawful activities;
- The Applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
- The Applicant has ensured that adequate funding for the plan will be provided;
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
- The measures, if any, required as necessary or appropriate for the purposes of the plan will be met.

The process for an Applicant to obtain an ITP has four primary phases:

1) *Pre-Application.* The Service provides the Applicant guidance in deciding if an ITP is appropriate and if so, what type and scale of HCP would fit the Applicant's needs.
2) *Development of a HCP.* A HCP that integrates the proposed project with conservation of listed species is prepared by the Applicant.

3) *Processing of the Permit.* A complete application package including an ITP application, HCP, and fee is submitted to the Service by the Applicant. The Service publishes a Notice of Availability of the package in the Federal Register to allow for public comment as well as interagency comment. The Service issues an ITP pursuant to Section 10(a)(1)(B) upon a determination by that all statutory criteria have been met. The Service notifies the public of permit issuance is through the publication of a notice in the Federal Register. The Service also prepares an Intra-Service Section 7 Biological Opinion and a Set of Findings, the latter which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria. HCPs which do not fall into the "Low Effect" category require either a NEPA-compliant EA or an Environmental Impact Statement (EIS), depending on their complexity. For those requiring an EA as part of the permit application, the target permit processing time is approximately 6 months. For those requiring an EIS, the target permit processing time is approximately 1 year.

4) *Post-Issuance Compliance.* During the post-issuance phase, the permittee(s) and any other responsible entities are required to implement the HCP in accordance with the terms and conditions of the ITP. The Service monitors permittee(s) compliance with the conservation plan as well as its long-term progress and success.

3.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

3.1 Purpose

The purpose of the proposed GCP is to provide a mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas projects on non-Federal lands with the potential to impact CTS, CRLF, and LYS. Rather than processing and enforcing individual ITP applications and associated HCPs for individual Applicants, the proposed GCP would allow the Ventura Field Office to issue ITPs for non-Federal oil and gas development activities within Santa Barbara County that are in compliance with the scope and requirements of the GCP. This standardized approach, which would proactively meet the requirements of Section 10(a)(1)(B), would enhance the Service's overall efficiency in issuing ITPs while also ensuring greater consistency in the application and enforcement of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the ITP process would incorporate established cumulative limits on development within CTS, CRLF, and LYS habitat consistent with the species' Recovery Plans.

3.2 Need

As described in Section 2.3, *Incidental Take Permits and Conservation Plans*, for projects with no Federal nexus the Ventura Field Office staff currently conducts lengthy reviews of individual ITP applications and associated HCPs, which includes a review of the proposed oil and gas development activities, a review of Applicant-proposed avoidance, minimization, and mitigation

measures for each individual project, intra-Service coordination through multiple local and regional Service offices, and preparation of NEPA-compliant documentation, as necessary. Following issuance of the ITP, the Ventura Field Office is required to enforce the conditions of each individual HCP. The proposed GCP would eliminate the need for reviewing and enforcing individual HCPs and would instead offer a more efficient and standardized mechanism by which the Ventura Field Office could issue ITPs to cover proposed take of CST, CRLF, and LYS by commercial oil and gas proponents engaging in otherwise lawfully permitted oil and gas development activities on non-Federal lands within Santa Barbara County.

3.3 Proposed Federal Action

The Proposed Action comprises the approval and implementation of a GCP to govern the subsequent authorization of ITPs for proponents engaged in geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, in addition to construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. As with an Applicant-prepared HCP, an ITP can be issued with a Service-approved GCP pursuant to Section 10(a)(1)(B) of the ESA; however, unlike HCPs, GCPs do not have an Applicant (i.e., the Service can proactively prepare a GCP without an Applicant in order to issue subsequent ITPs for activities that are in compliance with the scope and requirements of the GCP). GCPs allow the Service to develop a conservation plan compliant with Section 10(a)(1)(B) that is suitable for the needs of a local area, programmatically meet all NEPA requirements for ITP issuance pursuant Section 10(a)(1)(B), and issue ITPs to proponents that demonstrate compliance with the requirements of the GCP.

The proposed GCP, which would meet the requirements in Section 10(a)(2)(A) of the ESA, would be implemented by the Ventura Field Office, which would be responsible for issuing ITPs under the GCP. The three federally listed species covered under the GCP were selected by the Ventura Field Office during the development of the GCP because they account for the majority of the ITP applications previously received by the Ventura Field Office for oil and gas development activities in Santa Barbara County. Any other federally listed species that could possibly be affected by oil and gas development activities would continue to be addressed on a project-by-project basis and would require an individual HCP.

It should be noted that implementation of the proposed GCP would not serve as an approval mechanism for individual oil and gas development projects. Specifically, this mechanism for compliance with Section 10 of the ESA would not circumvent the need for required land use approval(s) from local or state agency(ies) with appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.) and/or compliance with other individual permit requirements that may be necessary, including compliance with the California Environmental Quality Act (CEQA) and local approvals from

jurisdictions within Santa Barbara County. Rather, the proposed GCP would provide the Ventura Field Office with a more efficient and standardized mechanism for issuance of ITPs for three federally listed species (i.e., CTS, CRLF, and LYS) for defined oil and gas development activities within the specified GCP plan area. ITPs issued under the GCP would provide coverage for impacts (i.e., take) to these species and would require implementation of standardized avoidance, minimization, and mitigation measures, as appropriate. Further, over the 20-year life of the GCP, the ITP process would incorporate established cumulative limits on development within CTS, CRLF, and LYS habitat consistent with the species' Recovery Plans.

4.0 Scope of NEPA Analysis and Resource Area Screening

As described in Section 2.3, *Incidental Take Permits and Habitat Conservation Plans* the approval of an HCP and subsequent issuance of an ITP is a Federal action that requires NEPA compliance. The implementation of the proposed GCP, in lieu of approval for individual HCPs, would similarly constitute a Federal action that requires NEPA compliance.

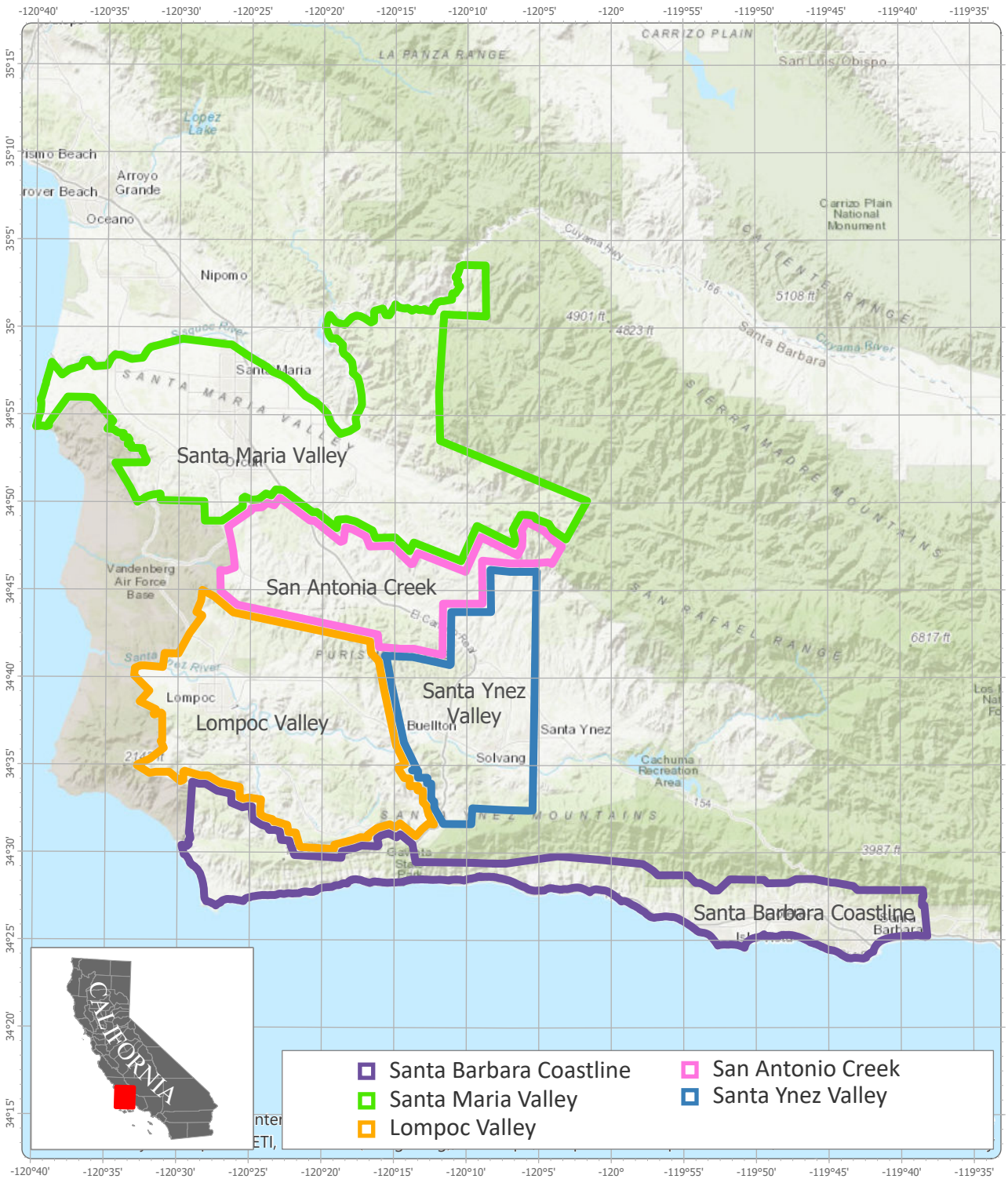
4.1 Selection of Appropriate Environmental Document

As discussed in Section 3.3, *Proposed Federal*, approval and implementation of the proposed GCP, including subsequent issuance of ITPs, would not facilitate approval of individual oil and gas development projects. Rather, the proposed GCP would only narrowly affect the Ventura Field Office's mechanism for issuance of ITPs pursuant to Section 10(a)(1)(B) of the ESA for three federally listed species (i.e., CTS, CRLF, and LYS) for the defined activities related to oil and gas development within the specified GCP plan area. The GCP would not be applicable to oil and gas development projects outside of the scope that has been defined (e.g., proposed projects that could impact federally listed species that are not covered within the GCP). Such proposed projects would require individual ITP applications including individual Applicant-prepared HCPs, similar to the existing process described in Section 2.0, *Background*.

The Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. Continued application of these measures under the GCP would occur but would be consistently applied throughout the GCP plan area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their specific Recovery Plan. By limiting the take of the three covered species (CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the No Action Alternative. Therefore, the Service has selected an EA as the appropriate environmental document.

U.S. Fish & Wildlife Service

GCP - Planning Areas



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4.2 Scope of the Environmental Impact Analysis

Per the CEQ Regulation for Implementing the Procedural Provisions of NEPA, Fish and Wildlife Service NEPA Reference Handbook, and recent DOI-issued guidance (e.g., Secretarial Order 3355), an EA is intended to be focused, relevant, succinct, etc. As such, the environmental resources typically evaluated in an EA have been reviewed based on the Proposed Action to determine the level of analysis anticipated in the EA (i.e., those carried forward and those dismissed from detailed analyses. Given the nature of the Proposed Action, a thorough discussion of potential impacts to biological resources, including federally listed threatened and endangered species and federally designated critical habitat, will be carried forward for further analysis in the EA. A summary of the resource areas to be dismissed from further consideration in the forthcoming Environmental Assessment (EA) for the GCP are described below:

4.2.1 Geology and Soils

Implementation of the Proposed Action would not result in approval of any oil and gas development and as such would not directly result in any ground disturbing activities. Geology and soils would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not prohibit or otherwise restrict local permitting authorities from enforcing construction best management practices and/or mitigation measures for individual oil and gas development projects to minimize geological hazards, soil erosion, etc. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not result in impacts to geology or soils.

4.2.2 Water Resources and Water Quality

Implementation of the Proposed Action would not result in approval of any oil and gas development and as such would not directly result in any direct (e.g., fill) or indirect impacts (e.g., erosion) to water resources, including jurisdictional waters. Water resources would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not affect or otherwise restrict the permitting authorities of the U.S. Army Corps of Engineers (USACE) or the Central Coast Regional Water Quality Control Board (RWQCB) under Section 404 or 401 of the Clean Water Act or the California Department of Fish and Wildlife under Section 1602 of the California Department of Fish and Game Code. Individual projects that could impact jurisdictional waters would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance. Therefore, it is anticipated that the Proposed Action, limited to the

implementation of the GCP as a mechanism for ESA compliance, would not result in impacts to water resources or wetlands.

4.2.3 Air Quality and Greenhouse Gas Emissions

The Proposed Action would not serve as an approval mechanism for development of any new air pollutant or greenhouse gas emissions sources. Air quality and greenhouse gas emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing air pollution and greenhouse gas emission controls for individual oil and gas development projects. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not result in impacts to air quality or greenhouse gas emissions.

4.2.4 Socioeconomics and Environmental Justice

Implementation of the Proposed Action would not result in approval or disapproval of any oil and gas development and as such would not affect directly or indirectly socioeconomic activity and associated factors (e.g., increased or decreased employment, tax revenue, etc.) in Santa Barbara County. Approvals for proposed oil and gas development would fall under the appropriate municipal or state-level jurisdiction with review and permit authority (e.g., County of Santa Barbara, California State Lands Commission). Therefore, it is anticipated that the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, not impact socioeconomic conditions.

4.2.5 Land Use and Transportation

Implementation of the Proposed Action would not result in approval of any oil and gas development and as such would not directly result in any direct (e.g., creation of new oil and gas access roads) or indirect impacts (e.g., increased oil and gas truck trips) to transportation. Impacts to land use and transportation would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over individual project site(s). All individual projects that could impact land use or transportation within the GCP area would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not impact transportation or utility network resources.

4.2.6 Noise

The implementation of the Proposed Action would not result in approval of any oil and gas development and as such would not directly result in any direct (e.g., construction noise) or indirect impacts (e.g., increased truck traffic noise) to existing noise conditions in Santa Barbara County. Noise impacts from oil and gas development would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over the individual project site(s) (e.g., County of Santa Barbara). All individual projects that could create noise impacts would be required to obtain appropriate permits and comply with all required permit conditions, completely separate from ESA compliance. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not create noise impacts.

4.2.7 Cultural Resources

All Federal agencies are required to examine the potential impacts to cultural resources that could result from the implementation of their actions (e.g., permit issuance). This requires consultation with the State Historic Preservation Office (SHPO) and appropriate federally recognized Native American tribes. With the approval and implementation of the proposed GCP, all Applicants would be required to submit a Request for Cultural Resources Compliance Form to the Service for each of the proposed project that require coverage of take. Further, implementation of the Proposed Action would not result in approval of any oil and gas development and as such would not directly result in any direct (e.g., increased ground disturbance uncovering buried cultural resources) or indirect impacts (e.g., increased traffic or other activities in previously undisturbed areas leading to unexpected discoveries). Cultural resources impacts would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over individual project site(s). Further, the proposed GCP would not affect or otherwise restrict the protection of cultural resources under the National Historic Preservation Act, Antiquities Act, and Native American Graves Protection and Repatriation Act. Any individual project with the potential to impact cultural resources would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not impact cultural resources.

5.0 SUMMARY OF SCOPING PROCESS

Through the scoping process, the Service solicited input from the from Federal, state, and local government agencies, non-governmental organizations, oil and gas proponents, and interested

members of the public to assist the Service in identifying issues to be addressed in the Final GCP. This section summarizes the scoping process the Service conducted for the Draft GCP.

5.1 Public and Agency Outreach and Notification

The Service used several methods to notify the public and potentially interested parties to provide them with the opportunity to participate in the scoping process.

5.1.1 Federal Register – Notice of Intent

The Service's formal 30-day scoping process began on August 2, 2017, with the publication in the Federal Register of a *General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California; Notice of Intent to Prepare a Draft Environmental Analysis/Document; and Initiation of Public Scoping Process* (Federal Register, Vol. 82., No. 147 [August 2, 2017]). **Appendix A** contains a copy of the NOI. The notice provided information about:

- The proposed GCP and associated NEPA-compliant environmental document;
- Species proposed for inclusion in the GCP; and;
- Contact information to provide comments via mail, fax, or email along with contact information for one key Service representative for further information (their name, email address, and telephone number).

5.1.2 Public Scoping Letter

A scoping letter was distributed to known interested parties. In addition, a tribal consultation letter was distributed to federally recognized Native American tribes in Santa Barbara County (see **Appendix B** for a copy of the letter). Notification was given that written comments would be received for a 45-day period until September 18, 2017 through either U.S. mail or email.

5.2 Agency Communication

5.2.1 Federal Agency Communication

Communication/written responses were received from the following federal agencies:

- United States Environmental Protection Agency, Region IX (San Francisco, CA) (USEPA)

5.2.2 State Agency Communication

Communication/written responses were received from the following state agencies:

- California Department of Fish and Wildlife (San Diego, CA) (CDFW)

5.2.3 Local Government Organizations

No responses were received from the local government agencies.

5.2.4 Local Non-Governmental Organization/Private Sector

Communication/written responses were received from the following local non-governmental organization/private sector parties:

- Center for Biological Diversity (Los Angeles and Oakland, CA) (CBD)
- Environmental Defense Center/Sierra Club (Santa Barbara, CA) (EDC-Sierra Club)
- Hunt & Associates Biological Consulting Services (Santa Barbara, CA) (Hunt & Associates)
- Pacific Coast Energy Company LP (Orcutt, CA) (PCEC)
- ERG Resources (Santa Maria, CA) (ERG)
- E&B Natural Resources (Bakersfield, CA) (E&B)

6.0 PUBLIC SCOPING RESULTS

As described in Section 5.1.2, *Public Scoping Letter*, written comments were accepted through September 18, 2017. Each of these comments have been included in this scoping report (see **Appendix C** for a copy of all correspondence). A total of eight written response letters were received. The majority of the submissions contained individual comments on multiple issues. As a result of the scoping comments, minor clarifications and revisions were made to the Draft GCP.

Based on the input received during the scoping process, the comments were categorized as follows:

6.1 Biological and Physical Environment

6.1.1 Habitat

- LYS is federally endangered and is listed as rare by the state of California. The GCP (and the associated ITP permitting process) would make it easier for oil and gas operators to encroach on sensitive habitat and reduce the range of the species. (CBD)
- Review of CRLF habitat should include protections for sufficient space to allow not only for aquatic breeding habitats, but also other water sources and adequately upland habitats for overwintering, as well as suitable habitat for the CRLF's migration between sites. (CBD)
- CTS has the second longest migration distance reported for any salamander and that the species can travel long distances between upland and wetland habitats or dispersing between breeding sites. (CBD)

- Oil and gas activities are likely to fragment habitats and would include the use of groundwater for construction and operation, which would likely impact crucial breeding habitats for the CTS and CRLF. (CBD)
- The GCP should include a description of the desired outcome for the covered species and their habitats with the stated goals functioning as broad guiding principles for the operating conservation program as well as the rationale behind the minimization and mitigation strategies. Measures that will be implemented to mitigate or compensate for unavoidable impacts must also be considered, particularly with regard to the LYS species, which is unlikely to be restored in the wild as it has never been successfully propagated in the wild. Thus, funding research associated with this species would not serve as legally sufficient mitigation. (EDC-Sierra Club)
- Conservation measures designed to avoid or minimize impacts to CTS and CRLF from oil and gas projects must accommodate species-specific life history characteristics (e.g., breeding, migration, etc.) at large spatial scales (i.e., larger than an individual project) and across a range of habitats and likely only accomplished through conservation easements. (Hunt & Associates)
- The GCP should be used to break a land use cycle of oil and gas mitigation: oil and gas lease expires; soil remediation follows and potentially destroys vegetation, burrowing mammal populations, and soil structure over large areas; land is then converted to row-crop agriculture and/or increased parcelization for “ranchette” development which forever removes former lease site from conservation. Preserving oil and gas lease locations as conservation easements would help break this cycle. (Hunt & Associates)
- Additional habitat mitigation banks should be created in each of the metapopulation locations in order to conserve historic range and genetic variation. (Hunt & Associates)
- Additional site-specific mitigation measures need to be developed and evaluated including: impacts to vernal pools (i.e., sedimentation), seismic testing in the vicinity of burrowing mammal populations, and potential impacts to groundwater and surface water resources. These measures may not be properly evaluated under a GCP approach. (Hunt & Associates)

6.1.2 Wildlife

- CTS and CRLF are affected by direct and indirect impacts from oil and gas activities, and impacts such as habitat modification and fragmentation, contaminants (including oil itself and chemicals used in extraction), groundwater impacts, and climate change must be considered. (CBD)

- Exposure of CTS and CRLF to contaminants, such as within oil sump ponds, could potentially attract and adversely impact CTS seeking breeding ponds. (CBD)
- Increased truck traffic associated with oil and gas activities and additional pipeline developments would increase the potential for spills or leaks and associated contaminant exposure to listed species. (CBD)
- The GCP may benefit CTS and CRLF through implementing a greater consistency of mitigation, but that the GCP may also reduce site-specific tailoring of mitigation measures. (Hunt & Associates)
- The GCP implies a regional conservation strategy for CTS and CRLF through recovery plans which have not demonstrated successful conservation trajectories. (Hunt & Associates)

6.2 National Environmental Policy Act Compliance

- The USFWS prepare a full Purpose and Need statement along with a range of alternatives. (USEPA)
- The Service should engage in Section 401 consultation, including the U.S. Army Corps of Engineers. (USEPA)
- The Service should analyze air quality impacts in the EA including estimating air emissions from potential construction and maintenance activities, as well as providing proposed mitigation measures. (USEPA)
- The Service should analyze impacts of the covered oil and gas activities on habitat and species in the draft EA as well as proposed mitigation measures in the draft EA. (USEPA)
- The Service should include an estimate of greenhouse gas emissions associated with the covered activities, qualitatively describe relevant climate change impacts, and analyze reasonable alternatives and/or practicable mitigation measures to reduce covered activity-related greenhouse gas emissions in the draft EA. (USEPA)
- The Service should address potential direct, indirect, and cumulative impacts of waste generation, including hazardous waste associated with covered activities in the Draft EA. (USEPA)
- The Service should address the introduction of invasive species pursuant to Executive Order 13112, Invasive Species in the Draft EA. (USEPA)
- An Environmental Impact Statement (EIS) is the appropriate environmental document to be prepared to address impacts associated with the Project. (CBD)

- The Service should prepare an EIS under NEPA, given that the proposed action will have significant environmental effects related to oil and gas development. (EDC-Sierra Club)
- Santa Barbara County exhibits particularly unique characteristics, such as critical areas, parks, recreation areas, historic sites, etc., that would require full environmental review to ensure the Service adequately analyzes the proposed action. (EDC-Sierra Club)
- The project is too complex to be properly evaluated in an EA and therefore, an EIS should be prepared to fully evaluate potential impacts on CTS and CRLF. (Hunt & Associates)
- An EA is the appropriate document and that the scope should be limited to the GCP's geographic area (Santa Barbara County), the number of species covered (CTS, CRLF, LYS), and the actions covered (incidental take of covered species associated with oil and gas activities). Comment further requests that the Service not broaden the scope to include analysis of all oil and gas production but only review potential impacts associated with the GCP and ITPs. (PCEC)
- Individual projects remain subject to local government approval and subsequent CEQA review. (PCEC)

6.3 Adequacy of the GCP Process

- The ESA requires an HCP for each permit application that includes a complete description of the activity sought to be authorized; names of the species sought to be covered by the permit; the impact which will likely result from the taking; what steps the applicant will take to monitor, minimize, and mitigate impacts; the funding that will be available to implement such monitoring, minimization, and mitigation activities; procedures to be used to address unforeseen circumstances; and what alternative actions to such taking the applicant considered. (CBD)
- The ESA does not specifically authorize a GCP and a GCP is not a substitute for a County- or State-wide regional HCP. (CBD)
- Implementation of the GCP is meant to shortcut permitting and regulatory requirements for the fossil fuel industry and would only serve to further endanger the already endangered CRLF, CTS, and LYS and cause further climate change. (CBD)
- The ESA does not specify a GCP as a mechanism to issue an ITP and that the Service lacks the requisite legal authority to override the traditional HCP approach and draft a "landscape-level" GCP. (EDC-Sierra Club)

- The Final General Conservation Plan Policy of October 5, 2007, lacks the force of law. (EDC-Sierra Club)
- The Service has not stated why a GCP is appropriate while oil and gas companies are not “small landowners” as specified in the Final GCP Policy. (EDC-Sierra Club)
- If the Service elects to proceed in preparing the GCP, the GCP must comply with Sections 7 and 10 of the ESA and the Service’s assessment of potential take under the proposed Project must satisfy the ESA’s conservation goals through assessment of direct, indirect, and cumulative impacts. (EDC-Sierra Club)
- The Service should discontinue the proposed GCP and instead require each applicant draft its own HCP and supporting documents under the ESA. Comment continues that the GCP process impermissibly relaxes the statutory protections afforded under Section 10 of the ESA by abandoning the statutory requirement for an in-depth review of each application before issuing an ITP. (EDC-Sierra Club)
- The GCP would operate as a conservation plan and complies with ITP requirements. (PCEC)
- The Service should continue processing project-specific HCPs while the programmatic GCP is prepared. (ERG)
- Concern expressed for the length of time and cost to prepare the GCP if not all applicants would benefit from it. (ERG)
- Oil and gas proponents without operations in the specified habitats do not anticipate being required to contribute funds for GCP implementation. (E&B)

6.4 Climate Change

- The Service must consider the impacts of increased oil and gas extraction on climate change, especially the consideration that amphibians and reptiles are considered to be highly sensitive to anthropogenic climate change. (CBD)
- Comment citing studies which document climate change’s associated impacts on amphibian development, disease, and shifts in habitat ranges. (CBD)
- The GCP would streamline oil and gas activities, promoting more production and more reliance on fossil fuels. (CBD)
- Streamlining environmental review and creating a formulaic process for issuing ITPs of oil and gas activities in Santa Barbara County is inconsistent with Board of Supervisors-adopted Climate Change Guiding Principles, the County’s Energy and Climate Action Plan, and the County’s energy future. (EDC-Sierra Club)

6.5 Greenhouse Gas Emissions

- The GCP is inconsistent with California's mandates for rapid statewide greenhouse gas emissions reductions as the GCP would encourage more oil and gas production. (CBD)

6.6 Intergovernmental Coordination

- The Service should coordinate with Clean Water Act (CWA) administrating agencies to ensure that avoidance, minimization, and compensatory mitigation measures are operational under the CWA. (USEPA)
- The Service should include in their analysis a discussion of potential mechanisms to coordinate with the California Department of Fish and Wildlife for permitting under the GCP. (CDFW)
- The GCP and the associated environmental document would ensure that the GCP is compliant and consistent with California State Law and administrative practices of the CDFW. (ERG Resources)

6.7 Public Health and Safety

- The GCP has the potential to seriously affect public health and safety negatively, such as from toxic emissions and contributions to global climate change. Additionally, that the proposed action could pollute ground and surface water and soil in the form of spills and seeps. (EDC-Sierra Club)

7.0 PRELIMINARY ALTERNATIVES

Based on the comments received during the scoping period, the following preliminary alternatives are currently being considered for inclusion in the EA:

- No Action Alternative
    - CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] Parts 1500-1508) stipulate that the No Action Alternative must be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented.
    - Under the No Action Alternative, the GCP would not be implemented and the Venture Field Office would continue to require proponents to submit project-specific HCPs and the landscape-scale cumulative caps on habitat alteration/occupation described in the GCP would not be established and oil and gas activities would continue with no defined limit on acreage of disturbance.
- Modified List of Covered Species

- An alternative may be considered that responds to comments requesting the removal or inclusion of species from the GCP. For instance, LYS occurs in a more limited range than CTS and CRLF and is less frequently included in ITP applications and associated HCPs. Therefore, LYS may be considered for exclusion from the GCP and processing of ITP applications that may include LYS would be processed as they are currently.

8.0 SUMMARY OF FUTURE ACTIONS

The Service will accept public input during continued development of the GCP and the EA. All written public comments will become part of the Administrative Record.

The next formal comment period will open when the Notice of Availability of the Draft EA is published. The Service will circulate a notice of the Draft EA to interested parties. The draft documents will be available to the public on the Service website, and by request from the Service. Availability of the Draft EA will also be announced by publication of a notice in the Federal Register. Following release of the draft, there will be a minimum 30-day public comment period.

At the conclusion of this second public comment period, the Draft EA will be revised, and the proposed Final EA will be prepared. Availability of the proposed Final EA will be announced by publication of a notice in the Federal Register. Notification will be sent to all persons who provided comments during any phase of the public comment process.

APPENDIX A

NOTICE OF INTENT

Authority

We publish this notice under the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321–4347 *et seq.*), and its implementing regulations at 40 CFR 1500–1508, as well as in compliance with section 10(c) of the Endangered Species Act (16 U.S.C. 1531–1544 *et seq.*) and its implementing regulations at 40 CFR 17.22.

Dated: July 26, 2017.

Jennifer Norris,

Field Supervisor, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, Sacramento, California.

[FR Doc. 2017–16251 Filed 8–1–17; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R8–ES–2017–N078; FXES11140800000–178–FF08EVEN00]

General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California; Notice of Intent To Prepare a Draft Environmental Analysis/Document; Initiation of Public Scoping Process

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of intent; request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce our intent to prepare a draft environmental analysis/document under the National Environmental Policy Act, as amended (NEPA), for the proposed issuance of an incidental take permit (ITP) under section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (ESA), for the draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County (GCP). The GCP is being developed to streamline environmental permitting and compliance with the ESA for proponents engaged in geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. The GCP is a conservation plan as required under the ESA for issuance of incidental take permits. Participation in the GCP would be voluntary. ITP holders would be authorized for incidental take of threatened and endangered wildlife species that could result from the activities covered under the GCP. The GCP would include conservation measures for an endangered plant species that would also be covered under the plan. We also are announcing the initiation of a public scoping process to engage Federal, tribal, State, and local governments and the public in the identification of issues and concerns, potential impacts, and possible alternatives to the proposed action. The Service is inviting input regarding development of a draft environmental analysis/document, which will evaluate the impacts to the human environment associated with issuance of ITPs and implementation of the GCP and alternatives.

DATES: In order to be included in the analysis, all comments must be received or postmarked on or before September 1, 2017.

ADDRESSES: Please provide comments in writing, by one of the following methods:

- *Email: rachel_henry@fws.gov;*
- *Facsimile:* 805–644–3958, Attn: VFWO GCP; or
- *U.S. mail:* Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2493 Portola Road, Suite B, Ventura, CA 93101. Please specify that your information request or comments concern the VFWO GCP.

FOR FURTHER INFORMATION CONTACT: Rachel Henry, by U.S. mail (see **ADDRESSES**), or by phone at 805–677–3312. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service at 800–877– 8339.

SUPPLEMENTARY INFORMATION: We, the U.S. Fish and Wildlife Service (Service), intend to prepare either a draft environmental analysis/document under the National Environmental Policy Act, as amended (42 U.S.C. 4321 *et seq.;* NEPA), for the proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County (GCP). The GCP is a conservation plan as required under the Endangered Species Act of 1973, as amended (16 U.S.C. 1539(c); ESA), for issuance of a 10(a)(1)(B) incidental take permit (ITP). Participation in the GCP and making an application for take authorization are voluntary. The proposed ITP would authorize the incidental take of threatened and endangered wildlife species that could result from the activities covered under the GCP, and would include conservation measures for an endangered plant species that also would be covered under the ITP. The GCP is being prepared by the Ventura Fish and Wildlife Office to address prospective activities that may be covered by the GCP. We also are announcing the initiation of a public scoping process to engage Federal, tribal, state, and local governments and the public in the identification of issues and concerns, potential impacts, and possible alternatives to the proposed action. The decision to prepare a draft environmental analysis/document will be, in part, contingent on the complexity of issues identified during, and following, the scoping phase of the NEPA process.

Background

Section 9 of the ESA and its implementing regulations prohibit ''take'' of fish and wildlife species listed as endangered or threatened (16 U.S.C. 1531–1544). Under section 3 of the ESA, the term ''take'' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. 1532(19)). The term ''harm'' is further defined by regulation as an act that actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). The term ''harass'' is also further defined in the regulations as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

Under section 10(a)(1)(B) of the Act, the Secretary of the Interior may authorize the taking of federally listed wildlife species if such taking occurs incidental to otherwise legal activities and where a conservation plan has been developed under section 10(a)(2)(A) that describes: (1) The impact that will likely result from such taking; (2) the steps an applicant will take to minimize and mitigate that take to the maximum extent practicable and the funding that will be available to implement such steps; (3) the alternative actions to such taking that an applicant considered and the reasons why such alternatives are not being utilized; and (4) other measures that the Service may require as being necessary or appropriate for the purposes of the plan. Issuance criteria under section 10(a)(2)(B) for an incidental take permit require the Service to find that: (1) The taking will be incidental to otherwise lawful activities; (2) an applicant will, to the

maximum extent practicable, minimize and mitigate the impacts of such taking; (3) an applicant has ensured that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) the measures, if any, we require as necessary or appropriate for the purposes of the plan will be met. Regulations governing permits for endangered and threatened species are at 50 CFR 17.22 and 17.32, respectively.

Public Scoping

A primary purpose of the scoping process is to receive suggestions and information on the scope of issues and alternatives to consider when drafting the environmental analysis/document, and to identify significant issues and reasonable alternatives related to the Service's proposed action (issuance of ITPs under the GCP). In order to ensure that we identify a range of issues and alternatives related to the proposed action, we invite comments and suggestions from all interested parties. We will conduct a review of this project according to the requirements of NEPA and its regulations, other relevant Federal laws, regulations, policies, and guidance, and our procedures for compliance with applicable regulations. Once the draft environmental analysis/document and draft GCP are prepared, we will offer further opportunities for public comment on the content of the NEPA document and the GCP through an appropriate public comment period.

Proposed Action

The proposed action is issuance of an incidental take permit for the covered species to proponents engaged in geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. The proposed GCP, which must meet the requirements in section 10(a)(2)(A) of the Act, would be developed by the Service and implemented by proponents that are issued ITPs under the plan. This will allow for a comprehensive mitigation approach for authorized impacts, which will result in more effective conservation, while at the same time providing a more efficient mechanism for permit processing for the Service and proponents.

Actions covered under the requested incidental take permit may include possible take of covered species associated with activities including, but not limited to, geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. The proposed permits would provide coverage for a period of the specified lifetime of each individual project permitted under the GCP. This proposed plan would not circumvent the need for project compliance with other permit requirements for oil and gas projects or other required approval processes that may include county hearings and local approval. The species covered under the requested incidental take permit are the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and the Lompoc yerba santa (*Eriodictyon capitatum*).

Other Alternatives

We seek information regarding other reasonable alternatives during this scoping period and will evaluate the impacts associated with such alternatives in the draft environmental analysis/document.

Public Availability of Comments

Written comments we receive become part of the public record associated with this action. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that the entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Comments and materials we receive, as well as supporting documentation we use in preparing the draft environmental analysis/document, will be available for public inspection, by appointment, during normal business hours at the Service's Ventura Fish and Wildlife Office in Ventura, California (see **ADDRESSES**, above).

Authority

We publish this notice in compliance with the NEPA and its implementing regulations (40 CFR 1501.7, 1506.6, and 1508.22), the Department of the Interior's NEPA implementing regulations at 43 CFR 46.235, and section 10(c) of the ESA.

Dated: July 26, 2017.

Stephen P. Henry,

Field Supervisor, Pacific Southwest Region, U.S. Fish and Wildlife Service.

[FR Doc. 2017–16249 Filed 8–1–17; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

[178A2100DD/AAKC001030/A0A501010.999900 253G]

Indian Gaming; Approval of a Tribal-State Class III Gaming Compact in the State of South Dakota

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice.

SUMMARY: The Crow Creek Sioux Tribe of the Crow Creek Reservation and the State of South Dakota entered into a compact superseding an existing Tribal-State compact governing Class III gaming; this notice announces approval of the Proposed Gaming Compact Between the Crow Creek Sioux Tribe of the Crow Creek Reservation and the State of South Dakota governing Class III gaming.

DATES: This notice is applicable as of August 2, 2017.

FOR FURTHER INFORMATION CONTACT: Ms. Paula L. Hart, Director, Office of Indian Gaming, Office of the Assistant Secretary—Indian Affairs, Washington, DC 20240, (202) 219–4066.

SUPPLEMENTARY INFORMATION: Section 11 of the Indian Gaming Regulatory Act (IGRA) requires the Secretary of the Interior (Secretary) to publish in the **Federal Register** notice of approved Tribal-State compacts that are for the purpose of engaging in Class III gaming activities on Indian lands. *See* Public Law 100–497, 25 U.S.C. 2701 *et seq.* All Tribal-State Class III compacts, including amendments, are subject to review and approval by the Secretary under 25 CFR 293.4. The Compact increases the number of permissible slot machines from 250 to 500, permits the Tribe to operate Class III gaming at a second location, and increases wager limits. The initial duration of the Compact is 10 years with automatic renewals every 10 years thereafter unless the agreement is terminated by the Tribe and the State. The Compact is approved. *See* 25 U.S.C. 2710(d)(8)(A).

Dated: June 26, 2017.

Michael S. Black,

Acting Assistant Secretary—Indian Affairs.

[FR Doc. 2017–16215 Filed 8–1–17; 8:45 am]

BILLING CODE 4337–15–P

APPENDIX B

SCOPING LETTER

Subject: RE: U.S. Fish and Wildlife Service Seeks Public Input for Environmental Review of Proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County

From: **Rachel Henry** <rachel_henry@fws.gov>
Date: Tue, Aug 1, 2017 at 2:32 PM
Subject: U.S. Fish and Wildlife Service Seeks Public Input for Environmental Review of Proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County
To:

The U.S. Fish and Wildlife Service (Service) is seeking input from the public for environmental review as required under the National Environmental Policy Act (NEPA) for a proposed General Conservation Plan for oil and gas activities in Santa Barbara County.

The proposed General Conservation Plan is a collaborative and comprehensive strategy that will allow the Service to work more efficiently and effectively with project proponents to ensure compliance with the Endangered Species Act.

Through this collaborative approach, the Service will work with oil and gas companies to implement conservation measures that minimize and mitigate for take of the federally endangered California tiger salamander and the federally threatened California red-legged frog, and their habitats, and impacts to the federally endangered Lompoc yerba santa. This plan will allow the Service to take a proactive, strategic, and landscape-level approach to ensure conservation is being implemented in a way that aids recovery of the species.

Consistent with the General Conservation Plan, the Service will issue incidental take permits to applicants whose projects meet issuance criteria pursuant to the Endangered Species Act. Project proponents seeking a permit under the proposed General Conservation Plan must comply with all applicable federal, state, and local statutes and regulations.

This proposed plan would not circumvent the need for project compliance with other permit requirements for oil and gas projects or other required approval processes that may include county hearings and local approval.

The Service will accept written comments during a 45-day public scoping period to identify potential issues and concerns, potential impacts, and possible alternatives to be considered to determine whether an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is appropriate as required under the National Environmental Policy Act (NEPA) based on the complexity of issues identified during and following the scoping period.

Comments and information will be accepted from all interested parties from August 2 until September 18. The public may submit written comments by one of the following methods:

Email: Rachel_Henry@fws.gov

U.S. Mail: Field Supervisor, Ventura Fish and Wildlife Office, 2493 Portola Rd. Suite B, Ventura, California 93003

Fax: 805-644-3965

The notice of intent will publish in the Federal Register on August 2 and is available for public inspection in the Reading Room today. Please visit our website for Frequently Asked Questions or if you would like any additional information, you may contact me at the number below.

Rachel Henry

Fish and Wildlife Biologist

U.S. Fish and Wildlife Service | Ventura Fish and Wildlife Office

2493 Portola Road, Suite B | Ventura, California 93003

Phone: 805.677.3312 | rachel_henry@fws.gov

Facebook•Ventura Fish & Wildlife Office•U.S. Fish & Wildlife Service

PLEASE NOTE: Our office telephone numbers have changed. You may still reach our general number at (805) 644-1766 or you may contact me directly at (805) 677-3312.

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Ashley McConnell
Public Affairs Supervisor
Ventura Fish and Wildlife Office
U.S. Fish and Wildlife Service
805-677-3301
805-320-6225 (cell phone - text or call)
ashley_mcconnell@fws.gov

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Fish and Wildlife Biologist
U.S. Fish and Wildlife Service | Ventura Fish and Wildlife Office
2493 Portola Road, Suite B | Ventura, California 93003
Phone: 805.677.3312 | rachel_henry@fws.gov

APPENDIX C

SCOPING COMMENTS RECEIVED

CENTER for BIOLOGICAL DIVERSITY Because life is good.

September 18, 2017

Via e-mail

Field Supervisor, Ventura Fish and Wildlife Office
U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93101
ATTN: VFWO GCP
rachel_henry@fws.gov

Re: Ventura Fish and Wildlife Office Santa Barbara Co. General Conservation Plan

Dear Fish and Wildlife Service,

The Center for Biological Diversity ("the Center") submits these comments in regards to the proposed development of a General Conservation Plan (GCP) for oil and gas activities in Santa Barbara County and the proposed issuance of an incidental take permit that would be sanctioned under that plan. The Center is a national, non-profit conservation organization dedicated to the protection of biodiversity and ecosystems. The issuance of an incidental take permit that would further threaten the already endangered California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and Lompoc yerba santa (*Eriodictyon capitatum*) is an affront to the tenets of our organization and to general conservation efforts.

Furthermore, the development of a GCP would allow for an expansion in extraction, storage, transport and distribution of crude oil and natural gas by making environmental permitting and compliance easier for oil and gas operators. Given the known link between fossil fuels and climate change, and the already observed negative impacts, it would be irresponsible to proceed down a path that would only help to worsen environmental harm. Therefore, the Fish and Wildlife Service should avoid implementing a blanket permitting mechanism that benefits a dangerous fossil fuel industry while adversely impacting our climate and vulnerable wildlife.

The proposed development of a General Conservation Plan (GCP) for oil and gas activities in Santa Barbara County and the proposed issuance of an incidental take permit should not occur without consideration of the following:

(1) The Endangered Species Act Does Not Specifically Authorize a GCP

In order to obtain an Incidental Take Permit under the ESA Section 10 for incidental harm to listed species, habitat conservation plans ("HCP") are designed to offset any harmful effects the proposed activity might have on the species.[1] For a habitat conservation plan, the plan, implementing agreement, and of Incidental Take Permits ("ITP") are analyzed and approved as a complete package.

A permit applicant must prepare and submit to FWS a proposed HCP.[2] An HCP must contain specific measures to "conserve," or provide for the recovery of, the species. At a minimum, the ESA and implementing regulations require all HCPs to include the following: (1) a complete description of the activity sought to be authorized; (2) names of the species sought to be covered by the permit, including the number, age and sex of the species, if known; (3) the impact which will likely result from such taking; (4) what steps the applicant will take to monitor, minimize, and mitigate those impacts; (5) the funding that will be available to implement such monitoring, minimization, and mitigation activities; (6) the procedures to be used to deal with unforeseen circumstances; and (7) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized.[3] FWS cannot issue an incidental take permit if the HCP does not contain this information.

The ESA does not specifically authorize a so-called General Conservation Plan ("GCP") as proposed; this structure was developed by FWS as a policy in 2007. The policy itself states it is to be used for a "local area" and the Center does not believe that this large-scale plan covering diverse ecosystems is an appropriate situation in which to utilize a GCP. GCP is not a substitute for a County- or State-wide regional HCP which would cover many activities differing in scope and type of impact.[4]

Furthermore, it is important to note that, ***no ITP is issued with a GCP***. *Only if* one or more HCPs are issued to one of the state agencies or commissions that are participating in the planning would *any* ITP be issued by FWS, and the "take" included under any such HCP would be limited to specific approvals and actions by those agencies or commissions.

In sum, while it is possible that the GCP policy could be used to meet the statutory requirements and as a kind of "umbrella" for issuing future HCPs, that is only possible where the information and analysis meets all of the standards of an HCP. Thus, the preparation of a GCP alone is not enough to sanction the incidental take of endangered species.

[1] 16 U.S.C. § 1539.
[2] 16 U.S.C. § 1539(a)(1)(B).
[3] 16 U.S.C. § 1539(a)(2)(A)(i)-(iv); 50 C.F.R. §§ 17.22, 17.32.
[4] Memorandum, Final General Conservation Plan Policy, from Dale Hall, Director, Fish and Wildlife Service to Assistant Regional Directors, Regions 1, 2, 3, 4, 5, 6, and 7 and Manager, California/Nevada Operations Office (October 5, 2007) at 5-6, *available at*: https://www.fws.gov/policy/m0369.pdf.

(2) An Environmental Impact Statement Must Be Prepared

NEPA directs federal agencies to prepare an environmental impact statement ("EIS") whenever agencies propose "major federal actions significantly affecting the quality of the environment."[5] The NEPA regulations provide that, whenever there is a question as to whether an EIS is required, an agency must ordinarily at least prepare an environmental assessment to determine whether the environmental effects of its proposed action are "significant" and thereby require preparation of an EIS.[6]

In determining whether the proposed action is "significant," the agency must consider whether "the possible effects on the human environment are highly uncertain or involve unique or unknown risks," the potential that "the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration," if the action "may adversely affect an endangered or threatened species," the "[u]nique characteristics of the geographic area;" the "degree to which the proposed action affects public health and safety;" and whether the "action may cause the loss or destruction of significant scientific, cultural, or historical resources."[7] An action is also significant if it is "related to other actions with individually insignificant but cumulatively significant impacts" and "it is reasonable to anticipate a cumulatively significant impact on the environment."[8] The presence of any one of these factors "should result in an agency decision to prepare an EIS."[9]

For decisions on whether or not to prepare an EIS, NEPA requires the Fish and Wildlife Service to take a "hard look" at the consequences of its actions, to base its decision on a consideration of relevant factors, and to provide a "convincing statement of reasons to explain why a project's impacts are insignificant."[10]

Because the Conservation Plan will "significantly affect" the environment, NEPA's EIS requirement is triggered. Multiple "significance" factors are present which contribute to this conclusion, although the presence of even one of these factors is enough to trigger the need for an EIS. Chiefly, it is clearly expected that the action "may adversely affect an endangered or threatened species."[11] The plan is intended to cover oil and gas activities that may adversely affect endangered and threatened species and may result in take of those species, and contemplates issuing take permits for those species. In addition, the Conservation Plan also "may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration."[12] The scoping documents indicate that the Conservation Plan clearly intends to establish a program that will apply to future actions, as the proposed Plan will allow permits to be issued for up to 20 years after the Plan is finalized. The proper consideration of these issues necessitates the preparation of an EIS.

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[5] 42 U.S.C. § 4332(2)(C); *see also Robertson v. Methow Valley Citizens*, 490 U.S. 332, 348 (1989).
[6] 40 C.F.R. § 1501.4.
[7] *Id.* at § 1508.27(b).
[8] *Id.* at § 1508.27(b)(7).
[9] *Pub. Serv. Co. v. Andrus*, 825 F. Supp. 1483, 1495 (D. Idaho 1993); *see also Nat'l Audubon Soc'y v. Hoffman*, 132 F.3d 7, 18 (2d Cir. 1997).
[10] *Native Ecosystems Council v. U.S. Forest Service*, 428 F.3d 1233, 1239 (9th Cir. 2005).
[11] 40 C.F.R. § 1508.27(b)(9).
[12] 40 C.F.R. § 1508.27(b)(6).

(3) A GCP Would Put Endangered Species in Unjustified Peril

Lompoc yerba santa

The Lompoc yerba santa is restricted to a narrow region in northern and western Santa Barbara County with some presence in San Luis Obispo County, so its abundance is exclusively subject to activities occurring in this region. Due to declining numbers, it is listed by the state of California as *rare* and federally as *endangered*.[13] Its numbers have been reduced due to its non-ubiquitous marine chaparral habitat being eroded by conversion to other land uses, weed invasion, and habitat fragmentation. The marine chaparral ecosystem is itself considered threatened and sensitive, so the yerba santa's habitat is in jeopardy. Continued habitat loss, invasive non-native plant species, low seed productivity, residential and commercial development, and natural events such as wildfires pose significant threats to the long-term survival of this species.[14]

The implementation of a General Conservation Plan would make many of these threats to the Lompoc yerba santa more pronounced. A streamlined process to approve oil and gas activity in Santa Barbara County will only make it easier for oil and gas operators to encroach on sensitive habitat and reduce the range of the Lompoc yerba santa. Furthermore, numerous chemicals are used in oil and gas operations, and plant species could be exposed to these chemicals through spills or from produced wastewater. Finally, with the continued utilization of fossil fuels that a GCP would promote, climate change effects will only worsen, leading to increases in global temperatures, intensifying drought and changing precipitation patterns which would all threaten the conditions under which the Lompoc yerba santa thrives.[15] How a GCP would exacerbate the plight of the Lompoc yerba santa must be considered prior to the implementation of such a plan.

California Tiger Salamander and Red-legged Frog

California tiger salamanders ("CTS") and California red-legged frogs ("CRLF") are both threatened by numerous direct and indirect negative impacts from oil and gas activities in Santa Barbara County and these must all be considered and analyzed in the development of the Conservation Plan. These threats include habitat modification and fragmentation, contaminants including oil itself and the chemicals used in extraction, groundwater impacts, and climate change. The Santa Barbara distinct population segment of the California tiger salamander is found only in Santa Barbara County and is particularly imperiled, thus any potential impacts to this species must be thoroughly analyzed and careful considerations must be made before allowing any take of this species or its habitat.

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[13] Calflora: Information on California plants for education, research, and conservation, with data contributed by public and private institutionts and individuals, including the Consortium of California Herbaria (2017). Berkeley, California: The Calflora Database, *available at*: http://www.calflora.org (Accessed September 18, 2017).
[14] 50 C.F.R. Part 17.
[15] Garfin, G. et al., Ch. 20: Southwest "Climate Change Impacts in the United States: The Third National Climate Assessment," J. M. Melillo, Terese Richmond, G. W. Yohe, Eds., U.S. Global Change Research Program 462 (2014), *available at*: http://nca2014.globalchange.gov/report/regions/southwest.

The CTS and CRLF both require a combination of suitable aquatic and upland habitats and, as such, all of these types of habitats must be protected, along with areas between these suitable habitats to allow them to migrate and disperse. Both species depend on a series of interconnected breeding and upland habitats as a metapopulation, making them particularly sensitive to changes in the amount, configuration, and quality of these habitats

The CRLF prefers aquatic habitat such as ponds, marshes and creeks with still water for breeding. It needs riparian and upland areas with dense vegetation and open areas for cover, aestivation (summertime hibernation), food and basking. Frogs in cooler areas may hibernate in burrows for the winter. Although CRLFs can utilize multiple habitat features, they have specific requirements, most important of which is a breeding pond, or slow-flowing stream reach or deep pool within a stream with vegetation or other material to which egg masses may be attached. These areas must hold water long enough for tadpoles to complete their metamorphosis into juvenile frogs that can survive outside of water.

In the final critical habitat designation for the CRLF the FWS emphasized the importance of riparian and upland habitats adjacent to those aquatic areas used for breeding:

> Riparian and upland habitats adjacent to aquatic areas used by the California red-legged frog are essential in maintaining frog populations, and for protecting the appropriate hydrological, physical, and water quality conditions of the aquatic areas. Riparian habitat includes vegetation that grows along banks and in the floodplains of streams and adjacent to ponds and that is dependent on the bordering water source for survival. Adjacent uplands are marked by vegetation that is not dependent on a nearby supply of surface water. The California red-legged frog uses both riparian and upland habitats for foraging, shelter, cover, and nondispersal movement (Service 2002, pp. 14–15; Bulger *et al.* 2003, p. 87; Fellers and Kleeman 2007, p. 276).[16]

Studies compiled in the Final Critical Habitat Designation showed a range of migration distances for CRLF, including evidence of an individual utilizing upland habitat within 85 feet of a wetland for 65 days.[17] However, this seemed to be the exception, with other studies finding that the frog can disperse up to 1.7 miles. The majority of California red-legged frogs in one study dispersed within a 1,640 foot buffer. Thus any plans must include protections for sufficient space to allow not only for aquatic breeding habitats, but also other water sources and adequate upland habitats for overwintering, as well as suitable habitat for the frog's movement and migration between sites.

CTS typically use seasonal ponds, such as vernal pools, sag ponds, and some man-made stock ponds for breeding. Although CTS can breed in a variety of wetland types, these wetlands must contain sufficient standing water for enough time for the CTS to breed and for the development of eggs and larvae. The CTS spends most of it life in terrestrial habitats, and relies on small mammal burrows for overwintering, typically made by California ground squirrels and Botta's pocket gopher. CTS can travel long distances between upland and wetland habitats and/or in dispersing between breeding sites. CTS "have the second longest migration distance reported for

[16] 75 Fed. Reg. 12816 at 12817 (March 17, 2010).
[17] *Id.*

any salamander and the longest among ambystomatids" and numerous studies have documented their long distance migrations.[18]

Habitat Alteration and Fragmentation

As explained above, the CTS and CRLF require large amounts of specialized habitat, including potentially suitable migratory corridors. All of the oil and gas activities contemplated in the scoping documents may destroy or degrade this habitat, depending on their location. These activities are also likely to cause fragmentation of habitats, potentially cutting the animals of from some of their necessary habitats. This can include anything that impedes their natural movement and/or makes them more vulnerable to predators. An increase in roads for oil and gas operations and an increase in associated trucks on current roads can cause an increase in mortalities from vehicles.

Oil and gas activities may include the use of groundwater for construction and operation. Any decrease in available groundwater would likely impact the crucial breeding habitats for the CTS and CRLF. Potential for use of groundwater for any types of oil and gas construction and operation must be included in the Service's analyses.

Contaminants

CTS and CRLF are extremely sensitive to contaminants because their highly permeable skin can readily absorb many types of pollutants. Some oil and gas operations require the use of chemicals and those most be closely analyzed for potential impacts to these species. These species could be exposed to these chemicals through various means, such as spill or in wastewater (or wastewater injections into an aquifer). The Service must consider not only potential lethal effects of these chemicals on these species, but also potential sub-lethal effects such as abnormalities or depressed immune systems.

Oil production is specifically called out in the last five year review for the Santa Barbara DPS of the salamander, which highlights the danger of oil sump ponds which may act as toxic sinks for CTS. The Review document explains that these ponds may attract salamanders seeking breeding sites, and may contain sufficient contaminants to kill CTS adults, eggs, and larvae. The CRLF may similarly be attracted to these ponds and suffer the same fate. Even when breeding sites are not so contaminated to kill amphibians directly, other impacts to future survival can be seen. For example, the five year review document describes how salamander larvae in oil-contaminated ponds can have slower growth rates, reduced survival, and/or growth abnormalities.

A number of known CTS breeding ponds are also found along roads and highways in Santa Barbara County. These sites are already at risk from runoff from these roads. An expansion of oil

[18] "Searcy and Shaffer (2011) captured 15,212 Central California tiger salamanders at two breeding ponds over a 5-year period at Jepson Prairie, Solano County, and average dispersal distance was estimated to be 1,844 feet (562 meters). Searcy and Shaffer (2011) estimated that 95 percent of the population occurred within 1.16 miles (1.86 kilometers) of the breeding pond.... In a 5-year study in Contra Costa County, Orloff (2007) found that the majority of California tiger salamanders migrated at least 0.5 mile (0.8 kilometer) from the breeding site. A smaller number of salamanders appeared to migrate even farther, traveling 0.75 miles (1.2 kilometers) to almost 1.3 miles (2.2 kilometers) to and from the breeding ponds and upland habitat." 69 FR 47212 (August 8, 2004).

and gas operations will likely increase this risk, such as through the increased possibility of spills and accidents with an increase in trucks to transport oil. Pipelines that may leak should also be thoroughly analyzed for their proximity to breeding sites for CTS and CRLF. However, the Service must consider the impacts of these potential spills and use of chemicals on upland habitat as well, as these species would suffer from exposure in those areas as well.

Oil and gas operations may also generally involve the use of pesticides, such as to keep vegetation levels down around operations or pipelines. Pesticides are harmful to CTS and CRLF and their potential use must be thoroughly analyzed.

Effects of Climate Change

The Service must consider the impacts that increased oil and gas extraction in Santa Barbara County will have on climate change, along with the cumulative impacts of oil and gas extraction elsewhere. Climate change is a major threat to the survival of the CTS and CRLF and thus the role of the prospective projects, to be permitted under this plan, in contributing to climate change must be an important consideration in the Service's analysis and development of this Conservation Plan.

Amphibians and reptiles are considered to be highly sensitive to anthropogenic climate change.[19] As ectothermic animals, all aspects of their life history are strongly influenced by the external environment, particularly temperature and moisture. In northwestern North America, for example, amphibians and reptiles were ranked as the most sensitive group to climate change out of 195 plant and animal species assessed.[20] Their high sensitivity was attributed to their dependency on habitats that are projected to be significantly altered by climate change such as seasonal wetlands and streams (90% of the amphibians and reptiles were identified as having at least one highly sensitive habitat upon which they depended). Amphibians were also determined to be vulnerable to climate change due to their physiological sensitivity (e.g., highly water-permeable skin).

Climate change is expected to affect amphibians and reptiles at the individual and population levels though a number of pathways including shifts in phenology and range; habitat alterations including changes in hydrology, vegetation, and soil; changes in pathogen-host dynamics, predator-prey relationships and competitive interactions which can alter community structure; and interactions with other stressors such as UV-B radiation and contaminants, all of which can affect survival, growth, reproduction and dispersal capabilities.[21]

For amphibians, water availability is a key resource that affects survival, reproduction, activity levels, and dispersal, while temperature can affect timing of breeding, hibernation, and the ability

[19] *See e.g.,* Corn, P.S., "Climate change and amphibian. USGS Staff—Published Research. Paper 90, *available at* http://digitalcommons.unl.edu/usgsstaffpub/90; Blaustein, Andrew et al., "Direct and indirect effects of climate change on amphibian populations," 2 Diversity 281 (2010); Mitchell, Nicola and Janzen, F.J., "Temperature-dependent sex determination and contemporary climate change," 4 Sexual Development 129 (2010); Li, Y. et al., "Review and synthesis of the effects of climate change on amphibians," 8 Integrative Zoology 145 (2013).
[20] Case, Michael et al., "Relative sensitivity to climate change of species in northwestern North America," 187 Biological Conservation 127 (2015).
[21] *Supra,* note 19.

to find food.[22] Climate change is driving greater variability in precipitation, increasing the frequency of extreme weather events, and increasing surface water temperatures.[23] As a result, climate changes-related changes in hydrological regimes (i.e., alterations in stream flow, lake depth, amount and duration and winter snow pack, pond hydroperiods, soil moisture) and warming temperatures are predicted to have largely negative effects on amphibian breeding success and survival, dispersal, and habitat suitability.[24]

Numerous studies have documented climate-associated shifts in amphibian phenology, range, and pathogen-host interactions with emerging evidence for climate change-related declines.[25] Li et al. (2013) reported the results of 14 long-term studies of the effects of climate change on amphibian timing of breeding in the temperate zone of the US and Europe. This meta-analysis indicated that more than half of studied populations (28 of 44 populations of 31 species) showed earlier breeding dates, while 13 showed no change, and 3 populations showed later breeding dates, where spring-breeding species tended to breed earlier and autumn-breeding species tended to breed later. Several studies indicate that shifts in timing of breeding can have fitness and population-level consequences. For example, amphibians that emerge earlier in the spring can be vulnerable to winter freeze events or desiccation if they arrive at breeding sites prior to spring rains. [26]

Climate-associated shifts in amphibian ranges can be particularly problematic for restricted range and high-elevation species that have specific habitat requirements and limited options for movement.[27] As greenhouse gas emissions continue to grow, studies project high turnover of amphibian species as habitats become climatically unsuitable. For example, Lawler et al. (2010) projected 50% or greater climate-induced turnover of amphibian species in many regions of the US by the later part of the century.[28]

Climate change has also been implicated in stimulating the emergence of infectious amphibian diseases at the local and global scale. Increases in climate variability and extreme weather events resulting from climate change appear to provide an advantage to pathogens, such as chytridio-mycosis (chytrid fungus) which is driving amphibian declines worldwide.[29] Raffel et al. (2013)

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[22] *See e.g.,* Corn, P.S., "Climate change and amphibian. USGS Staff—Published Research. Paper 90, *available at* http://digitalcommons.unl.edu/usgsstaffpub/90; Blaustein, Andrew et al., "Direct and indirect effects of climate change on amphibian populations," 2 Diversity 281 (2010); Lawler, Joshua et al., "Projected climate impacts for the amphibians of the Western Hemisphere," 24 Conservation Biology 38 (2010).

[23] Melillo, Jerry M., "Climate Change Impacts in the United States: The Third National Climate Assessment," Terese (T.C.) Richmond, and Gary W. Yohe, Eds., U.S. Global Change Research Program, (2014).

[24] Blaustein, Andrew et al., "Direct and indirect effects of climate change on amphibian populations," 2 Diversity 281 (2010); Walls, Susan et al., "Drought, deluge and declines: the impact of precipitation extremes on amphibians in a changing climate," 2 Biology 399 (2013).

[25] *Supra*, note 19; Lowe, Winsor, "Climate change is linked to long-term decline in a stream salamander," 145 Biological Conservation 48 (2012); Rohr, Jason and Palmer, Brent, "Climate change, multiple stressors, and the decline of ectotherms," 27 Conservation Biology 741 (2013).

[26] Li, Y. et al., "Review and synthesis of the effects of climate change on amphibians," 8 Integrative Zoology 145 (2013).

[27] *Id.*

[28] Lawler, Joshua et al., "Projected climate impacts for the amphibians of the Western Hemisphere," 24 Conservation Biology 38 (2010) at Figure 3.

[29] *See. e.g.,* Rohr, Jason and Raffel, Thomas, "Linking global climate and temperature variability to widespread amphibian declines putatively caused by disease," 107 PNAS 8269 (2010); Li, Y. et al., "Review and synthesis of

found a causal link between increased temperature variability and chytrid-induced mortality in frogs, which in the context of other studies linking chytrid outbreaks to temperature shifts, provides compelling evidence for a climate-change role in amphibian mortality from chytrid fungus. Several recent studies indicate a role of climate change in amphibian population declines, in combination with other stressors.[30]

(4) Global Significance of GCP to Climate Change Mitigation Efforts

In 2016, Santa Barbara County was the seventh largest producer of crude oil in California and the fifth largest producer of natural gas.[31] This is significant considering that California is the fourth largest producer of crude oil in the United States. [32] Oil and gas production in Santa Barbara County therefore impacts the carbon footprint of California considerably and, in turn, that of the United States. Considering that California was the second largest producer of carbon dioxide emissions in 2014,[33] the importance of California reducing its reliance on and production of fossil fuels is apparent. The drafting of a GCP is counter to this effort because it promotes more production and more reliance on fossil fuels.

The severe impacts of global warming from the 1°C warming that the planet has already experienced highlight the urgency for stronger climate action to avoid truly catastrophic dangers to people and planet. Human-caused climate change is already causing widespread damage from intensifying global food and water insecurity, the increasing frequency of heat waves and other extreme weather events, flooding of coastal regions by sea level rise and increasing storm surge, the rapid loss of Arctic sea ice and Antarctic ice shelves, increasing species extinction risk, and the worldwide collapse of coral reefs.[34] The Third National Climate Assessment makes clear that "reduc[ing] the risks of some of the worst impacts of climate change" will require "aggressive and sustained greenhouse gas emission reductions" over the course of this century.[35]

According to a large body of scientific research, the vast majority of global and US fossil fuels must stay in the ground in order to hold temperature rise to well below 2°C—the temperature rise beyond which the most catastrophic effects of climate change are projected to occur.[36]

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the effects of climate change on amphibians," 8 Integrative Zoology 145 (2013); Raffel, Thomas, "Disease and thermal acclimatization in a more variable and unpredictable climate," 3 Nature Climate Change 146 (2013).

[30] Lowe, Winsor, "Climate change is linked to long-term decline in a stream salamander," 145 Biological Conservation 48 (2012); Rohr, Jason and Palmer, Brent, "Climate change, multiple stressors, and the decline of ectotherms," 27 Conservation Biology 741 (2013).

[31] Oil and Gas Well Production Database found at ftp://ftp.consrv.ca.gov/pub/oil/new_database_format/

[32] U.S. Energy Information Administration, "Rankings: Crude Oil Production, May 2017," https://www.eia.gov/state/rankings/#/series/46 (accessed September 18, 2017).

[33] U.S. Energy Information Administration, "Rankings: Total carbon dioxide emissions, 2014," https://www.eia.gov/state/rankings/#/series/226 (accessed September 18, 2017).

[34] Melillo, *supra* note 23.

[35] Melillo, Jerry M., at 13, 14, and 649.

[36] The IPCC estimates that global fossil fuel reserves exceed the remaining carbon budget for staying below 2°C by 4 to 7 times, while fossil fuel resources exceed the carbon budget for 2°C by 31 to 50 times. *See* Bruckner, Thomas et al., "2014: Energy Systems. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change," Cambridge

Studies estimate that 68 to 80 percent of global fossil fuel reserves must not be extracted and burned to limit temperature rise to 2°C based on a 1,000 $GtCO_2$ carbon budget.[37] For a 50 percent chance of limiting temperature rise to 1.5°C, 85 percent of known fossil fuel reserves must stay in the ground.[38] Effectively, fossil fuel emissions must be phased out globally within the next few decades.[39]

According to a U.S. focused analysis,[40] the United States alone has enough recoverable fossil fuels, split about evenly between federal and non-federal resources, that if extracted and burned, would exceed the global carbon budget for a 1.5°C limit, and would consume nearly the entire global budget for a 2°C limit.[41] Specifically, the analysis found:

- Potential greenhouse gas emissions of federal fossil fuels (leased and unleased) if developed would release up to 492 gigatons (Gt) of carbon dioxide equivalent pollution (CO_2e), representing 46 percent to 50 percent of potential emissions from all remaining U.S. fossil fuels.
- Of that amount, up to 450 Gt CO_2e have not yet been leased to private industry for extraction;
- Releasing those 450 Gt CO_2e (the equivalent annual pollution of more than 118,000 coal-fired power plants) would be greater than any proposed U.S. share of global carbon limits that would keep emissions well below 2°C.[42]

University Press, Cambridge, United Kingdom and New York, NY, USA, at Table 7.2, http://ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter7.pdf

[37] To limit temperature rise to 2°C based on a 1,000 $GtCO_2$ carbon budget from 2011 onward, studies indicate variously that 80 percent (Carbon Tracker Initiative 2013), 76 percent (Raupach et al. 2014), and 68 percent (Oil Change International 2016) of global fossil fuel reserves must stay in the ground. *See* Carbon Tracker Initiative. "Unburnable Carbon – Are the world's financial markets carrying a carbon bubble?," (2013) http://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf; Raupach, Michael et al., "Sharing a quota on cumulative carbon emissions," 4 Nature Climate Change 873; Oil Change International, "The Sky's Limit: Why the Paris Climate Goals Require A Managed Decline of Fossil Fuel Production," (September 2016).

[38] Oil Change International, "The Sky's Limit: Why the Paris Climate Goals Require A Managed Decline of Fossil Fuel Production," (September 2016), at 6.

[39] Rogelj et al. (2015) estimated that a reasonable likelihood of limiting warming to 1.5° or 2°C requires global CO_2 emissions to be phased out by mid-century and likely as early as 2040-2045. *See* Rogelj, Joeri et al., "Energy system transformations for limiting end-of-century warming to below 1.5°C," 5 Nature Climate Change 519 (2015). Climate Action Tracker indicated that the United States must phase out fossil fuel CO_2 emissions even earlier—between 2025 and 2040—for a reasonable chance of staying below 2ºC. *See, e.g*. Climate Action Tracker, "USA," (last updated 18 September 2017), http://climateactiontracker.org/countries/usa

[40] Ecoshift Consulting, et al., "The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels," Prepared for Center for Biological Diversity & Friends of the Earth. (2015). http://www.ecoshiftconsulting.com/wp-content/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf

[41] *Id.*, at. 4.

[42] For the United States, Raupach et al. (2014) provided a mid-range estimate of the U.S. carbon quota of 158 $GtCO_2$ for a 50percent chance of staying below 2°C, using a "blended" scenario of sharing principles for allocating the global carbon budget among countries. This study estimated US fossil fuel reserves at 716 $GtCO_2$, of which coal comprises the vast majority, indicating that most fossil fuel reserves in the US must remain unburned to meet a well below 2°C carbon budget. Raupach, Michael et al., "Sharing a quota on cumulative carbon emissions," 4 Nature Climate Change 873, at Supplementary Figure 7.

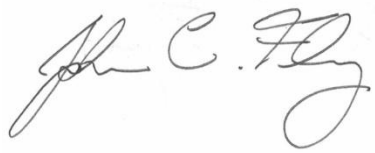
The drafting of a GCP is inconsistent with California's mandates for rapid statewide GHG emissions reductions. California has strict mandates to rapidly reduce emissions to prescribed levels by the years 2020, 2030, and 2050. The Governor's Executive Order B-30-15 and Senate Bill 32 establish an ambitious greenhouse gas emissions reduction target for California of 40 percent below 1990 levels by 2030. Executive Order S-3-05 calls for the state to reduce emissions levels by 80 percent below 1990 levels by 2050. Meeting these mandates will not happen if expansions rather than contractions in oil and gas activity occur in counties such as Santa Barbara.

The urgent need to prevent the worst impacts of climate change means that the world in general – and California in particular – cannot afford to invest in new fossil fuel extraction and infrastructure that locks in carbon intensive oil production for years into the future. The General Conservation Plan proposed by the Fish and Wildlife Service would essentially sanction such unaffordable investment.

(5) Conclusion

The implementation of a General Conservation Plan is meant to shortcut permitting and regulatory requirements for the fossil fuel industry. This aid to the fossil fuel industry would only serve to further endanger the already endangered California red-legged frog, California tiger salamander, and Lompoc yerba santa, and set us further down a path of irreparable harm from climate change. For these reasons, such a plan should not proceed forward.

Respectfully submitted,



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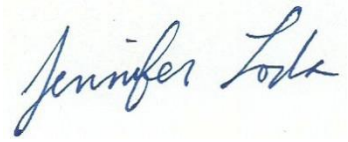

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September 5, 2017

Ms. Collette Thogerson
Field Supervisor
Ventura Fish and Wildlife Office
U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93101

Attention: Rachel Henry
Rachel_henry@fws.gov

Dear Ms. Thogerson and Ms. Henry:

Pacific Coast Energy Company LP (PCEC) is providing these comments in response to the Federal Register Notice published on August 2, 2017, 82 FR 35988 (August 2, 2017), regarding the proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County (GCP).

As you know, PCEC has been participating with the U.S. Fish and Wildlife Service (Service) in discussions regarding the proposed GCP since the initial workshop on May 26, 2016. PCEC owns and operates oil production facilities in the 10,000-acre state-designated Orcutt Oil Field located in Santa Barbara County, where oil operations have occurred for over 115 years. The GCP planning area would include the Orcutt Oil Field and other areas in Santa Barbara County where PCEC may wish to operate in future. The GCP also proposes to cover two species that are federally protected under the Endangered Species Act (ESA) and currently are located on lands on which PCEC operates – the California tiger salamander (CTS) and Lompoc yerba santa (LYS).

The GCP is limited in geographic area (Santa Barbara County), number of species covered (CTS, LYS and California red-legged frog), and actions covered (incidental take of the covered species associated with oil and gas activities). PCEC therefore believes that the Environmental Assessment (EA) should be limited to the same scope because it is intended to evaluate the proposed action—preparation of a GCP to support issuance of incidental take authorizations in Santa Barbara County for oil and gas production facilities that may affect three covered species. The GCP also operates as a conservation plan and ensures that all requirements for incidental take of the covered species will be met before any take authorization is issued.

PCEC urges the Service to resist any suggestions to broaden the GCP EA analysis under the National Environmental Policy Act (NEPA) to include environmental impacts associated with oil and gas production in general. As explained above, the EA is intended to evaluate the proposed action, which is limited to the issuance of incidental take permits using a streamlined process intended to provide consistency and effective permit issuance procedures to oil and gas production activities in Santa Barbara County. The broader environmental impacts of oil and gas activities are fully evaluated under a number of state and local laws and regulations, including the California Department of Conservation's Division of Oil, Gas and Geothermal Resources (DOGGR), the California Environmental Quality Act (CEQA) and Santa Barbara County regulations and requirements. There is no basis under NEPA to broaden the reach of the federal environmental analysis beyond the Service's proposed action.

Thank you for the opportunity to provide public comment on the NEPA process for the proposed GCP. We look forward to continuing to work with the Service on this important initiative.

Sincerely,

P. Brown

Philip Brown
Sr Vice President of Operations

Pacific Coast Energy Company LP
1555 Orcutt Hill Road Orcutt, California 93455 Phone (805) 937-2576 Fax (805) 937-4142

August 29, 2017

Field Supervisor
Ventura Fish and Wildlife Office U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93101

SUBJECT: VFWO GCP - Comments on NEPA Scoping for the Oil and Gas General Conservation Plan in Santa Barbara County, California

Dear Field Supervisor:

ERG Resources (ERG) has been involved in the development of the Oil and Gas Activities General Conservation Plan (GCP) efforts since its inception at the May 26, 2016 meeting convened by your agency. ERG reviewed the draft GCP chapters provided by your staff and attended follow up meetings with our oil and gas colleagues to advance the discussion of the GCP as an efficient Endangered Species Act take permit process for the California tiger salamander (CTS).

Throughout this process ERG has supported and will continue to facilitate the collaborative effort between the United States Fish and Wildlife Service (USFWS) and the oil and gas industry in the hopes that GCP will achieve an efficient, cost effective, and environmentally sound method for fostering the recovery of endangered species while allowing well planned industrial growth and operations. Regarding the continued development of the GCP and associated environmental review, ERG offers the following constructive comments:

- While the GCP may provide an efficient programmatic method for the issuance of take permits in the future, it is a regional planning mechanism which can take years to complete. In the meantime, project specific Habitat Conservation Plans (HCPs) should continue to be processed until such time as the GCP becomes approved and in-effect.
- In order to achieve the programmatic efficiency intended by the implementation of the GCP it is imperative that all GCP contents and subsequent environmental review be conducted in a manner which allows the program to provide take coverage consistent with California State Law and the administrative practices of the California Department of Fish and Wildlife.
- ERG recommends that USFWS conduct a detailed impact analysis among the involved operators in its NEPA scoping effort to determine if the industry-wide GCP is still warranted at this time. The potential high cost share if only a small fraction of operators need the GCP, and the anticipated prolonged timing to complete the GCP process, are of a concern to ERG.

In summary, ERG remains supportive of the USFWS GCP effort if it will meet ERG's economic and timing needs. Assessing the ability of the GCP to meet ERG's unique needs would be contingent upon the USFWS' ability to address the comments presented above. Thank you for the opportunity to comment on the NEPA scoping effort for the oil and gas industry GCP.

Sincerely,

Ben Oakley
EH&S/Gov't Affairs Manager

Via e-mail attachment

September 1, 2017

Rachel Henry
Field Supervisor
Ventura Fish and Wildlife Office
2493 Portola Rd. Suite B
Ventura, CA 93003

Attention: **Proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County**

Dear Ms. Henry:

E&B Natural Resources is a small company based in California producing oil across the State. Over 10 years ago, we acquired an oil and gas operation located in the Cuyama Valley within Santa Barbara County. The operation provides approximately 25 full-time people with stable careers and our employees are active in the community. Our comments on this matter reflect E&B's desire to maintain the viability of the business.

Our company's operations are not located in the habitats of covered species listed in the proposed General Conservation Plan (GCP) and therefore we would not anticipate being directly involved in its development. Based on our location outside of this habitat, E&B would like to emphasize that we do not anticipate bearing any costs for the development of the GCP.

We support streamlined permitting and encourage the agency to continue to engage with operators who have operations or future planned projects within the habitat of the covered species.

Please consider our company's comments and include them in the record. If you have any questions, please contact me at (661) 679-1700.

Sincerely,

Amy Roth
Public and Government Affairs Director

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

August 17, 2017

Steve Henry, Field Supervisor
Ventura Fish and Wildlife Office
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2493 Portola Road, Suite B
Ventura, CA 93101
rachel_henry@fws.gov

Subject: Notice of Intent to Prepare a Draft Environmental Analysis/Document; General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California

Dear Mr. Henry:

The California Department of Fish and Wildlife (Department) has reviewed the U.S. Fish and Wildlife Service (Service) announcement (as published in the Federal Register / Vol. 82, No. 147) of their intent to prepare a draft environmental analysis/document under the National Environmental Policy Act (NEPA). The analysis/document is for the proposed issuance of an incidental take permit (ITP) under section 10(a)(1)(B) of the Endangered Species Act of 1973 (ESA), for the draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County (GCP). The GCP is being developed to streamline environmental permitting and compliance with the ESA for proponents engaged in geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products; and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. The proposed ITP would authorize the incidental take of threatened and endangered wildlife species that could result from the activities covered under the GCP. The GCP would also include conservation measures for an endangered plant species that would be covered under the plan. The species covered under the requested incidental take permit are the Federal Endangered and State Threatened California tiger salamander (*Ambystoma californiense*), the Federal Threatened and California Special Concern Species California red-legged frog (*Rana draytonii*), and the Federal Endangered and State Rare Lompoc yerba santa (*Eriodictyon capitatum*).

With respect to California tiger salamander, the Department has independent permitting authority for take as defined by State law under the California Endangered Species Act (CESA) (Fish & Game Code § 2050 et seq.; Cal. Code Regs., tit. 14, § 670.5, subd. (b)(3)(G)). Additionally, Lompoc yerba santa is designated a state-rare plant pursuant to the Native Plant Protection Act (NPPA) (Fish and Game Code §1900 et seq.). NPPA prohibits the take, or possession, of state-rare plants unless authorized by the Department or in certain limited circumstances. Any proponent seeking authorization under the GCP for take of California tiger salamander would likely also wish to seek take authorization under CESA and take authorization for Lompoc yerba santa under NPPA. We therefore encourage the Service to include in their analysis a discussion of potential mechanisms to coordinate with the Department

for permitting under the GCP. As a reminder, the definition of "take" under CESA does not include harm and harassment (Fish & Game Code § 86[1]).

Thank you for this opportunity to provide comment. The Department supports the efforts of the Service regarding streamlining the permitting process, and looks forward to further coordination with the Service on development of the GCP. Questions regarding this letter should be directed to Mr. Martin Potter, Senior Environmental Scientist (Specialist), at (805) 640-3677 or Martin.Potter@Wildlife.ca.gov.

Sincerely,

Betty Courtney
Environmental Program Manager I
South Coast Region

ec: Mr. Martin Potter, CDFW, Ojai
Ms. Mary Meyer, CDFW, Ojai
Ms. Christine Found-Jackson, CDFW, Newbury Park

[1] F&G Code § 86. "Take" means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

Hunt & Associates
Biological Consulting Services

U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

15 September 2017

Subject: Comments on Proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California.

To Whom It May Concern,

I am writing to comment on the proposed General Conservation Plan (GCP) for oil and gas activities in Santa Barbara County. I am a consulting biologist and herpetologist with over 35 years of field experience with the California tiger salamander (*Ambystoma californiense*) (CTS) and the California red-legged frog (*Rana draytonii*) (CRLF). I was a member of the Scientific Committee that helped prepare the Recovery Plan for the Santa Barbara County Distinct Population Segment of CTS and commented extensively on the Draft and Final Recovery Plan for CRLF. My comments are generally aimed at landscape-level considerations as opposed to specific conservation measures, i.e., mitigation measures.

GCP vs HCP Approach. A GCP for oil and gas activities could save the Service and landowner/leaseholder time and effort compared to having a project proponent prepare an individual Habitat Conservation Plan (HCP) for each project. Moreover, the regional-scale approach of a GCP could benefit CTS and CRLF through a more consistent application of particular conservation actions across parcels, compared to the current piecemeal approach of individual HCPs. However, the GCP process substitutes an in-depth review of each ITP application if the project activities fall within proscribed categories for a "canned" set of mitigation requirements. I am concerned that in the absence of a detailed review of a particular application, there is the potential to overlook activities that are atypical (site-specific) or activities whose impacts on the subsurface environment has not been fully evaluated, e.g., seismic testing and fracking.

The GCP-approach implies that there is a regional conservation strategy for CTS and CRLF, i.e., recovery plans, and although such plans have been developed, they have not demonstrated a successful conservation trajectory to date. I'm not convinced that a GCP-approach will be consistent with the recovery criteria of either plan, which depends entirely on conservation of extensive, contiguous tracts of upland habitat in order to maintain individual populations and metapopulation viability.

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The existing geographic range of CTS in Santa Barbara County is distributed as six clusters of breeding sites ('metapopulations') across a series of foothill and intervening valley landforms. Metapopulations of CRLF in the region are not as clearly defined because they are mostly coincident with stream and river systems. CRLF co-occur with CTS in many of these areas, however, using the same breeding pools and surrounding upland habitats, particularly in the Santa Maria Valley and the Purisima Hills. Although CRLF occupy a wider range of aquatic habitats than CTS, the two species share a number of life history traits, including: temporally constrained occupation of aquatic sites by juveniles and adults, extended larval development period (2.5-4 months for CTS; up to 4-5 months for CRLF), occupation of refugia in upland habitats around breeding sites for much of the year, adult dispersal driving genetic structure among populations, metapopulation dynamics requiring large tracts of contiguous upland habitat that allow for gene flow between populations, and strong site fidelity of adults coupled with impressive navigational abilities. Conservation measures designed to avoid or minimize impacts to CTS and CRLF from oil and gas projects must accommodate these life history characteristics at large spatial scales (i.e., larger than an individual project) and across a range of habitats. I think that can only be accomplished through conservation easements.

Need for Landscape-Level Conservation Goals. Historically, land use within the concordant geographic range of CTS and CRLF has focused on livestock production and, later, oil and gas production. These activities are more compatible with CTS/CRLF conservation because they preserve extensive, contiguous tracts of open space and retain habitat features needed to support CTS/CRLF populations, such as seasonal/permanent aquatic features. Relatively recent land use changes associated with improvements in irrigation and expanding population centers converted extensive areas of occupied habitat to row-crop agriculture and urban development. These changes have eliminated many former CTS/CRLF breeding sites, fragmented upland habitat, and isolated remaining populations.

I believe a critical landscape-level conservation strategy must focus on breaking a land use cycle that I've seen repeated throughout the geographic range of CTS: when an oil and gas lease expires, soil remediation follows. Vegetation, burrowing mammal populations, and soil structure is completely destroyed over large areas, including remnant dune scrub, coastal sage scrub, grassland, and chaparral habitats, which include potential habitat for the endangered Lompoc yerba santa (*Eriodyctyon capitatum*). Following soil remediation, the land is converted to row-crop agriculture and/or increased parcelization for 'ranchette' development, which forever removes the former oil and gas lease as a conservation target. Two examples: a) extensive oil and gas leases on ancient interior dune fields between Highway 101 and Dominion Road in the Eastern Santa Maria Valley have been almost entirely converted to agriculture or low-density residential development within the past 15 years; b) extensive portions of the former Escolle lease in the Solomon Hills has recently been retired, remediated, and is now a prime candidate for vineyard conversion and/or 'ranchette' development. The Service could develop a proactive strategy with oil and gas company lease holders and landowners predicated on the fact that oil and gas development is the last land use compatible with CTS/CRLF conservation in this cycle. Soil remediation may not be necessary if the land is kept in open space through conservation easements and managed as rangeland for livestock once the oil and gas leases have expired. Several of the recovery criteria listed in the Draft CTS Recovery Plan for Santa Barbara County (2016) depend upon preserving at least 2,200 acres of upland habitat around individual CTS breeding sites (p. iv). Oil and gas leases could figure prominently in this

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scheme because they are one of the few compatible activities that preserve these types of extensive, contiguous upland habitat.

This approach could also benefit current efforts at establishing mitigation banks for CTS and CRLF in Santa Barbara County. The current problem for both species is that, to date, only one small mitigation bank has been established in one of the CTS metapopulations (Purisima Hills). Mitigation banks that conserve multiple known or potential breeding sites and are large enough to support a program of creating additional ponds to enhance population levels need to be created in each of the six CTS metapopulation areas in order to have any hope of conserving the historic range and full complement of genetic variation of this species in Santa Barbara County.

Impacts of Particular Activities Under a GCP-Approach. Many of the activities associated with oil and gas exploration and extraction can be mitigated by applying appropriate and specific Best Management Practices (BMPs) and other standard, species-specific mitigation measures. However, there are several potential impacts associated with preliminary evaluation of a particular site that may not be properly evaluated under a GCP approach:

- Oil and gas exploration and extraction within the watershed of individual vernal pools that are known or potential CTS/CRLF breeding sites should be banned. The hydroperiod of vernal pools are very sensitive to sedimentation. The CTS Recovery Plan contains guidelines for managing vernal pools and a primary goal is to eliminate sedimentation from anthropogenic sources within the watershed of individual pools in order to preserve long-term hydroperiod characteristics.
- The potential impacts of seismic testing on burrowing mammal populations (and burrow commensals, such as CTS and CRLF) should be thoroughly reviewed. Studies of impacts of seismic testing on endangered heteromyid rodents in the Central Valley and funded by Occidental Petroleum Corporation could inform decisions on the geographic range of impacts from this type of exploration.
- The potential impacts to groundwater and surface water resources associated with fracking are unknown. The relationship between depth to groundwater, soil moisture, and vernal pool hydroperiod is unknown but intimately linked to the two habitat features on which CTS and pond-breeding CRLF depend: pond hydroperiod and microclimate in burrows.

The issues discussed in this letter are too complex to be properly evaluated in an Environmental Assessment. I urge the Service to prepare an Environmental Impact Report in order to fully evaluate the potential impacts of such activities on CTS and CRLF.

I applaud the Service's approach to these issues at the landscape-level as opposed to the current project-by-project piecemeal approach because any conservation plan must be consistent with the basic ecology of CTS and CRLF, i.e., preservation of large, contiguous tracts of land. Thank you for your consideration.

Sincerely,

Lawrence Hunt

Lawrence E. Hunt

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

AUG 17 2017

Comments on VFWO GCP
Field Supervisor
Ventura Fish and Wildlife Office
U.S. Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, California 93101

Subject: Notice of Intent to Prepare an Environmental Assessment for a General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California

Dear Ms. Henry:

The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under §309 of the Clean Air Act.

To assist in the scoping process for this project, we have identified several issues for your attention in the preparation of the Draft Environmental Assessment. These issues include: impacts to water, air, biological resources, and habitat protection, among others.

We appreciate the opportunity to review this project and are available to discuss our comments. Please send one hard copy of the Draft EA and one CD ROM copy to the address above (mail code: ENF-4-2). If you have any questions, please contact me at (415) 972-3545, or contact Scott Sysum, the lead reviewer for this project. Scott can be reached at (415) 972-3742 or sysum.scott@epa.gov

Sincerely,

Ann McPherson
Environmental Review Section

Enclosures: EPA's Detailed Comments

US EPA DETAILED COMMENTS ON THE NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL ASSESSMENT FOR A GENERAL CONSERVATION PLAN FOR OIL AND GAS ACTIVITIES IN SANTA BARBARA COUNTY, CALIFORNIA, AUGUST 17, 2017

Purpose and Need and Alternatives Analysis

The U.S. Environmental Protection Agency recommends that the Draft Environmental Assessment (Draft EA) prepared for the Santa Barbara County General Conservation Plan (GCP) for oil and gas activities clearly identify the underlying purpose and need to which the U.S. Fish and Wildlife Service is responding in proposing the alternatives (40 CFR 1502.13), as well as the rationale for the proposed action. The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity. When formulating the need, identify and describe the underlying problem, deficiency, or opportunity that the action is meant to address. The purpose then defines the measurable objectives to be used for evaluating the effectiveness of potential alternatives toward meeting the need.

The National Environmental Policy Act (NEPA) requires evaluation of reasonable alternatives. The EPA recommends that the Draft EA provide a complete description and evaluation of the available data used to inform the GCP alternatives to be analyzed. Quantify the potential direct, indirect, and cumulative environmental impacts of each alternative to the greatest extent possible (e.g., acres of critical habitat impacted, changes in population size) and present the benefits and adverse impacts in comparative form to assist the decision-maker and public in understanding how the alternatives differ (40 CFR 1502.14).

A reasonable range of alternatives will include options for avoiding environmental impacts. The alternatives analysis should describe the approach used to identify environmentally sensitive areas and describe the process that was used to designate them in terms of sensitivity (e.g. low, medium, and high). The Council on Environmental Quality Regulations for Implementing NEPA state that alternatives should include appropriate mitigation measures not already included in the proposed action or alternatives (40 CFR 1502.14(f)).

Scope of Analysis and Integration of Permitting Activities

Clearly explain whether the Draft EA is intended to serve as a programmatic "tiering" document for subsequent project-specific NEPA analysis or whether it will be directly relied upon for project-level decision-making. If it is intended as a programmatic document, identify the factors that will be used to determine when a subsequent Environmental Assessment will be required, and explain which covered activities and conservation measures will be evaluated under separate environmental review. The EPA also recommends providing a description of any permits and/or modifications to those permits that the covered activities would require (e.g., National Pollution Discharge Elimination System permits for discharges to Waters of the United States, Underground Injection Control Program Permit, etc.) and a description of how permitting efforts can be synchronized between agencies.

Water Quality

The proposed GCP covers species that utilize habitat that may also be regulated under Clean Water Act (CWA) Sections 404 and 401. To integrate the goals of conserving species and protecting the nation's

waters, we recommend that the Service engage with the U.S. Army Corps of Engineers, EPA, and state or tribal governments that may have water quality certification responsibilities under CWA Section 401. Cooperation among agencies during the planning and development of the GCP should result in better resource protection and enhanced services to the regulated public.

Given that some activities associated with take under the GCP may also require CWA permits, it is important to seek alignment or integration between the conservation strategy and CWA permitting requirements. As such, the Draft EA should address avoidance, minimization, and compensatory mitigation, as required under the CWA, as well as monitoring strategies that work for both the GCP and CWA purposes. To minimize conflicts and encourage transparency, the EPA recommends early coordination with agencies that have CWA regulatory responsibilities.

Air Quality

The Draft EA should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards, nonattainment areas, general conformity requirements and potential air quality impacts of the covered oil and gas activities, including cumulative and indirect impacts, for each fully evaluated alternative.

The Draft EA should describe and estimate air emissions from potential construction and maintenance activities, as well as proposed mitigation measures. Typical mitigation measures include construction emission reductions, fugitive dust control measures, mobile and stationary source controls and administrative controls.

Biological Resources and Habitat

The Draft EA should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the federal or state Endangered Species legislation.

Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species.
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area.
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

The potential impacts of the covered oil and gas activities on habitat and species should be discussed in the Draft EA. The Draft EA should indicate what measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed activities.

Cumulative Impacts
The cumulative impact analyses should evaluate the effects of other past, present, and reasonably foreseeable actions and consider those impacts on a cumulative level (CEQ's Forty Questions, #18). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7). Discussions of cumulative impacts are usually more effective when included in the larger discussions of environmental impacts from the action (the environmental consequences chapter), as opposed to locating the cumulative impact analyses in a separate chapter.

The Draft EA should describe the methodology used to assess cumulative impacts. We recommend the methodology developed jointly by the EPA, the Federal Highway Administration, and the California Department of Transportation, available at:
http://www.dot.ca.gov/ser/cumulative_guidance/approach.htm. While this methodology was developed for transportation projects, the principles and steps in this guidance offer a systematic way to analyze cumulative impacts for any project.

Climate Change Effects
We recommend the Draft EA include an estimate of the greenhouse gas emissions associated with the covered activities, qualitatively describe relevant climate change impacts, and analyze reasonable alternatives and/or practicable mitigation measures to reduce covered activity-related GHG emissions. In addition, we recommend that the NEPA analysis also consider project design changes that may result in further reductions of GHGs or that provide greater resilience to foreseeable climate change impacts. The Draft EA and Final EA should make clear whether commitments have been made to ensure implementation of measures to reduce GHG emissions and/or to adapt to climate change impacts.

Hazardous Materials/Waste Management
The Draft EA should address potential direct, indirect and cumulative impacts of waste generation, including hazardous waste, associated with covered activities under the GCP. The document should identify projected waste types and volumes and identify expected storage, disposal, and management methods. The generation of hazardous waste should be minimized. The Draft EA should discuss the applicability of federal and state hazardous and solid waste requirements.

Invasive Species
Executive Order 13112 "Invasive Species" (February 3, 1999) mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species. In the Draft EA, include an invasive plant management plan to monitor and control detrimental vegetation.

September 18, 2017

Field Supervisor
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Ventura, CA 93101
rachel_henry@fws.gov

Re: Sierra Club Scoping Comment Letter Regarding Ventura Fish and Wildlife Office's Proposed General Conservation Plan

Dear Field Supervisor,

The Environmental Defense Center ("EDC") submits these comments on the scoping process pursuant to the National Environmental Policy Act ("NEPA"), concerning the Ventura Fish and Wildlife Office's proposed General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California ("GCP" or "Plan") on behalf of the Sierra Club and Sierra Club Los Padres Chapter (collectively "Sierra Club").

Sierra Club's conservation interests encompass everything from National Forest Wilderness areas of the Santa Ynez Mountains to the Channel Islands National Park in the Santa Barbara Channel. Sierra Club's activities range from traditional concerns with forest management and wilderness to urban issues including growing problems with land use and energy development. EDC is a non-profit public interest law firm that represents community organizations in environmental matters affecting California's south-central coast. EDC's service area includes Santa Barbara, San Luis Obispo, and Ventura Counties.

We urge the U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office ("Service") to discontinue this proposed GCP and instead require each applicant to draft its own Habitat Conservation Plan ("HCP") and supporting documents for permit issuance under Section 10 of the Endangered Species Act ("ESA"). The GCP process impermissibly relaxes the statutory protections afforded under Section 10 of the ESA by abandoning the statutory requirement for an in-depth review of each application before issuing an Incidental Take Permit ("ITP"). Failure to perform a full and complete review of each proposed project violates the ESA because impacts to the covered species from oil and gas activities in the County will not be adequately analyzed in the proposed Plan. Nevertheless, if the Service proceeds with this GCP, the Service must ensure that the information and analysis contained in the proposed Plan adheres to the

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requirements under Section 10. This letter also demands that the Service prepare an Environmental Impact Statement ("EIS") under NEPA given that the proposed action will have significant environmental effects.

I. Factual Background: Overview of the Service's Proposed Action and Affected Species

The Service seeks to issue ITPs under the proposed GCP for prospective oil and gas activities in Santa Barbara County "to proponents engaged in geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure."[1] Currently, the Service is engaged in the NEPA scoping process and seeks comments on the scope of issues and alternatives to address in the draft environmental document concerning the proposed Plan. Additionally, the scoping process is intended to aid the Service in identifying significant issues and reasonable alternatives concerning its proposed GCP approach. The species covered under the proposed Plan are the California tiger salamander ("CTS") (*Ambystoma californiense*), California red-legged frog ("CRLF") (*Rana draytonii*), and the Lompoc yerba santa ("LYS") (*Eriodictyon capitatum*).[2]

A. California Red-Legged Frog

The California red-legged frog ("CRLF") is endemic to California and Baja California, Mexico, at elevations ranging from sea level to approximately 5,000 feet.[3] On May 23, 1996, the species was federally listed under the ESA as a threatened species throughout its range in California.[4] The species has sustained a seventy percent reduction in its geographic range in California as a result of several factors acting singly or in combination.[5]

CRLF occur in different habitats depending on their life stage, the season, and weather conditions. Rangewide, and even within local populations, there is much variation in how frogs use their environment; in some cases, they may complete their entire life cycle in a particular habitat (i.e., a pond is suitable for all life stages), and in other cases, they may seek multiple habitat types.[6] Generally speaking, CRLF combine both specific aquatic and riparian components. *Id.* The adults require dense, shrubby or emergent riparian vegetation closely associated with deep, still or slow-moving water. *Id.* The largest densities of CRLF are

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[1] 82 Fed. Reg. 35988.
[2] *Id.*
[3] U.S. Fish and Wildlife Service, Sacramento Fish & Wildlife Office, *California Red-Legged Frog* (March 3, 2017).
[4] 61 Fed. Reg. 25813. Interestingly, EDC played a major role in winning protection for the CRLF by forcing the Service to list it as a threatened species. (*See Environmental Defense Center v. Babbitt* (9th Cir. 1995) 73 F.3d 867.)
[5] U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, *California Red-Legged Frog* (April 11, 2011).
[6] U.S. Fish and Wildlife Service, *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* 16 (August 2005).

associated with deep-water pools with dense stands of overhanging willows and an intermixed fringe of cattails. *Id.* However, CRLF have been found up to thirty meters (ninety-eight feet) from water in adjacent dense riparian vegetation for up to seventy-seven days. *Id.* Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter. *Id.*

In Santa Barbara County, the species is typically located in perennial front and back country creeks and rivers in the southern Los Padres National Forest. The species are also present in Gaviota Creek and many perennial creeks along the Gaviota Coast.[7] In the past, the species has been an issue in projects such as Colson Quarry (La Brea Creek), and Fox, McCoy and Alder Creeks (water diversion projects).

Breeding sites for CRLF generally entail deep,[8] still or slow-moving water. CRLF can breed at sites with dense shrubby riparian or emergent vegetation, such as cattails, tules, or overhanging willows or can proliferate in ponds devoid of emergent vegetation and any apparent vegetative cover, such stock ponds.[9] The CRLF disperse upstream and downstream of their breeding habitat to forage and seek estivation habitat.[10] Estivation habitat, and the ability to reach estivation habitat, is essential for the survival of the species within a watershed.[11] Estivation habitat for CRLF is potentially all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture during the dry season within 300 feet of a riparian area.[12]

A number of species prey on CRLF including, raccoons, garter snakes, bass, sunfish, mosquito fish, herons, egrets, cats, foxes, coyotes, and most importantly, the introduced American bullfrog.[13] The most secure aggregations of CRLF are found in aquatic sites that support substantial riparian and aquatic vegetation for cover and lack exotic predators.[14] Nevertheless, the fragmentation of existing habitat and the continued colonization of existing habitat by nonnative species may represent the most significant current threats to CRLF.[15]

B. California Tiger Salamander

The Santa Barbara County population of the California tiger salamander ("CTS") was federally listed as endangered on September 21, 2000.[16] California's Fish and Game Commission

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[7] U.S. Department of the Interior, National Park Service, Pacific Great Basin Support Office, Gaviota Coast Draft Feasibility Study & Environmental Assessment at 196 (April 2003).
[8] Greater than 2.5 feet.
[9] U.S. Fish and Wildlife Service, Sacramento Fish & Wildlife Office, *California Red-Legged Frog* (March 3, 2017).
[10] 61 Fed. Reg. 25813.
[11] *Id.*
[12] *Id.*
[13] *Id.*
[14] *Id.*
[15] *Id.*
[16] 65 Fed. Reg. 57242.

has classified CTS as threatened in the County.[17] On November 24, 2004, critical habitat for the Santa Barbara County's California tiger salamander population was designated.[18]

CTS use aquatic and upland habitats during their life cycle and as such, may be present in either or both habitats on a given property.[19] CTS spend most of the year below ground in burrow systems that are created and maintained by rodents.[20] The geometry of these burrow systems is highly variable, extending from the ground surface to a depth of several feet or more.[21] However, CTS can only be seen is during their brief breeding season.[22]

CTS populations are more or less distributed around breeding sites (seasonal pools and ponds) and populations that are linked by dispersal form a 'metapopulation'.[23] The existing geographic range of CTS in Santa Barbara County is distributed as six clusters of breeding sites (labeled as 'metapopulations') across a series of hill and valley landforms.[24] Anthropogenic factors have significantly fragmented and isolated each of these metapopulations so that there is no longer any genetic interchange between them.[25]

C. Lompoc yerba santa

In April 19, 2000, the Lompoc yerba santa ("LYS") was listed as endangered pursuant to the ESA.[26] LYS critical habitat was designated on November 7, 2002. This species occurs along the south-central California coast and is endemic to western Santa Barbara County. This species occurs in sensitive, declining or altered habitats including central dune scrub, central maritime chaparral, valley needlegrass grassland, coastal freshwater wetlands, and southern bishop pine forest. *Id.* Two of these habitats, central dune scrub and coastal freshwater wetlands, are notable for their geological and biological value. *Id.*

None of the LYS colonies are actively protected, and the limited distribution and small population sizes of this species makes it more vulnerable to extinction from naturally occurring catastrophic events. *Id.* Existing regulations do not provide adequate protection to prevent further losses from ongoing activities. *Id.* In particular, oil and gas development in the County threatens the survival of the species because these activities significantly reduce its habitat. *Id.* Expansion of well pads, pipeline installation, oil seeps, surface expressions, installation and

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[17] California Department of Fish and Wildlife, Biogeographic Data Branch, *State & Federally Listed Endangered & Threatened Animals of California* at 6 (July 2017).
[18] 69 Fed. Reg. 68568.
[19] U.S. Fish and Wildlife Service, *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* at 1 (October 2003).
[20] Letter from Lawrence E. Hunt, Consulting Biologist, to County of Santa Barbara Planning Commission, Commissioners (June 24, 2016).
[21] *Id.*
[22] *Id.*
[23] *Id.*
[24] *Id.*
[25] *Id.*
[26] 50 C.F.R. 17.

maintenance of existing and new oil seep cans, and potential future pipeline spills have the potential for short-term and permanent degradation or loss of habitat for LYS.

II. Legal Background: ESA and NEPA

The Service's proposed action will require compliance with various provisions under both ESA and NEPA. The issuance of ITPs triggers the statutory requirements set forth under Section 7, Section 9, and Section 10 of the ESA. Additionally, the Service's proposed action will require a full environmental review under Section 4332 of NEPA.

A. Endangered Species Act

The ESA, 16 U.S.C. §§ 1531, *et seq.*, is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tennessee Valley Authority v. Hill* 437 U.S. 153, 180 (1978). The statute's fundamental purposes are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such endangered species and threatened species . . . ." 16 U.S.C. § 1531(b). To achieve these objectives, the ESA directs the Service, or National Marine Fisheries Service ("NMFS"),[27] to determine which species of plants and animals are "threatened" and "endangered" and place them on the list of protected species. 16 U.S.C. § 1533(a)(1). An "endangered" species is one "in danger of extinction throughout all or a significant portion of its range," and a "threatened" species is one "likely to become endangered in the near future throughout all or a significant portion of its range." *Id.*; 16 U.S.C. §§ 1532(6); 1532(20).

Section 9 of the ESA prohibits the "taking" of any endangered species. 16 U.S.C. § 1538(a)(1)(B). The ESA defines the term "take" broadly to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). "Take" includes indirect as well as direct harm and need not be purposeful. *See Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or.* 515 U.S. 687, 704 (1995).

Pursuant to the safeguards under Section 7(a)(2), the federal agency taking action must engage in a cooperative analysis with the Service to ensure that any action carried out by the agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species." 16 U.S.C. § 1536(a)(2). Additionally, a federal agency must consult with the Service "on any prospective agency action as the request of, and in cooperation with, the prospective permit [...] applicant if the applicant has reason to believe that an endangered species or a threatened species may be present in the area affected by his project and that implementation of such action will likely affect such species." 16 U.S.C. § 1536(a)(3). The consultation process is designed "to

[27] The Service and NMFS share responsibility for implementing the ESA. 16 U.S.C. § 1532(15). The Service retains jurisdiction over terrestrial species and freshwater aquatic species, while NMFS retains jurisdiction over marine species and most anadromous fish.

ensure compliance with the [ESA's] substantive provisions." *Thomas v. Peterson* 753 F.2d 754, 764 (1985).

During formal consultation, the agencies must "use the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2). Upon conclusion of formal consultation, the Service will prepare a "biological opinion" setting forth its opinion and the information upon which its opinion is based. 16 U.S.C. § 1536(b)(3)(A). If the agency determines that the action is not likely to adversely affect a listed species, the Service may authorize incidental take and issue an incidental take statement ("ITS") based on the biological opinion. 16 U.S.C. § 1536(b)(4). However, if the agency determines that the action will jeopardize a listed species or destroy or adversely modify its critical habitat, the agency will suggest reasonable and prudent alternatives to ensure that the listed species or critical habitat is not put in jeopardy. 16 U.S.C. § 1536(b)(3)(A).

Section 10 of the Act provides exceptions for activities otherwise prohibited by Section 9. 16 U.S.C. § 1539. Section 10(a)(1)(A) authorizes the Services to issue an ITP for scientific purposes or to enhance the propagation or survival of listed species. 16 U.S.C. § 1539(a)(1)(A). The permitted activity must not operate to the disadvantage of the species and must be consistent with the purposes and policies set forth in Section 2 of the Act. 16 U.S.C. § 1539(d). However, an ITP may not be issued unless the applicant submits an HCP that meets certain requirements. *See* 16 U.S.C. § 1539(a)(2)(A); *see also National Wildlife Federation v. Babbitt* 128 F.Supp.2d 1274, 1291 (2000) (court held that issuance of incidental take permit to member of regional group who planned to engage in immediate development was arbitrary and capricious.)

Section 10(a)(2)(A) requires that an HCP specify: (1) "the impact which will likely result from such taking;" (2) "steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;" (3) "alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized;" and (4) "other measures that the Secretary may require as being necessary or appropriate for purposes of the plan." 16 U.S.C. § 1539(a)(2)(A)(i)-(iv). The Service can only issue an ITP upon finding that "the taking will be incidental;" "the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;" "the applicant will ensure that adequate funding for the plan will be provided;" "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;" and "other measures required by the Secretary will be met." 16 U.S.C. § 1539(a)(2)(B). Notably, the ESA does not authorize, define, or identify a GCP anywhere in the statute, let alone as a mechanism to issue an ITP.

B. National Environmental Policy Act

NEPA is "our basic national charter for protection of the environment" and "promote[s] efforts which will prevent or eliminate damage to the environment and biosphere…"40 C.F.R. 1500.1; 42 U.S.C. §4321. The scope of NEPA is quite broad, mandating disclosure and consideration of direct and indirect environmental effects. 40 C.F.R. §§1502.14(a), 1508(b). Direct effects are caused by the action and occur at the same time and place as the proposed

project. 40 C.F.R. § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in distances, but are still reasonably foreseeable. 40 C.F.R. §§ 1508.8(a), 1508.8(b). Both direct and indirect impacts include "effects on natural resources, structures, and functioning of affected ecosystems." 40 C.F.R. §§ 1508.8(a), 1508.7.

Additionally, NEPA mandates disclosure and consideration of "connected," "cumulative," and "similar" environmental effects. 40 C.F.R. §§1502.14(a), 1508(b). A cumulative impact is defined as:

> "the impact on the environment which results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7.

NEPA requires each federal agency to prepare, and circulate for public review and comment, a detailed environmental impact statement ("EIS") prior to undertaking any major federal action[28] significantly[29] affecting the quality of the human environment.[30] 42 U.S.C. § 4332(C). In such circumstances, an EIS must be prepared. *American Horse Protection Ass'n, Inc. v. Andrus* 608 F.2d 811, 815 (1979). An EIS functions as an information disclosure device that not only informs the federal agencies of a proposed action's potential environmental effects, but also discloses these potential effects to the public. As such, an EIS is critical to ensure informed decision-making and that the public is able to engage in a full and fair discussion of the potentially significant environmental impacts of a proposed project. "The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government." 40 C.F.R. § 1502.1. "An environmental impact statement is [thus] more than a disclosure document … [i]t shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions." *Id.*

NEPA and its implementing regulations embody a precautionary approach under which an agency must prepare an EIS when there is a substantial question whether there may be any significant impacts. *Klamath Siskiyou Wildlands Center v. Boody* 468 F.3d 549, 562 (9th Cir. 2006) (EIS "must be prepared if substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor."); *see also Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998) ("[A] plaintiff need not show that

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[28] 40 C.F.R. § 1508.18.
[29] 40 C.F.R. § 1508.27.
[30] A federal agency may first prepare an environmental assessment ("EA") to determine whether the proposed action has the potential to significantly affect the quality of the human environment. An EA is an environmental study prepared by a federal agency when a proposed action is not covered by a categorical exclusion or otherwise exempt from NEPA. The purpose of an EA, in relevant part, is to provide evidence and analysis sufficient to determine whether an EIS is required. 40 C.F.R. § 1508.9(a). However, preparation of an EA is not required if an agency has decided to prepare an EIS. 40 C.F.R. § 1501.3.

significant effects will in fact occur, but if the plaintiff raises substantial questions whether a project may have a significant effect, an EIS must be prepared."). In considering the threshold for preparing an EIS, the Ninth Circuit has repeatedly emphasized that "[t]his is a low standard." *Klamath Siskiyou Wildlands Center*, 468 F.3d at 562.

III. Argument

The use of a GCP to issue ITPs for oil and gas activities in Santa Barbara County is not authorized under the ESA. First and foremost, the Service lacks the requisite legal authority to override the traditional HCP approach and draft a "landscape-level" GCP. The GCP Policy, set forth in a non-binding memorandum dated October 5, 2007, establishes that the GCP process is appropriate for "small landowners" engaged in a "smaller subset of activities."[31] Given the immense scale and scope of oil and gas activities proposed to be analyzed and subsequently permitted under the Plan, the GCP approach is not appropriate. The traditional HCP program is necessary to ensure that an in-depth review is conducted on a project-by-project basis. Second, if the Service nonetheless decides to proceed with the GCP process, the information and analysis included in the proposed Plan must comply with the HCP issuance criteria under Section 10(a)(2)(B). Lastly, along with the conservation plan, the Service must prepare an EIS where the proposed action will significantly affect the quality of the human environment. *American Horse Protection Ass'n, Inc. v. Andrus* 608 F.2d at 815 ("the requirement that an EIS be prepared for all major federal action significantly affecting the quality of the human environment is mandatory.")

A. The Service Cannot Circumvent the Traditional HCP Process by Utilizing the GCP Approach.

The underlying Policy on which the GCP is based lacks the force of law and indeed supports the need for an HCP. On October 5, 2007, the Service issued a Memorandum detailing its Final General Conservation Plan Policy ("Policy").[32] The Policy was intended to serve as an additional method for issuance of ITPs under Section 10.[33] The stated purpose for the Policy is to "streamlin[e] and reduc[e] the processes associated with developing Habitat Conservation Plans (HCPs) under section 10(a)(1)(B) of the Endangered Species Act (Act)."[34] Alarmingly, the Policy falsely asserts that the GCP process "eliminat[es] the need for in-depth review of each application."[35]

Here, this Policy is not entitled to any legal weight, and is in fact inconsistent with ESA, Section 10 requirements. Moreover, the guidance provided by the Service in its Memorandum

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[31] Memorandum from Director of U.S. Fish and Wildlife Service to Assistant Regional Directors, Regions 1, 2, 3, 4, 5, 6, and 7, and Manager, California/Nevada Operations Office, Subject: Final General Conservation Plan Policy at 1 (October 5, 2007).
[32] *Id.*
[33] *Id.*
[34] *Id.*
[35] *Id.*

concerning when a GCP is recommended and the limitations of such a process makes clear that utilizing the GCP approach here is inappropriate and will likely result in a legally deficient Plan.

1. The Policy Lacks the Force of Law and is Inconsistent with ESA Section 10.

An agency's "[i]nterpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant *Chevron*[36]-style deference." *Christensen v. Harris County* 529 U.S. 576, 586-87 (2000); *see also, Reno v. Koray* 515 U.S. 50, 61 (1995) (internal agency guideline, which is not "subject to the rigors of the Administrative Procedur[e] Act, including public notice and comment," entitled only to "some deference" (internal quotation marks omitted)). Moreover, a "policy statement must not set new legal standards or impose new requirements."[37]

The Service's decision to effect a Policy that abolishes the need for a thorough environmental review on a project-by-project basis prior to issuing ITPs is inconsistent with the stated goals of the ESA and violates Section 10. Although the Policy acknowledges that a GCP must be compliant with Section 10(a)(1)(B) issuance criteria,[38] the Policy also expressly states that the GCP approach *reduces* the processes involved in developing a HCP to allow for "formulaic" issuance of ITPs and ultimately "eliminating the need for in-depth review of each application."[39] Small-scale projects of limited scope may be appropriate candidates for this alternative approach to the HCP process; however, that is not the case here. Streamlining the review process for each application for oil and gas activities in the County would undoubtedly result in the failure to conduct adequate analysis of the impacts and thus be inconsistent with Section 10 requirements. The proposed Plan is intended to encompass the entire County and cover a wide range of oil and gas activities that will have vast and varying impacts to the three species covered by the Plan. Given the immense scale and scope of the proposed Plan, developing a GCP rather than individual HCPs would violate the ESA.

2. The Policy Supports that the GCP Process is Best Suited to Analyze a Small Subset of Activities of Limited Scope; Neither Factor is Present Here.

The Policy expressly states that the GCP approach is not recommended in all situations and has limitations.[40] The GCP process is appropriate "where a large-scale HCP covering many

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[36] In *Chevron U.S.A Inc. v. Natural Resources Defense Council, Inc. (1984) 467 U.S. 837, 842-844,* the U.S. Supreme Court held that a court must give effect to an agency's regulation containing a reasonable interpretation of an ambiguous statute.
[37] Office of the Federal Register, *A Guide to the Rulemaking Process.*
[38] *See* FN 25.
[39] *Id.*
[40] *Id.*

similar actions is needed, but where such a plan is not available or feasible."[41] Specifically, the "GCP will be most useful in situations in which a **smaller subset of activities**, such as building single family homes, a specific type of agricultural practice, or similar activities of limited scope can be described and their impacts to listed species and their habitats can be **adequately analyzed** by the Service."[42] A significant limitation of a GCP is that its scope is "limited to what Service personnel can effectively analyze" "[b]ecause there is no applicant to assist with an analysis of the effects of covered activities and with drafting the NEPA documents.[43]

Here, no showing has been made to support why the proposed GCP is appropriate and adequate to protect the three listed species. Instead, the Service's decision to draft a GCP solely seems to be based on the fact that the oil and gas companies requested that the agency utilize the GCP process[44] to expedite the processing of future projects. However, permitting oil and gas activities in the County should not be rushed and environmental review should not be reduced. Without the requisite showing to support the decision to initiate the GCP process, there is no basis for circumventing the express HCP procedures under ESA.

Additionally, the Policy expressly states it is intended to benefit small landowners who are burdened in time and expense by the HCP process.[45] Here, however, prospective applicants are sophisticated, resource-rich oil and gas companies—a far cry from "small landowners." These companies should bear the burden of drafting their own individual HCPs rather than place the burden on the Service and reap the benefits of an expedited, streamlined permitting process.

B. If the Service Nonetheless Decides to Proceed with the GCP Approach, the Agency Still Must Comply with Section 10 and Section 7 under the ESA.

Once a species is listed, ESA Section 10 and 7 provide a variety of procedural and substantive protections to ensure not only the species' continued survival, but its ultimate recovery.

1. The Proposed GCP Must Comply with the HCP Issuance Criteria under Section 10 to Be Legally Valid and Prior to Issuing Any ITPs.

The Policy specifies that a GCP must "include everything that a traditional HCP has EXCEPT the names of an applicant or the future permittees."[46] Thus, at minimum, the GCP must analyze and specify the amount of take anticipated, impacts that will likely result from such taking, mitigation and minimization measures, alternative actions, and all other measures necessary to meet the HCP issuance criteria under Section 10. 16 U.S.C. § 1539(a)(2)(A).

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[41] *Id.*
[42] *Id.* at 4. (emphasis added)
[43] *Id.* at 5.
[44] E-mail from Robyn Gerstenslager, U.S. Fish & Wildlife Service, Ventura Fish & Wildlife Office, Public Affairs Specialist, to Wendy Motta, District Representative, Office of Representative Salud Carbajal (August 18, 2017).
[45] *See* FN 25 at 1.
[46] *Id.* at 3.

Specifically, the Service's take assessment will be a critical component of the Plan, requiring a full and in-depth analysis by the agency. The take assessment must satisfy the ESA's conservation goal: to allow the covered species to recover and "reverse the trend to extinction." *Tennessee Valley Authority* 437 U.S at 153. To do so, the agency must thoroughly address direct and indirect impacts, as well as cumulative impacts, that may occur as a result of an incidental taking of the covered species.

Direct impacts resulting from the following activities may include, but are not limited to:

a. Oil Well Pad grading and grubbing
   - Direct mortality from crushing or burial
   - Loss of habitat & forced relocation
   - Erosion and sedimentation from graded pads and facilities affecting nearby aquatic habitats of CTS and RLF
   - Roadkill
   - Introduction of barriers to dispersal (e.g., solid walls)
   - Attracting predators

b. Pipeline construction
   - Direct mortality
   - Loss of habitat / forced relocation
   - Entrapment in trenches
   - Erosion and sedimentation from graded trenches affecting nearby aquatic habitats of CTS and RLF
   - Roadkill
   - Introduction of barriers to dispersal e.g., trenches or above ground pipelines
   - Attracting predators

c. Surface Oil Spills and Oil Seeps
   - Direct mortality due to drowning/smothering in oil in burrows
   - Loss of egg masses
   - Loss of habitat e.g., breeding habitat
   - Loss of vegetation cover
   - Impacts from cleanup, including direct mortality from crushing or burial

Indirect impacts may also occur from the following activities:

- Night lighting, noise and human presence.
- Production of water for steam injection
- Dewatered creek and wetland habitats caused by wells or diversions
- Spill cleanup including direct mortality from crushing or burial

In addition to adequately analyzing all potential impacts, the Plan must quantify the level of take anticipated for each covered species, which can be expressed as a number of individual animals, as habitat acres, or other appropriate measures.

The Plan must also sufficiently analyze measures to minimize and mitigate the impacts of such taking "to the maximum extent practicable." 16 U.S.C. § 1539(a)(2)(B)(ii). "Determining whether an applicant meets this standard for minimizing and mitigating the take 'typically requires consideration of two factors: adequacy of the minimization and mitigation program, and whether it is the maximum that can be practically implemented by the applicant.'" *Klamath-Siskiyou Wildlands Center v. National Oceanic and Atmospheric Administration* 99 F.Supp.3d 1033, 1047 (N.D. Cal. 2015); *quoting* U.S. Fish and Wildlife Service, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* at 7–3 (November 4, 1996).

In analyzing these measures, the Plan should identify a description of the desired outcome for the covered species and their habitats. The stated goals function as broad guiding principles for the operating conservation program and are the rationale behind the minimization and mitigation strategies (e.g., maintain a viable population in the conservation area). Measures that will be implemented to mitigate or compensate for unavoidable impacts must also be considered, particularly with regards to the LYS. It is highly unlikely that LYS can be restored in the wild because LYS has never been successfully propagated in the wild.[47] LYS propagation was previously attempted by the Santa Barbara Botanic Garden ("Garden"), but, according to the correspondence from the Garden, efforts failed.[48] The Service also informed the County that LYS restoration in the wild has never been successful.[49] Thus, funding research alone would not serve as legally sufficient mitigation for the proposed activities' impacts to this species.

Finally, the Plan must adequately analyze alternatives to the proposed action, as well as changed and unforeseen circumstances. 16 U.S.C. § 1539(a)(2)(A)(iii). In analyzing changed circumstances, the Plan should identify all reasonably foreseeable circumstances, including spills and oil seeps, and must include any additional conservation and mitigation measures that are necessary to respond to the changes in circumstances. Such measures should be considered part of the Plan's operating conservation program.

While the aforementioned discussion is by no means comprehensive, it preliminarily identifies the scope of analysis that the Service must conduct to ensure that the proposed Plan is legally sufficient.

2. The Service Must Ensure that Issuance of Any ITPs Is Consistent with Section 7(a)(2).

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[47] E-mail from Denise Knapp, Ph.D, Director of Conservation and Research, Santa Barbara Botanic Gardens, to Brian Trautwein, Environmental Analyst / Watershed Program Coordinator, EDC (June 17, 2016).
[48] *Id.*
[49] Letter from USFWS, to County of Santa Barbara, Comment letter on Draft EIR for PCEC, at 9–10 (April 3, 2015).

Section 7 consultation must be conducted prior to issuance of an ITP.[50] The standard for initiating a formal consultation is low: "'[a]ny possible effect, whether beneficial, benign, adverse, or of an undetermined character, triggers the formal consultation requirement.'" *Western Watersheds Project v. Kraayenbrink* 632 F.3d 472, 496 (2011).

The Service must ensure that it complies with its duty to avoid jeopardy and destruction or adverse modification of critical habitat, through the Section 7 consultation process, prior to issuance of any ITPs under the proposed Plan.

C. Under NEPA, An EIS Must Be Prepared Where the Impacts are Significant and Thus Preparation of An EIS is Necessary Here.

In determining whether a proposed action may significantly affect the environment, thus necessitating an EIS, NEPA requires that both the context and intensity of that action be considered. 40 C.F.R. § 1508.27. In considering context, "[s]ignificance varies with the setting of the proposed action." 40 C.F.R. §§ 1508.27; 1508.27(a). Consideration of intensity, on the other hand, "refers to the severity of the impact," including impacts on "[u]nique characteristics of the geographic area such as proximity to park lands . . . wetlands . . . or ecologically critical areas," "[t]he degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration," and "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. §§ 1508.27; 1508.27(b).

Here, a full EIS should be prepared where the issuance of ITPs under the proposed Plan will significantly affect the quality of the human environment. First, implementation of the proposed Plan and the subsequent issuance of ITPs would result in significant impacts to endangered and threatened species where the oil and gas activities covered by the proposed Plan include possible take of CTS, CRLF, and LYS. 40 CFR 1508.27(b)(9). Construction activities associated with oil and gas development have serious direct and indirect impacts on the covered species, including:

a. Oil Well Pad Grading and Grubbing
   - Direct mortality from crushing or burial
   - Loss of habitat and forced relocation
   - Erosion and sedimentation from graded pads and facilities affecting nearby aquatic habitats of CTS and CRLF
   - Roadkill
   - Introduction of barriers to dispersal (e.g., solid walls)
   - Attracting predators

b. Pipeline Construction

[50] U.S. Fish and Wildlife Service and National Marine Fisheries Service, *Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities under Section 7 of the Endangered Species Act* at 2-4 (March 1998).

- Direct mortality from crushing or burial
- Loss of habitat and forced relocation
- Entrapment in trenches
- Erosion and sedimentation from graded trenches affecting nearby aquatic habitats of CTS and RLF
- If redistribution of water is upslope of a breeding site, the open trench will divert surface runoff and adversely affect the hydroperiod of the pond
- Roadkill
- Introduction of barriers to dispersal, e.g., trenches or above ground pipelines
- Attracting predators
- Local and regional fragmentation of habitat, i.e., at the metapopulation level

Operation activities also will result in significant impacts to the covered species, including, but not limited to:

a. Oil Seeps
   - Direct mortality from drowning or smothering in oil in burrows
   - Loss of egg masses
   - Loss of habitat, e.g., breeding habitat
   - Loss of vegetation cover
   - Impacts from spill cleanup including direct mortality from crushing or burial

b. Surface oil spill
   - Direct mortality from spills entering occupied habitat
   - Loss of egg masses
   - Impacts from spill cleanup, including direct mortality from crushing or burial
   - Loss of cover vegetation

c. Well Pad Operation
   - Well pads may capture and retain rainwater to create an attractive nuisance that can become polluted by well chemicals and/or species suffer direct mortality from vehicles, humans, and/or equipment
   - Nooks and crannies of well pads may be attractive to species as habitat, but these spaces are in constant danger of collapse, intentional filling, or rodenticide application, with direct impacts to CRLF and CTS that harbor there

Indirect effects of oil and gas activities on the covered species that must be sufficiently studied and addressed during the environmental review process include:

a. Light pollution
b. Noise
c. Human presence
d. Production of water for steam injection
e. Dewatered creek and wetland habitats caused by wells or diversions
f. Groundwater extraction
g. Spill cleanup, including direct mortality from crushing or burial
h. Reinjection of produced water

Second, and of particular importance, is that this action will establish a precedent for future oil and gas activities with significant effects and represents a decision in principle about a future consideration. 40 CFR 1508.27(b)(6). Residents in the County have growing and urgent concerns about global climate change, to which oil and gas production is a major contributor. In response to these concerns, the County Board of Supervisors adopted the County's Climate Change Guiding Principles and has already taken immediate, cost-effective and coordinated steps to reduce the County's collective greenhouse gas emissions.[51] This includes the County's Energy and Climate Action Plan, which seeks to reduce greenhouse gas emissions from community-wide sources by a minimum of 15% from the 2007 baseline emissions by 2020.[52] A project that seeks to "streamline" environmental review and create a "formulaic" process for issuing ITPs for oil and gas activities in the County is inconsistent with the County's energy future and establishes a bad precedent.

Moreover, the effects of oil and gas activities on the quality of the human environment are highly controversial. 40 CFR 1508.27(b)(4). This is especially true after the Plains All American Pipeline oil spill in May of 2015 that polluted the Gaviota coast with crude oil. Both the County and residents alike are focused on more renewable energy sources and cutting down fossil fuel emissions in the County rather than ramping up oil and gas production.

Third, the proposed action has the potential to seriously affect public health and safety negatively and many of these potential effects are highly uncertain and involve unknown risks. 40 C.F.R. 1508.27(b)(5); 40 C.F.R. 1508.27(b)(2). Air surrounding oil and gas production areas are vulnerable to toxic emissions and contribute to global climate change. Proposed mitigation measures for greenhouse gas emissions are typically vague, uncertain, and unenforceable. Also, spills of oil and gas wastes and/or chemicals used in production can pollute ground and surface water and soil. Between 2010 to 2015, the County's Petroleum Unit was notified of, and responded to an average of 19 releases each year form onshore oil and gas activities, resulting in approximately 164 barrels of crude oil and 160 barrels of produced water on aver per year.[53] Onshore oil seeps have occurred over the years, particularly in the Orcutt Hill oil and gas field.[54]

[51] SB Res. 15-144.
[52] *Id.*
[53] County of Santa Barbara, Planning and Development, *Briefing on Oil and Gas Development in Santa Barbara County* at 5 (September 2, 2015).
[54] *Id.*

Seeps can emerge in densely vegetated areas and steep canyons, and are not always discovered right away if at all. Additionally, produced water may be brought to the surface during extraction. This water can be contaminated with hydrocarbons, salts, metals, drilling fluids, and/or muds that may evaporate on the surface, be released into surface waters, or be re-injected into the ground.

Fourth, Santa Barbara County has particularly unique characteristics, such as ecologically critical areas, parks, recreation areas, historic sites, etc., that government and its residents alike work to protect and preserve. 40 CFR 1508.27(b)(3). The County also hosts a significant portion of prime agricultural lands that local government, as well as County residents, recognize must be protected. Moreover, environmental biologists have identified fifty-seven different sites throughout the County and offshore to designate for scientific preserves.[55] These preserves include 14 ecological communities of greatest interest that have been judged as rare and/or endangered.[56] The County's scenic beauty is another consideration as it is one of the principal factors that has attracted its residents and visitors.

Taken together, it is clear that full environmental review will be necessary here to ensure the Service adequately analyzes the proposed action.

IV. Conclusion

For the foregoing reasons, the proposed GCP is not an appropriate or legitimate mechanism to ensure protection of the RLF, LYS, or CTS from oil and gas activities in Santa Barbara County. The Service should not be influenced by the oil and gas companies' request to use the GCP approach to streamline the issuance of ITPs here. Based on the reasoning set forth in detail in this letter, it is highly unlikely adequate review and analysis will be conducted with the GCP process.

Nevertheless, if the Service decides to prepare a GCP, it must be compliant with the HCP issuance criteria set forth under Section 10(a)(2)(B). Moreover, and in addition to the GCP, an EIS is must be prepared given that the proposed action will significantly affect the quality of the human environment.

Sincerely,

Tara C. Messing

Tara C. Messing
Staff Attorney

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[55] Scientific preserves are areas which would be closed to the general public to minimize deleterious environmental effects occurring both naturally and through man's activities.

[56] Planning and Development for County of Santa Barbara, *Santa Barbra County Comprehensive Plan; Environmental Resource Management Element (ERME)* at 9 (May 2009).

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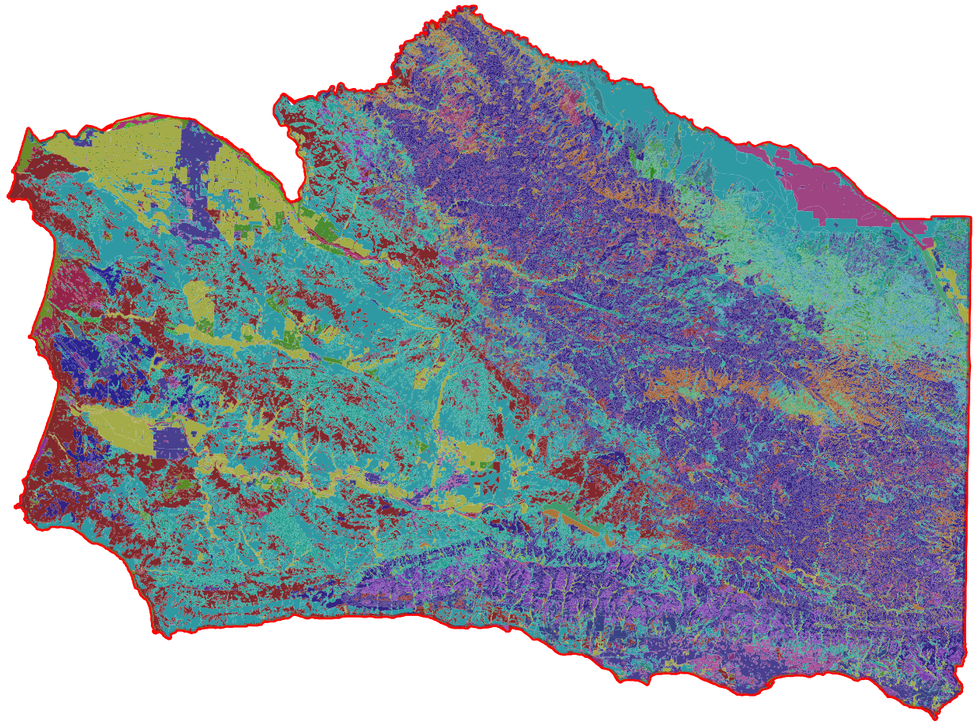
Appendix C
CALVEG Zone 5 and Zone 6 Vegetation Mapping and Descriptions

Appendix C
CALVEG Zone 5 and Zone 6 Vegetation Mapping and Descriptions



Calveg_SBCounty

- Agriculture (General)
- Agriculture Pond or Water Feature
- Annual Grasses and Forbs
- Arrowweed
- Baccharis (Riparian)
- Barren
- Basin Sagebrush
- Bigcone Douglas-Fir
- Birchleaf Mountain Mahogany
- Bishop Pine
- Black Cottonwood
- Blue Oak
- Buckwheat
- California Bay
- California Juniper (shrub)
- California Juniper (tree)
- California Sagebrush
- California Sycamore
- Canyon Live Oak
- Ceanothus Mixed Chaparral
- Chamise
- Coast Live Oak
- Coastal Mixed Hardwood
- Conifer Agriculture (Xmas Trees)
- Coulter Pine
- Coyote Brush
- Douglas-Fir - Ponderosa Pine
- Dune
- Encelia Scrub
- Eucalyptus
- Flooded Row Crop Agriculture
- Fremont Cottonwood
- Gray Pine
- Great Basin - Mixed Chaparral Transition
- Great Basin Mixed Scrub
- Incense Cedar
- Interior Live Oak
- Interior Mixed Hardwood
- Intermittent Lake or Pond
- Intermittent Stream Channel
- Jeffrey Pine
- Knobcone Pine
- Lower Montane Mixed Chaparral
- Madrone
- Manzanita Chaparral
- Mixed Conifer - Pine
- Non-Native/Invasive Grass
- Non-Native/Ornamental Conifer
- Non-Native/Ornamental Conifer/Hardwood
- Non-Native/Ornamental Grass
- Non-Native/Ornamental Hardwood
- Non-Native/Ornamental Shrub
- Nurseries
- Ocean
- Orchard Agriculture
- Pastures and Crop Agriculture
- Perennial Grasses and Forbs
- Perennial Lake or Pond
- Pickleweed - Cordgrass
- Rabbitbrush
- Red Shanks Chaparral
- Reservoir
- Riparian Mixed Hardwood
- Riparian Mixed Shrub
- River/Stream/Canal
- Riversidean Alluvial Scrub
- Sage (Salvia spp.)
- Saltbush
- Scalebroom
- Scrub Oak
- Singleleaf Pinyon Pine
- Soft Scrub Mixed Chaparral
- Sumac Shrub
- Tanoak (Madrone)
- Tilled Earth
- Tucker / Muller Scrub Oak
- Tule - Cattail
- Upper Montane Mixed Chaparral
- Urban or Industrial Impoundment
- Urban-related Bare Soil
- Urban/Developed (General)
- Valley Oak
- Vegetated Dune
- Vineyard - Shrub Agriculture
- Water (General)
- Wedgeleaf Ceanothus
- Wet Meadows
- White Alder
- Willow
- Willow (Shrub)

1 inch = 11.00387 miles

0 11 Miles

Service Layer Credits:

FIGURE 1

Figure Title
Figure Title2
Project Name
Project Location, County, State

wood.

Path: Q:\3551_Planning\Oil_Gas_SantaBarbaraEA_GSA314C007\MXD\WorkingMaps\working.mxd, chris.nixon, 12/20/2018

Table C-1. CALVEG Vegetation Alliances Occurring within the Planning Area

CALVEG Vegetation Alliance (Complete Descriptions Provided in Appendix C)	Planning Area Region				
	Santa Maria Valley	San Antonio Creek	Lompoc Valley	Santa Ynez Valley	Santa Barbara Coastline
Agriculture (General) (AG)	✓				✓
Agriculture Ponds / Water Features (A7)	✓	✓		✓	✓
Annual Grasses and Forbs (HG)	✓	✓	✓	✓	✓
Baccharis (Riparian) (ML)	✓				
Barren (BA)	✓	✓	✓	✓	✓
Bishop Pine (PM)	✓	✓	✓		✓
Blue Oak (QD)	✓	✓			
Buckwheat (SB)	✓	✓		✓	
California Bay (QB)				✓	
California Sagebrush (SS)	✓	✓	✓	✓	✓
California Sycamore (QP)	✓				✓
Canyon Live Oak (QC)	✓	✓			
Ceanothus Mixed Chaparral (CC)	✓	✓		✓	✓
Chamise (CA)	✓	✓		✓	✓
Coast Live Oak (QA)	✓	✓	✓	✓	✓
Coastal Mixed Hardwood (EX)	✓		✓	✓	✓
Conifer Agriculture (A1)				✓	
Coulter Pine (PC)	✓	✓			
Coyote Brush (CK)	✓		✓	✓	✓
Dunes (DU)	✓				✓
Eucalyptus (QZ)	✓		✓		✓
Flooded Row Crop Agriculture (A5)	✓				

CALVEG Vegetation Alliance (Complete Descriptions Provided in Appendix C)	Planning Area Region				
	Santa Maria Valley	San Antonio Creek	Lompoc Valley	Santa Ynez Valley	Santa Barbara Coastline
Gray Pine (PD)	✓				
Interior Mixed Hardwood (NX)	✓				
Intermittent Lake or Pond (W8)				✓	✓
Intermittent Stream Channel (W6)	✓				
Lower Montane Mixed Chaparral (CQ)	✓	✓	✓	✓	✓
Manzanita Chaparral (SD)	✓		✓		✓
Non-Native/Invasive Grass					✓
Non-Native/Ornamental Conifer/Hardwood (IM)				✓	
Non-Native/Ornamental Grass (IG)	✓	✓	✓	✓	✓
Non-Native/Ornamental Hardwood (IH)	✓	✓	✓	✓	✓
Non-Native/Ornamental Shrub (IS)					✓
Nurseries (A8)					✓
Orchard Agriculture (A4)	✓	✓	✓	✓	✓
Pastures and Crop Agriculture (A6)	✓	✓	✓	✓	✓
Perennial Grasses and Forbs (HM)	✓				
Perennial Lake or Pond (W2)				✓	
Redshanks (CR)	✓				
Reservoir (W3)				✓	✓
Riparian Mixed Hardwood (NR)	✓	✓	✓	✓	✓
Riparian Mixed Shrub (NM)	✓				
River and Streams (W1)	✓				
Riversidean Alluvial Scrub (RS)	✓				
Scrub Oak (CS)	✓	✓		✓	✓

CALVEG Vegetation Alliance (Complete Descriptions Provided in Appendix C)	Planning Area Region				
	Santa Maria Valley	San Antonio Creek	Lompoc Valley	Santa Ynez Valley	Santa Barbara Coastline
Mixed Soft Scrub Chaparral (SQ)	✓				✓
Tanoak (Madrone) (QT)			✓		✓
Tilled Earth (A3)	✓	✓	✓	✓	✓
Tule – Cattail (HT)					✓
Urban or Developed (UB)	✓	✓	✓	✓	✓
Urban-Related Bare Soil (IB)	✓	✓	✓	✓	✓
Valley Oak (QL)	✓	✓	✓	✓	✓
Vineyard - Shrub Agriculture (A2)	✓	✓	✓	✓	✓
Water (General) (WA)	✓	✓	✓	✓	✓
Willow (QO)	✓	✓	✓		
Willow (Shrub) (WL)	✓		✓	✓	✓

Source: U.S. Forest Service (USFS) 2009.

Vegetation Descriptions

CENTRAL VALLEY ECOLOGICAL PROVINCE

CALVEG ZONE 5

March 12, 2009

Note: This geographically diverse Province consists of

- Three subsections in the Northern California Interior Coast Ranges Section (M261C) ["Ranges"]
- Twenty-six subsections in the Great Valley Section (262A) ["Valley"]
- Five subsections in the Sierra Nevada Foothills Section (M261F) ["Foothills"]
    - Tuscan Flows (M261Fa) ["Tuscan"]
    - Lower Foothills Metamorphic Belt (M261Fb) ["Lower Metamorphic"]
    - Lower Granitic Foothills (M261Fc) ["Lower Granitic"]
    - Southern Granitic Foothills (M261Fd) ["Southern Granitic"]
    - San Emigdio Mountains (M261Fe) ["San Emigdio"]

Steepness of slope is indicated as:

- High gradient or steep (greater than 50%)
- Moderate gradient or moderately steep (30% to 50%)
- Low gradient (less than 30%)

Note: Douglas-fir consists of two species in this zone and were given two common names to distinguish them

CONIFER FOREST / WOODLAND

DF
PACIFIC DOUGLAS-FIR ALLIANCE

Pure stands of Pacific Douglas-fir (Pseudotsuga menziesii) occur only sparsely on moist or shaded sites in the Foothills and Ranges Sections of this zone at elevations up to about 4600 ft (1402 m). They are usually young, dense monotypic stands that occur adjacent to trees such as Ponderosa Pine (Pinus ponderosa), Canyon Live Oak (Quercus chrysolepis) and Blue Oak (Q. douglasii).

DM
BIGCONE DOUGLAS-FIR ALLIANCE

Bigcone Douglas-fir (Pseudotsuga macrocarpa) occurs in a limited distribution from the Santa Ynez Mountains (Santa Barbara County in the South Coast and Montane Ecological Calveg zone) and the Tehachapi Mountains (Kern County in this zone) south to San Diego County. As a conifer, it has a rare ability to sprout from dormant buds buried below its thick bark after scorching by surface (not crown) fires and is adaptable to a variety of site conditions from moist canyon bottoms to dry hillslopes. However, Bigcone Douglas-fir dominated stands have been mapped only sparsely in this zone. They were identified in the extreme southern area of the Foothills Section at elevations below about 6000 ft (1830 m) and are close to more abundant populations in the South Coast and Montane Ecological Calveg zone. Associates include semi-arid species such as Singeleaf Pinyon Pine (Pinus monophylla), Tucker Oak (Quercus john-tuckeri) and Canyon Live Oak (Q. chrysolepis) in the Tehachapi Mountains.

DP
DOUGLAS – FIR - PINE ALLIANCE

This Alliance is a mixture of Douglas-fir (Pseudotsuga menziesii) and Ponderosa Pine (Pinus ponderosa) that usually occur on moderately steep slopes below an elevation of about 5200 ft (1586 m). It has been mapped sparsely in the Ranges Section and occasionally in the Foothills Section. Canyon Live Oak (Quercus chrysolepis), Interior Live Oak (Q. wislizenii) and Blue Oak (Q. douglasii are common hardwood associates. Shrubs in low to mid montane environments are also likely to be associated with these stands such as Whiteleaf Manzanita (Arctostaphylos viscida).

DW
DOUGLAS - FIR - WHITE FIR ALLIANCE

Douglas - Fir (Pseudotsuga menziesii) occasionally associates with White Fir (Abies concolor) on mesic slopes at elevations just below about 5000 ft (1524 m) in this zone. It has been mapped very sparsely in the Ranges Section, sometimes with its associate, Canyon Live Oak (Quercus chrysolepis) in mixed conifer – hardwood stands.

EP
EASTSIDE PINE ALLIANCE

Jeffrey Pine (Pinus jeffreyi) dominates this open forest type found frequently in the xeric, transmontane side of the crests of the San Bernardino and San Gabriel Mountains in the South Coast and Montane Ecological Calveg zone. In this zone (Central Valley Ecological Calveg), outliers of these stands have been mapped occasionally in southwestern areas of the Foothills Section at elevations up to about 7000 ft (2135 m). Great Basin shrubs such as Big Sagebrush (Artemisia tridentata) and Tucker Oak (Quercus john-tuckeri) are commonly associated in the understory of this type. Trees such as Singleleaf Pinyon Pine (P. monophylla), White Fir (Abies concolor) and Canyon Live Oak (Q. chrysolepis) are also found within and adjacent to these stands.

JP
JEFFREY PINE ALLIANCE

Pure Jeffrey Pine (Pinus jeffreyi) dominated stands have been mapped very sparsely in the Foothills Section. In contrast to the Eastside Pine Alliance, the Jeffrey Pine Alliance does not have a Great Basin shrub component, although in this area it occurs in xeric areas as well. These stands are outliers from the more prominent distribution patterns in the Sierra Nevada Mountains, having been mapped at elevations between about 4600 – 6800 ft (1402 – 2074 m). Canyon Live Oak (Quercus chrysolepis) is its main hardwood associate on these sites, and Singleleaf Pinyon Pine (P. monophylla) often occurs in adjacent stands.

JT
CALIFORNIA JUNIPER ALLIANCE

The arboreal form of California Juniper (Juniperus californica) dominates the uppermost conifer layer of this alliance. These stands occur in areas far separated from those of the shrub form in this area, having been mapped sparsely within the Foothills Section at elevations beween about 2400 – 5400 ft (732 – 1646 m). Gray Pine (Pinus sabiniana) is the most commonly associated tree within these stands in addition to shrubs such as Wedgeleaf Ceanothus (C. cuneatus) and California Buckwheat (Eriogonum fasciculatum). Annual grasses and herbaceous species are also associated with this type.

KP
KNOBCONE PINE ALLIANCE

Knobcone Pine (Pinus attentuata) has been mapped very sparsely in the Foothills and Ranges Sections as remnants of its greater frequencies in other zones. Ponderosa Pine (P. ponderosa) and Chamise (Adenostoma fasciculatum) are found adjacent to these sites, which have been mapped at elevations below about 3200 ft (976 m).

MD
INCENSE CEDAR ALLIANCE

Incense Cedar (Calocedrus decurrens), a wide-ranging species that competes well on a variety of sites, has been mapped extremely sparsely as a dominent conifer in the Foothills Section below about 4800 ft (1464 m). Singleleaf Pinyon Pine (Pinus monophylla) and Mixed Conifer – Pine Alliances are found adjacent to these sites.

MF
MIXED CONIFER - FIR ALLIANCE

This Alliance is extensive in many areas of the state and usually consists of a mixture of conifer species in which White Fir (Abies concolor) usually forms a conspicuous component. This type is rare in this zone, but has been mapped in limited areas of the Foothills and Ranges Sections in proximity to national forests within an elevation range of about 3600 – 7600 ft (1098 – 2318 m). The Eastside Pine, Singleleaf Pinyon Pine (Pinus monophylla), Big Sagebrush (Artemisia tridentata) and Upper Montane Mixed Chaparral Alliances are associated types towards the east and Pacific Douglas-fir (Pseudotsuga menziesii) and Mixed Conifer – Pine Alliances towards the west. Canyon Live Oak (Quercus chrysolepis) is consistently present in both areas.

MI
PIUTE CYPRESS ALLIANCE

The species Arizona Cypress (Cupressus arizonica) is wide-ranging and occurs more commonly in the southwestern states and Mexico. One of its rarely occurring subspecies, Piute Cypress (Cupressus arizonica ssp. nevadensis), has been identified and mapped very sparsely within Kern County in the Foothills Section within an elevation range of about 4000 – 5800 ft (1220 – 1768 m). Interior Live Oak (Quercus wislizenii) is an associated hardwood in this type in addition to shrubs in the Lower Montane Mixed Chaparral Alliance such as Wedgeleaf Ceanothus (Ceanothus cuneatus) and California Buckwheat (Eriogonum fasciculatum).

MN
MCNAB CYPRESS ALLIANCE

McNab Cypress (Cupressus macnabiana) occupies and dominates some upland ultramafic (peridotite) sites of the Sierra foothills of the Central Valley Ecological Calveg zone. Outliers have been mapped very sparsely in the Foothills Section on gabbroic rocks below about 2800 ft (854 m) elevation. Ponderosa Pine (Pinus ponderosa) and Interior Live Oak (Quercus wislizenii) are trees associated with this Alliance.

MP
MIXED CONIFER -PINE ALLIANCE

The Mixed Conifer - Pine Alliance has been mapped sparsely in the Foothills and Ranges Sections. It is typically found at slightly higher altitudes than the Ponderosa Pine (Pinus ponderosa) Alliance but generally below about 7000 ft (2135 m) as mapped in the Foothills and Ranges Sections. Important components of this Alliance in these foothills areas include Douglas - Fir (Pseudotsuga menziesii) in the west, Ponderosa Pine (Pinus ponderosa), and Singleleaf Pinyon Pine (P. monophylla) in the east and both the Upper and Lower Mixed Chaparral Alliance in both areas. Canyon Live Oak (Quercus chrysolepis) is the main hardwood associate in the south.

PD
GRAY PINE ALLIANCE

Gray Pine (Pinus sabiniana) forms sparse to prominent open stands throughout this zone at lower elevations up to about 5200 ft (1586 m). This type is very common in the Ranges and Foothills Sections and less so in the Valley Section. Blue Oak (Quercus douglasii) is generally adjacent to or within these sites and Interior Live Oak (Quercus wislizenii) and minor amounts of Ponderosa Pine (P. ponderosa) also occur, mainly in the Foothills Section. Shrubs such as Chamise (Adenostoma fasciculatum) and Wedgeleaf Ceanothus (C. cuneatus) are common low-elevation shrubs associated with this type.

PJ
SINGLELEAF PINYON PINE ALLIANCE

Singleleaf Pinyon Pine (Pinus monophylla) has been mapped abundantly in the San Emigdio Subsection of the Foothills Section. In this area, it is mainly found adjacent to the Eastside Pine and Canyon Live Oak (Quercus chrysolepis) Alliances. This semi-arid open woodland alliance may also include Junipers (Juniperus spp.), scrub oaks such as Tucker Oak (Quercus john-tuckeri), Manzanitas (Arctostaphylos spp.) and Big Sagebrush (Artemisia tridentata). It generally occurs on steep slopes and up to an elevation of about 7400 ft (2256 m).

PP
PONDEROSA PINE ALLIANCE

Ponderosa Pine (Pinus ponderosa) occasionally dominates the vegetation of sites that are less shaded than those occupied by Douglas – fir (Pseudotsuga menziesii) in the same general elevation range. Any of the common oaks may associate with the pine in this alliance, including Canyon Live Oak (Quercus chrysolepis), Interior Live Oak (Quercus wislizenii), Black Oak (Quercus kelloggii), Blue Oak (Quercus douglasii), or very infrequently, Valley Oak (Quercus lobata). The Ponderosa Pine Alliance has been mapped with abundance in the Foothills Section and infrequently in the Valley and Ranges Sections. It is found on all slopes and aspects in this zone, mainly at elevations below about 6000 ft (1830 m). Lower montane chaparral shrubs such as scrub oaks (Quercus spp.), Chamise (Adenostoma fasciculatum) and Ceanothus species are also associated with this type.

PW
PONDEROSA PINE - WHITE FIR ALLIANCE

Ponderosa Pine (Pinus ponderosa) and White Fir (Abies concolor) occur together in this Alliance with no other significant conifers present in the mixture. This type has been mapped very rarely, and occurs in the extreme northeastern border of the San Emigdio Subsection of the Foothills Section. Slopes are very steep, aspects tend to be northerly and elevations are between about 5800 – 6200 ft (1768 – 1890 m). The principal associates are herbaceous species in the Annual Grasses and Forbs Alliance and Black Oak (Quercus kelloggii).

HARDWOOD FOREST / WOODLAND

NR
RIPARIAN MIXED HARDWOOD ALLIANCE

Riparian areas often are a mixture of hardwoods with some shrubs rather than areas of monotypic species. Such sites have been mapped sparsely in all three sections of this zone at elevations generally below about 4200 ft (1280 m). Typical hardwoods species mixtures in the Central Valley include Willows (Salix spp.), Valley Oak (Quercus lobata), Fremont Cottonwood (Populus fremontii), California Sycamore (Platanus racemosa), and White Alder (Alnus rhombifolia). Blue Oak (Q. douglasii) is a closely associated upland hardwood that may occasionally be found in this mixture.

NX
INTERIOR MIXED HARDWOOD ALLIANCE

No single species is dominant in the Interior Mixed Hardwood Alliance. It has been identified in scattered pockets in the Valley and Ranges Sections and more abundantly in the Foothills Section. Density of Blue Oak (Quercus douglasii) and Interior Live Oak (Q. wislizenii) usually exceed that of Black Oak (Q. kelloggii) in this mixture. Minor amounts of California Buckeye (Aesculus californica), California Bay (Umbellularia californica), and Coast Live Oak (Q. agrifolia) may also be included. Because this Alliance has been mapped mainly at elevations below about 5000 ft (1524 m), it is likely to have inclusions of lower elevation chaparral species such as Wedgeleaf Ceanothus (Ceanothus cuneatus), scrub Oaks (Quercus spp.) and Chamise (Adenostoma fasciculatum).

QA
COAST LIVE OAK ALLIANCE

This type, dominated by Coast Live Oak (Quercus agrifolia), has been mapped sparsely on mesic inland slopes in the Valley and Ranges Sections. It is also found adjacent to Blue Oak (Quercus douglasii) and Gray Pine (Pinus sabiniana) stands on mesic savannas. In these locations, it occurs below about 2600 ft (792 m) in association with low elevation chaparral species such as Chamise (Adenostoma fasciculatum) and scrub Oaks (Quercus spp.).

QC
CANYON LIVE OAK ALLIANCE

Canyon Live Oak (Quercus chrysolepis) as a dominant species has been frequently mapped in scattered stands in the Foothills and Ranges Sections at elevations below about 6400 ft (1952 m). Its main conifer associates include Pacific Douglas-fir (Pseudotsuga menziesii), Ponderosa Pine (Pinus ponderosa), Gray Pine (P. sabiniana) and in the Tehachapi Mountains, also with Singleleaf Pinyon Pine (P. monophylla). Interior Live Oak (Q. wislizenii), Wedgeleaf Ceanothus (C. cuneatus) and annual grasses and forbs are also likely to be found within and adjacent to these stands.

QD
BLUE OAK ALLIANCE

This Alliance is dominated by Blue Oak (Quercus douglasii) which naturally occurs in an oak-grass association on well drained, gentle slopes as identified in the three sections of this zone. It has been mapped more frequently than any other naturally occurring alliance in this area other than the Annual Grasses and Forbs Alliance. This hillside alliance occurs on the fringes of the Central Valley from Redding to Bakersfield with a mapped elevation that is usually below about 5000 ft (1524 m). Minor inclusions of trees such as Gray Pine (Pinus sabiniana), Ponderosa Pine (P. ponderosa), Valley Oak (Q. lobata) and/or California Buckeye (Aesculus californica) and chaparral shrubs such as Wedgeleaf Ceanothus (Ceanothus cuneatus) and Chamise (Adenostoma fascicultum) may also be present. The understory of the Blue Oak Alliance is dominated by annual grasses such as Wild Oats (Avena spp.), Cheatgrass (Bromus spp.), and Needlegrass (Achnatherum spp.).

QE
WHITE ALDER ALLIANCE

White Alder (Alnus rhombifolia) dominates the hardwoods component of the vegetation of this low elevation riparian Alliance. It has been mapped very sparsely in the Valley and Foothills Sections at elevations below about 1800 ft (548 m). The shrub California Hazelnut (Corylus cornuta) and the perennial Elk Clover (Aralia californica) may be found in the White Alder Alliance in addition to upland trees such as Blue Oak (Quercus douglasii) and Ponderosa Pine (Pinus ponderosa).

QF
FREMONT COTTONWOOD ALLIANCE

Fremont Cottonwood (Populus fremontii) occurs adjacent to stream courses within the Central Valley in riparian areas below about 4800 ft (1464 m). This Alliance, where the Cottonwood is the dominant hardwood, occurs in stringers adjacent to the upland Blue Oak (Quercus douglasii), Interior Live Oak (Q. wislizenii) and Valley Oak (Q. lobata) Alliances. It has been identified sparingly in the three sections of this zone. White Alder (Alnus rhombifolia) and Black Willow (Salix gooddingii) are occasional tree associates. Understory species which commonly occur include Blackberry (Rubus spp.), Blue Elderberry (Sambucus mexicana), Wild Cucumber (Marah fabaceus), and Poison Oak (Toxicodendron diversilobum).

QG
OREGON WHITE OAK ALLIANCE

The tree form of Oregon White Oak (Quercus garryana var. garryana) has been mapped very sparingly in the Ranges Section of this zone at elevations between about 1800 – 3400 ft (548 – 1036 m) in this area. Trees such as Douglas-fir (Pseduotsuga menziesii), Ponderosa Pine (Pinus ponderosa) and Canyon Live Oak (Q. chrysolepis) may be included as minor components of this type.

QH
PACIFIC MADRONE ALLIANCE

Madrone (Arbutus menziesii) has been mapped very infrequently in this area as an understory hardwood to Douglas-fir (Pseudotsuga menziesii) and Ponderosa Pine (Pinus ponderosa) conifer stands. It is much more abundant in moist sites west of the central valley, and has been mapped only in the northeastern portions of the Foothills Section at elevations from around 1700 – 2300 ft (519 – 702 m) in this zone.

QI
CALIFORNIA BUCKEYE ALLIANCE

California Buckeye (Aesculus californica), a small tree, may occasionally be found in pure, or nearly pure, stands in northern California up to an elevation to about 5000 ft (1525 m). It has been mapped sparingly in the Valley Section and with more abundance in the Foothills Section. Species such as Poison Oak (Toxicodendron diversilobum), California Bay (Umbellularia californica), Gray Pine (Pinus sabiniana), and Interior Live Oak (Quercus wislizenii) may be associated with these stands. Slopes are generally steep or very steep canyonsides or streamsides which are often generally north or west facing. Soils on these sites tend to be relatively coarse-textured sandy or gravelly loams in many areas.

QJ
COTTONWOOD - ALDER ALLIANCE

White Alder (Alnus rhombifolia) and Fremont Cottonwood (Populus fremontii) occur together very rarely in the Valley and Foothills Sections of this zone. This riparian Alliance has been mapped at elevations below about 2000 ft (610 m).

QK
BLACK OAK ALLIANCE

California Black Oak (Quercus kelloggii), a deciduous oak, generally occurs on well-drained soils as a dominant hardwood. It is relatively drought-resistant and has a wide elevation range above about 650 ft (200 m) in California. This alliance has been mapped very sparingly in the Ranges Section and frequently in the Foothills Section. It often associates with Blue, and Canyon and Interior Live Oaks (Quercus douglasii, Q. chrysolepis, Q. wislizenii) in mixed hardwood stands in this area below about 6400 ft (1952 m). Black Oak forms a prominent understory element in Douglas-fir (Pseudotsuga menziesii), Mixed Conifer – Pine and Ponderosa and Gray Pine (Pinus ponderosa, P. sabiniana) sites of the Sierra foothills.

QL
VALLEY OAK ALLIANCE

This alliance is dominated by Valley Oak (Quercus lobata), a deeply rooting hardwood, which formerly occurred in pure stands of large trees with limited woody understory. These stands occurred on valley bottoms and in rolling slopes, generally below 2000 ft (610 m) in the north. The present distribution pattern of Valley Oak is along major stream courses and on the deep, rich loamy soils of their alluvial deposits in areas within and along the eastern and western fringes of this zone. It has been mapped occasionally as a dominant hardwood in the three sections up to an elevation of about 5000 ft (1524 m) and more rarely as an understory hardwood in Ponderosa Pine (Pinus ponderosa) and Gray Pine (P. sabiniana) forests and woodlands. A few scattered Interior and/or Canyon Live Oaks (Quercus wislizenii, Q. chrysolepis) can be found throughout this Alliance.

QM
BIGLEAF MAPLE ALLIANCE

Bigleaf Maple (Acer macrophyllum), a deciduous hardwood found in a variety of usually moist or shaded habitats, occurs very rarely as a dominant type in this zone. However, it has been mapped very sparsely as a hardwood associate of Douglas-fir (Pseudotsuga menziesii) and Ponderosa Pine (Pinus ponderosa) forests in the elevation range of about 800 ft (244 m). These areas are in the Lower Metamorphic Subsection of the Foothills Section.

QO
WILLOW ALLIANCE

The Willow Alliance is a riparian type consisting of dominant tree Willows (Salix spp.) in any combination found along permanent streams in this zone. It has been mapped very sparsely in the three sections at elevations below about 3700 ft (1128 m). The more common Willows include Arroyo (S. lasiolepis), Black (S. gooddingii), Narrow-leaved (S. exigua), Pacific (S. lucida ssp. lasiandra), and Red (S. laevigata). Black Willow is more likely to dominate sites below about 1650 ft (500 m) in this region. Associated riparian hardwoods include Fremont Cottonwood (Populus fremontii), California Sycamore (Platanus racemosa), and White Alder (Alnus rhombifolia).

QP
CALIFORNIA SYCAMORE ALLIANCE

California Sycamore (Platanus racemosa) reaches its northernmost limit in the eastern sectors of this zone. Although it usually mixes with other riparian hardwood species it may occasionally become dominant along springs, streams, and arroyos which have an underground water supply. The alliance has been mapped, for example, very sparingly along the Deer Creek drainage in the Foothills Section generally at elevations below about 2000 ft (610 m). Associated species include Willows (Salix spp.), White Alder (Alnus rhombifolia), Bigleaf Maple (Acer macrophyllum), and a variety of forbs and perennial grasses. Upland Blue Oaks (Quercus douglasii) are closely associated with this type.

QT
TANOAK ALLIANCE

The historic distribution range of Tanoak (Lithocarpus densiflorus) in the Sierra foothills area of this zone is mainly north of Amador County, although it is also found south to Mariposa County. Tanoak has been mapped very sparsely in this zone at elevations in the vicinity of 2000 ft (610 m). It has been identified only as an understory hardwood alliance in association with the Douglas-fir (Pseudotsuga menziesii), and Ponderosa Pine (Pinus ponderosa) Alliances.

QW
INTERIOR LIVE OAK ALLIANCE

Interior Live Oak (Quercus wislizenii) is a small to medium-sized, deeply rooting hardwood that often is found in shaded or moist sites as an erect tree. It is maintained on drier sites more often in a shrub form and has been mapped as a component of the Scrub Oak Alliance. It reaches its northernmost distribution in this zone and may be the dominant hardwood on recent alluvial terraces, older terraces and rolling hills throughout the Central Valley. This alliance is often located above Blue Oak (Q. douglasii) stands, generally below about 4400 ft (1220 m) in association with species such as Fremont Cottonwood (Populus fremontii), White Alder (Alnus rhombifolia), and upland trees as Canyon Live Oak (Q. chrysolepis), California Buckeye (Aesculus californica), Douglas-fir (Pseudotsuga menziesii) and Gray Pine (P. sabiniana). These sites have been mapped abundantly in the Foothills Section and sporadically in the Valley and Foothills Sections at low elevations. On north aspects and with increased elevation, Interior Live Oak becomes increasingly dominant and forms a prominent band in the foothills of the Sierra Nevada adjacent to the Sierra Nevada Section.

QZ
EUCALYPTUS ALLIANCE

This alliance occurs in pure stands in this zone. These Eucalyptus (Eucalyptus spp.) groves were usually planted, became naturalized and subsequently have dominated the valley sites, reproducing naturally through sprouting. Understory species are usually absent as the ground cover is dominated by litterfall from the shredding bark, leaves, flowers and fruit capsules of these hardwoods. The Eucalyptus Alliance has been mapped sparsely in all three sections at elevations below about 1600 ft (488 m).

TX
MONTANE MIXED HARDWOOD ALLIANCE

This alliance generally occurs on sites favorable to the growth of mid-montane conifers such as Ponderosa Pine (Pinus ponderosa) and usually above the Interior Mixed Hardwood sites. Black Oak (Quercus kelloggii) is the indictor species in this hardwood mixture, occurring with greater canopy cover than other hardwoods in this area. Other species such as Blue, Canyon or Interior Live Oak (Q. douglasii, Q. chrysolepis, Q. wislizenii) may be included, but are not the main species. The Alliance has been mapped sparsely in this zone but occurs in all five subsections of the Foothills Section on moderately steep to steep slopes. Elevations are generally in a wide range from 800 – 6000 ft (244 – 1830 m). The principal overstory conifer associates are Gray Pine (Pinus sabiniana), Douglas-fir (Pseudotsuga menziesii), and Ponderosa Pine.

SHRUBS AND SUBSHRUBS

BC
SALTBUSH ALLIANCE

Species of Saltbush (Atriplex spp.) are dominant in this sparsely mapped xeric, alkaline alliance. It occurs in both the Valley and Foothills Sections at elevations up to about 1200 ft (366 m), generally on low gradient slopes. Such areas afre often disturbed and adjacent to developed areas that limit the availability of water on these sites. Types identified as Annual Grasses and Forbs, Urban and Barren are most commonly associated with the Salbush Alliance in this zone.

BQ
GREAT BASIN – CHAPARRAL MIXED TRANSITION ALLIANCE

This type is defined by a mixture of common Great Basin-affinity shrubs, no single species becoming dominant in the mixture. In this area, the more common components are Big Basin Sagebrush (Artemisia tridentata ssp. tridentata), species of Rabbitbrush (Chrysothamnus spp.), and less commonly in the southeast, Tucker Oak (Quercus john-tuckeri). This type has been mapped sparsely only in the Foothills Section within the elevation range of about 3000 – 7000 ft (915 – 2135 m). Associated trees such as Singleleaf Pinyon Pine (Pinus monophylla) and Canyon Live Oak (Q. chrysolepis) are most likely to found within or adjacent to these sites.

BR
RABBITBRUSH ALLIANCE

Rabbitbrush, especially Rubber Rabbitbrush (Chrysothamnus nauseosus) occurs in pure, scattered patches in this area that are often interspersed with fields of annual grasses and herbaceous species. This type has been mapped sparsely in the Foothills Section, where it occupies low-gradient, mid-elevation slopes. These areas are often adjacent to both eastside conifers or alliances such as Singleleaf Pinyon Pine (Pinus monophylla) and Eastside Pine and hardwoods such as Blue or Canyon Live Oaks (Quercus douglasii, Q. chrysolepis). Other species adjacent to or represented in minor amounts at these sites typically include dryland species such as California Buckwheat (Eriogonum fasciculatum) and Big Sagebrush (Artemisia tridentata).

BS
BIG SAGEBRUSH ALLIANCE

Big Sagebrush (Artemisia tridentata), the dominant shrub of this Alliance, has been mapped prominently in the Foothills Section and very sparsely in the Valley Section. Its associates in this zone include conifers such as Singleleaf Pinyon Pine (Pinus monophylla), Jeffrey Pine (P. jeffreyi) and shrubs adapted to semiarid conditions such as Tucker Oak (Quercus john-tuckeri) and Rabbitbrush (Chrysothamnus spp.).

BX
GREAT BASIN - MIXED CHAPARRAL TRANSITION ALLIANCE

This Alliance is a mixture of chaparral species including mesic scrub oaks such as shrub Canyon Live Oak (Quercus chrysolepis spp. nana) and Greenleaf Manzanita (Arctostaphylos patula) with an equivalent vegetation cover of Great Basin species such as Big Sagebrush (Artemisia tridentata) and Tucker Oak (Q. john-tuckeri). This transitional type has been mapped sparsely in the Foothills Sections at elevations of up to about 7000 ft (2135 m). Trees such as Singleleaf Pinyon Pine (Pinus monophylla) and Canyon Live Oak (Q. c.) are typically found on adjacent sites.

C1
ULTRAMAFIC MIXED SHRUB ALLIANCE

This type is found on ultramafic soils and has been mapped very sparsely in the Ranges and Foothills Sections at elevations generally below about 2400 ft (732 m) in this zone. The Ultramafic Mixed Shrub Alliance consists of a mixture of shrubs such as Wedgeleaf Ceanothus (Ceanothus cuneatus var. cuneatus), Leather Oak (Quercus durata), Musk Brush (Ceanothus jepsonii), California Coffeeberry (Rhamnus california ssp. occidentalis), Silk-tassel (Garrya elliptica, G. congdonii), and Siskiyou Mat (Ceanothus pumilus).

CA
CHAMISE ALLIANCE

Relatively pure stands of Chamise (Adenostoma fasciculatum) occupy xeric sites within the elevation range of the Lower Montane Chaparral Alliance of this zone. This alliance has been mapped at elevations up to about 4400 ft (1342 m) and often is found in upper ridge slope positions. Low elevation chaparral shrubs such as scrub Oaks (Quercus spp.) may occur in minor amounts on these sites. Chamise stands have been mapped occasionally in all three sections. Trees such as Gray Pine (Pinus sabiniana), Blue Oak (Q. douglasii) and Interior Live Oak (Q. wislizenii) commonly occur in proximity to Chamise stands in addition to dry grasses and herbaceous species.

CC
CEANOTHUS CHAPARRAL ALLIANCE

Chaparral in this region is occasionally dominated in small areas by species of Ceanothus in contrast to the more extensively occurring mixed genera chaparrals. The Ceanothus Chaparral Alliance has been mapped occasionally in the three sections at elevations below about 4200 ft (1280 m). This low to mid elevation shrub alliance is identified by any of the following prominent species in this area: non-dominant Mountain Whitethorn (C. cordulatus), Wedgeleaf (C. cuneatus), mixed with Chaparral Whitethorn (C. leucodermis), Lemmon (C. lemmonii) or possibly the rarer Kern Ceanothus (C. pinetorum) or Wavyleaf (C. foliosus). Chaparral shrubs such as Birchleaf Mountain Mahogany (Cercocarpus betuloides), scrub Oaks (Quercus spp.) and Chamise (Adenostoma fasciculatum) are commonly associated with these species. Hardwoods such as Blue and Canyon Live Oaks (Q. douglasii, Q. chrysolepis), and conifers such as Ponderosa and Gray Pines (Pinus ponderosa, P. sabiniana) are likely to be found adjacent to these sites. This type typically occurs on cismontane slopes having mesic soils.

CJ
BREWER OAK ALLIANCE

Brewer Oak (Quercus garryana var. breweri) has been mapped as a shrub sparsely in scattered areas of the Foothills Section at elevations between 3000 – 5400 ft (915 – 1646 m) in this zone. Slopes are often steep and north to west facing. Associated species of this Alliance include Blue, Interior Live and Canyon Live Oaks (Q. douglasii, Q. wislizenii, Q. chrysolepis), various chaparral shrubs and annual grasses and herbaceous species.

CL
WEDGELEAF CEANOTHUS ALLIANCE

Wedgeleaf Ceanothus (Ceanothus cuneatus) may dominate low elevation shrub habitats that have recently had ground disturbances such as intense fires as well as on certain nutrient-poor substrates, such as coarse textured soils or ultramafics. This alliance has been mapped occasionally in the three sections at elevations below about 5600 ft (1708 m). Minor amounts of other lower elevation shrubs such as California Buckwheat (Eriogonum fasciculatum) and Chamise (Adenostoma fasciculatum) and trees such as Gray Pine (Pinus sabiniana) and Blue Oak (Quercus douglasii) are typically associated with this Alliance.

CQ
LOWER MONTANE MIXED CHAPARRAL ALLIANCE

This Alliance is a mixture of low-elevation chaparral species such as Whiteleaf and Common Manzanitas (Arctostaphylos viscida, A. manzanita), Wedgeleaf and Lemmon Ceanothus (Ceanothus cuneatus, C. lemmonii), Scrub Oaks (Quercus spp.), Chamise (Adenostoma fasciculatum), Silk-tassel (Garrya fremontii), Birchleaf Mountain Mahogany (Cercocarpus betuloides), California Buckwheat (Eriogonum fasciculaum), and other shrub species below productive coniferous and hardwood sites. No single species is dominant in the mixture. This Alliance has been mapped abundantly in the Ranges and Foothills Sections and more sparsely in the Valley Section, up to an elevation of about 6200 ft (1890 m).

CS
SCRUB OAK ALLIANCE

The Scrub Oak Alliance commonly occurs on moist, well shaded as well as semiarid slopes in the three sections of this zone at elevations below about 5600 ft (1708 m). Any mixture of shrubby oaks may be present, including Scrub Oak (Quercus berberidifolia), Leather Oak (Q. durata), shrub Canyon Live Oak (Q. chrysolepis var. nana) Brewer Oak (Q. garryana var. breweri), and Shrub Interior Live Oak (Q. wislizenii var. frutescens). In addition, Tucker Scrub Oak (Q. john-tuckeri) occurs in very open semi-arid transmontane stands in the Tehachapi Mountains at slightly higher elevations and generally steeper slopes. Conifers in proximity to these sites include Ponderosa and Singleleaf Pinyon Pines (Pinus ponderosa, P. monophylla).

CT
TUCKER OAK ALLIANCE

Dominance by Tucker Oak (Quercus john-tuckeri) identifies this alliance in the San Emigdio Subsection of the Foothills Section, where it has been mapped sparsely towards the southeast. Elevations are generally below about 6400 ft (1952 m), precipitation relatively low and sites are often adjacent to or include minor amounts of Great Basin species such as Singleleaf Pinyon Pine (Pinus monophylla) and Big Sagebrush (Artemisia tridentata), and dry annual grasses and forbs.

CW
WHITELEAF MANZANITA ALLIANCE

Whiteleaf Manzanita (Arctostaphylos viscida) is the dominant shrub of this alliance. It is often found as a major component of specialized habitats such as gabbroic areas of western Placer County in mixture with localized gabbro endemic shrubs and perennials. These sites have been mapped sporadically in the Ranges and Foothills Sections at elevations up to about 4000 ft (1220 m). Typical shrub and tree associates include Chamise (Adenostoma fasciculatum), Wedgeleaf Ceanothus (Ceanothus cuneatus), and Common Manzanita (A. manzanita), Gray Pine (Pinus sabiniana) and Blue Oak (Quercus douglasii).

CX
UPPER MONTANE MIXED CHAPARRAL ALLIANCE

A mid elevation mixed chaparral type has been mapped occasionally at elevations up to about 7000 ft (2135 m) in the Foothills and Ranges Sections in this zone. The indicator shrubs of this alliance are Snowbrush (Ceanothus velutinus), Deerbrush (Ceanothus integerrimus), and Greenleaf Manzanita (Arctostaphylos patula) towards the north, and Mountain Whitethorn (Ceanothus cordulatus), Bush Chinquapin (Chrysolepis sempervirens), Cherry (Prunus spp.), and Gooseberry (Ribes spp.) towards the south. Trees associated with this Alliance include Gray Pine (Pinus sabiniana) and Douglas-fir (Pseudotsuga menziesii) in the west and Singleleaf Pinyon Pine (P. monophylla) and White Fir (Abies concolor) in the east. Canyon Live Oak (Quercus chrysolepis) is closely associated with this alliance in both sections.

JC
CALIFORNIA JUNIPER ALLIANCE

California Juniper (Juniperus californica) may take shrublike or arborescent forms. In this zone, its shrub form dominates these juniper sites and has been mapped sparsely in the Foothills Section, typically within an elevation band of about 2800 – 5600 ft (854 – 1708 m). These sites are usually on moderately steep to steep slope gradients and often in shallow or nutrient-poor soils. In this area of the state, California Juniper associates with Great Basin woody species such as Singleleaf Pinyon Pine (Pinus monophylla), Big Sagebrush (Artemisia tridentata), and Tucker Oak (Quercus john-tuckeri), in addition to other Oaks (Quercus spp.) and annual grasses and forbs.

LS
SCALEBROOM ALLIANCE

Scalebroom (Lepidospartum squamatum) becomes dominant in this Alliance at elevations between 1200 – 4200 ft (366 – 1280

m) in the Foothills Section, where it has been mapped very sparsely. This species favors gravelly soils and xeric washes. It sometimes occurs in the vicinity of shrubs of drier sites such as Chaparral Yucca (Yucca whipplei), Rabbitbrush (Chrysothamnus spp.), and California Buckwheat (Eriogonum fasciculatum) as well as Great Valley trees such as Blue Oak (Quercus douglasii) and Gray Pine (Pinus sabiniana).

ML
BACCHARIS (RIPARIAN)

This Alliance identifies one or more species of Baccharis that dominate riparian areas and wetlands. It has been mapped in a limited area along Caliente Creek and other sites in the Foothills Section at elevations between 1000 – 2200 ft (305 – 670 m). Species that may be in this Alliance include Mule Fat (B. salicifolia), Marsh Baccharis (B. douglasii), and Squaw Waterweed (B. sergiloides). This Alliance is found adjacent to upland species such as Interior Live Oak (Quercus wislizenii), Gray Pine (Pinus sabiniana), California Buckeye (Aesculus californica), Chaparral Yucca (Yucca whipplei), and Rabbitbrush (Chrysothamnus spp.) in this area.

RS
RIVERSIDEAN ALLUVIAL SCRUB ALLIANCE

Alluvial fans and dry washes in xeric, interior areas of the Foothills Section close to developed areas may contain a mixture of species, of which Scalebroom (Lepidospartum squamatum), California Buckwheat (Eriogonum fasciculatum), White Sage (Salvia apiana) and other shrubs and semi-woody shrubs may be prominent. Other species may be present, including Pricky-pear (Opuntia spp.), Chaparral Yucca (Y. whipplei), California Juniper (Juniperus californica) and Rhus species. Annual grasses and forbs are common components of these dry sites, which have been mapped very sparsely on low-gradient slopes at elevations between about 3800 – 4200 ft (1158 – 1280 m) in this zone.

SB
BUCKWHEAT ALLIANCE

California Buckwheat (Eriogonum fasciculatum) is the dominant species of this interior Alliance. It has been identified frequently in the Foothills Section at elevations generally below 6000 ft (1830 m). These sites are often open or sparsely vegetated with annual grasses and forbs. Minor proportions of low-elevation trees such as Gray Pine (Pinus sabiniana), Blue Oak (Quercus douglasii) and Interior Live Oak (Q. wislizenii) and shrubs such as Wedgeleaf Ceanothus (C. cuneatus) may be present as well within and adjacent to these areas.

SD
MANZANITA ALLIANCE

The Manzanita Alliance consists of unknown species of Manzanita (Arctostaphylos spp.) or combinations of known species in which none is dominant. It has been mapped very sparsely in the three sections at a wide range of elevations from below 1000 ft (305 m) up to about 7000 ft (2135 m). Within this zone, species in this type can include either of the rare species Ione Manzanita (A. myrtifolia) in Amador County or Nissenan Manzanita (A. nissenana) in El Dorado and more southern foothill counties. These species may occur alone or in mixtures with Whiteleaf or Common Manzanita (A. viscida, A. manzanita). In the south end of the Valley, the species are more likely to be Eastwood Manzanita (A. glandulosa ssp. mollis) or Bigberry Manzanita (A. glauca). The Manzanita Alliance in the Tehachapi Mountains in the Foothills Section associates with xeric species such as Tucker Oak (Quercus john-tuckeri), Big Sagebrush (Artemisia tridentata), Singleleaf Pinyon Pine (Pinus monophylla) and Canyon Live Oak (Quercus chrysolepis).

SI
BLADDERPOD ALLIANCE

Areas where Bladderpod (Isomeris arborea) becomes dominant have been mapped very sparsely in the Foothills Section at elevations ranging from 400 – 4000 ft (122 – 1220 m). These sites tend to be either disturbed or on moderately to very steep xeric slopes. Annual grasses and forbs and Big Sagebrush (Artemisia tridentata) tend to be associated with this alliance in this area.

SY
CHAPARRAL YUCCA ALLIANCE

On occasion, Chaparral Yucca (Yucca whipplei), a common species of the Lower Montane Mixed Chaparral Alliance in southern California, becomes dominant on dry sites in this zone. Some of these areas are located within annual grasslands disturbed by over-grazing or have patches of bedrock outcrops that favor the growth of this species. However, this alliance has been mapped only rarely in the Foothills Section within the elevation range 1200 – 4600 ft (366 – 1402 m). Blue and Interior

Live Oaks (Quercus douglasii, Q. wislizenii), Gray Pine (Pinus sabiniana), California Buckwheat (Eriogonum fasciculatum) and annual grasses and forbs may also be present on these sites in minor amounts.

TS
SNOWBERRY ALLIANCE

Species of Snowberry (Symphoricarpos spp.) rarely dominate a site in this zone, but such areas have been mapped extremely sparsely in the Foothills Section at elevations around 5800 ft (1768 m). Mountain Snowberry (S. rotundifolius), the typical species at this altitude, occurs on rocky areas and forest openings adjacent to xeric types such as Singleleaf Pinyon Pine (Pinus monophylla), Big Sagebrush (Artemisia tridentata) and Tucker Oak (Quercus john-tuckeri) and other plants in the Eastside Pine Alliance.

WL
WILLOW (SHRUB) ALLIANCE

Shrub forms of Willow (Salix spp.) are mapped as this alliance where they dominate the shrub layer in a riparian, seep or meadow site. In this region, this type has been mapped very sparsely in scattered areas of the three sections at elevations below about 4200 ft (1280 m). This Alliance may include a combination of Narrow-leaved Willow (S. exigua), Shining Willow (S. lucida), and Yellow Willow (S. lutea) in association with other tree Willows. Grasses and grasslike plants such as Water Sedge (Carex aquatilis), Meadow Barley (Hordeum brachyantherum), Nebraska Sedge (C. nebrascensis), and Woolly Sedge (C. lanuginosa) may also be found on these wet sites associated with wet or moist meadows that may be adjacent to the Shrub Willow Alliance.

WM
BIRCHLEAF MOUNTAIN MAHOGANY ALLIANCE

Birchleaf Mountain Mahogany (Cercocarpus betuloides) will occasionally dominate an open site in this area on moderately steep to very steep mid-montane slopes. This alliance has been mapped very sparsely in the Ranges and Foothills Sections up to an elevation of about 6400 ft (1952 m). Shrub associates include others representative of the Lower Montane Mixed Chaparral type such as Wedgeleaf Ceanothus (Ceanothus cuneatus) and shrubby Oaks (Quercus spp.), in addition to California Buckwheat (Eriogonum fasciculatum). Hardwoods such as California Buckeye (Aesculus californica) and various tree Oaks (Quercus spp.) may be found in the vicinity of this alliance in addition to Singleleaf Pinyon Pine (Pinus monophylla) and annual grasses and forbs.

HERBACEOUS

HG
ANNUAL GRASSES AND FORBS ALLIANCE

Annual grasslands are the most commonly encountered type mapped in this zone, generally occurring between urban/agricultural developments and the foothill woodlands. The Annual Grasses and Forbs Alliance has been identified in most subsections in the three sections. Dominant species in this alliance include Western Needlegrass (Achnatherum occidentalis), Cheatgrass (Bromus spp.), Purple Owl's Clover (Castilleja exserta), Filaree (Erodium spp.), Wild Oats (Avena spp.), and Devil's Lettuce (Amsinckia tesselata). Annual grasses extend from Redding to Bakersfield throughout the Central Valley.

Vernal pools (small depressions often containing hardpan soil layers) occur throughout the Annual Grasses and Forbs Alliance. Species within these vernal pools include Downingia (Downingia cuspidata), Meadowfoam (Limnanthes douglasii), Goldfields (Lasthenia chrysostoma), Water Starwort (Callitriche marginata), Popcorn Flower (Plagiobothrys spp.), Johnny-Tuck (Orthocarpus erianthus), Bur Medic (Medicago hispida), and Linanthus (Linanthus spp.).

HJ
WET MEADOWS ALLIANCE

Seasonally wet meadows and grasslands occasionally occur in this zone. They have been mapped sparsely in the three sections, occurring adjacent to dependable water sources such as springs and seeps. A diverse mixture of herbaceous species occur in the Alliance, including Sedges (Carex spp.), Rushes (Juncus spp.), Bulrushes (Scirpus spp.), perennial Bromes (Bromus spp.), Fescues (Festuca spp.), Bluegrass (Poa spp.), Reedgrass (Calamagrostis spp.), and herbaceous perennials such as False Hellebore (Veratrum spp.) and Shooting Star (Dodecatheon spp.).

HM
PERENNIAL GRASSES AND FORBS ALLIANCE

Perennial grasslands have been mapped very rarely in the Ranges and Foothills Sections of this zone. This type is a form of dry to moist grassland in which the species composition is a mix of perennial and some annual grasses and legumes that vary according to management practices. Native perennial grasses such as Western Needlegrass (Achnatherum occidentalis) may occur in addition to Squirreltail (Elymus elymoides), and Wild Rye (Elymus spp.). Introduced perennials such as Crested Wheatgrass (Agropyron desertorum) and Tall Fescue (Festuca arundinacea) may be present with non-native forbs such as Strawberry Clover (Trifolium fragiferum) and non-native annual grasses such as Foxtail Chess (Bromus madritensis) and Ripgut Grass (Bromus diandrus) in this type. Some of these areas are currently being used for livestock pasture where the type intergrades with the Annual Grasses and Forbs Alliance.

HT
TULE - CATTAIL ALLIANCE

Tule marshes may occur near lakes and springs but are rare in this area, having been mapped very sparsely in the Valley and Foothills Sections. Dominant species include Tule (Scirpus spp.), Cattail (Typha spp.), Lythrum (Lythrum hyssopifolia), and Spike Rush (Heleocharis palustris). A number of other species associate with this Alliance depending on the geographic area. Past drainage activities have significantly reduced the total area once covered by these species.

NON-NATIVE VEGETATION

IA
GIANT REED / PAMPAS GRASS ALLIANCE

This non-native alliance is dominated by invasive species of Giant Reed (Arundo donax) in wetlands or Black or White Pampas Grasses (Cortaderia jubata, C. selloana) on moist, disturbed sites. This type has been mapped very rarely in the Ranges Section. The adacency of agricultural and urban land uses may provide a conduit for the invasion of these species onto public and private lands.

IB
URBAN-RELATED BARE SOIL

Urban development occurs in phases. When land is cleared prior to being paved, this category represents the occurrence of non-vegetated barren ground caused by the urbanization process. This land-use type also represents other mechanically-caused barren ground, such as open quarries or mined areas, barren ground along highways and other areas cleared of vegetation near pavement. It has been mapped very sparsely in the Ranges Section. It occasionally has been used to designate buildings or other constructed entities.

IC
NON-NATIVE / ORNAMENTAL CONIFER ALLIANCE

Planted conifers comprise this Alliance, including species such as Canary or Norfolk Island Pines (Araucaria spp.), Deodar and Atlas Cedars (Cedrus deodar, C. atlantica), Redwood (Sequoia sempervirens), Scotch Pine (Pinus sylvestris), etc. Other non-native hardwoods, shrubs, and grasses may be associated in minor amounts. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IG
NON-NATIVE / ORNAMENTAL GRASS ALLIANCE

Ornamental or non-native grass species define this Alliance. Other non-native conifers, hardwoods, and shrubs may be associated as minor elements. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IH
NON-NATIVE / ORNAMENTAL HARDWOOD ALLIANCE

Ornamental or non-native hardwood species dominate this Alliance. Other non-native conifers, shrubs, and grasses may be present in this Alliance. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IM
NON-NATIVE / ORNAMENTAL CONIFER/HARDWOOD ALLIANCE

Mixtures of ornamental or non-native conifer and hardwood species comprise the dominant species of this Alliance. Small amounts of non-native pure stands of hardwood, conifer, shrubs, and grasses may be also associated with this Alliance. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IS
NON-NATIVE / ORNAMENTAL SHRUB ALLIANCE

Ornamental or non-native shrub species dominate this Alliance. Other non-native conifers, hardwoods, and grasses may be present in this Alliance. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IW
DEVELOPED WATER FEATURES

Facilities for capture and storage of surface or ground waters are sometimes quite visible in developed landscapes and usually can be recognized easily on aerial photographs. One such site has been mapped in the Ranges Section of this zone. Such features as golf course ponds, basins for replenishment of aquifers, small lakes in public parks and reserves, water and sewage treatment facilities and the like are included in this category. They are often located in agricultural and rural areas, especially some water treatment operations.

LAND USE AND NON-VEGETATED CLASSES

AG
AGRICULTURE

Agricultural land is used primarily for the production of food and fiber. High-altitude imagery indicates agricultural activity by distinctive geometric field and road patterns on the landscape and traces produced by mechanized equipment. Agricultural land uses include forest landscapes such as orchards as well as non-forested land uses such as vineyards and field crops. Land used exclusively for livestock pasture may, however, be mapped as annual grassland in those cases in which land uses are not recognizable.

A4
ORCHARD AGRICULTURE

Orchards are usually evergreen or deciduous small trees producing fruit or nut crops, usually planted in rows with or without irrigation channels. Apples, citrus fruits, avocados, almonds, walnuts, peaches, olives and other familiar crops cover many acres of land in California. Occasionally, shrub forms may become horticulturally trained to resemble small trees, such as filberts.

A6
GRAIN AND CROP AGRICULTURE

Irrigated or dry crop agriculture is usually harvested in rows as edible herbaceous products such as cereals (wheat, sorghum, oats, millet, corn, rye, etc.) and vegetables such as squash, celery, beans, peas, etc. for stock and human uses. Agricultural crop fields are also occasionally planted for both animal forage and to improve nitrogen levels as with legumes such as Alfalfa and Sweet Clovers. Certain crops are grown for other multiple uses, such as Flax and Cotton for their seed oils (Linseed and Cottonseed Oils), fibers and medicinal uses, if any.

BA
BARREN

Landscapes generally devoid of vegetation as seen from a high-altitude image source such as aerial photography, are labeled as Barren. This category includes mappable landscape units in which surface lithology is dominant, such as exposed bedrock, cliffs, interior sandy or gypsum areas, and the like. It does not include areas considered as modified or developed, as in urban areas but does include quarries and open pit mines.

UB
URBAN OR DEVELOPED

This category applies to landscapes that are dominated by urban structures, residential units, or other developed land use elements such as highways, city parks, cemeteries, and the like. In those cases in which the managed landscapes may have a considerable vegetation component, other land use categories may be more appopriate, such as Ornamental Conifer and Hardwood mixtures within city parks.

WA
WATER

Water is labeled in Calveg mapping in those cases in which permanent sources of surface water are identified within a landscape unit of sufficient size to be mapped. The category includes lakes, streams, and canals of various size, bays and estuaries and similar water bodies. These areas are considered to have a minimum of vegetation components, except along the edges, which may be mapped as types such as Wet Meadows, Tule-Cattail freshwater marshes, or Pickleweed-Cordgrass saline or mixed marshes. Islands of sufficient size within water bodies will be mapped according to their terrestrial dominant vegetation types.

SECONDARY MAPPING SOURCES IN ZONE 5

Other data sources have been used in this zone to augment mapping originated by the Remote Sensing Lab or its contactors. These were used to fill in areas that had not been mapped by RSL, which are considerable in this zone. Limited structural information or accuracy assessment is available for these layers. The sources are indicated as attributes within the tiling geodatabase structure given as downloadable files on the RSL web page. Calveg types have been crosswalked from the metadata and map attritbutes in the crosswalked data sources in this zone. They are indicated as occurring within specific subsections, as indicated by numbers and their corresponding names in the subsequent section. General descriptions follow the types that have not been described above.

A2
VINEYARD – SHRUB AGRICULTURE

Subsection(s) 5, 6, 7, 8, 9, 10, 11, 21

Vines or shrubs may dominate the woody component of plantations on agricultural or horticultural lands used in the production of food or fiber such as vines devoted to grapes and kiwi fruit and shrubby nut or fruit crops such as blueberries or raspberries.

A3
TILLED EARTH AGRICULTURE

Subsection(s) 1, 5, 7, 8, 9, 11, 12, 14, 15, 16, 18, 21

Agricultural lands may be mapped as barren and lacking vegetation on occasion, such as after harvesting and during seasons prior to crop growth. Some areas may be kept fallow during and after the growing season for various reasons such as conservation of moisture and nutrients in a crop rotation schedule.

A4
ORCHARD AGRICULTURE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25

See description above

A5
FLOODED ROW CROP AGRICULTURE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 15, 20, 21, 22, 23

Agricultural lands planted to row crops are periodically flooded using flow-through structures such as levees, ditches and irrigation boxes in certain seasons for the production of wild and other rices in California. These areas are often underlain by poorly drained clay soils of the Central Valley that are unsuitable for production of other crops and are drained at harvest time. Some rice lands are reflooded after harvest to provide habitat for waterfowl such as ducks and geese that traditionally used the Pacific flyway for migration from northern to southern locations. The crushing of post-harvest rice straw in these areas provides a habitat for invertebrates which serve as high protein food for these overwintering waterfowl.

A6
GRAIN AND CROP AGRICULTURE

Subsection(s) 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24

See description above

A7
AGRICULTURE PONDS / WATER FEATURES

Subsection(s) 14

Some artificially constructed water features on otherwise agricultural sites on farms, ranches and the like, are large enough to map and document. These sites include stock ponds, small reservoirs, large ditches and other utilitarian or recreational water features.

A8
AGRICULTURAL NURSERIES (GENERAL)

Subsection(s) 7, 8, 9, 11

Horticultural sites within or outside urban areas may be mappable features. Many of these include potted or sometimes rooted woody or herbaceous plants that are sold as retail or wholesale species in various combinations and growth stages. Nurseries that are planted only to conifers are included in the Conifer Agriculture category.

AK
ALKALINE FLATS

Subsection(s) 7, 8, 9, 11

Small barren areas in dry, inland locations in this zone have been crosswalked to Alkaline Flats. These sites tend to be flooded in winter but dry out completely by late summer, creating saline or alkaline conditions in which vegetation is absent.

BA
BARREN

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

See description above

BC
SALTBUSH ALLIANCE

Subsection(s) 5, 9, 11, 13, 14, 15, 16, 17, 18, 19

See description above

BR
RABBITBRUSH ALLIANCE

Subsection(s) 5, 25

See description above

BS
BIG SAGEBRUSH ALLIANCE

Subsection(s) 19, 26

See description above

CA
CHAMISE ALLIANCE

Subsection(s) 21

See description above

CK
COYOTE BRUSH ALLIANCE

Subsection(s) 5, 7, 8, 9, 11

Coyote Brush (Baccharis pilularis) may be the main shrub of certain moist, near-coastal areas of northern California, increasing in dominance towards the San Francisco Bay area. It also pioneers recently logged sites at some distance from the coast.

CQ
LOWER MONTANE MIXED CHAPARRAL ALLIANCE

Subsection(s) 5, 6, 18, 19, 21, 25, 26

See description above

CS
SCRUB OAK ALLIANCE

Subsection(s) 19, 26

See description above

EX
COASTAL MIXED HARDWOOD ALLIANCE

Subsection(s) 9

Sites often have a mixture of hardwoods with no clearly dominant single species. The indicator species of this westernmost mixed hardwoods alliance is Coast Live Oak (Quercus agrifolia). It occurs in mixture with others of lower abundance, such as Blue Oak (Quercus douglasii), Valley Oak (Quercus lobata), California Bay (Umbellularia californica), and Black Oak (Quercus kelloggii). The Coastal Mixed Hardwoods Alliance has been identified and extensively mapped in areas to the west of this zone, but only sparsely here.

HA
ALKALINE MIXED GRASSES AND FORBS ALLIANCE

Subsection(s) 5, 6, 7, 8, 9, 11

Alkaline and hyper-saline soils occur in xeric sectors of this zone in internal drainage basins that accumulate soluble salts and may have moist pockets. Areas occupied by herbaceous species and grasses adapted to these conditions have been crosswalked sparsely as the Alkaline Mixed Grasses and Forbs Alliance.

HC
PICKLEWEED - CORDGRASS ALLIANCE

Subsection(s) 8, 9, 11

Brackish or salt marshes commonly occur west of this zone closer to the coast but have been crosswalked in these zone as a result of the prevalent Sacramento Delta influence. Usually dominated by Common Pickleweed (Salicornia virginica) and California Cordgrass (Spartina foliosa), coastal salt marshes also may include invasive non-native species such as Salt Water and Dense-flowered Cordgrasses (Spartina alterniflora, Spartina densiflora) in northern California. Jaumea (Jaumea carnosa) and Saltgrass (Distichlis spicata) are also associated with these wet sites.

HG
ANNUAL GRASSES AND FORBS ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

See description above

HJ
WET MEADOWS ALLIANCE

Subsection(s) 5, 8, 9, 14, 15, 18, 23, 24

See description above

HM
PERENNIAL GRASSES AND FORBS ALLIANCE

Subsection(s) 1, 2, 3, 5, 6, 7, 8, 9, 11, 13, 14, 16, 18, 19, 20, 21, 22, 23

See description above

HT
TULE - CATTAIL ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23

See description above

IA
GIANT REED

Subsection(s) 1, 5, 7, 8, 9, 11, 14, 20

See description above

IB
URBAN-RELATED BARE SOIL

Subsection(s) 1, 5, 7, 8, 9, 11, 12, 19, 20, 21, 22

See description above

IC
NON-NATIVE / ORNAMENTAL CONIFER ALLIANCE

Subsection(s) 22

See description above

IF
NON-NATIVE / INVASIVE FORB / GRASS ALLIANCE

Subsection(s) 5, 7, 8, 9, 11, 13, 14, 20

Riparian and upland areas are sometimes invaded by aggressive herbaceous species that are not native to this state or area. Without managed control, these areas are often difficult to use for agricultural or recreational land purposes. They often require multi-year restoration procedures, including weeding, burning and reseeding with desirable species. Some of the problem species include Perennial Peppergrass (Lepidium latifolium), which may cause illness in horses, Medusahead Grass (Taeniatherum – or Elymus – caput-medusae), which may physically injure grazing livestock, Puncturevine (Tribulus terrestris), which is toxic to livestock, Russianthistle (Salsola tragus), which is an alternate host for an insect carrying a virus that infects certain crops, Yellow Star thistle (Centaurea solstitialis), which is also toxic to horses and poses a challenge to eradicate, and many other Knapweeds (Centaurea spp.). This type may also reflect managed meadows or urban plantings, such as in parks.

IG
NON-NATIVE / ORNAMENTAL GRASS ALLIANCE

Subsection(s) 1, 4, 5, 7, 8, 9, 11, 15, 16, 21, 22

See description above

IH
NON-NATIVE / ORNAMENTAL HARDWOOD ALLIANCE

Subsection(s) 1, 5, 6, 7, 8, 9, 10, 11, 20, 21, 22

See description above

IM
NON-NATIVE / ORNAMENTAL CONIFER / HARDWOOD ALLIANCE

Subsection(s) 1, 5, 9, 22

See description above

IS
NON-NATIVE / ORNAMENTAL SHRUB ALLIANCE

Subsection(s) 1, 2, 4, 5, 6, 7, 8, 9, 11, 20, 22, 23

See description above

IW
DEVELOPED WATER FEATURES

Subsection(s) 1, 6, 8, 20, 21

See description above

JT
CALIFORNIA JUNIPER (TREE)

Subsection(s) 19, 26

The tree form of California Juniper (Juniperus californica) has been crosswalked in the southernmost areas of this zone (Elk Hills and South Valley Terraces and San Emigdio Mountains Subsections). This large shrub to small tree does well on shallow and otherwise infetile soils and at relatively low elevations.

NA
ALKALINE MIXED SCRUB ALLIANCE

Subsection(s) 8, 9, 11

More extensively mapped in the South Interior Calveg zone, this alliance has been crosswalked in this zone in xeric areas are associated with halophytic shrubs such as Saltbush (Atriplex spp.).

NC
NORTH COASTAL SCRUB ALLIANCE

Subsection(s) 9

Shrubby near-coastal areas of northern California having no clear single dominant shrub species are identified in the North Coastal Scrub Alliance. In this zone, this type has been crosswalked to identify areas having an abundance of either Coyote Brush (Baccharis pilularis), species of lupine such as Yellow Bush Lupine (Lupinus arboreus) and others such as Blueblossom (Ceanothus thyrsiflorus) and Coast Whitethorn (C. incanus).

NM
RIPARIAN MIXED SHRUB ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 20, 22, 23

This type represents a community of shrubs in riparian, seep and moist meadow sites in which no single species achieves dominance in the mapped area. The Riparian Mixed Shrub Alliance usually has a permanent water source at the surface that provides moisture to its obligate hydrophytes such as shrub Willows (Salix spp.), or shrubby Alders. Shrubs requiring shade or generally moist conditions, such as Blackberry or Gooseberry species (Rubus spp., Ribes spp.) and Elderberry (Sambucus spp.), may also be included in this mixture.

NR
RIPARIAN MIXED HARDWOOD ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 14, 16, 20, 21, 22, 23

See description above

NX
INTERIOR MIXED HARDWOOD ALLIANCE

Subsection(s) 9, 21, 22

See description above

PD
GRAY PINE ALLIANCE

Subsection(s) 4, 5, 6, 10, 21, 23

See description above

PJ
SINGLELEAF PINYON PINE ALLIANCE

Subsection(s) 19, 26

See description above

QA
COAST LIVE OAK ALLIANCE

Subsection(s) 7, 8, 9, 11

See description above

QD
BLUE OAK ALLIANCE

Subsection(s) 1, 2, 5, 6, 10, 14, 18, 19, 21, 22, 23, 24, 25, 26

See description above

QE
WHITE ALDER ALLIANCE

Subsection(s) 7, 8, 9, 11

See description above

QF
FREMONT COTTONWOOD ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 20, 22, 23

See description above

QL
VALLEY OAK ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 26

See description above

QO
WILLOW ALLIANCE

Subsection(s) 1, 3, 5, 6, 7, 8, 9, 10, 11, 14, 20, 21, 22

See description above

QP
CALIFORNIA SYCAMORE ALLIANCE

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 20, 21, 22, 23, 24

See description above

QV
BLACK WALNUT ALLIANCE

Subsection(s) 6, 7, 8, 11, 21

California Black Walnut (Juglans californica), a species endemic to the state, historically occurred in restricted ranges of northern, central, and southern California. Due to its high value for erosion control, wildlife cover and nutritional needs, it has been planted widely by Native Americans and later settlers and has become naturalized in the Central Valley. In addition, extensive hybridization has occurred with the eastern black walnut (J. nigra) in this area.

QW
INTERIOR LIVE OAK ALLIANCE

Subsection(s) 1, 5, 10, 19, 22, 23

See description above

QY
WILLOW - ALDER ALLIANCE

Subsection(s) 1, 5, 14, 22, 23, 24

This Alliance includes any tree species of Willow (Salix spp.) combined with White or Mountain Alders (Alnus rhombifolia, A. incana ssp. tenuifolia) occurring together in stream or seepage areas where neither is clearly dominant in the riparian mixture. Shrubs such as species of Gooseberry and Currant (Ribes spp.), Blackberry and other edible berries (Rubus spp.), Wild Rose (Rosa spp.) and Poison Oak (Toxicodendron diversilobum) along with various graminoids and forbs are likely to be present on these sites.

QZ
EUCALYPTUS ALLIANCE

Subsection(s) 1, 3, 5, 6, 7, 8, 9, 11, 20, 21, 22

See description above

SB
BUCKWHEAT ALLIANCE

Subsection(s) 11

See description above

SE
ENCELIA SCRUB ALLIANCE

Subsection(s) 11

This Alliance is dominated by either the shrubs Brittlebush (Encelia farinosa) and/or Acton's Brittlebush (E. actonii), tolerant of arid environments in the coast or desert and/or the more coastal California Encelia (E. californica). The Encelia Scrub Alliance is uncommon in this zone and has been crosswalked only in one area towards the west. The associated species may include California Sagebrush (Artemisia californica), California Buckwheat (Eriogonum fasciculatum), Coast Cactus (Opuntia littoralis), and Lemonade berry (Rhus integrifolia).

SI
BLADDERPOD ALLIANCE

Subsection(s) 19

See description above

SL
COASTAL LUPINE ALLIANCE

Subsection(s) 11

Dune Lupine (Lupinus chamissonis), a California native, is an indicator species for this Alliance in coastal dunes in southern California. The vegetated dune environments that have been crosswalked in this zone refer to those in the Antioch Dunes National Wildlife Refuge in the Westside Alluvial Fans and Terraces Subsection. These aeolian inland sand deposits along the San Joaquin River are part of a larger depositional field formed during the last and earlier Pleistocene retreating glaciations in eastern Contra Costa County. They have been extensively manipulated, lost to industrial uses, replanted and managed for different purposes through the centuries. Current vegetation on the partially and fully stabilized sand dunes include the Silver Bush Lupine (L. albifrons), subshrubs such as California Croton (Croton californicus) and Deerweed (Lotus scoparius) and many herbaceous and graminoid species, including several rare and endangered species in need of protection.

SQ
SOFT SCRUB - MIXED CHAPARRAL ALLIANCE

Subsection(s) 11, 16, 18, 19, 25

Ground disturbances such as fire and urban development often initiate the development of this relatively short-lived shrub alliance. It is a mixture of subshrubs, forbs, and woody shrubs, having a substantial woody shrub component. These areas have been crosswalked in western sections of this zone to represent the mixtures of subshrubs such as California Sagebrush (Artemisia californica), California Buckwheat (Eriogonum fasciculatum), White Sage (Salvia apiana) and Deerweed (Lotus scoparius), with more woody shrub species such as Chamise (Adenostoma fasciculatum), species of Ceanothus, scrub Interior and Canyon Live Oaks (Quercus wislizenii var. frutescens, Q. chrysolepis var. nana) and Scrub Oak (Q. berberidifolia).

TX
MONTANE MIXED HARDWOOD ALLIANCE

Subsection(s) 4, 5, 10, 14, 19, 23, 24, 26

See description above

UB
URBAN OR DEVELOPED

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

See description above

UT
TAMARISK ALLIANCE

Subsection(s) 6, 16

Any of various species of the introduced and invasive hardwood or tall shrubby Tamarisk (Tamarix spp.) are dominant in this semiarid riparian alliance. Active Tamarisk eradication programs cite the loss of riparian habitat due to the invasion of streams and washes and depletion of water sources by these aggressive plants. It has been crosswalked from other sources in the Yolo Alluvial Fans and Terraces and Panoche and Cantua Fans and Basins Subsections.

VP
VERNAL POOL ALLIANCE

Subsection(s) 6, 7, 8, 11

Although diverse in composition and substrate, Vernal Pools are likely to be found in lower basin sites within grassy meadows in the Central Valley underlain by restricting subsurface layers such as iron-silica cemented soil hardpans, semi-permeable clay soils, volcanic mudflows, impermeable calcareous caliche and the like. Spring precipitation and runoff collects in these areas

and dries up in summer to support a variable range of short-lived herbaceous species such as Navarretia spp., Downingia spp., Tidytips (Layia spp.), Goldfields (Lasthenia spp.), Meadowfoam (Limnanthes spp.), Milkvetch (Astragalus spp.), Popcorn Flower (Plagiobothrys spp.), Woollyheads (Psilocarphus spp.) and graminoids such as Orcutt Grass (Orcuttia spp.), Rushes (Juncus spp.), Bentgrass (Agrostis spp.) and Vernal Barley (Hordeum intercedens). Active small shrimp and other invertebrates are often found on these sites during the few weeks when these pools are moist. Formerly extensive, they are endangered on private lands due to urbanization and agricultural uses.

WA
WATER

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 24, 25

See description above

Surface water bodies have been crosswalked under the following categories:

W1: Rivers and Streams (natural, flowing surface waters)

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 18, 20, 22, 23

W2: Perennial Lakes and Ponds

Subsection(s) 1, 5, 7, 8, 9, 10, 11, 14, 23

W3: Reservoirs (man-made lakes and ponds)

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 18, 20, 21, 24

W4: Bays or Estuaries (near-shore ocean features)

Subsection(s) 8, 9, 11

W6: Intermittent Stream Channel (seasonally flowing channeled waters)

Subsection(s) 21

W8: Intermittent or Seasonal Lake or Pond (occasionally drained surface waters)

Subsection(s) 2, 3, 5, 8, 9, 11, 12, 14, 15, 16

W9: Exposed Non-water Features (gravel, sand bars, cliff faces, etc.)

Subsection(s) 1, 2, 3, 4, 5, 6, 7, 20, 21, 22, 23

WL
WILLOW (SHRUB) ALLIANCE

Subsection(s) 1, 5, 6, 7, 8, 9, 11, 21, 22

See description above

Sections and Subsections

262A - Great Valley Section

1. North Valley Alluvium (262Aa)
2. Butte Sink - Sutter Basin (262Ac)
3. Colusa Basin (262Ad)
4. River Alluvium (262Af)
5. Hardpan Terraces (262Ag)
6. Yolo Alluvial Fans (262Ah)
7. Yolo - American Basins (262Ai)

8. Sodic Claypan Terraces (262Aj)
9. Delta (262Al)
10. Camanche Terraces (262Ao)
11. Westside Alluvial Fans and Terraces (262Aq)
12. Manteca - Merced Alluvium (262As)
13. San Joaquin Basin (262At)
14. Granitic Alluvial Fans and Terraces (262Au)
15. Tulare Basin (262Av)
16. Panoche and Cantua Fans and Basins (262Aw)
17. Antelope Plain (262Ax)
18. South Valley Alluvium and Basins (262Ay)
19. Elk Hills and South Valley Terraces (262Az)

M261C - Northern California Interior Coast Ranges Section

20. Tehama Terraces (M261Cb)
21. Dunnigan Hills (M261Cc)

M261F - Sierra Nevada Foothills Section

22. Tuscan Flows (M261Fa)
23. Lower Foothills Metamorphic Belt (M261Fb)
24. Lower Granitic Foothills (M261Fc)
25. Southern Granitic Foothills (M261Fd)
26. San Emigdio Mountains (M261Fe)

Vegetation Descriptions

CENTRAL COAST AND MONTANE ECOLOGICAL PROVINCE

CALVEG ZONE 6

March 19, 2009

Note: Central California Coast Section (261A) is referred to as the "Coast" Section and Central California Coast Ranges Section (M262A) is referred to as the "Ranges" Section

CONIFER FOREST / WOODLAND

AB
SANTA LUCIA FIR ALLIANCE

Santa Lucia Fir (Abies bracteata) is found only in the Santa Lucia Range (Los Padres NF) as a narrow endemic species, usually within 15 miles (24 km) of the coast (Coast Section). This Fir is the dominant conifer in this Alliance but it also occurs as scattered inviduals or clumps of trees within Mixed Conifer – Pine sites. It is most common near the crest of the mountains and towards the north, where it often associates with Coast Live Oak (Quercus agrifolia) and low-elevation shrubs in droughty summit sites, on rocky slopes or in protected ravines. Slopes are usually steep and less fire-prone than other mixed hardwood areas of the forest; elevation ranges are in the order 2000 – 4600 ft (610 - 1402 m).

DF
PACIFIC DOUGLAS-FIR ALLIANCE

Pacific Douglas-fir (Pseudotsuga menziesii) is generally limited to northern, central, and eastern California but occurs in scattered stands south to the Santa Ynez Mountains (Los Padres NF) close to the coast (within the South Coast and Montane Ecological zone). Within this zone, the Alliance has been mapped in four subsections of the Coast Section below about 3300 ft (1010 m). Conifer associates in this area are Redwood (Sequoia sempervirens) and Ponderosa Pine (Pinus ponderosa) with Coast Live Oak (Quercus agrifolia) and Tanoak (Lithocarpus densiflorus) the main hardwood associates. Madrone (Arbutus menziesii) and California Bay (Umbellularia californica) often are secondary hardwood associates. Mixed Douglas-fir/Coast Live Oak stands occur on slopes of various aspects in the Coast Section such as in the Santa Cruz Mountains and Leeward Hills Subsections.

DM
BIGCONE DOUGLAS-FIR ALLIANCE

Bigcone Douglas-fir (Pseudotsuga macrocarpa) stands are found in the South Coast, Transverse, and Peninsular Ranges from the Mt. Pinos region south and westward into the Central Coast area. This Alliance occurs very sparsely in the Central Coast area and only in southern regions of the Interior Santa Lucia Range Subsection of the Ranges Section at elevations between about 2400 – 5000 ft (732 – 1524 m). Both pure and mixed conifer/hardwood stands are more often to be found on north facing, steep slopes with Canyon Live Oak (Quercus chrysolepis) and Coast Live Oak (Q. agrifolia) as associated hardwoods in mixed stands. Lower elevation shrubs such as Chamise (Adenostoma fasciculatum), California Buckwheat (Eriogonum fasciculatum) and scrub Oaks (Quercus spp) may often be found in the understory of these stands and Singleleaf Pinyon Pine (Pinus monophylla) in the vicinity of these sites in dry areas.

JT
CALIFORNIA JUNIPER ALLIANCE

The tree form of California Juniper (Juniperus californica) in this zone has been mapped only very sparsely in the Diablo Range Subsection of the Ranges Section at elevations below about 2400 ft (732 m). It is found in close proximity to Gray Pine (Pinus sabiniana) and may form mixed conifer-hardwood stands with Blue Oak (Quercus douglasii) in this area.

KP
KNOBCONE PINE ALLIANCE

The Knobcone Pine (Pinus attenuata) Alliance has been mapped within six subsections of the Coast and Ranges Sections. This closed cone species normally maintains small, dense stands on xeric, shallow or serpentine soils, which are sometimes identified within larger Alliances of this area. This Alliance is a result of past disturbances (usually fire), mixing with hardwoods such as Coast Live Oak (Quercus agrifolia) and Tanoak (Lithocarpus densiflorus) in mixed hardwood-conifer stands. It also is associated with Redwoods (Sequoia sempervirens) in the Coast Section. Associated shrubs include Chamise (Adenostoma fasciculatum), Coyote Brush (Baccharis pilularis) and California Sagebrush (Artemisia californica). Dominant Knobcone Pine stands have been mapped at elevations up to about 3400 ft (1036 m), mainly on steep and often north facing slopes in both Sections.

MD
INCENSE CEDAR ALLIANCE

Incense Cedar (Calocedrus decurrens), a wide-ranging species that competes well on a variety of sites, has been mapped very sparsely as a dominant conifer in the North Coastal Santa Lucia Range Subsection of the Coast Section at elevations from about 2200 – 2800 ft (671 – 854 m). Mixed stands in this area have an understory of Coast Live Oak (Quercus agrifolia) or Tanoak (Lithocarpus densiflorus) and low elevation chaparral shrubs.

MG
GOWEN CYPRESS ALLIANCE

This Alliance is dominated by Gowen Cypress (Cupressus or Callitropsis goveniana). It grows in disjunct groves on mesic soils just south of Monterey Bay at elevations below 1000 ft (305 m). Major groves of Gowen Cypress occur inland on the western slopes of Huckleberry Hill and in San Jose Creek (Monterey County). This Alliance has not yet been mapped.

MM
MONTEREY CYPRESS ALLIANCE

Monterey Cypress (Cupressus or Callitropsis macrocarpa) occurs naturally in the Coast Section in three coastal and near-coastal sites from southern San Mateo to northern San Luis Obispo Counties. The northernmost site has been mapped and identified where the cypress achieves dominance. Associates in this are are Pacific Redwood (Sequoia sempervirens), annual grasses and forbs, Knobcone Pine (Pinus attenuata) and California Sagebrush (Artemisia californica). It has been extensively planted outside of its natural range.

MP
MIXED CONIFER – PINE ALLIANCE

This Alliance is widely spread throughout the state and is defined by a mixture of several non-dominant conifers. It has been mapped sparsely in the North Coastal Santa Lucia Range Subsection of the Coast Section in this zone at elevations from about 2200 – 5600 ft (671 – 1708 m). The conifer mixture usually includes combinations of Ponderosa Pine (Pinus ponderosa), Knobcone Pine (P. attenuata), Coulter Pine (P. coulteri), Bigcone Douglas-fir (Pseudotsuga macrocarpa) and possibly White Fir (Abies concolor). Tanoak (Lithocarpus densiflorus) and Coast Live Oak (Quercus agrifolia) are associated understory hardwoods in this area.

MS
SARGENT CYPRESS ALLIANCE

Sargent Cypress (Cupressus or Callitropsis sargentii) has a more extensive distribution than many Cypress species in California. In this zone, groves of this conifer are restricted to serpentine, rocky or shallow ultrabasic soils, especially in the Santa Lucia Range. They are commonly found along creeks below about 3000 ft (914 m) adjacent to other conifer and chaparral Alliances. In burned areas, this Cypress may form dense thickets but has been mapped only in scattered patches in the South Coastal Santa Lucia Range Subsection of the Coast Section. Associated trees are Gray Pine (Pinus sabiniana) and Coast Live Oak (Quercus agrifolia). Understory shrubs may include Wedgeleaf Ceanothus (Ceanothus cuneatus), Leather Oak (Quercus durata), California Sagebrush (Artemisia californica) and Scrub Oak (Quercus berberidifolia).

MZ
SANTA CRUZ CYPRESS ALLIANCE

Santa Cruz Cypress (Cupressus or Callitropsis abramsiana) grows primarily in the Santa Cruz Mountains. It associates with chaparral species on non-serpentine soils but Ponderosa Pine (Pinus ponderosa) and Knobcone Pine (Pinus attenuata) may also be present on these sites. Its elevational range is from 1000 to 2200 ft (300 - 670 m), above coastal summer fog. This species has not been yet mapped in this region.

PC
COULTER PINE ALLIANCE

Coulter Pine (Pinus coulteri), a low-elevation, drought tolerant conifer, has a variable degree of cone serotiny and is considered to be fire tolerant and shade intolerant. Scattered stands can be found throughout the Santa Lucia Mountains, and in interior areas from Santa Barbara County to Contra Costa County in this region, but has not been identified or mapped as a dominant conifer in the Santa Cruz Mountains. Open, woodland-like stands with a shrub understory develop in this Alliance at elevations as low as 400 ft (122 m) in both Coast and Ranges Sections. The majority of pure and mixed conifer/hardwood stands are below 5000 ft (1524 m) and, especially in the Ranges Section, have a preference for steep slopes. On xeric slopes, Coulter Pine mixes with Canyon Live Oak (Quercus chrysolepis), and on serpentine soils with Jeffrey Pine (Pinus. jeffreyi). Its principal hardwood associate is Blue Oak (Quercus douglasii) in the mapped areas, but it also occurs with Black Oak (Quercus kelloggii) in the Coast Section in the south and with Chamise (Adenostoma fasciculatum), California Sagebrush (Artemisia californica), Tanoak (Lithocarpus densiflorus) and other species throughout its range.

PD
GRAY PINE ALLIANCE

Gray Pine (Pinus sabiniana) reaches its southernmost extent in the Santa Ynez Mountains (Los Padres National Forest) and northwestern areas of the Angeles NF close to the San Joaquin Valley. It is often the only conifer present in this alliance, which is usually an open woodlands type with a diverse mixture of hardwoods, especially Coast Live Oak (Quercus agrifolia) and Blue Oak (Quercus douglasii), and less frequently with California Bay (Umbellularia californica). Low elevation hard and soft chaparral shrubs such as Chamise (Adenostoma fasciculatum) and California Sagebrush (Artemisia californica) and an understory of herbaceous species often occur in these sites. This alliance has been mapped in scattered areas of the Diablo Range, Western Diablo Range and six other subsections of both sections at elevations below about 4200 ft (1402 m).

PJ
SINGLELEAF PINYON PINE ALLIANCE

Singleleaf Pinyon Pine (Pinus monophylla) dominates some mid-montane xeric sites in the Central Coast. This semi-arid open woodland Alliance has been mapped in the rain shadow of the San Rafael Mountains and Sierra Madre in the Caliente Range-Cuyama Valley and Interior Santa Lucia Range Subsections of the Ranges Section at elevations generally under 5000 ft (1524 m). The shrub California Juniper (Juniperus californica) occupies sites in this Alliance at lower elevations and often on gentle slopes or alluvium. Other understory species in the Alliance include California Buckwheat (Eriogonum fasciculatum) and Tucker or Palmer Oak (Quercus john-tuckeri, Quercus palmeri).

PM
BISHOP PINE ALLIANCE

Bishop Pine (Pinus muricata) can be found along the coast of San Luis Obispo and Santa Barbara Counties, as well as in the Channel Islands (Santa Rosa and Santa Cruz Islands) and coastal sites further north. It also occurs in the Santa Ynez Mountains of Santa Barabara County, being closely related to Monterey Pine (P. radiata) and Santa Cruz Island Pine (P. remorata). Bishop Pine grows well in moist, ocean influenced climates below about 1600 ft (488 m) but generally grows best on shallow, poorly drained, acidic soils. Fog drip is an important source of moisture during the summer months. This alliance, it which it is the dominant conifer, has been mapped in one moist site in this zone in the Santa Maria Valley Subsection of the Coast Section in association with urban areas and tree Willows (Salix spp.).

PP
PONDEROSA PINE ALLIANCE

Ponderosa Pine (Pinus ponderosa), a conifer of wide distribution from British Columbia south to northern Mexico and east to Montana and Nebraska, has at least three recognized varieties. P. p. var. ponderosa occurs in this area. As a dominant conifer, it has been mapped in this alliance occasionally in this zone, mainly in mixed conifer/hardwood stands in the Western Diablo

Range (Ranges Section) and Santa Cruz Mountains and both the North and South Coastal Santa Lucia Range Subsections (Coast Section). Other conifers may be present but Ponderosa Pine is clearly dominant. It is confined to mesic slopes above chaparral species, but may occur within one-half mile of the coast. Ponderosa Pine mixes with Coulter Pine (Pinus coulteri) on these slopes. Other associates in the Coast Section include Coast Live Oak (Quercus agrifolia), Tanoak (Lithocarpus densiflorus), and shrubs of lower elevations, such as Chamise (Adenostoma fasciculatum). Occasionally Sugar Pine (Pinus lambertiana) will occur as a minor component in the Ponderosa Pine Alliance within the Santa Lucia Mountains and Blue Oak (Q. douglasii) and/or Coast Live Oak as hardwood associates in the Ranges Section. This Alliance has been mapped at elevations up to about 4400 ft (1342 m), and especially with Tanoak, much of it on high-gradient slopes.

PR
MONTEREY PINE ALLIANCE

The Alliance dominated by Monterey Pine (Pinus radiata), occurs naturally in three locations along the coast: Ano Nuevo Point, Monterey, and Cambria, although it has been planted throughout the world. As mapped within the East Bay Hills – Mt. Diablo, Santa Cruz Mountains, Watsonville Plain – Salinas Valley, and North Coastal Santa Lucia Range Subsections, its tree associates include Coast Live Oak (Quercus agrifolia) and Redwood (Sequoia sempervirens). Understory species include coastal sage scrub species such as California Sagebrush (Artemisia californica) and dry grasses and forbs such as Bedstraw (Galium spp.). Monterey Pine occurs in almost pure stands of even age due to regeneration and site dominance after fire. It has been mapped in the Coast Section at elevations up to 1300 ft (396 m) in pure stands often close to urban areas.

RD
REDWOOD - DOUGLAS-FIR ALLIANCE

This mixture of Redwood (Sequoia sempervirens) and Pacific Douglas-fir (Pseudotsuga menziesii) occurs mainly in the Santa Cruz Mountains (Coast Section) in this zone, where it has been extensively mapped and also sparsely in the East Bay Hills – Mt. Diablo Subsection. Douglas-fir is usually dominant in these stands, which are preserved in several large state and county parks and open space areas. Tanoak (Lithocarpus densiflorus) is the typical hardwood associate of mixed stands. Elevations are usually below about 2600 ft (792 m).

RW
REDWOOD ALLIANCE

Redwood (Sequoia sempervirens) is distributed in moist coastal areas generally below 2000 ft (610 m) from southern Oregon to the Santa Lucia Mountains (Los Padres NF) The Redwood Alliance, in which it dominates the conifer mixture, has been mapped in the Coast Section, being identified frequently in the Santa Cruz Mountains and more sparsely in the East Bay Hills – Mount Diablo, Watsonville Plain – Salinas Valley and North and South Coastal Santa Lucia Range Subsections. Isolated stands may occur near springs, seeps, and sheltered moist locations up to about 3200 ft (976 m) but Redwood often occurs in mixed conifer/hardwood forest stands at those elevations. Those hardwood associates include Tanoak (Lithocarpus densiflorus), its main associate in this area, Madrone (Arbutus menziesii), Coast Live Oak (Quercus agrifolia), and California Bay (Umbellularia californica). At lower elevations, shrub associates such as Blue Blossom (Ceanothus thyrsiflorus), Chamise (Adenostoma fasciculatum) commonly occur. Redwood/Tanoak mixed stands have been mapped abundantly in the Coast Section, principally on steep, often north to west facing slopes. Redwood occurs with non-dominant Pacific Douglas-fir (Pseudotsuga menziesii) in areas such as the East Bay Hills - Mt. Diablo Subsection (Redwood Regional Park), Santa Cruz Mountains Subsection, and the North and South Coastal Santa Lucia Range Subsections.

HARDWOOD FOREST / WOODLAND

AS
SHREVE OAK ALLIANCE

Shreve Oak (Quercus parvula var. shrevei) is a small, coastal tree that hybridizes with both Black (Q. kelloggii) and the associated Coast Live (Q. agrifolia) Oaks. It occasionally becomes a dominant understory tree in Redwood (Sequoia sempervirens) forests and has been mapped sparsely in such mixed conifer and hardwoods stands at elevations below about 2600 ft (792 m) within the Coast Section. Associates also include Douglas-fir (Pseudostuga menziesii), Knobcone Pine (Pinus attenuata), and California Bay (Umbellularia californica).

EX
COASTAL MIXED HARDWOOD ALLIANCE

Sites often have a mixture of hardwoods with no clearly dominant single species. The indicator species of this westernmost mixed hardwood alliance is Coast Live Oak (Quercus agrifolia) in this zone. It occurs in mixture with others of lower abundance, such as Blue Oak (Quercus douglasii), Valley Oak (Quercus lobata), California Bay (Umbellularia californica), and Black Oak (Quercus kelloggii). Redwood (Sequoia sempervirens) and Gray Pine (Pinus sabiniana) may also be associated with some of these sites. The Coastal Mixed Hardwood Alliance has been identified and extensively mapped in the East Bay Hills - Mt. Diablo, Santa Cruz Mountains and North Coastal Santa Lucia Range Subsections (Coast Section) as well as the Western Diablo Range Subsection (Ranges Section) and occasionally in five other subsections of the zone. Elevations are mainly below about 3800 ft (1158 m).

NR
RIPARIAN MIXED HARDWOOD ALLIANCE

This mixed riparian hardwood Alliance describes the mixture of Willows (Salix spp.), Cottonwoods (Populus spp.), Alders (Alnus spp.), and other tree species where none are dominant. In most cases, at least three genera are present in the mixture. These species occur in moist areas and adjacent to stream courses in coastal areas scattered throughout twelve subsections of the Ranges and Coast Sections. This Alliance is also found in foothill canyon bottoms adjacent to inland valleys. Red Alder may be a prominent component along the coast north of San Luis Obispo County. Boxelder (Acer negundo), Dogwood (Cornus spp.), Bigleaf Maple (Acer macrophylla), and Sycamore (Platanus racemosa) also may be present in the Alliance. It is generally found at elevations below about 4800 ft (1646 m) in the Ranges Section and less than about 3000 ft (915 m) in the Coast Section. The Alliance includes smaller landscape units in which White Alder or Willows occur in pure stands and shrubby Baccharis species are often found.

NX
INTERIOR MIXED HARDWOOD ALLIANCE

Sites that have a mixture of non-dominant hardwood species have generally been mapped as the Interior Mixed Hardwood Alliance in interior locations in this zone. Blue Oak (Quercus douglasii) is the main indicator species but species in the Coastal Mixed Hardwood Alliance may be present as minor components such as California Bay (Umbellularia californica) and Coast Live Oak (Quercus agrifolia). Hardwoods such as Valley Oak (Quercus lobata), Black Oak (Quercus kelloggii), Pacific Madrone (Arbutus menziesii), and California Buckeye (Aesculus californica) may be important components of the mixture occasionally. The Alliance has been mapped broadly in both Coast and Ranges Sections of this area. It is a locally common type in the Fremont - Livermore Hills and Valleys, Western Diablo Range and Diablo Range Subsections (Ranges Section), and the Suisun Hills and Valleys Subsection (Coast Section). Mapped elevations are below about 4200 ft (1280 m) in the Ranges Section and less than about 1200 ft (366 m) in the Coast Section. Annual grasses and forbs commonly occur as understory components of this type.

QA
COAST LIVE OAK ALLIANCE

This Alliance, dominated by Coast Live Oak (Quercus agrifolia), occurs throughout the Southern Coast Ranges and has been mapped extensively in thirteen subsections in both the Coast and Ranges Sections of this zone. Coast Live Oak is readily found in pure stands in valleys and slopes generally below about 4600 ft (1402 m) elevation. It generally occurs on deep, mesic soils on near- coastal slopes where it forms denser forests and on alluvial terraces in more interior slopes, where it may form open savanna-like grasslands. It intergrades with the more interior Blue Oak Alliance in the Santa Lucia Mountains of the Central Coast region. Mapped sites tend to have steep gradients. Towards the northern end of this zone, such as in the East Bay Hills - Mt. Diablo Subsection (Coast Section), it is found adjacent to the Annual Grasses and Forbs Alliance, and occasionally with the Redwood and more rarely with the Knobcone Pine and Coastal Mixed Hardwood Alliances. Its associates in the Western Diablo Range Subsection (Ranges Section) include Gray Pine (Pinus sabiniana) and Chamise (Adenostoma fasciculatum). California Sagebrush (Artemisia californica) may be found in the understory on many coastal sites as well.

QB
CALIFORNIA BAY ALLIANCE

California Bay (Umbellularia californica) occurs in canyons, shaded slopes, and moist sites in chaparral and woodland communities throughout much of California. It occasionally forms scattered small stands as a tree in more protected environments and in a more shrub-like form in exposed places and in the chaparral. It has been mapped in the South Coastal

Santa Lucia Ranges (Coast Section), commonly at elevations up to about 3800 ft (1158 m). It forms mixed stands with Redwood (Sequoia sempervirens) in the East Bay Hills - Mt. Diablo Subsection (Coast Section) and with Douglas-fir (Pseudotsuga menziesii) in the Santa Cruz Mountains and Leeward Hills Subsections (Coast Section). It also occurs in the Interior Santa Lucia Range (Ranges), occurring mainly on north and east facing slopes on similar gradients below 2000 ft (610 m). It is found abundantly in the northern Leeward Hills Subsection (Coast Section) and widely scattered in other subsections. Coast Live Oak (Quercus agrifolia) is the most frequent hardwood associate, with Chamise (Adenostoma fasciculatum) and Coyote Brush (Baccharis pilularis) the more common shrub associates in this Alliance. Annual grasses and forbs frequently occur in open stands of this type.

QC
CANYON LIVE OAK ALLIANCE

Canyon Live Oak (Quercus chrysolepis), a small to medium sized hardwood considered to be drought and shade tolerant, occurs from southern Oregon south to Baja California and eastward to Arizona. It may assume a shrubby form when frequent fires occur. In this zone, it occurs in tree form in six subsections of Coast and Ranges Sections as the dominant hardwood of this Alliance. It is locally common within the Interior Santa Lucia Range Subsection (Ranges Section), where It is frequently found on north facing, steep, rocky canyon slopes up to an elevation of about 5600 ft (1706 m). It may assume a shrub form (Quercus chrysolepis var. nana) on rocky summits and more exposed sites. In sheltered slopes and in mesic ravines closer to the coast, the main associates of this Alliance include Coast Live Oak (Q. agrifolia) and shrubs of lower elevations such as Scrub Oak (Q. berberidifolia). Sites further inland are associated with shrubs of drier environments such as Big Sagebrush (Artemisia tridentata), Tucker Oak (Q. john-tuckeri) and California Buckwheat (Eriogonum fasciculatum).

QD
BLUE OAK ALLIANCE

Blue Oak (Quercus douglasii), a California endemic that is drought tolerant and shade-intolerant, forms open savanna-like woodlands on well-drained soils in low elevation sites throughout interior California. In both the Santa Lucia Range and interior savannas, it has been mapped prominently in pure and mixed conifer/hardwood stands in both the Coast and Range Sections at elevations below about 4800 ft (1464 m). It is often adjacent to or intermixed with Coast Live Oak (Quercus agrifolia), Gray Pine (Pinus sabiniana), Chamise (Adenostoma fasciculatum), California Sagebrush (Artemisia californica) and other lower elevation chaparral shrubs. Blue Oak also occurs and hybridizes with Interior Live Oak (Quercus wislizenii) and other oaks, including Valley Oak (Quercus lobata) in the Central Coast region. The Alliance is represented on most slope aspects and gradients in this area, having been mapped with prominence in seven subsections and more sparsely in eight others of this zone.

QF
FREMONT COTTONWOOD ALLIANCE

This riparian Alliance is dominated by Fremont Cottonwood (Populus fremontii). It may be found in pure stands along most streams and seeps below about 6500 ft (1982 m) or may mix with abundant California Sycamore (Platanus racemosa) in this area. White Alder (Alnus rhombifolia), Boxelder (Acer negundo), shrubby Willows (Salix spp.), Mule Fat (Baccharis salicifolia), Marsh Baccharis (Baccharis douglasii), and other riparian species may occur less frequently as associates. Black Cottonwood (Populus balsamifera ssp. trichocarpa) replaces Fremont Cottonwood on the Carmel River. Bigleaf Maple (Acer macrophyllum) and Coast Live Oak (Quercus agrifolia) may occur within this Alliance further upslope from the riparian floodplains. Red Alder (Alnus rubra) may also be associated in coastal locations of Monterey, Santa Cruz, and San Mateo Counties. The Alliance grades into the Riparian Mixed Hardwood and Willow Alliances where riparian gradients or seed sources are variable along the same streambed. It has been mapped sparsely below the elevation of about 1400 ft (426 m) in the Diablo Range and Interior Santa Lucia Range Subsections of the Ranges Section.

QH
MADRONE ALLIANCE

Pacific Madrone (Arbutus menziesii) is an evergreen, long-lived hardwood occurring in a wide area from British Columbia to Baja California. It is rarely found in dense or pure stands except on relatively dry or steep sites at some distance from the immediate coast of central California. The Madrone Alliance has been mapped in this area only in one location within the Santa Cruz Mountains Subsection of the Coast Section. At this site it occurs in openings within the Redwood Alliance in the vicinity of 2086 - 2396 ft (642 - 737 m). A prolific sprouter from underground burls, Pacific Madrone re-occupies stand-replacing fire sites rapidly, especially under conditions of bare mineral or shallow soils with limited canopy cover. Conditions become less favorable for its maintenance in dense stands as the canopy closes.

QI
CALIFORNIA BUCKEYE ALLIANCE

The distribution of this Alliance, dominated by the hardwood California Buckeye (Aesculus californica), is centered in Monterey, San Benito, Santa Clara, Contra Costa, and Merced Counties in this zone. California Buckeye may occur in shrub as well as tree form and is often found on steep, north facing mesic, dry or coastal sites. Forming dense stands on hillsides, it often associates with Coast Live Oak (Quercus agrifolia) and shrubs of lower elevations such as Chamise (Adenostoma fasciculatum) and annual grasses and forbs. It has been mapped as a dominant shrub very sparsely in two subsections of the Coast Section and one in the Ranges Section on steep slopes below about 1600 ft (488 m).

QJ
COTTONWOOD - ALDER ALLIANCE

Some riparian sites within the Ranges Section are dominated by a mixture of Fremont or Black Cottonwood (Populus fremontii, Populus balsamifera ssp. trichocarpa) and White or Red Alder (Alnus rhombifolia, Alnus rubra). Willows (Salix spp.) and other hardwoods and shrubs such as Boxelder (Acer negundo), Bigleaf Maple (Acer macrophylla), and Mulefat (Baccharis salicifolia) may be present in minor amounts. The Cottonwood - Alder Alliance has been mapped sparsely in scattered areas of the Eastern Hills Subsections. Elevations are generally in the range of 696 - 2925 ft (214 - 900 m). Other wetland associates include species of Tamarisk (Tamarix spp.) and shrub Willows (Salix spp.). The most common upland types found adjacent to the Cottonwood - Alder Alliance in this region are the Annual Grasses and Forbs, Coastal Sage Scrub, and Blue Oak Alliances.

QK
BLACK OAK ALLIANCE

Black Oak (Quercus kelloggii) is scattered throughout the Central Coast region west of the Salinas River and north to San Francisco Bay. It generally occurs with Coulter, Gray or Ponderosa Pine (Pinus coulteri, P. sabiniana, P. ponderosa) in mixed stands. It also occurs sparsely in pure stands in this Alliance on mesic slopes at low to mid-montane elevations up to about 3400 ft (1036 m). These stands, often developing as a result of intensive fires or other disturbance such as logging of conifers or the opening of stands due to diseases and vary greatly in canopy closure from very dense to savanna-like. Soils are usually well-drained and have loamy textures. Other common associates in this Alliance are Blue Oak (Q. douglasii), low elevation shrubs such as Scrub Oak (Q. berberidifolia), California Sagebrush (Artemisia californica) and Chamise (Adenostoma fasciculatum) and annual herbaceous species. Black Oak may hybridize with Interior Live Oak (Quercus wislizenii) and Coast Live Oak (Quercus agrifolia) where the species associate. It may be a minor inclusion in the Coastal Mixed Hardwood community, but is usually an indicator of the Montane Mixed Hardwood Alliance, which has not been mapped in this zone.

QL
VALLEY OAK ALLIANCE

Valley Oak (Quercus lobata), a medium-sized deciduous California endemic oak possessing a deeply rooting habit, forms a population that is declining due to anthropogenic factors. As a dominant hardwood, it occurs in pure stands on low elevation areas of this zone in open woodlands with an understory of dry grasslands. It is rarely found in mixed conifer-hardwood stands but may be identified on alluvial terraces or other sites that may retain more summer moisture than Blue Oak woodlands. This type has been mapped in widely scattered stands in fourteen subsections in the Coast and Ranges Sections. These elevations are usually below 3400 ft (1036 m). Valley Oak typically associates with Coast Live Oak (Q. agrifolia) and further inland, also with Blue Oak (Q. douglasii). It may be present in the Interior Mixed Hardwood Alliances, and in the Coastal Mixed Hardwood Alliance to a lesser extent. Shrubs such as Chamise (Adenostoma fasciculatum), California Sagebrush (Artemisia californica) and Scrub Oak (Q. berberidifolia) are often found within or adjacent to these sites.

QM
BIGLEAF MAPLE ALLIANCE

Bigleaf Maple (Acer macrophyllum), a deciduous, moist-site hardwood that ranges north to Alaska, has been mapped only sparsely in this zone. It has only been identified as the dominant hardwood of mixed conifer-hardwood stands as understory to Douglas-fir (Pseudotsuga menziesii) in near coastal, shaded areas of the Santa Cruz Mountains Subsection (Coast Section). Coast Live Oak (Quercus agrifolia) is associated with it in this area. Mapped elevations are in the range 2060 – 3116 ft (628 – 950 m).

QO
WILLOW ALLIANCE

The Willow Alliance is dominated by tree Willows of any species (Salix spp.). In the central coast the most common species are the tree-like Arroyo (S. lasiolepis), Red (S. laevigata), and Shining (S. lucida) Willows. This Alliance may also include some shrub Willows such as Narrowleaf (S. exigua), Scouler's (S. scouleriana), and Sitka Willows (S. sitchensis). It usually occurs on low-gradient stream reaches near the coast and mesic interior locations from Monterey southward, having been mapped in seven subsections at elevations below about 1200 ft (366 m). Associates in the broader area of this stringer-like Alliance include Red Osier Dogwood (Cornus occidentalis), California Sycamore (Platanus racemosa), Wild Rose (Rosa californica), Alders (Alnus spp.), and Fremont Cottonwood (Populus fremontii).

QP
CALIFORNIA SYCAMORE ALLIANCE

California Sycamore (Platanus racemosa) is a tall, fast-growing riparian tree that occurs from California to Baja California. Pure stands of it have been mapped sparsely in eight subsections of both the Coast and Ranges Sections in this zone and is found at low elevations, usually less than 1800 ft (548 m). Common hardwood and shrub associates along these streams include Fremont Cottonwood (Populus fremontii), Willows (Salix spp.), White Alder (Alnus rhombifolia), and Coast Live Oak (Quercus agrifolia).

QR
RED ALDER ALLIANCE

Red Alder (Alnus rubra), a short-lived, shade intolerant riparian hardwood, is distributed from San Luis Obispo County north to Alaska. Seasonally flooded or permanently saturated soils may occasionally be dominated by this species near the coast in this zone. The Red Alder Alliance has been mapped in alluvial positions in the Santa Cruz Mountains Subsection (Coast Section) at elevations between 16 - 315 ft (5 - 97 m). These locations are within the vicinity of moist Pacific Redwood (Sequoia sempervirens) forested sites. Other upland associates include Douglas-fir (Pseudotsuga menziesii), species of the Annual Grasses and Forbs and Coastal Sage Scrub Alliances, and Coyote Brush (Baccharis pilularis).

QT
TANOAK (MADRONE) ALLIANCE

Tanoak (Lithocarpus densiflorus), widely distributed in coastal regions of northern and central California, reaches its southernmost extent in the Santa Ynez Mountains (Los Padres NF). Its range overlaps with that of Madrone (Arbutus menziesii) in this area and further north in the Santa Lucia Range of the Los Padres NF, one of the locations where the Alliance has been mapped. Tanoak may occur alone or in combination with Madrone as dominant hardwoods of this Alliance. Stands have been mapped abundantly in cismontane locations of the North Coastal Santa Lucia Range Subsection and adjoining locations in the South Coastal Santa Lucia Range Subsection in the Coast Section on generally steep sites with elevations typically below about 4200 ft (1280 m). Associates in this area include Coastal Sage Scrub species such as Sages (Salvia spp.) and California Sagebrush (Artemisia californica), low elevation chaparral species such as Wedgeleaf Ceanothus (Ceanothus cuneatus) and Chamise (Adenostoma fasciculatum), conifers such as Ponderosa Pine (Pinus ponderosa), Redwood (Sequoia sempervirens), and Pacific Douglas-Fir (Pseudotsuga menziesii), and other hardwoods such as Coast Live Oak (Quercus agrifolia).

QW
INTERIOR LIVE OAK ALLIANCE

Interior Live Oak (Quercus wislizenii), an evergreen, shade-tolerant upland hardwood, occurs from northern California to Baja California in two recognized varieties as a shrub (Q. w. var. frutescens and a tree (Q. w. var. wislizenii). As a dominant hardwood in this alliance, it occurs both in interior valleys and seaward sides of the Coast Ranges, but generally is found in pure stands inland from the Coast Live Oak Alliance. Interior Live Oak typically associates with Chamise (Adenostoma fasciculatum), Blue Oak (Quercus douglasii), and Gray Pine (Pinus sabiniana) in savanna-like stands on these sites. It has been mapped only sparsely in the Suisan Hills and Valleys and East Bay Hills – Mt. Diablo Subsections of the Coast Section at elevations below about 3600 ft (1098 m).

QY
WILLOW - ALDER ALLIANCE

Red Alder (Alnus rubra) occurs in wet pockets near the coast in the northern Santa Cruz Mountains Subsection (Coast) and elsewhere in this zone. It sometimes associates with Willows (Salix spp.) and no other riparian trees to identify this combination as the Willow - Alder Alliance of the central coast. A combination of three or more riparian trees, where none is dominant, is identified in the Riparian Mixed Hardwood Alliance, which is more commonly seen in this area (see description). The Willow - Alder Alliance has been mapped in the Santa Cruz Mountains Subsection below about 800 ft (244 m). These riparian zones meander through urbanized and agricultural areas near the coast and dry grassland and coastal sage scrub sites further inland.

QZ
EUCALYPTUS ALLIANCE

Species of Eucalyptus native to Austrailia (for example, Eucalyptus globulus, Eucalyptus polyanthemos, and Eucalyptus tereticornis) have been planted throughout California. In this area, the Eucalyptus Alliance has been mapped sparsely within managed landscapes at elevations usually below about 1800 ft (548 m). These stands are widely scattered and are seldom extensive in nature, having been initially established through cultivation. Naturalization has occurred in disturbed areas, augmented by the ability of this genus to resprout after disturbance. Some of these Eucalyptus plantations are included within the Non-Native Alliance groups (Non-Native Ornamental Hardwood Alliance, etc.). In this zone, Eucalyptus groves have been mapped abundantly near urban areas such as those close to Halfmoon Bay (Santa Cruz Mountains Subsection), the Oakland/Berkeley/Fremont areas (East Bay Hills - Mt. Diablo Subsection), and the San Bruno Mountains (San Francisco Peninsula).

UT
TAMARISK ALLIANCE

Any of various species of the introduced and invasive hardwood and shrubby Tamarisk (Tamarix spp.) are dominant in this riparian Alliance. T. parviflora is more common in this zone. It has been identified sparsely in scattered areas of the Diablo Range and Temblor Range Subsections of the Ranges Section. Where mapped, the dynamic Tamarisk Alliance occurred within the elevation range of about 800 – 1800 ft (244 – 548 m). Tamarisk generally out-competes native riparian species in growth and vigor through the development of deeper roots and higher rates of transpiration, eliminating favorable habitats for some native wildlife species and native plants. This type is associated with upland types such as the Annual Grasses and Forbs, Blue Oak and Coastal Sage Scrub Alliances.

SHRUBS AND SUBSHRUBS

BC
SALTBUSH ALLIANCE

Species of Saltbush (Atriplex spp.) are dominant in this sparsely mapped xeric Alliance. Some of the Atriplex species are adapted to accumulating salts or metals in hyper-saline or alkaline environments in order to survive on these harsh sites, but such areas may create toxic conditons to browsing wildlife. Sites have been mapped in interior locations at elevations below about 4000 ft (1220 m) in the Ranges Section. Coastal sage scrub species such as California Sagebrush (Artemisia californica) and Winterfat (Krascheninnikovia lanata) may be associated shrubs.

BQ
GREAT BASIN MIXED SCRUB ALLIANCE

This type is defined by a mixture of common shrubs more characteristic of cool, semi-arid Great Basin environments elsewhere in California and adjoining portions of Nevada. In this zone, the mixture includes at least two species, typically Big Basin Sagebrush (Artemisia tridentata var. tridentata), California Juniper (Juniperus californica), Tucker Oak (Quercus john-tuckeri) and other semi-arid affiliates, where none are dominant in this combination. The alliance has been mapped sparsely at the extreme southern edge of the Caliente Range – Cuyama Valley Subsection of the Ranges Section at elevations between about 2800 – 3800 ft (854 – 1158 m). The type is associated with Singleleaf Pinyon Pine (Pinus monophylla) and California Buckwheat (Eriogonum fasciculatum) in this area.

BR
RABBITBRUSH ALLIANCE

Rubber Rabbitbrush and Yellow Rabbitbrush (Chrysothamnus nauseosus, Chrysothamnus viscidiflorus) occur in California south to Riverside County. This Alliance is dominated by either or both species, with the more commonly occurring Rubber Rabbitbrush able to grow on strongly alkaline as well as more neutral soils. The Rabbitbrush Alliance is often found on dry slopes or flats that have been subject to ground disturbance, locally xeric rainshadow effects or abandoned agricultural practices. It has been mapped very sparsely in the southernmost areas of the Interior Santa Lucia Range and more prominently in the Caliente Range - Cuyama Valley Subsections of the Ranges Section. Associated species in this area may include Blue Oak (Quercus douglasii), Big Sagebrush (Artemisia tridentata), California Buckwheat (Eriogonum fasciculatum), and California Juniper (Juniperus californica) and dry grasses and forbs.

BS
BIG SAGEBRUSH ALLIANCE

Big Basin Sagebrush (Artemisia tridentata ssp. tridentata) dominates this Alliance, having been mapped sparsely in dry interior and transmontane locations of the extreme southeastern areas of the Caliente Range - Cuyama Valley Subsection of Ranges Section. It occurs there within an elevation band of 1600 - 5200 ft (488 - 1586 m). Slopes are often of low gradient and soils are typically coarse, often deep, and well drained. Typical sites are dry alluvial fans or washes on which other species such as Tucker Oak (Quercus john-tuckeri), California Buckwheat (Eriogonum fasciculatum) also occur.

BX
GREAT BASIN – MIXED CHAPARRAL TRANSITION ALLIANCE

This mixed chaparral to semi-arid transitional type is indicated by combinations of Big Sagebrush (Artemisia tridentata), California Juniper (Juniperus californica) and other Basin species with more mesic low elevation shrubs and subshrubs in this area such as Chaparral Yucca (Yucca whipplei), California Sagebrush (Artemisia californica) and Chamise (Adenostoma fasciculatum). Annual dry grasses and forbs also commonly occur in this open community, which has been mapped very sparsely in the Caliente Range – Cuyama Valley Subsection of the Ranges Section. Most sites have been mapped within the elevation range 1600 – 2600 ft (488 – 792 m). This type is more abundant in the South Coast and Montane Calveg zone to the south where semi-arid conditions more commonly intercept more mesic shrub environments.

CA
CHAMISE ALLIANCE

Relatively pure areas of Chamise (Adenostoma fasciculatum) often develop on sites that are harsher in terms of having shallow soils, are more xeric or have sunnier environments (eg., south facing slopes) than the adjacent Lower Montane Mixed Chaparral Alliance. Chamise may also dominate a site after disturbances such as intense, warm season fires. Pure chamise stands exist in the Coast Ranges from San Mateo to Ventura County and have been mapped extensively in interior locations of the Ranges Section and abundantly in the Coast Section within fourteen subsections. The elevation of the Alliance is generally below about 5000 ft (1524 m) as mapped, occurring on moderately steep slopes in the Ranges and distinctly steep and frequently south facing slopes in the Coast Sections. Very little other vegetation is found on these sites but Chaparral Yucca (Yucca whipplei) often occurs on more open sites. Minor amounts of common chaparral and coastal sage scrub species such as Manzanita (Arctostaphylos spp.), Ceanothus spp. and California Sagebrush (Artemisia californica) may also be present.

CB
SALAL - CALIFORNIA HUCKLEBERRY ALLIANCE

Salal (Gaultheria shallon) is known to occur in near-coastal areas and more inland, moist areas south to Santa Barbara County. It has been mapped only once in this zone as a co-dominant shrub in the Salal - California Huckleberry Alliance in the Leeward Hills Subsection of the Coast Section in the elevation range of about 200 – 400 ft (61 – 122 m). California Huckleberry (Vaccinium ovatum) is the most common shrub associate. In this area, the alliance includes dry grasses and forbs; the closest tree associated with it is Valley Oak (Quercus lobata).

CC
CEANOTHUS CHAPARRAL ALLIANCE

Chaparral in this region is occasionally dominated in small areas by species of Ceanothus in contrast to the more extensively occurring mixed genera chaparrals. This coastal to mid elevation shrub Alliance is identified by any of the following species alone or in combination: Bigpod (C. megacarpus), Greenbark (C. spinosus), Carmel (C. griseus), Wavyleaf (C. foliosus),

Wartleaf (C. papillosus), Glory Mat (C. gloriosus), Santa Barbara (C. impressus), Chaparral Whitethorn (C. leucodermis), and/or Hairy Ceanothus (C. oliganthus). Blue Blossom (C. thyrsiflorus) or Wedgeleaf (C. cuneatus) Ceanothus may also be in the mixture, but are not dominant species in this Alliance. Tree and shrub associates typically include Coast Live Oak (Quercus agrifolia), Tanoak (Lithocarpus densiflorus), Redwood (Sequoia sempervirens), California Sagebrush (Artemisia california) and other low elevation chaparral shrubs. The Alliance typically occurs on cismontane slopes having mesic soils below about 3200 ft (974 m) in the Coast and Ranges Sections.

CK
COYOTE BRUSH ALLIANCE

Coyote Brush (Baccharis pilularis) is a shrub that colonizes moist sites after disturbances and may compete successfully with other shrubs due to the rapid growth rate of its taproot and other physiological advantages. It dominates this Alliance and occurs in mixture with other species such as California Sagebrush (Artemisia californica), Coast Live Oak (Quercus agrifolia), Chamise (Adenostoma fasciculatum) and annual species of grasses such as Bromus spp. The Coyote Brush Alliance has been mapped abundantly in the Santa Cruz Mountains Subsection of the Coast Section and occasionally in the Watsonville Plain – Salinas Valley, Leeward Hills and East Bay Hills – Mt. Diablo Subsections (Coast Section) in addition to the Fremont – Livermore Hills and Valleys and Western Diablo Range Subsections in the Ranges Section. Mapped elevations are below about 4000 ft (1220 m). This Alliance occurs on steep, south and west facing slopes in the Coast Section in association with California Bay (Umbellularia californica) and Coast Live Oak (Quercus agrifolia). It is also adjacent to the Annual Grasses and Forbs, Coastal Mixed Hardwood, and Mixed Soft Scrub Chaparral Alliances in that region. Large, scattered patches of this Alliance have also been mapped in near- coastal and wet inland areas of the Santa Cruz Mountains and East Bay Hills - Mt. Diablo Subsections (Coast) and the Western Diablo Range Subsection (Ranges) and scattered elsewhere in this zone.

CL
WEDGELEAF CEANOTHUS ALLIANCE

Wedgeleaf Ceanothus (Ceanothus cuneatus), an evergreen shrub that has a wide ecological amplitude adapted to a variety of environments including harsh or serpentine sites, occurs from Oregon to northern Baja California. Occurring as three varieties in California, it may dominate low elevation sandy coastal habitats or more interior locations in the Central Coast area as C. c. var. cuneatus, var. fascicularis, or var. rigidus. The Wedgeleaf Ceanothus Alliance has been mapped very sparsely in the Interior Santa Lucia Range Subsection (Range Section) at elevations between 800 – 1200 ft (244 - 366 m). Its main tree associates in that inland area are Gray Pine (Pinus sabiniana) and Coast Live Oak (Quercus agrifolia).

CQ
LOWER MONTANE MIXED CHAPARRAL ALLIANCE

This mixed shrub Alliance occurs extensively on cismontane low to moderate elevation slopes in the Central Coast area and is the most frequently mapped shrub type there. Species composition varies according to climate, environment, and geographic position but no one species is clearly dominant. Chamise (Adenostoma fasciculatum) is very common in the mixture as are species of Ceanothus, Manzanita (Arctostaphylos spp.), Chaparral Yucca (Yucca whipplei), Silktassel (Garrya spp.), Birchleaf Mountain Mahogany (Cercocarpus betuloides), Oak (especially Scrub Oak, Quercus berberidifolia), Coyote Brush (Baccharis pilularis), Sumacs (such as Sugar Bush, Rhus ovata), Cherry (especially Hollyleaf Cherry, Prunus ilicifolia), and Redberry (Rhamnus ilicifolia or Rhamnus crocea). This Alliance has been mapped typically at elevations below about 5400 ft (1646 m) on steep slopes in both the Coast and Ranges Sections. This type is especially common in the Diablo Range, Interior Santa Lucia Range and both North and South Coastal Santa Lucia Subsections.

CR
REDSHANK ALLIANCE

Redshank (Adenostoma sparsifolium) forms open and often pure stands in several discrete populations in central and southern California. It has been identified and mapped very sparsely in the Interior Santa Lucia Range Subsection of the Ranges Section, where it associates with species in the Mixed Soft Scrub Chaparral Alliance such as California Buckwheat (Eriogonum fasciculatum), Deerweed (Lotus scoparius), and White Sage (Salvia apiana) and with chaparral shrubs such as Chamise (Adenostoma fasciculatum) and Ceanothus species. These sites are mainly north and east facing and fall within the elevation range 800 - 2400 ft (244 - 732 m).

CS
SCRUB OAK ALLIANCE

Scrub Oak (Quercus berberidifolia) or other shrubby oaks may become dominant species at low to moderate elevations in the Central Coast area. In addition to Scrub Oak, any combination of shrub Interior Live Oak (Q. wislizenii var. frutescens), Leather Oak (Q. durata), and shrub Canyon Live Oak (Q. chrysolepis var. nana) may be abundant in the Alliance. These oaks may fully re-occupy a site after intense fire due to their vigorous stump-sprouting ability but other common chaparral associates may be present in minor amounts, including the shrubs Chamise (Adenostoma fasciculatum), Birchleaf Mountain Mahogany (Cercocarpus betuloides), Toyon (Heteromeles arbutifolia), Poison Oak (Toxicodendron diversilobum), and vines such as Cucumber Vine (Marah macrocarpus) and Honeysuckle (Lonicera spp.). This Alliance has been mapped, usually on north facing, moderately steep to steep slopes. Elevations typically are below about 4600 ft (1402 m) and the type merges with boundaries of the Lower Montane Mixed Chaparral Alliance and associated shrubs such as Chamise (Adenostoma fasciculatum). Shrub oaks on very dry sites such as the northeastern rain shadow area of the Sierra Madre and San Rafael Mountains are usually Tucker Oak (Quercus john-tuckeri) and are associated with species in the Pinyon-Juniper and Buckwheat Alliances.

CT
TUCKER / MULLER SCRUB OAK ALLIANCE

Tucker Oak (Quercus john-tuckeri), an evergreen, endemic and occasionally tree-like shrub oak, forms the dominant taxon of this type, occupying xeric habitats of this zone and further south. This oak appears to be derived from the Q. berberidifolia / Q. dumosa shrub oak complex and hybridizes with at least three other oaks, making identification difficult in the field. Tucker Scrub Oak has been mapped occasionally in southern areas of the Interior Santa Lucia Range and Caliente Range – Cuyama Valley subsections in the Ranges Section at elevations below about 5000 ft (1524 m).

DE
ARROWWEED ALLIANCE

Arrowweed (Pluchea sericea) dominates this wetlands Alliance. It occurs in arid or xeric areas and has been mapped very sparsely in the Interior Santa Lucia Range and adjoining Caliente Range - Cuyama Valley Subsections of the Ranges Section at elevations from 1200 - 2000 ft (366 - 610 m). Other associated species include Mule Fat (Baccharis salicifolia) and Fremont Cottonwood (Populus fremontii).

JC
CALIFORNIA JUNIPER ALLIANCE

California Juniper (Juniperus californica), a slow-growing, non-sprouting and fire-sensitive conifer, has been mapped in both tree-like and shrub-like forms in this zone. It is dominant as a shrub in this alliance, typically occupying shallow or otherwise infertile soils on dry sites. It has been mapped occasionally as a pure type in the Caliente Range - Cuyama Valley, Temblor Range, and Diablo Range Subsections (Ranges Section) at elevations between about 800 – 4000 ft (244 – 1220 m). California Juniper on these sites associates with California Buckwheat (Eriogonum fasciculatum), Big Sagebrush (Artemisia tridentata), Blue Oak (Quercus douglasii), and dry grasses such as Brome (Bromus spp.). Elevations are in the range of 1400 - 4000 ft (426 - 1220 m) on these low-gradient and mostly north facing sites.

KL
WINTERFAT ALLIANCE

Winterfat (Krascheninnikovia lanata), a long-lived, desirable shrub for winter browse, generally grows in alkaline or arid flats in northeastern and southeastern desert areas of California as well as dry sites west to central and southern California. It is the dominant plant of this Alliance, which has been mapped very frequently on slopes in the Temblor Range Subsection of the Ranges Section. It also has been identified with less abundance in adjoining areas of the Paso Robles Hills and Valleys and Carrizo Plain Subsections of the Ranges Section at elevations below about 4000 ft (1220 m). Alliances that occur in the general vicinity of the lower elevation Winterfat Alliance include Chamise (Adenostoma fasciculatum), Lower Montane Mixed Chaparral, Coastal Sage Scrub, Scrub Oak (Quercus spp.), Saltbush (Atriplex spp.), Annual Grasses and Forbs, and Blue Oak (Quercus douglasii).

LS
SCALEBROOM ALLIANCE

Drainages of intermittent streams and washes in interior locations may be dominated by the deciduous, scaly-leaved Scalebroom (Lepidospartum squamatum) in this zone. It has been mapped sparsely within an elevation band of about 1800 – 3000 ft (548 – 915 m) in the southern end of the Caliente Range – Cuyama Valley Subsection of the Ranges Section. Scalebroom associates with California Buckwheat (Eriogonum fasciculatum), Big Sagebrush (Artemisia tridentata) and Rabbitbrush (Chrysothamnus nauseosus) on these sites.

ML
BACCHARIS (RIPARIAN) ALLIANCE

This riparian or dry wash Alliance is dominated by any species of Baccharis occupying wet habitats, including the most common, Mule Fat (Baccharis salicifolia) in this area. Tree willows (Salix spp.), California Sycamore (Platanus racemosa), Fremont Cottonwood (Populus fremontii), and Coast Live Oak (Quercus agrifolia) are some associated hardwoods in this Alliance. It has been mapped sparsely, below about 1200 ft (366 m) along the Cuyama River in the Interior Santa Lucia Range Subsection of the Ranges Section.

NM
RIPARIAN MIXED SHRUB ALLIANCE

A community of mixed shrubs has been mapped in one riparian area along the Cuyama River in the Santa Maria Valley Subsection of the Coast Section at elevations generally less than 400 ft (122 m). Shrubs inlcude species of shrub Willow (Salix spp.), Elderberry (Sambucus spp.), Wild Rose (Rosa spp.), Coyote Brush (Baccharis pilularis) and occasionally Mule Fat (Baccharis salicifolia). This type has been mapped adjacent to agricultural and urbanized landscapes.

SB
BUCKWHEAT ALLIANCE

California Buckwheat (Eriogonum fasciculatum), an evergreen semi-erect shrub, has a wide-ranging distribution in central and southern California, south to northwestern Mexico and east to Arizona and Utah. It occupies dry and more xeric sites from the coast to the deserts, being utilized extensively by small mammals and pollinating insects. The sites are in non-coastal locations, are often steep and south facing, sparsely vegetated sites with good drainage. The degradation of Chamise (Adenostoma fasciculatum) or mixed chaparral sites from past fires or changes in subsurface moisture conditions appear to initiate and perpetuate many of these communities. This Alliance has been mapped extensively within the southern portions of the Interior Santa Lucia Range and the Caliente Range – Cuyama Valley Subsections of the Ranges Section and very sparsely in the Paso Robles Hills and Valleys (Ranges) and North Coastal Santa Lucia Range (Coast) Subsections. Elevations are usually below about 5000 ft (1524 m). Tree and shrub associates on these sites also include Singleleaf Pinyon Pine (Pinus monophylla), California Juniper (Juniperus californica), Blue Oak (Quercus douglasii) and California Sagebrush (Artemisia californica).

SD
MANZANITA ALLIANCE

The dominance of the shrub layer by single or multiple species of Manzanita (Arctostaphylos spp.) define this Alliance. Commonly occurring Manzanitas in this zone include Bigberry (A. glauca), Hoary (A. canescens), Common (A. manzanita) and Glossyleaf (A. nummularia) towards the northwest; Eastwood (A. glandulosa) and Mexican (A. pungens) at mid-montane elevations; and Woollyleaf (A. tomentosa) at lower elevations. This Alliance has been mapped within both Sections in the East Bay Hills – Mt. Diablo, Santa Cruz Mountains, Western Diablo Range and Interior Santa Lucia Range Subsections sparsely at elevations between 1200 - 4200 ft (366 - 1280 m). The Manzanita Alliance commonly occurs on ridgetops and spur ridges, often on north facing and moderately steep slopes. Associates in this area include low elevation shrubs and trees such as Chamise (Adenostoma fasciculatum), Gray Pine (Pinus sabiniana), Coast Live Oak (Quercus agrifolia), Knobcone Pine (P. attenuata), Redwood (Sequoia sempervirens) and grasses.

SL
COASTAL LUPINE ALLIANCE

Dune Lupine (Lupinus chamissonis), a California native, is an indicator species in coastal dunes in the Central Coast for this Alliance. It may or may not become the dominant shrub on these dunes. The stabilized coastal dune habitat supports other species there, including non-natives such as Fig Marigolds (Carpobrotus chilensis and Carpobrotus edulis), Iceplants

(Mesembryanthemum crystallinum and Mesembryanthemum nodiflorum), and herbaceous annuals such as New Zealand Spinach (Tetragonia tetragonioides). Other associated perennials, shrubs, and subshrubs include Heather Goldenbush (Ericameria ericoides), California Sagebrush (Artemisia californica), Eriastrum densifolium, Dune Buckwheat (Eriogonum parvifolium), California Croton (Croton californicus), Common Deerweed (Lotus scoparius), Sand Verbena (Abronia latifolia), Dune Ragwort (Senecio blochmaniae), California-Aster (Lessingia filaginifolia), and perennial graminoids such as Carex spp. and Bromus spp. These vegetated dunes have been mapped up to about 200 ft (60 m) in the South Coastal Santa Lucia Range, Santa Maria Valley and Santa Cruz Mountains Subsections of the Coast Section.

SQ
MIXED SOFT SCRUB - CHAPARRAL ALLIANCE

Ground disturbances such as fire and urban development often initiate the development of this short-lived shrub Alliance. It has been mapped in areas of disturbance where woody chaparral species comprise less than half of the shrub cover in areas transitional between the California Sagebrush and Lower Montane Mixed Chaparral Alliances. These sites are typically at elevations below 2600 ft (792 m) on moderately steep to steep slopes in the Paso Robles Hills and Valleys, Interior Santa Lucia Range Subsections (Ranges Section) and South Coastal Santa Lucia Range and Santa Maria Valley Subsections of the Coast Section. Indicator species in the general area include California Sagebrush (Artemisia californica), Scrub Oaks (Quercus spp.), Deerweed (Lotus scoparius), Coyote Brush (Baccharis pilularis), Bush Monkeyflower (Mimulus aurantiacus), Bush Poppy (Dendromecon rigida), Yerba Santa (Eriodictyon spp.) and Goldenbush (Ericameria spp.) in mixture with minor amounts of Ceanothus spp., Sumacs (Rhus spp. or Malosma laurina), and Chamise (Adenostoma fasciculatum).

SS
CALIFORNIA SAGEBRUSH ALLIANCE

California or Coastal Sagebrush (Artemisia californica) is generally found as a dominant or indicator shrub in low to moderate elevation coastal foothills and valleys in association with Black Sage (Salvia mellifera) or Purple Sage (Salvia leucophylla) in this region. The California Sagebrush Alliance is diverse in species composition, since it occurs extensively from San Francisco Bay southward. California Sagebrush commonly occurs, for example, on cismontane slopes of the Santa Lucia Range between Monterey and Pt. Conception at elevations usually below about 3400 ft (1036 m). These sites are often exposed, steep, and in the Ranges Section, south facing, and with rocky, shallow soils. Other species that may occur sporadically in this Alliance include Coyote Brush (Baccharis pilularis), Bush Monkey Flower (Mimulus aurantiacus), Heather Goldenbush and Sawtooth Goldenbush (Ericameria ericoides, Hazardia squarrosa), species of Coffeeberry (Rhamnus spp.), Lupines (Lupinus spp.), Poison Oak (Toxicodendron diversilobum), California Encelia (Encelia californica), and at lower elevations, Coast Buckwheat (Eriogonum latifolium). Some of these near - coastal sandy sites may have such rare species as Monterey, Morro or Sandmat Manzanita (Arctostaphylos montereyensis, Arctostaphylos morroensis, Arctostaphylos pumila) within the Coast Section. The California Sagebrush Alliance has been mapped as far inland as the southern boundaries of the Diablo Range and Interior Santa Lucia Range Subsections (Ranges) and as far north as Twin Peaks Park in San Francisco in this region within twenty subsections.

SY
CHAPARRAL YUCCA ALLIANCE

Chaparral Yucca (Yucca whippliei ssp. percursa), dominant in this Alliance, resprouts rapidly and vigorously after fires and possibly other ground disturbances such as grazing. It typically occupies cismontane slopes in this area as distinct from other subspecies of this taxon found elsewhere. The Alliance has been mapped very sparsely in the Caliente Range – Cuyama Valley Subsection of the Ranges Section at elevations below about 2000 ft (610 m). These dry sites may include annual grasses and Great Basin-affinity shrubs such as Big Basin Sagebrush (Artemisia tridentata ssp. tridentata).

WL
SHRUB WILLOW ALLIANCE

Shrub forms of Willow (Salix spp.) are mapped as this Alliance where they dominate the shrub layer in a riparian, seep or meadow site. Any of the following native species may be included in this Alliance for this zone: Narrow-leaved Willow (S. exigua), Shining Willow (S. lucida), Brewer's (S. breweri), Arroyo (S. lasiolepis), Scouler's (S. scouleriana), and Sitka (S. sitchensis). The Shrub Willow Alliance has been mapped in six subsections within the two sections at elevations below about 3200 ft (976 m). Associated types in that area include riparian hardwoods and shrubs such as California Sycamore (Platanus racemosa), Mulefat (Baccharis salicifolia) inland ,and Coyote Brush (Baccharis pilularis) nearer the coast. In addition, Eucalyptus species and Monterey Pine (Pinus radiata) may be planted in close proximity to the Shrub Willow Alliance near urbanized areas.

HERBACEOUS

HC
PICKLEWEED - CORDGRASS ALLIANCE

This coastal salt marsh Alliance has been mapped prominently along tidal watercourses in the Bay Flats and Watsonville Plain - Salinas Valley Subsections of the Coast Section and elsewhere less abundantly in seven other subsections. Pickleweed (Salicornia spp.) and Cordgrass (Spartina spp.) generally are dominants, associated with other estuarine plants such as Saltgrass (Distichlis spicata) and freshwater wetlands species such as Bulrushes (Scirpus spp.).

HG
ANNUAL GRASSES AND FORBS ALLIANCE

Low to mid-montane areas of central California may develop extensive or restricted areas of dry grasslands. These grasses and forbs generally occur beneath Blue (Quercus douglasii) and Coast Live Oaks (Quercus agrifolia), but may occur as extensive stands without an overstory in otherwise well-vegetated shrub, hardwood or coniferous regions. Conditions that restrict the growth and maintenance of species of the surrounding vegetation include the occurrence of pockets of fine-textured (clayey) soils, a frequent fire regime, and ground-disturbing activities such as grazing and mining. Many exotic grasses are characteristic of this type, including species of wild oats (Avena spp.), various Bromes (Bromus spp.), Foxtail Fescue (Vulpia myuros), and Kentucky Bluegrass (Poa pratensis). This Alliance also includes perennial grasses that develop on coarse, well-drained soils occurring within sunny openings of forested savannas. In addition to species mentioned above, savannas may also include more native Sedges (Carex spp.), Melic Grass (Melica spp.) and limited occurrences of coastal sage scrub species such as California Sagebrush (Artemisia californica). These areas have been mapped at elevations below about 4600 ft (1402 m) on low-gradient slopes in both the Coast and Ranges Sections.

HJ
WET MEADOWS (GRASS - SEDGE - RUSH) ALLIANCE

Sedges and rushes occur within valleys on wet meadows and small, wet alluvial fans of lower montane areas. Although a range of hydric conditions (dry to saturated) usually occur within the same meadow, wet and mountain meadows are characterized by the permanency of the water source at their lowest topographic levels. Many Sedges and most Rushes (Carex spp. and Juncus spp.) require a continuous moisture source during the growing season. When present along the coast, this Alliance occurs in swales but is sufficiently upslope to be away from saline deposits in coastal salt marsh areas. Wet Meadows have been mapped very infrequently in both the Coast (Santa Cruz Mountains and Watsonville Plain – Salinas Valleys Subsections) and Ranges (Diablo Range Subsection) Sections at low elevations.

HM
PERENNIAL GRASSES AND FORBS ALLIANCE

Pockets of perennial grasses, often native species, and herbaceous plants have been mapped sparsely in three subsections near the southern border of this zone in both sections. Elevations are generally below 600 ft (183 m), sites are seasonally moist and typically have low-gradient slopes. This type is a form of dry to moist grassland in which the species composition is a mixture of perennial and some annual grasses and non-woody species that vary according to management practices. Native perennial grasses such as Needlegrass (Achnatherum spp.) may occur in addition to Dropseed (Sporobolus spp.), Squirreltail (Elymus elymoides) and Leymus spp. Introduced perennials such as Foxtail (Alopecurus myosuroides) and Tall Fescue (Festuca arundinacea) may be present with non-native forbs such as Strawberry Clover (Trifolium fragiferum) and non-native annual grasses such as Foxtail Chess (Bromus madritensis) and Ripgut grass (B. diandrus) in this type. Some of the areas are currently being used for livestock pasture where the type intergrades with the Annual Grasses and Forbs Alliance.

HT
TULE - CATTAIL ALLIANCE

In this zone, Cattail or Tule marshes have been mapped sparsely in the Bay Flats and East Bay Terraces and Alluvium Subsections of the Coast Sections in areas surrounding estuaries and inlets of San Francisco, San Pablo and Suisun Bays as well as further inland. Dominant species include Sedges (Carex spp.), Tule (Scirpus spp.), Cattail (Typha spp.), and Spikerush (Eleocharis spp.). A number of other species associate with this Alliance depending on the geographic area, including the invasive forb Purple Loosestrife (Lythrum salicaria) in this area. Past drainage activities have significantly reduced the total area once covered by this wetlands Alliance.

NON-NATIVE VEGETATION

IA
GIANT REED / PAMPAS GRASS ALLIANCE

This non-native alliance is dominated by invasive species of Giant Reed (Arundo donax) in wetlands or Black or White Pampas Grasses (Cortaderia jubata, C. selloana) on moist, disturbed sites. This type has been mapped very rarely in the Ranges Section. The adacency of agricultural and urban land uses may provide a conduit for the invasion of these species onto public and private lands.

IB
URBAN-RELATED BARE SOIL

Urban development in California occurs in phases. When land is cleared prior to being paved, this category represents the occurrence of non-vegetated barren ground that is caused by urbanization. This land-use type also repesents other mechanically-caused barren ground, such as open quarries or mined areas, barren ground along highways, and other areas cleared of vegetation prior to construction. These sites have been mapped extensively in the Santa Maria Valley and adjoining sectiors ot the South Coastal San Lucia Ranges Subsections, usually adjacent to agricultural areas, already established urbanized centers or paved areas of the landscape. California Sagebrush (Artemisia californica) and annual grasses and forbs may be present in the immediate vicinity of these sites.

IC
NON-NATIVE/ORNAMENTAL CONIFER ALLIANCE

Planted conifers comprise this Alliance, including species such as Canary or Norfolk Island Pines (Araucaria spp.), Deodar and Atlas Cedars (Cedrus deodar, Cedrus atlantica), Redwood (Sequoia sempervirens), Scotch Pine (Pinus sylvestris), etc. Other non-native hardwoods, shrubs, and grasses may be associated in minor amounts. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IG
NON-NATIVE/ORNAMENTAL GRASS ALLIANCE

Ornamental or non-native grass species define this Alliance. Other non-native conifers, hardwoods, and shrubs may be associated as minor elements. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IH
NON-NATIVE/ORNAMENTAL HARDWOOD ALLIANCE

Ornamental or non-native hardwood species dominate this Alliance. Other non-native conifers, shrubs, and grasses may be present in this Alliance. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IM
NON-NATIVE/ORNAMENTAL CONIFER/HARDWOOD ALLIANCE

A mixture of ornamental or non-native conifer and hardwood species comprise the dominant species of this Alliance. Small amounts of non-native pure stands of hardwood, conifer, shrubs, and grasses may be also associated with this Alliance. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemetaries, etc.

IS
NON-NATIVE/ORNAMENTAL SHRUB ALLIANCE

Ornamental or non-native shrub species dominate this Alliance. Other non-native conifers, hardwoods, and grasses may be present in this Alliance. Mapped areas of this Alliance are usually in developed areas, including urban and residential landscapes, parks, recreational areas, highways, cemeteries, etc.

IW
DEVELOPED WATER FEATURES

Facilities for capture and storage of surface or ground waters are sometimes quite visible in developed landscapes and can be recognized easily on aerial photographs. In this area, these areas have been mapped very sparsely in the Santa Maria Valley Subsection of the Coast Section. Such features as golf course ponds, basins for replenishment of aquifers at the dry edges of the mountains, small lakes in public parks, water and sewage treament facilities and the like are included. This category may also identify some water treatment facilities within agricultural and rural areas, where they are often located.

LAND USE AND NON-VEGETATED CLASSES

AG
AGRICULTURE

Agricultural land is used primarily for the production of food and fiber. High-altitude imagery indicates agricultural activity by distinctive geometric field and road patterns on the landscape and traces produced by mechanized equipment. Agricultural land uses include forest landscapes such as orchards as well as non-forested land uses such as vineyards and field crops. Land used exclusively for livestock pasture may, however, be mapped as Annual Grassland in those cases in which land uses are not recognizable.

A1
CONIFER AGRICULTURE

Agricultural or horticultural land planted to and dominated by single or multiple species of conifers may have year-round or seasonal uses of these lands. Examples include tree nurseries that provide seedlings for forestry plantations, “Christmas tree” plantations for seasonal sales, and the like. Native or exotic conifers may also be planted in narrow rows as wind breaks or for ornamental uses within agricultural cropland, such as the occasional plantations of Pacific Redwood.

A2
VINEYARD – SHRUB AGRICULTURE

Vines or shrubs may dominate the woody component of plantations on agricultural or horticultural lands used in the production of food or fiber such as vineyards devoted to grapes or kiwi fruit and shrubby nut or fruit crops such as blueberries or raspberries.

A3
TILLED EARTH AGRICULTURE

Agricultural lands may be mapped as barren and lacking vegetation on occasion, such as after harvesting and during seasons prior to crop growth. Some areas may be kept fallow during and after the growing season for various reasons such as conservation of moisture and nutrients in a crop rotation schedule.

A4
ORCHARD AGRICULTURE

Orchards are usually evergreen or deciduous small trees producing fruit or nut crops, usually planted in rows with or without irrigation channels. Apples, citrus fruits, avocados, walnuts, peaches, olives and other familiar crops cover many acres in California. Occasionally, shrub forms may become horticulturally trained to resemble small trees, such as filberts.

A5
FLOODED ROW CROP AGRICULTURE

Agricultural lands planted to row crops are periodically flooded using flow-through structures such as levees, ditches and irrigation boxes in certain seasons for the production of rice in California. These areas are often underlain by poorly drained clay soils that are unsuitable for production of other crops and are drained at harvest time. Some rice lands are reflooded after harvest to provide habitat for waterfowl such as ducks and geese that traditionally used regional flyway routes in the San Joaquin Valley.

A6
GRAIN AND CROP AGRICULTURE

Irrigated or dry crop agriculture is usually harvested in rows as edible or useful herbaceous products such as cereals (wheat, sorghum, oats, millet, corn, rye, etc.) or vegetables (squash, celeery, beans, peas, etc.), for stock and human uses. Agricultural crop fields are also occasionally planted for both animal forage and to improve nitrogen levels, as with legumes such as alfalfa and sweet clovers. Certain crops are grown for other multiple uses such as flax and cotton for their seed oils and fiber content and others for medicinal uses.

A7
AGRICULTURAL PONDS / WATER FEATURES

Some artifically constructed water features on otherwise agricultural sites such as ranches and farms are large enough to map and doumumnt. These sites include stock ponds, small reservoirs, large ditches and other utilitarian or recreational water features.

A8
AGRICULTURAL NURSERIES (GENERAL)

Horticultural sites within or outside urban areas may be mappable features. Many of these include rows of potted or sometimes roooted woody or herbaceous plants that are sold as retail or wholesale species in farious combinations and growth stages. Nurseries that are planted only to conifers are included in the Conifer Agriculture categoy.

BA
BARREN

Landscapes generally devoid of vegetation as seen from a high-altitude image source such as aerial photography, are labeled as Barren. This category includes mappable landscape units in which surface lithology is dominant, such as exposed bedrock, cliffs, interior sandy or gypsum areas, and the like. It does not include areas considered as modified or developed, as in urban areas but quarries and open pit mine sites are included in the Barren category.

DU
DUNES

Those sandy accumulating areas in which coastal headlands are usually absent, such as at beach areas of Halfmoon Bay identify the occurrence of coastal dunes in the Central Coast area. Dunes have been mapped as a barren type of landscape, including sandy beach areas extending from San Diego to Santa Barbara Counties. Vegetated sandy areas may be mapped in the Coastal Lupine type in this area where vegetation is identifiable for mapping purposes.

UB
URBAN OR DEVELOPED

This category applies to landscapes that are dominated by urban structures, residential units, or other developed land use elements such as highways, city parks, cemeteries, and the like. In those cases in which the managed landscapes may have a considerable vegetation component, other land use categories may be more appopriate, such as Ornamental Conifer and Hardwood mixtures within city parks.

WA
WATER

Water is labeled in mapping projects in those cases in which permanent sources of surface water are identified within a landscape unit of sufficient size to be mapped. The category includes lakes, streams and canals of various size, bays and estuaries and similar water bodies. These areas are considered to have a minimum of vegetation components, except along the edges, which may be mapped as types such as Wet Meadows, Tule-Cattail freshwater marshes, or Pickleweed-Cordgrass saline or mixed marshes. Islands within water bodies of sufficient size are mapped according to their terrestrial dominant vegetation types.

SECONDARY MAPPING SOURCES IN ZONE 5

Other data sources have been used in this zone to augment mapping originated by the Remote Sensing Lab or its contactors. These were used to fill in areas that had not been mapped by RSL, which are considerable in this zone. Limited structural information or accuracy assessment is available for these layers. The sources are indicated as attributes within the tiling geodatabase structure given as downloadable files on the RSL web page. Calveg types have been crosswalked from the metadata and map attritbutes in the crosswalked data sources in this zone. They are indicated as occurring within specific subsections, as indicated by numbers and their corresponding names in the subsequent section. General descriptions follow the types that have not been described above.

A1
CONIFER AGRICULTURE

Subsection(s) 12, 17

See description above

A2
VINEYARD – SHRUB AGRICULTURE

Subsection(s) 5, 7, 11, 12, 14, 17, 20, 21, 22

See description above

A3
TILLED EARTH AGRICULTURE

Subsection(s) 1, 5, 17, 18

See description above

A4
ORCHARD AGRICULTURE

Subsection(s) 1, 5, 6, 7, 11, 12, 14, 17, 18, 20, 21, 22

See description above

A5
FLOODED ROW CROP AGRICULTURE

Subsection(s) 17

See description above

A6
GRAIN AND CROP AGRICULTURE

Subsection(s) 1, 5, 6, 7, 11, 12, 14, 15, 17, 18, 20, 21, 22

See description above

A7
AGRICULTURE PONDS / WATER FEATURES

Subsection(s) 5, 11, 17, 20

See description above

A8
AGRICULTURAL NURSERIES (GENERAL)

Subsection(s) 17, 20

See description above

AK
ALKALINE FLATS

Subsection(s) 21

Small barren areas in dry, inland locations in this zone have been crosswalked to Alkaline Flats. These sites tend to be flooded in winter but dry out completely by late summer, creating saline or alkaline conditions in which vascular vegetation is effectively absent.

BA
BARREN

Subsection(s) 1, 6, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23

See description above

BC
SALTBUSH ALLIANCE

Subsection(s) 1, 22, 23

See description above

BS
BIG SAGEBRUSH ALLIANCE

Subsection(s) 22

See description above

CA
CHAMISE ALLIANCE

Subsection(s) 5, 6, 7, 11, 14, 15, 17, 18, 20, 21, 22

See description above

CC
CEANOTHUS CHAPARRAL ALLIANCE

Subsection(s) 11, 17

See description above

CK
COYOTE BRUSH ALLIANCE

Subsection(s) 1, 6, 7, 11, 12, 20

See description above

CL
WEDGELEAF CEANOTHUS ALLIANCE

Subsection(s) 17, 20

See description above

CQ
LOWER MONTANE MIXED CHAPARRAL ALLIANCE

Subsection(s) 5, 6, 7, 11, 14, 15, 17, 18, 20, 21, 22

See description above

CS
SCRUB OAK ALLIANCE

Subsection(s) 6, 7, 11, 23

See description above

CZ
SEMI-DESERT CHAPARRAL ALLIANCE

Subsection(s) 20

This alliance develops on interior (transmontane) slopes at low to moderate elevations, having been crosswalked within the Paso Robles Hills and Valleys Subsection. It is a transitional type that includes a mixture of common chaparral shrubs such as Chamise (Adenostoma fasciculatum), Birchleaf Mountain Mahogany (Cercocarpus betuloides), Bigberry Manzanita (Arctostaphylos glauca), and California Buckwheat (Eriogonum fasciculatum) with other xeric environment shrub or perennial species such as Flannel Bush (Fremontodendron californicum spp. californicum), Tucker or Miller Scrub Oak (Quercus john-tuckeri, Q. cornelius-mulleri), Mojave or Desert Ceanothus (Ceanothus greggii var. vestitus), Rabbitbrush (Chrysothamnus spp.), Prickly Pear or Cholla (Opuntia spp.), and Big Sagebrush (Artemisia tridentata).

DF
PACIFIC DOUGLAS-FIR ALLIANCE

Subsection(s) 6, 7, 18

See description above

DS
SHADSCALE ALLIANCE

Subsection(s) 21, 23

The Shadscale Alliance, a subtype of the Saltbush Alliance, is usually dominated by Shadscale - or Spiny Saltbush – (Atriplex confertifolia) in pluvial or dry lake basins with salt or alkaline accumulations along very dry areas of this zone. The alliance has been crosswalked within the Carrizo Plain and Temblor Range Subsections. Other drylland shrubs may also be present, such as other Saltbushes (Atriplex spp.) and other halophytes.

DU
DUNES

Subsection(s) 11, 12

See description above

EX
COASTAL MIXED HARDWOOD ALLIANCE

Subsection(s) 5, 6, 7, 11, 12, 14, 15, 17, 18, 20

See description above

HA
ALKALINE MIXED GRASSES AND FORBS ALLIANCE

Subsection(s) 1

Alkaline and hyper-saline soils occasionally occur in this zone in internal drainage basins that accumulate soluble salts and may have moist pockets. Areas occupied by herbaceous species and grasses adapted to these conditions have been crosswalked to this type in the Suisun Hills and Valleys Subsection.

HC
PICKLEWEED - CORDGRASS ALLIANCE

Subsection(s) 1, 11

See description above

HG
ANNUAL GRASSES AND FORBS ALLIANCE

Subsection(s) 1, 5, 6, 7, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23

See description above

HJ
WET MEADOWS ALLIANCE

Subsection(s) 1, 11, 22

See description above

HM
PERENNIAL GRASSES AND FORBS ALLIANCE

Subsection(s) 1, 5, 7, 11, 12, 14, 15, 16, 18, 20, 21

See description above

HT
TULE - CATTAIL ALLIANCE

Subsection(s) 1, 11, 12, 17, 20, 21

See description above

IA
GIANT REED/ PAMPAS GRASS ALLIANCE

Subsection(s) 1, 20

This non-native and herbaceous alliance is dominated by invasive graminoids such as Giant Reed (Arundo donax) in wetlands or Black and White Pampas Grasses (Cortaderia jubata, C. selloana) on moist, disturbed sites. It has been crosswalked within the Suisun Hills and Valleys and Pasos Robles Hills and Valleys Subsections.

IB
URBAN-RELATED BARE SOIL

Subsection(s) 1, 5, 6, 7, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23

See description above

IC
NON-NATIVE / ORNAMENTAL CONIFER ALLIANCE

Subsection(s) 11

See description above

IF
NON-NATIVE / INVASIVE FORB / GRASS ALLIANCE

Subsection(s) 1

Riparian and upland areas are sometimes invaded by aggressive herbaceous species that are not native to this state or area. Some of the problem species include Perennial Peppergrass (Lepidium latifolium), which may cause illness in horses, Medusahead Grass (Taeniatherium – or Elymus – caput-medusae), which may physically injure grazing livestock, Puncturevine (Tribulus terrestris), which is toxic to livestock, Russianthistle (Salsola tragus), which is an alternate host for an insect carrying a virus that infects certain crops, Yellow Starthistle (Centaurea solstitialis), which is also toxic to horses and poses a challenge to eradicate, and many other Knapweeds (Centaurea spp.). This type may also reflect managed meadows or urban plantings of non-invasive species, such as in parks. It has been crosswalked within the Suisun Hills and Valleys Subsection.

IG
NON-NATIVE / ORNAMENTAL GRASS ALLIANCE

Subsection(s) 5, 7, 11, 12, 15, 17, 20

See description above

IH
NON-NATIVE / ORNAMENTAL HARDWOOD ALLIANCE

Subsection(s) 1, 5, 7, 11, 12, 14, 15, 20, 21

See description above

IM
NON-NATIVE / ORNAMENTAL CONIFER / HARDWOOD ALLIANCE

Subsection(s) 1, 11, 12

See description above

IS
NON-NATIVE / ORNAMENTAL SHRUB ALLIANCE

Subsection(s) 1, 11, 12, 15

See description above

IW
DEVELOPED WATER FEATURES

Subsection(s) 1, 11, 12, 20

See description above

JC
CALIFORNIA JUNIPER ALLIANCE

Subsection(s) 21, 22, 23

See description above

JP
JEFFREY PINE ALLIANCE

Subsection(s) 15

Jeffrey Pine (Pinus jeffreyi) may replace Ponderosa Pine (P. ponderosa) at low elevations in this zone on specific substrates, such as peridotite or serpentine areas of the Diablo Range Subsection, where it has been crosswalked. Shrub species such as Wedgeleaf Ceanothus (Ceanothus cuneatus), Coffeeberry (Rhamnus spp.) and Shrub Canyon Live Oak (Quercus chrysolepis var. nana) are commonly present under these conditions in other Calveg zones.

JT
CALIFORNIA JUNIPER (TREE)

Subsection(s) 15, 20, 21, 22, 23

See description above

KL
WINTERFAT ALLIANCE

Subsection(s) 21, 23

See description above

KP
KNOBCONE PINE ALLIANCE

Subsection(s) 6, 7

See description above

ML
BACCHARIS (RIPARIAN) ALLIANCE

Subsection(s) 5, 7, 11, 12, 15, 18, 20

See description above

MM
MONTEREY CYPRESS ALLIANCE

Subsection(s) 11

See description above

MU
ULTRAMAFIC MIXED CONIFER ALLIANCE

Subsection(s) 15

Although ultramafic and serpentinized areas rarely occur in this zone, a type of conifer mixture has been crosswalked on serpentine sites within the Diablo Range Subsection. Jeffrey Pine (Pinus jeffreyi) is part of the mixture, in addition to others such as Gray and Coulter Pines (P. sabiniana, P. coulteri).

NA
ALKALINE MIXED SCRUB ALLIANCE

Subsection(s) 1, 21, 22, 23

More extensively mapped in the South Interior Calveg zone, this alliance has been crosswalked in this zone in four subsections, mostly within alkaline or saline interior drainage basins. These sites are succulent shrub lands dominated by the halophytes Iodine Bush (Allenrolfea occidentalis) or several Seepweed (Suaeda) species.

NC
NORTH COASTAL SCRUB ALLIANCE

Subsection(s) 11, 12

Shrubby coastal or near-coastal areas of this zone may have sites with no dominant species. This type has been crosswalked from other sources within the South Coastal Santa Lucia Range and Santa Maria Valley Subsections (Coast Section) and is a mixture of some or all of the following shrubsSubsection(s) shrub form of California Bay (Umelllifera californica), Coyote Brush (Baccharis pilularis), Black Sage (Salvia mellifera), Menzies' Goldenbush (Isocoma menziesii), Sawtooth Goldenbush (Hazardia squarrosa), Poison Oak (Toxicodendron diversilobum) and California Sagebrush (Artemisia californica).

NM
RIPARIAN MIXED SHRUB ALLIANCE

Subsection(s) 11, 12, 17, 20

See description above

NR
RIPARIAN MIXED HARDWOOD ALLIANCE

Subsection(s) 1, 5, 6, 7, 11, 12, 14, 15, 17, 18, 20

See description above

NX
INTERIOR MIXED HARDWOOD ALLIANCE

Subsection(s) 1, 5, 6, 7, 14, 15, 17, 18, 20, 21, 22, 23

See description above

PC
COULTER PINE ALLIANCE

Subsection(s) 15, 18

See description above

PD
GRAY PINE ALLIANCE

Subsection(s) 5, 6, 7, 11, 14, 15, 16, 17, 18, 20, 21, 22

See description above

PM
BISHOP PINE ALLIANCE

Subsection(s) 11

See description above

PP
PONDEROSA PINE ALLIANCE

Subsection(s) 11

See description above

PR
MONTEREY PINE ALLIANCE

Subsection(s) 11, 12

See description above

QA
COAST LIVE OAK ALLIANCE

Subsection(s) 1, 5, 6, 7, 11, 12, 14, 15, 17, 18

See description above

QB
CALIFORNIA BAY ALLIANCE

Subsection(s) 6, 7, 11

See description above

QD
BLUE OAK ALLIANCE

Subsection(s) 5, 7, 11, 15, 16, 17, 18, 20, 21, 22, 23

See description above

QF
FREMONT COTTONWOOD ALLIANCE

Subsection(s) 11, 12, 20, 23

See description above

QL
VALLEY OAK ALLIANCE

Subsection(s) 1, 5, 6, 7, 11, 14, 15, 17, 18, 20, 22

See description above

QO
WILLOW ALLIANCE

Subsection(s) 1, 11, 12, 17

See description above

QP
CALIFORNIA SYCAMORE ALLIANCE

Subsection(s) 1, 5, 6, 7, 11, 14

See description above

QX
BLACK COTTONWOOD ALLIANCE

Subsection(s) 11

See description above

QZ
EUCALYPTUS ALLIANCE

Subsection(s) 1, 5, 6, 11, 12, 18

See description above

RD
REDWOOD - DOUGLAS-FIR ALLIANCE

Subsection(s) 6, 7

See description above

RS
RIVERSIDEAN ALLUVIAL SCRUB ALLIANCE

Subsection(s) 12, 21, 22, 23

Alluvial fans and dry washes in xeric, interior areas of this zone may contain a mixture of species, of which Scalebroom (Lepidospartum squamatum), California Buckwheat (Eriogonum fasciculatum), White Sage (Salvia apiana) and other shrubs and semi-woody shrubs may be prominent. Other species may be present, including Pricky-pear (Opuntia spp.), Chaparral Yucca (Y. whipplei), California Juniper (Juniperus californica) and Rhus species. This type has been crosswalked in three interior subsections of the Ranges Section.

RW
REDWOOD ALLIANCE

Subsection(s) 6

See description above

SB
BUCKWHEAT ALLIANCE

Subsection(s) 11, 22

See description above

SD
MANZANITA CHAPARRAL ALLIANCE

Subsection(s) 6, 7, 15

See description above

SH
COASTAL BLUFF SCRUB ALLIANCE

Subsection(s) 11, 12

Remnants of this formerly more widespread coastal Alliance are found in scattered locations of this zone, being currently crosswalked from secondary sources in the South Coastal Santa Lucia Range and Santa Maria Valley Subsections of the Coast Section. Indicator species may include Saltbush (Atriplex spp.), Sea-Dahlia (Coreopsis maritima), California Encelia (Encelia californica), Heather Goldenbush (Ericameria ericoides), Cucumber Vine (Marah macrocarpus), Coast Prickly Pear (Opuntia littoralis), Shaw's Agave (Agave shawii), and Lemonade berry (Rhus integrifolia) and non-natives such as Fig Marigold (Carpobrotus chilensis and Carpobrotus edulis), and Iceplant (Mesembryanthemum crystallinum). Other species may include Morning Glory (Calystegia spp.), Indian Paintbrush (Castilleja spp.), Fleabane Daisy (Erigeron spp.), Wooly Sunflower (Eriophyllum spp.), and Spineflower (Chorizanthe spp.).

SL
COASTAL LUPINE ALLIANCE

Subsection(s) 11, 12

Dune Lupine (Lupinus chamissonis), a California native, is an indicator species in coastal dunes in this Alliance in other zones. It may or may not become the dominant shrub in the vegetated dunes of this zone, but Lupines (Lupinus spp.) are often present in the general area of beach sands. The stabilized coastal dune habitat supports other species, including non-natives such as Fig Marigolds (Carpobrotus chilensis and C. edulis), Iceplants (Mesembryanthemum crystallinum and M. nodiflorum) and herbaceous annuals such as New Zealand Spinach (Tetragonia tetragonioides). Other associated perennials, shrubs and subshrubs that may occur in the coastal dune environment include Heather Goldenbush (Ericameria ericoides), California Sagebrush (Artemisia californica), Giant Woollystar (Eriastrum densifolium), Dune Buckwheat (Eriogonum parvifolium), California Croton (Croton californicus), Common Deerweed (Lotus scoparius), Sand Verbena (Abronia latifolia), Dune Senecio (Senecio blochmaniae), California-Aster (Lessingia filaginifolia), and perennial graminoids such as Carex spp. and Bromus spp. This type has been crosswalked from secondary sources in the South Coastal Santa Lucia Range and Santa Maria Valley Subsections of the Coast Section.

SP
SAGE (SALVIA) ALLIANCE

Subsection(s) 11, 12

Occasionally, species of Sage (Salvia spp.) become dominant shrubs or subshrubs in coastal or near-coastal areas. This type has been crosswalked from other data sources in the South Coastal Santa Lucia Range and Santa Maria Valley Subsections of the Coast Section. Both Purple Sage (S. leucophylla) and Black Sage (S. mellifera), and the matlike Creeping Sage (S. sonomensis) and Pitcher Sage (S. spathacea) are likely to be in the mixture of this coastal alliance in this zone.

SQ
SOFT SCRUB - MIXED CHAPARRAL ALLIANCE

Subsection(s) 11, 15, 16, 17, 18, 20, 21, 22, 23

See description above

SS
CALIFORNIA SAGEBRUSH ALLIANCE

Subsection(s) 5, 6, 7, 11, 12, 14, 15, 17, 18, 20, 21, 22

See description above

TX
MONTANE MIXED HARDWOOD ALLIANCE

Subsection(s) 6

This alliance generally occurs on sites favorable to the growth of conifers of this zone such as Knobcone Pine (Pinus attenuata), Douglas-fir (Pseudostuga menziesii) and Pacific Redwood (Sequoia sempervirens). Tanoak (Lithocarpus densiflorus), Black Oak (Quercus kelloggii) and Bigleaf Maple (Acer macrophyllum) are the indicator species of this hardwood mixture in this zone. Other species such as Blue, Canyon Live Oak or Interior Live Oak (Q. douglasii, Q. chrysolepis, Q. wislizenii) may be included, but are not the main species. The Alliance has been crosswalked within the Santa Cruz Mountains Subsection.

UB
URBAN OR DEVELOPED

Subsection(s) 1, 14, 17, 20, 22

See description above

WA
WATER

Subsection(s) 1

See description above

Surface water bodies have been crosswalked under the following categories:

W1: Rivers and Streams (natural, flowing surface waters)

Subsection(s) 1, 5, 6, 11, 12, 15, 20

W2: Perennial Lakes and Ponds (natural lacustrine bodies)

Subsection(s) 5, 6, 7, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23

W3: Reservoirs (man-made lakes and ponds)

Subsection(s) 5, 6, 7, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23

W4: Bays or Estuaries (near-shore ocean features)

Subsection(s) 1, 11, 12

W5: Playas (desert basin features)

Subsection(s) 15

W6: Intermittent Stream Channel (seasonally flowing channeled waters)

Subsection(s) 21

W7: Ocean

Subsection(s) 11, 12

W8: Intermittent or Seasonal Lake or Pond (occasionally drained surface waters)

Subsection(s) 1, 5, 11, 14, 15, 16, 17, 18, 21, 22

W9: Exposed Non-water Features (gravel, sand bars, cliff faces, etc.)

Subsection(s) 5, 15, 16, 17, 20

WL
WILLOW (SHRUB) ALLIANCE

Subsection(s) 1, 5, 11, 12, 15, 17, 18, 23

See description above

Sections and Subsections

261A - Central California Coast Section

1. Suisun Hills and Valleys (261Aa)
2. Bay Flats (261Ab)
3. East Bay Hills - Mt. Diablo (261Ac)
4. East Bay Terraces and Alluvium (261Ad)
5. Santa Clara Valley (261Ae)
6. Santa Cruz Mountains (261Af)
7. Leeward Hills (261Ag)
8. Watsonville Plain - Salinas Valley (261Ah)
9. San Francisco Peninsula (261Ai)
10. North Coastal Santa Lucia Range (261Aj)

11. South Coastal Santa Lucia Range (261Ak)
12. Santa Maria Valley (261Al)

M262A - Central California Coast Ranges Section

13. Fremont - Livermore Hills and Valleys (M262Aa)
14. Western Diablo Range (M262Ab)
15. Diablo Range (M262Ac)
16. Eastern Hills (M262Ad)
17. Interior Santa Lucia Range (M262Ae)
18. Gabilan Range (M262Af)
19. Kettleman Hills and Valleys (M262Ag)
20. Paso Robles Hills and Valleys (M262Ah)
21. Carrizon Plain (M262Ai)
22. Caliente Range - Cuyama Valley (M262Aj)
23. Temblor Range (M 262Ak)

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Appendix D
Response to Public and Agency Comments on the Draft Programmatic Environmental Assessment

GENERAL CONSERVATION PLAN FOR
OIL AND GAS ACTIVITIES IN
SANTA BARBARA COUNTY

RESPONSES TO COMMETNS ON THE
DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMNET

November 2021

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LIST OF APPENDICES

1.0 INTRODUCTION

The U.S. Department of the Interior, Fish and Wildlife Service's (Service's) Ventura Field Office has prepared a General Conservation Plan (GCP) in compliance with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S. Code [USC] §§1531 *et seq.*). The proposed GCP has been developed in accordance with Section 10(a)(2)(A) of the ESA to provide a more efficient and standardized mechanism for proponents engaged in commercial oil and gas development, expansion, operations, maintenance, and decommissioning of infrastructure on non-Federal lands. The GCP would allow private individuals, local and state agencies, and other entities to meet the statutory and regulatory requirements of the ESA, while also promoting comprehensive and standardized conservation of California tiger salamander (*Ambystoma californiense*) (CTS), California red-legged frog (*Rana draytonii*) (CRLF), and Lompoc yerba santa (*Eriodictyon capitatum*) (LYS) in Santa Barbara County, California.

Following the preparation of the Draft GCP, the Service published a Notice of Intent (NOI) in the Federal Register (Federal Register, Vol. 82., No. 147 [August 2, 2017]). The NOI announced the forthcoming Environmental Assessment (EA) to be prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 USC §§4321 *et seq.*) and solicited input from Federal, state, and local government agencies, non-governmental organizations, oil and gas proponents, and interested members of the public. Following the receipt of comments in response to the NOI, Ventura Field Office staff met with select stakeholders (e.g., Environmental Defense Center [EDC]) to discuss concerns regarding the proposed GCP and the level of required documentation necessary to fulfill the Service's requirements under NEPA. A Scoping Report was prepared to document the scoping process for the proposed GCP and respond to individual scoping comments.

Following the completion of the scoping process, the Service prepared a Draft Programmatic EA to evaluate the potential impacts of establishing the proposed GCP as a programmatic permitting mechanism. A Notice of Availability (NOA) was published in the *Federal Register* on (Federal Register, Vol. 85., No. 45 [March 6, 2020]) announcing the availability of the Draft Programmatic EA for review by the public, agencies, and other interested parties (85 FR 13181) (see Appendix B). All comments received on the Draft Programmatic EA were reviewed, considered, and responded to by the Service, as appropriate.

The Service received comment letters from the one Federal agency, one state agency, two non-governmental organizations, two oil and gas proponents, and a biological consulting firm. Additionally, the Service received 58 form letters from concerned members of the public (see Table 1 and Appendix A). The Service provided e-mail responses to the form letters on April 20, 2020. A copy of this response is provided below along with individual responses to each of the other commenters.

Table 1. List of Commenters on the Draft Programmatic Environmental Assessment

Federal Agency	
U.S. Environmental Protection Agency (USEPA)	April 1, 2020
State Agency	
California Coastal Commission	May 4, 2020
California Department of Fish and Wildlife	May 6, 2020
Non-Governmental Organizations	
Center for Biological Diversity (CBD)	May 6, 2020
Environmental Defense Fund (EDF)	May 6, 2020
Oil and Gas Companies	
Alyssa Berry (on behalf of Aera Energy)	May 9, 2020
Kimberly McCormick (on behalf of Pacific Coast Energy Company [PCEC])	May 4, 2020
Biological Consulting Firms	
Hunt & Associates Biological Consulting Services	May 5, 2020
Form Letters	
Dominick Ojeda	April 14, 2020
John Dutton	April 14, 2020
Phoebe Rogers	April 14, 2020
Nicole Shimizu	April 14, 2020
Karen Atlas	April 14, 2020
Adrienne Metter	April 14, 2020
Jessica Elliott	April 14, 2020
Marcus Kettles	April 14, 2020
Cynthia Kennedy	April 14, 2020
Tina Brenza	April 14, 2020
Rosina Saeed	April 14, 2020
David Ellenberger	April 14, 2020
Mary Whitney	April 14, 2020

Lauren Lankenau	April 14, 2020
Steven Sugarman	April 14, 2020
Susan Chapin	April 14, 2020
Allan Morton	April 14, 2020
Dawn Larimar	April 14, 2020
Marcia Burtt	April 14, 2020
Gary Goetz	April 14, 2020
MJ Whitney	April 14, 2020
Stacey Otte-Demangate	April 14, 2020
David Teton-Landis	April 14, 2020
Sara Fretwell	April 14, 2020
Gail Osherenko	April 14, 2020
Sarah Fretwell	April 14, 2020
Haley Daria	April 14, 2020
Brandon Bartlette	April 14, 2020
Sally Walker	April 14, 2020
Kathy Nolan	April 14, 2020
James Vollaro	April 14, 2020
Bruce Kendall	April 14, 2020
Torrie Cutbirth	April 14, 2020
Diyana Dobberteen	April 14, 2020
Renee Albrecht	April 14, 2020
Hod Gray	April 14, 2020
Javiera Barandiaran	April 14, 2020
Shirly Xue	April 14, 2020
Bill Woodbridge	April 14, 2020
Christian Seaton	April 14, 2020
Bonnie Lassen	April 14, 2020
Tana Kincaid	April 14, 2020

Jaime Matera	April 14, 2020
Jason Wojciechowski	April 15, 2020
Nancy Krop	April 15, 2020
Dj Wold	April 15, 2020
Bambi Reube	April 15, 2020
Megan Spencer	April 15, 2020
Pippa Howitt	April 15, 2020
Aaron Bagheri	April 15, 2020
Wayne Kleinman	April 15, 2020
Holly Ragan	April 16, 2020
Leslie Austere	April 16, 2020
Sarah Hearon	April 18, 2020
Marie Janisse	April 19, 2020
Nancy Dorey	April 20, 2020
Beth O'Donnell	April 20, 2020
Richard Watkins	April 20, 2020

Importantly, the majority of all comments provided by the commenters mistakenly assumed that the proposed GCP and the associated Programmatic EA provide blanket approvals for non-Federal oil and gas projects over the proposed 20-year term of the GCP. As such, many of the commenters requested that the Programmatic EA be revised or that an Environmental Impact Statement (EIS) be prepared to evaluate all individual non-Federal oil and gas activities including their potential impacts on CTS, CRLF, and LYS as well as their potential impacts on the complete suite of other environmental resources (e.g., air quality and greenhouse [GHG] emissions, geology and soils, hazards and hazardous materials, etc.). However, as described further in the comment responses below, it is important to note that the proposed GCP would neither approve nor deny individual non-Federal oil and gas activities. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the California Environmental Quality Act (CEQA). As such, the Programmatic

EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential impacts of establishing the proposed GCP as a programmatic permitting mechanism; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with the National Environmental Policy Act (NEPA) on a project-by-project basis prior to the issuance of an ITP under the GCP.

Maximum Allowable Take

Under the current process for an Applicant to obtain an ITP (see Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Programmatic EA), the Service considers whether an individual project would *"appreciably reduce the likelihood of the survival and recovery of the species in the wild."* This approach individually examines each non-Federal oil and gas activity and does not put an emphasis on or limit the cumulative impacts to the species. There is no maximum allowable take provided that each individual non-Federal oil and gas activity would not affect the survival and recovery of the species.

While the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas activities, the proposed GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat, consistent with the species' recovery plans. Similarly, the proposed GCP incorporates established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. For a description of maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat, refer to Tables 2-1, 2-2, 2-3, and 2-4 of the Programmatic EA. In the event that any of the established maximum allowable permanent or temporary impacts are reached, no additional ITPs would be issued under the GCP process for oil and gas activities in that area(s). The established recovery plans and recovery criteria would function as a back-stop to future species impacts. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."*

Avoidance, Minimization, and Mitigation Measures

Under the current process, the Applicant develops avoidance and minimization measures on a project-by-project basis as a part of an Applicant-prepared Habitat Conservation Plan (HCP). The proposed GCP would not limit or reduce the application of avoidance and minimization measures for non-Federal oil and gas projects. Rather, the proposed GCP would standardize these avoidance and minimization measures and ensure that they are applied consistently throughout the GCP Planning Area. Additionally, under the current process, the Applicant develops compensatory mitigation proposals on a project-by-project basis, when necessary to

off-set unavoidable impacts. Under the proposed GCP, compensatory mitigation would be undertaken in a strategic way such that it would contribute to meeting the recovery criteria for the covered species. The proposed GCP would more effectively support these types of coordinated conservation efforts for CTS, CRLF, and LYS as compared to individual HCPs. As described in Section 1.3.1, *Purpose* of the Programmatic EA, *"[r]ather than processing individual ITP applications and associated HCPs for individual Applicants, the proposed approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures."*

2.0 RESPONSE TO COMMENTS

Each comment letter received during the 30-day public review period for the Draft Programmatic EA has been assigned an abbreviation (e.g., U.S. Environmental Protection Agency has been abbreviated as "USEPA"). The body of each comment letter has been separated into individual comments, which have been numbered. This results in a numbering system whereby the first comment in the letter from USEPA is depicted as Comment USEPA-1, and so on. Each of these numbered comments are provided below, followed by the corresponding responses. In certain instances, due to the length of the numbered comment, it has been abbreviated. Each of the complete comment letters can be found in Appendix B.

Jean Prijatel, Manager
Environmental Review Branch
U.S. Environmental Protection Agency
Dated: April 1, 2020

Comment USEPA-1

The Draft EA is detailed in its analyses of impacts to covered species given the direct relationship to issuing an ITP, but excludes potential impacts to other resources (i.e., air, water, vegetation, etc.). Although ITP issuance does not produce direct impacts, it could facilitate oil and gas development by addressing one of the various statutory and regulatory requirements tied to project authorization. As such, we recommend addressing additional resources at a programmatic level to reflect the indirect nature of the proposed action, the geographic breadth of the Plan Area, and the lack of information on the precise location and timing of covered activities. We suggest referring to the GCP examples on the USFWS HCP Toolbox website.

The U.S. Fish and Wildlife Service (Service) has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the California Environmental Quality Act (CEQA). As such, the Programmatic Environmental Assessment (EA) prepared for the proposed General Conservation Plan (GCP) cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County (e.g., daily construction emissions or annual operational emissions). Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will continue be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with the National Environmental Policy Act (NEPA) on a project-by-project basis.

Once an individual oil and gas activity is approved by the appropriate local or state agency(ies), the Applicant must determine whether an Incidental Take Permit (ITP) is necessary.[1] The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a Habitat Conservation Plan (HCP).

[1] On April 26, 2018, the Service issued new guidance to its regional directors to facilitate the evaluation and negotiation of Endangered Species Act Section 10[a][1][b] ITPs, with private parties proposing activities that involve modification of endangered species habitat.

Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an Environmental Impact Statement (EIS). Nevertheless, the Service is obligated to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Under the Proposed Action, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the Mitigation Monitoring and Reporting Program (MMRP); and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an Environmental Impact Statement (EIS) may be required and the project would not be eligible for take coverage under the GCP.

Comment USEPA-2

As the scope is expanded to add additional resources at the programmatic level, we recommend including additional avoidance and mitigation measures. For example, include measures to reduce impacts associated with air emissions such as a limiting the speed of earth-moving equipment to 10 mph and maintaining engines per manufacturer specifications to perform at the state's and/or EPA certification levels. We also recommend committing to these measures in the FONSI.

The completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying additional project-specific mitigation measures, if necessary, to reduce fugitive dust emissions and other criteria pollutant emissions on a project-by-project basis. For example, compliance with standard dust control best management practices (BMPs) required under the *County of Santa Barbara Grading Ordinance* or preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) pursuant to the requirements of Construction General Permit Order 2009-0009-DWQ. These avoidance, minimization, and mitigation measures would be cross-referenced in the NEPA-compliant documentation prepared for the project.

Comment USEPA-3

The USFWS can only issue permits to authorize incidental take resulting from activities which are otherwise lawful (HCP Handbook p. 1-8, 9); therefore, project proponents seeking a permit under the GCP "must comply with all applicable Federal, State, and local statutes and regulations" (HCP Handbook p. 1-6). As such, the EPA recommends addressing the "suite of permits required for project approval" (p. 4-1, 2) in the Final EA and discuss all applicable regulations, including the Clean Air Act, Clean Water Act, Bald and Golden Eagle Protection Act, and the Energy Act of 2005 (p 1-7).

The Programmatic EA addresses the Clean Water Act (CWA) in Section 3.4 and Section 4.4, *Wetlands/Waters of the U.S.*, as it relates to the proposed GCP. As with any development project with the potential to directly impact (i.e., fill) a surface water feature, covered oil and gas activities would require a wetland delineation and associated jurisdictional determination in order to determine the presence, location, acreage, and jurisdictional nature (or lack thereof) of affected wetland features. Such jurisdictional wetland determinations would be submitted to the U.S. Army Corps and Engineers (USACE) and the Central Coast Regional Water Quality Control Board (RWQCB) for confirmation and approval. A CWA Section 404 permit and Section 401 Water Quality Certification would need to be obtained pursuant to the CWA, as necessary, prior to initiation of construction-related activities. Further, a Lake and Streambed Alteration Agreement may be required pursuant to Section 1600 of the California Department of Fish and Game Code.

The suite of permits required for approval of non-Federal oil and gas activities would vary on a project-by-project basis (e.g., operating permits issued under Title V of the Clean Air Act). Similarly, applicable Federal, state, and local statutes and regulations would also vary on a project-by-project basis. For example, if the project site is located with the Coastal Zone, then the oil and gas activity would require an Applicant-prepared Consistency Certification as well as a Coastal Development Permit (CDP) (see Comment CCC-1).

The *GCP Eligibility Determination Form* would require the Applicant to provide a copy of the CEQA-compliant documentation as well as a record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes. This record would be used as the basis for identifying whether the Applicant has obtained all required permits. Further, the *GCP Eligibility Determination Form* and associated project-specific NEPA-compliant documentation would identify and address compliance with relevant Federal requirements, including but not limited to the Clean Air Act, CWA, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, Energy Act of 2005, Coastal Zone Management Act, and National Historic Preservation Act.

Comment USEPA-4

According to the USFWS, oil operations, electrocutions, and collisions with electrical lines are leading causes of migratory bird mortality; however, the Draft EA does not assess the potential impacts to migratory birds from covered activities. We encourage the USFWS to disclose this information in the Final EA, and commit to activity-specific best practices to avoid, minimize, or mitigate bird mortality.

The completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying and determining project-specific mitigation measures, if necessary, to avoid impacts to bald and golden eagles and migratory birds, pursuant to the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act, respectively. If the proposed oil and gas activity would involve direct impacts (e.g., removal of vegetation) or indirect impacts (e.g., noise) that could affect protected species during construction or operation, these would be identified in the project-specific NEPA-compliant documentation and the project would be required to implement avoidance, minimization, and mitigation measures. For example, the Service would ensure compliance with the *National Bald Eagle Management Guidelines (2007)*. As described in the *National Bald Eagle Management Guidelines (2007)* the Service would require the Applicant to *"[e]mploy industry-accepted best management practices to prevent birds from colliding with or being electrocuted by utility lines, towers, and poles. If possible, bury utility lines in important eagle areas."* Additionally, if construction activities would occur during the nesting bird season (February 1 through August 15), the Service would require pre-construction surveys and avoidance of active nests until the nestlings have fledged. Compliance with these measures are required for all activities with the potential to impact bald and golden eagles and nesting birds.

Comment USEPA-5

The EPA recommends that the Final EA describes the outcome of tribal consultation between the FWS and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed.

As described in the Scoping Report (see Appendix B of the Programmatic EA), the Service consulted with the California State Historic Preservation Office (SHPO) and all appropriate federally recognized Native American tribes – including the Santa Ynez Band of Chumash Indians. The SHPO and Native American tribes were also notified of the publication of the Draft Programmatic EA; however, no comments were received.

Potential impacts to cultural resources are project-specific and dependent on the location and development history of the project site. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Nevertheless, impacts to cultural resources would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over individual project site(s). As described in Section 1.6.1, *California Environmental Quality Act*, impacts to cultural resources and tribal cultural resources would be evaluated on a project-by-project basis. The MMRP would be used as the basis for identifying project-specific mitigation measures, if necessary (e.g., qualified archaeological monitor and/or Native American monitor).

The proposed GCP would not affect or otherwise restrict the protection of cultural resources under the National Historic Preservation Act, Antiquities Act, and Native American Graves Protection and Repatriation Act. Any project with the potential to impact cultural resources would be identified through the project-specific NEPA-compliant documentation process and would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from compliance with the Endangered Species Act.

Kate Huckelbridge, PhD, Deputy Director
Energy, Ocean Resources & Federal Consistency Division
California Coastal Commission
May 4, 2020

Comment CCC-1

One of our main concerns is that the draft GCP does not contain sufficient information to assess the Coastal Commission's jurisdiction under the federal Coastal Zone Management Act (CZMA) over activities covered in the document. While the Draft GCP appears fairly detailed in terms of the types of activities it would cover, it does not describe the locations in sufficient detail to enable us to determine whether covered activities could occur within the coastal zone, or within areas where they could result in downstream effects on the coastal zone (in which case the CZMA would or could be triggered).

As described in the Programmatic Environmental Assessment (EA) the proposed General Conservation Plan (GCP) is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B) of the Endangered Species Act (ESA) and enables the construct of a programmatic permitting and conservation process to address a defined suite of proposed activities over a defined planning area. The U.S. Fish and Wildlife Service (Service) has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Therefore, the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with the National Environmental Policy Act (NEPA) on a project-by-project basis.

As shown in Figure 1-1 of the Programmatic EA, the western most portion of the Lompoc Valley and nearly the entire Santa Barbara Coastline Planning Areas are located within the Coastal Zone. While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an Incidental Take Permit (ITP) under the proposed GCP.

Under the Proposed Action, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the non-Federal oil and gas activity is eligible for the GCP permitting process. The form would require the Applicant to identify whether the activity is located within the Coastal Zone and/or whether it would have the potential to result in downstream resources within the Coastal Zone. For any such activities, the Applicant would be responsible for determining consistency with the California Coastal

Management Program (CCMP) in accordance with Section 307(c)(3)(A) of the Coastal Zone Management Act of 1972, which states:

> *"…any applicant for a required Federal license or permit to conduct an activity, in or outside of the coastal zone, affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state's approved program and that such activity will be conducted in a manner consistent with the program."*
>
> *"No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed, unless the Secretary, on his own initiative or upon appeal by the applicant, finds, after providing a reasonable opportunity for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this chapter or is otherwise necessary in the interest of national security."*

For Federal consistency reviews under the CZMA, the California Coastal Commission's (Coastal Commission's) standard of review is the enforceable policies of the CCMP, found in Chapter 3 of the California Coastal Act of 1976.

For projects located within the Coastal Zone, the *GCP Eligibility Determination Form* would require:

- Copy of the Applicant-prepared Consistency Certification.
- Documentation of concurrence from the Coastal Commission. (Consistent with 15 Code of Federal Regulations [CFR] §930.64, the Service shall not issue an ITP under the GCP following an objection to a consistency certification provided by the Coastal Commission, except as provided in 15 CFR Part 930, Subpart H.)

The Local Coastal Program (LCP) for the County of Santa Barbara was certified by the Coastal Commission in 1982. As such the County is responsible for reviewing and issuing Coastal Development Permits (CDPs). However, under the provisions of Section 30603(a)(5) of the Coastal Act, any action taken by a local government on a coastal development permit application for a major public works project or major energy facility is appealable to the State Coastal Commission.[2]

Consequently, the Coastal Commission would remain involved in the review of non-Federal oil and gas activities through the review of Consistency Certifications as well as the review of

[2] For definitions of "energy facility" and "public works" see California Coastal Act Sections 30107 and 30114. For determining what constitutes "major," see California Code of Regulations, Title 14, Section 13012

review of CDP appeals. In the event that the Coastal Commission finds that a non-Federal oil and gas activity is not consistent with the Coastal Act, the Coastal Commission could object to the Applicant-prepared Consistency Certification and/or deny the CDP.

Comment CCC-2

The Draft GCP contains only two maps: one showing general planning areas (which include the Santa Barbara coastline), and a second showing listed species habitat areas (inland of the coastal zone). The term "Project Area" is found throughout the Draft GCP, but no maps were included depicting where these project areas are located. Since the Planning Areas (and hence the potential project impact areas) include the coastline, we can only presume (absent additional information and analysis) that the potential exists for individual project impacts on the coastal zone.

Due to this lack of information and understanding, we decided not to request permission at this time form the Office for Coastal Management (OCM) to review this GCP. This would have been the appropriate procedure for us to engage in under the federal consistency procedures applicable to federally-permitted activities that are: (1) not "listed" federal permits that would automatically trigger CZMA review under the California Coastal Management Program (CCMP); and/or (2) are located fully outside the coastal zone. The test for any such request by us is whether the federally permitted activity can be considered "reasonably likely to affect the coastal zone" (15 CFR Part 930, Section 930.54(a)(2) and 930.54.

As described in the Programmatic EA, the entire Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. As shown in Figure 1-1 of the Programmatic EA, the western most portion of the Lompoc Valley and nearly the entire Santa Barbara Coastline Planning Areas are located within the Coastal Zone. While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an ITP under the proposed GCP.

Comment CCC-3

Although we did not submit a request to OCM at this time, we would have future opportunities to request review of your authorization of activities covered under this GCP during consideration of future Habitat Conservation Plans (HCPs), if activities covered under those plans are reasonably likely to affect the coastal zone. To ensure a timely and appropriate review, we request that you keep us informed when those future HCPs are being considered. The proper time for this notice would be when you receive an application for a Habitat Management Plan (HMP) that comes under the auspices of

this GCP. Ideally, we would appreciate earlier, more informal notification, to enable us to be involved and made aware of upcoming and pending applications. This would also enable us to coordinate with Santa Barbara County to discuss whether any activities would be located in an area where they could affect the County's coastal zone, and/or could be located partially or fully within the coastal zone (in which case they would likely need coastal development permits that would be appealable to the Coastal Commission).

As described in the response to Comments CCC-1 and CCC-2, the western most portion of the Lompoc Valley and nearly the entire Santa Barbara Coastline Planning Areas are located within the Coastal Zone. While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an ITP under the proposed GCP.

With regard to the timing for coordination with the Coastal Commission, it is important to note that as opposed to individual Habitat Conservation Plans (HCPs) that address conservation on a project-by-project basis the proposed GCP would establish a framework under which covered activities are reviewed for compliance with the standardized requirements as individual ITP applications are submitted. As with an Applicant-prepared HCP, the Service can issue an ITP under the proposed GCP pursuant to Section 10(a)(1)(B) of the ESA. However, unlike HCPs, the Service proactively prepares a GCP to provide for issuing ITPs for activities that are in compliance with the GCP.

Land use approval(s) and impact assessment for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Therefore, these activities would be evaluated on a project-by-project basis under CEQA. As with all proposed projects in the Coastal Zone, the Coastal Commission would have the opportunity to comment during the scoping period(s) and the public comment period(s) for the CEQA-compliant document. Further, under the provisions of Section 30603(a)(5) of the Coastal Act, any action taken by a local government on a CDP application for a major public works project or major energy facility is appealable to the Coastal Commission (refer to Comment CCC-2).

Under the Proposed Action, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the non-Federal oil and gas activity is eligible for the GCP permitting process. The form would require the Applicant to identify of whether the activity is located within the Coastal Zone and/or whether it would have the potential to result in downstream resources within the Coastal Zone. For any such activities, the Applicant would be responsible for determining consistency with the CCMP in accordance with Section 307(c)(3)(A) of the Coastal Zone Management Act of 1972. (Consistent with 15 CFR §930.64, the Service shall not issue an ITP under the GCP following an objection to a

consistency certification provided by the Coastal Commissions, except as provided in 15 CFR Part 930, Subpart H.)

Comment CCC-4

Furthermore, we recommend that you include the CZMA in the Other Relevant Laws and Regulations section (p. 9) of the Draft GCP. If you have sufficient information that leads you to conclude that the potential does not exist for project activities to affect coastal resources, then we would appreciate a detailed explanation describing why the activities covered under the Draft GCP could not be "reasonably likely to affect the coastal zone."

As described in the response to Comments CCC-2 and CCC-3 the western most portion of the Lompoc Valley and nearly the entire Santa Barbara Coastline Planning Areas are located within the Coastal Zone. While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an ITP under the proposed GCP. The Final Programmatic EA has been revised to further clarify the potential for non-Federal oil and gas activities to occur within the Coastal Zone and to more clearly define the regulatory setting and responsibilities of the Applicant, local and state Lead Agencies pursuant to CEQA, Coastal Commission, and Service (see Section 1.6.4, *Coastal Zone Management Act*).

Comment CCC-5

As a separate matter, we have some confusion regarding the interplay between: (a) the 20-year term of the Draft GCP; (b) the "No Surprises" rule that places the burden on USFWS to determine changed circumstances, and limits additional measures to those imposing no additional costs to an applicant without the applicant's consent; (c) the reliance on future HMPs to provide additional specificity and certainty regarding species protection needs and mitigation effectiveness; and (d) the discussion on pages 91-93 of the Draft GCP with respect to changed circumstances and adaptive management.

While we understand the value of the proposed programmatic approach inherent in a GCP, if pursuing it would constrain future options for avoidance, monitoring, and mitigation measures under the "No Surprises" rule, then perhaps the "no project" alternative you describe, which is to continue to review oil and gas proposals in association with individual HCPs, could be a more environmentally beneficial alternative. Therefore we would appreciate a more detailed explanation of how any "No Surprises" limitations on your ability to unilaterally require additional measures (absent agreement by project proponents) dovetails with the lengthy 20 year term of the proposed GCP and with the review process for subsequent individual HCPs that would follow.

As described in the proposed GCP, Section 10 of the ESA requires that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise

during the implementation of the HCP. In addition, the No Surprises Rule (50 CFR §17.22[b][5] and §17.32[b][5]) describes the obligations of the permittee and the Service. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation would be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures would be implemented as specified in the plan. Adaptive management strategies have been identified for:

- Oil Spills;
- Wildfires;
- Drought; and
- Exotic Species.

By March 31 each year, the permittee would be required to submit a report to the Ventura Fish and Wildlife Office to document the status of the project, which among other items will include:

- Description of circumstances that made adaptive management necessary and how it was implemented, including a table showing the cumulative totals; by reporting period all adaptive management changes, including a very brief summary of the actions; and
- Description of any changed or unforeseen circumstances that occurred and how they were dealt with.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the operating conservation program, the Service would not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being "properly implemented." ("Properly implemented" means the commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented.) However, the depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all *newly issued* ITPs would require compliance with any new measures.

Comment CCC-6

Finally, with respect to decommissioning activities, we have two questions: (1) is it reasonable to expect they would take place within the 20-year term of the GCP? and (2) would the "No Surprises" concern we raised in the previous two paragraphs limit your options for decommissioning? It may be worth considering separating decommissioning from the rest of the activities described in the Draft GCP.

Decommissioning activities and associated timing would be determined on a project-by-project basis. For example, the timeline for decommissioning an exploratory oil well would be faster that the timeline for decommissioning a production well or natural gas pipeline. These activities would be described in the land use approval(s) and impact assessment for each of the individual oil and gas activities and would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As described in the proposed GCP *"[p]ermits issued under the GCP will cover only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance."* As such, decommissioning activities that are proposed outside of that 20-year term of the proposed GCP would not be eligible for the proposed GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Erinn Wilson, Manager
Environmental Program Manager I
California Department of Fish and Wildlife
Dated: May 6, 2020

Comment CDFW-1

The GCP states that Project proponents seeking a Permit under this GCP, must comply with all applicable Federal, State, and local statutes and regulations to ensure that the action is otherwise lawful. CDFW concurs and adds for clarification that CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. CDFW requests notification from USFWS of any applications submitted for coverage under this GCP.

The Service has included language regarding CDFW and CESA and the Service will continue coordinate with CDFW, as needed. The discussion in Section 1.6.3, *California Endangered Species Act* has been revised to describe that "'[t]he Service would notify CDFW of any applications submitted for coverage under the proposed GCP."

Comment CDFW-2

LYS: CDFW recommends this be modified to include a more robust account of impacts that capture 1) the impact and replacement of the number of genetically unique individual plants impacted, 2) the number of ramets of one genetic clone being impacted, and 3) ensuring impacts to individual (genetically unique) plants and ramets are also mitigated at a 3:1 ratio and not just the acreage.

The Service does not provide take coverage for federally listed plants. Therefore, any proposed project with the potential to result in impacts to LYS would be subject to CESA and take authorization would be needed from CDFW. Through consultation with CDFW, Applicants would work to ensure that the state's fully mitigated thresholds are met. During that process, the state can work with Applicants to ensure a more robust account of impacts that captures: 1) the impact and replacement of the number of genetically unique individual plants impacted; 2) the number of ramets of one genetic clone being impacted; and 3) ensuring impacts to individual (i.e., genetically unique) plants and ramets.

Comment CDFW-3

LYS: CDFW recommends any mitigation strategy use all available data to ensure any proposed restoration or manipulation of population genetics does not come with unintended consequences.

Refer to Comment CDFW-2.

Comment CDFW-4

LYS: CDFW recommends clarification of what amount/percentage of invasive annual grasses, and what covered species restoration activities would be acceptable in covered species restoration habitat. CDFW recommends having zero (0%) coverage of invasive plant species (including annual grasses) as listed on any list (including watch list) from the California Invasive Plant Council, within a habitat restoration area for Lompoc yerba santa.

Refer to Comment CDFW-2.

Comment CDFW-5

Page 9 states "Applicants can, however, use this GCP as the document to seek a 2081 permit for listed plants from the Department." CDFW notes that the threshold for permitting take under CESA needs to meet the state's fully mitigated threshold. For the State to issue a take permit, the applicant would have to demonstrate that any actions to Lompoc yerba santa would not be detrimental (genetically) to the specific occurrence being manipulated (impact or restoration/mitigation manipulation).

Refer to Comment CDFW-2.

Comment CDFW-6

The GCP only considered the no-action alternative, stating this is not practical or feasible. CDFW requests reduced take alternatives be explored as part of the GCP to ensure take is minimized to the extent necessary to meet the Project needs to the proponents, as well as further reduce take allowed under this GCP. One example would be the reduction in the right of way widths for pipeline construction and alternative construction methods in areas with covered species present. Alternative methods of construction and maintenance should be investigated to provide further avoidance.

The take limits presented in the proposed GCP were developed by assessing the species' ranges and the recovery and/or conservation actions that are necessary to ensure the species persists in the wild. This process provided the Service with the maximum extent of allowable impacts while not precluding recovery of the species. The Service then took a small subset of these allowable impacts and presented these as the take limitations in the plan. Therefore, the take limits in the plan are already reduced as compared to what the species needs to persist in

the wild. In other words, the Service has already presented a reduced take scenario in the proposed GCP to ensure a conservative approach.

Comment CDFW-7

Development of an NCCP-HCP should be evaluated as an alternative to the GCP. An NCCP could allow for inclusion of State assurances and provide coverage for other species that may also occur within the GCP area (e.g., foothill yellow-legged frog [*Rana boylii*], Crotch bumble bee [*Bombus crotchii*], La Graciosa thistle [*Cirsium scariosum* var. *loncholepis*], Gaviota tarplant [*Deinandra increscens* ssp. *villosa*), California jewelflower [*Caulanthus californicus*], mountain lion [*Puma concolor*], and other species)

This proposed GCP was developed and authored by the Service as a comprehensive, strategic approach to ensuring ESA compliance while providing a more effective mechanism for issuing ITPs for otherwise lawful non-Federal oil and gas activities. The Service pursued this approach to increase efficiency, standardize compliance, and secure meaningful conservation for federally protected species. The Service does has neither the expertise nor the resources to develop an NCCP to allow for the inclusion of State assurances and provide coverage for other species that may also occur within the Planning Area. This alternative does not meet the purpose and need of the plan and is also infeasible for the Service to execute.

Comment CDFW-8

The GCP identifies "no surprises" assurances as part of the federal take authorization. It is important to acknowledge that such assurances are not available under CESA but may be available through a Natural Community Conservation Plan (NCCP; Fish and Game Code Section 2800 et seq.). NCCPs can provide that "additional land, water, or financial compensation or additional restrictions on use of land, water, or other natural resources shall not be required without the consent of plan participants" [Section 2820(f)(2)]; however, no such provision currently exists under CESA.

Refer to Comment CDFW-7.

Comment CDFW-9

CDFW recommends any Project seeking coverage under this permit should develop a weed management plan and implement it over the life of the Project (maximum 20 years) if ongoing operations and maintenance are a part of the Project.

The Measure to Avoid and Minimize Impacts in the proposed GCP include weed removal and native planting requirements (e.g., Measure to Avoid and Minimize Impacts No. 23). Many of the proposed projects will be small operations and maintenance projects with temporary impacts. Implementing a Weed Management Plan for these types of projects would likely be infeasible. Additionally, many of the larger facilities already include invasive management plans. The GCP

would not preclude CDFW from making such a requirement as a part of the state permitting process for LYS.

Comment CDFW-10

The GCP includes construction and maintenance of roads and bridges as covered activities. These activities would require LSA notification where they could substantially affect/alter any river, stream, or lake so conditions to conserve existing fish and wildlife resources can be included in the project. The GCP should also provide minimum design standards for roads and crossings to allow for adequate wildlife movement, including fish passage, red-legged frog, and CTS dispersal.

Section 4.4, *Wetlands/Waters of the U.S.* has been revised to describe that, "Additionally, a Lake and Streambed Alternation Agreement may be required from the CDFW pursuant to Section 1600 of the California Department of Fish and Game Code."

Comment CDFW-11

For State permitting, restoration alone will likely not meet the CESA fully mitigated standard but may be included as part of a package that also includes conserving additional acreage that is proportional to the magnitude and extent of the proposed impact.

Refer to Comment CDFW-1. The Service would notify CDFW of any permits submitted under the proposed GCP and would work with CDFW throughout the process to ensure CESA fully mitigated standards are met and should they not be, Applicants will have to pursue a separate Section 2081 Permit with the State.

Comment CDFW-12

If the GCP is intended to help fulfill State permitting requirements, CDFW should be included in the approval process (e.g., biologists, mitigation plans, conservation easements).

The following sentence was added to the "Avoidance, Minimization, and Mitigation Measures," discussion within the Final GCP, "[i]f applicants intend to fulfill State permitting requirements, the Department should be included in any approval processes for avoidance, minimization, and mitigation measures (e.g., biologists, mitigation plans, conservation easements, etc.)."

Comment CDFW-13

Measures to Avoid and Minimize Impacts - Item 23 should also include notifying CFDW of any mortality of CTS or Lompoc yerba santa since they are State-listed species and the GCP indicates that all applicable Federal, State, and local authorizations will be required prior to issuance of federal incidental take.

The original Measure to Avoid and Minimize Impacts No. 24 stated: “Upon locating California tiger salamander or California red-legged frog individuals that may be dead or injured as a result of project-related activities, notification will be made within 72 hours to the Service Ventura Field Office at (805) 644-1766.”

The Service has revised this measure in the Final GCP to state, “Upon locating California tiger salamander or California red-legged frog individuals that may be dead or injured as a result of project-related activities, notification will be made within 72 hours to the Service Ventura Field Office at (805) 644-1766. Notification of dead or injured California tiger salamander should also be made to the Department at (562) 342-7100.”

Comment CDFW-14

To satisfy State requirements, all such mitigation banks proposed for use under the GCP will need to be approved by CDFW. On- or off-site mitigation lands will require conservation easements, must satisfy due diligence requirements, and has to meet the CESA fully mitigated standard. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance, and be dedicated to a qualified entity for long-term management and monitoring. Under Government Code Section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

The Service is committed to continuing coordination with CDFW regarding these issues.

Hollin CBD, Senior Attorney
Center for Biological Diversity
Dated: May 6, 2020

Master Comment Response 1 – Issues Regarding Service Evaluation and/or Approval of Non-Federal Oil and Gas Activities

The U.S. Fish and Wildlife Service (Service) has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the California Environmental Quality Act (CEQA). As such, the Programmatic Environmental Assessment (EA) for the proposed General Conservation Plan (GCP) cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with the National Environmental Policy Act (NEPA) on a project-by-project basis.

Once an individual oil and gas activity is approved by the appropriate local or state agency(ies), the Applicant must determine whether an Incidental Take Permit (ITP) is necessary.[3] The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a Habitat Conservation Plan (HCP). Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an Environmental Impact Statement (EIS). Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and

[3] On April 26, 2018, the Service issued new guidance to its regional directors to facilitate the evaluation and negotiation of Endangered Species Act Section 10[a][1][b] ITPs, with private parties proposing activities that involve modification of endangered species habitat.

- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Under the Proposed Action, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the MMRP; and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment CBD-1

The Draft Environmental Assessment (EA) inadequately discloses and analyzes the significant environmental impacts of issuing incidental take permits for three species for all oil and gas projects in Santa Barbara County. The EA provides the public and decision-makers inadequate information regarding the true extent of environmental harm that will result directly and indirectly from this agency action. The analysis provides no information on the number of oil and gas projects that it would facilitate under the Draft General Conservation Plan (GCP). Any restrictions are meaningless because compliance is voluntary.

Moreover, given the recent Plains All America pipeline spill in 2015, and another oil spill from an overturned truck this year, it is baffling that the Service is working to facilitate more oil and gas production in Santa Barbara County. Even more concerning is that the agency would attempt to do so by greenlighting all oil and gas projects in the county for the next 20 years through a single, cursory environmental assessment that fails to take into account the damage from these spills and others likely to follow.

We strongly urge the Service to set aside this GCP and provide meaningful protections to the many plant and wildlife species harmed by oil and gas activities. At a minimum,

the Service should scrap its intent to fast-track oil and gas development under a single, legally deficient environmental review.

Refer to Master Comment Response-1. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

While the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas activities, the proposed GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."*

Additionally, the proposed GCP would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for non-Federal oil and gas activities. Continued application of these measures under the proposed GCP would occur but would be consistently applied throughout the GCP plan area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species. As described in Section 1.3.1, *Purpose* of the Programmatic EA, *"[r]ather than processing individual ITP applications and associated HCPs for individual Applicants, the proposed approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures."*

Comment CBD-2

California has experienced countless spills, leaks, and accidents resulting from fossil fuel production. In 2015 the Plains All American pipeline Line 901, which runs along the Gaviota Coast in southern Santa Barbara County, ruptured on May 19, 2015, and spilled about 142,000 gallons of crude oil onto the shoreline and into the ocean. This year, a truck carrying crude oil overturned and spilled 6,000 gallons of oil into the Cayuma River, which flows into the Twitchell Dam and reservoir.

Recent large-scale spills further demonstrate the dangers of oil and gas production. In 2019, a massive spill in Kern County released 1.3 million gallons of oil and waste fluid, contaminating soil, harming wildlife and emitting dangerous gases into the air. This release was just one of many occurring in 2019, including one spill that had been activating on and off for about 15 years, cumulatively releasing 85 million gallons of oil and waste fluid. In 2019, 13 spills were reported in the Cymric oil field alone.4 As of April 15, 2020, a separate major spill is ongoing and has so far released another one million gallons of oil and waste fluid in the same field.

Nineteen separate spills are currently listed on CalGEM's surface expressions update webpage.

Multiple proposed oil and gas projects would add hundreds of new wells to the county's existing operations, further threatening species habitat, air and water quality, human health, and undermining the state's greenhouse gas reduction goals.

Refer to Master Comment Response-1. While this background information is acknowledged and appreciated, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resource areas associated with the proposed non-Federal oil and gas activity, including potential impacts associated with the risk of upset. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

As described in Comment CBD-1, avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered

species. For example, the proposed GCP identifies the following measures related to potential spills:

> *"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species)."*

Additionally, Section 10 of the ESA regulations (69 *Federal Register* [FR] 71723, as codified in 50 Code of Federal Regulations [CFR] §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and

determining additional project-specific mitigation measures, beyond those measures identified in the proposed GCP, if necessary.

Comment CBD-3

The Service's GCP does not comply with the ESA. Indeed, the entire purpose of the GCP is meant to shortcut important, statutorily mandated permitting requirements for the benefit of the fossil fuel industry. Approval of the GCP would be the essence of arbitrary agency decisionmaking.

A GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). GCPs and similar programmatic permitting mechanisms have been recently established for non-Federal activities, including the Oil and Gas Industry Conservation Plan (ICP) for the American Burying Beetle in Oklahoma, originally prepared by the Oklahoma Ecological Field Services Office in 2014 and amended in 2016 and again in 2018. Similar GCPs have also been prepared for non-oil and gas activities without a Federal nexus. For example, in 2014 the Carlsbad Ecological Field Services Office prepared a GCP for the Desert Renewable Energy and Conservation Plan.

The proposed GCP is not intended to, and categorically does not, shortcut statutorily mandated permitting requirements. As described in Section 1.3., *Purpose* of the Programmatic EA, the purpose of the proposed GCP is to:

> *"…provide a programmatic mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas development projects on non-Federal lands in Santa Barbara County that have the potential to impact the CTS, CRLF, and LYS. Rather than processing individual ITP applications and associated HCPs for individual Applicants, the proposed approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."*

ITPs would continue to be required for non-Federal oil and gas activities; however, the procedural processes for obtaining such ITPs would be amended and standardized as described in Section 2.1.6, *Permit Processing and Implementation* and Section 6, *Permit Processing and Implementation* of the proposed GCP.

Comment CBD-4

In enacting the ESA, Congress recognized that certain species "have been so depleted in numbers that they are in danger of or threatened with extinction." Accordingly, a primary purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such... species."

…

As the Service explains in its recently updated HCP Handbook, the primary goal of the HCP should be conservation, and "[t]he conservation strategy defines what the HCP is trying to accomplish through biological goals, how the applicant will track progress through the monitoring program, and how the applicant will adjust implementation of the HCP through adaptive management and changed circumstances."

The Service acknowledges and appreciates this information regarding the implementation of the ESA. Much of this information is already included in the Programmatic EA. For example, the current procedural processes for compliance with Section 7 and Section 10 of the ESA are summarized in Section 1.2, *Background* of the Programmatic EA.

Comment CBD-5

The GCP, however, makes clear that its primary purpose is to streamline permitting requirements, rather than conservation.

Refer to Comment CBD-3. As described in Section 1.3., *Purpose* of the Programmatic EA, the purpose of the proposed GCP is multifaceted. As suggested by this comment, the proposed GCP *would* increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas activities that have the potential to impact the CTS, CRLF, and LYS, but also comply with the requirements of the proposed GCP. However, the proposed GCP would also incorporate established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

Comment CBD-6

Specifically, the Service's draft GCP would cover take incidental to oil and gas activities in Santa Barbara County, including "geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. The Service states that the GCP is intended to be in place for 20 years, and cover "construction, operations,

maintenance, and decommissioning activities" during this time. According to the Service, "[p]roject proponents that choose to participate in the GCP and meet issuance criteria would subsequently be granted a permit through the GCP" and "[t]he Service will issue Permits in an expeditious manner."

This comment correctly identifies the scope of upstream and midstream activities that would be covered under the proposed GCP (refer to Section 2.1.3, *Covered Activities and Actions*). Further, this comment correctly summarizes the 20-year term of the proposed GCP. Nevertheless, as described in Comment CBD-5, the proposed GCP *would* increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas development projects that have the potential to impact the CTS, CRLF, and LYS, but also comply with the requirements of the proposed GCP. However, the proposed GCP would also incorporate established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

Comment CBD-7

The entire premise of the Service's GCP is flawed as it does not - and cannot - provide for a careful, comprehensive analysis of the level of take it would authorize. Because the Service cannot know how many applicants will apply for coverage under the GCP, the Service cannot accurately evaluate the extent of take authorized under the GCP, let alone the impact of that level of take on California tiger salamanders, California red legged frogs, and Lompoc yerba santa.

Relatedly, the Service cannot know the specific scope, timing, and location of activities to be conducted under the GCP. As such, the Service's GCP fails to ensure the necessary measures are in place at the project-level to adequately mitigate, minimize, and monitor any incidental take based on the specific scope, timing, and location of activities to be conducted by a particular applicant.

The GCP thus fails to comply with the requirements enumerated in Section 10 of the ESA and its implementing regulations that are necessary to authorize an incidental take permit, and the overall purposes of the ESA. Indeed, the concept of a GCP is not provided for anywhere in the statute, and the Service lacks the legal authority to issue one.

As described in Comment CBD-1, the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas projects. However, the proposed GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly, the proposed GCP would incorporate

established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*.

Even with the establishment of the proposed GCP, the Service would continue to consider each project individually. For example, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. Based on the required application materials – including environmental documentation prepared by the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site (refer to Section 1.6.1, *California Environmental Quality Act* of the Programmatic EA) – the Service would use the "Low Effect" screening form to determine if a project qualifies for a Categorical Exclusion or whether a project-specific EA would be required. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed non-Federal oil and gas activity. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

As described in Comment CBD-3, a GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). GCPs and similar programmatic permitting mechanisms have been recently established for non-Federal activities, including the Oil and Gas ICP for the American Burying Beetle in Oklahoma, originally prepared by the Oklahoma Ecological Field Services Office in 2014 and amended in 2016 and again in 2018. Similar GCPs have also been prepared for non-oil and gas activities without a Federal nexus. For example, in 2014 the Carlsbad Ecological Field Services Office prepared a GCP for the Desert Renewable Energy and Conservation Plan.

Comment CBD-8

While the concept of a GCP is not provided for by the statute, it appears the Service first developed the notion of a GCP in 2007 via a policy document. The policy, however, has not gone through notice and comment and cannot provide the requisite legal authority for the Service to issue a GCP. Moreover, the premise of the policy is also itself flawed, as it is states that the use of a GCP "eliminat[es] the need for in-depth review" of each ITP application.

Further, as explained in a memorandum about the policy, the Service developed the policy to reduce burdens on "the small landowner applicant" who may not have the resources to adequately prepare the necessary components of an HCP. Expanding the policy to apply to fossil fuel companies - entities that are clearly not "the small

landowner applicant" the Service intended its GCP policy to benefit - arbitrarily expands the scope of the policy and underscores the arbitrary nature of the Service's proposal.

Moreover, the examples of the types of activities the Service included in the memorandum on the policy - "homebuilding on small lots" and "specific agricultural practices" - also make clear that the Service intended the policy to apply to small scale activities, not all oil and gas activities in Santa Barbara County that range from seismic exploration to pipeline building to well drilling. The scope of activities to be authorized under the GCP far exceeds that contemplated under the Service's policy.

Refer to Comment CBD-3. A GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B). In addition to the examples of “homebuilding on small lots” and “specific agricultural practices” the policy document cited in this comment more broadly defines that GCPs may be prepared for “other identified activities.”

Comment CBD-9

The GCP also undermines the important role that public notice and comment plays in the Service's issuance of ITPs and ensuring the agency complies with the law in doing so. As the Service states in the GCP, "[t]he Service is required by statute to provide public notice before issuing a Permit under Section 10(a)(1)(B)." While the GCP states that the Service still intends to publish notice of and seek public comment on permit applications in the Federal Register, the GCP states that the Service may do so "in batches." Commenting on ITP applications "in batches" cannot provide for the careful review of individual permit applications the public notice and comment requirement of the ESA is intended to provide. The EA as drafted serves no purpose as an informational document. The Service, local officials, nor the public are able to discern from this assessment what the true extent of harm will be. The Service should abandon its plan to issue the GCP.

The proposed GCP would meet all statutory requirements under Section 10(a)(1)(B) of the ESA. In addition to providing required public notice in compliance with Section 10(a)(1)(B) of the ESA, it is also important to note that interested members of the public would continue to have the opportunity to review and comment on individual oil and gas projects during the preparation of CEQA by local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As described in Master Comment Response-1, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Therefore, this opportunity to provide public comment during the CEQA process would be the most appropriate venue for comments regarding approval or denial of a proposed non-Federal oil and gas activity.

Comment CBD-10

NEPA prohibits agencies from hiding the true extent to environmental impacts by artificially segmenting or piecemealing a project into separate pieces. By separating the

impacts of the GCP to three species and ignoring other aspects of oil and gas activity, the Service improperly piecemeals both the project and its impacts. An agency cannot limit its analysis and postpone analysis of other impacts until a later date.

…

Just as local land use permits must account for impacts other than land, the issuance of an ITP must disclose and analyze the impacts beyond those to a few select species.

Refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. The EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

Comment CBD-11

Even if it were permissible to conduct a single environmental assessment to cover species impacts for all potential oil and gas projects in the county for the next 20 years—which it is not—the EA and GCP still fall far short of disclosing and analyzing the reasonably foreseeable environmental impacts of the oil and gas activity this GCP would facilitate.

The scope of the General Conservation Plan is impermissibly narrow. Standardizing the issuance of incidental take permits ignores the varied impacts that could occur from any individual project. Different projects may have different associated harms and therefore may need specialized forms of mitigation. A GCP, meanwhile, attempts a one size fits all approach. Furthermore, an EA that is supposedly meant to assess the environmental impacts of the GCP simply does not make sense, given that the GCP is merely a plan for streamlining the approval of projects rather than a true accounting of the impacts of

those projects. In relying on a GCP, the harms of individual projects are at risk of being minimized and overlooked.

Regarding the permissibility of preparing an EA evaluating the potential direct impacts of establishing the proposed GCP, it is important to note that similar NEPA compliant documentation has been prepared for previous programmatic permitting mechanisms. For example, a Finding of No Significant Impact (FONSI) was signed for the ICP for the American Burying Beetle in Oklahoma on May 24, 2019.

With respect to the scope of the EA, refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Comment CBD-12

The EA notes that several resource areas were dismissed from further analysis because, "the GCP process neither reduces nor increases the number and types of permits required and would not affect the required agency coordination and/or consultation required by applicable laws, regulations, guidance, etc." Essentially, the claim is that other potential environmental harms from oil and gas projects under the GCP would be mitigated by other permitting processes. However, given that harms in some of the resource areas excluded from consideration could adversely impact the species to be covered by the GCP, those resource areas should not be excluded from the EA. This includes the resource areas air quality and greenhouse gas emissions, water resources and water quality, soils, and the interrelated areas of land use, transportation, and noise. Impacts in any of these areas are not only significant themselves; they could translate to harms to those species to be covered by the GCP, namely the California tiger salamander, the California red-legged frog, and the Lompoc yerba santa. Harms could extend to other protected species as well.

As described in the Scoping Report (refer to Appendix B of the Programmatic EA) given that the proposed GCP would not result in approval of any individual oil and gas developments, the Proposed Action would not directly result in any ground disturbing activities, any direct (e.g.,

creation of new oil and gas access roads) or indirect impacts (e.g., increased oil and gas truck trips) to transportation, or any direct (e.g., construction noise) or indirect impacts (e.g., increased truck traffic noise) to existing noise conditions in Santa Barbara County. Impacts to air quality and greenhouse gas (GHG) emissions, water resources and water quality, soils, land use, transportation, and noise would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site.

The completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying additional project-specific mitigation measures, beyond those measures identified in the GCP, to reduce fugitive dust emissions and other criteria pollutant emissions, water quality impacts, and other impacts identified in the CEQA document on a project-by-project basis. For example, compliance with standard dust control best management practices (BMPs) required under the *County of Santa Barbara Grading Ordinance* or preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) pursuant to the requirements of Construction General Permit Order 2009-0009-DWQ. These avoidance, minimization, and mitigation measures would be cross-referenced in the project-specific NEPA-compliant documentation prepared for the proposed non-Federal oil and gas activity.

Comment CBD-13

The harmful impacts of air pollutants can extend to soils, water quality, plants, and animals. Ozone, for instance, can cause reduced growth in some sensitive plant species. Meanwhile, the atmospheric deposition of sulfur and nitrogen compounds can cause negative ecosystem effect such as acidification, eutrophication, and changes in soil and water chemistry. Acidification of soils and water bodies can result in changes in community structure, biodiversity, reproduction, and decomposition. Heavy metals and persistent organic compounds deposited from the atmosphere can bioaccumulate in the food chain, leading to behavioral, neurological, and reproductive effects in fish, birds, and wildlife. Overarchingly, the observed results of air pollution include stress on plant and animal life numbers and well-being. As discussed below, such air pollution is all too prevalent with oil and gas development, such as that which would be sanctioned by the Santa Barbara GCP.

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Thus, there are varied and abundant sources of air pollution that can be found associated with oil and gas development, where many of the air pollution constituents can be connected to direct environmental harms. In this case, those harms could present themselves in the habitats of the California tiger salamander, the California red-legged

frog, and the Lompoc yerba santa. Therefore, air quality should not be dismissed as a resource area outside of the scope of the intended GCP.

The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to air quality associated with individual non-Federal oil and gas activities. However, as described in Section 4.2.3, *Air Quality and Greenhouse Gas Emissions* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any new air pollutant or GHG emissions sources. Air quality and GHG emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing air pollution and GHG emission controls for individual oil and gas development projects. Therefore, the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to air quality or GHG emissions.

Comment CBD-13

In addition to the water quality harms imposed by air pollution, water quality is often affected directly by oil and gas extraction itself. In a December 2016 report from the US EPA, the following factors were found to potentially impact water quality: (1) Water withdrawals for enhanced oil recovery or fracking in times or areas of low water availability; (2) Spills during the management of produced water, fracking fluids, or chemicals; (3) Injection of enhanced oil recovery or fracking fluids into wells with inadequate mechanical integrity; (4) Injection of fluids directly into groundwater resources; (5) Discharge of inadequately treated wastewater to surface water resources; and (6) Disposal or storage of wastewater in unlined pits. The compilation of this list was based on studies that found impacts to wastewater from the listed activities.

...

Evidence of water contamination has been found in Santa Barbara County, specifically. From 2017 to 2019, the U.S. Geological Survey ("USGS") conducted a survey of the Orcutt Oil Field as part of the Regional Monitoring Program authorized by Senate Bill 4. USGS compiled historical information about the study area and collected groundwater samples from seven domestic, six irrigation, and three monitoring wells of varying depths and compared these samples to produced water samples collected from five oil wells and one injection site. Preliminary results show evidence of mixing between oil-field fluids and groundwater in four of the 16 wells sampled. Similar evidence of

contamination has since been found in the Fruitvale, Lost Hills, and South Belridge oil fields in Kern County. Such evidence shows how impacts to water quality should be factored into the EA of the GCP, and how streamlining the oil and gas permitting process only discounts such impacts.

The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to water quality associated with individual non-Federal oil and gas activities. However, as described in Section 4.2.2, *Water Resources and Water Quality* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not result in approval of any individual non-Federal oil and gas activities and as such would not directly result in any direct (e.g., fill) or indirect impacts (e.g., erosion) to water resources, including jurisdictional waters. Water resources would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not affect or otherwise restrict the permitting authorities of the U.S. Army Corps of Engineers (USACE) or the Central Coast Regional Water Quality Control Board (RWQCB) under Section 404 or 401 of the Clean Water Act or the California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Department of Fish and Game Code. Individual projects that could impact jurisdictional waters would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance (see Section 4.4, *Wetlands/Waters of the U.S.* of the Programmatic EA). Therefore, it is anticipated that the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to water quality.

Comment CBD-14

Of course, any spills pose the risk of not only contaminating surface water bodies, but land environs as well. The sources of such contamination also extend beyond chemical additives used at oil and gas sites and associated wastewater. There are also the dangers posed by oil field surface expressions. An example of this has been the ongoing surface expressions found in the Cymric Oil Field in Kern County, first revealed in July 2019. One surface expression was found to have released more than 1.3 million gallons of oil and wastewater before it was sealed. Meanwhile, an estimated 82 million gallons of oil and wastewater have flowed intermittently since 2003 at another Cymric surface expression. Yet another series of seeps were revealed where tens of millions of gallons of fluid have surfaced intermittently over the last 16 years. Finally, another large-scale surface expression has been discovered which, having started November 2019, has cumulatively spilled hundreds of thousands of gallons of oil and waste fluid and is still ongoing. A probable link has been found between these surface expressions and cyclic

steam injection, meaning a direct connection between such surface expressions and oil and gas development. It is irresponsible to consider a GCP where such environmental pollution goes unaccounted for, especially when such pollution could have a direct impact on species' habitat.

The Service acknowledges and appreciates the information provided in this comment regarding potential impacts to soils as a result of individual non-Federal oil and gas activities. However, as described in Section 4.2.1, *Geology and Soils* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not result in approval of any individual non-Federal oil and gas activities and as such would not directly result in any ground disturbing activities. Geology and soils would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not prohibit or otherwise restrict local permitting authorities from enforcing construction BMPs and/or mitigation measures for individual non-Federal oil and gas development projects to minimize geological hazards, soil erosion, etc. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to geology or soils.

With respect to surface expressions (i.e., the flow of crude oil, water, and/or steam to the Earth's surface during the extraction of oil), such expressions can occur when steam is injected under pressure to produce oil breaks through natural geologic barriers and comes to the surface. Under strengthened regulations effective April 1, 2019, surface expressions violate state regulations enforced by the California Geologic Energy Management Division (CalGEM). These regulations effect institutes strict limits on new permits for high-pressure cyclic steam wells. The restrictions will be in place until it is determined whether high-pressure cyclic steaming can be done safely and in compliance with new regulations. Consistent with California state law, the proposed GCP would not cover any activities involving high-pressure cyclic steaming or other activities that may result in field surface expressions. Further, such activities would not be approved by the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site.

Comment CBD-16

The potential pathways for contamination discussed above (air, water, soil) pose real and proven risks to the California tiger salamander, California red-legged frog, and Lompoc yerba santa. CTS and CRLF are extremely sensitive to contaminants because their highly permeable skin can readily absorb many types of pollutants. Meanwhile, the Lompoc yerba santa, if it were to come into contact with contaminated soils or water, could uptake harmful chemicals that hinder its growth and reproduction. The Service must

consider not only potential lethal effects of these chemicals on these species, but also potential sub-lethal effects such as abnormalities or depressed immune systems.

Oil production is specifically called out in the last five-year review for the Santa Barbara DPS of the salamander, which highlights the danger of oil sump ponds which may act as toxic sinks for CTS. The Review document explains that these ponds may attract salamanders seeking breeding sites, and may contain sufficient contaminants to kill CTS adults, eggs, and larvae. The CRLF may similarly be attracted to these ponds and suffer the same fate. Even when breeding sites are not so contaminated to kill amphibians directly, other impacts to future survival can be seen. For example, the five-year review document describes how salamander larvae in oil-contaminated ponds can have slower growth rates, reduced survival, and/or growth abnormalities.

A number of known CTS breeding ponds are also found along roads and highways in Santa Barbara County. These sites are already at risk from runoff from these roads. An expansion of oil and gas operations will likely increase this risk, such as through the increased possibility of spills and accidents with an increase in trucks to transport oil. The potential for pipeline leaks should also be thoroughly analyzed with respect to their proximity to breeding sites for CTS and CRLF. However, the Service must consider the impacts of these potential spills and use of chemicals on upland habitat as well, as these species would also suffer from exposure in those areas. While the GCP claims not to allow for impacts to breeding habitats, it acknowledges expected disturbances to upland habitats, posing a threat to CTS and CRLF numbers.

Oil and gas operations may also generally involve the use of pesticides, such as to keep vegetation levels down around operations or pipelines. Pesticides are harmful to CTS and CRLF and their potential use must be thoroughly analyzed.

Refer to Master Comment Response-1. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. The Programmatic EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Importantly, by using habitat as a proxy for calculating impact to CTS, CRLF, and LYS and accounting for dispersal distance, the proposed GCP would ensure that the species' recovery criteria are not precluded regardless of the individual biological impacts to the species within that affected habitat (e.g., absorption of pollutants). Further, the proposed GCP *"describes a range of projects for which avoidance actions alone are not sufficient to prevent take of covered species, and describes actions that can serve to minimize and mitigate the impacts of such taking to the maximum extent practicable"* (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP).

As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP for CTS:

> *"The strategy to recover the Santa Barbara County California tiger salamander focuses on alleviating the threat of habitat loss and fragmentation. The goal of the final Recovery Plan (Service 2016), which was drafted in partnership with the Department, is to reduce the threats to the Santa Barbara County California tiger salamander to ensure its long-term viability in the wild, and allow for its removal from the list of threatened and endangered species. Recovery of this species can be achieved by addressing the conservation of remaining aquatic and upland habitat that provides essential connectivity, reduces fragmentation, and sufficiently buffers against encroaching development. To recover the species, recovery criteria must be met in a sufficient number of metapopulation areas to support long-term viability of the Santa Barbara County California tiger salamander. The Service presently believes that the recovery criteria must be met in all six metapopulation areas for delisting to be warranted; further research and monitoring should clarify the exact number of metapopulations necessary."*
>
> *"Unavoidable impacts to the California tiger salamander or its habitat will be mitigated in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander (Service 2016). The Conservation Strategy and Mitigation Guidance provides guidance for assessing land use and project development impacts to the Santa Barbara County DPS of the California tiger salamander and identifies our preferred approaches to offset unavoidable impacts through compensatory mitigation."*

Similarly, as described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP for CRLF:

> *"In the Service's 2002 Recovery Plan for the California red-legged frog (Service 2002), the Service identified conservation needs for the Santa Maria-Santa Ynez Core Recovery Area which encompasses the Plan Area. In general, the conservation needs for this Core Recovery Area within the 2002 Recovery Plan focused on protection of existing populations, removal of invasive species and non-native predators in particular, reducing contamination of habitat, and managing water availability for the species."*

For unavoidable impacts to CTS and CRLF, the intent of the proposed GCP is to ensure a more consistent and effective approach for mitigating permanent and temporary impacts in a way that ensures that their individual recovery criteria are met.

Comment CBD-18

Potential harms to species extend beyond the California tiger salamander, California red-legged frog, and Lompoc yerba santa. There are other endangered or threatened species found in the Planning Area. According to the GCP, the presence of other protected

species would necessitate additional permitting and hence would not conflict with the use of the GCP. However, this fails to account for how these other species may be inadvertently impacted by the streamlining of oil and gas development allowed by the GCP.

As described in Master Comment Response-1, impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities, including potential impacts to noncovered species, would be performed during that review and permitting process in compliance with the CEQA.

Nevertheless, as described in Section 4.3.1.2, *Noncovered Sensitive Species* of the EA, non-Federal oil and gas activities involving take of noncovered species would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment CBD-19

According to the GCP, "[w]e cannot definitively estimate the number of California red-legged frogs that will be taken because no density estimate for the planning area has been or could be calculated." A similar statement is made regarding the California tiger salamander. Yet, despite not having an estimate of the number of individuals, it is supposed to be taken as fact that the GCP would do enough to protect them. Moreover, we are meant to trust that there will be enough information available to identify other endangered or threatened species that could be impacted by the oil and gas projects sanctioned by the GCP, but this is difficult to prove given the sheer number of protected species that could be present.

As described in Comment CBD-17, the methodology for calculating take for these species is based on the potential habitat impacts, which is likely to be more conservative given that the impacted habitat may not be occupied. The methodology for calculating permanent and temporary impact allowances, which are tied to the recovery criteria for the species, are clearly summarized in the Programmatic EA and described in detail within the proposed GCP.

For example, the proposed GCP explains the methodology for calculating temporary/permanent impacts, wet/dry season impacts, and aquatic/upland dispersal habitats for CRLF. (A full discussion of factors influencing impacts to the CRLF in the Ventura Field Office's area of responsibility, please see the Ventura Field Office's Strategic Conservation Plan [Service 2016]). As described in the proposed GCP and the associated Programmatic EA the Service estimates that the non-Federal oil and gas activities covered under the proposed GCP may impact up to 1 percent of the total planning area (59,719 acres). Covered activities would occur primarily within dispersal habitat rather than more frequently occupied aquatic or upland habitat, with the exception of access road construction. Applicants would compensate for these impacts according to the requirements of the *Ventura Field Office's Strategic Conservation Plan for the California Red-Legged Frog* (Service 2016).

Similarly, the proposed GCP describes use of data and modeling by Searcy and Shaffer (2008) who demonstrated that there are two components of habitat loss for CTS: 1) project footprint; and 2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, while the "deficit wedge" is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a CTS migrating in a straight line away from the center of a pond. Both of these concepts are described in summarized within the proposed GCP and described in detail in the *California Tiger Salamander Conservation Strategy* (Service and Department 2017).

Comment CBD-21

The U.S. Fish and Wildlife Service listed the following endangered or threatened species, in addition to the California tiger salamander, California red-legged frog, and Lompoc yerba santa, that may occur or could potentially be affected by activities in the Planning Area (29 in total): Giant kangaroo rat; San Joaquin kit fox; Southern sea otter; California clapper rail; California condor; California least tern; Least Bell's vireo; Light-footed clapper rail; Marbled murrelet; Southwestern willow flycatcher; Western snowy plover; Arroyo toad; Tidewater goby; Unarmored threespine stickleback; El Segundo blue butterfly; Kern primrose sphinx moth; Vernal pool fairy shrimp; Beach layia; California jewelflower; Contra Costa goldfields; Gambel's watercress; Gaviota tarplant; La Graciosa thistle; Marsh sandwort; Salt Marsh bird's beak; Spreading navarretia; and Ventura marsh milk-vetch . Of these, the Arroyo toad, California red-legged frog, Gaviota tarplant, La Graciosa thistle, Tidewater goby, Vandenberg monkeyflower, and the Western snowy plover all have critical habitat designations in the Planning Area.

…

In employing the GCP as a blanket measure, it is possible that at-risk species in addition to the California tiger salamander, California red-legged frog, and Lompoc yerba santa will be overlooked and inadvertently harmed.

Refer to Comment Response CBD-18. As described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment CBD-22

The Service must consider the impacts that increased oil and gas extraction in Santa Barbara County will have on climate change, along with the cumulative impacts of oil and gas extraction elsewhere. Climate change is a major threat to the survival of the CTS and CRLF and thus the role of the prospective projects, to be permitted under this plan, in contributing to climate change must be an important consideration in the Service's analysis and development of this Conservation Plan.

…

With the continued utilization of fossil fuels that a GCP would promote, climate change effects will only worsen, leading to increases in global temperatures, intensifying drought and changing precipitation patterns which would all threaten the conditions under which the Lompoc yerba santa thrives. How a GCP would exacerbate the plight of the Lompoc yerba santa must be considered prior to the implementation of such a plan.

Refer to Comment CBD-13. The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to GHG emissions and climate change associated with individual non-Federal oil and gas activities. However, as described in Section 4.2.3, *Air Quality and Greenhouse Gas Emissions* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any new GHG emissions sources. Air quality and GHG emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing GHG emission controls for individual non-Federal oil and gas development projects. Therefore,

the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to air quality or GHG emissions.

As described in Master Comment Response-1, the current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an Environmental Impact Statement (EIS). Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Each individual HCP must ensure that the individual project “will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.” However, this current piecemealed approach of approving individual HCPs for each individual non-Federal oil and gas activity does not “comprehensively assess the cumulative impacts of multiple potential projects” as asserted in this comment. In contrast the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Additionally, Section 10 of the ESA regulations (69 *Federal Register* [FR] 71723, as codified in 50 Code of Federal Regulations [CFR] §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP.

For example:

> *“If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:*
>
> - *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
> - *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*

- *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
- *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*

In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service."

Comment CBD-23

The EA impermissibly omits an analysis of environmental justice as it relates to the disproportionate impact of oil and gas pollution on low income communities and communities of color. Wells are disproportionally located in low-income and communities of color already suffering from some of the worst air quality in the nation. Of the statewide population living within one mile of oil and gas development and in communities identified as most vulnerable by CalEPA's CalEnviroScreen 2.0, nearly 92 percent are people of color (69 percent Hispanic/Latino, 10 percent African American, 11 percent Asian, and 2 percent Other). In Kern County, there are 16,690 active oil and gas production wells (roughly a quarter of all active wells in Kern) located in census blocks with median household incomes of less than 80% of Kern's area median income (AMI). By one estimate, 5,229 active, idle, and newly permitted wells are located within 2,500 feet of sensitive receptors in low-income communities. The EA provides no analysis for Santa Barbara.

Oil production will also cause pollution downstream during transportation and refining stages. Continuing to expand oil and gas production in Santa Barbara will adversely affect communities near pipelines, truck routes, and refineries in other parts of California.

High pollution levels also increase the population's vulnerability to other types of risks to health. The coronavirus, for example, has been even more deadly in areas previously suffering from air pollution. A mere 1 ug/m3 increase in fine particulate matter ($PM_{2.5}$) increased the COVID-19 death rate by 15%.97 Elevated exposure to nitrogen dioxide (NO_2) similarly increased the rate of fatality among populations infected with COVID-19.

The EA fails to disclose or analyze the potential implications for environmental justice and is therefore inadequate.

The Service acknowledges and appreciates the information provided regarding environmental justice communities within Santa Barbara County. However, as described in Section 4.2.4, *Socioeconomics and Environmental Justice* of the Scoping Report (refer to Appendix B of the Programmatic EA), implementation of the Proposed Action would not result in approval or disapproval of any non-Federal oil and gas activity and as such would not affect directly or indirectly socioeconomic activity and associated factors (e.g., increased or decreased employment, tax revenue, etc.) in Santa Barbara County. Approvals for proposed non-Federal oil and gas activities would fall under the appropriate municipal or state-level jurisdiction with review and permit authority (e.g., County of Santa Barbara, California State Lands Commission). Therefore, it is anticipated that the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not impact socioeconomic conditions.

Comment CBD-24

The Service's statement of purpose and need in its Draft EA fails to comply with NEPA. NEPA's implementing regulations provide that an environmental document should specify the underlying purpose and need to which the agency is responding in proposing the alternative including the proposed action.99 This purpose and need inquiry is crucial for a sufficient environmental analysis because "[t]he stated goal of a project necessarily dictates the range of 'reasonable' alternatives." Thus, "an agency cannot define its objectives in unreasonably narrow terms" without violating NEPA.

…

Moreover, NEPA evaluation must take place "before decisions are made and before actions are taken." Such an approach ensures that agencies will take the requisite "hard look" at environmental consequences before approving any major federal action. But the Service's purpose and need statement indicates that they did just the opposite. In other words, the purpose and need statement demonstrates that the Service already made the decision to issue the GCP and that its entire analysis was framed in a way to support that pre-determined outcome. The Service's backward approach reflects a fundamental misunderstanding of its legal obligations.

Refer to Comment CBD-3. As described in Section 1.3., *Purpose* of the Programmatic EA, the purpose of the proposed GCP is to:

> *"…provide a programmatic mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas development projects on non-Federal lands in Santa Barbara County that have the*

> *potential to impact the CTS, CRLF, and LYS. Rather than processing individual ITP applications and associated HCPs for individual Applicants, the proposed approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."*

As suggested by this comment, the proposed GCP *would* increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas activities that have the potential to impact the CTS, CRLF, and LYS, but also comply with the requirements of the proposed GCP. However, the proposed GCP would also incorporate established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). As such, aside from the currently process evaluated under the No Action Alternative, no other permitting mechanisms were readily available for analysis.

Nevertheless, as described in Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis of the Programmatic EA*, several alternatives to the Proposed Action were identified and preliminarily evaluated during project planning and development.

For example, the proposed GCP was initially written to only cover take of CTS. However, non-Federal oil and gas activities that have the potential to take CTS often have the potential to take CRLF. As such, CRLF was included in the proposed GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp (*Branchinecta lynchi*), were considered for analysis but eliminated due to the limited potential for non-Federal oil and gas activities to affect these species. In the event that individual non-Federal oil and gas activities would have the potential to impact species that are not covered under the proposed GCP, they would continue to be addressed on a project-by-project basis and would need individual, Applicant-prepared HCPs to comply with the ESA. As such, these alternatives were eliminated from further consideration and are not analyzed in detail in this EA.

Comment CBD-25

Prior to granting an ITP application, the Service must also undergo the consultation process with itself, as outlined in Section 7 of the ESA. In addition to its obligations under the ESA, the Service also must satisfy its obligations under NEPA before it may issue an ITP. Given that the Service purports that the GCP will serve as a basis for future, unspecified numbers of ITPs, it fails to comply with Section 7 consultation requirements.

…

Here, the Service has failed to conduct an intra-agency consultation.

As described in Comment CBD-9, in addition to providing required public notice in compliance with Section 10(a)(1)(B) of the ESA, the Service would use the "Low Effect" screening form to determine if a project qualifies for a Categorical Exclusion or whether a project-specific EA would be required. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity and meet all requirements for intra-agency consultation.

Comment CBD-26

The Service failed to analyze a reasonable range of alternatives... Here, the Service considered only two alternatives: the proposed alternative of implementing the GCP and the no-action alternative. This fails to constitute the reasonable range of alternatives contemplated by NEPA.

…

The omission of these alternatives was improper. Indeed, numerous courts have rejected a NEPA analysis where the agency failed to consider alternatives that would reduce the scope of the permitted activity. And, again, the Service's HCP Handbook states that an HCP should evaluate alternatives that result in less take than the proposed action.

Refer to Comment CBD-3 and CBD-24.

Once an individual non-Federal oil and gas activity is approved by the appropriate local or state agency(ies), the Applicant must determine whether an Incidental Take Permit (ITP) is necessary. The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an Environmental Impact Statement (EIS). Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Therefore, the Service is unable to evaluate a "no-take" alternative whereby all non-Federal oil and gas activities would be required to avoid take of ESA-listed species. Rather, than limiting the amount of oil and gas activity, the proposed GCP would establish maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria, which *is* within the regulatory purview of the Service. Additionally, the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

With respect to the consideration of a joint review with Santa Barbara County or other State and local regulators under their CEQA obligation, the Programmatic EA clearly describes that under the Proposed Action the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual non-Federal oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the MMRP; and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

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Comment CBD-27

NEPA is America's "basic national charter for protection of the environment." NEPA requires federal agencies to take a "hard look" at the environmental consequences of their actions before taking action. In this way, NEPA ensures that federal agencies "will have available, and will carefully consider, detailed information concerning significant environmental impacts" and that such information "will be made available to the larger [public] audience that may play a role in both the decisionmaking process and the implementation of the decision."133 For the Service to adhere to these obligations, it must prepare a full EIS.

…

NEPA regulations dictate that "[i]t is only when the proposed action '*will not* have a significant effect on the human environment,' that an EIS is not required." Wherever a question exists as to whether an EIS is required, an agency must ordinarily at least prepare an EA, which is used to determine whether the environmental effects of the action are "significant" and therefore require the preparation of an EIS. An EA is "a concise public document that briefly provides evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact." Here, multiple significance factors are met, clearly triggering the Service's duty to prepare an EIS. That is particularly true considering the scope of the agency's proposal—authorizing all take incidental to oil and gas activities in Santa Barbara County *for the next 20 years*.

The Service recognizes and appreciates this background information provided regarding the environmental impact analysis process pursuant to NEPA. However, as described in Master Comment Response-1, it is important to note that this Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Land use approval(s) and impact assessment for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental

resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment CBD-28

The Service must prepare an EIS because the proposed action may have adverse impacts and affects public health and safety. As explained above, the GCP will enable continued oil and gas activity in Santa Barbara County. As such, the Service must consider all reasonable from continued oil and gas drilling activity that affects both listed species and public health and safety, including harmful air and water pollution, greenhouse gas emissions, soil degradation, and the interrelated areas of land use, transportation, and noise.

Additionally, oil and gas activity risks water pollution dangerous to public health. Preliminary results from USGS's recent survey of the Orcutt Oil Field show evidence of mixing between oilfield fluids and groundwater in four of the 16 wells sampled. Oil and gas activity also exacerbates the climate crisis and all its attendant harms to public health. These are but a sampling of the numerous adverse effects and public health impacts from ongoing oil and gas drilling activity. The Service must prepare an EIS that adequately discloses and analyzes such impacts for the oil and gas activity that would be authorized under this GCP.

Refer to Master Comment Response-1. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant

adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment CBD-29

The Service must prepare an EIS because the GCP will enable harmful oil and gas activities in geographically unique areas and approval of the GCP may harm important cultural resources. According to the Service, the GCP planning area consists of the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and parts of the Santa Barbara Coastline. As the Service recognizes in the GCP, this area "encompasses diverse habitats [and] resources." For example, courts have recognized that important habitat areas for protected species can constitute an "ecologically critical area" under NEPA. The entire planning area for the GCP is critical habitat for the Santa Barbara County distinct population segment of the California tiger salamander. The ground disturbing and other oil and gas activity will harm this habitat, indicating that this significance factor is met. The Service notes that "[t]hese impacts may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities." The Service further found that this "habitat may be affected during operations, maintenance, and emergency response" and that it "expect[s] some level of effects to any California tiger salamanders located within the disturbed areas." This is a significant concern for the species who is already suffering the effects of loss of its habitat in Santa Barbara County, which "reduces the available feeding, breeding, and sheltering opportunities required for California tiger salamander survival and reproduction." Additionally, the area also contains important cultural resources. Yet the Draft EA fails to consider such impacts at all. Among other cultural resources impacts, the oil and gas activities enabled by the GCP may threaten lands and wildlife sacred to the Chumash culture.

Refer to Master Comment Response-1. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Under the Proposed Action, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the MMRP; and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment CBD-30

The Service must prepare an EIS because the proposal constitutes a substantial public controversy. In determining whether an action is significant, CEQ regulations also require an agency to consider "[t]he degree to which the effects... are likely to be highly controversial." "Controversial" is "a substantial dispute [about] the size, nature or effect of the major Federal action." A substantial dispute exists when evidence, raised prior to the preparation of an EIS or FONSI casts serious doubt upon the reasonableness of an agency's conclusions.

…

The Service must also prepare an EIS because the proposed action has precedential effects as the first GCP for oil and gas activities in the county. In considering whether to prepare an EIS, CEQ regulations require an agency to consider "the extent to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration." "The purpose of that section is to avoid the thoughtless setting in motion of a 'chain of bureaucratic commitment that will become progressively harder to undo the longer it continues.'" Allowing a GCP for oil and gas activities for the next 20 years in Santa Barbara County could encourage other counties to request similar authorizations and thereby eliminate the site-specific protections ITPs and HCPs are intended to provide.

The Service received comment letters from one Federal agency U.S. Environmental Protection Agency (USEPA) and one state agency California Coastal Commission (Coastal Commission). In addition to the comment letter received from the Center for Biological Diversity (CBD), the Service received one comment letter from the Environmental Defense Center (EDC), and 58 form letters. The majority of the individual comments provided in these letters applies to the approval of individual non-Federal oil and gas activities. As described further in Master Comment Response-1, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the

appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis.

Comment CBD-31

CEQ regulations also require the preparation of an EIS if the proposed action "is related to other actions with individually insignificant but cumulatively significant impacts." "Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment." A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency... or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Authorizing take of ESA-listed species incidental to all oil and gas activity in Santa Barbara County for the next 20 years clearly has significant cumulative impact triggering the duty to prepare an EIS, particularly considering the numerous harmful impacts already facing the California tiger salamander, California red-legged frog, and Lompoc yerba santa. The cumulative impact of oil and gas projects are likely to collectively cause significant harm to the three species subject to the GCP as well as other wildlife and habitat.

Cumulative impacts associated with the implementation of the GCP are thoroughly addressed in Section 5, *Cumulative Impacts* of the Programmatic EA. This programmatic permitting and conservation process, which is only applicable to covered species included in a GCP, would provide for a standardized approach to the implementation of avoidance, minimization, and mitigation measures. The GCP process would not be available to Applicants under the following circumstances:

- Applicant cannot or chooses not to comply with the requirements of the proposed GCP, including standardized avoidance, minimization, and mitigation measures.
- Applicant requires coverage for other noncovered species that are not included in the proposed GCP.

In these instances, the standardized approach avoidance, minimization, and mitigation measures under the proposed GCP would not be implemented. Further, the established maximum allowable impacts within CTS, CRLF, and LYS habitat would not be applicable outside of the GCP process. However, the Applicant would be required to prepare an individual

project-specific HCP to comply with the ESA (refer to Section 1.2.2, *Section 10 – Incidental Take Permits and Conservation Plans*). The individual HCP, which could be prepared by the Applicant in consultation with the Service under Section 10(a)(2)(A), would be required to describe the measures that the Applicant would follow to minimize and mitigate take to the maximum extent practicable as well as the funding that would be available to implement such steps. The Service may also require additional measures that the Service may require as being necessary or appropriate for the purposes of the HCP. Both the Service and the Applicant would be responsible for ensure that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. In the event that these assurances cannot be made by the Service, an ITP would not be issued. As such, with the on-going requirement for individual HCPs in instances where the proposed GCP is not applicable, implementation of the Proposed Action would not result in significant cumulative impacts.

Comment CBD-32

The Service must prepare an EIS because the proposed action may have significant negative impacts on species listed under the ESA. Courts have held that actions "likely" to adversely affect members of an endangered species trigger this factor.

That standard is clearly met here. Indeed, the entire purpose of the GCP is to authorize the otherwise prohibited take of three species protected under the ESA: the California tiger salamander, California red-legged frog, and Lompoc yerba santa. The GCP admits that there may be adverse impacts to all three species "in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities" and that their "habitat may be affected during operations, maintenance, and emergency response (excluding crude oil spills) during the life of the permit." As such, the Service anticipates adverse impacts to all three species, and must prepare an EIS.

Refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an Environmental Impact Statement (EIS). Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·

- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

While the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas activities, the proposed GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly, the GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."*

Comment CBD-33

The Service must prepare an EIS because the proposed action threatens a violation of the ESA and its implementing regulations—federal laws to protect the environment. As explained in these comments, the Service's GCP fails to properly consider and account for the level of take it proposes to authorize, fails to ensure take of the California tiger salamander, California redlegged frog, and Lompoc yerba santa is mitigated to the greatest extent practicable, fails to provide for sufficient monitoring of incidental take, and otherwise fails to comply with the ESA.

…

The EA also fails to explain how expanded oil and gas production is consistent with California's AB 32 greenhouse gas reduction targets. Producing, refining, transporting and burning the fossil fuel from new projects in Santa Barbara is inconsistent with the state's mandate to reduce greenhouse gas emissions.

As described in Master Comment Response-1 and Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Programmatic EA. The Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. Continued application of these measures under the GCP would occur but would be consistently applied throughout the GCP plan area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their respective recovery plans. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the No Action Alternative.

Comment CBD-34

We urge the Service to reject the proposed GCP that the legally deficient approach to its environmental review. The draft EA does not meet ESA or NEPA requirements, undermines the NEPA's very purpose, and should be set aside for the reasons discussed herein. At minimum, the Service must assess each oil and gas project individually and receive full environmental review through a NEPA-compliant EIS.

The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Linda Krop, Tara Messing, Brian Trautwein
Environmental Defense Center
Dated: May 6, 2020

Master Comment Response 1 – Issues Regarding Service Evaluation and/or Approval of Non-Federal Oil and Gas Activities

The U.S. Fish and Wildlife Service (Service) has no authority in the approval (or denial) of non-Federal oil and gas activities. In fact, the Service is *obligated* to issue an Incidental Take Permit (ITP) if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the Habitat Conservation Plan (HCP); and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Under the proposed General Conservation Plan (GCP), land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the California Environmental Quality Act (CEQA). As such, the Programmatic Environmental Assessment (EA) for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with the National Environmental Policy Act (NEPA) on a project-by-project basis.

Once an individual oil and gas activity is approved by the appropriate local or state agency(ies), the Applicant must determine whether an Incidental Take Permit (ITP) is necessary.[4] The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are

[4] On April 26, 2018, the Service issued new guidance to its regional directors to facilitate the evaluation and negotiation of Endangered Species Act Section 10[a][1][b] ITPs, with private parties proposing activities that involve modification of endangered species habitat.

required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an Environmental Impact Statement (EIS).

Under the Proposed Action, the GCP application process would begin with the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the Mitigation Monitoring and Reporting Program (MMRP); and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-1

For the reasons set forth herein, the GCP and EA must not be approved. The GCP does not achieve the most basic requirements for a conservation plan under Section 10 of the Endangered Species Act ("ESA") and is inconsistent with the Service's policy for general conservation plans. 16 U.S.C. § 1539(a)(2)(A)(i)-(iv). Despite the ESA's purpose to conserve and recover species to a point that statutory protections are no longer needed, the misguided intent of the GCP is to "streamline the application for a section 10(a)(1)(B) incidental take permit by allowing the Service to develop a single general conservation plan for a local area." (GCP at 3, 16 U.S.C. § 1531(b), 16 U.S.C. § 1532(3))

A GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). As described further in Master Comment Response-1, the current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated

documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

16 USC § 1539(a)(2)(A) states: "*No permit may be issued by the Secretary authorizing any taking referred to in paragraph (1)(B) unless the applicant therefor submits to the Secretary a conservation plan that specifies:*

(i) the impact which will likely result from such taking;

(ii) what steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;

(iii) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and

(iv) such other measures that the Secretary may require as being necessary or appropriate for purposes of the plan."

Under the Proposed Action, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the proposed GCP permitting process. The *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation, CEQA findings, and the MMRP. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-2

In the interest of efficiently permitting oil and gas activities under the ESA, the GCP encompasses an overly-broad Planning Area that even includes coastal areas, covers a wide-ranging list of complex and technical oil and gas activities, fails to identify any

specific project sites, provides for a 20-year permit duration despite the fact that the average lifespans of oil and gas projects are thirty to fifty years, includes an improperly narrow and unsupported analysis of alternatives.

Given these omissions and deficiencies in the description of the GCP's purpose and need, the biological impacts analysis for the three species is likewise flawed. The GCP omits critical background information on the current status of the listed species and their critical habitats in reaching their survival and recovery goals, and fails to disclose all of the direct and indirect impacts that will likely result from take incidental to oil and gas activities, such as oil field fires (at least three have occurred since 2016 in the Cat Canyon Oil Field alone). 16 U.S.C. § 1539(a)(2)(A)(i). The incidental take figures for the three species are also unsupported or unexplained in the GCP, and the limitations of the Searcy model with regards to California tiger salamander (*Ambystoma californiense*) ("CTS") are not disclosed in the GCP.

Refer to Master Comment Response-1. Because project-specific details on the location and scope of potential future non-Federal oil and gas activities are unknown at this time, the proposed GCP and the Programmatic EA cannot reasonably forecast or speculate the location of individual non-Federal oil and gas activities within the described Planning Area.

As described in the proposed GCP *"[p]ermits issued under the GCP will cover only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance."* As such, activities proposed outside of the 20-year term of the proposed GCP would not be eligible for the proposed GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (ESA).

A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). As such, aside from the current process evaluated under the No Action Alternatives, no other permitting mechanisms are available for analysis.

With regard to the incidental take figures for the Covered Species, the proposed GCP relies on the comprehensive body of evidence provided in the Ventura Field Office's Strategic Conservation Plan (Service 2016) to assess temporary/permanent impacts, wet/dry impacts and aquatic/upland dispersal impacts. While the proposed GCP cannot respond to each individual study associated with the dispersal of CRLF, if future studies, when considered collectively, merit revisions to the *Recovery Plan for the California Red Legged Frog* or the *Ventura Field Office's Strategic Conservation Plan* (Service 2016) the recovery criteria and impact calculations would be revised accordingly in the GCP and applied to all *future* ITP issuances under the GCP. Refer to the *Changed Circumstances* discussion in the proposed GCP, which describes: *"Section 10 of the Act regulations (69 Federal Register [FR] 71723 as codified in 50 Code of Federal Regulations [CFR] Sections 17.22[b][2] and 17.32[b][2]) require that a habitat*

conservation plan specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the habitat conservation plan."

Comment EDC-3

Finally, the avoidance standards are weak and unworkable, especially where no analysis of project redesign or alternative siting to avoid impacts is required, and many of the measures in the GCP to minimize and mitigate take will not do so to the "maximum extent practicable," as required under Section 10.

As described in Master Comment Response-1 and Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Programmatic EA, the Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. Continued application of these measures under the proposed GCP would occur but would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their respective Recovery Plans. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the No Action Alternative.

A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). Therefore, aside from the current process evaluated under the No Action Alternatives, no other permitting mechanisms are available for analysis. Nevertheless, as described in Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis* of the Programmatic EA, several alternatives to the Proposed Action were identified and preliminarily evaluated during project planning and development. For example, the proposed GCP was initially written to cover only take of CTS. However, oil and gas development activities and actions that have the potential to take CTS often have the potential to take CRLF. As such, CRLF was included in the proposed GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp (*Branchinecta lynchi*), were considered for analysis but eliminated. In the event that proposed activities would have the potential to impact species that are not covered under the proposed GCP, they would continue to be addressed on a project-by-project basis and would need individual HCPs to comply with the ESA. As such, these alternatives were eliminated from further consideration and are not analyzed in detail in this EA.

Comment EDC-4

Collectively, the GCP does not set forth the required information and analysis mandated under Section 10, and therefore approval of this GCP would be in violation of the ESA.

A GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B). The proposed GCP meets all statutory requirements under Section 10 of the ESA.

Comment EDC-5

Furthermore, the preparation of an Environmental Impact Statement ("EIS") under the National Environmental Policy Act ("NEPA") is required because the GCP and the oil and gas activities proposed thereunder will result in significant adverse effects on the environment.

Refer to Master Comment Response-1. It is important to note that this Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. The Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment. Individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis.

Comment EDC-6

Even if an EA were appropriate, the EA prepared in this case is inadequate because it fails to address the full scope of activities that may occur and fails to analyze all of the possible environmental consequences. In addition, the EA does not include an adequate discussion of alternatives, mitigation measures, or cumulative impacts.

Refer to Master Comment Response-1. Under the Proposed Action, only covered activities located within the GCP Planning Area would be eligible to receive an ITP through the proposed GCP process. A complete description of the covered activities is provided in Section 2, *Covered Activities* of the proposed GCP (see Appendix A). It is important to note that the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for

individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Comment EDC-7

The GCP, however, would allow the permanent take of 675 acres of CTS upland habitat, including 152 acres of federally designated CTS critical habitat, and temporary take of 1,254 acres of habitat. (GCP at 57-59) With regards to the California red-legged frog ("CRLF") (*Rana draytonii*), the GCP would allow permanent take of 355 acres of CRLF critical habitat and 710 acres of temporary impacts. (GCP at 63) Notably, there is no cap on take of CRLF habitat located outside of designated CRLF critical habitat. (GCP at 59-64) Finally, the GCP would authorize permanent take of 27.5 acres of Lompoc yerba santa ("LYS") (*Eriodictyon capitatum*) habitat, including 7.5 acres of critical habitat. (GCP at 64-65). The GCP would also allow injury or mortality to three CTS and ten CRLF per year as a result of vehicle-strikes along access roads. (GCP at 63)

The GCP sets the foregoing take limits for the three species throughout the 674,220 acre-Planning Area in order to provide a streamlined mechanism for oil and gas operators to comply with the statutory and regulatory requirements under the ESA for covered activities involving "geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure." (GCP at 3, 5) Although the GCP fails to identify a single oil and gas project site in the County, the Planning Area does overlap with the Cat Canyon Oil Field where two operators, TerraCore and Aera Energy ("Aera"), propose to drill and operate nearly 500 new wells, utilizing carbon-intensive steam injection production methods to extract the heavy crude oil in the Field. The approval of these two projects alone would triple the County's current onshore oil production.

Refer to Master Comment Response-1 and Comment Response EDC-1. The proposed GCP incorporates established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better*

conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner." Unlike the current piecemealed approach of approving individual HCPs for each individual oil and gas development project, the proposed GCP, would comprehensively address the cumulative impacts of multiple potential projects as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the existing process.

Comment EDC-8

The limited, restricted distribution and small population sizes of LYS makes it more vulnerable and at risk of extinction due to stochastic events. (GCP at 52) "All or some of the populations are at risk of destruction from vegetation clearing, oil and gas exploration and extraction, urban development, agriculture (including over-grazing), too frequent wildfires (CNPS 2001), competition from invasive exotic plants (D'Antonio et al. 1993) and animals (feral pigs), and/or climate change (Myers et al. 2019)." In particular, oil and gas development in the County threatens the survival of the species because these activities significantly reduce its habitat. Expansion of well pads, pipeline installation, oil seeps, surface expressions, installation and maintenance of existing and new oil seep cans, and potential future pipeline spills have the potential for short-term and permanent degradation or loss of habitat for LYS.

Refer to Master Comment Response-1. While this background information is acknowledged and appreciated, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity, including potential impacts associated with the risk of upset. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

As described in Comment Response EDC-3, avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered

species, including LYS. For example, the proposed GCP identifies the following measures related to potential spills:

> *"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species)."*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

With respect to surface expressions (i.e., the flow of crude oil, water, and/or steam to the Earth's surface during the extraction of oil), such expressions can occur when steam is injected under pressure to produce oil breaks through natural geologic barriers and comes to the surface.

Under strengthen regulations effective April 1, 2019, surface expressions violate state regulations enforced by the California Geologic Energy Management Division (CalGEM). These regulations institute strict limits on new permits for high-pressure cyclic steam wells. The restrictions will be in place until it is determined whether high-pressure cyclic steaming can be done safely and in compliance with new regulations. Consistent with California state law, the proposed GCP does not cover oil and gas activities involving high-pressure cyclic steaming or other activities that may result in field surface expressions. Further, such activities would not be approved by the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site.

Comment EDC-9

Implementing the conservation strategy proposed under the GCP will require compliance with various provisions under both the ESA and NEPA. The issuance of Incidental Take Permit ("ITPs") triggers the statutory requirements set forth under Section 7 and Section 10 under the ESA. Additionally, the Service's proposed action will require a full environmental review under NEPA.

A GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B). The proposed GCP meets all statutory requirements under Section 10 of the ESA. Further, the current procedural processes for compliance with Section 7 and Section 10 of the ESA are summarized in Section 1.2, *Background* of the Programmatic EA. As described in Master Comment Response-1, it is important to note that this Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Comment EDC-10

The GCP must "specify the amount of take anticipated, avoidance and minimization measures, mitigation required, and any other measures necessary to meet the issuance criteria as required by section 10(a)(2)(B) of the Act." While a landscape-scale approach to conservation planning is an appropriate tool under certain circumstances, this GCP is

too ambitious in scope and scale to constitute a legally-defensible plan under Section 10 of the ESA. Encompassing all oil and gas activities from exploration through decommissioning for 674,220 acres within the County, the GCP fails to specify the impacts which will likely result from take of the three species and as a result, does not adequately determine what steps to take to avoid, minimize and mitigate such impacts. (GCP at 5, 16 U.S.C. § 1539(a)(2)(A))

Refer to Master Comment Response-1 and Comment Response EDC-1. A GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B) and specifies the type of incidental take anticipated to occur over the duration of the proposed GCP, minimization and mitigation requirements, and all other measures necessary to meet permit issuance criteria described in Section 10(a)(2)(B). It is important to note that the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures. The completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying additional project-specific mitigation measures, beyond those measures identified in the proposed GCP, to reduce impacts identified in the CEQA document on a project-by-project basis.

Comment EDC-11

The GCP also improperly limits the scope of alternatives to only the no action alternative, which is summarily dismissed without adequate consideration.

A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). As such, aside from the current process evaluated under the No Action Alternatives, no other permitting mechanisms are available for analysis. Nevertheless, as described in Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis of the Programmatic EA*, several alternatives to the Proposed Action

were identified and preliminarily evaluated during project planning and development. For example, the proposed GCP was initially written to cover only take of CTS. However, oil and gas development activities and actions that have the potential to take CTS often have the potential to take CRLF. As such, CRLF was included in the proposed GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp (*Branchinecta lynchi*), were considered for analysis but eliminated. In the event that proposed activities would have the potential to impact species that are not covered under the proposed GCP, they would continue to be addressed on a project-by-project basis and would need individual HCPs to comply with the ESA. As such, these alternatives were eliminated from further consideration and are not analyzed in detail in this EA.

Comment EDC-12

Challenges arise with landscape-scale plan areas, such as:

- **"biological information such as species occurrence and habitat conditions may be less available and more difficult to acquire for a large plan area;**
- **less data availability for large plan areas can lead to greater uncertainties associated with the impacts of implementing these HCPs;**
- **more robust monitoring and adaptive management programs are often needed to address the uncertainties associated with large plan areas; ..."**

As evidenced by the numerous omissions and unsupported analysis in the GCP, the challenges associated with regional and multi-species conservation planning are difficulties that this GCP has not overcome. For the reasons set forth herein, the GCP must not be utilized as the conservation planning strategy to issue ITPs pursuant to Section 10(a)(1)(B) of the ESA for oil and gas activities in Santa Barbara County.

Refer to Master Comment Response-1 and Comment Response EDC-1. A GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B).

As described in the proposed GCP, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Adaptive management strategies have been identified for:

- Oil Spills;
- Wildfires;
- Drought; and
- Exotic Species.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the commitments and the provisions of the proposed GCP and the Conservation Easement document have been or are fully implemented.) However, depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all *newly issued* ITPs would require compliance with any new measures.

Comment EDC-13

To inform the GCP and EA, the proposed action must be adequately defined to ensure that the impacts and alternatives are sufficiently addressed. See 43 CFR § 46.420(a)(1). The Service's purpose and need, however, is distinct from that of an applicant. The Service must not consider the need for the particular development, like oil and gas activities, but instead determine whether the activity complies with the requirements under the ESA. For the reasons detailed below, the purpose and need for the GCP fails to fulfill the Service's conservation obligations under Section 10 of the ESA, focusing instead on streamlining the ITP process for the benefit of oil and gas operators. (GCP at 3)

As stated in Section 1.1, *Introduction*, the Programmatic EA evaluates:

> *"…the proposed approval and implementation of the General Conservation Plan (GCP) that the Service has prepared to standardize the issuance of Incidental Take Permits (ITPs) that cover take of the federally endangered Santa Barbara County Distinct Population Segment (DPS) of the California tiger salamander (Ambystoma californiense) (CTS) and the federally threatened California red-legged frog (Rana draytonii) (CRLF) for non-Federal oil and gas activities in Santa Barbara County, California."*

As described in Section 1.3., *Purpose* of the Programmatic EA, the purpose of the proposed GCP is to:

> *"…provide a programmatic mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas development projects on non-Federal lands in Santa Barbara County that have the potential to impact the CTS, CRLF, and LYS. Rather than processing individual ITP applications and associated HCPs for individual Applicants, the proposed approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the*

> *GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."*

As suggested by the stated purpose, the proposed GCP *would* increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas development projects that have the potential to impact the CTS, CRLF, and LYS, but would also comply with the requirements of the ESA. The proposed GCP would also incorporate established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

Comment EDC-14

The GCP would significantly curtail the recovery efforts for the species covered under the plan and sets forth highly questionable mitigation measures, violating the fundamental objectives of the ESA"- "to halt and reverse the trend toward species extinction, whatever the cost." Tenn. Valley Authority v. Hill, 437 U.S. at 175.

As described in Master Comment Response-1 as well as Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Programmatic EA, the Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. Continued application of these measures under the proposed GCP would occur on a project-by-project basis; however, these measures would be consistently applied throughout the GCP Planning Area to ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their respective Recovery Plans. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long-term and cumulatively as compared to the No Action Alternative.

Under the Proposed Action, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would also require a copy of the CEQA-compliant documentation, CEQA findings, and the MMRP. As such, the Programmatic EA evaluates the potential direct impacts of establishing the GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The Programmatic EA appropriately considers the standardized approach under the

proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures. The MMRP would be used as the basis for identifying additional project-specific mitigation measures, including those to biological resources, beyond those measures identified in the proposed GCP, to reduce impacts identified in the CEQA document on a project-by-project basis.

Comment EDC-15

Despite the clear process for habitat conservation planning under the ESA, the Service here initiated the GCP approach for the improper purpose of "streamlin[ing] the application for a section 10(a)(1)(B) incidental take permit by allowing the Service to develop a single general conservation plan for a local area." (GCP at 3) As utilized here, the GCP manipulates the incidental take exception to entirely swallow the rule against harm to species and adverse modification of habitat.

The proposed GCP *would not* eliminate protections to species and habitat. As described in the Programmatic EA, the proposed GCP would enable the construct of a programmatic permitting and conservation process applicable to the three species included in proposed GCP. The programmatic conservation process would provide for a standardized approach to the implementation of avoidance, minimization, and mitigation measures. The standardized ITP process would incorporate established maximum allowable permanent and temporary habitat impacts within CTS or CRLF habitat consistent with the species' recovery plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary habitat impacts for the federally endangered based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA*, "[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."* Further, the established maximum allowable impacts within CTS, CRLF, and LYS habitat would not be applicable outside of the proposed GCP process. Any other federally listed species that could possibly be affected by non-Federal oil and gas activities would continue to be addressed on a project-by-project basis and would require individual ITPs and associated project-specific, Applicant-prepared HCPs. The individual HCP, which could be prepared in consultation with the Service under Section 10(a)(2)(A), would be required to describe the measures that the Applicant would follow to minimize and mitigate take to the maximum extent practicable as well as the funding that will be available to implement such steps. The Service may also require additional measures that the Service may require as being necessary or appropriate for the purposes of the HCP. As such, with the on-going requirement for project-specific, Applicant-prepared HCPs in instances where the proposed GCP is not applicable, implementation of the Proposed Action would allow for a comprehensive approach to conservation.

Comment EDC-16

The Planning Area for the GCP is an estimated 674,220 acres, including areas within the California coastal zone. (GCP at 5) The Planning Area spans nearly the entirety of Santa Barbara County and comprises some oil and gas fields as well as agricultural lands, undeveloped lands, and urban development. (Id. at 6) Yet, the GCP admits that "[t]he Covered Activities would not affect all of the Planning Area," and that most covered activities occur "within northern Santa Barbara County, California." (Id. at 4-5) Despite the fact that the "plan area should be tailored to the prospective covered activities and conservation needs of the affected species," the Planning Area here extends substantially beyond such areas without any explanation. This analysis is improperly missing from the GCP. The GCP is silent as to where oil and gas operations occur within the Planning Area or why coastal areas within the County are included under the GCP.

Despite the clear requirements under ESA implementing regulations and the Service's own guidance, the GCP Planning Area comprises nearly the entire County, including lands not suitable for oil and gas development.

Given the failure of the GCP to provide any basis for the massive geographic scope of the Planning Area, the analysis in the GCP is too speculative to comply with Section 10 of the ESA.

As described in the Programmatic EA, the entire GCP Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. The GCP Planning Area was developed to cover the potential habitat for CTS, CRLF, and LYS. The location and scope of potential non-Federal oil and gas activities within the GCP Planning Area are unknown at this time. As previously described, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, the proposed GCP and Programmatic EA cannot reasonably forecast or speculate on the location or magnitude of individual non-Federal oil and gas activities in Santa Barbara County.

Comment EDC-17

The GCP does not adequately identify the projects eligible to participate in the Plan and fails to specify where such projects occur throughout the County. Although the GCP defines the term "Project Area," there is no further discussion about the project areas throughout the County or the projects that may apply. (GCP at 5)

Refer to Master Comment Response-1 and Comment Response EDC-16. Under the Proposed Action, only covered activities located within the GCP Planning Area would be eligible to receive an ITP through the proposed GCP process. The Programmatic EA describes that the entire

GCP Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. Because project-specific details on the location and scope of potential future non-Federal oil and gas activities are unknown at this time, the proposed GCP and Proposed EA cannot reasonably forecast or speculate the location of individual non-Federal oil and gas activities within the described Planning Area.

A complete description of the covered activities is provided in Section 2, *Covered Activities* of the proposed GCP. Covered upstream activities include geophysical exploration, construction, operation, and maintenance of new and existing well field infrastructure and decommissioning of obsolete facilities, including:

- Well pads
- Drilling and completion activities
- Pipelines located within the oil field, including gathering lines, header systems and production tanks
- Wells
- Gas flaring
- Work and access roads
- Electric distribution lines (voltage must be 34.5 kilovolts [kV] or less)
- Equipment and multiphase booster pads
- Communication towers
- Tank batteries
- Renewable energy (e.g., photovoltaic solar panels, wind turbines, etc.)

Midstream activities, as defined in the proposed GCP, includes gathering, processing and treatment, transmission, and/or distribution of crude oil, natural gas, or other petroleum products. Covered activities associated with midstream activities include the following:

- Construction of gathering, transmission, and distribution pipelines
- Construction of associated surface facilities, including:
    - Access roads and bridges
    - Booster, compressor, and pump stations
    - Meter stations, mainline valves, pig launchers/receivers, regulator facilities, and other required facilities

  - Natural gas processing and treatment facilities
  - Communication towers
  - Electric distribution lines (voltage must be 34.5 kV or less)
  - Electric substations
- Oil seep management
- Operation and maintenance of pipeline and associated surface facilities
- Decommissioning and reclamation of pipeline and associated surface facilities
- Onsite mitigation areas and/or mitigation banks
- Habitat restoration activities

The proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individually proposed oil and gas activity is eligible for the proposed GCP permitting process.

Comment EDC-18

The GCP provides no explanation or scientific basis for covering incidental take associated with oil and gas activities "for up to 20 years after Permit issuance." (GCP at 6) The Services guidance in the Handbook emphasizes the importance of carefully considering permit duration for a general conservation plan because "[t]hese considerations directly influence the analysis of effects in the plan." The recommended approach is "to consider total 'build-out' in the plan area over a projected period." Here, no analysis is provided in the GCP with regards to the 20-year permit duration. Setting the individual permit duration to a maximum of 20 years may present serious problems given that the project life for most oil and gas projects is at least thirty years.

Moreover, decommissioning, as a covered activity in the GCP, may not occur for decades after an oil and gas development project is approved and therefore could be after the ITP expires. (GCP at 21, 26) If an ITP issued under this GCP were to terminate years before decommissioning, the permittees would be required to prepare HCPs to apply for ITPs outside of the GCP process, ultimately reducing the streamlining and efficiency purposes of the GCP. (GCP at 3; EA at 1-2) Similar concerns were raised by the California Coastal Commission in the letter dated May 4, 2020 concerning the GCP. Given the foregoing considerations, the GCP must provide a thorough explanation of the considerations for the 20-year ITP duration and also describe how the duration identified in the GCP ties into the purpose and need for the GCP.

Finally, there are inconsistencies in the GCP and EA about the duration of the GCP as compared to the duration of the ITPs. (GCP at 6, EA at 7-1). Please clarify the duration for both ITPs and the GCP itself.

Unlike an individual HCP, there is no specific project or project schedule that can be used to develop a duration for permit authorization under the proposed GCP. Instead, the 20-year permit duration was determined to be a reasonable timeline that would provide utility for the proposed GCP as a permitting mechanism, while not extending so long the conditions for the species recovery are likely to change dramatically as a result of changing environmental conditions that have not been accounted for during the development of the proposed GCP.

Decommissioning activities and associated timing would be determined on a project-by-project basis. For example, the timeline for decommissioning an exploratory oil well would be faster that the timeline for decommissioning a production well or natural gas pipeline. There may even be decommissioning projects that are initiated under the proposed GCP. These activities would be described in the land use approval(s) and impact assessment for each of the individual oil and gas activities and would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As described in the proposed GCP *"[p]ermits issued under the GCP will cover only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance."* As such, decommissioning activities that are proposed outside of that 20-year term of the proposed GCP would not be eligible for the proposed GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Comment EDC-19

Here, the GCP severely limited the alternatives analysis to address only the no action alternative, which was summarily dismissed on the grounds that no action would not achieve the needs of the project proponents. (GCP at 13) No explanation is provided to support the decision to analyze only one alternative. The failure to meaningfully consider additional alternatives that would cause less take is a glaring omission in the GCP that violates the statutory standard... Likewise, the lack of consideration in the GCP of any reasonable alternative that would involve less take is arbitrary and capricious.

Thus, as applied here, the GCP's swift rejection of only one alternative is an improperly limited analysis of alternatives to the proposed incidental taking of CTS, CRLF, and LYS in violation of the ESA.

Additionally, Section 10 of the ESA requires the GCP to actually consider the no action alternative, but this analysis was improperly omitted from the GCP. (GCP at 13) As compared to the taking allowed under the GCP, the no action alternative would minimize take and maximize recovery without worsening climate change and fires, or increasing

threats from spills of oil and produced water. This alternative would prevent take of the three species caused by vehicle-strikes, loss of upland and dispersal habitat, crushing, entombment, spills, and fires. (Id.) The alternative would also decrease the indirect effects of oily stormwater runoff entering into breeding ponds, which harm CTS. The conservation of CTS through stakeholder collaboration to purchase habitat easements and restore habitats through grants, as envisioned in the Recovery Plan, is also possible under the no action alternative.

The no action alternative also achieves Biological Goal 1 for CTS and CRLF to "[a]void and minimize take and related disturbance " by "avoid[ing] any actions that could result in take of federally listed-species." (GCP at 13, 66) Comparatively, the GCP allows for the permanent take of up to 675 acres of upland CTS habitat, 355 acres of CRLF critical habitat, and 27.5 acres of LYS stands. (GCP at 57-66) The no action alternative also accomplishes Biological Goal 2 by preserving and maintaining suitable and occupied upland habitats. (GCP at 66-67) To the contrary, the GCP would open the door for hundreds of acres to be graded within CRLF and CTS upland habitats and the permanent loss of designated critical habitat for all three species. (GCP at 58 - 65) Finally, the no action alternative better achieves Biological Goals 3 and 4 by avoiding LYS, whereas the GCP allows take of 27.5 acres of LYS. (GCP at 65) The aforementioned analysis was improperly omitted from the GCP and clearly demonstrates that the no action alternative best conserves CTS, CRLF, and LYS by avoiding significant impacts to the species, while allowing oil and gas activities that do not cause take.

For activities where take cannot be avoided, project proponents could simply apply for an ITP and develop an HCP to comply with the ESA. (EA at 2-17) Thus, the GCP incorrectly asserts that the no action alternative "would not meet the needs of project proponents." (GCP at 13)

In sum, the GCP does not meet the statutory obligations under the ESA given that only the no action alternative was identified, and the GCP provided an inadequate consideration of this alternative.

A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). As such, aside from the current process evaluated under the No Action Alternatives, no other permitting mechanisms are available for analysis. Nevertheless, as described in Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis* of the Programmatic EA, several alternatives to the Proposed Action were identified, evaluated, and dismissed during the preparation of the proposed GCP and the Programmatic EA. For example, the proposed GCP was initially written to cover only take of CTS. However, oil and gas development activities and actions that have the potential to take CTS often have the potential to result in take of CRLF. As such, CRLF was also included in the

proposed GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp, were considered for analysis but eliminated. In the event that proposed activities would have the potential to impact species that are not covered under the proposed GCP, they would continue to be addressed on a project-by-project basis and would need individual HCPs to comply with the ESA. As such, these alternatives were eliminated from further consideration and are not analyzed in detail in this EA.

Further, the No Action Alternative is described in Section 2.2, *No Action Alternative* and is evaluated in the Programmatic EA as required by NEPA. Under the No Action Alternative, applicants would be required to continue comply with the ESA by avoiding take of federally listed species or, in the instances where take could not be avoided, Applicants would need to apply for an individual ITP and develop a project-specific, Applicant-prepared HCP in order to comply with the ESA. No defined maximum impact limits to CTS, CRLF, and LYS habitat would be established; non-Federal oil and gas activities would continue without consideration of such limits. Conservation measures, including any compensatory mitigation, would also continue to be developed by the Applicant on a project-by-project and piecemeal basis.

Compared to the Proposed Action, the No Action Alternative would not create standardized avoidance, minimization, and mitigation measures and compliance reporting and the benefits of cohesive planning for species recovery efforts may not be achieved.

Comment EDC-20

Streamlining the review process for ITPs in the interest of oil and gas activities will undoubtedly result in the failure to conduct an adequate analysis of the impacts and thus is inconsistent with Section 10 requirements.

As described in Section 1.3., *Purpose* of the Programmatic EA, the purpose of the proposed GCP is multifaceted. The proposed GCP *would* increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas development projects that have the potential to impact the CTS, CRLF, and LYS, but also comply with the requirements of the proposed GCP.

The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Implementation of the proposed GCP would not reduce the scope of environmental review. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. Individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Comment EDC-21

Here, no showing has been made to demonstrate the need for the GCP. Instead, the Service's decision to draft the GCP solely appears to be based on the fact that oil and gas companies requested that the Service utilize the GCP process to expedite the processing of future projects. However, permitting oil and gas activities in the County should not be rushed and environmental review should not be reduced. Without the requisite showing to support the need for the GCP process, there is no basis for circumventing the express HCP procedures under the ESA.

Finally, the Policy expressly states that it is intended to benefit small landowners who are burdened in time and expense by the HCP process. Here, prospective applicants are sophisticated, resource-rich oil and gas companies - a far cry from "small landowners." The oil companies should bear the burden of drafting their own individual HCPs rather than place the burden on the Service and reap the benefits of an expedited, streamlined permitting process.

Refer to Comment Response EDC-20.

Comment EDC-22

The Santa Barbara coastline is purportedly included in the GCP Planning Area, but the GCP entirely omits any discussion about which oil and gas activities are currently occurring or may occur in coastal areas. (GCP at 5) Without an understanding of what activities are in the coastal area, potential impacts to the three listed species remain unknown, unassessed, and unmitigated.

Moreover, if the County's coastal areas are included in the Planning Area, the GCP and EA must assess the applicability of the CZMA, California Coastal Act, and the County's Local Coastal Program.

Refer to Comment Response CCC-1 through CCC-6. As shown in Figure 1-1 of the Programmatic EA, the western most portion of the Lompoc Valley and nearly the entire Santa Barbara Coastline Planning Areas are located within the Coastal Zone. While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an ITP under the proposed GCP. The Final Programmatic EA has been revised to further clarify the potential for non-Federal oil and gas activities to occur within the Coastal Zone and to more clearly define the regulatory setting and responsibilities of the Applicant, local and state Lead Agencies pursuant to CEQA, Coastal Commission, and Service (see Section 1.6.4, *Coastal Zone Management Act*).

Comment EDC-23

For the reasons identified below, the GCP fails to adequately consider the aforementioned challenges in selecting the scope of covered activities and is therefore deficient.

The covered activities in the GCP range from exploration to decommissioning - and nearly everything in between. (GCP at 14) The covered activities involve highly complex and technical activities associated with oil and gas development, including, but not limited to, geophysical exploration, well drilling, installation of renewable energy facilities, pipeline construction, and decommissioning. (GCP at 14-27) Under Section 10 of the ESA, a conservation plan must analyze each activity and how the activity would impact the species for which incidental take coverage would be available. For this reason, the Policy states that a "GCP will be most useful in situations in which a smaller subset of activities, such as building single family homes, a specific type of agricultural practice, or similar activities of limited scope can be described and their impacts to listed species and their habitats can be adequately analyzed by the Service." To the contrary here, the numerous activities covered by the GCP are wide-ranging and dissimilar, involving specific processes and equipment as well as a host of different impacts. Given the scope of activities covered under the GCP, the analysis of the impacts to listed species and their habitats is severely deficient, as discussed in more detail in these comments.

A GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B). In addition to the examples of *"building single family homes"* and *"specific agricultural practices"* the policy document cited in this comment more broadly defines that GCPs may be prepared for *"other identified activities."* Similar GCPs have been prepared and are in use for non-Federal oil and gas activities (American Burying Beetle Industry Conservation Plan).

The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Implementation of the proposed GCP would not reduce environmental review. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. Individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Comment EDC-24

For the foregoing reasons, a general conservation plan is simply not the proper conservation planning tool for multifaceted and extremely technical oil and gas activities.

Here, the oil and gas activities covered under the GCP involve a specialized area of expertise and technical background. In fact, the GCP admits that "[i]ndustry standards, disturbance area estimates, and averages were obtained primarily from representatives of the oil and gas industry" (GCP at 14) Rather than narrow the scope of covered activities, the GCP sets forth an inadequate analysis that fails to acknowledge the host of limitations and assumptions.

A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP and covered activities is provided in Section 2, *Covered Activities* of the proposed GCP (see Appendix A). Individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology and soils, risk of upset, etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-25

The foregoing underscores the flaws inherent in a broad GCP as opposed to a project-specific HCP. Without any actual project applications, the GCP can only engage in pure speculation as a means of projecting what the actual impacts on the covered species will be from the laundry list of covered activities, essentially throwing a dart into the midst of 674,220 acres spread throughout the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, Cuyama Valley, and a portion of the Santa Barbara Coastline.

Refer to Master Comment Response-1. The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·

- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Each individual HCP must ensure that the individual project *"will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."* However, this current piecemealed approach of approving individual HCPs for each individual oil and gas development project does not comprehensively assess the cumulative impacts of multiple potential projects over a large-scale time period. In contrast the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term stressors (e.g., climate change).

The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. The EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

Comment EDC-26

Oil spill management is not listed as a covered activity in the GCP. (GCP at 14-27) Oil seep management, however, is covered by the GCP. (GCP at 21 and 24-25) The GCP's approach is inconsistent because oil spill management and oil seep management involve similar responsive actions, such as vegetation removal in similar areas, like terrestrial habitats. Therefore, oil seep management should be excluded from covered activities for consistency.

Oil seep management is listed as a covered activity under Section 2 *Covered Activities* of the proposed GCP, meaning oil seep management is a permitted activity eligible to receive incidental take authorization through the proposed GCP. Oil spills, however, refer to accidental releases that require responsive action in the event of occurrence. Oil spills addressed Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP and identifies the following measures related to potential spills:

> *"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species)."*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Comment EDC-27

The GCP states that it covers oil and gas development, including "remediation." (GCP at 4) However, the description of covered activities under "Decommissioning and Reclamation" does not list soil remediation as a covered activity. (GCP at 26)

Activities covered under the GCP include geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure. Remediation covered under the GCP, as described in Section 2 *Covered Activities*, may include the maintenance, repair, and replacement of electric distribution lines, or habitat restoration activities. Remediation may also include the decommissioning of obsolete facilities. Such facilities are typically removed and the area may be restored to native vegetation conditions. Remediation under covered activities of the GCP may also include the permanent conservation of compensation lands to mitigate project impacts to Covered Species.

Further, the Proposed Action would not result in approval of any individual oil and gas development and as such would not directly result in any impacts to soils. Biological resources and geology and soils would continue to be assessed on a project-by project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not prohibit or otherwise restrict local permitting authorities from enforcing construction best management practices and/or mitigation measures for individual oil and gas development projects to minimize geological hazards, soil contamination, etc. Therefore, it is anticipated that the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to biological resources, geology, or soils.

Comment EDC-28

The GCP covers renewable energy projects serving oil and gas operations and would cover wind turbine projects between 50 kW and 300 kW. (GCP at 20) However, solar photovoltaic ("PV") projects serving oil and gas production, which also can disturb habitat and cause take, are not limited by kilowatts. (GCP at 20) The GCP must include a limit on the energy capacity for solar projects to minimize take to the maximum extent practicable, as it does for wind energy projects serving oilfields.

The comment correctly states that renewable energy projects, such as solar photovoltaic (PV) and wind turbine projects, would be Covered Activities under the proposed GCP, these activities are still subject to all of the conditions of the proposed GCP (e.g., surveys, monitoring,

mitigation and avoidance measures, etc.). Therefore, a limit on the energy capacity for covered solar activities is not required under the proposed GCP. The proposed GCP would continue to ensure the maximum protection of the Covered Species through the required avoidance, minimization, and mitigation measures established in the GCP.

Comment EDC-29

In addition, the GCP lists PV and wind projects under covered activities, but states that, "Project proponents with wind turbines should seek consultation with the Ventura Fish and Wildlife Office to address potential impacts to listed species through a separate permitting process." (Id.) This raises the question: why are wind turbines under 300 kW listed as covered under the GCP, but then expressly required to undertake a separate take permitting process in conflict with the streamlining purpose of the GCP?

Wind projects would generally include wind turbines, with blades ranging from 4 to 12 feet. Wind turbines are known result in impacts to avian species, including federally listed and state-listed bird species as well as other bird species protected by the Migratory Bird Treaty Act. Small wind projects as described within the proposed GCP would be covered by the proposed GCP with respect to the Covered Species. However, the Service would require that project proponents with wind turbines should seek consultation with the Ventura Fish and Wildlife Office to address potential impacts to other noncovered federally listed bird species through a separate permitting process.

Comment EDC-30

The GCP describes decommissioning as a covered activity. (GCP at 21 and 26) However, decommissioning may not occur for decades after an oil and gas development project is approved and will likely occur after the twenty-year permit duration expires. For example, the project life for the two massive onshore oil projects proposed in Cat Canyon are for thirty to fifty or more years. The ITPs for these projects may be issued by the Service prior to construction, and if the ITP duration is for up to twenty-years, the ITP would terminate years before decommissioning. Permittees would then be required to prepare HCPs and apply for ITPs outside of the GCP process, contravening the streamlining and efficiency purposes of the GCP. (GCP at 3, EA at 1-2) The GCP must set forth a thorough analysis that addresses the interaction between the twenty-year ITP duration and the potentially decades-long oil and gas activities covered under the GCP.

This comment correctly describes that decommissioning is a covered activity under the proposed GCP. However, as described in Comment Response EDC-18, the decommissioning activities and timing would be determined on a project-by-project basis (e.g., exploratory well versus production well or pipeline). There may even be decommissioning projects that are initiated under the GCP. As described in the GCP *"[p]ermits issued under the GCP will cover*

only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance." As such, any decommissioning activities outside of that 20-year term would not be eligible for the proposed GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Comment EDC-31

The 2016 CTS Recovery Plan's Action 1.3 recommends developing a regional HCP for agriculture and urban development in northern Santa Barbara County and Santa Maria. The Recovery Plan makes this recommendation for the purpose of managing lands for CTS and to ensure "appropriate mitigation." In 2019, the Service developed the County's first general conservation plan for cultivation activities. A second general conservation plan for cultivation activities in the Los Alamos area was also recently noticed. Nevertheless, the CTS Recovery Plan does not recommend developing a GCP for oil and gas projects because the Recovery Plan's Recovery Strategy, Criteria, and Actions do not recommend authorizing take for oil and gas activities within the CTS' range. Moreover, as explained above, the authorization of take under the GCP for CTS is inconsistent with the Recovery Plans' Recovery Strategy, Criteria, and Actions.

As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."* Similar to the GCP for cultivation activities, by limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the existing process. Contrary to the comment, over the 20-year life of the proposed GCP, the standardized ITP process *would* incorporate established maximum allowable impacts within CTS habitat consistent with the species' Recovery Plans.

Comment EDC-32

The GCP would authorize take of CTS, CRLF, and LYS for oil and gas activities within the 674,220-acre Planning Area in Santa Barbara County, including the Cat Canyon Oil Field where proponents of two new steam injection projects propose to drill nearly 500 new wells, tripling onshore oil production in the County. (GCP at 5) The significant greenhouse gas emissions ("GHG") generated by these two projects alone will contribute to climate change impacts, such as increased droughts, fires, and floods, which directly affect recovery efforts for CTS, CRLF, and LYS. For example, the TerraCore project would emit 250,876 metric tons per year of CO2 equivalent ("MTCO2e") and Aera's project would emit 302,532 MTCO2e annually. By way of comparison, the County identifies GHG emissions over 1,000 MTCO2e to be a significant climate change impact. The emissions from new or expanded oil and gas projects in Santa Barbara County would worsen these

climate change impacts on CTS, CRLF, LYS, and their habitats. Issuing ITPs for oil and gas projects would be counter to the conservation of CTS, CRLF, and LYS given the significant climate change impacts from these fossil fuel energy projects.

The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to GHG emissions and climate change associated with individual oil and gas activities. However, as described in Section 4.2.3, *Air Quality and Greenhouse Gas Emissions* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any new GHG emissions sources. Air quality and GHG emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing GHG emission controls for individual oil and gas development projects. Therefore, the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to air quality or GHG emissions.

As described in Master Comment Response-1, the current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of a HCP requires an evaluation compliant with NEPA: either an EA or an EIS, depending on complexity. A "Low Effect" screening form is utilized to determine if a project qualifies for a Categorical Exclusion. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Each individual HCP must ensure that the individual project *"will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."* However, this current piecemealed approach of approving individual HCPs for each individual oil and gas development project does not *"comprehensively assess the cumulative impacts of multiple potential projects"* as asserted in this comment. In contrast the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take

allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP.

For example:

"If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:

- *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
- *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
- *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
- *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*

In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service."

Comment EDC-33

The GCP refers to the County of Santa Barbara as the Lead Agency under the California Environmental Quality Act ("CEQA"). The GCP omits specific cities (e.g., Carpinteria, Goleta) within the Planning Area which may also be CEQA Lead Agencies on oil and gas projects, including decommissioning. (GCP at 9)

On Page 51 of the proposed GCP, the County of Santa Barbara is identified as the lead agency under CEQA specifically for potential development on Hollister Ranch, a working cattle ranch in unincorporated Santa Barbara County. Since the ranch is located in unincorporated county land,

the County of Santa Barbara would likely be the lead agency for this site under CEQA. Other cities, local agencies, or state agencies within the GCP Planning Area may be CEQA lead agencies for individual oil and gas projects elsewhere in the County, as described in the Programmatic EA.

Comment EDC-34

Under Division of Oil Gas, and Geothermal Resources (DOGGR), the GCP should be revised to reflect the agency's current name: California Division of Geologic Energy Management Division ("CalGEM"). (Id.)

Section 2.1.3, *Covered Activities and Actions* of the Final Programmatic EA has been revised to clarify all covered activities must comply with the most current requirements and procedures administered by CalGEM (formerly Division of Oil, Gas, and Geothermal Resources [DOGGR]).

Comment EDC-35

Also, under DOGGR or CalGEM, "water disposal wells" are more accurately characterized as wastewater disposal wells. Water is generally not harmful to CTS, CRLF, and LYS, but oil operation wastewater contains toxic constituents. (Id.)

This comment has been noted. As described on Page 15 of the proposed GCP in Section 2, *Covered Activities*, disposal wells are used for *"disposal of fluids used in the oil and gas recovery following production."*

Comment EDC-36

Under California Department of Fish and Game, the agency's name was changed to California Department of Fish and Wildlife in 2013. (Id. at 11)

The comment is correct in its statement that the California Department of Fish and Game was renamed as the California Department of Fish and Wildlife. However, all instances of the California Department of Fish and Game mentioned in the proposed GCP refer to the previously approved Memoranda of Understanding (MOU) and Memoranda of Agreement (MOA) with DOGGR (now CalGEM).

Comment EDC-37

The GCP purports to provide baseline information pertaining to the three covered species, but the discussion omits information that is directly relevant and necessary to support the subsequent impacts analysis and take assessment...In order to understand the scope of impacts to endangered and threatened species, there is a host of critical information that must first be collected and assessed: (1) the preexisting status of those species in the covered areas -"i.e., how many currently exist, where they live, and what the current numbers say about overall species health in the covered areas; (2) how many

individuals and how much habitat are necessary to ensure species survival and recovery; (3) the nature of the project -"i.e., how many individuals and how much habitat will be taken through the activities covered under a ITP, and where, exactly, the take will occur (especially relevant with CTS, which has six distinct metapopulations); and (4) the effect of such take relative to the species' baseline and survival/recovery needs. Without knowing the foregoing details, the Service cannot fulfill its statutory gatekeeping responsibility of ensuring minimization and mitigation of impacts, and making sure that incidental takings will not appreciably reduce the likelihood of survival and recovery.

The proposed GCP relies on the comprehensive body of evidence provided in the Ventura Field Office's Strategic Conservation Plan (Service 2016) to describe the existing conditions for the species and to assess temporary/permanent impacts, wet/dry impacts, and aquatic/upland dispersal impacts. While the proposed GCP cannot respond to each individual study associated with the dispersal of CRLF, if future studies, when considered collectively, merit revisions to the *Recovery Plan for the California Red Legged Frog* or the *Ventura Field Office's Strategic Conservation Plan* (Service 2016) the recovery criteria and impact calculations would be revised accordingly in the proposed GCP and applied to all *future* ITP issuances under the proposed GCP. Refer to the *Changed Circumstances* discussion in the proposed GCP, which describes: *"Section 10 of the Act regulations (69 FR 71723 as codified in 50 CFR Sections 17.22[b][2] and 17.32[b][2]) require that a habitat conservation plan specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the habitat conservation plan."*

Further, the proposed GCP requires surveys to identify whether the Covered Species have the potential to occur within individual project footprints. As described in Section 6, *Permit Processing and Implementation* of the proposed GCP, the Individual Permit Package would require survey results for the Covered Species or notification that the presence of these species would be assumed based on habitat. If requested, the Service can help determine whether a project or action is likely to result in take; however, the Applicant is responsible deciding whether to pursue an ITP. The Service also developed a regulation to address the problem of maintaining regulatory assurances and providing certainty to landowners through the HCP process, called the "No Surprises" regulation. Therefore, it is often to a landowner's benefit to assume presence of CTS (and/or other federally listed or candidate species, as appropriate) as it allows the landowner to apply for an ITP without conducting lengthy protocol level surveys necessary to confirm presence.

Additionally, pre-construction surveys of Covered Species' habitats within project disturbance boundaries would be required prior to individual project-related ground disturbing activities as required by Measure 11 in the proposed GCP.

"11. A Service-approved biologist will conduct pre-construction surveys of Covered Species' habitats within project disturbance boundaries immediately prior to the onset of any ground disturbance associated with the project to determine if any individuals of the Covered Species are present, and to refine the final habitat mitigation acreages. The Service-approved biologist will monitor construction activities in the vicinity of habitats to be avoided. Upon completion of initial ground disturbance, the biologist or monitor will periodically (minimum twice per week) visit the project site throughout the construction period to ensure that impacts to the project site are in compliance with the permit. After periods of rain, a Service-approved biologist will conduct daily pre-activity surveys to ensure no California tiger salamanders or California red-legged frogs have migrated into the work area prior to ground disturbing activities resuming. No construction work will be initiated until a Service-approved biologist determines that the work area is clear of California tiger salamanders and California red-legged frogs. Should any California tiger salamanders or California red-legged frogs be observed within harm's way, the animal will be allowed to vacate the area on its own accord or be relocated in accordance with Measure 12."

Therefore, the surveys required by the proposed GCP would generate sufficient and accurate information of the Covered Species and other plant and wildlife species that may be impacted by individual non-Federal oil and gas activities.

Comment EDC-38

The GCP is unclear regarding which, if any, of the recovery criteria for CTS and CRLF under their respective recovery plans have been met... The GCP should quantitatively describe which of the CTS and CRLF Recovery Criteria have been met, how long they have been met, in which areas or populations they have been met, or describe how close other Criteria are to being achieved.

Refer to Comment Response EDC-37. Information about the status of the recovery criteria for CTS and CRLF are evaluated and described on a regular basis in the species' respective 5-year reviews. The proposed GCP is not required to include in depth information on the status of the recovery criteria for CTS and CRLF as it is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B).

Comment EDC-39

In one paragraph, the GCP characterizes CTS as consisting of six distinct metapopulations with "a high potential for recovery and a high degree of threat in conflict with development." (GCP at 32) The GCP provides a map purporting to outline the boundaries of each metapopulation but admits that the Service "[does] not have data on the actual population size or trends" for the Santa Barbara CTS population. (Id. at 33)

The CTS metapopulations described in the proposed GCP have been defined to align with the metapopulations described in the Recovery Plan for the California Tiger Salamander, "*(1) West Santa Maria/Orcutt, (2) East Santa Maria, (3) West Los Alamos, (4) East Los Alamos, (5) Purisima Hills, and (6) Santa Rita Valley."* As described in both the species' Recovery Plan as well as the proposed GCP, the population size and trends of the CTS Santa Barbara County DPS are unknown *"due to its cryptic life history strategy"* and restricted access to ponds for surveys. The Recovery Plan and the proposed GCP also described that CTS *"breeding populations can also fluctuate substantially due to random, natural processes."* Therefore, the Recovery Plan and proposed GCP utilize the effective population size of CTS populations, which can be used to estimate size of the population and trends over time.

Comment EDC-40

The GCP also claims to include "Table 1" identifying "approximately 60 known extant tiger salamander breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations," but no such table appears in the GCP. (Id. at 35)

"Table 1" refers to the table that appears under subheading: *Impacts Analysis and Estimated Incidental Take*.

Comment EDC-41

The GCP admits that data on "effective population size" could have been obtained based on "recent advances in molecular techniques," but failed to apply such techniques. (GCP at 33) As a result, the GCP does not quantify the effective population size for any of the six CTS metapopulations. (GCP at 33-34) Studies have been conducted on the abundance of the species in other areas. A study in Monterey County found the number of breeding adults visiting a pond varied from 57 to 244 individuals. A Contra Costa County breeding site showed a similar pattern of variation, suggesting that such fluctuations are typical. Nevertheless, the GCP does not explain why surveys described by Searcy and Shaffer to "quantify California tiger salamander landscape use" in the Central Valley were not undertaken here to estimate CTS densities in the Planning Area.

Refer to Comment Responses EDC-37 and -39. This comment indicates that the GCP does not utilize effective population size for CTS metapopulations. However, the CTS metapopulations described in the proposed GCP have been defined to align with the metapopulations described in the Recovery Plan for the California Tiger Salamander, "*(1) West Santa Maria/Orcutt, (2) East Santa Maria, (3) West Los Alamos, (4) East Los Alamos, (5) Purisima Hills, and (6) Santa Rita Valley."* As described in the species' Recovery Plan, the Service has established an ongoing Priority 1 action to monitor effective population size in each CTS metapopulation *"to track population status and determine whether measures need to be modified or additional measures*

need to be taken to protect and enhance habitat and/or reduce threats." Therefore, the Service is in the process of monitoring effective population size for the CTS.

Comment EDC-42

Finally, the GCP states that "larger vernal pools are more valuable for the conservation of the species than smaller ones," without mapping out the location and size of such pools as part of its graphic. (Id.) Such information is essential to the baseline conditions, especially given that the GCP recognizes that the metapopulations are not interchangeable. (Id. at 34) In fact, a Monterey County CTS study of 16 breeding locations confirmed "genetic differences at almost every site." (Id.)

To apply for a permit under the GCP, project proponents must submit a complete Permit Application Package. An individual project package is required as a part of a Project's Permit Application Package and must include:

- A recent (within 90 days) printout of the IPaC system query for the project area;
- Map and description of the location of impacts, including photographs;
- Duration of proposed Covered Activities;
- Description or proposed Covered Activities;
- Survey results for the Covered Species or notification that the presence of these species will be assumed based on habitat;
- Species assessment and estimation of take (more information below);
- List of minimization measures appropriate for the project;
- Proposed mitigation and associated calculations; and
- Funding assurances and commitment necessary to implement the proposed minimization and mitigation measures

As described in Section 6, of the proposed GCP, *"Permittees must submit maps and a description of the project area. Maps should include a large scale map with context of the project within the surrounding area, a small scale map specific to the project area. Additionally, maps should delineate areas with anticipated temporary and permanent impacts...Projects that include temporary impacts must submit color digital images taken prior to impacts, the date the photograph was taken, and the location of established photograph points (latitude and longitude recorded in NAD83). Photographs must be taken in the four cardinal directions (North, South, East, and West) at the established photograph points."* The map and description of the location of impacts, including photographs, required as part of the individual project package would be used to establish the baseline conditions, such as the presence and size of vernal pools, at each individual project site.

Comment EDC-43

Similarly, the GCP acknowledges that CRLF "has been extirpated or nearly extirpated from 70 percent of its former range," and currently occurs in only five populations over eight recovery units, with recovery strategies differing per recovery unit as opposed to overall range. (Id. at 43-44). As a result, recovery of the species under the Recovery Plan is largely focused on stabilizing existing populations and reestablishing additional populations in suitable habitat areas.

Despite the shrinking range of this species, the entire "plan area is within the range of...and...contains suitable...habitat" for CRLF. (GCP at 60) The GCP, however, provides no discussion about the current distribution of the CRLF population throughout the Planning Area. Information about existing CRLF populations, distributional data of the species, and its habitat throughout the Planning Area is important to determine the likelihood that the species will occur at a project site. The CRLF Recovery Plan recognizes the importance of monitoring and surveying known CRLF populations in order to obtain the data necessary to conduct an adequate impacts analysis for the species. The Recovery Plan explains that "[a] better understanding of the demographics and distribution will give a fuller picture of population viability and threats to [CRLF] populations."

As described in Section 6, *Permit Processing and Implementation* of the proposed GCP, the Individual Permit Package would require survey results for the Covered Species or notification that the presence of these species will be assumed based on habitat. If requested, the Service can help determine whether a project or action is likely to result in take; however, the Applicant is responsible deciding whether to pursue an ITP. The Service also developed a regulation to address the problem of maintaining regulatory assurances and providing certainty to landowners through the HCP process, called the “No Surprises” regulation. Therefore, it is often to a landowner’s benefit to assume presence of CTS (and/or other federally listed or candidate species, as appropriate) as it allows the landowner to apply for an ITP without conducting lengthy protocol level surveys necessary to confirm presence.

Additionally, pre-construction surveys of Covered Species’ habitats within project disturbance boundaries would be required prior to individual project-related ground disturbing activities as required by Measure 11.

> *“11. A Service-approved biologist will conduct pre-construction surveys of Covered Species’ habitats within project disturbance boundaries immediately prior to the onset of any ground disturbance associated with the project to determine if any individuals of the Covered Species are present, and to refine the final habitat mitigation acreages. The Service-approved biologist will monitor construction activities in the vicinity of habitats to be avoided. Upon completion of initial ground disturbance, the biologist or*

> *monitor will periodically (minimum twice per week) visit the project site throughout the construction period to ensure that impacts to the project site are in compliance with the permit. After periods of rain, a Service-approved biologist will conduct daily pre-activity surveys to ensure no California tiger salamanders or California red-legged frogs have migrated into the work area prior to ground disturbing activities resuming. No construction work will be initiated until a Service-approved biologist determines that the work area is clear of California tiger salamanders and California red-legged frogs. Should any California tiger salamanders or California red-legged frogs be observed within harm's way, the animal will be allowed to vacate the area on its own accord or be relocated in accordance with Measure 12."*

Therefore, the surveys required by the proposed GCP would generate sufficient and accurate information of the Covered Species and other plant and wildlife species that may be impacted by individual non-Federal oil and gas projects.

The proposed GCP also requires monitoring, reporting, and adaptive management actions to ensure the effectiveness of the proposed GCP. For example, a Service-approved biologist would periodically review and monitor construction and restoration efforts and will be responsible for ensuring that conditions of approval are being enforced and that success criteria are being met, as required by Measure 4. Monitoring and reporting described in Section 5 of the proposed GCP as well as other project and survey information would provide the basis for determining when adaptive management strategies should be discussed and/or implemented. If the desired results are not being achieved, adjustments based on monitoring and the analysis of monitoring results can be made to increase the conservation plan's implementation effectiveness.

Comment EDC-44

In order to assess the threats to CRLF and causes of CRLF losses, the GCP must first provide the requisite baseline information about CRLF populations throughout the Planning Area. If this information truly cannot be collected, as alleged in the GCP, the grounds to support this claim must be set forth in the GCP. (GCP at 62)

Refer to Comment Responses EDC-37, -39, and -41. As described in both the species' Recovery Plan as well as the proposed GCP, the population size and trends of the CTS Santa Barbara County DPS are unknown *"due to its cryptic life history strategy"* and restricted access to ponds for surveys. The Recovery Plan and the proposed GCP also described that CTS *"breeding populations can also fluctuate substantially due to random, natural processes."* Therefore, the Recovery Plan and proposed GCP utilize the effective population size of CTS populations, which can be used to estimate size of the population and trends over time.

Comment EDC-45

The GCP also does not include a map depicting CRLF Recovery Units. This information is directly relevant to inform the impacts analysis and take assessment.

A map of the CRLF recovery units is included as Figure 5 in the species' Recovery Plan. The proposed GCP is not required to include a map of the CRLF recovery units as it not a Recovery Plan, but rather an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B).

Comment EDC-46

The GCP admits that "[v]ery few surveys have been completed for [LYS] since it was federally listed in 2000." (GCP at 47) As a result, there is little to no information about the long- term viability of LYS, the age of an individual plant, the breeding system of LYS, the number of ramets needed to sustain an individual plant, how long a ramet lives, or when a new ramet will sprout. One reason for the lack of surveys is "[b]ecause of its clonal habit (reproducing asexually such that all "individuals" in a population are genetically identical), the number of genetically unique [LYS] individuals is difficult to count." (GCP at 51) Given the lack of surveys for this species, "information on the distribution of [LYS] has remained relatively unchanged since the time of listing;" the only updated information being from a 2010 survey for the Vandenberg populations of LYS. (Id.) Moreover, with regards to this 2010 survey, the GCP dismisses the data as inconclusive, explaining that it has "no confidence in the total number of plants in existence since survey protocols were either not well documented or they varied in methodology from year to year, and there were too few monitoring events to draw any conclusions from."

As recognized in the expert report by California Certified Consulting Botanist, David Magney, "information on the requirements and reproductively of the LYS are lacking, primarily because there have not been studies sufficient to make science-based conclusions." Yet, the GCP nevertheless proposes to generate a conservation strategy for the species while simultaneously allowing up to 27.5 acres of habitat and 7.5 acres of critical habitat be destroyed by oil and gas activities. (GCP at 65)

Given the dearth of information about the species, it is entirely unclear what information and data the GCP utilized to support the strategies and conclusions relied on for LYS, indicating that the GCP's proposed conservation plan for LYS will not ensure the long-term survival and recovery of the species. These concerns are substantiated in the report by David Magney in which he concludes that "[t]here is no evidence that the proposed GCP will result in 'better conservation' of the LYS... a conclusion by the USFWS that the GCP would improve conservation of this species is baseless and wishful thinking." This

is especially concerning when factoring in consideration of the impacts on LYS from future environmental changes due to climate change.

For the foregoing reasons, and as confirmed by Mr. Magney in his report, the Service must "determine how many individual plants exist before issuing a blanket take permit for the LYS. This is quite feasible as there are only five known populations, three of which occupy small areas. The largest known population is located in the middle of the active Orcutt Oil Field, and is at extreme risk from take under the proposed GCP."

The comment is correct in its statement that the proposed GCP describes that very few surveys have been completed for the LYS. However, the proposed GCP continues *"[i]n 2006, special status plant surveys were conducted on Vandenberg and included surveys for Lompoc yerba Santa (SRS 2007). In 2010, special status plant surveys were again conducted on Vandenberg. During the 2010 surveys, Lompoc yerba Santa populations surveyed in 2006 were revisited and invasive species were documented (SRS 2010). The 2010 surveys were conducted during the peak blooming period for Lompoc yerba Santa to locate any new populations; however, no new populations were found (SRS 2010)."* As further described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP, the 2006 and 2010 surveys on Vandenberg documented threats to LYS, including invasive species, development, and fire. In an effort to monitor known populations of LYS on Vandenberg, surveys conducted during 2010 also focused on documenting population health and identifying any potential threats to the populations. The surveys documented approximately 1,520 individuals within known populations and an 8.5 percent decrease in the total number of individuals since 2006. Given that the Vandenberg population is the only population not located on privately-owned land, existing surveys are primarily limited to this population. Therefore, the proposed GCP primarily relies on these studies to establish baseline conditions for the LYS.

Comment EDC-47

As recognized in the Handbook, "[d]etailed species and habitat information are also needed for the intra-Service section 7 consultation," because "[a]ll covered species, listed or not, will be assessed under section 7 for direct, indirect, and cumulative effects and the likelihood of jeopardy, and for listed covered species, the destruction or adverse modification of critical habitat..." Accordingly, the GCP may "serve[] as a biological evaluation and can greatly simplify the writing of the biological opinion (BO) by referencing the information from the HCP in the BO." However, given the substantial omissions of specific species and habitat information for CTS, CRLF, and LYS in the GCP, the related Section 7 consultation will also be inadequate if relying upon the information in the GCP.

Comment noted. The proposed GCP addresses consultation requirements pursuant to Section 10 of the ESA for non-Federal oil and gas activities in Santa Barbara County.

Comment EDC-48

The GCP claims that LYS "cannot produce viable seeds." (GCP at 95) This is because LYS is self-incompatible and therefore uniclonal stands of LYS cannot produce seed unless pollen is imported from another genetic individual. The GCP, however, contradicts itself by claiming that LYS seeds will germinate in open spaces. (GCP at 64) Of the six LYS stands, two are uniclonal and cannot produce seeds. Thus the GCP does not adequately analyze which LYS stands can reproduce by seed and therefore the conclusion that all LYS will reproduce by seed is inaccurate.

As described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP on Pages 45 and 46, *"intentionally cross-pollinated flowers produced a mean of 1.77 seeds per fruit, and intentionally self-pollinated flowers produced a mean of 0.03 seed per fruit (Elam 1994). This species spreads vegetatively through the production of rhizomes (underground stems), and thus producing colonies of ramets (genetically identical stems) from only a few individuals."* While the species is known to produce very few seeds, it can produce seed that will germinate in disturbed areas, as described in the proposed GCP.

Comment EDC-49

The analysis of biological impacts and take assessment for CTS, CRLF, and CRLF are fatally flawed in the GCP due to several omitted or unknown variables that are material to the analysis under Section 10. These defects are irremediable given the inherent overly broad nature of the GCP, as discussed above.

Refer to Comment Response EDC-25.

Comment EDC-50

The GCP does not contain a numerical estimate for take of individuals that will result from the permitted oil and gas activities. Instead, the GCP utilizes the less favorable "habitat as a proxy" method for assessing take for each species. (GCP at 55, 61). Take, however, must be expressed in measurable and enforceable terms... Expressing take in terms of acreage of habitat loss is not the type of numerical limitation Congress had in mind.

In the absence of a numerical measure, courts have held that "the Fish and Wildlife Service must establish that no such numerical value could be practically obtained." Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv., 273 F.3d 1229, 1250 (9th Cir. 2001). Thus, a surrogate -"in this case habitat as proxy-"may be used so long as it is accompanied with an explanation as to why the use of a numerical measure of take would be impracticable. Or. Nat. Res. Council, 476 F.3d at 1037. This explanation must describe a causal link between the surrogate and take of the covered species, explain why expression of numerical take is not practical, and set a clear limit for when the level

of take is exceeded, if using a surrogate. There must also be a "rational connection between the surrogate and the taking of the species." Wild Fish Conservancy v. Salazar, 628 F.3d 513, 531 (9th Cir. 2010); Az. Cattle Growers, 273 F.3d at 1250 (invalidating use of ecological conditions for failure to articulate rational connection to take). Here, the GCP fails to adequately explain (1) why using a numerical measure instead of habitat as a proxy would be impracticable, and (2) the rational connection... the GCP does not adequately explain why data that would provide a proper numerical measure is unavailable and cannot be obtained. To the contrary, the GCP admits that data on "effective population size" for CTS could have been obtained based on "recent advances in molecular techniques," but such techniques were not applied. (GCP at 33-34)

Moreover, the USGS is currently collecting data on CRLF populations in the southern part of their range by "using genetic techniques to characterize existing [CRLF] populations." The study will enable USGS to determine effective population sizes, in relevant part. The efforts are consistent with the CRLF Recovery Plan's recommendation to "[c]onduct quantitative assessments of representative populations" in each recovery unit. The CRLF Recovery Plan specifies that "[q]uantitative data needs include, but are not limited to, numbers of individuals per age class, reproductive rates, survival, recruitment rates, immigration and emigration rates."

Thus, the GCP must adequately explain the impracticability of providing numerical data for the take assessment. If no explanation is provided in the GCP, the use of a habitat surrogate for the take assessment in the GCP is wholly inconsistent with the requirements under the ESA.

As described in Master Comment Response-1, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude, including numerical estimates of individual or cumulative takes for non-Federal oil and gas activities in Santa Barbara County.

As discussed in Section 3, *Environmental Setting and Covered Species* of the proposed GCP, data on the population size or trends of the Santa Barbara County DPS of the CTS is not available due to its cryptic life history strategy. Recent advances in molecular techniques have allowed researchers to measure the effective population size (Ne) (number of breeding individuals, in a breeding season) of CTS, which can be used to estimate the size of the population and trends over time. Small mammal burrows provide important habitat for CTS during the terrestrial part of their life cycle, however, recent research on the Central DPS of CTS

suggest that the species is sensitive to other factors than burrow density, making population size and trends difficult to estimate.

Similarly, the proposed GCP describes use of data and modeling by Searcy and Shaffer (2008) who demonstrated that there are two components of habitat loss for CTS: 1) project footprint plus; and 2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, while the "deficit wedge" is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a CTS migrating in a straight line away from the center of a pond. Both of these concepts are described in summarized within the proposed GCP and described in detail in the *California Tiger Salamander Conservation Strategy* (Service and Department 2017).

As described in Comment Response EDC-41, the methodology for calculating take for these species is based on the potential habitat impacts, which is likely to be more conservative given that all of the habitat that is impacted either permanently or temporarily may not be occupied. The Programmatic EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Importantly, by using habitat as a proxy for calculating impact to CTS, CRLF, and LYS and accounting for dispersal distance, the proposed GCP would ensure that the species' recovery criteria are not precluded regardless of the individual biological impacts to the species within that affected habitat (e.g., absorption of pollutants).

Comment EDC-51

The Searcy Model does not account for all impacts to CTS, including impacts from oil, wastewater, and chemical spills, fires, climate change, noise, vibrations, and lighting. These activities may result in harm to the species or the destruction of habitat. Except for Measure 20 to lessen the impact of oil spills, the GCP includes no mitigation for these impacts to CTS. (GCP at 68-98)

The Searcy Model does not account for climate change impacts on the species. As discussed herein, climate change harms amphibian species such as CTS. However, GHG emissions are not a factor in the Model, even though the CTS Recovery Plan identifies climate change as impacting the recovery of CTS. This is a major limitation of the Model and results in impacts that may not be adequately mitigated.

The Proposed Action would not serve as an approval mechanism any oil and gas development and as such would not directly result in any impacts to the physical or human environment. Impacts related to hazardous material, lighting, noise and vibration, from oil and gas development would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over

the individual project site(s) (e.g., County of Santa Barbara). All individual projects that could create impacts would be required to obtain appropriate permits and comply with all required permit conditions, completely separate from ESA compliance.

As described in the proposed GCP, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP. If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Under the proposed GCP, adaptive management strategies have been identified for oil spills, wildfires, drought, and exotic species.

Comment EDC-52

The Searcy Model calculates the Central Valley tiger salamander's reproductive values, impacts, and mitigation based on a site's distance to a pond, survivorship, and densities. However, the densities were determined using drift fence surveys at Olcott Lake, over 350 km from Santa Maria, and the survivorship numbers are based on a single study in Monterey, over 220 km away. Olcott and Monterey are 225 km apart. Searcy and Schaffer advise that it will be necessary to "individually negotiate each mitigation plan" for each project rather than the broad programmatic use of the Model, like in the GCP.

The GCP's broad application of the Searcy Model also runs the risk of not accounting for region-to-region differences in CTS survivorship or habitat parameters. Studies to ascertain survivorship rates in Santa Barbara County populations are needed to inform and apply the Searcy Model appropriately to the Santa Barbara County CTS population. Protocol-level surveys and other surveys, such as the drift fence surveys underpinning the Searcy Model, are not proposed in the GCP. CTS surveys and habitat assessments in the Planning Area are necessary to ensure that the significant impact of permanent CTS take is accurately disclosed and sufficiently mitigated through the GCP.

Searcy and Shaffer acknowledge that the Model is based on only one of numerous habitat parameters: distance from a pond's shoreline. Other factors not considered include vegetation, topography, presence and density of predators, and presence and density of mutualistic species such as gophers which can increase CTS densities and alter distribution. These are site-specific factors that vary from project to project and region to region. In recommending site-specific as opposed to broad programmatic application of the Model, the authors advise that "[i]n principle, these and other biologically relevant factors could be included in mitigation calculations for individual

species and landscapes." It is clear from Searcy that habitat parameters differ by location. However, the GCP improperly applies the Searcy Model as if habitat parameters are the same at Olcott Lake, Monterey, and Santa Barbara County.

As expressly recognized by the researchers, the Model oversimplifies the analysis by assuming all adults have equal reproductive value, when studies indicate that CTS located closer to ponds have more mass. "Our current model also assumes that all adults have the same reproductive expectation, which is almost certainly an oversimplification." As a result, the Model will overvalue locations further from ponds and may undervalue habitats located closer to ponds. As a result, and further substantiated in the attached expert report, "the model, by itself, does not appear to adequately predict the amount of compensation land that would be required to fully offset the loss or disturbance of habitat authorized under a Permit."

The proposed GCP, which is provided as an appendix to the Final Programmatic EA, goes on to provide additional information about how these allowed impacts were calculated:

> *"The California Tiger Salamander Conservation Strategy (Service and Department 2017) explains the methodology for calculating impacts to California tiger salamander and its habitat. The mitigation methodology outlined in the California Tiger Salamander Conservation Strategy is based on work by Searcy and Shaffer (2008) who demonstrate that there are two components of habitat loss for California tiger salamanders: (1) project footprint plus (2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, which is straight-forward in concept. More complex is the "deficit wedge" that results from the impact to habitat. The deficit wedge is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a California tiger salamander migrating in a straight line away from the center of a pond. The total impact of the project includes a sum of the footprint and the deficit wedges (or shadows) where habitat has become inaccessible to salamanders from ponds within dispersal distance of the project.*
>
> *In calculating mitigation owed for impacts to California tiger salamander and/or the habitat that supports them, impacts that impede dispersing salamanders (shadowed impacts) are treated differently from impacts that do not impede dispersing salamanders. Impacts that impede dispersing California tiger salamander are calculated using the methodology outlined in Searcy and Shaffer (2008), as described above. The deficit wedge (shadow) described above is only created by permanent, long-term, or vertical impacts that impede California tiger salamanders that are dispersing across the landscape. Examples of impacts that do not impede dispersing California tiger salamander include: temporary impacts occurring over one dry season, certain linear features such as roads, buried pipelines, etc., and restoration activities. For temporary*

> *impacts occurring over one dry season (approximately May to October), there is no shadow because California tiger salamanders are not migrating or dispersing during the dry season. Calculating mitigation owed for temporary impacts only includes the direct loss of habitat within the project footprint where the impact to habitat occurs."*

Pursuant to recent Department of the Interior-issued (DOI) guidance (e.g., Secretarial Order 3355) the Final Programmatic EA need not re-state all of the methodology that went into the development of the proposed GCP.

Further, as previously described in the Master Comment Response-1, the Final Programmatic EA is to evaluate the physical and human impacts of the proposed GCP. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. As described in Comment EDC-3, avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species. Because the purpose of the Programmatic EA is to evaluate the potential direct impacts of establishing the proposed GCP, it is not necessary to consider site-specific parameters or region-to-region differences when calculating covered species' - including CTS, survivorship.

Comment EDC-53

The incidental take figures in the GCP for CTS, CRLF, and LYS are arbitrary and unsupported... Despite the claimed lack of data for CTS, CRLF, LYS, and their habitats in the GCP, the total acreage of habitat loss permitted from oil and gas activities is calculated in the GCP for the three species. (GCP at 57-58, 63, 65) To use a habitat-based model, however, a conservation plan must, first, identify the minimum habitat requirements for the continued survival and recovery of the species and, second, explain the effect of acreage loss authorized under the plan on the species. See Sierra Club v. Norton, 207 F. Supp. 2d 1310, 1329 (S.D. Ala. 2002). In order to gain an understanding of the minimum habitat requirements, the GCP should have cited to or collected the "necessary data," including science-based estimates of (1) "minimum population necessary for survival and recovery"; (2) "range-wide population," and (3) "distribution within the range." Id. Without this information for CTS, CRLF, and LYS, the take assessment in the GCP is arbitrary.

Incidental takes of CTS and CRLF under proposed GCP are based on established maximum allowable permanent and temporary habitat impacts consistent with the species' Recovery Plans. Similarly established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. Consistency with these plans ensures the proposed GCP would fulfill a need for better

conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner.

Comment EDC-54

The GCP also does not explain how indirect impacts to the three species, such as from spills of oil and produced water, fires, and contaminated oil-field runoff, are calculated and addressed using the habitat as a proxy model for take assessment.

The Programmatic EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Importantly, by using habitat as a proxy for calculating impact to CTS, CRLF, and LYS and accounting for dispersal distance, the proposed GCP would ensure that the species' recovery criteria are not precluded regardless of the individual biological impacts to the species within that affected habitat (e.g., absorption of pollutants).

The Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather, the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. Land use approval(s) and impact assessment for individual oil and gas activities – including associated accidental upsets, spills, hazardous contaminants, or wildfires – would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the CEQA. As a part of this process, the CEQA document would identify: 1) mitigation measures to reduce impacts to reduce potentially significant impacts to the maximum extent feasible; and 2) alternatives (including redesign of the proposed project) to avoid potentially significant impacts. For a project involving potential impacts to CTS, CLRF, or LYS (and/or other federally listed or candidate species) the Service would have the opportunity to comment on the draft CEQA document – including the sufficiency of the identified mitigation measures and alternatives – as a part of the CEQA process.

Comment EDC-55

Furthermore, allowing for 27.5 acres of LYS habitat to be impacted "is a very large percentage of the known LYS distribution/area occupied." Nowhere in the GCP is it disclosed how many individual plants would be lost from the permitted LYS habitat destruction under the GCP. Based on the information provided in the GCP, a host of questions arise, including, but not limited to, "how [is] the impact [] actually measured and what [are] the end results[?] Is the impact the loss of number of individual plants? Loss of ramets? Loss of occupied habitat? Loss of suitable habitat?"

Since 'take' of just one individual is prohibited under the Endangered Species Act without a permit, the loss of one individual is considered significant. Expand that to 7.1% of the entire species and the severity is magnified accordingly. This is a large percentage, especially since very little is known about the growth, reproduction, and viability of the LYS, or each population. Since nothing is known about the feasibility of translocation of LYS, or what is required to establish a new population, stating that this loss does not represent a significant and unmitigable impact is not supported by any evidence."

Implementation of the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. By limiting the take of this covered species and habitat loss through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the current piecemealed approach of approving individual HCPs for each individual oil and gas development project. In contrast, the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Comment EDC-56

The GCP also erroneously claims that no impacts to aquatic habitats for CTS and CRLF are allowed under the GCP. (GCP at 59, 63) However, "[i]ndirect impacts associated with changes in the upslope watershed of individual aquatic breeding sites could result in reduced CTS recruitment" at ponds, and "[t]he GCP's use of upland habitat as a proxy for individual 'take' does not address potential changes in the value of aquatic habitat from Permittee caused or induced indirect impacts." Given the importance of aquatic habitat to the survival and recovery of CTS and CRLF, the failure to evaluate these impacts in the GCP is a glaring omission.

The proposed GCP *would not* permit impacts to aquatic habitat for CRLF or CTS and may also result in beneficial affects to aquatic features because such features may be protected through the establishment of conservation easements used to mitigate for impacts to CTS and its habitat. Additionally, water resources and aquatic habitat would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not affect or otherwise restrict the permitting authorities of the U.S. Army Corps of Engineers (USACE) or the Central Coast Regional Water Quality Control Board (RWQCB) under Section 404 or 401 of the Clean Water Act (CWA) or the California Department of Fish

and Wildlife (CDFW) under Section 1602 of the California Department of Fish and Game Code. Individual projects that could impact aquatic habitat would be required to obtain all appropriate permits and comply with all required permit conditions, separate from ESA compliance (see Section 4.4, *Wetlands/Waters of the U.S.* of the Programmatic EA). Therefore, the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to water quality and aquatic habitats.

Comment EDC-57

Finally, the numerical take figures for vehicles using access roads for CTS and CRLF are not explained and therefore do not appear to be based in fact. (GCP at 57-58, 63, 65) According to the attached expert report, it is entirely "unclear in the GCP as to how these take limits were formulated and biologically justified."

The level of take allowed for CTS and CRLF and the requirements for monitoring by a Service-approved biologist are generally consistent with individual HCPs issued for oil and gas activities in the region.

Comment EDC-58

The GCP also fails to define "access roads" as it applies to this take assessment.

“Access roads” may refer to roadways affording access to a particular area within the planning area. Access road may be existing or newly-constructed relative to approved projects. Access roads constructed for the purposes of a particular project may be temporary and removed following project completions. Because the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the specific location, timing, or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County, specific details regarding the location of future access roads cannot be determined at this time.

Comment EDC-59

Finally, there are many challenges with monitoring and reporting roadkill for CTS and CRLF to estimate take, yet none are acknowledged or assessed in the GCP. "[R]oad-killed individuals of very small species such as CTS and CRLF are generally under-counted due to a variety of factors including, but not limited to, condition of carcass, removal by scavengers, type of road, vehicle speed, experience of individuals charged with finding and recording roadkills, and potential issues with self-reporting. The GCP does not address any of these latter issues." Thus, the incidental take figures in the GCP for CTS, CRLF, and LYS are arbitrary and capricious.

CTS are large-bodied amphibians that can range from approximately 7 inches (adult female) to 8 inches (adult male) long. Similarly, CRLF are also large-bodied amphibians ranging from approximately 4.5 inches (adult male) to 5.5 inches (adult female). As such, individuals that are

killed or injured by traffic on access roads would be observable by drivers or other oilfield personnel. Nonetheless, because of potential for unidentified/unrecorded CTS and CRLF, the provided take limits represent conservative take thresholds.

The level of take allowed for CTS and CRLF and the requirements for monitoring by a Service-approved biologist are generally consistent with individual HCPs issued for oil and gas activities in the region.

Comment EDC-60

The GCP would allow permanent loss of 152 acres of designated critical habitat without replacement. (GCP at 58-78) Permanent loss of 152 acres of CTS critical habitat is a significant unavoidable loss allowed by the GCP because it is a permanent net loss of essential habitat.

The GCP limits permanent impacts in each CRLF critical habitat Unit to between one and 119 acres, totaling 355 acres, and allows take of double the acreage for temporary impacts. (GCP at 63) However, the GCP does not limit take of CRLF habitat in locations outside of designated critical habitat. CRLF Critical Habitat constitutes around 35,426 acres of the Planning Area's total 674,220 acres. (GCP at 59 and 63) The lack of a limit on take of CRLF within the remaining 638,794 acres creates a double standard in the analysis. The GCP limits the loss of LYS and CTS habitats in both critical habitats and other habitat areas, but take for CRLF habitat is subject to a loophole in the GCP. (GCP at 58 and 65)

The GCP will result in a net loss of CTS and CRLF upland habitat acreage because the GCP allows the permanent loss of 675 acres of CTS upland and dispersal habitat, and 355 acres of CRLF upland critical habitat. (GCP at 57, 63). The GCP does not include creation of any new CTS or CRLF upland or dispersal habitat or restoration of former habitat. Thus, the GCP's approach will result in net on-the-ground losses of habitat acreage. Easements and protection of existing habitats do not compensate for the permanent net loss of up to 675 acres of CTS upland habitat, and up to 355 acres of CRLF critical habitat.

Over the 20-year life of the proposed GCP, the standardized ITP process would incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) and habitat loss through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long-term and cumulatively as

compared to the current piecemealed approach of approving individual HCPs for each individual oil and gas development project. In contrast, the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Comment EDC-61

Moreover, there is no guarantee that the proposed mitigation measures in the GCP are feasible, as explained herein and in detail the attached expert reports.

The proposed GCP would standardize these avoidance and minimization measures and ensure that they are applied consistently throughout the GCP Planning Area. Additionally, the proposed GCP would ensure that compensatory mitigation would be undertaken in a strategic way such that it contributes to meeting the species' recovery criteria. Under the current process, the Applicant develops avoidance and minimization measures on a project-by-project basis as a part of a project-specific, Applicant-prepared HCP.

Consistent with Goal 3, Objective 3.1 of the proposed GCP as well as ITP issuance criteria, compensatory mitigation for CTS would be implemented in accordance with the Conservation Strategy and Mitigation Guidance for the California Tiger Salamander and would support the recovery needs for this species as described in the species' Recovery Plan (Service 2016). Similarly, compensatory mitigation for CRLF would be implemented in accordance with Section 5, *Conservation Program / Measures to Minimize and Mitigate for Impact*s of the proposed GCP and would support the recovery needs of this species as stated in species' Recovery Plan (Service 2002b). The Service has not developed a Recovery Plan for LYS and therefore, the Service defaults to standard conservation practices for this species.

Further, under the Proposed Action, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation, CEQA findings, and the MMRP. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-62

The GCP sets forth maximum allowable permanent take of 675 acres of CTS habitat, including 152 acres of designated CTS critical habitat and 355 acres of permanent take of

CRLF habitat. (GCP at 57 to 63) These losses are inconsistent with the CTS and CRLF Recovery Plans.

The CRLF Recovery Plan focuses on: "1) protecting existing populations by reducing threats; 2) restoring and creating habitat that will be protected and managed in perpetuity; 3) surveying and monitoring populations and conducting research on the biology of and threats to the subspecies; and 4) reestablishing populations of the subspecies within its historic range." The CRLF Recovery Plan also requires that populations throughout the range are stable before delisting can be approved.

Similarly, the CTS Recovery Plan Recovery Criterion 4 requires that each CTS Metapopulation must increase over the same ten-year period before delisting can occur. The GCP is inconsistent with this Criterion because the GCP permanently reduces the acreage of CTS habitat by up to 675 acres, and does not require population surveys to track compliance with Criterion 4.

Taken together, the GCP results in a net loss of CTS and CRLF habitat, and the loss of at least some of the individual CTS and CRLF located in those habitats, because compensatory mitigation primarily protects existing habitats. (GCP at 75-80) Therefore, faced with permanent loss of up to 675 acres of CTS habitat and up to 355 acres of CRLF critical habitat, populations may not increase and, in fact, may decrease. The net loss of CTS and CRLF habitats represents a significant impact of the GCP. Such losses are inconsistent with the Recovery Plans and would fail to minimize take to the maximum extent practicable.

Contrary to the comment, over the 20-year life of the proposed GCP, the standardized ITP process *would* incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. By limiting the take of these covered species (and habitat loss through proactive contemplation of long-term and cumulative disturbance), the Service anticipates that the Proposed Action would result in beneficial impacts both over the long-term and cumulatively as compared to the current piecemealed approach of approving individual HCPs for each individual oil and gas development project. In contrast, the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Further, as described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, management, monitoring, and reporting the biological monitoring on Conservation Banks or other mitigation land is the responsibility of the banker or third party that is holds the easement on the mitigation land, respectively. Other than the biological monitoring that is being conducted on the mitigation land, the Service would monitor

and evaluate biological effectiveness of the proposed GCP through review of annual reports and subsequent surveys for listed species.

Comment EDC-63

The GCP may result in the continued loss of LYS... Despite the declines observed with LYS in the County, the GCP proposes to allow the removal of up to 27.5 acres of LYS stands, including 7.5 acres of designated critical habitat. (GCP at 64-65) This would represent up to a 7.1% decrease in the acreage of LYS causing a significant unavoidable impact. "All or some of the populations are at risk of destruction from vegetation clearing, oil and gas exploration and extraction, urban development, agriculture (including over-grazing), too frequent wildfires (CNPS 2001), competition from invasive exotic plants (D'Antonio et al. 1993) and animals (feral pigs), and/or climate change (Myers et al. 2019). (CNPS RPP 2020)"

Indirect impacts of the GCP also threaten LYS: "Climate change could render conditions at each of the five populations inhospitable for the continued existence of LYS if they become too dry to support normal growth and reproduction since the most recent climate change model for Santa Barbara County modeled a significantly hotter and drier climate by 2050 (Myers et al. 2019)."

Finally, altered fire regime, i.e., more frequent, more intense, and/or out-of-season fires, remains one of the most significant threats to LYS. (GCP at 48) This impact can lead to a dominance of invasive exotic plant species which further change the fire regime and threaten LYS and it habitat.

Although mitigation involves a 3:1 replacement by acreage, this ratio is too low given the rarity of LYS and problems encountered trying to propagate it. David Magney recognized in his report that "[t]he USFWS provides no evidence that any of the generic proposed mitigation measures will actually work for LYS, so viability of this approach is highly questionable." As a result, LYS replacement under the GCP may not provide any offset of the 27.5-acre reduction because the GCP does not require creation or restoration of LYS stands, and propagation and restoration of LYS is uncertain.

Furthermore, the Service has the "option" of requiring permanent protection for LYS restoration sites, indicating that such sites may not be permanently protected. (GCP at 26) As of now, there are no restoration sites available, and the feasibility of obtaining such sites is questionable. As such, the GCP would likely result in a net loss of LYS and LYS critical habitat.

Over the 20-year life of the proposed GCP, the standardized ITP process would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. By limiting the take of

the this covered and habitat loss through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the current piecemealed approach of approving individual HCPs for each individual oil and gas development project. In contrast, the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts, including wildfires. For example:

"If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:

- *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
- *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
- *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
- *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*

Impacts to LYS would be mitigated through 1) restoration of habitat suitable for LYS; or 2) through acquisition of habitat that was historically or is currently occupied by LYS (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP; Appendix A).

Applicants proposing to restore habitat would prepare a Habitat Restoration Plan which would require the monitoring of the restoration sites for a minimum of 5 years, or until the Service determines that the project's long-term performance standards to be satisfied. Implementation of required monitoring periods and assurance that long-term standards are met would ensure the success of restoration sites.

Only if habitat restoration is proposed as part of the Applicant's mitigation for unavoidable impacts to Covered Species and their habitat, would the Service have the option to require that the Applicant provide permanent protection of habitat as suitable mitigation.

Further, potential future activities occurring in these restoration sites would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-

Federal oil and gas activities would be performed during that review and permitting process in compliance with the CEQA.

Comment EDC-64

Oil and other contaminants in runoff from oilfield roads, which are sometimes paved with the local tar-like crude, can be so toxic they have been known to contaminate breeding ponds and kill and deform CTS and western spadefoot toad, a California Species of Special Concern in the Planning Area. The impacts from contaminated runoff on CTS and CRLF, however, are not disclosed in the GCP...

The GCP incorrectly claims that ponds will not be impacted by the activities covered under the plan. (GCP at 59 and 63) The GCP, however, fails to sufficiently address runoff from oilfield roads into breeding ponds, and the resulting CTS mortality and deformation that has been documented in the County. The GCP merely discloses that CTS may be impacted by "landscape pollution (via hydrological changes)," but does not describe the impact of polluted runoff from oilfield roads on individual CTS and their breeding habitat. CRLF are also threatened by stormwater runoff containing high levels of sediment... In failing to address the impacts to breeding ponds in the GCP from oilfield runoff and the resulting damage to CTS and CRLF, these impacts remain a significant impact that illustrates take is not adequately minimized under the GCP.

Implementation of the Proposed Action would not result in direct or immediate approval of any non-Federal oil and gas activities, rather implementation of the Proposed Action would streamline the existing permitting process and identify limits of take for each of three species it addresses. As such, implementation of the Proposed Action would not directly generate short-term or long-term impacts related to contaminated runoff. Additionally, contrary to what the comment suggests, the proposed GCP recognizes "*[a]ccidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade aquatic or upland habitat to a degree where California red-legged frogs are adversely affected or killed."* As such, as described in Section 1.5, *Scope of the Programmatic Environmental Assessment*, land use approval(s) for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, all non-Federal projects would continue to require compliance with CEQA, which requires local and/or state agencies to identify any significant environmental impacts of actions and to avoid or mitigate those impacts, as feasible. Impacts to biological resources and water quality – including breeding ponds – would continue to be assessed on a project-by-project basis under CEQA, as applicable.

As mentioned, the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. The Programmatic EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat

consistent with the species' recovery criteria. Importantly, by using habitat as a proxy for calculating impact to CTS, CRLF, and LYS and accounting for dispersal distance, the proposed GCP would ensure that the species' recovery criteria are not precluded regardless of the individual biological impacts to the species within that affected habitat (e.g., absorption of pollutants).

Further, as described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* the proposed GCP includes adaptive management strategies if CTS breeding ponds do not meet recovery criteria:

"Adaptive management actions will be implemented for the California tiger salamander if less than the required number of known breeding ponds required to meet recovery criteria in a metapopulation either: (1) do not have documented breeding for a period of five or more years or, (2) fewer than 10 larvae are captured during surveys for a period of five or more years, or (3) any combination of these scenarios.

The Service and Department should be consulted with prior to implementation of adaptive management actions should the aforementioned triggers be met. Adaptive management actions that should be considered include, but are not limited to:

1) *Construction of new pools - A hydrologist should conduct a thorough analysis to determine where suitable soils and other aspects necessary to ensure pond success. Proposed pond locations should be within 2,200 feet of existing known California tiger salamander breeding ponds. Pond success will be measured by its ability to maintain water for at least 12 weeks.*
2) *Enhancement of existing pools - Human-made water features and natural pools may be enhanced by adding water to them to ensure that they hold water for a longer period of time (at least 12 weeks for California tiger salamander metamorphosis to occur). If a human-made water feature or natural pools have some water present, additional water should be added slowly to existing ponds to minimize turbidity.*
3) *Removal of noxious species - Non-native fish (e.g., mosquitofish, bass, sunfish, goldfish), bullfrogs, crayfish, non-native tiger salamanders, and exotic aquatic turtles should be removed from any water body with within the geographic range of the California tiger salamander in Santa Barbara County. Noxious weeds that are invading breeding pools will be removed and managed according to the accepted standards of the Service and recommendations of a Service-approved biologist.*
4) *Livestock grazing - Manage grazing to maintain the desired amount of emergent vegetation in ponds and vernal pools, and to keep annual grassland generally short (Ford et al. 2013). Don't exclude grazing from extensive areas of grassland for more than one year.*

5) *Habitat restoration - Restoration of breeding and upland habitat can help to achieve proper functioning features that may support a stable and well-distributed population. Such activities include, but are not limited to, voluntary replacement of crops with native grassland or scrub (see Wang et al. 2009) and instituting low-intensity grazing or mowing in lieu of ground-disturbing activities such as tilling, deep ripping, or grading. If a breeding pond was historically ephemeral but converted through human-caused activities to become perennial, the breeding pond should be restored back to ephemeral to the extent feasible.*
6) *Headstarting program - A headstarting program can be used to help bolster local populations of California tiger salamanders. A headstarting program can help to reduce the mortality of California tiger salamander larvae while still providing all of the necessary factors for their proper development.*
7) *Reduction of threats - A number of management actions that could reduce threats include, but are not limited to: use of fencing (e.g., fencing roads), restrict the use of pesticides and herbicides, ensure proper water quality (e.g., dissolved oxygen, nitrate), etc."*

Additionally, as described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts*, the proposed GCP contains adaptive management strategies for CRLF if survey and monitoring data provided to the Service on CRLF in the plan area indicates a severe decline in CRLF abundance within the plan area across a 3-year period:

"The Service should be consulted with prior to implementation of adaptive management actions should the aforementioned triggers be met. Adaptive management actions that should be considered include, but are not limited to:

8) *Protection and enhancement of aquatic breeding habitat - Protection of existing aquatic breeding habitat for the California red-legged frog by either fee title purchase or establishment of conservation easements. Enhancement of water features via water supplementation to ensure that these features hold water for a period sufficient to support the entire obligate aquatic development stage of California red-legged frogs (up to eight and a half months).*
9) *Removal of noxious species - Removal of non-native fish (e.g., mosquitofish, bass, sunfish, goldfish), bullfrogs, and crayfish within aquatic habitat of the California red-legged frog. Removal of invasive plants (e.g., Arundo donax) that reduce availability of aquatic habitat for the California red-legged frog to the accepted standards of the Service and recommendations of a Service-approved biologist.*
10) *Population augmentation of California red-legged frogs - Development of a captive breeding program for the California red-legged frog and/or translocation to augment or reintroduce California red-legged frogs*

11) Scientific research on threats to the California red-legged frog"

The intent of the proposed GCP is to ensure a more consistent and effective approach for mitigating permanent and temporary impacts to CTS and CRLF in a way that ensures that their individual recovery criteria are met.

Comment EDC-65

The GCP fails to minimize take of CTS and CRLF that may be caused by noise and vibrations from oilfield construction, drilling, and operations. Substantial changes in foraging and anti-predator behavior, reproductive success, densities, and community structure has been documented in various wildlife species that was attributed to "acoustical masking" of auditory signals by chronic noise." Noise can cause some species to leave the area and can disrupt foraging, breeding, or other activities." Researchers have also found no evidence of habituation to chronic noise in ground squirrels (prairie dogs), indicating chronic noise may be a permanent impact to populations living in affected areas.

As recognized in the attached report by Michael Bumgardner:

There are other environmental effectors such as noise, vibration, or lighting that may also result in indirect impacts to CTS or CRLF (Rich and Longcore 2006), Barber et al. 2010, Feuka et al. 2017). These effectors can be reasonably expected to occur and 'bleed' to offsite adjacent lands. The GCP does not address these April 30, 2020 Page 3 impacts, the amount of land that must be protected to offset these types of impacts, or other means of avoiding, minimizing, or compensating for these impacts.

The Service acknowledges and appreciates the information provided in this comment related to the potential noise and vibration associated with individual oil and gas activities. However, as described in Section 4.2.6, *Noise,* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any oil and gas development and as such would not directly result in any direct (e.g., construction noise) or indirect impacts (e.g., increased truck traffic noise) to existing noise conditions. Noise impacts from oil and gas development would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over the individual project site(s) (e.g., County of Santa Barbara). All individual projects that could create noise impacts would be required to obtain appropriate permits and comply with all required permit conditions, completely separate from ESA compliance. Therefore, the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not create noise impacts.

Comment EDC-66

Furthermore, California ground squirrels and other burrowing animals may also be affected by noise and vibration generated by oil and gas activities. These species create and maintain the burrow systems that serve as refugia for CTS and CRLF during the dry season. If noise causes squirrels to vacate an area, this could result in loss of burrow habitat for CTS. The GCP mentions that noise and vibrations adversely affect CTS and CRLF (See e.g., GCP at 59), but fails to address the impact of noise on ground squirrels as an impact on CTS burrow habitat. (Id. at 59-60)

As described in Comment EDC-65, the Proposed Action would not serve as an approval mechanism for development of any oil and gas development. Noise impacts from oil and gas development would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over the individual project site(s) (e.g., County of Santa Barbara).

Comment EDC-67

The GCP does not adequately disclose or minimize the impacts of nighttime lighting on CTS and CRLF. Drilling operations occur 24 hours per day, typically over the course of several days until completed. Drilling at night requires lighting, which is very bright and constant. In addition to lights required for nighttime drilling, the Cat Canyon projects, for example, will generate a lot of nighttime lighting for construction and security. Lighting would also be required at some of the tank batteries. The central processing facility will have night lighting next to Cat Canyon Creek. Creeks are wildlife movement corridors. Studies show that arachnids, insects, amphibians, raptors, and mammals that are active at night avoid or abandon lighted areas, thus potentially creating impediments to migration for species like CTS and CRLF that migrate at night. There also is evidence that night-lighting may affect dispersal of adult and juvenile salamanders and frogs moving through upland habitats. However, the GCP does not disclose these significant impacts and therefore provides no avoidance or minimization standards or mitigation measures to address these impacts.

As described in the Scoping Report (refer to Appendix B of the Programmatic EA) given that the proposed GCP would not result in approval of any individual oil and gas developments, the Proposed Action would not directly result in any drilling activities, any direct or indirect impacts involving nighttime lighting for construction and security. Impacts to biological resources – including wildlife movement corridors – would continue to be assessed on a project-by-project basis under CEQA, as applicable. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific

CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-68

The GCP discloses that eradication of ground squirrels and pocket gophers harms CTS under "Threats and the Decline of California Tiger Salamander," but the GCP fails to attribute these impacts to the oil and gas activities and does not mitigate these impacts. (See e.g., GCP at 14-27, and 36- 37) Pocket gopher and ground squirrel are present in Santa Barbara County oil fields, including the Cat Canyon Oil Field. Burrows created by these species form important habitat for CTS. However, routine oilfield maintenance in the Cat Canyon Oil Field has involved "removing small mammal burrows that could be used by CTS and [western spadefoot toad]." Activities to control burrowing animals may harm CTS. (GCP at 36-37)

For this reason, the Recovery Action 1.5 in the CTS Recovery Plan seeks to "reduce California ground squirrel and Bota's pocket gopher eradication efforts deemed to threaten the Santa Barbara County California tiger salamander on protected lands, and other areas as feasible." The GCP's minimization measures, however, omit a requirement to reduce oilfield ground squirrel and gopher control efforts where practicable in order to minimize take and protect CTS. Therefore, this significant impact is not mitigated and the GCP may result in unnecessary take of CTS by way of enabling burrowing animal control programs.

Refer to Master Comment Response-1. Implementation of the Proposed Action would not result in direct or immediate approval of any non-Federal oil and gas activities, rather implementation of the Proposed Action would streamline the existing permitting process and identify limits of take for each of three species it addresses. As such, implementation of the Proposed Action would not directly generate short-term or long-term impacts to wildlife. As described in Section 1.5, *Scope of the Programmatic Environmental Assessment*, land use approval(s) for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, all non-Federal projects would continue to require compliance with CEQA, which requires local and/or state agencies to identify any significant environmental impacts of actions and to avoid or mitigate those impacts, as feasible. Impacts to biological resources – including wildlife – would continue to be assessed on a project-by-project basis under CEQA, as applicable. For each application received under the proposed GCP, the Service would conduct an appropriate level

of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-69

Detention basins act like vernal pools by filling up after rains and attracting wildlife like CTS and CRLF. However, subsequent maintenance on these basins can harm these species. Oil and gas projects may involve the construction of detention basins on the project site for operations. For example, the Aera East Cat Canyon Redevelopment Project would construct sixteen detention basins. Basins fill with water seasonally to help mitigate peak discharges and flooding impacts. Basins also collect sediment to reduce erosion. However, CRLF have been known to colonize sediment basins. Moreover, flood control maintenance, which includes sediment removal, is a threat to CRLF. CTS and CRLF may be attracted to these seasonal sediment basins during breeding season, then harmed during basin maintenance. This is a potentially significant source of take, but the GCP does not disclose or minimize this impact.

As described in Master Comment Response-1, implementation of the Proposed Action would not result in direct or immediate approval of any non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas are the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to biological resources – including survival of CTS and CRLF – would continue to be assessed on a project-by-project basis under CEQA, as applicable. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-70

Oil, chemical, and polluted wastewater spills from tanks, pipelines, wells, seeps, trucks, and other facilities present significant and unavoidable impacts on species including

CTS, and CRLF, LYS. and their habitats. The GCP omits important information about the impacts of spills, including the frequency and volume of spills. This relevant information is available and must be quantified to support the impacts analysis in the GCP. For example, the environmental impact reports for the two Cat Canyon projects estimate that at least four spills will occur per year. Information on spill history in the Planning Area is available in the staff reports for the semiannual Santa Barbara County Board of Supervisors Oil Briefings. The GCP is deficient for omitting this important information.

Refer to Master Comment Response-1 and Comment EDC-64. The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to spills associated with individual oil and gas activities. However, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site.

Comment EDC-71

Fires started by oilfield operations, including climate change-driven fires of "inappropriate season, intensity, severity, or frequency," cause numerous impacts to listed species. (GCP at 93) Recently in 2019, the Woolsey Fire in Ventura County wiped out CRLF populations in the Santa Monica Mountains. As discussed in more detail in comments on the EA below, wildfires started by oil and gas projects, including oil tanker truck accidents, impact the GCP's covered species, but these impacts are not adequately addressed in the GCP. Fires started by oilfield operations also threaten other listed species, as discussed in detail below. However, the GCP does not consider, discuss, or disclose the threat of take by oilfield-started wildfires.

Refer to Master Comment Response-1 and Comment EDC-63. The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to wildlife associated with individual oil and gas activities and climate change. However, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site.

Comment EDC-72

The GCP does not mitigate the impacts of the taking of CTS, CRLF, and LYS to the maximum extent practicable. To issue an ITP, the Service must find that the habitat conservation plan minimizes and mitigates the impacts of incidental take "to the maximum extent practicable." 16 U.S.C. § 1539(a)(2)(B)(ii). "It is not just the quantity of take that needs to be minimized and mitigated, rather it is the "impacts of the taking" that

must be minimized and mitigated... Impacts of the taking depend on the specific situation and could include more than just the loss of individuals or loss of habitat." The requirement under the ESA to minimize and mitigate the impacts of take on listed species is intended to ensure that conservation plans meaningfully contribute to the recovery of the species by providing a net conservation benefit.

For the reasons set forth below, the GCP fails to consider the practicability and enforceability of the measures identified to minimize and mitigate impacts, and does not explain why additional measures are infeasible, rendering the determination arbitrary that the impacts are minimized and mitigated to the maximum extent practicable.

The GCP contains a list of "Measures to Avoid and Minimize Impacts," many of which are caveated with the requirement that they will only be implemented "to the maximum extent feasible," "to the extent feasible," "to the extent practicable," "at the discretion" of a Service-approved biologist, or with certain exceptions. (GCP at 70-74) Qualifying these measures in such a manner severely restricts the effectiveness and force of the measures to ensure adequate minimization and mitigation of impacts. This is especially true with regards to Measure 2, stating that applicants "will site all impacts away from known and potential [CTS] and [CRLF] breeding habitats, avoid high quality upland and dispersal habitat, and avoid habitats supporting or immediately surrounded [sic] [LYS] to the maximum extent feasible." (GCP at 70) At the same time, the GCP is premised on the concept that "[c]omplete avoidance of federally-listed species and their associated habitats is not practical or feasible for most oil and gas industry activities within the Planning Area," and that curtailment of "exploration, storage, remediation, development, and transportation of crude oil, natural gas, and petroleum products" in order to avoid take "would not meet the needs of project proponents." (Id. at 13) Thus, under the GCP, if an applicant unilaterally determines that the proposed avoidance measures are not possible on a given site, such measures can be circumvented in favor of mitigation.

The Southern District of California enjoined a regional ITP under similar circumstances, recognizing that "the duty to" 'avoid'" was "toothless" and "utterly otiose." Sw. Ctr. for Biological Diversity v. Bartel, 470 F. Supp. 2d at 1140-41. The court determined that "each avoidance standard allows the ... [project applicant] to unilaterally determine that a particular development project cannot avoid the vernal pools on the proposed construction site," and applicants "have a strong financial interest" against avoidance where avoidance will impede them from "obtaining the highest financial return on expensive real estate." Id. at 1140. Thus, the court reasoned that applicants could simply "proclaim that avoidance ... is not possible on the site, and thus shift their attention to providing [] mitigation." Id. at 1141.

The GCP admits that similar risks are present here with regards to the stated avoidance standards. However, an ITP must not be issued unless the applicant "will...minimize...the impacts of a taking." 16 U.S.C. § 1539(a)(2)(B)(ii) (emphasis added). This required finding cannot be made upon unenforceable commitments. Klamath-Siskiyou Wildlands Ctr., 99 F. Supp. 3d at 1054. Therefore, the GCP must set forth "concrete, objective criteria to enforce" avoidance measures to site impacts away from CTS and CRLF breeding habitats, avoid high quality upland and dispersal habitats for CTS and CRLF, and avoid habitats supporting or surrounding LYS to the maximum extent feasible. (Id.; GCP at 70)

Refer to Comment Response EDC-1. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would allow for greater, long-term and cumulative minimization of take.

The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Whereas "to the maximum extent practicable/feasible" is general language used in NEPA-compliant documentation, 16 USC § 1539(a)(2)(A) states: "*No permit may be issued by the Secretary authorizing any taking referred to in paragraph (1)(B) unless the applicant therefor submits to the Secretary a conservation plan that specifies:*

(i) the impact which will likely result from such taking;

(ii) what steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;

(iii) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and

(iv) such other measures that the Secretary may require as being necessary or appropriate for purposes of the plan."

Under the Proposed Action, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation, CEQA findings, and the MMRP. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-73

As discussed above with regards to the GCP's unsupported incidental take figures, this GCP will not withstand judicial scrutiny where "the factual basis for the agency's assertions was either absent or masked by convoluted provisions." Sw Ctr. For Biological Diversity v. Bartel, 470 F. Supp. 2d at 1149.

As confirmed by David Magney's report, "[a] 3:1 impact to mitigation ratio is too low" because (1) it does not provide incentive to avoid the impact in the first place, and (2) habitat restoration or translocation have not proven to be effective. Additionally, "a 3:1 mitigation ratio (mitigation: impact) is a low ratio considering the rarity of LYS," and the limited genetic variability of LYS, which creates greater vulnerability and a reduced ability to adapt to changes in the environment.

As described in the proposed GCP, the 3:1 ratio for permanent impacts to LYS *is* anticipated to be adequate to ensure the recovery of the species in accordance with its Recovery Plan. Nevertheless, the proposed GCP also requires effective monitoring to track the progress of the conservation strategy in meeting the proposed GCP's biological goals and objectives for LYS. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, *"[t]he effectiveness of the conservation strategy will be*

determined during monitoring of initial ground-disturbing activities and periodic follow-up visits for onsite construction monitoring and daily monitoring logs. The post-construction compliance report will include an evaluation of the effectiveness of the Avoidance, Minimization, and Mitigation Measures. Permittees are responsible for management, monitoring, and reporting the biological monitoring on mitigation land for which the Permittee is responsible... Other than the biological monitoring that is being conducted on the mitigation land, the Service will monitor and evaluate biological effectiveness of the GCP through review of annual reports and subsequent surveys for listed species. Permittees will allow Service staff, or other persons designated by the Service, to access the property at any reasonable hour for the purpose of monitoring California tiger salamander, California red-legged frog, and Lompoc yerba santa populations or trapping California tiger salamanders or California red-legged frogs (50 CFR §13.47). Permittees will monitor restoration on project sites with temporary impacts to ensure that restoration goals are achieved. Results will be included in annual reports and restoration reports as described in the Reporting section of this document." Further, the Service is prepared to modify or augment the mitigation measures required within the proposed GCP, as necessary, based on the results of the effectiveness monitoring and other on-going surveys to ensure the protection and recovery of the species. For example, *"applicants will monitor the efficacy of the avoidance, minimization and mitigation measures and will quantify the actual extent of project impacts in annual reports. The review of mitigation measure effectiveness will be done by the Service at least once per year or as determined to be necessary. Annual reports will be submitted to Service for review in order to determine the quantification of actual take and assessment of avoidance and minimization effectiveness."*

Comment EDC-74

There are also issues with the enforceability of the GCP requirement for a 3:1 replacement of LYS, as evidenced by oil operations in Solomon Hills. The GCP states that "trimming and removal of LYS does not occur frequently" at the Solomon Hills site. (GCP at 49) However, LYS was trimmed and/or removed for oilfield maintenance in 2007 and/or 2008, and again in 2010 within the 2,239-acre Solomon Hills Critical Habitat Unit. (GCP at 51-52) These removals were not reported to the Service or mitigated, highlighting a concern that enforcement of the GCP's mitigation for unavoidable impacts to LYS may be inadequate.

On August 31, 2010, the California Department of Fish and Wildlife ("CDFW") issued a letter to the Orcutt Oilfield operator Breitburn, referring to a 2008 notice Breitburn provided to CDFW concerning LYS trimming and/or removal that occurred during 2008. (GCP at 51 refers to Breitburn trimming or removing LYS in 2007 and 2010.) However, Breitburn did not notify the Service of the 2007 or 2008 trimming and/or removals either before or after the fact. The failure to report past trimming and/or removal of LYS by oil

operators underscores the concern that LYS may be trimmed or removed but not reported, and that enforcing the GCP's 3:1 replacement for LYS may be infeasible. (GCP at 81)

The 2006 Mitigated Negative Declaration ("MND") approved by Santa Barbara County for Breitburn's Orcutt Hill Diatomite Project required a 10:1 replacement of impacted LYS. (GCP at 51) The Service noted in its 2015 comment letter that, "To our understanding, this mitigation has never been enforced onsite." In 2016 the County denied the oilfield expansion proposed by Breitburn's successor, Pacific Coast Energy Company ("PCEC"), but approved the Seep Can Management Alternative to manage preexisting seeps. The Conditions of Approval for this Alternative require "replacement of impacted Lompoc Yerba Santa at a 10:1 ratio for past impacts and a 3:1 ratio for future impacts (Condition No. 15, MM Bio-2f)." Although the County approved PCEC's 2017 Habitat Restoration Plan, the plan omits Breitburn's 2007-2008, and 2010 LYS trimming and/or removals, and only mitigates for the impacts of PCEC's 100 seep cans, and at 3:1. Given this, it appears that prior LYS removals and/or trimming in 2007, 2008, and/or 2010 not associated with seep cans, and which were not reported to the Service, have not been mitigated through creation or restoration of compensatory habitat and planting of LYS at a 10:1 ratio as required in the 2006 Mitigated Negative Declaration, 2016 Environmental Impact Report ("EIR"), and County Conditions of Approval for the Seep Can Only Alternative. Based on evidence in the record, no LYS mitigation has been implemented for the 2007, 2008, and 2010 LYS removals and/or trimming. As a result of this history, enforcement of the GCP's mitigation measure for 3:1 replacement of LYS cannot be assured, and therefore the GCP does not adequately mitigate LYS take.

Refer to Comment Response EDC-73. The proposed GCP establishes a protocol for effective monitoring during initial ground-disturbing activities as well as periodic follow-up visits for onsite construction monitoring and daily monitoring logs. Following construction, the Service would continue to *"monitor and evaluate the biological effectiveness of the GCP through review of annual reports and subsequent surveys for listed species."* Therefore, the proposed GCP ensures the enforceability of the established mitigation measures for permanent impacts to LYS habitat.

Comment EDC-75

The GCP is designed to allow take of CTS, CRLF, and LYS up to maximum acreages for each species, which the EA describes as "consistent with the" CTS and CRLF Recovery Plans and the LYS 2011 5-Year Review. (EA at 1-1) However, the CTS and CRLF Recovery Plans do not set forth a maximum allowable acreage of impact. Instead, the CTS Recovery Strategy involves "alleviating the threat of habitat loss and fragmentation," and conservation of remaining habitat. The CRLF Recovery Strategy involves protecting,

restoring, creating, monitoring, surveying, and reestablishing CRLF. None of the Recovery Actions in the CRLF Recovery Plan result in loss of habitat or critical habitat. The GCP, however, would allow permanent take of 675 acres of CTS upland habitat, including 152 acres of federally designated CTS critical habitat, and temporary take of 1,254 acres. (GCP at 57-59) The GCP would allow permanent take of 355 acres of CRLF critical habitat and 710 acres of temporary impacts. (GCP at 63) As discussed below, the GCP does not cap take of CRLF habitat located outside of designated CRLF critical habitat. (GCP at 59-64) The GCP would also authorize permanent take of 27.5 acres of LYS habitat, including 7.5 acres of critical habitat. (GCP at 64-65) As discussed further below, LYS has already shown a decline in Santa Barbara County, including an 8.5% decline on Vandenberg Air Force Base from 2006 to 2010. Such significant losses of vital habitat areas are not consistent with the CTS and CRLF Recovery Plans and the GCP does not minimize take of the three species to the maximum extent practicable.

The maximum allowable acreage of take in the proposed GCP has been determined based on the CTS and CRLF Recovery Plans, including goals to alleviate threats of habitat loss and fragmentation and conserve remaining habitat. As described in Master Comment Response-1, As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."* By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the existing process.

Comment EDC-76

Roadkill is a significant form of take in the Santa Maria Metapopulations for CTS. (GCP at 35 and 54) The GCP provides take coverage from vehicle-strikes on access roads to three CTS and ten CRLF per year for all permittees in the Planning Area. There is no biological justification for the take limits of three CTS and ten CRLF on access roads. However, as discussed below, there may be many more mortalities before these take limits are reached, and they are unenforceable.

Counting take from this activity will present challenges that could lead to exceeding take limits because an unknown and potentially considerable percentage and number of dead or injured CTS and CRLF may never be found or recorded on or near access roads. Drivers who strike a CTS or CRLF may never know they hit one. CTS, for example, are similar in color to asphalt and small. Biologists report having to drive slow to see CTS on the road. Even if a driver caused take of a CTS or CRLF and saw it happen, the driver or other oilfield personnel may not have the expertise to identify the species and document the CTS or CRLF roadkill. Specimens also may be unidentifiable after being stricken, may

be off of the road deceased, or may have left the scene injured and not found or scavenged before being documented. In fact, the GCP admits that "encountering dead or injured individuals is unlikely." (GCP at 62) Given difficulties counting take, there could be take of many CTS and CRLF before the limits of the respective three and ten reported takes are reached. Therefore, the proposed GCP vehicle-strike take limits may be unknowingly exceeded and result in a significant impact to the conservation of these species.

The GCP's and ITP's proposed vehicle-strike take limits of three CTS and ten CRLF would "provide take coverage for access roads." (GCP at 58 and 63) The GCP must define "access roads." (Id.) Specifically, the GCP must explain which private and or public roads and/or road segments are considered access roads and thus covered. The GCP is therefore unenforceable with respect to vehicle-strike take of CTS and CRLF.

Refer to Comment Response EDC-58. CTS are large-bodied amphibians that can range from approximately 7 inches (adult female) to 8 inches (adult male) long. Similarly, CRLF are also large-bodied amphibians ranging from approximately 4.5 inches (adult male) to 5.5 inches (adult female). As such, individuals that are killed or injured by traffic on access roads would be observable by drivers or other oilfield personnel. Nonetheless, because of potential for unidentified/unrecorded CTS and CRLF, the provided take limits represent conservative take thresholds.

Importantly, by using habitat as a proxy for calculating impact to CTS, CRLF, and LYS and accounting for dispersal distance, the proposed GCP would ensure that the species' recovery criteria are not precluded regardless of the individual biological impacts to the species within that affected habitat

Comment EDC-77

Aera's East Cat Canyon Revitalization Project is one of several projects intending to utilize the GCP, but the project has not been designed or redesigned to avoid CTS and CRLF upland and dispersal habitat. Instead, the Service submitted comments to the County Planning and Development Department, dated February 26, 2018, in which the Service concluded that Aera's proposed compensatory mitigation was sufficient based on the Searcy Model:

"For each proposed Project alternative, a corresponding conservation area was proposed to proportionally compensate for Project related impacts, including oak tree removal. Each conservation area was more than sufficient for CTS mitigation purposes."

However, compensatory mitigation under the Searcy Model only addresses habitat loss and deficit wedges, not the significant impacts to species from oil spills, spill cleanups, oil and gas operation-started wildfires, roadkill, noise, lighting, or climate change. As

such, oil and gas projects covered by the GCP will not be redesigned to avoid or minimize take.

As previously described is Master Comment Response-1, land use approval(s) and impact assessment for individual oil and gas activities – including associated accidental upsets, roadkill, noise, lighting, or greenhouse gas emissions – would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the CEQA. As a part of this process, the CEQA document would identify: 1) mitigation measures to reduce impacts to reduce potentially significant impacts to the maximum extent feasible; and 2) alternatives (including redesign of the proposed Project) to avoid potentially significant impacts. For project involving potential impacts to CTS, CLRF, or LYS (and/or other federally listed or candidate species) the Service would have the opportunity to comment on the draft CEQA document – including the sufficiency of the identified mitigation measures and alternatives – as a part of the CEQA process.

Comment EDC-78

When projects are proposed within CTS and CRLF habitat, workers will resort to trying to capture some of the animals prior to construction by digging into ground squirrel and gopher tunnel complexes. (GCP at 72) Capture and relocation under Measure 12 may result in mortalities, however, due to handling, stress, being relocated into unsuitable habitat or habitat that is at carrying capacity, lack of familiarity with the release habitat, and increased risk of predation. (GCP at 54-55 and 60). As Lawrence Hunt of Hunt and Associates Biological Consulting stated in a letter regarding the ERG Draft EIR:

If listed species are found, then the area is either flagged for avoidance or the individual(s) is captured and relocated to suitable habitat out of harm's way. This measure may work for special-status plants but will not work for animals, particularly CTS and CRLF and small mammals, which have demonstrated high fidelity for refugia and microhabitat features and will return to the capture point or die trying (Villasenor et al., 2009; AECOM, 2010; Ford et al., 2013).

Capture and relocation should lessen direct mortality but may still result in significant mortality.

In addition, the GCP does not require sufficient means to track and monitor capture and relocation. (See comments regarding Section 6 Processing and Implementation below.) Specifically, the capture and relocation measure (Measure 12 on page 72) suffers from the following additional shortcomings:

- **Does not require photo-documenting and recording each relocation to track take.**

- **Does not require recording coordinates of capture and release locations.**
- **Does not authorize collecting tissue samples from dead or injured animals for DNA analysis if provided for by the Service or CDFW.**
- **Does not adequately explain tracking of relocation takes.**
- **Does not provide for adequate monitoring of relocated CTS and CRLF and/or relocation sites to better estimate post-relocation survival rates.**

Furthermore, Measure 12 is deficient and may lead to mortality because CTS migrate in a unidirectional route between breeding habitats and upland refugia. Capture and relocation can place CTS outside of their route such that they will never make it back to their pond or refugia.

The comment is correct in its assertion that capture and relocation of CTS and CRLF may result in mortalities and/or injuries. As described in Section 4, *Biological Impacts and Take Assessment* of the proposed GCP, *"[w]hile capture and relocation of California tiger salamanders is expected to reduce the number killed or injured by project construction activities, capture and relocation could result in the injury or death of individual California tiger salamanders. Although survivorship for translocated California tiger salamanders has not been estimated, survivorship of translocated wildlife, in general, is reduced due to intraspecific competition, lack of familiarity with the location of potential breeding, feeding, and sheltering habitats, and increased risk of predation."*

As such, capture and relocation activities for CTS and CRLF would be implemented as a last resort to avoid direct impacts to the species. As described under Measure 12 in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, CTS and CRLF, as well as any individuals of other wildlife species would be allowed to vacate the project areas on their own under the observation of a Service-approved biologist. Only if the individual will not relocate on their own, or if they are in harm's way, would they be relocated. Further, only a Service-approved biologist would relocate CTS and CRLF and relocation would occur in accordance with the *Declining Amphibian Task Force Fieldwork Code of Practice* in a manner to ensure the highest chance of survival of the species. For example, as detailed under Measure 12, "*[a] Service-approved biologist will relocate any California tiger salamanders found within the project footprint to an active rodent burrow system located no more than 300 feet outside of the project area unless otherwise approved by California Department of Fish and Wildlife and the Service. A Service-approved biologist will relocate any California red-legged frogs found within the project footprint to habitat similar to where it was captured but no more than 300 feet outside of the project area, unless otherwise approved by California Department of Fish and Wildlife and the Service. The individuals will be handled with clean and wet hands. During relocation they will be placed in a clean, covered plastic container with a wet non-cellulose sponge. Captured California red-legged frogs will be relocated immediately; individuals*

will not be stored for lengthy periods or in heated areas. The relocation container will be kept out of direct sunlight."

The comment incorrectly states that the proposed GCP does not provide sufficient measures to track and monitor capture and relocation. As further described under Measure 12, following the relocation as described above, the Service-approved biologist would also monitor the relocated individual "*until they enter a burrow and are concealed underground or otherwise deemed safe in the relocation area by the biologist*." Further, Measure 12 *does* require photo documentation and recording of GPS coordinates post relocation. As described under Measure 12, "*[t]he Service-approved biologist will document both the capture site and the relocation site by photographs and GPS positions. The Covered Species will be photographed and measured (Snout-Vent) for identification purposes prior to relocation. All documentation will be provided to the Service and California Department of Fish and Wildlife within 24 hours of relocation*."

Additionally, the comment incorrectly states that Measure 12 is deficient and may lead to mortality because relocation would place CTS outside of their route such that they will never make it back to their pond or refugia. As described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP, adult CTS, *"may migrate up to 1.2 miles from upland habitats to aquatic breeding sites."* However, as previously described, the individual would be relocated no more than 300 feet outside of the project area where it is found. Therefore, capture and relocation implemented under Measure 12 would ensure the highest chance of survival for species that would otherwise by directly impacted by Covered Activities.

Comment EDC-79

The GCP's Goal 1, Biological Objective 1.3, for CTS and CRLF emphasizes the importance of siting oil and gas projects outside of both occupied and suitable habitats to conserve and recover the species. (GCP at 6 and 70) With regards to LYS, Goal 3, Objective 3.2 states, 'Site project impacts in areas unoccupied by the Lompoc yerba santa to the maximum extent feasible." (GCP at 67) In line with these goals and objectives, Measure 2 provides that, "applicants will site all development away from known and potential California tiger salamander and California red-legged frog breeding habitats, avoid high quality upland and dispersal habitat, and avoid habitats supporting and immediately surrounding Lompoc yerba santa to the maximum extent feasible." (GCP at 70) It is feasible to avoid the species, including LYS.

However, the GCP fails to ensure that oil and gas development will be sited to avoid or minimize take to the maximum extent practicable. As discussed further under Section 6 (Permitting and Implementation) below, the GCP does not require redesign to avoid take where feasible, so it does not adequately minimize take.

The proposed GCP would not result in approval of any individual oil and gas developments. As described in Section 1.5, *Scope of the Programmatic Environmental Assessment*, land use approval(s) for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, all non-Federal projects would continue to require compliance with CEQA, which requires local and/or state agencies to identify any significant environmental impacts of actions and to avoid or mitigate those impacts, as feasible. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would allow for greater, long-term and cumulative minimization of take.

Comment EDC-80

GCP Biological Objective 1.4 for CTS and CRLF and Biological Objective 3.4 for LYS are to restore disturbed areas to original conditions, as feasible. (GCP at 66, 67) The GCP, however, does not evaluate or disclose a timeframe for restoration. A timeframe is important because restoration is likely required only upon decommissioning. The two Cat Canyon projects, if authorized, will not be decommissioned for thirty to fifty years or more after approval.

As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP:

"Unavoidable impacts to Lompoc yerba santa will be mitigated at a 3:1 ratio (mitigation area: impact area) through restoration of habitat suitable for Lompoc yerba santa or through acquisition of habitat that is currently occupied by Lompoc yerba santa. If an applicant decides to mitigate through restoration of suitable habitat, the applicant will develop a habitat restoration plan that is approved by the Service and helps to reduce threats to the species that are described in the 5-year review (Service 2011). The habitat restoration plan must include consideration of the following criteria: defined schedules for restoration efforts, success criteria, weed management methods, monitoring schedules, reporting requirements, and long-term monitoring requirements. The objective of the long-term monitoring schedule will be to determine if the restored habitats are functioning equal to or better than pre-project conditions. Restoration monitoring would continue for 5 years or until the predetermined success criteria

have been documented and met. The assessment of function would be based on indicators such as wildlife use and presence of sensitive species within the habitats compared to pre-project conditions. The habitat restoration plan will include funding in the amount of $25,000/year for a period of five (5) years to support research to determine whether and to what extent individual Lompoc yerba santa plants may be propagated to establish a new population in the wild. Any research project receiving such funding will first be reviewed and approved by the Service.

If an applicant acquires habitat that supports Lompoc yerba santa as mitigation, the applicant will provide for the long-term monitoring and management of the compensation lands by providing initial funding for a long-term, non-wasting endowment. All compensation land must be protected under a perpetual Conservation Easement and be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. Applicants must develop a management plan for mitigation lands to be included in a Conservation Easement. The management plan provides for: 1) annual easement inspections, which will generate up-to-date information on the Easement Area's overall condition and biological resources; 2) periodic biological monitoring, which will generate detailed data describing onsite species: including population abundance, condition of habitat and condition of related human infrastructure, particularly water impoundment structures; 3) management, maintenance and enhancement tasks, which will ensure the sustainability of these resources and the health of the species' habitat; and 4) annual reports, which will summarize maintenance and management activities undertaken during the previous year, and provide an opportunity to creatively consider future needs and adaptive responses."

Therefore, compensatory mitigation for LYS would offset permanent impacts to LYS habitat.

Comment EDC-81

The GCP states that the Service has the "option" of requiring permanent protection of habitat restoration sites required to mitigate unavoidable impacts. (GCP at 26; See also: GCP Measure 22 at 74, and GCP at 81) Permanent protection is essential because without it, the restoration sites may be cleared and developed in the future. Failure to provide permanent protection would mean that the GCP will not mitigate take to the maximum extent practicable. For example, in 2011, the former Bixby-Cojo Ranch (now Dangermond Preserve) disked a mitigation site for federally endangered Gaviota tarplant in the Planning Area. The County had not required permanent protection of the mitigation site and did not issue a violation. The GCP must require permanent protection of habitat restoration sites to ensure adequate mitigation of take.

Refer to Comment Response EDC-80. Applicants proposing to restore habitat would prepare a Habitat Restoration Plan which would require the monitoring of the restoration sites for a minimum of 5 years, or until the Service determines that the Project's long-term performance

standards to be satisfied. Implementation of required monitoring periods and assurance that long-term standards are met would ensure the success of restoration sites.

Only if habitat restoration is proposed as part of the Applicant's mitigation for unavoidable impacts to Covered Species and their habitat, then the Service would have the option to require that the Applicant provide permanent protection of habitat as suitable mitigation.

Further, potential future activities occurring in these restoration sites would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

Comment EDC-82

Measure 5 appropriately requires signage to protect "All Covered Species' habitats" during construction. (GCP at 71) However, Measure 5 fails to specify that signage must be installed to protect all habitats for covered species, rather than only habitats known to be occupied. It is difficult to determine whether burrows are occupied. Therefore, Measure 5 is deficient because it does not include signage to protect suitable upland habitats from grading and construction in order to minimize take and impacts to CTS and CRLF.

Measure 5 states "*Prior to construction activities, all grading limits and construction boundaries, including staging areas, parking, and stockpile areas, will be delineated and clearly marked in the field. All Covered Species' habitats located within 10 feet of construction activities will be delineated with specific sensitive species labeling (e.g., permanent signage stating 'No Entry — Sensitive Habitat.'). A service-approved biologist(s) will work with the Service to identify these areas."*

The measure does not narrow protections to only habitat known to be occupied, therefore, habitat of all covered species would be protected.

Comment EDC-83

Measure 5 also fails to specify the distance between the "No Entry" signs, such as 100 feet or less, to ensure crews and equipment do not unintentionally enter habitat areas and cause unnecessary take.

Refer to Comment Response EDC-82. The clearly marked delineations of grading limits and construction boundaries would be sufficient to prevent crew and equipment from unintentional entry to habitat areas, and by extension, accidental take.

Comment EDC-84

Nighttime traffic is a significant threat to wildlife including breeding migrant and dispersing CTS and CRLF during rains, with kill rates in one study as high as "25 to 72%" of all CTS crossing the road. (GCP at 54) More than half the CTS observations on some roads are of dead and dying CTS. Such mortality has been found to have the potential to cause local extinctions in related species. (Id.)

The Service acknowledges and appreciates the information provided in this comment related to the potential impacts related to CTS mortality associated with roadway crossings. However, as described in *Measures to Avoid and Minimize Impacts* in the proposed GCP various requirements would be implemented to avoid of potential take of covered species along access roads. In particular:

"7. Personnel will limit their vehicle use to existing routes of travel. Travelling off designated roads will be prohibited unless access is determined critical for a particular activity and the route has been flagged to avoid or minimize adverse effects.

8. To minimize the potential for road mortality of covered wildlife within their habitats, nighttime traffic will be minimized during the construction phase to the extent feasible; all hauling activities within habitat for covered wildlife will be restricted to daylight hours, defined as the hours after sunrise and before sunset.

9. Except in areas with posted speed limits greater than 10 miles-per-hour, project-related vehicle speeds will not exceed 10 miles-per-hour when driving within California tiger salamander or California red-legged frog habitats.

10. Prior to moving vehicles or equipment, personnel will look under the vehicles or equipment for the presence of California tiger salamanders or California red-legged frogs. If a covered wildlife species is observed, the vehicle will not be moved until the animal has vacated the area on its own accord or has been relocated out of harm's way in accordance with Measure 12."

The level of take allowed for CTS and CRLF and the requirements for monitoring by a Service-approved biologist are generally consistent with individual HCPs issued for oil and gas activities in the region.

Comment EDC-85

Limiting construction traffic during nights under Measure 8 will not minimize roadkill because drilling and oil tanker deliveries must continue twenty-four hours per day for seven days per week. GCP Mitigation Measure 8 says that "all hauling activity within habitat for covered species will be restricted to daylight hours," but this measure is likely not feasible. In the Final EIR for the ERG Project, Mitigation Measure BIO-2m was modified to clarify that nighttime traffic and CTS and CRLF roadkill cannot be

substantially reduced due to the need for day and night oil and salt deliveries, worker safety, security, and spills:

Furthermore, Measure 8 applies only during construction. (GCP at 71) It does not apply during operations, which can last for thirty to fifty or more years. During operations, Aera's project would add 523 vehicle trips per day, including 190 oil tankers truck trips day and night in and around CTS and CRLF habitat in the Santa Maria Valley. Many of the trucks will also use Highway 166, endangering CRLF in the Cuyama River. The ERG Project would entail 126 tanker trips each day. For these reasons. GCP Measure 8 is infeasible and does not sufficiently minimize vehicle-strike take.

As described in *Measures to Avoid and Minimize Impacts* in the proposed GCP various requirements, in addition to Measure 8 would be implemented to avoid of potential take of covered species along access roads. In particular:

"7. Personnel will limit their vehicle use to existing routes of travel. Travelling off designated roads will be prohibited unless access is determined critical for a particular activity and the route has been flagged to avoid or minimize adverse effects.

9. Except in areas with posted speed limits greater than 10 miles-per-hour, project-related vehicle speeds will not exceed 10 miles-per-hour when driving within California tiger salamander or California red-legged frog habitats.

10. Prior to moving vehicles or equipment, personnel will look under the vehicles or equipment for the presence of California tiger salamanders or California red-legged frogs. If a covered wildlife species is observed, the vehicle will not be moved until the animal has vacated the area on its own accord or has been relocated out of harm's way in accordance with Measure 12."

The level of take allowed for CTS and CRLF and the requirements for monitoring by a Service-approved biologist are generally consistent with individual HCPs issued for oil and gas activities in the region.

Comment EDC-86

The Footnote to the unnamed table on Page 80 of the GCP refers to Measure 10 in Section 3 of the Main Report, but we are unable to locate this Measure.

The Final Administrative Draft EA has been revised so that the footnote in question refers to Measure 18 in Section 5 of the Main report.

Comment EDC-87

Measure 11 requires preconstruction surveys "immediately prior to the onset of any ground disturbance" to relocate CTS and CRLF. (GCP at 71) Measure 13 requires burrow

excavation surveys "until it is certain that the burrows are unoccupied," or covering burrows with steel plates during construction. (GCP Measure 13 at 73) Effective burrow excavation surveys needed to capture and relocate CTS and CRLF during or prior to construction are time intensive because they involve careful hand digging of gopher and ground squirrel burrows to capture CTS and CRLF. "Based on their life history, it is unlikely a salamander would be found during preconstruction monitoring and surveys unless the surveys included actions such as burrow excavation, pitfall traps and drift fencing," Mitigation Measure BIO-13 in the Final EIR for the ERG West Cat Canyon Project requires focused pre-construction surveys within twenty-four hours of construction. This is insufficient time to complete focused surveys for CRLF and CTS which require careful burrow excavation. Biologists conducting burrow excavation must not be rushed or take will not be minimized. Moreover, it is infeasible to conduct effective borrow excavation using only hand tools; therefore, Measure 13 does not ensure that take of CTS is minimized to the maximum extent practicable. Accordingly, GCP Measures 11 and 13 are flawed because they do not set forth any time for burrow excavation surveys to ensure CRLF and CTS take is minimized to the maximum extent practicable.

Refer to Comment Response EDC-70.

Comment EDC-88

Measures 12, 13, 14, and 17 involve Capture and Relocation but fail to provide the timeframe to provide CTS and CRLF with an opportunity to vacate a work site. (GCP at 72 - 73) By failing to specify a timeframe, these Measures will not sufficiently minimize take.

The nature of capture and relocation techniques would involve the safe capture of any individual specimens that occur on the Project site, including those that fail to vacate on their own accord. The provided Avoidance, Minimization, and Mitigation Measures would be effective in minimizing take.

Comment EDC-89

Mitigation Measure 20 does not minimize or mitigate oil spill-related take to the maximum extent practicable because it cannot prevent or reduce the frequency of spills and is merely reactive. (GCP at 73-74) The two Cat Canyon projects will cumulatively result in approximately four oil and or polluted wastewater spills per year, or 120 to 200+ spills during the 30 - 50+ year lifetime of the projects. Based on state spill averages, every year an average of around 160 barrels would be spilled from these two projects, which does not even account for spills resulting from existing operations in the County. The ERG Final EIR and the Aera Draft EIR identify spills as a significant unavoidable impact to water and to biological resources, including CTS and CRLF. The only measure in the GCP proposed to directly address the significant unavoidable impacts of oil and waste

spills on CTS and CRLF is to prepare an Emergency Response Action Plan ("ERAP") to try to limit the damage after-the-fact, but this Measure is already required in the County EIRs for the Cat Canyon oil projects.246 (GCP at 73-74) More importantly, Measure 20 does not avoid a significant impact to CTS and CRLF because it includes no proactive measures such as project redesigns, alternative siting, or automatic pipeline valve shutoffs to avoid or minimize spill related take. Measure 2 seeks to have applicants plan to avoid breeding and high quality upland habitats, but as discussed below there is no implementation measure to ensure avoidance and minimization alternatives are adequately considered. (GCP at 70) Spills and spill cleanups cause take. These impacts are inadequately mitigated because Measure 20 does not mandate preventative measures.

Refer to Comment Response-70. While this background information is acknowledged and appreciated, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity, including potential impacts associated with the risk of upset. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species. For example, the proposed GCP identifies the following measures related to potential spills:

> *"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible,*

> *low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species).”*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and determining additional project-specific mitigation measures, beyond those measures identified in the GCP, if necessary.

Comment EDC-90

In addition, Measure 20 also only applies to oil spills. The GCP omits prevention or mitigation measures for chemical and toxic wastewater spills. Since these spills may occur in different areas with different resources and contain hazardous materials with different impacts than oil, it is necessary for the GCP to require an ERAP for oil, wastewater, and chemical spills. Preventative measures should also be required.

The proposed GCP identifies several preventive and reactive measures related to potential spills, including the following:

"19. The applicant will ensure that all staging areas, equipment storage areas, stockpile sites, and refueling areas are located at least 100 feet from surface water bodies and wetland habitats to minimize the potential for releases into surface water or wetland habitat. In lieu of the 100-foot buffer, secondary containment measures may be employed to prevent contamination of soil and water.

"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species)."

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and determining additional project-specific mitigation measures, beyond those measures identified in the GCP, if necessary.

Comment EDC-91

Measure 23 is deficient because it allows up to seventy-two hours to report injured CTS and CRLF. (GCP at 74; See also GCP at 108) Seventy-two hours is too long to report injuries to these species because injured wildlife may perish in this time. Injured wildlife need heat and hydration within twenty-four hours. Moreover, Measure 23 fails to require permittees to take injured wildlife to an emergency veterinary hospital for treatment, which must be required to minimize take. As a result, GCP Measure 23 is insufficient to mitigate take by preventing mortalities.

Measure 23 from the proposed GCP involves *reporting* of take: *"[u]pon locating California tiger salamander or California red-legged frog individuals that may be dead or injured as a result of project-related activities, notification will be made within 72 hours to the Service Ventura Field Office."* As described in the proposed GCP, *"[e]xtreme care must be taken in handling sick or injured individuals to ensure effective and proper treatment. Care must also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from any dead specimens, Permittees and their contractors/subcontractors have the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed."*

Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures. The completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying additional project-specific mitigation measures,

beyond those measures identified in the GCP, to reduce impacts identified in the CEQA document on a project-by-project basis.

Comment EDC-92

Mitigating loss of CTS habitat by setting aside existing habitat is inadequate to mitigate take if the conservation area is small or narrow, or if there is a net loss of habitat. For example, Aera's East Cat Canyon Project Conservation Area is configured such that it will not adequately compensate for loss of habitat. CTS Pond SISQ-19 is located outside the southeast corner of the Aera East Cat Canyon site. The proposed Conservation Area includes land north of SISQ-19 along a thin section of land that widens northward. "The SISQ-19 lies just beyond the southeast corner of the project site. Given the geometry of the proposed Conservation Area, it is not clear that it will mitigate impacts to CTS dispersal caused by project build-out. The easement conserves open space north of SISQ-19 via a narrow strip of land that gradually widens northward, but habitat fragmentation will occur northwest and west of SISQ-19 in the project area under the proposed project scenario." As shown in Figure 2 below, it contains only a small portion of SISQ-19's upland habitat. Moreover, where the conservation area widens in its northern section, is beyond the 1.3-mile CTS range so it offers no compensatory habitat for CTS in this wider area. Furthermore, upland habitat to the northwest and west of SISQ-19 in the Aera project area will be developed and fragmented under the proposed project, resulting in a permanent net loss of upland habitat surrounding SISQ-19. This example demonstrates that permittee-responsible mitigation under the GCP is insufficient where it provides insufficient compensation, is beyond the species dispersal range, or results in a net loss of upland habitat.

The mitigation measures required by the proposed GCP to offset permanent impacts to CTS habitat were developed in accordance with the species Recovery Plan and the Conservation Strategy and Mitigation Guidance for the California tiger salamander. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, *"The strategy to recover the Santa Barbara County California tiger salamander focuses on alleviating the threat of habitat loss and fragmentation. The goal of the final Recovery Plan (Service 2016), which was drafted in partnership with the Department, is to reduce the threats to the Santa Barbara County California tiger salamander to ensure its long-term viability in the wild, and allow for its removal from the list of threatened and endangered species."* Nonetheless, effectiveness monitoring would be required to track the progress of the conservation strategy in meeting the proposed GCP's biological goals and objectives for CTS. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, *"The effectiveness of the conservation strategy will be determined during monitoring of initial ground-disturbing activities and periodic follow-up visits*

for onsite construction monitoring and daily monitoring logs. The post-construction compliance report will include an evaluation of the effectiveness of the Avoidance, Minimization, and Mitigation Measures. Permittees are responsible for management, monitoring, and reporting the biological monitoring on mitigation land for which the Permittee is responsible... Other than the biological monitoring that is being conducted on the mitigation land, the Service will monitor and evaluate biological effectiveness of the GCP through review of annual reports and subsequent surveys for listed species. Permittees will allow Service staff, or other persons designated by the Service, to access the property at any reasonable hour for the purpose of monitoring California tiger salamander, California red-legged frog, and Lompoc yerba santa populations or trapping California tiger salamanders or California red-legged frogs (50 CFR 13.47). Permittees will monitor restoration on project sites with temporary impacts to ensure that restoration goals are achieved. Results will be included in annual reports and restoration reports as described in the Reporting section of this document." Further, the Service is prepared to modify or augment the mitigation measures required within the proposed GCP, as necessary, based on the results of the effectiveness monitoring and other on-going surveys to ensure the protection and recovery of the species. For example, *"[a]pplicants will monitor the efficacy of the avoidance, minimization and mitigation measures and will quantify the actual extent of project impacts in annual reports. The review of mitigation measure effectiveness will be done by the Service at least once per year or as determined to be necessary. Annual reports will be submitted to Service for review in order to determine the quantification of actual take and assessment of avoidance and minimization effectiveness."*

Comment EDC-93

The GCP does not require any specialized equipment to minimize take of CTS and CRLF during exploration, construction, production of oil and gas, or decommissioning. As a result, the GCP does not minimize and avoid impacts to listed species to the maximum extent practicable.

Refer to Comment Response EDC-92. Effectiveness monitoring would be required to track the progress of the conservation strategy in meeting the proposed GCP's biological goals and objectives for CTS, CRLF, and LYS. Further, the Service is prepared to modify or augment the mitigation measures required within the proposed GCP, as necessary, based on the results of the effectiveness monitoring and other on-going surveys to ensure the protection and recovery of the species. Therefore, implementation of the proposed GCP would ensure the mitigation measures required would support the recovery and maximum protection of the Covered Species.

Comment EDC-94

The GCP lacks measures to minimize the impact of pipeline construction on sensitive habitats. Measure 2 requires that applicants must site their projects to avoid habitats to

the maximum extent feasible. (GCP at 70) However, the GCP fails to include measures to effectuate this goal such as project-specific avoidance-based alternatives analyses to ensure pipelines placement minimizes take to the maximum extent practicable. The failure to specify measures to minimize take caused by pipeline construction demonstrates that the GCP fails to avoid and minimize take to the maximum extent practicable.

As previously described, land use approval(s) and impact assessment for individual oil and gas activities – including associated access roads – would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As a part of this process, the CEQA document would identify: 1) mitigation measures to reduce impacts to reduce potentially significant impacts to the maximum extent feasible; and 2) alternatives (including redesign of the proposed Project) to avoid potentially significant impacts. For project involving potential impacts to CTS, CLRF, or LYS (and/or other federally listed or candidate species) the USFWS would have the opportunity to comment on the draft CEQA document – including the sufficiency of the identified mitigation measures and alternatives – as a part of the CEQA process.

Nevertheless, the *Measures to Avoid and Minimize Impacts* in the proposed GCP describe various requirements regarding avoidance of potential impacts to covered species. In particular:

> *"6. All proposed linear routes (i.e., roads and pipelines) will be reviewed and modified, if necessary, in the field to minimize impacts to Covered Species with assistance by the on-site biologist or environmental monitor."*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and determining additional project-specific mitigation measures, beyond those measures identified in the proposed GCP, if necessary.

Comment EDC-95

The GCP assigns an eighty percent reduction in the requirement to compensate for temporary loss of CRLF dispersal habitat. (GCP at 62 and 79) Thus, a temporary loss of

dispersal habitat can be replaced at only 2:1. For permanent impacts to CRLF dispersal habitat, the GCP invokes a sixty percent reduction when calculating the mitigation-to-impact ratio (4:1).

Dispersal habitats serve a critical function in the conservation and recovery of CRLF. Dispersal habitat is one of the Primary Constituent Elements of the CRLF. "[H]abitat fragmentation, occurs when remaining populations are isolated because the links between habitat patches have been destroyed." "The destruction of upland dispersal habitat can result in the increased isolation of breeding populations...fragmentation can result in decreased heterozygosity and inbreeding depression." Given the importance of dispersal corridors at maintaining long-term genetic exchange and CRLF viability, and in order to minimize impacts associated with take, unavoidable temporary and permanent impacts and mitigation for CRLF dispersal habitats should have been calculated at higher than twenty percent and forty percent, respectively. Loss of dispersal habitat remains a significant unavoidable impact but is not disclosed as such. By utilizing such low mitigation ratios for CRLF dispersal habitat, the GCP fails to mitigate take to the maximum extent practicable.

As explained in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, given that the average lifespan of a CRLF adult following metamorphosis is approximately 3 years, impacts with a duration of 1 year or fewer would impact only one-third of the adult lifespan of the average CRLF. Therefore, the proposed GCP would require mitigation to offset impacts at one-third that of an equivalent permanent impact. Similarly, impacts with a duration of 2 years or fewer would impact only two-thirds of the adult lifespan of the average CRLF and mitigation required to offset impacts would be two-thirds that of an equivalent permanent impact. Conversely, temporary impacts with durations of 3 years or greater would affect the entire adult lifespan of an average adult CRLF and would be regarded as permanent impacts. Further, given that only 20 percent of CRLF in coastal California utilize dispersal habitat to migrate between aquatic habitat areas during the wet season, *"projects with permanent or temporary wet season impacts to dispersal habitat would require only 20% of the compensation required for an equivalent aquatic/upland habitat area to offset impacts."*

With regard to permanent impacts to CRLF habitat, a 4:1 mitigation ratio would mean that for every permanent impact to 1 acre of CRLF habitat, mitigation would be required for 4 acres of CRLF habitat. Therefore, this 4:1 (mitigation-to-impact) ratio would not result in a 60 percent reduction in dispersal habitat.

Comment EDC-96

The GCP proposes continued use of the East and West Santa Maria CTS Metapopulations Mitigation and Conservation Account. (GCP at 76-77) According to the Service, this Account has not been a successful tool for mitigating impacts to CTS and

may be closed. Given this, the GCP must not rely on the Conservation Account to minimize or compensate take.

Impacts to CTS upland habitat would be mitigated in accordance with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* (Service 2019) or the most current version and the support recovery needs as stated in the recovery plan (Service 2016) for the CTS, Santa Barbara County DPS in support of Goal 5, Objective 5.1 of the GCP. The final recovery plan for CTS, Santa Barbara County DPS establishes several recovery criteria to support long-term viability of the CTS, Santa Barbara County DPS including but not limited to:

- A minimum of 623 acres of functional upland habitat around each preserved pond is in fully preserved status.
- Adjacent to the fully preserved ponds and fully preserved upland habitat, a minimum of 1,628 acres of additional contiguous, functional upland habitat is present, which is at least 50 percent unfragmented and partially preserved.

To meet the recovery criteria established in the final recovery plan for the CTS, Santa Barbara County DPS, mitigation sites must prioritize restoring metapopulation areas in which habitat disturbance occurs as result of the Covered Activities.

The Service removed the CTS Conservation and Mitigation Account as a viable mitigation option for the CTS. The CTS is both a federally and state-listed species and is governed by the Service and CDFW. CDFW cannot accept payments into species mitigation accounts as suitable mitigation because it does not meet their fully mitigated standard, which is one of their permit issuance criteria. The Service intends to work with Applicants to ensure any federal incidental take permit that is issued under the GCP meets CDFW's fully mitigated standard. Therefore, the Service removed this mitigation option for CTS from the GCP.

Comment EDC-97

Under the GCP, a permittee is permitted to "purchase credits from an approved conservation bank commensurate with the required mitigation, to provide compensation for [unavoidable] impacts to [CTS]." (GCP at 76) However, the GCP does not provide any information about which conservation bank(s) are Service-approved to fulfill this mitigation requirement. It is therefore unknown if the conservation bank must be within the same CTS metapopulation as the impacts or even in the County. In addition, the parameters for purchasing mitigation credits from CTS mitigation bank(s) must be disclosed in the GCP to ensure that the mitigation measure will meaningfully conserve the species.

Impacts to CTS upland habitat would be mitigated in accordance with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* (Service 2019) or the most current version and the support recovery needs as stated in the recovery plan (Service 2016) for the CTS, Santa Barbara County DPS in support of Goal 5, Objective 5.1 of the GCP.

The Service removed the Conservation and Mitigation Account as a viable mitigation option for the CTS. The CTS is both a federally and state-listed species and is governed by the Service and CDFW. CDFW cannot accept payments into species mitigation accounts as suitable mitigation because it does not meet their fully mitigated standard, which is one of their permit issuance criteria. The Service intends to work with Applicants to ensure any federal incidental take permit that is issued under the GCP meets CDFW's fully mitigated standard. Therefore, the Service removed this mitigation option for CTS from the GCP.

Comment EDC-98

The ranch which hosts the La Purisima Conservation Bank is for sale, threatening the viability of the Bank. There are multiple noncontiguous parcels which form the Bank. To the extent that a sale of the ranch would complicate the Bank's value and success, the GCP should disclose the pending sale and discuss the implications for mitigating impacts to CTS.

The GCP provides no information about the successes or challenges with the La Purisima CTS Mitigation Bank, which was established over six years ago, but nevertheless relies on this bank to mitigate unavoidable impacts to CTS. (GCP at 76) Two metrics are utilized to measure the success of a conservation bank: (1) ecological measures and (2) economic measures. "Ecological metrics of conservation bank success are important in determining whether banks are meeting ecological performance goals." These measures include, but are not limited to, linkage to existing conservation areas, preserving ecologically valuable private lands, increasing the number of preserved acreage, meeting Recovery Plan criteria, maintaining a stable or growing

population, profitability, and more. The GCP is entirely silent as to whether the La Purisima Bank is reaching any ecological or economic metrics to demonstrate success. Based on the discussion in the GCP, it is entirely unknown which metrics, if any, the Service is tracking to determine the success of the La Purisima Bank. In failing to set forth this information in the GCP, the mitigation measure is unproven in terms of feasibility and adequacy to mitigate impacts from covered activities.

Finally, the U.S. Army Corps of Engineer's Regulatory In-lieu Fee and Bank Information Tracking System ("RIBITS") provides information about the status of the La Purisima Conservation Bank, including a credit ledger summary. The summary identifies available credits, withdrawn credits, released credits and potential credits -"none of which is disclosed or assessed in the GCP. The GCP must evaluate the credit availability for the La Purisima Conservation Bank in the discussion on mitigation banks for CTS given that the analysis relies on this bank to mitigate unavoidable impacts on CTS from oil and gas activities.

Refer to Comment Response EDC-97.

Comment EDC-99

The GCP would allow a 20% loss of the number of LYS ramets or the area occupied by LYS due to changed or unforeseen circumstances before adaptive management actions may be implemented. (GCP at 89 - 90) This "threshold is far too high (bar is too high) and would put [] this species at risk of extinction." Not enough information is known about LYS viability to set such a high threshold.

Several triggers to the adaptive management of LYS are established by the proposed GCP. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, adaptive management actions would be implemented for LYS if survey, project, and monitoring data for LYS in the GCP Planning Area indicates any of the following situations:

- A 20 percent increase in nonnative species is detected (density);
- Nonnative species within or adjacent to occupied LYS habitat makeup 20 percent of the plant cover;
- A 20 percent decline in number of ramets is detected from the start the permit issuance;
- A 20 percent decline in the occupied area is detected from the start the permit issuance date; or
- The invasion of new invasive plants up to 25% total percent cover within an individual project area.

Comment EDC-100

CTS adaptive management requires annual surveys over five-year periods to determine whether ten or fewer larvae are captured in a number of ponds. (GCP at 87) The GCP refers to annual range-wide surveys. However, there is no evidence of annual surveys to count CTS larvae in the Planning Area in the GCP. This trigger would never be met if there are not five consecutive years of surveys. Given funding limitations and access to private ponds, it likely this trigger will never be met even if the CTS population drops significantly because there may never be five consecutive years of surveys in enough ponds to trigger adaptive management.

The comment incorrectly states that adaptive management actions would not be implemented for the CTS if there are not five consecutive years of surveys. In fact, adaptive management actions *would* be implemented for the CTS if there are not five consecutive years of surveys. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP, *"Adaptive management actions will be implemented for the California tiger salamander if less than the required number of known breeding ponds required to meet recovery criteria in a metapopulation either: (1) do not have documented breeding for a period of five or more years or, (2) fewer than 10 larvae are captured during surveys for a period of five or more years, or (3) any combination of these scenarios."* Therefore, at least five consecutive years of range-wide surveys are required to show that the CTS populations meet the criteria to avoid adaptive management actions.

Comment EDC-101

Adaptive management for CRLF is triggered by fifty percent reductions in CRLF populations at locations such as Arroyo Hondo and Baron Ranch (Arroyo Quemada). (GCP at 89) However, these reference populations are on the South Coast in adjacent canyons. The GCP is flawed because it does not include representative reference populations from central and north County areas, or criteria for identifying representative regional reference populations, such as existing preserved open spaces and ponds or private mitigation banks, to reflect regional population dynamics. (See GCP at 69). Given the lack of north and central County reference population triggers, the GCP fails to minimize take to the maximum extent practicable.

The comment regarding adaptive management triggers for the CRLF is taken out of context. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, *"[a]daptive management actions will be implemented for the California red-legged frog if survey and monitoring data provided to the Service on California red-legged frogs in the plan area indicates a severe decline in California red-legged frog abundance within the plan area across a three-year period."* The CRLF population areas discussed (e.g., Baron Ranch in Arroyo Quemado and Santa Barbara Land Conservancy Land in Arroyo Hondo) were

presented as examples of areas permanently preserved and managed for the CRLF. Survey and monitoring data would be collected for the CRLF throughout the Planning Area.

Comment EDC-102

The adaptive management measures are voluntary under the GCP. (See e.g. Id. at 85-90) Terms in the GCP such as "can" and "should" characterize the elements of adaptive management as optional. (Id. at 85, 87-90) The GCP fails to include enforceable language such as "must" and "shall" to ensure implementation of measures, including adaptive management, to minimize the impacts of take to the maximum extent practicable.

If adaptive measures are not implemented due to their voluntary nature, CTS and CRLF take will increase and the GCP will fail to avoid, minimize, and mitigate the impacts of take to the maximum extent practicable. As the California Coastal Commission points out, the GCP "would constrain future options for avoidance, monitoring, and mitigation measures." The limitation to those options that impose no additional costs to an applicant without the applicant's consent is especially troublesome.

The referenced California Coastal Commission comment suggests that implementation of the proposed GCP would constrain future options for avoidance, monitoring, and mitigation measures under the "No Surprises" rule. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee. Adaptive management strategies would only be implemented if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Adaptive management strategies have been identified for:

- Oil Spills;
- Wildfires;
- Drought; and
- Exotic Species.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the commitments and the provisions of the proposed GCP and the Conservation Easement document have been or are fully implemented.) However, the

depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all *newly issued* ITPs would require compliance with any new measures.

Comment EDC-103

The application of the No Surprises Rule will result in reasonably foreseeable future impacts and harm that will not be mitigated or minimized. Given the long duration of the GCP, these impacts may be quite severe, which is unacceptable given the imperiled status of these species. In addition, no additional measures will be required unless the permittees agree. (GCP at 90-91)

The GCP identifies "reasonably-foreseeable [changed] circumstances and their anticipated effects on the covered species," but then states that "Applicants should identify up-front the range of possible operating conservation program adjustments that could be implemented as new information or data is obtained. This range defines the limits of what resource commitments may be required of the applicant." (GCP at 91) The GCP's proposed approach for mitigating for changed circumstances is inconsistent with ESA regulations, which require changed circumstances to be "provided for in the plan," and improperly defers to the discretion of the permittee who has no incentive to be inclusive regarding changed circumstances. 50 C.F.R. § 17.22(b)(5)(ii). Moreover, the approach may lead to inconsistencies among permittees with regards to which additional conservation and mitigation measures may be required. The GCP's reliance on the applicant to identify the range of changed circumstances further heightens concerns that impacts from covered activities may not be mitigated to the maximum extent practicable.

As recognized by the California Coastal Commission, "if pursuing [the GCP] would constrain future options for avoidance, monitoring, and mitigation measures under the 'No Surprises' rule, then perhaps the 'no project' alternative you describe, which is to continue to review oil and gas proposals in association with individual HCPs, could be a more environmentally beneficial alternative."

As provided in Comment Response CCC-5, Section 10 of the ESA requires that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the No Surprises Rule (50 CFR §17.22[b][5] and §17.32[b][5]) describes the obligations of the permittee and the Service. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's

operating conservation program, then those measures will be implemented as specified in the plan. Adaptive management strategies have been identified for:

- Oil Spills;
- Wildfires;
- Drought; and
- Exotic Species.

By March 31 each year, the permittee would be required to submit a report to the Ventura Fish and Wildlife Office to document the status of the project, which among other items will include:

- Description of circumstances that made adaptive management necessary and how it was implemented, including a table showing the cumulative totals; by reporting period all adaptive management changes, including a very brief summary of the actions; and
- Description of any changed or unforeseen circumstances that occurred and how they were dealt with.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the commitments and the provisions of the proposed GCP and the Conservation Easement document have been or are fully implemented.) However, depending on the magnitude of the unforeseen circumstances, the proposed GCP would be revised, as necessary, and all *newly issued* ITPs would require compliance with any new measures.

Comment EDC-104

The GCP uses twenty-five percent total cover as a trigger for implementing remedial action to address invasion of new invasive exotic plants. (GCP at 96) Once an invasive exotic plant species covers twenty-five percent of the ground in an area supporting LYS, the problem is already significant. This is because the exotic species' seed bank will be substantial. If "an invasive plant-fire regime cycle" becomes established, then "restoration to preinvasion conditions becomes more difficult (Brooks et al. 2004)." Given this, the GCP fails to minimize the impacts of LYS take to the maximum extent practicable.

The comment is misleading with respect to the invasive plant cover that would trigger remedial action. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, the invasion of new invasive plants up to 25 percent total cover *"within an individual project area"* would be considered a changed circumstance triggering remedial actions.

Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of an invasive plant-fire regime cycle are also comprehensively addressed in this context within the proposed GCP.

For example:

> *"If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:*
>
> - *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
> - *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
> - *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
> - *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program."*

Comment EDC-105

The GCP improperly treats fires as a "changed circumstance," not an impact of the GCP. (GCP at 92-93) However, the GCP will ultimately lead to increased oil and gas activities, more fires, and a greater threat of fire to the species covered under the GCP. By failing to evaluate the impacts from fires on the species and instead identifying these disasters as "changed circumstance," the GCP fails to avoid and minimize take by oilfield-started fires to the maximum extent practicable and does not mitigate the significant impacts of oilfield-started fires on listed plant species.

Refer to Master Comment Response-1 and Comment Response EDC-103. The Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As such, implementation of the proposed GCP would not result in potentially significant impacts, including fires, on the physical or human environment. Individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. The project-specific EA, if necessary, would analyze all project-specific

impacts to the full suite of environmental resources associated with the proposed oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology and soils, risk of upset, etc.).

Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP.

Under current conditions necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

However, under the proposed GCP, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Adaptive management strategies have been identified for:

- Oil Spills;
- Wildfires;
- Drought; and
- Exotic Species.

By March 31 each year, the permittee would be required to submit a report to the Ventura Fish and Wildlife Office to document the status of the project, which among other items will include:

- Description of circumstances that made adaptive management necessary and how it was implemented, including a table showing the cumulative totals; by reporting period all adaptive management changes, including a very brief summary of the actions; and
- Description of any changed or unforeseen circumstances that occurred and how they were dealt with.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the operating

conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented.) However, the depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all *newly issued* ITPs would require compliance with any new measures.

Comment EDC-106

The list of changed circumstances in the GCP is also too limited and must include additional changed circumstances, including, but not limited to, emergency repairs or maintenance, especially if such activities require habitat clearing, expansion of the three species' range in the County, new diseases impacting the species, and new scientific or commercial data related to survey protocols, species range, habitat delineation, etc.

Refer to Comment Response EDC-105. As described in the proposed GCP, Section 10 of the ESA requires that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Under the proposed GCP, adaptive management strategies have been identified for oil spills, wildfires, drought, and exotic species. If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances, such as those relating to emergency repairs or maintenance, and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented.) However, the depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all newly issued ITPs would require compliance with any new measures.

Comment EDC-107

The GCP mitigation measures do not appear to track with the EA's references to mitigation measures. Some appear to be off by one. (See e.g.: GCP Measures 18 and 21)

As described in the Programmatic EA, the complete list of avoidance, minimization, and mitigation measures is provided in Appendix A: *Final Draft General Conservation Plan for Non-Federal Oil and Gas Activities in Santa Barbara County*. References to GCP measures in the EA were reviewed and revised to reflect the correct cross references, as necessary.

Comment EDC-108

This GCP is a significant departure from the type of plan envisioned under the Policy. Here, much of the information gathering and analysis under Section 10 is deferred until after an individual applicant submits its "Permit Application Package." (GCP at 99) The GCP, for example, does not include maps and a discussion of the locations of impacts, evaluation of the duration of proposed covered activities, discussion of current and proposed oil and gas projects in the County, estimation of typical size and frequency of operation or maintenance activities, or description and analysis of the survey results for the covered species. (Id.) This information is instead to be included in the individual project package. (Id.) The scope, magnitude, and complexity of this GCP is the very reason why the Policy limits the use of a general conservation plan "to activities that the Service has the expertise and ability to analyze." The GCP is not legally permitted to circumvent the requirements of Section 10 by deferring the necessary information gathering and analysis until after an applicant submits their project package. Such an approach is entirely inconsistent with the Policy and the ESA.

As described in Comment Response EDC-1, a GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). It is important to note that this Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. The Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the specific location, timing, frequency, or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."*

Comment EDC-109

The GCP permits an applicant for newly-constructed oil and gas projects to include construction, operation, and maintenance activities for a project within the same permit application, or to submit an individual project package for each activity. (GCP at 100) The piecemealed approach under the latter option is extremely problematic. If an applicant is able to artificially sever a single project into many little activities, the impacts analysis along with the minimization and mitigation measures will likewise be disjointed. Although cumulatively the impacts may have disastrous consequences for the species,

the applicant is able to hide these impacts by chopping up the project. Furthermore, funding assurances may be inadequate if the costs to implement the minimization and mitigation measures are not assessed as a whole. The GCP must ensure that improper piecemealing of projects is not permitted.

As described within the Programmatic EA, "*the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011).*"

Further, to apply for a permit under the proposed GCP, project proponents must submit a complete Permit Application Package. An individual project package is required as a part of a Project's Permit Application Package and must include:

- A recent (within 90 days) printout of the IPaC system query for the project area. An IPaC query can be obtained from: https://ecos.fws.gov/ipac/;
- Map and description of the location of impacts, including photographs;
- Duration of proposed Covered Activities;
- Description or proposed Covered Activities;
- Survey results for the Covered Species or notification that the presence of these species will be assumed based on habitat;
- Species assessment and estimation of take (more information below);
- List of minimization measures appropriate for the project;
- Proposed mitigation and associated calculations; and
- Funding assurances and commitment necessary to implement the proposed minimization and mitigation measures.

While the proposed GCP would allow Applicants with newly constructed oil and gas projects covered by the proposed GCP to submit one Individual Project Package for construction and one for operation and maintenance activities, these Individual Project Packages would remain a part of a Project's Permit Application Package. Further, each Individual Project Package would require a list of minimization measures, proposed mitigation, and funding assurances for the described activities.

As stated in Section 6*, Permit Processing and Implementation* of the GCP, permittees must demonstrate adequate funding for mitigation as part of the permitting process and would be included in each Individual Project Package.

Comment EDC-110

The Application Package must contain survey results, but the GCP fails to specify the type of surveys or the need for protocol-level surveys. Mere reconnaissance-level surveys are inadequate for surveying fossorial species such as CTS and CRLF because they do not involve actively searching for CTS or CRLF in their burrows, or conducting

protocol-level drift fence surveys. The Service and CDFW developed protocol-level surveys for CTS and CRLF to consistently assess presence and absence to ensure conservation of the species. It is essential that the GCP require the Service's approved protocol-level surveys and population density surveys to establish baseline population estimates. Reconnaissance-level surveys would generate insufficient or inaccurate information and may lead to the GCP's underestimation of take and failure to sufficiently minimize and mitigate take.

Refer to Comment Response EDC-37. The proposed GCP does require surveys to identify whether the Covered Species have the potential to occur within individual project footprints. As described in Section 6, *Permit Processing and Implementation* of the proposed GCP, the Individual Permit Package would require survey results for the Covered Species or notification that the presence of these species would be assumed based on habitat. If requested, the Service can help determine whether a project or action is likely to result in take; however, the Applicant is responsible deciding whether to pursue an ITP. The Service also developed a regulation to address the problem of maintaining regulatory assurances and providing certainty to landowners through the HCP process, called the “No Surprises” regulation. Therefore, it is often to a landowner’s benefit to assume presence of CTS (and/or other federally listed or candidate species, as appropriate) as it allows the landowner to apply for an ITP without conducting lengthy protocol level surveys necessary to confirm presence.

Additionally, pre-construction surveys of Covered Species’ habitats within project disturbance boundaries would be required prior to individual project-related ground disturbing activities as required by Measure 11.

> *“11. A Service-approved biologist will conduct pre-construction surveys of Covered Species’ habitats within project disturbance boundaries immediately prior to the onset of any ground disturbance associated with the project to determine if any individuals of the Covered Species are present, and to refine the final habitat mitigation acreages. The Service-approved biologist will monitor construction activities in the vicinity of habitats to be avoided. Upon completion of initial ground disturbance, the biologist or monitor will periodically (minimum twice per week) visit the project site throughout the construction period to ensure that impacts to the project site are in compliance with the permit. After periods of rain, a Service-approved biologist will conduct daily pre-activity surveys to ensure no California tiger salamanders or California red-legged frogs have migrated into the work area prior to ground disturbing activities resuming. No construction work will be initiated until a Service-approved biologist determines that the work area is clear of California tiger salamanders and California red-legged frogs. Should any California tiger salamanders or California red-legged frogs be observed*

within harm's way, the animal will be allowed to vacate the area on its own accord or be relocated in accordance with Measure 12."

Therefore, the surveys required by the proposed GCP would generate sufficient and accurate information of the Covered Species and other plant and wildlife species that may be impacted by individual non-Federal oil and gas activities.

Comment EDC-111

The GCP requires tracking and reporting of the number of CTS or CRLF that are subject to take due to the GCP, including take by vehicle-strike (when known). (GCP at 104 - 105) However, the GCP does not require or clarify how capture and relocation take is to be tracked, and how monitoring results for capture and relocation will be tracked and reported, including where take information is stored and whether it in available to the public on a website.

CTS are large-bodied amphibians that can range from approximately 7 inches (adult female) to 8 inches (adult male) long. Similarly, CRLF are also large-bodied amphibians ranging from approximately 4.5 inches (adult male) to 5.5 inches (adult female). As such, individuals that are killed or injured by traffic on access roads would be observable by a Service-approved biologist during post-construction surveys. Additionally, as described in *Measures to Avoid and Minimize Impacts* in the proposed GCP various requirements would be implemented to avoid of potential take of covered species along access roads. In particular:

"7. Personnel will limit their vehicle use to existing routes of travel. Travelling off designated roads will be prohibited unless access is determined critical for a particular activity and the route has been flagged to avoid or minimize adverse effects.

8. To minimize the potential for road mortality of covered wildlife within their habitats, nighttime traffic will be minimized during the construction phase to the extent feasible; all hauling activities within habitat for covered wildlife will be restricted to daylight hours, defined as the hours after sunrise and before sunset.

9. Except in areas with posted speed limits greater than 10 miles-per-hour, project-related vehicle speeds will not exceed 10 miles-per-hour when driving within California tiger salamander or California red-legged frog habitats.

10. Prior to moving vehicles or equipment, personnel will look under the vehicles or equipment for the presence of California tiger salamanders or California red-legged frogs. If a covered wildlife species is observed, the vehicle will not be moved until the animal has vacated the area on its own accord or has been relocated out of harm's way in accordance with Measure 12."

The level of take allowed for CTS and CRLF and the requirements for monitoring by a Service-approved biologist are generally consistent with individual HCPs issued for oil and gas activities in the region.

Comment EDC-112

The GCP's Biological Goals and Objectives emphasize avoidance and minimization of impacts to the species' habitat areas. (GCP at 66-68) However, GCP implementation does not include a clear mechanism to ensure that alternative siting and designs are considered to minimize take whenever practicable. (GCP at 103 - 106) Specifically, under Permit Implementation, the GCP list of permittee responsibilities omits an analysis of alternative siting and designs to minimize take and impacts to LYS, CTS, and CRLF habitats. (GCP at 103) Annual reports described also fail to require reporting of consideration of alternative siting and designs that could feasibly avoid or minimize take. (GCP at 103-104) While the Permit Application Packages will include the applicants' lists of appropriate minimization measures, these measures may not include alternative siting and design options or otherwise demonstrate that avoidance or further minimization was infeasible. (Id. at 99) Without including an analysis in the Individual Permit Packages of the feasibility of alternative siting and designs to avoid or minimize impacts to LYS, CTS, and CRLF habitats, the GCP does not sufficiently minimize take when practicable. (GCP at 99-100)

Instead, the GCP requires the Package to include details about compensatory habitat mitigation including information on compensatory mitigation calculations, compensatory mitigation funding assurances and payments, and proof of endowments and land acquisitions. (GCP at 99 - 102) Thus, the GCP's focus is primarily on compensatory mitigation instead of avoidance. As described, implementation of the GCP will not ensure that take is avoided or minimized to the maximum extent practicable.

This Programmatic EA evaluates the impacts of, and the alternatives to, the proposed approval and implementation of the proposed GCP. The Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures.

The Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. As such, continued application of these measures under the GCP would occur but would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their respective Recovery Plans.

Individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-113

The "no jeopardy" standard under Section 7 is nearly identical to the finding required under Section 10 that the taking "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." 16 U.S.C. § 1539(a)(2)(B). However, it is unlikely that a determination under Section 7 could be properly issued based on the available information and analysis in the GCP. Given the numerous omissions and deficiencies identified herein, the GCP fails to provide the requisite information and analysis to support a determination under Section 7 that the issuance of an ITP will not result in jeopardy to the three listed species.

As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011).* As such, implementation of the proposed GCP would not reduce the likelihood of the continued existence and recovery of listed species, as described under Section 7.

Comment EDC-114

Section 10 of the ESA requires that "the applicant [] submits to the Secretary a conservation plan that specifies... (ii)... the funding that will be available to implement such steps. 16 U.S.C. § 1539(a)(2)(A)(ii), See also 50 C.F.R. § 17.22(b)(1)(iii)(B). The GCP misstates this statutory requirement as obligating a future applicant to ensure that adequate funding will be provided. (GCP at 110) Although a project-specific analysis of funding sources will be necessary upon receipt of an Individual Project Package, the GCP is statutorily required to specify "the funding that will be available to implement" the

steps to minimize and mitigate the impacts of the covered activities. 16 U.S.C. § 1539(a)(2)(A)(ii).

As discussed above, a general conservation plan must meet the same standards as a traditional HCP under the Policy, which includes specifying the funding available. The GCP is legally deficient in failing to include the requisite analysis and instead deferring this discussion to the Individual Project Package. (GCP at 110)

Other general and multi-species conservation plans acknowledge that project-specific analysis will be required later, but nevertheless provide an explanation of the funding obligations as required by Section 10. For example, the General Conservation Plan for the Desert Renewable Energy Conservation Plan includes a detailed discussion of applicant funding assurances as well as the Service's funding assurances. The plan also refers to "a detailed analysis of land acquisition costs and of costs to implement non-acquisition mitigation measures." Furthermore, the Lower Colorado River Multi-Species Conservation Program's Final Habitat Conservation Plan "provides an estimate of the cost for implementing" the plan. The costs, which are summarized in a table, include "program administration; land acquisition; planning, design, and engineering; habitat creation; environmental compliance; fish augmentation; conservation area management and maintenance; additional law enforcement and firefighting staff; existing habitat maintenance; Topock Marsh pumping; research, monitoring, and adaptive management; remedial measures; and water acquisition." Each cost category is explained along with a discussion of how the costs were derived. The assumptions made in the plan's costs analysis are clearly stated in the plan as well.

In contrast, the GCP omits any cost analysis for implementing the actions described therein. To the extent that the required cost information is not within the Service's expertise, the Handbook recognizes that "[a]n economist may be useful to help calculate costs...or to help develop funding assurance measures." In order to comply with the requirements under Section 10, the Service may need to consult with outside expertise to ensure that the analysis is legally and factually sufficient.

Finally, the GCP is silent as to the Service's funding assurances for administering the GCP, i.e., staff time to review Individual Project Packages, etc. Although the GCP is intended to streamline the permitting process, staff time and resources will be used to implement the GCP, which must be accounted for in the discussion of funding.

The Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing, magnitude, or funding of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. As stated in Section 6*, Permit Processing and Implementation* of the proposed GCP, permittees must demonstrate adequate funding for

mitigation as part of the permitting process and would be included in each Individual Project Package.

Comment EDC-115

Although the Service drafted the GCP, several oil companies provided the necessary funds to initiate this process. In the interest of transparency and full disclosure, the GCP must identify the names of each company that contributed financially to the GCP as well as the dollar amount provided by each company to the Service.

In preparation of the proposed GCP, the Service consulted with several oil and gas companies to obtain information on the types of oil and gas activities and project areas that could be covered by the proposed GCP. A number of these companies also provided comments on the Draft Programmatic EA. NEPA and CEQA are regulations that evaluate and address impacts to the physical environmental and human environment; neither require discussion of funding sources or other financial effects unrelated to the physical or human environment.

Comment EDC-116

An EIS is required in this case because the GCP and activities proposed thereunder will result in significant adverse effects on the environment.

As described in Master Comment Response-1, the Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP.

As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Comment EDC-117

In addition, even if an EA were appropriate, the Draft EA prepared in this case is inadequate because it fails to address the full scope of activities that may occur and fails to analyze all of the possible environmental consequences. In addition, the EA does not include an adequate discussion of alternatives, mitigation measures, or cumulative impacts.

Refer to Comment Response EDC-6.

Comment EDC-118

The EA admits that the proposed action will result in significant unavoidable impacts. (EA at 2-16, referencing GCP Section 5 and Appendix A) Section 5 of the GCP identifies "Measures to Mitigate Unavoidable Impacts." (GCP at 75-85) The fact that the action will cause unavoidable impacts requires preparation of an EIS.

Moreover, the proposed GCP is a major federal action significantly affecting the quality of the human environment, thus requiring the Service to prepare an EIS. 42 U.S.C. § 4332(C)...

In this case, the fact that the proposed action would occur in an area covered with designated critical habitat for at least three listed species requires preparation of an EIS.

Intensity "refers to the severity of the impact" and requires analysis of ten specific factors. 40 C.F.R. § 1508.27(b). The presence of any single factor may be enough to demonstrate that the action is significant. Ocean Advocates, 402 F.3d at 865. Here, several factors are met.

First, an EIS is required because the GCP "may adversely affect an endangered or threatened species, or its habitat that has been determined to be critical under the [ESA]." 40 C.F.R. § 1508.27(b)(9). The GCP itself notes numerous potential impacts to endangered and threatened species. CTS will be impacted by loss of upland habitat and critical habitat; disruption of normal behavior patterns; spills or leaks of chemicals, fuels, and lubricants; damage to burrows; vehicle strikes; roads that fragment habitat and cause migratory obstacles; capture and relocation activities; crushing and collision; impacts to breeding habitat; increased habitat fragmentation; and changes in vegetation community. (GCP at 53-55, 57-59) CRLF will be impacted by equipment and vehicle strikes; crushing and collision; ground disturbance; accidental spills; loss of critical habitat; disruption by noise and vibrations; disruption of normal behavior patterns; habitat loss/conversion and fragmentation; attraction of predators by trash; exposure to infections, pathogens, and parasites; and capture and relocation activities. (GCP at 59-62) LYS will be impacted by loss of individual plants and habitat; changes in hydrology and erosion; increases in the abundance of nonnative species; dust; loss or change in the abundance of pollinators; road maintenance activities; ground disturbance; vehicles crushing plants; habitat fragmentation. (GCP at 64-65)

Refer to Master Comment Response-1. It should be noted that while Section 5 of the proposed GCP may identify *"unavoidable impacts,"* neither the proposed GCP, nor the Programmatic EA, identify *significant* impacts associated with the implementation of the Proposed Action. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP "would *allow greater consistency in the application of avoidance, minimization,*

and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)." As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment. Individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis.

Under the Proposed Action, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation, CEQA findings, and the MMRP. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-119

The GCP also admits the activities allowed pursuant to the plan would result in unavoidable adverse impacts to CTS, CRLF, LYS, and their habitats. (GCP at 75) As discussed herein, the measures proposed to compensate for such unavoidable impacts are woefully inadequate.

Comments by scientific experts confirm the adverse effects that would result if the GCP is approved and oil and gas activities proceed based on the GCP. Magney notes the extremely rare and vulnerable status of LYS, and the lack of any known, effective mitigation to ameliorate such harm: "The limited distribution and size of the LYS populations are so small that any loss of individual represents a significant impact, and the USFWS has provided no evidence that impacts to LYS can reasonably be considered likely to be mitigable."

Bumgardner identifies unavoidable impacts which the GCP omits. "Nonetheless, the failure to address specific unavoidable impacts appears to be a substantive omission, particularly where certain impacts can be considered reasonably likely to occur (e.g., oil spills, fires, mosquito abatement, etc.)." He also describes indirect impacts omitted by

the GCP, including reduction of the hydroperiod of CTS breeding ponds, and oilfield runoff.

As described in Comment Response EDC-3, avoidance, minimization, or mitigation measures would be consistently applied throughout the proposed GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species. For example, the proposed GCP identifies the following measures related to potential spills:

> *"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species)."*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the

HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and determining additional project-specific mitigation measures, beyond those measures identified in the proposed GCP, if necessary.

Comment EDC-120

Second, the proposed action will affect an "ecologically critical area." 40 C.F.R. § 1508.27(b)(3). The GCP would allow oil and gas development in areas that are currently designated as critical habitat under the ESA. Such areas are inarguably "ecologically critical." In addition to critical habitat for CTS, CRLF, and LYS, the proposed activities would impact critical habitat for southern California steelhead and tidewater goby. The proposed GCP would impact critical habitat for the endangered La Graciosa thistle which occurs in and around the Guadalupe, Santa Maria Valley, Orcutt, and Casmalia Oilfields. The GCP would affect critical habitat for endangered Vandenberg Monkeyflower in the Lompoc Oilfield. Other "ecologically critical areas" would also be impacted, including but not limited to, San Antonio Creek, Barka Slough, Sisquoc River, Santa Maria River, Cuyama River, Gaviota Creek, Carpinteria Creek, Arroyo Hondo Creek, Zaca Creek, Coal Oil Point Reserve, and Arroyo Hondo Preserve. These areas are near roads and highways that could be used for trucking oil and could be impacted by spills under the GCP. To the extent activities occur in the Santa Barbara Coastline area, Gaviota State Park, El Capitan State Beach, Refugio State Beach, Marine Protected Areas including Campus Point SMCA, Goleta Slough SMCA, Kashtayit SMCA, Naples SMCA, Point Conception SMR, coastal streams and estuaries including Carpinteria Salt Marsh, Goleta Slough, and Devereux Slough, and environmentally sensitive habitat areas such as marine mammal haul outs, oak woodlands, bishop pine forests, riparian habitats, coastal wetlands, maritime and other types of chaparral, and other habitats within the Gaviota Coast Plan area would also be impacted.

Importantly, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas are the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Once an individual non-Federal oil and gas activity is approved by the appropriate local or state agency(ies), the Applicant must determine whether an ITP is necessary. However, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·

- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Therefore, the Service cannot ban oil and gas development in Santa Barbara County. However, as described in Section 4, *Biological Impacts and Take Assessment* of the proposed GCP *"…no permanent impacts to CTS breeding habitat would be covered under the proposed GCP."* Further, as described in Section 4.4., *Wetlands/Waters of the U.S.* of the Programmatic EA *"compensatory mitigation for CTS and CRLF under the proposed GCP would preserve and protect core habitat areas for these species including breeding ponds and adjacent wetland and upland areas."*

As described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species, such as the La Graciosa thistle (*Cirsium loncholepis*) and Vandenberg monkeyflower (*Diplacus vandenbergensis*), would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment EDC-121

Third, the effects on the environment are "highly controversial." 40 C.F.R. § 1508.27(b)(4). Controversy is demonstrated when "a substantial dispute exists as to the size, nature, or effect" of the action. Sierra Club v. U.S. Forest Serv., 843 F.2d 1190, 1193-94 (9th Cir. 1988) (emphasis in original) (internal quotations omitted)... Several organizations, individuals, agencies, and scientists have raised concerns about the potential effects on the environment if these activities are allowed to proceed.

The potential impacts to endangered and threatened species are highly controversial because these species are threatened with extinction and determined to warrant the utmost protection to ensure their survival and recovery. In addition, the GCP's net loss of designated critical habitat results in a highly controversial effect because it is a permanent loss of habitat that the Service has determined is essential to the conservation and recovery of CTS, CRLF, and LYS. As discussed above, the permanent loss of 152 acres of CTS critical habitat, 355 acres of CRLF critical habitat, and 7.5 acres

of LYS critical habitat with no known replacement demonstrates a substantial dispute with the EA's finding of no significant effect.

Over the 20-year life of the proposed GCP, the standardized ITP process would incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) and habitat loss through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the current piecemealed approach of approving individual HCPs for each individual oil and gas development project. In contrast, the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Comment EDC-122

In addition to effects on the identified listed species, the activities authorized under the GCP would significantly affect other special-status plants and wildlife for a total of thirty-seven special status plant species and sixty-seven special-status wildlife species in the Cat Canyon Oilfield alone, in addition to impacts to water quality, air quality and public health.

It is important to note the Proposed Action would not result in approval of any individual oil and gas activities and as such would not directly result in any direct or indirect impacts to the physical or human environment. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. The completion of the GCP Eligibility Determination Form would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying additional project-specific mitigation measures, beyond those measures identified in the GCP, to reduce impacts identified in the CEQA document on a project-by-project basis.

The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity (e.g., criteria pollutant emissions during construction and operation; impacts to water resources, etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse

impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities such as the Santa Barbara County Air Pollution Control District, the Central RWQCB under Section 404 or 401 of the CWA, or the CDFW under Section 1602 of the California Department of Fish and Game Code. Individual projects that could impact jurisdictional waters would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance. Therefore, the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to the physical or human environment.

Comment EDC-123

Fourth, the potential impacts on the environment are "highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27(b)(5); Nat'l Parks & Conservation Ass'n., 241 F.3d at 732-33; Sierra Club v. U.S. Forest Service, 843 F.2d at 1194. Proponents of the main oil and gas development projects that would benefit from the GCP propose the use of cyclic steam injection, which involves the injection of highly toxic chemicals and water under pressure. They also propose to inject toxic wastewater into aquifers that are currently protected under the Safe Drinking Water Act. The potential effects on groundwater and other important resources is of great concern and raises uncertain, unique, or unknown risks.

As described in Section 4.2.2, *Water Resources and Water Quality* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not result in approval of any individual oil and gas activities and as such would not directly result in any direct (e.g., fill) or indirect impacts (e.g., erosion) to water resources, including jurisdictional waters. Water resources would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not affect or otherwise restrict the permitting authorities of the USACE or the Central Coast RWQCB under Section 404 or 401 of the CWA or the CDFW under Section 1602 of the California Department of Fish and Game Code. Individual projects that could impact jurisdictional waters would be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance (see Section 4.4, *Wetlands/Waters of the U.S.* of the Programmatic EA). Therefore, it is anticipated that the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to water quality.

Comment EDC-124

With respect to the covered species, there is substantial uncertainty regarding the current status of the populations. The EA itself states that the number of CTS that will be taken cannot be estimated because no density estimate is available for the planning area. (EA at 56) However, presence can be determined by conducting protocol-level surveys. Drift fence and pitfall trap surveys as described by Searcy and Shaffer to 'quantify California tiger salamander landscape use' in the Central Valley would have helped estimate CTS densities in the Planning Area, but were not undertaken.

As described in Comment Response EDC-110, the methodology for calculating take for these species is based on the potential habitat impacts, which is likely to be more conservative given that all of the habitat that is impacted either permanently or temporarily may not be occupied. The methodology for calculating permanent and temporary impact allowances, which are tied to the recovery criteria for the species are clearly summarized in the Programmatic EA and described in detail within the proposed GCP.

For example, the proposed GCP explains the methodology for calculating temporary/permanent impacts, wet/dry season impacts, and aquatic/upland dispersal habitats for CRLF. (A full discussion of factors influencing impacts to the California red-legged frog in the Ventura Field Office's area of responsibility, please see the Ventura Field Office's Strategic Conservation Plan [Service 2016]). As described in the proposed GCP and the associated Programmatic EA the Service estimates that oil and gas activities covered under the proposed GCP may impact up to 1 percent of the total GCP Planning Area (59,719 acres). Covered activities would occur primarily within dispersal habitat rather than more frequently occupied aquatic or upland habitat, with the exception of access road construction. Applicants would compensate for these impacts according to the requirements of the *Ventura Field Office's Strategic Conservation Plan for the California Red-Legged Frog* (Service 2016).

Similarly, the proposed GCP describes use of data and modeling by Searcy and Shaffer (2008) who demonstrated that there are two components of habitat loss for CTS: 1) project footprint plus; and 2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, while the "deficit wedge" is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a CTS migrating in a straight line away from the center of a pond. Both of these concepts are described in summarized within the proposed GCP and described in detail in the *California Tiger Salamander Conservation Strategy* (Service and Department 2017).

Comment EDC-125

Similar uncertainty exists as to LYS. As Magney points out, "The size of the populations of LYS are generally unknown, in particular as to the number of individual plants, and at least one population (Santa Ynez Mountains) was seriously overstated." The GCP defers surveys until after approval of the plan. (GCP at 99, stating "survey results for the

Covered Species" or notification of assumed presence must be included in Permit Application Package) Such studies must be completed before significant environmental damage may occur.

The Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment. Individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, the proposed GCP and Programmatic EA cannot reasonably forecast or speculate on the location or magnitude of individual non-Federal oil and gas activities in Santa Barbara County.

As described in the EA, the entire GCP Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. As such, including survey results or notification of assumed presence in the required Permit Application Package would allow for greater accuracy and efficiency in determining location and presence of covered species and potential impacts of individual oil and gas activities.

Comment EDC-126

In addition, the EA fails to adequately address impacts from climate change. As discussed above, there is a substantial amount of scientific literature demonstrating that climate change adversely impacts species, and specifically amphibian survival. The CTS Recovery Plan also provides a discussion of climate change impacts on amphibians, including CTS. The UN's Global Assessment discusses the impacts of climate change on ecosystems and species, and the Final Summary for Policy Makers was released in 2020. The EA should use this information to guide its assessment of the GCP's climate change impacts stemming from authorizing take for oil and gas projects.

Refer to Comment Response EDC-32. The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to GHG emissions and climate change associated with individual oil and gas activities. However, as described in Section 4.2.3, *Air Quality and Greenhouse Gas Emissions* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any new GHG emissions sources. Air quality and GHG emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over

an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing GHG emission controls for individual oil and gas development projects. Therefore, the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not result in impacts to air quality or GHG emissions.

As described in Master Comment Response-1, the current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Each individual HCP must ensure that the individual project “will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.” However, this current piecemealed approach of approving individual HCPs for each individual oil and gas development project does not “comprehensively assess the cumulative impacts of multiple potential projects” as asserted in this comment. In contrast the proposed GCP would be much better suited to accomplish that goal as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP.

For example:

> *“If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:*

- *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
- *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
- *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
- *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*

In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service."

Comment EDC-127

Uncertainty regarding proposed mitigation measures also requires preparation of an EIS. Nat'l Parks & Conservation Ass'n., 241 F.3d at 733-35 (uncertainty regarding the ability of the Park Service to offset the environmental impact required preparation of an EIS). In this case, there is substantial uncertainty whether the proposed payments would actually result in adequate mitigation for impacts to CTS, CRLF, and LYS. There is also uncertainty whether adequate conservation sites are available for conservation sites are available for acquisition.

For example, there is uncertainty regarding mitigation because there is only one CTS mitigation bank for one of six metapopulations, and mitigation is supposed to occur in the metapopulation that is impacted. There is uncertainty regarding the La Purisima CTS Mitigation Bank because it is for sale, it contains non-contiguous parcels, and there are mineral rights in intervening areas that could be developed. The Conservation Account is uncertain, does not work for CDFW, and has not been very effective. Furthermore, Bumgardner testifies that CTS mitigation is uncertain because:

> **Other environmental factors that could affect the predictions of the Searcy and Shaffer model (e.g., geospatial distribution of suitable burrows, barriers to movement, presence of local roads and associated vehicle volumes, etc.) may all significantly bias the results of the model toward predictions of less impact and the subsequent requirement for less mitigation. Therefore, the model, by itself,**

does not appear to adequately predict the amount of compensation land that would be required to fully offset the loss or disturbance of habitat authorized under a Permit.

Mitigating CRLF take is also uncertain in its reliance on "payment of mitigation fees into a mitigation account." (GCP at 78) In addition, the reliance on measures to mitigate impacts to LYS by relocation and propagation are unrealistic and speculative given that efforts to date have not proven to be successful. Not only are these proposed mitigation measures unlikely to be effective, but the reliance on mitigation banks, credits, or offsite acquisitions to mitigate impacts to LYS is equally unfounded.

Finally, there is uncertainty whether the proposed ratios are adequate to mitigate the harm that will occur.

The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described in Master Comment Response-1 and Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Programmatic EA, the Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. Continued application of these measures under the proposed GCP would occur but would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their respective Recovery Plans. By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the No Action Alternative.

The Programmatic EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Importantly, by using habitat as a proxy for calculating impact to CTS, CRLF, and LYS and accounting for dispersal distance, the proposed GCP would ensure that the species' recovery criteria are not precluded regardless of the individual biological impacts to the species within that affected habitat (e.g., absorption of pollutants). Further, the proposed GCP *"describes a range of projects for which avoidance actions alone are not sufficient to prevent take of covered species, and describes actions that can serve to minimize and mitigate the impacts of such taking to the maximum extent practicable"* (see Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP).

As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP for CTS:

> *"The strategy to recover the Santa Barbara County California tiger salamander focuses on alleviating the threat of habitat loss and fragmentation. The goal of the final Recovery Plan (Service 2016), which was drafted in partnership with the Department, is to reduce the threats to the Santa Barbara County California tiger salamander to ensure its long-term viability in the wild, and allow for its removal from the list of threatened and endangered species. Recovery of this species can be achieved by addressing the conservation of remaining aquatic and upland habitat that provides essential connectivity, reduces fragmentation, and sufficiently buffers against encroaching development. To recover the species, recovery criteria must be met in a sufficient number of metapopulation areas to support long-term viability of the Santa Barbara County California tiger salamander. The Service presently believes that the recovery criteria must be met in all six metapopulation areas for delisting to be warranted; further research and monitoring should clarify the exact number of metapopulations necessary."*
>
> *"Unavoidable impacts to the California tiger salamander or its habitat will be mitigated in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander (Service 2016)."*

Similarly, as described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP for CRLF:

> *"In the Service's 2002 Recovery Plan for the California red-legged frog (Service 2002), the Service identified conservation needs for the Santa Maria-Santa Ynez Core Recovery Area which encompasses the Plan Area. In general, the conservation needs for this Core Recovery Area within the 2002 Recovery Plan focused on protection of existing populations, removal of invasive species and non-native predators in particular, reducing contamination of habitat, and managing water availability for the species."*
>
> *"Unavoidable impacts to the California red-legged frog or its habitat will be mitigated by the project proponent by payment of mitigation fees into a mitigation account to provide the required compensation value (mitigation and conservation account) or by establishing a mitigation site that meets the Service's specification for approved mitigation (permittee-responsible mitigation)."*

For unavoidable impacts to CTS and CRLF, the intent of the proposed GCP is to ensure a more consistent and effective approach for mitigating permanent and temporary impacts in a way that ensures that their individual recovery criteria are met.

Comment EDC-128

Fifth, the GCP would "establish a precedent for future actions with significant effects." 40 C.F.R. § 1508.27(b)(6). We are not aware of any other GCPs in California that support new oil and gas development in areas that would affect threatened and endangered species.

The proposed GCP would establish a precedent for additional oil and gas development throughout the State by providing a mechanism to take listed species and avoid the individual ITP/HCP process. In particular, this GCP would set a precedent for allowing activities that would harm threatened and endangered species without requiring avoidance or adequate mitigation.

The Service received comment letters from one Federal agency U.S. Environmental Protection Agency (USEPA) and one state agency California Coastal Commission (CCC). In addition to the comment letter received from the Center for Biological Diversity (CBD), the Service received one comment letter from the Environmental Defense Center (EDC), and 42 form letters. The majority of the individual comments provided in these letters applies to the approval of individual non-Federal oil and gas development projects. As described further in Master Comment Response-1, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis.

Comment EDC-129

Sixth, the GCP would allow actions that will lead to cumulatively significant impacts on the environment. 40 C.F.R. § 1508.27(b)(7); Sierra Club v. U.S. Forest Service, 843 F.2d at 1194-95. For example, the ERG Cat Canyon project EIR finds that cumulative biological resource impacts, noise impacts, and surface and groundwater resources impacts from eighteen oil and gas projects and twenty-three other projects are "significant and unavoidable." As discussed further below under Section 5 Cumulative Impacts, the EA improperly omits numerous cumulative projects.

While this background information is acknowledged and appreciated, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Cumulative impacts associated with the implementation of the GCP are thoroughly addressed in Section 5, *Cumulative Impacts of the Programmatic EA*. This programmatic permitting and conservation process, which is only applicable to covered species included in a GCP, would provide for a standardized approach to the implementation of avoidance, minimization, and mitigation measures. The GCP process would not be available to Applicants under the following circumstances:

- Applicant cannot or chooses not to comply with the requirements of the GCP, including standardized avoidance, minimization, and mitigation measures.
- Applicant requires coverage for other noncovered species that are not included in the GCP.

In these instances, the standardized approach avoidance, minimization, and mitigation measures under the proposed GCP would not be implemented. Further, the established maximum allowable impacts within CTS, CRLF, and LYS habitat would not be applicable outside of the GCP process. However, the Applicant would be required to prepare an individual project-specific HCP to comply with the ESA (refer to Section 1.2.2, Section 10 – Incidental Take Permits and Conservation Plans). The individual HCP, which could be prepared in consultation with the Service under Section 10(a)(2)(A), would be required to describe the measures that the Applicant would follow to minimize and mitigate take to the maximum extent practicable as well as the funding that will be available to implement such steps. The Service may also require additional measures that the Service may require as being necessary or appropriate for the purposes of the HCP. Both the Service and the Applicant will be responsible for ensure that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. In the event that these assurances cannot be made by the Service, an ITP would not be issued. As such, with the on-going requirement for individual HCPs in instances where the proposed GCP is not applicable, implementation of the Proposed Action would not result in significant cumulative impacts.

Comment EDC-130

Finally, the GCP "threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment." 40 C.F.R. § 1508.27(b)(10). In addition to federal ESA protections for CTS, CRLF, and LYS, the GCP would result in harm to other federally protected species such as southern California steelhead, arroyo toad, tidewater goby, and unarmored three-spined stickleback.

The GCP would also violate the California ESA due to the resulting harm to state-listed species such as least Bell's vireo, southwestern willow flycatcher, unarmored three-spine stickleback, and La Graciosa thistle. The GCP may also harm the state-endangered blunt-nose leopard lizard which occurs in the Cuyama Valley of northeast Santa Barbara County and may occur along oil and gas trucking routes within and outside of the Planning Area. In addition, the GCP threatens a violation of California's Fully Protected Species law, which prohibits take of ringtail cat which is a fully protected mammal pursuant to the California Fish and Game Code.

Activities that would be allowed in the Santa Barbara Coastline area threaten harm to environmentally sensitive habitats, water quality, marine and coastal resources, and recreation, in violation of the California Coastal Act.

The GCP also threatens violations of the Santa Barbara County Comprehensive Plan, including the Hazardous Waste Element (Goal 7-1 and Policy 7-1), Conservation Element (Oak Tree Policy 1 and Oak Tree Protection Development Standard 1), Land Use Element (Land Use Development Policy 10; Hillside and Watershed Protection Policies 1, 2, 7; Streams and Creeks Policy 1; Flood Hazard Area Policies 1 and 2; Visual Resources Policy 2, Parks/Recreation Policy 4; Historical and Archaeological Site Policy 2), Safety Element (Hazardous Facility Safety 3-1: Siting), Seismic and Safety Element (Fire Protection and Prevention Goal 1), Safety Element Supplement (Gas Pipeline Safety Policy 4-B: Safe Operations, and Energy Element (Policy 4.3).

To the extent activities occur in the Santa Barbara Coastline area, they threaten violations of the Santa Barbara County Local Coastal Program and its protections for environmentally sensitive habitats, water quality, marine and coastal resources, and recreation.

Any violations of the California Coastal Act and/or the Santa Barbara County Local Coastal Program would also violate the CZMA which requires consistency with the state's Coastal Management Program. 16 U.S.C. § 1456(c)(1)(A).

Oil spills would potentially violate protections afforded by the Clean Water Act.

Impacts to nesting birds may constitute violations of the Migratory Bird Treaty Act.

As previously described, land use approval(s) and impact assessment for individual oil and gas activities – including associated accidental upsets, impacts to migratory birds, environmentally sensitive habitats, water quality, or other physical environment – would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As a part of this process, the CEQA document would identify: 1) mitigation measures to reduce impacts to reduce potentially significant impacts to the maximum extent feasible; and 2) alternatives (including redesign of the proposed Project) to avoid potentially significant impacts. For project involving potential impacts to CTS, CLRF, or LYS (and/or other federally listed or candidate species) the USFWS would have the opportunity to comment on the draft CEQA document – including the sufficiency of the identified mitigation measures and alternatives – as a part of the CEQA process.

Comment EDC-131

Even if an EA is appropriate in this case, the Draft EA fails to meet several basic NEPA requirements. As such the EA fails to take a "hard look" at the potential environmental impact of the proposed action. Save the Yaak Committee v. Block, 840 F.2d 714, 717-19 (9th Cir.1988); Nat'l Parks & Conservation Ass'n., 241 F.3d at 730. In this case, the EA

fails to adequately consider all potential activities and impacts, relies on speculative and inadequate mitigation measures, and unduly constrains the scope of alternatives.

As described in Comment Response EDC-1, the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas projects. However, the proposed GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*.

Even with the establishment of the proposed GCP, the Service would continue to consider each project individually. For example, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the proposed GCP permitting process. Based on the required application materials – including environmental documentation prepared by the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site (refer to Section 1.6.1, *California Environmental Quality Act* of the Programmatic EA) – the Service would use the "Low Effect" screening form to determine if a project qualifies for a Categorical Exclusion or whether a project-specific EA would be required. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed non-Federal oil and gas activity. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Regarding alternatives, as described in Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis of the Programmatic EA*, several alternatives to the Proposed Action were identified and preliminarily evaluated during project planning and development.

For example, the proposed GCP was initially written to cover only take of CTS. However, oil and gas development activities and actions that have the potential to take CTS often have the potential to take CRLF. As such, CRLF was included in the proposed GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp, were considered for analysis but eliminated. In the event that proposed activities would have the potential to impact species that are not covered under the proposed GCP, they would continue to be addressed on a project-by-project basis and would need individual HCPs to comply with the ESA. As such, these alternatives were eliminated from further consideration and are not analyzed in detail in this EA.

Comment EDC-132

The EA evaluates impacts over a twenty-year timeframe. (EA at 1-1, 2-6) The GCP, however, has a longer timeframe, as it applies for up to twenty years "after Permit issuance." (GCP at 6) Thus, a permit could issue in ten or twenty years from now, and cover activities for an ensuing twenty years. The EA must be revised to evaluate impacts over the potential life of the GCP and the activities authorized under the GCP.

In addition, the oil and gas development projects that would utilize the GCP are planned to last much more than twenty years. The Aera project, for example, would last thirty to fifty years, and the TerraCore (formerly ERG) project would last approximately forty years. Both project EIRs reference the GCP.

The EA must be revised to address the reasonably foreseeable impacts to listed species over the full expected life of the oil and gas development activities. Northern Plains Resource Council v. Surface Transportation Board, 668 F.3d 1067, 1078 (9th Cir. 2011) (court rejected five-year timeframe when coal bed methane wells were expected to produce over a twenty-year period).

As described in the proposed GCP *"[p]ermits issued under the GCP will cover only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance."* As such, activities outside of that 20-year term would not be eligible for the GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Comment EDC-133

The EA states that the GCP applies to "non-Federal oil and gas activities in Santa Barbara County, California." (EA at 1-1) The GCP is inconsistent in terms of the geographic extent of the proposal, stating on the one hand that the plan is focused on oil and gas activities "within northern Santa Barbara County, California" (GCP at 4), and on the other hand stating that the Planning Area of the GCP "consists of the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline (GCP at 5). The EA must provide a clear and consistent description of the location of the proposed activities.

As described in the Programmatic EA, the entire GCP Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline (refer also to Figure 1-1 of the Programmatic EA). However, the location and scope of potential non-Federal oil and gas activities are unknown at this time.

Comment EDC-134

The GCP acknowledges that other species could be affected by oil and gas development activities covered by the GCP. (GCP at 12) The EA omits an analysis of such potential impacts, however, instead deferring to separate review of individual HCPs. (EA at 2-3) Because such impacts are a reasonably foreseeable consequence of the GCP, they must be evaluated and disclosed in the EA.

The Final EIR for one of the Cat Canyon projects identifies species that are omitted from the EA, including endangered southern California steelhead (listed in EA Section 3 Affected Environment but not in Section 4 Environmental Consequences), arroyo toad, tidewater goby, unarmored three-spine stickleback, longhorn fairy shrimp, and Vandenberg monkeyflower which occur in the Planning Area. Additional species, including the Gaviota tarplant (*Deinandra increscens* ssp. *villosa*), La Graciosa thistle (*Cirsium scariosum* var. *longcholepis*), and Vandenberg Monkeyflower (*Diplacus vandenbergensis*) also occur in the Planning Area. Blunt-nosed leopard lizard still occurs in the Cuyama Valley and may occur along tanker truck haul routes such as Highway 166 inside and outside the Planning Area. Other species are listed in EA Table 3-1 but are not considered in the impact analysis, including Gambell's watercress, and Gaviota tarplant. These species could be affected by spills, spill response, seeps, stormwater runoff, fires ignited by oil and gas operations, and/or habitat loss e.g. well pad and road construction resulting from the GCP.

As described in Master Comment Response-1, impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities, including potential impacts to noncovered species, would be performed during that review and permitting process in compliance with the CEQA.

As described in Comment EDC-3, avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species. For example, the proposed GCP identifies the following measures related to potential spills:

> *"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup*

> *operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species).”*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and determining additional project-specific mitigation measures, beyond those measures identified in the GCP, if necessary.

Nevertheless, as described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species, such as the Gaviota tarplant, La Graciosa thistle, and Vandenberg monkeyflower, would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the

permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the GCP Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment EDC-135

An EA must discuss the need for the proposal, alternatives, environmental impacts of the proposed action, and alternatives. 40 C.F.R. § 1508.9. The scope of an EA is similar to that of an EIS... As such, an EA must include an assessment of impacts, including direct, indirect, and cumulative impacts.

In this case, the EA excludes a discussion of most impacts because it says the GCP would not "directly" result in approval of any oil and gas development. (EA at 1-7) However, it is reasonably foreseeable that approval of the GCP will result in new oil and gas development in Santa Barbara County (in fact, the proponents of the Cat Canyon projects are already relying on the approval of the GCP). Therefore, the EA must be revised to include an assessment of all direct, indirect, and cumulative impacts caused by such activities. For example, the construction and operation of pipelines and other infrastructure located outside the Planning Area are directly related to the "covered activities" and must be analyzed as part of the proposed action.

Regarding the permissibility of preparing an EA evaluating the potential direct impacts of establishing the proposed GCP, it is important to note that similar NEPA compliant documentation has been prepared for previous programmatic permitting mechanisms. For example, a Finding of No Significant Impact (FONSI) was signed for the Industry Conservation Plan for the American Burying Beetle in Oklahoma on May 24, 2019.

With respect to the scope of the EA, refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County or outside of the Planning Area. Rather the EA evaluates the potential direct impacts of establishing the GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Comment EDC-136

Light crude oil must be trucked in to blend with the thick crude produced at some Planning Area oil and gas operations so it can be transported to refineries. More than 200 tankers per day would go in and out of the County loaded with crude just for the two Cat Canyon projects. The GCP, however, does not cover inter-County infrastructure such as pipelines and highways. (GCP at 14) By authorizing take for oil and gas activities, the GCP will ultimately result in more tanker crashes, like the March 21, 2020 crash that spilled 4,500 gallons of crude into the Cuyama River. The EA does not disclose the GCP's direct and indirect impacts of oil tanker accidents, including spills and fires in habitats within and outside of the Planning Area.

The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to oil tanker accidents, including spills and fires, associated with individual oil and gas activities. However, as described in Master Comment Response-1, it is important to note that this programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant

adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of wildfire are also comprehensively addressed in this context within the proposed GCP.

For example:

> *"If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:*
>
> - *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
> - *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
> - *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
> - *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*
>
> *In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service."*

A defined geographic area (i.e., GCP Planning Area) was necessary during the development of the proposed GCP to establish maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Oil and gas activities located outside of the GCP Planning Area would not be eligible for the GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Comment EDC-137

The GCP does not cover wildfires started by oil and gas operations despite evidence showing that fires occur when oil and gas projects are authorized. As discussed below, oilfield fires in the Planning Area have occurred over the last four years, and wildfires have been known to wipe out CRLF populations. The EA fails to analyze the GCP's direct and indirect impacts of fires started by oil and gas operations including tanker accidents.

Fires started by oilfield operations, including climate change-driven fires of "inappropriate season, intensity, severity, or frequency" cause numerous impacts to listed species. (GCP at 93) Recently in 2018, the Woolsey Fire in Ventura County wiped out CRLF populations in the Santa Monica Mountains. Wildfires started by oil and gas projects, including tanker accidents, impact the GCP's covered species but are not adequately addressed in the GCP...

The GCP describes clearing power pole ROWs on pages 20 and 35, but the GCP cannot ensure clearing is done. Harm or death to species caused by oil and gas operation-started fires is not a covered activity, is not disclosed, and is not minimized or mitigated in the GCP.

Fires started by oilfield operations also threaten other listed species. Fires denude slopes exposing soil to erosion which threatens creeks and rivers with sedimentation. Sedimentation following the Tea and Jesusita Fires increased sedimentation by several orders of magnitude. Sedimentation caused by fires threatens steelhead, can smother red-legged frog eggs, and "decrease the holding capacity" of CTS breeding ponds. (GCP at 93) Similarly, ash, debris, and sedimentation from fires threatens other listed fish, including tidewater goby and unarmored three-spine stickleback. The Copper Fire eliminated unarmored three-spine stickleback from San Francisquito Canyon north of Los Angeles, one of a handful of creeks in the world where this species exists, including San Antonio Creek which is threatened by oil spills under the GCP.

Fire may also adversely affect LYS by allowing invasion of exotic ice plant. While some studies have shown that LYS exhibits vigorous growth after fires, experts such as Dr. Dennis Odion, a Vegetation Ecologist at Southern Oregon University, have recommended weeding ice plant seedlings for two to three years after fires in LYS stands to protect them from ice plant invasions. Increased human-caused fires have been documented as a threat to the species, including "proliferation of nonnative species concurrent with a reduction in the number of native species." (GCP at 48) The increase in nonnative species resets the fire frequency and "a shorter fire return interval than the one that naturally occurs could negatively impact native plant species by destroying plants before seed set occurs or destroying the seed bank." (Id.) Given this, there is evidence that increased fire-frequency, including oilfield-started fires, threaten LYS with take. However,

the GCP does not identify fire as an impact of the GCP and fails to minimize or mitigate the threat of take by wildfire.

As described in the proposed GCP, Section 10 of the ESA requires that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Under the proposed GCP, adaptive management strategies have been identified for oil spills, wildfires, drought, and exotic species. If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances, such as those relating to emergency repairs or maintenance, and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being "properly implemented." ("Properly implemented" means the commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented.) However, the depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all newly issued ITPs would require compliance with any new measures.

Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP.

For example:

"If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:

- *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
- *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
- *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
- *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*

In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service."

Comment EDC-138

Oil, chemical, and polluted wastewater spills from tanks, pipelines, wells, seeps, trucks, and other facilities present significant and unavoidable impacts on species including CTS, and CRLF, and LYS and their habitats. For example, the environmental impact reports for the two Cat Canyon projects estimate that at least four spills will occur per year. Spills would average an estimated 156 - 160 barrels of oil or produced water per year.

Spills threaten harm to the federally endangered unarmored three-spine stickleback, tidewater goby, and other special-status species in San Antonio Creek and Barka Slough. According to Hunt in his comments regarding the ERG Draft EIR,

> **Barka Slough, which although truncated at its upstream end by agriculture, remains the largest freshwater marsh in Santa Barbara County. Remnant populations of a number of special-status aquatic and aquatic-associated species, including tidewater goby (*Eucyclogobius newberryi*), threespine stickleback (*Gasterosteus aculeatus*), arroyo chub (*Gila orcutti*), California red-legged frog (*Rana draytonii*), western pond turtle, and two- striped garter snake (*Thamnophis hammondii*) still occur at now-isolated sites scattered throughout the floodplain area of the Los Alamos Valley (Hunt, pers. observ.), and attest to their historically widespread occurrence."**

There are at least eight oilfields which drain into San Antonio Creek. Tidewater goby has been documented five miles upstream from the San Antonio Creek mouth in the vicinity of the Four Deer, Lompoc, Jesus Maria, Orcutt, Harris Canyon NW, Barham Ranch, Los Alamos, and Careaga Canyon Oilfields. Nevertheless, these species are omitted from the analysis. (EA Table 3-1 at 3-12 - 3-13). Spills could also impact tidewater goby critical habitat in Winchester Canyon-Bell Canyon, Gaviota Creek, four Hollister Ranch streams, and the Santa Maria River.

Endangered southern California steelhead, steelhead critical habitat, and endangered arroyo toad in the Sisquoc River and other watersheds would be at risk due to increased oil tanker traffic. According to Hunt in comments regarding the Aera Draft EIR,

> **With a projected project life of 30 to 50 years, an unknown fraction of 2,700 to 4,500 barrels (113,400 to 189,000 gallons) of oil will be spilled, which could enter**

drainages and directly affect biological resources downstream of the project site. The impact analysis should be expanded to include biological resources in drainage reaches downstream of the project site and potentially-affected portions of the Sisquoc and Santa Maria rivers.

...Oil tanker accidents are not a covered activity, but would increase substantially as a result of new oil and gas projects, and cause harm to listed species, such as CTS, CRLF, LYS, arroyo toad, steelhead, tidewater goby, and unarmored three- spine stickleback. The GCP does not sufficiently disclose or analyze the impacts to the species survival from these non-covered activities.

Refer to Comment Response EDC-8. While this background information is acknowledged and appreciated, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity, including potential impacts associated with the risk of upset. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

As described in Comment EDC-3, avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species, including LYS. For example, Measure 20 as identified in the proposed GCP addresses impacts related to potential spills. Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Comment EDC-139

The GCP includes five areas, including the "Santa Barbara Coastline." (GCP at 5) Accordingly, the EA must be revised to identify the CZMA as an applicable regulatory requirement. (EA at 1-8) Pursuant to the CZMA, any federal agency activity "that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable

policies of approved State management programs." 16 U.S.C. § 1456(c)(1)(A). In this case, the GCP must be reviewed by the California Coastal Commission to ensure that it is consistent with the State's certified coastal management program.

As described in Comment Response EDC-22, the Final Programmatic EA has been revised to further clarify the potential for non-Federal oil and gas activities to occur within the Coastal Zone and to more clearly define the regulatory setting and responsibilities of the Applicant, local and state Lead Agencies pursuant to CEQA, Coastal Commission, and Service (see Section 1.6.4, *Coastal Zone Management Act*).

Comment EDC-140

The EA defines the purpose of the proposed action as increasing efficiency, standardizing compliance, ensuring consistency, and incorporating established maximum allowable impacts. (EA at 1-5) According to the EA, the GCP would provide a programmatic mechanism and eliminate the need for individual HCPs. (EA at 1-6) The EA identifies the need for better conservation of CTS, CRLF, and LYS. (Id.)

As written, however, the purpose of the GCP is not to protect the three identified listed species, but rather to allow private oil and gas development projects to proceed despite their impacts to the species. Although the EA professes that the purpose and need is to ensure compliance with the ESA and provide for "better conservation" of the species, the species would actually be better protected and conserved without the massive increase of oil and gas development proposed by the private companies and allowed by virtue of the GCP.

If the goal of the GCP is truly to provide better conservation of CTS, CRLF, and LYS, the GCP and EA should be revised to eliminate threats to these species and focus on recovery. This statement would be consistent with the ESA. Alternatives that achieve this purpose would focus on specific project review to ensure complete information and analysis, and could also prohibit oil and gas development activities in areas inhabited by the species or essential to their conservation and recovery.

As described in Section 1.3, *Purpose* of the Programmatic EA, the purpose of the proposed GCP is multifaceted. The proposed GCP *would* increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for non-Federal oil and gas development projects that have the potential to impact the CTS, CRLF, and LYS, but also comply with the requirements of the proposed GCP.

The proposed GCP does not, and cannot, affect the number of non-Federal oil and gas projects. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue

to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site.

This Programmatic EA evaluates the impacts of, and the alternatives to, the proposed approval and implementation of the GCP. Contrary to the comment, while adopting an alternative that uses specific individual review would require compliance with the ESA by avoiding take of federally listed species or, applying for an individual ITP and develop a project-specific, Applicant-prepared HCP would not be an environmentally superior alternative. Under such an alternative, no defined maximum impact limits to CTS, CRLF, and LYS habitat would be established; non-Federal oil and gas activities would continue without consideration of such limits. Conservation measures, including any compensatory mitigation, would also continue to be developed by the Applicant on a project-by-project and piecemeal basis instead of collectively.

Comment EDC-141

According to the EA, the Planning Area encompasses 674,200 acres (approximately 1,053 square miles). (EA at 2-1) The EA, however, fails to identify more specifically where the proposed oil and gas development activities would occur. Without this information, it is impossible to ascertain the potential impacts or determine whether the EA completely and adequately disclosed such potential impacts.

Refer to Master Comment Response-1 and EDC Comment Response-16. Under the Proposed Action, only covered activities located within the GCP Planning Area would be eligible to receive an ITP through the GCP process. The Programmatic EA describes that the entire GCP Planning Area encompasses 674,200 acres (approximately 1,053 square miles) including the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. Because project-specific details on the location and scope of potential future non-Federal oil and gas activities are unknown at this time, the GCP and EA cannot reasonably forecast or speculate the location of individual non-Federal oil and gas activities within the described Planning Area.

Comment EDC-142

In addition, the proposed Planning Area includes the Santa Barbara Coastline, and yet there is absolutely no discussion of potential activities or impacts located within this area in the EA. Why is this area included? The EA must describe the activities that may occur in this area, as well as the impacts that would result.

As described in Comment Response EDC-22, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full

range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As shown in Figure 1-1 of the Programmatic EA, the western most portion of the Lompoc Valley and nearly the entire Santa Barbara Coastline Planning Areas are located within the Coastal Zone. While the location and scope of potential non-Federal oil and gas activities are unknown at this time, it is possible that such activities may be proposed within the Coastal Zone and may apply for an ITP under the proposed GCP.

The Final Programmatic EA has been revised to further clarify the potential for non-Federal oil and gas activities to occur within the Coastal Zone and to more clearly define the regulatory setting and responsibilities of the Applicant, local and state Lead Agencies pursuant to CEQA, Coastal Commission, and Service (see Section 1.6.4, *Coastal Zone Management Act*).

Comment EDC-143

Despite the importance of alternatives to informed decision-making, the EA dispenses of this discussion in one page. (EA at 2-17) The EA evaluates only the No Action Alternative (as required by law) and summarily rejects any other alternatives, in clear violation of NEPA.

Refer to Comment Response EDC-11. A GCP is the only established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B). As such, aside from the current process evaluated under the No Action Alternatives, no other permitting mechanisms are available for analysis. Nevertheless, as described in Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis* of the Programmatic EA, several alternatives to the Proposed Action were identified and preliminarily evaluated during project planning and development. For example, the proposed GCP was initially written to cover only take of CTS. However, oil and gas development activities and actions that have the potential to take CTS often have the potential to take CRLF. As such, CRLF was included in the proposed GCP to improve its overall utility. Other federally listed species, including vernal pool fairy shrimp, were considered for analysis but eliminated. In the event that proposed activities would have the potential to impact species that are not covered under the proposed GCP, they would continue to be addressed on a project-by-project basis and would need individual HCPs to comply with the ESA. As such, these alternatives were eliminated from further consideration and are not analyzed in detail in this EA.

Comment EDC-144

In addition, the discussion of the No Action Alternative in the EA does not match the No Action Alternative in the GCP and contains false and misleading information.

The GCP states that "[t]he only alternative to the proposed incidental taking we considered is for project proponents to avoid any actions that could result in take of

federally-listed species." (GCP at 13) The GCP goes on to state that "[t]his is synonymous with a no-action alternative, in which the project proponent would modify their [sic] project to avoid take of listed species altogether." (Id.)

The EA should likewise identify the No Action Alternative as avoiding any actions that could result in take of listed species. Instead, the No Action Alternative in the EA would allow activities that could result in take of federally-listed species, but would require the project proponent to apply for individual ITPs. (EA at 2-17) This alternative should be evaluated separate from the No Action Alternative. Under this alternative, applications for individual ITPs would be subject to project-specific review. Such permits would impose limits for take and appropriate mitigation measures. Therefore, the statement in the EA that there would be "no defined maximum impact limits" without the GCP is incorrect and misleading. (EA at 2-17) In fact, the Service would still be required to impose maximum impact limits. As the California Coastal Commission notes, requiring individual HCPs would actually be environmentally preferential, given the long duration of the GCP and the limitations on addressing changed or unforeseen circumstances.

Similarly, the statement that there would be no cohesive planning is not true, given the fact that any proposed take must be reviewed with reference to the effect on the species as a whole, and to compliance with the adopted Recovery Plan. Accordingly, the EA must be revised to note that individual proposed ITPs and HCPs must ensure full compliance with the ESA.

The proposed GCP and Programmatic EA both identify the No Action Alternative as the only alternative to the proposed incidental taking considered. The No Action Alternative refers to a scenario where the proposed GCP as a standardized mechanism for compliance with Section 10 of the ESA is not implemented. Instead, the current system would continue to require individual non-federal oil and gas activities involving potential impacts to CTS, CRLF, and/or LYS to obtain ITPs with associated project-specific, Applicant-prepared HCPs. Under existing conditions, the necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. The Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and

- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

While individual projects may identify allowable takes and mitigation measures specific to the location of the individual project, the No Action Alternative would not establish comprehensive and long-term maximum takes for the entirety of the Planning Are, as would occur under implementation of the proposed GCP. Therefore, the description the No Action Alternative provided in the EA remains accurate.

Contrary to the comment, the No Action Alternative would not guarantee the environmentally superior alternative regarding the preservation and maintenance of suitable and occupied upland habitat, or avoidance and conservation of CTS, CRLF, and LYS.

Under the No Action Alternative, applicants would be required to continue comply with the ESA by avoiding take of federally listed species or, in the instances where take could not be avoided, Applicants would need to apply for an individual ITP and develop a project-specific, Applicant-prepared HCP in order to comply with the ESA. No defined maximum impact limits to CTS, CRLF, and LYS habitat would be established; non-Federal oil and gas activities would continue without consideration of such limits. Conservation measures, including any compensatory mitigation, would also continue to be developed by the Applicant on a project-by-project and piecemeal basis instead of collectively.

Compared to the Proposed Action, the No Action Alternative would not create standardized avoidance, minimization, and mitigation measures and compliance reporting and therefore would not create the cohesive planning for species recovery or its benefits as described under the Proposed Action.

Comment EDC-145

In this case, the EA does not consider any alternatives (other than the No Action alternative). The lack of a range of alternatives deprives the decision-makers of options to consider or adopt.

The GCP dismissed an alternative that would avoid federally-listed species and their habitats on the grounds that such an alternative "is not practical or feasible for most oil and gas industry activities within the Planning Area." (GCP at 13) As noted above, the EA did not even attempt to analyze such an alternative, so there is no basis for this conclusion. For example, it may be feasible to site oil and gas development in a manner that avoids take of LYS because the species occupies "discrete and generally small areas." Accordingly, well pads, roads, and pipelines can easily be sited to avoid LYS.

Nor does the EA analyze a reduced take alternative. The GCP would allow permanent removal of 675 acres of CTS upland habitat, 355 acres of CRLF Critical Habitat, and 27.5

acres of LYS stands. (EA at 2-8 - 2-14; GCP at 57 - 65) The EA is deficient for failing to evaluate an alternative that minimizes take.

Refer to Comment Response EDC-3.

Comment EDC-146

An EA must accurately describe the baseline environmental conditions in order to properly assess the project's impacts. Oregon Natural Desert Association v. Rose, 921 F.3d 1185, 1190, 1192 (9th Cir. 2019) (EA rejected for failing to assess the actual baseline conditions in the area). Not only does the EA fail to include the necessary information regarding the affected environment, by referring back to the GCP, but the information contained in the GCP and EA is incomplete and inaccurate.

The EA fails to sufficiently disclose the Affected Environment, including the estimated number of CTS and CRLF in the Planning Area. (See e.g., EA at 2-8, 2-10, and 4-7) The Service and CDFW have adopted protocol-level survey methodologies for both species, but these surveys have not been performed as part of the EA's analysis. Other surveys to estimate the baseline populations and densities in the Planning Area and inform the EA have not been undertaken. For example, methods of surveying for CTS involve burrow excavation, and fiber-optic scope surveys during which flexible scopes are fed into burrows in an effort to document the number of CTS and/or CRLF underground in upland areas. These surveys were not undertaken to inform the EA with estimated CTS and CRLF populations and densities in the five Planning Area units.

The EA itself notes that the Service "cannot predict the number of individual CTS that would be incidentally subject to take, because no density estimate (i.e., the number of CTS per acre) has been calculated for the Planning Area." (EA at 2-8) The EA's Affected Environment Section is deficient because no density estimates were calculated in the Planning Area to inform the EA.

Using habitat as a proxy for individual numbers to assess take of CTS and CRLF has a significant shortcoming. Absent Planning Area protocol-level surveys and other surveys to determine densities and survivorship, the GCP is uncertain about which upland and dispersal habitats are inhabited or the densities present. Instead, surveys to inform the Model occurred in different populations over two hundred kilometers apart, and over two hundred kilometers from Santa Maria. Without knowing the distribution and densities of CTS and CRLF in the Planning Area, the GCP cannot account for regional differences between Santa Barbara and Central Valley populations and habitats, and the Searcy Model cannot be calibrated to equate acreage of habitat to an estimated number of animals present in the Planning Area or in a project area. As a result, it may "bias the results." Areas with relatively high densities that are not known due to lack of adequate

surveys could be developed with insufficient compensatory mitigation based on a model-predicted lower density.

Refer to Comment Response EDC-37. The methodology for calculating take for these species is based on the habitat impacts, which is likely to be more conservative given that all of the habitat that is impacted either permanently or temporarily may not be occupied. The methodology for calculating permanent and temporary impact allowances, which are tied to the recovery criteria for the species are clearly summarized in the Programmatic EA and described in detail within the proposed GCP.

The proposed GCP relies on the comprehensive body of evidence provided in the Ventura Field Office's Strategic Conservation Plan (Service 2016) to describe the existing conditions for the species and to assess temporary/permanent impacts, wet/dry impacts, and aquatic/upland dispersal impacts. While the proposed GCP cannot respond to each individual study associated with the dispersal of CRLF, if future studies, when considered collectively, merit revisions to the Recovery Plan for the California Red Legged Frog or the Ventura Field Office's Strategic Conservation Plan (Service 2016) the recovery criteria and impact calculations would be revised accordingly in the proposed GCP and applied to all future ITP issuances under the proposed GCP. Refer to the Changed Circumstances discussion in the proposed GCP, which describes: *"Section 10 of the Act regulations (69 FR 71723 as codified in 50 CFR Sections 17.22[b][2] and 17.32[b][2]) require that a habitat conservation plan specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the habitat conservation plan."*

Comment EDC-147

The EA fails to substantiate the number of plants that exist in the Planning Area. The EA must identify the existing status and condition of the species, including the number of potentially affected plants. This should be feasible, given the fact that "there are only five known populations, three of which occupy small areas." Simply identifying the acres of habitat does not provide the same information.

Refer to Comment Response EDC-46.

Comment EDC-148

The EA notes that approximately fourteen federally listed species "have been identified or have the potential to occur within the Planning Area." (EA at 3-7) The EA, however, fails to identify the other eleven species or consider which ones may be impacted by oil and gas development in the Planning Area.

The EA fails to identify the federally endangered unarmored three-spine stickleback and tidewater goby which occur in San Antonio Creek near the Four Deer, Orcutt, Lompoc, Barham Ranch, Los Alamos, Jesus Maria, Harris Canyon, and Careaga Canyon Oilfields.

Tidewater gobies occur in several other estuaries and freshwater rivers and streams in the Planning Area, including the Santa Ynez River and in critical habitat in the Santa Maria River. The EA also omits the federally endangered arroyo toad which occurs in the Sisquoc River downstream from the Cat Canyon Oilfield. Suitable habitat for the longhorn fairy shrimp occurs in Cat Canyon Oilfield, but this species is also omitted. The endangered blunt-nosed leopard lizard still occurs in the Cuyama Valley within the Planning Area, and potentially occurs along tanker truck routes in Kern County. These federally threatened and endangered species are at risk due to the GCP because of habitat loss, stormwater runoff, spills from tankers, pipelines, wells, tanks, and other facilities, fires started by oil and gas operations, and/or vehicle-strike.

Other listed plant species are also present in the Planning Area, including *Deinandra increscens* ssp. *villosa*, *Cirsium scariosum* var. *longcholepis*, and *Diplacus vandenbergensis*.

The EA is inadequate due to the omission of these federally listed species as part of the Affected Environment.

As described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species, such as the three-spine stickleback (*Gasterosteus aculeatus*) and tidewater goby (*Eucyclogobius newberryi*), would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment EDC-149

The EA describes "general wildlife ," including "common species," Threatened and Endangered Species, and Non-covered Sensitive Species. (EA at 3-5 - 3-11). However, some species the EA refers to as "common" are protected by the State of California, including coast horned lizard, mountain lion, arroyo chub, western pond turtle, western mastiff bat, western red bat, fringed myotis, and hoary bat.

The EA omits State-listed and Fully Protected Species discussed above. The EA omits other State-protected wildlife species including the silvery legless lizard, coast patched-nose snake, two-striped garter snake, San Diego woodrat, American badger, and western spadefoot toad, which are California State Species of Special Concern. These species are

threatened by oil and gas development in the Planning Area but were improperly omitted from the EA.

Refer to Comment Response EDC-148. As described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. Additionally, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment EDC-150

The EA limits its analysis to the Planning Area; however, GCP impacts can occur outside of the Planning Area. Oil or other hazardous materials spills from pipelines and tankers can enter drainages, rivers, and the ocean. Spills such as the 2015 Refugio Oil Spill that originated on land but spread to the Pacific Ocean may impact federally listed marine species including southern sea otter, blue whale, and pink abalone. In response to the Refugio Oil Spill, over 1,000 calls to CDFW documented over 300 sightings of oiled wildlife. According to the most recent report regarding the natural resource damages from the Refugio Oil Spill, the incident killed hundreds of birds, marine mammals, and other wildlife. The EA is deficient for not setting forth marine resources, including federally listed marine species, as part of the Affected Environment and in Table 3-1.

A defined geographic area (i.e., GCP Planning Area) was necessary during the development of the proposed GCP to establish maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly defined geographic area was necessary to establish maximum allowable impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011). Oil and gas activities located outside of the GCP Planning Area would not be eligible for the proposed GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities – including potential off-site impacts resulting from accidental release – would be performed during that review and permitting process in compliance with CEQA.

Comment EDC-151

The EA discusses potential impacts to wetlands in Section 3.4, but it defines wetlands narrowly and inconsistent with Service Policy. The Service uses the following definition:

> **"WETLANDS are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes;1 (2) the substrate is predominantly undrained hydric soil;2 and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year."**

The Service's definition requires that only one of three wetland attributes (or parameters) must be present to be a wetland: hydrology, soils, or vegetation. However, the EA considers only those wetlands exhibiting all three wetland parameters: hydrology, soils, and vegetation. (EA at 3-14). The EA is deficient because it does not utilize the Service's one-parameter wetland definition and omits one- and two-parameter wetlands from the Affected Environment.

The comment incorrectly states that the Programmatic EA considers only those wetlands exhibiting all three wetland criteria (i.e., hydrology, soils, and vegetation). As described in Section 3.4, *Wetlands/Waters of the U.S.* of the draft EA, the EA defines wetlands consistent with the USACE and USEPA's definition as *"'those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas' (33 CFR §328.3[b]). USACE technical guidelines for identifying wetlands require that at least one positive indicator for each of three criteria (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) exist in order to designate a wetland."* Therefore, consistent with the USACE, USEPA, and USFWS definition of wetlands, the EA considers wetlands as those exhibiting at least one positive indicator for each of the three criteria. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities – including potential impacts to wetlands – would be performed during that review and permitting process in compliance with CEQA.

Comment EDC-152

The EA lists the Orcutt River on page 3-7. This may to be a reference to Orcutt Creek.

The Final Programmatic EA has been revised to identify Orcutt River as Orcutt Creek.

Comment EDC-153

The EA misrepresents the Barka Slough as an estuary. (EA at 3-15) Barka Slough is one of the largest freshwater marshes in the region and is located several miles inland from the San Antonio Creek Estuary.

The Final Programmatic EA has been revised to correctly identify the Barak Slough as a freshwater marsh.

Comment EDC-154

The Draft EA fails to fulfill the requirements of NEPA because it does not consider all the potential activities that may occur; limits the timeframe, breadth of listed species that may be impacted, and other impacts that could result if the GCP is approved; and fails to assess both direct and indirect effects.

The EA also improperly relies on separate environmental review under the California Environmental Quality Act ("CEQA") to assess impacts from the oil and gas projects that will utilize the GCP. (EA at 4-5) The fact that local and state agencies must comply with CEQA does not relieve the Service of the requirement to disclose these significant direct and indirect impacts in the EA. Environmental review must occur early in the process "to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts." 40 C.F.R. § 1501.2, Idaho Sporting Congress, Inc. v. Alexander, 222 F.3d 562, 567-68 (9th Cir. 2000). Accordingly, the Service must conduct complete environmental review before taking action on the proposed GCP.

Refer to Comment Response EDC-6. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the

project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-155

The EA discloses in Table 2-2 the Maximum Allowable Permanent Impacts to six CTS Critical Habitat Units (152 acres total). As discussed above in comments on the GCP, the GCP allows removal of CTS critical habitat which is not replaced in-kind with new critical habitat. (EA at 2-9) This net loss of critical habitat acreage is a significant and unavoidable impact because it is a permanent impact to an essential habitat. The EA fails to identify this loss as a significant impact.

Refer to Comment Response EDC-121.

Comment EDC-156

The EA states that "aquatic features (PCE 1) would not be adversely affected because no impacts to aquatic habitats would be permitted under the proposed GCP." (EA at 4-9; see also EA at 4-11) The EA also claims that "the GCP may result in beneficial affects [sic] to PCE 1 because aquatic habitats would be protected." (EA at 4-9) However, the EA's conclusory statements overlook the following indirect impacts to CTS aquatic and breeding habitats: altered runoff patterns in watersheds, and increased non-point source pollution including sediment, oil, and grease entering ponds and creeks. For instance, as discussed in more detail in comments on the GCP, the CTS Recovery Plan states that stormwater runoff from oilfield roads resulted in mortality and deformation of CTS and the western spadefoot toad in the Planning Area. Bumgardner identifies other impacts to breeding ponds including reducing ponds "hydroperiod to less than twelve contiguous weeks by modifying ponds" watersheds and reducing surface and subsurface flows into the pond. The EA is deficient for not identifying this documented form of take and significant impacts to breeding CTS, CTS breeding habitats, CTS prey base, and western spadefoots.

As described in Master Comment Response-1, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. Water resources and aquatic habitat – including potential off-site impacts – would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site. Further, the proposed GCP would not affect or otherwise restrict the permitting authorities of the USACE or the Central Coast RWQCB under Section 404 or 401 of the CWA or the CDFW under Section 1602 of the California Department of Fish and Game Code. Individual projects that could impact jurisdictional waters or other aquatic habitat would

be required to obtain all appropriate permits and comply with all required permit conditions, completely separate from ESA compliance (see Section 4.4, *Wetlands/Waters of the U.S.* of the Programmatic EA). Therefore, it is anticipated that the Proposed Action, limited to the implementation of the proposed GCP as a mechanism for ESA compliance, would not result in impacts to water quality and aquatic habitats.

Comment EDC-157

As discussed above in comments regarding the GCP and the EA's Affected Environment section, the EA defines wetlands much more narrowly than the Service's definition. The EA uses the U.S. Corps of Engineers definition - the narrowest of all wetland definitions in our region. Under the Corps' definition, an area must exhibit all three wetland parameters: soil, plants, and hydrology. Under the Service's definition, however, an area qualifies as a wetland if only one parameter is met. As a result, the EA omits impacts to all one- and two-parameter wetlands. Such wetlands often constitute the majority of wetlands on parcels in Santa Barbara. For example, the 2008 Final EIR for Santa Barbara Ranch identifies a much greater number and acreage of one- and two-parameter wetlands than three-parameter wetlands. The EA's omission of impacts to all one- and two-parameter wetlands renders it deficient.

Refer to Comment Response EDC-151.

Comment EDC-158

As discussed above in the comments on the GCP, the EA does not adequately disclose the impacts of lighting on wildlife movement, nesting, and foraging. The EA fails to identify potentially significant impacts to CTS, CRLF, other listed species, special-status species, and general wildlife from noise and vibrations. For example, the TerraCore West Cat Canyon Project will result in significant impacts from nighttime noise to surrounding neighbors. This noise could significantly impair intraspecies communications by masking auditory signals and may reduce reproduction in amphibians and reptiles. The EA is deficient for omitting noise, vibration, and lighting impacts on CTS and CRLF.

However, as described in Section 4.2.6, *Noise,* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any oil and gas development and as such would not directly result in any direct (e.g., construction noise) or indirect impacts (e.g., increased truck traffic noise) to existing noise conditions. Noise and lighting impacts from oil and gas development would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over the individual project site(s) (e.g., County of Santa Barbara). For each application received under the proposed GCP, the Service would conduct an

appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-159

CRLF critical habitat constitutes 35,426 of the Planning Area's 674,220 acres. (EA at 2-10) The GCP caps take of CRLF within this 35,426-acre critical habitat. (EA Table 2-3 at 2-11) However, the EA does not cap take of CRLF in the remaining 638,794 acres outside of designated critical habitat. In contrast, the GCP does cap take for LYS outside designated critical habitat areas. (EA Table 2-4 at 2-14) The lack of a cap on CRLF take outside designated critical habitat means that the GCP could result in substantial loss of CRLF habitat in the remaining 638,794 acres. The failure of the EA to consider or analyze the impact of allowing take outside designated CRLF critical habitat is a significant omission.

Critical habitat receives protection under Section 7 of the ESA through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. Therefore, impacts to CRLF within designated critical habitat would not be covered under the GCP. For potential impacts within designated critical habitat, the Service would conduct a Section 7 consultation and analyze the effects of issuing an ITP to determine whether that action is likely to jeopardize the continued existence of the listed species or to destroy or adversely modify designated critical habitat. The Service would allow for up to 1 percent of the total planning area (i.e., 6,742 acres) as the cap for allowable impacts to CRLF habitat under the proposed GCP. Applicants would compensate for these impacts in accordance with Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP.

Comment EDC-160

The EA's description of impacts to LYS states that "no impacts to designated critical habitat for LYS would be covered under the proposed GCP." (EA at 4-12) On the other hand, the EA identifies "impacts to 7.5 acres of LYS habitat which could occur within the boundary of designated critical habitat as shown in Table 2-4." (Id.) This substantive inconsistency confuses the impact analysis and renders the EA deficient.

Critical habitat receives protection under Section 7 of the ESA through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. Therefore, impacts to CRLF within designated critical habitat would not be covered under the GCP. For potential impacts within designated critical habitat, the Service would conduct a Section 7 consultation and analyze the effects of issuing an ITP to determine whether that action is likely to jeopardize the continued existence of the listed species or to destroy or adversely modify designated critical habitat. The proposed GCP would allow for impacts of up to 27.5 acres of LYS habitat across the two geographic areas that encompass three populations of Lompoc yerba santa (refer to Table 2-4).

Comment EDC-161

In fact, impacts to LYS would be significant due to the few numbers and locations of the plant, the existing threats, the amount of plants that would be taken and the difficulties with propagating LYS, and impediments to expansion and migration. As Magney states, "The limited distribution and size of the LYS populations are so small that any loss of individual represents a significant impact." Moreover, there is no evidence that such impacts can be mitigated.

Implementation of the proposed GCP would incorporate established maximum allowable impacts within LYS habitat consistent with the consistent with the recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011). Impacts to LYS would be avoided and minimized to the maximum extent practicable through the implementation of Avoidance and Minimization Measures. Applicants would also be required to implement compensatory mitigation for individual non-Federal oil and gas activities that would result in permanent and/or temporary impacts LYS. Further, restoration monitoring would continue for 5 years or until the predetermined success criteria have been documented and met. Together with standardized monitoring and reporting activities as well as the implementation of adaptive management strategies, implementation of compensatory mitigation described in the proposed GCP would offset impacts to LYS habitat.

As such, the implementation of the proposed GCP – which would standardize the approach to implementation of avoidance, minimization, and mitigation measures and incorporate established maximum allowable impacts within LYS habitat consistent with the species' *5-year Review: Summary and Evaluation* (Service 2011) – would result in minor overall *beneficial* impacts to

Comment EDC-162

The EA discusses mitigating the impacts of oil spills (but not chemical or polluted wastewater spills) and spill cleanups pursuant to an ERAP. (EA at 4-4) However, this impact is limited to spills from "oil drilling, oil wells, and/or oil pipelines." (Id.) The EA omits the impacts of take caused by tanker truck accidents resulting in oil spills, explosions, and fires. Tanker trucks may also haul chemicals which may require different responses than crude oil, and thus may require a different ERAP. Tanker trucks drive on roads and highways following and crossing major rivers and streams which support listed species both within and outside of the Planning Area as discussed above. As noted above, on March 21, 2020, an oil tanker crash spilled 4,500 gallons of oil into the Cuyama River, oiling at least two CRLF during CRLF breeding season. Given this recent accident and spill, there is no excuse for the EA to omit tanker accidents and spills and their impacts on CTS, CRLF, LYS, and other fish, wildlife, and vegetation.

Refer to Comment Response EDC-136. Under the Proposed Action, only covered activities located within the GCP Planning Area would be eligible to receive an ITP through the GCP process. Therefore, individual oil and gas activities occurring outside of the County boundaries would not be eligible to receive an ITP through the proposed GCP process.

Additionally, as described in Master Comment Response-1, it is important to note that this programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would

carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County or outside of the Planning Area. Rather the EA evaluates the potential direct impacts of establishing the GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of wildfire are also comprehensively addressed in this context within the proposed GCP.

Comment EDC-163

The EA fails to disclose and evaluate take and impacts to CTS and CRLF habitats and LYS stands caused by wildfires started by oil and gas operations. For instance, as discussed above, the 2016 Cat Fire, 2017 Lease Fire, 2018 Rig, and 2019 Harris Grade Fire started in North County oilfields, and were linked to oilfield electrical equipment. Like oil spills, these fires are not lawful activities and therefore cannot be covered by the GCP but result in take which must be disclosed in the EA...

The potentially significant impacts of oilfield-started wildfires, including take of CTS, CRLF, and LYS, are not disclosed in the EA, nor are they minimized or mitigated by any measure in the GCP. Omission of take and significant unavoidable impacts caused by oil and gas operation-started wildfires renders the EA deficient.

As described in the proposed GCP, Section 10 of the ESA requires that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Under the proposed GCP, adaptive management strategies have been identified for oil spills, wildfires, drought, and exotic species. If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances, such as those relating to emergency repairs or maintenance, and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the

commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented.) However, the depending on the magnitude of the unforeseen circumstances, the GCP would be revised, as necessary, and all newly issued ITPs would require compliance with any new measures.

Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP.

For example:

"If a wildfire occurs within a project area, the permittee will notify the Service of this changed circumstance, and then implement the following actions:

- *Assess the damage caused by the fire, including the areal extent of natural communities and covered species habitat affected;*
- *Develop and implement an exotic plant early detection and rapid response plan, to prevent the affected area from becoming dominated by invasive plants;*
- *Develop and implement a monitoring program to evaluate recovery of the affected area for five years; and*
- *If monitoring indicates that native plant re-establishment is insufficient, or that the indirect effects of fire including erosion and the invasion and spread of exotic plants, are degrading habitat in ways that impact the covered species, develop and implement a restoration plan designed to improve habitat conditions, through an adaptive management and monitoring program.*

In the event that a drought during the permit term negatively impacts the covered species or efforts to promote their persistence as part of the conservation strategy, the permittees will prepare a report assessing the impacts and identify strategies to ameliorate or repair them. The report will be provided to the Service for review and comment and the permittee will implement the remedial measures identified in the report or as recommended by Service."

Comment EDC-164

The GCP could result in spill-related, oilfield fire-related, and vehicle-strike take of CRLF and other listed wildlife species outside the County; however, the EA's discussion of impacts is limited to resources in "The Planning Area" in "Santa Barbara County." (EA at 4-2, 4-5, and 4-10) The GCP does not cover take caused by linear infrastructure which extends beyond the County line, such as some pipelines and oil tankers on highways. (GCP at 14) However, out- of-County impacts are one ultimate result of the GCP. The EA's omission of impacts outside of the Planning Area, including fires and spills from tanker crashes and oil field operations, pipeline spills, and increased traffic outside the County is a serious flaw in the EA.

Refer to Comment Response EDC-136. Under the Proposed Action, only covered activities located within the GCP Planning Area would be eligible to receive an ITP through the proposed GCP process. Therefore, individual oil and gas activities occurring outside of the County boundaries would not be eligible to receive an ITP through the proposed GCP process.

Additionally, as described in Master Comment Response-1, it is important to note that this programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-165

The EA omits the impacts of take associated with climate change caused by authorized oil and gas projects' GHG emissions. The 674,220-acre Planning Area for the GCP covers the Cat Canyon Oil Field where proponents of two new steam injection projects propose to drill nearly 500 new wells, tripling onshore oil production in the County. (GCP at 5) The significant GHG emissions generated by these two projects alone will contribute to climate change impacts, such as increased droughts, fires, and floods, which directly affect recovery efforts for CTS, CRLF, and LYS. For example, the TerraCore project would

emit 250,876 metric tons per year of CO2 equivalent ("MTCO2e") and Aera's project would emit 302,532 MTCO2e annually. By way of comparison, the County identifies GHG emissions over 1,000 MTCO2e to be a significant climate change impact. The emissions from new or expanded oil and gas projects in Santa Barbara County would worsen these climate change impacts on CTS, CRLF, LYS, and their habitats.

Globally, GHG emissions have doubled since 1980, increasing global temperatures by at least 0.7 degrees Celsius. Even more alarming, the County's average temperature has increased by 2.3 degrees Fahrenheit, placing it among the fastest warming locations in the country. Amphibians have thin, highly permeable skin and typically prefer moist environments. These species are thus disproportionately impacted by warmer and dryer summertime conditions. According to a recent UN report, forty percent of amphibian species are currently in danger of extinction, including CTS.7 (GCP at 40) The GCP explains how climate change is already adversely affecting CTS and other amphibians:

> **Global amphibian declines have been increasingly attributed to factors resulting from global climate change over the last decade (Corn 2005, Wake 2007, Reaser and Blaustein 2005). Factors such as epidemic disease (Pounds et al. 2006), changes in breeding phenology (Terhivuo 1988; Gibbs and Breisch 2001; Beebee 1995), changes in environmental conditions such as leaf litter (Whitfield et al. 2007), increased evaporation rate (Corn 2005, but see Pyke and Marty 2005), increased frequency of storm events and drought (Kagarise-Sherman, and Morton 1993) and ultraviolet radiation (Blaustein et al. 1998) have been identified to affect amphibian persistence. Diseases, such as the amphibian chytrid fungus, may become more virulent in changing climatic conditions (Pounds et al. 2006). Warmer temperatures have been linked to earlier breeding in some amphibians (Blaustein et al. 2001, Beebee 1995). Changes to the hydroperiod of ephemeral ponds due to changing weather patterns have significant implications for the diversity of amphibians that rely on those ponds for breeding (Corn 2005). Ultraviolet radiation has been shown to have negative effects on amphibian eggs and embryos around the world (Blaustein et al. 1998). (GCP at 40)**

Additionally, biological invasions are forecast to increase as the effects of climate change on ecosystems become widespread. Climate change disturbs habitats and facilitates the establishment of invasive species, thereby impacting the local biodiversity. One consequence of nonnative species invasion of particular concern for the CTS is hybridization - the cross-breeding between invasive and native species - a phenomena that has been proven to accelerate greatly during periods of warming. In 2014, research determined that climate change-induced invasive hybridization could lead to extinction for many species. This is particularly relevant in the Cat Canyon Oil Field due to the

ongoing invasion of exotic tiger salamanders in the Planning Area, as discussed in the GCP. (GCP at 38) Climate change may further accelerate this impact on CTS.

Leading CTS biologists Searcy and Schaffer conducted a 2016 analysis of how models predicted climate change impacts on CTS. Unfortunately, they found that four separate projections "showed a significant decrease in habitat suitability." The Santa Barbara CTS fared particularly unfavorably in the modeling. Finally, with respect to the Recovery Plan's identification of invasive salamanders noted just above, Searcy and Schaffer point to the current "hybrid swarm" threat in Santa Barbara County and how climate change is expected to worsen this threat.

Climate change will also affect LYS as conditions become too dry to support normal growth and reproduction. If areas that currently support LYS become uninhabitable, it will be more difficult for LYS as compared to some species to migrate to survive due to limitations on seed viability and successful propagation. In addition, there "likely unsurmountable barriers to its successful migration northward or upward in elevation." Migration is limited because the soils in which LYS grow are highly restricted and lacking, and because urban and agricultural development blocks paths for migration. Therefore, any impacts from climate change will only exacerbate the perilous condition of LYS.

Increased fire frequency caused in part by climate change may further reduce LYS stands in chaparral through a process known as type-conversion. (GCP at 49) The GCP itself finds that wildfire can extirpate entire uniclonal populations. (GCP at 50) Nonnative "iceplant and veldt grass have both followed fire into the chaparral habitat and have been displacing Lompoc yerba santa." Therefore, while the EA lacks information about the effects of climate change on LYS, there is ample evidence demonstrating that climate change increases fire frequency which can extirpate the two uniclonal LYS populations, and cause invasion of nonnative plants into LYS stands further degrading them and reducing their size.

We know enough about the effects of climate change to understand that LYS, CTS, and CRLF are already subject to or will be adversely affected by these changes. The oil and gas projects that would benefit from the GCP will exacerbate climate change and adversely impact LYS, CTS, and CRLF. Authorizing take for oil and gas projects does not help to conserve these species and instead increases long-term climate change threats to them. The EA fails to disclose and minimize these significant impacts.

Moreover, the biological impacts from climate change catalyzed by fossil fuel energy development, for which the GCP would provide take authorization, are not limited to the CTS, CRLF, and LYS. Changes in temperatures, precipitation, food sources, and predator-prey patterns are disrupting cyclical biological events and species' ranges in

terrestrial ecosystems worldwide. Recent research published in Nature Climate Change found that climate change is already affecting more than 700 species of threatened or endangered mammals and birds. One million species of plants and animals are now at risk of extinction due to climate change. Based on the foregoing, the failure to adequately analyze the impacts on CTS, CRLF, and LYS in the EA is a significant omission.

The Service acknowledges and appreciates the information provided in this comment related to the potential impacts to related to GHG emissions and climate change associated with individual oil and gas activities. However, the Proposed Action would not serve as an approval mechanism for development of any new GHG emissions sources. Air quality and GHG emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing GHG emission controls for individual oil and gas development projects. Therefore, the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not result in impacts to air quality or GHG emissions.

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Adaptive management strategies would be implemented if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program, then those measures will be implemented as specified in the plan. Adaptive management strategies have been identified for:

- Oil Spills;
- Wildfires;
- Drought; and
- Exotic Species.

Potential issues related to the effects of climate change are also comprehensively addressed in this context within the proposed GCP.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the operating conservation program, the Service will not require these additional measures absent the

consent of the permittee, provided that the proposed GCP is being *"properly implemented."* (*"Properly implemented"* means the commitments and the provisions of the GCP and the Conservation Easement document have been or are fully implemented.) However, the depending on the magnitude of the unforeseen circumstances, the proposed GCP would be revised, as necessary, and all *newly issued* ITPs would require compliance with any new measures.

Comment EDC-166

The EA fails to disclose the GCP's direct and indirect impacts and potential take of endangered steelhead, arroyo toad, tidewater goby, unarmored three-spine stickleback, blunt-nosed leopard lizard, and longhorn and vernal pool fairy shrimp. The EA claims, "there would be beneficial impacts to noncovered species" because "avoidance, minimization, and mitigation measures from the proposed GCP - intended for CTS, CRLF, and LYS - also apply to the other noncovered species cross the Planning Area." (EA at 4-14) However, the EA provides no explanation whatsoever regarding how the GCP's measures would allegedly apply to these seven listed but noncovered species and the other listed species in EA Table 3-1.

The EA's Affected Environment section acknowledges that the federally endangered steelhead is present. (EA at 3-7) Steelhead critical habitat has been designated below dams in almost all significant waterways, including the Sisquoc and Santa Maria Rivers downstream from the Cat Canyon Oilfield. Arroyo toad occurs in the Sisquoc River downstream from the Cat Canyon Oilfield. Oil spills, toxic wastewater spills, and other hazardous liquids spills "while unlawful and thus not covered by the GCP" could enter the Sisquoc River where they could significantly impact steelhead and arroyo toad. However, the impact of spills on steelhead and arroyo toad in the Sisquoc and Santa Maria Rivers is omitted from EA Section 4 - Environmental Consequences.

As discussed further below, GCP Measure 20 is intended to mitigate the impact of spills after-the-fact, but the ERAP does not avoid or substantially minimize the significant unavoidable effects of spills on arroyo toad and steelhead.

The EA omits federally endangered unarmored three-spine stickleback within San Antonio Creek. (See e.g., EA Table 3-1 Federally Listed Species with Potential to Occur within the GCP Planning Area) Federally endangered tidewater goby occurs in many estuaries, lagoons, and streams in the Planning Area, including designated critical habitat, but the goby is also omitted from the EA. "Although usually associated with lagoons and estuaries, the tidewater goby has been documented in slack freshwater habitats as far as 5 miles upstream from San Antonio lagoon in Santa Barbara County." This ability to migrate five miles up San Antonio Creek places tidewater goby in the vicinity of at least eight oilfields, and places it at risk from oil and wastewater spills in the

Planning Area. These species are threatened by oil and wastewater spills from production, processing, storage, and transportation of oil by pipeline or truck within the Planning Area. With respect to truck and pipeline transport, take can occur both inside and outside of the Planning Area, but impacts to these endangered fish are omitted from the EA. The unarmored three-spine stickleback and tidewater goby are also threatened by frack-outs during hydraulic directional drilling ("HDD") proposed to install a natural gas line under San Antonio Creek to support oil and gas operations.

Vernal pool and longhorn fairy shrimp are threatened by the GCP's authorization of construction and operation of oil and gas projects, including habitat loss from construction, mowing, and off-road vehicles, and crushing of cysts in dry ponds. Blunt-nosed leopard lizards are at risk due to the oil and gas development and vehicle-strike under the GCP. Considering effects on other species of endangered lizards, oilfield-started fires and increased fire frequencies worsened by climate change may also threaten the endangered blunt-nosed leopard lizard.

The EA's failure to disclose significant impacts to southern California steelhead, arroyo toad, unarmored three-spine stickleback, tidewater goby, vernal pool and longhorn fairy shrimp, and blunt-nosed leopard lizard renders the EA deficient and undermines the public's right to a fair and transparent analysis.

Refer to Comment Response EDC-148. As described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment EDC-167

The EA fails to disclose impacts to State-protected special-status species which are not federally listed, such as the western pond turtle and two-striped garter snake. The EA omits the GCP's impacts to other special-status species which were improperly excluded from the EA, such as the ringtail, silvery legless lizard, San Diego woodrat, and American badger. These species could be significantly impacted by oil spills, oilfield-started wildfires, roadkill, habitat loss, and crushing during construction. The EA omits these significant impacts to these special-status species.

Refer to Comment Response EDC-148. As described in Section 4.3.1.2, *Noncovered Sensitive Species* of the Programmatic EA, non-Federal oil and gas activities involving take of noncovered species would not be eligible for the proposed GCP, proponents would be required to comply with the ESA by separately applying for and receiving an individual ITP from the Service pursuant to Section 10(a)(1)(B) of the ESA. As such, implementation of the Proposed Action would not change the permitting processes for noncovered species. However, a number of the avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also benefit the other noncovered species across the Planning Area. Further, compensatory mitigation could also benefit the other noncovered species with similar habitat requirements and ranges that overlap one or more of the three covered species.

Comment EDC-168

The GCP results in a net loss of habitat for listed, State-protected, and other species, causing a significant unavoidable adverse impact which is omitted in the EA. As discussed above in comments on the GCP, the GCP would authorize permanent take of up to 675 acres of CTS upland habitat, 355 acres of CRLF designated critical habitat, 27.5 acres of LYS. (EA at 2-8 to 2-14) In exchange, the GCP identifies Compensatory Mitigation including a Mitigation Bank, CTS and CRLF Mitigation and Conservation Accounts, and Permittee-Responsible Mitigation. (GCP at 76 - 81) All of these measures involve existing habitat but do not offset the loss of habitat acreage by creating or sufficiently restoring upland habitat as described in the CTS Recovery Plan. Therefore, even when existing habitat is placed under an easement as mitigation for habitat loss, there is a net loss in habitat acreage for CTS, CRLF, LYS, other federally listed species, State-protected species, and general wildlife. The EA omits this significant unavoidable impact of net habitat loss.

Refer to Comment Response EDC-1. The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and

- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

While the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas projects, the GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."* By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the existing process.

Comment EDC-169

As discussed above in comments on the GCP and the EA's Affected Environment section, oil or wastewater spills that begin onshore at GCP-authorized oil and gas facilities and reach offshore, or come from trucking accidents along the coast, may impact listed marine species such as sea otter, federally endangered white abalone, and blue whale. The EA improperly limits its analysis to terrestrial environments and omits impacts to marine species.

Refer to Comment Response EDC-136. Under the Proposed Action, only covered activities located within the GCP Planning Area would be eligible to receive an ITP through the proposed GCP process. Therefore, individual oil and gas activities occurring outside of the County boundaries would not be eligible to receive an ITP through the GCP process.

Additionally, as described in Master Comment Response-1, it is important to note that this Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP. As described within the Programmatic EA, the standardized approach to issuing ITPs under the proposed GCP *"would allow greater consistency in the application of avoidance, minimization, and mitigation measures. Further, over the 20-year life of the GCP, the standardized ITP process would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly the GCP would incorporate established maximum allowable impacts within LYS habitat based on recovery criteria in the species' 5-year Review: Summary and Evaluation (Service 2011)."* As such, implementation of the proposed GCP would not result in potentially significant impacts on the physical or human environment.

Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County or outside of the Planning Area. Rather the EA evaluates the potential direct impacts of establishing the GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA.

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to the effects of wildfire are also comprehensively addressed in this context within the proposed GCP.

Comment EDC-170

The EA concludes that the GCP may result in beneficial impacts for vegetation and general wildlife, but this conclusion is based on an illogical analysis. (EA at 4-4 and 4-6) The EA reaches this incorrect conclusion by relying on speculative mitigation measures. In fact, the GCP does not result in beneficial impacts to vegetation and wildlife from authorizing oil and gas projects. Instead, the GCP will result in take of endangered and threatened species by allowing activities that will cause harm to species and their habitats from oils spills, construction, habitat loss, stormwater runoff, fires, vehicle-strikes, etc.

The GCP will result in permanent loss of 675 acres of CTS upland habitat, including 152 acres of critical habitat, 355 acres of CRLF critical habitat, and 27.5 acres of LYS, including 7.5 acres of critical habitat. The Aera East Cat Canyon Project will result in a permanent loss of 201.4 acres of vegetation and would result in the removal of hundreds

of oak trees, causing a significant unavoidable impact. The Aera and TerraCore Projects will result in an estimated four spills per year causing significant unavoidable adverse impacts to biological resources even after mitigation measures are implemented. While the GCP includes measures to mitigate and compensate for these losses, the measures do not avoid the adverse impacts and do not make oil spills, fires, and habitat loss beneficial biological impacts.

Refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

While the proposed GCP does not, and cannot, place a limit on the number of non-Federal oil and gas projects, the proposed GCP does incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner."* By limiting the take of the three covered species (i.e., CTS, CRLF, and LYS) through proactive contemplation of long-term and cumulative disturbance, the Service anticipates that the Proposed Action would result in beneficial impacts both over the long term and cumulatively as compared to the existing process.

Comment EDC-171

The EA touts a "standardized approach" and "greater consistency" with regards to implementing avoidance and minimization measures for native vegetation and general wildlife. (EA at 4-4 and 4.6) However, greater consistency and a standardized approach do not necessarily ensure that the impacts are mitigated any more than they would be by using HCPs for individual projects (the No Action Alternative, EA at 2-17). Greater consistency and a standardized approach make issuing permits more efficient, which is part of the GCP's purpose. (EA at 1-5) These administrative benefits are not biological benefits, which this GCP does not provide for the reasons stated herein. In fact, as stated above, individual ITPs and HCPs would provide more thorough analysis and greater protection for listed species.

Refer to Master Comment Response-1. The Proposed Action would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for oil and gas development. Continued application of these measures under the proposed GCP would occur but would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species in their respective Recovery Plans.

The current process for an Applicant to obtain an ITP is described in Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits*. The necessary components of a complete permit application include a standard application form and a HCP. Issuance of ITPs requires an evaluation compliant with NEPA. Based on the magnitude of the action and, especially, on the significance of the anticipated effects, different processes and associated documentation are required to satisfy NEPA requirements. The three levels of analysis include Categorical Exclusion, EA, or an EIS. Nevertheless, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Under the Proposed Action, the proposed GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the proposed GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the MMRP; and

- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-172

The EA does not sufficiently discuss the impacts of the GCP on wildlife movement corridors. The EA refers to "fragmentation" but does not analyze the impacts of oil and gas activities on wildlife movement. (EA at 4-5) In his comments regarding the Aera and ERG EIRs, Hunt finds these impacts may be significant. The EA id deficient in its assessment of wildlife movement impacts.

The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Avoidance, minimization, or mitigation measures would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species. For example, the proposed GCP identifies the following measures related to potential spills:

"20. Applicants for projects involving oil drilling, oil wells and/or oil pipelines will prepare an Emergency Response Action Plan that addresses protection of sensitive biological resources and revegetation of any areas disturbed during an oil spill or cleanup activities. The Emergency Response Action Plan will, at a minimum, include specific

> *measures to avoid impacts to native vegetation and wildlife habitats, plant and animal species, and environmentally sensitive habitat areas during response and cleanup operations. These measures will include integration of a service-approved biologist on the initial response team to assist with avoidance of sensitive resources and to quantify impacts resulting from control, cleanup, and maintenance. Where feasible, low-impact, site-specific techniques such as hand-cutting contaminated vegetation and using low pressure water flushing will be specified to remove spilled material from particularly sensitive wildlife habitats, such as riparian woodlands, because procedures such as shoveling, bulldozing, and raking can cause more damage to a sensitive habitat than the oil spill itself. The Emergency Response Action Plan will evaluate the non-cleanup option for ecologically vulnerable habitats as identified by the applicants. When habitat disturbance cannot be avoided, the Emergency Response Action Plan will provide stipulations for development and implementation of site-specific habitat restoration plans and other site-specific and species-specific measures appropriate for mitigating impacts to local populations of special-status plant and wildlife species and to restore native plant and animal communities to pre-spill conditions. Access and egress points, staging areas, and material stockpile areas that avoid sensitive habitat areas will be identified. The Emergency Response Action Plan will include species- and site-specific procedures for collection, transportation and treatment of oiled wildlife, particularly for sensitive species. The Emergency Response Action Plan will include procedures for timely re-establishment of vegetation that replicates the habitats disturbed (or, in the case of disturbed habitats dominated by nonnative species, replaces them with suitable native species).”*

Additionally, Section 10 of the ESA regulations (69 FR 71723, as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Potential issues related to oil spills are also comprehensively addressed in this context within the proposed GCP.

Finally, the completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP prepared for the individual non-Federal oil and gas activity, if required. The MMRP would be used as the basis for identifying and determining additional project-specific mitigation measures, beyond those measures identified in the proposed GCP, if necessary.

Comment EDC-173

Oil and gas activities under the GCP may result in removal of over a thousand mature oak trees and over a hundred acres of coastal sage scrub. One project in Cat Canyon would remove up to 1,504 mature oak trees. The EA discusses impacts to vegetation and

objectives to restore damaged areas. However, this discussion is inadequate because it does not address the temporal habitat impacts which may last decades until project decommissioning.

Refer to Master Comment Response-1. The Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will continue to be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment EDC-174

In this case, the EA fails to identify other past, present, and reasonably foreseeable future actions that may impact CTS, CRLF, and LYS. For example, the EA omits the approved Santa Barbara County Cultivation GCP which allows take of 5,325 acres of CTS habitat in the same area as the Oil and Gas GCP. The EA also omits the proposed Los Alamos, Santa Barbara County Cultivation GCP listed in the Federal Register on April 9, 2020.

LYS are already at risk of destruction from vegetation clearing, oil and gas exploration and extraction, urban development, over-grazing, wildfires, invasive plants, feral pigs, and climate change.

CTS are at risk from habitat loss, alteration, and fragmentation from cultivation activities, urban growth including roads which form obstacles or barriers, vehicle- strikes, disease, burrowing animal control, oil production, contaminants, runoff from oil roads, and drought and climate change.

The Santa Barbara County Hoop Structures Ordinance will allow hoop structures to touch the ground and block the migration of CTS. The proposed mitigation measures requiring 12-inch gaps to allow CTS movement through such structures was rejected.

The EA also fails to consider the cumulative effects of Santa Maria's Las Flores Landfill Project located west of the Cat Canyon Oilfield and south of the Santa Maria Valley Oilfield.

The EA omits the May 2017 Final Habitat Conservation Plan for Laguna County Sanitation District Facilities Construction, Operation, and Maintenance, Western Santa Maria Valley, Santa Barbara County, California. This ongoing project is in the Planning Area and affects CTS and CRLF.

The EA also omits several CTS HCPs approved for North County projects including:

- **Campbell Home Ranch California Tiger Salamander HCP**
- **Rice Ranch Development Project HCP**
- **La Purisima Golf Course Solar Array Project**
- **East Clark Avenue HCP**
- **Curletti Farm Project**
- **Phillips 66 HCP**

There is another HCP proposed by FWS for the Oak Hills Estates in Santa Barbara County.

The EA does not explicitly consider the cumulative effects of the ExxonMobil SYU Re-start and Trucking Project, which would result in Class I (unmitigated) impacts to special-status species and habitats, including CRLF and CTS. The Plains Pipeline may impact CRLF and CTS, but the EA does not identify these as cumulative projects. The EA also omits "several oil and gas projects near Garey that are currently under construction or proposed." The EA is unclear whether these oil and gas projects are intended to be captured in Section 5.1.1 on pages 5-1 - 2.

Refer to Master Comment Response-1. The Service acknowledges and appreciates the information provided in this comment related to the current and potential future projects. The Programmatic EA does not approve (or deny) any non-Federal oil and gas activities. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the Programmatic EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. As such, the Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures, as well as ensuring cumulative impacts remain at a level below significance.

Comment EDC-175

Rather than discuss mitigation measures in the EA, the document refers back to the GCP. (EA at 2-16)

The proposed "Measures to Avoid and Minimize Impacts" in the GCP are vague and consequently ineffective to assure adequate mitigation. Many measures are caveated with the requirement that they will only be implemented "to the maximum extent feasible," "to the extent feasible," "to the extent practicable," "at the discretion" of a Service-approved biologist, or with certain exceptions. (GCP at 70-74) These caveats render such measures hypothetical and uncertain.

In addition, the proposed 3:1 ratio for LYS is too low to adequately mitigate for impacts, especially given the rarity of the species and the uncertainty regarding the viability of the proposed mitigation measures. In addition, the limited genetic variability of LYS creates greater vulnerability and reduced ability to adapt to changes in the environment, such as from disease or climate change. Breeding opportunities are very limited because successful pollination can only occur from other plants. Accordingly, the loss of even a few plants will have a significant effect that will be extremely difficult to mitigate. Moreover, translocation or planting of LYS has not proven effective and should not be relied upon for mitigation. Simply funding research does not mitigate the sure loss of LYS. As such, these measures do not assure adequate mitigation.

As described in Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. An analysis of impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with CEQA. As such, the EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects would be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA. The Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures. The completion of the *GCP Eligibility Determination Form* would require a copy of the CEQA-compliant documentation as well as the MMRP, if required. The MMRP would be used as the basis for identifying additional project-specific mitigation measures, beyond those measures identified in the proposed GCP, to reduce impacts identified in the CEQA document on a project-by-project basis.

With regard to the basis for the 3:1 ratio for permanent impacts to LYS habitat, refer to Comment Response EDC-73.

Comment EDC-176

The EA fails to analyze the feasibility of avoiding take. As discussed above, avoidance of LYS is feasible given the small and discrete populations. Avoidance is also the most cost-effective approach to protecting covered species.

Refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. In fact, the Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the Habitat Conservation Plan (HCP); and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Comment EDC-177

Measures to mitigate harm to CTS are also inadequate. Some measures require excavation of burrows or relocation of CTS, which may have negative consequences. (GCP at 72-73) None of these measures are quantified or evaluated to ensure they will be effective in avoiding or mitigating impacts.

To the extent the GCP relies on a 1:1 ratio for CTS, such "mitigation" would result in a net loss of habitat in the amount disturbed or destroyed. In Foundation for North American Wild Sheep v. U.S. Dept of Agric., 681 F.2d 1172, 1181-82 (9th Cir. 1982), the court held that a proposal to mitigate impacts to sheep by translocating them from another area was inadequate to mitigate for the project's adverse impacts because it would result in a reduction in sheep in the area from which the sheep were transplanted. Similarly here, the species will be reduced in the affected area where the oil and gas development activities occur, even if they are maintained elsewhere.

Bumgardner raises concerns about mitigation ratios for CTS by pointing out that the Model may undervalue habitat closer to ponds and overvalue habitat further from ponds because the Model gives all adults equal reproductive values, when in reality adult CTS closer to ponds have greater value. The proposed ratios in the GCP fail to account for this difference in value and function of habitat.

The proposed GCP includes both Measures to Avoid and Minimize Impacts as well as Measures to Mitigate Unavoidable Impacts for CTS. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP for CTS:

> *"The strategy to recover the Santa Barbara County California tiger salamander focuses on alleviating the threat of habitat loss and fragmentation. The goal of the final Recovery*

> *Plan (Service 2016), which was drafted in partnership with the Department, is to reduce the threats to the Santa Barbara County California tiger salamander to ensure its long-term viability in the wild, and allow for its removal from the list of threatened and endangered species. Recovery of this species can be achieved by addressing the conservation of remaining aquatic and upland habitat that provides essential connectivity, reduces fragmentation, and sufficiently buffers against encroaching development. To recover the species, recovery criteria must be met in a sufficient number of metapopulation areas to support long-term viability of the Santa Barbara County California tiger salamander. The Service presently believes that the recovery criteria must be met in all six metapopulation areas for delisting to be warranted; further research and monitoring should clarify the exact number of metapopulations necessary."*
>
> *"Unavoidable impacts to the California tiger salamander or its habitat will be mitigated in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander (Service 2016)."*

For unavoidable impacts to CTS, the intent of the proposed GCP is to ensure a more consistent and effective approach for mitigating permanent and temporary impacts in a way that ensures that individual recovery criteria are met.

Comment EDC-178

Finally, the "Measures to Mitigate Unavoidable Impacts" rely on "compensatory" mitigation such as buying credits for a mitigation provider (mitigation bank), paying mitigation fees, or establishing a mitigation site. (GCP at 75-84) None of these options guarantee timely or adequate compensation. In addition, the EA does not identify any specific projects or sites for the proposed compensatory mitigation. There is only one proposed location for a mitigation bank for CTS in the County, and the ranch upon which it exists is for sale, threatening its viability. In addition, this site is for only one metapopulation area at Purisima Hills. (GCP at 34) The other five metapopulation areas can't use it for mitigation. Moreover, the CTS conservation account has not been effective to mitigate impacts to CTS.

Impacts to CTS upland habitat would be mitigated in accordance with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* (Service 2019) or the most current version and the support recovery needs as stated in the recovery plan (Service 2016) for the CTS, Santa Barbara County DPS in support of Goal 5, Objective 5.1 of the GCP.

The Service removed the CTS Conservation and Mitigation Account as a viable mitigation option for the CTS. The CTS is both a federally and state-listed species and is governed by the Service and CDFW. CDFW cannot accept payments into species mitigation accounts as suitable mitigation because it does not meet their fully mitigated standard, which is one of their

permit issuance criteria. The Service intends to work with Applicants to ensure any federal incidental take permit that is issued under the GCP meets CDFW's fully mitigated standard. Therefore, the Service removed this mitigation option for CTS from the GCP.

Comment EDC-179

There is no current mitigation bank for LYS, and it is unlikely that one will be successfully created. The sites on Vandenberg Air Force Base are not eligible, and it would be prohibitively expensive to acquire and attempt to implement a mitigation project on private land. Moreover, as explained above, such an attempt would likely not be successful. As such, these measures are illusory and cannot be relied upon to mitigate the significance adverse impacts to these threatened and endangered species.

The proposed GCP does not require the same type of compensatory mitigation for permanent impacts to LYS as required for permanent impacts to CTS or CRLF. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP:

"Unavoidable impacts to Lompoc yerba santa will be mitigated at a 3:1 ratio (mitigation area: impact area) through restoration of habitat suitable for Lompoc yerba santa or through acquisition of habitat that is currently occupied by Lompoc yerba santa. If an applicant decides to mitigate through restoration of suitable habitat, the applicant will develop a habitat restoration plan that is approved by the Service and helps to reduce threats to the species that are described in the 5-year review (Service 2011). The habitat restoration plan must include consideration of the following criteria: defined schedules for restoration efforts, success criteria, weed management methods, monitoring schedules, reporting requirements, and long-term monitoring requirements. The objective of the long-term monitoring schedule will be to determine if the restored habitats are functioning equal to or better than pre-project conditions. Restoration monitoring would continue for 5 years or until the predetermined success criteria have been documented and met. The assessment of function would be based on indicators such as wildlife use and presence of sensitive species within the habitats compared to pre-project conditions. The habitat restoration plan will include funding in the amount of $25,000/year for a period of five (5) years to support research to determine whether and to what extent individual Lompoc yerba santa plants may be propagated to establish a new population in the wild. Any research project receiving such funding will first be reviewed and approved by the Service.

If an applicant acquires habitat that supports Lompoc yerba santa as mitigation, the applicant will provide for the long-term monitoring and management of the compensation lands by providing initial funding for a long-term, non-wasting endowment. All compensation land must be protected under a perpetual Conservation Easement and be recorded, managed and maintained and endowed in perpetuity prior to the onset of ground-disturbing activities. Applicants must develop a management plan for mitigation lands to be included in a

Conservation Easement. The management plan provides for: 1) annual easement inspections, which will generate up-to-date information on the Easement Area's overall condition and biological resources; 2) periodic biological monitoring, which will generate detailed data describing onsite species: including population abundance, condition of habitat and condition of related human infrastructure, particularly water impoundment structures; 3) management, maintenance and enhancement tasks, which will ensure the sustainability of these resources and the health of the species' habitat; and 4) annual reports, which will summarize maintenance and management activities undertaken during the previous year, and provide an opportunity to creatively consider future needs and adaptive responses."

Comment EDC-180

The adaptive management approach will cause further harm to the listed species. For example, the GCP would allow a 20% loss of the number of LYS ramets or the area occupied by LYS due to changed or unforeseen circumstances before adaptive management actions may be implemented. (GCP at 89 - 90) This "threshold is far too high (bar is too high) and would put [] this species at risk of extinction."

In addition, the adaptive management trigger for invasive weed species is too high. The trigger does not occur until the invasive species reaches 25%. (GCP at 96) By that time the problem is out of hand because the seed bank will be full of weed seeds, and it will be difficult to control the invasive plants. Moreover, adaptive management measures do not need to be implemented if the permittee chooses not to.

The adaptive management trigger for CRLF would be based on populations of two adjacent south county creeks: Arroyo Quemada (Baron Ranch) and Arroyo Hondo. (GCP at 89) There is no central or north county reference populations, so there is lack of geographic representation in the reference streams. As a result, north county populations could be crashing but no adaptive management would be triggered if the two south county populations remained above 50%. (Id.)

CTS adaptive management requires annual surveys over five-year periods to determine whether ten or fewer larvae are captured in a number of ponds. (GCP at 87) The GCP refers to annual range-wide surveys. However, there is no evidence of annual surveys to count CTS larvae in the Planning Area in the GCP. This trigger would never be met if there are not five consecutive years of surveys. Given funding limitations and access to private ponds, it likely this trigger will never be met even if the CTS population drops significantly because there may never be five consecutive years of surveys in enough ponds to trigger adaptive management.

The EA fails to disclose the impacts that will result due to the inadequacies of the adaptive management triggers and requirements.

Refer to Comment Response EDC-104. The comment is misleading with respect to the invasive plant cover that would trigger remedial action. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, the invasion of new invasive plants up to 25 percent total cover "within an individual project area" would be considered a changed circumstance triggering remedial actions.

Similarly, as described in Comment Response EDC-101, the comment regarding adaptive management triggers for the CRLF is taken out of context. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, *"Adaptive management actions will be implemented for the California red-legged frog if survey and monitoring data provided to the Service on California red-legged frogs in the plan area indicates a severe decline in California red-legged frog abundance within the plan area across a three-year period."* The CRLF population areas discussed (e.g., Baron Ranch in Arroyo Quemado and Santa Barbara Land Conservancy Land in Arroyo Hondo) were presented as examples of areas permanently preserved and managed for the CRLF. Survey and monitoring data would be collected for the CRLF throughout the Planning Area.

Additionally, as described in Comment Response EDC-100, the comment incorrectly states that adaptive management actions would not be implemented for the CTS if there are not five consecutive years of surveys. In fact, adaptive management actions *would* be implemented for the CTS if there are not five consecutive years of surveys. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* in the proposed GCP, *"Adaptive management actions will be implemented for the California tiger salamander if less than the required number of known breeding ponds required to meet recovery criteria in a metapopulation either: (1) do not have documented breeding for a period of five or more years or, (2) fewer than 10 larvae are captured during surveys for a period of five or more years, or (3) any combination of these scenarios."* Therefore, at least five consecutive years of range-wide surveys are required to show that the CTS populations meet the criteria to avoid adaptive management actions.

Comment EDC-181

The EA fails to address the reasonably foreseeable impacts that may occur as a result of changed circumstances. The GCP references several threats to listed species, but limits the applicability of mitigation to address such threats. (GCP at 90-96) The same holds true for unforeseen circumstances. (GCP at 97) In both instances, the GCP requires consent by the permittee to implement measures to mitigate harm. This requirement renders the measures illusory and speculative.

Refer to Comment Response EDC-3 and Comment EDC-103.

Comment EDC-182

In addition, the trigger to remediate invasion of new invasive weed species is too high. The trigger does not occur until the invasive species reaches 25%. (GCP at 96) By that time the problem is out of hand because the seed bank will be full of weed seeds, and it will be difficult to control the invasive plants.

Refer to Comment Response EDC-104. The comment is misleading with respect to the invasive plant cover that would trigger remedial action. As described in Section 5, *Conservation Program/Measures to Minimize and Mitigate for Impacts* of the proposed GCP, the invasion of new invasive plants up to 25 percent total cover *"within an individual project area"* would be considered a changed circumstance triggering remedial actions.

Comment EDC-183

NEPA requires consideration of "any irreversible or irretrievable commitments of resources which would be involved with the proposal should it be implemented." 40 C.F.R. § 1502.16. The EA states that irretrievable resource commitments "involve the loss in value of an affected resource that cannot be restored as a result of the action, such as extinction of a threatened or endangered species." (EA at 6-1) Nevertheless, the EA improperly relies on two rationales for determining that "the long-term viability of all three species would not be adversely affected." (Id.)

First, the EA relies on the assertion that the GCP would not itself result in the direct approval of oil and gas activities in Santa Barbara County. (Id.) As noted above, however, the GCP would authorize activities that will take listed species. The GCP itself admits that the proposed activities will result in significant and unavoidable impacts to these threatened and endangered species.

Second, the GCP relies on illusory and inadequate mitigation measures to conclude that such impacts will be minimized. For the reasons discussed above, the GCP will adversely affect species that are already considered at the brink of extinction, and thus will further their demise. Such an effect will cause an "irreversible and irretrievable commitment of resources" which must be disclosed under NEPA.

As described in Master Comment Response-1, implementation of the proposed GCP would incorporate established maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans and within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. The standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures and a comprehensive approach to conservation. Additionally, the proposed GCP would not limit or reduce the application of existing avoidance, minimization, or mitigation measures currently employed by the Service when authorizing ITPs for non-Federal oil and gas

development. Continued application of these measures under the proposed GCP would occur but would be consistently applied throughout the GCP Planning Area and would ensure that oil and gas development would not affect the success criteria identified for each of the three covered species.

Comment EDC-184

NEPA also requires agencies to consider the relationship between the short-term uses of the environment and long-term productivity. 40 C.F.R. § 1502.16. The GCP would allow a broad scope of construction and operational activities that will affect the environment. The effects of these activities will be long-lasting (up to fifty years and perhaps even longer). The EA minimizes these long-term impacts by relying on the mitigation measures proposed in the GCP. (EA at 7-1) As discussed above, the mitigation and compensatory measures set forth in the GCP are inadequate to ensure the long-term conservation of species that are protected under the ESA and will negatively impact the long-term productivity of valuable and irreplaceable ecosystems.

Over the 20-year life of the proposed GCP, the standardized ITP process would incorporate established maximum allowable permanent and temporary impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly, the proposed GCP would incorporate established maximum allowable permanent and temporary impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation*. As described in Section 1.3.2, *Need* of the Programmatic EA, *"[t]he proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County."*

The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology and soils, risk of upset, etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

The Programmatic EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures, as well as ensuring cumulative impacts remain at a level below significance.

Comment EDC-185

Furthermore, the EA fails to address the long-term cumulative effects on climate change to which the GCP would contribute by facilitating new and expanded oil and gas development in Santa Barbara County at a time when the County must reduce its GHG emissions.

Refer to Comment Response EDC-32. As described in Section 4.2.3, *Air Quality and Greenhouse Gas Emissions* of the Scoping Report (refer to Appendix B of the Programmatic EA), the Proposed Action would not serve as an approval mechanism for development of any new GHG emissions sources. Air quality and GHG emissions would continue to be assessed on a project-by-project basis under CEQA, as applicable, and land use approval(s) for individual projects would continue to be the responsibility of the local or state agency(ies) with the appropriate land use jurisdiction(s) over an individual project site (e.g., County of Santa Barbara, California State Lands Commission, etc.). Further, the proposed GCP would not prohibit or otherwise restrict other local permitting authorities (e.g., Santa Barbara County Air Pollution Control District) from applying or enforcing GHG emission controls for individual oil and gas development projects. Therefore, the Proposed Action, limited to the implementation of the GCP as a mechanism for ESA compliance, would not result in impacts to air quality or GHG emissions.

Unlike the current piecemealed approach of approving individual HCPs for each individual oil and gas development project, the proposed GCP, would comprehensively assess the cumulative impacts of multiple potential projects as it implements permanent and temporary take allowances based on the species recovery criteria, which accounts for long-term climate change impacts.

Comment EDC-186

For the foregoing reasons, we urge the Service to not go forward with the GCP process. The GCP does not achieve the most basic requirements for a conservation plan under Section 10 of the ESA. 16 U.S.C. § 1539(a)(2)(A)(i)-(iv). The GCP omits the required information and analysis mandated under Section 10 and therefore approval of this GCP would be in violation of the ESA.

Refer to Comment Response EDC-1. A GCP is an established programmatic permitting mechanism that meets the definition of a conservation plan provided in Section 10(a)(1)(B).

Comment EDC-187

Furthermore, the preparation of an EIS under NEPA is required here because the GCP and the oil and gas activities proposed thereunder will result in significant adverse effects on the environment. The EA prepared in this case is inadequate because it fails to address the full scope of activities that may occur and fails to analyze all of the possible

environmental consequences. In addition, the EA does not include an adequate discussion of alternatives, mitigation measures, or cumulative impacts.

Refer to Master Comment Response-1. The Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. As such, the Programmatic EA for the proposed GCP cannot reasonably forecast or speculate on the timing or the magnitude of individual or cumulative impacts for non-Federal oil and gas activities in Santa Barbara County. Rather the EA evaluates the potential direct impacts of establishing the proposed GCP; individual projects will be evaluated, as necessary, by the Service in subsequent environmental documentation compliant with NEPA on a project-by-project basis. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed oil and gas activity (e.g., impacts to visual resources; criteria pollutant emissions during construction and operation; impacts to geology and soils, risk of upset, etc.). If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

The EA appropriately considers the proposed established maximum allowable permanent and temporary impacts within CTS, CRLF, and LYS habitat consistent with the species' recovery criteria. Additionally, the Programmatic EA appropriately considers the standardized approach under the proposed GCP would allow greater consistency in the application of avoidance, minimization, and mitigation measures, as well as ensuring cumulative impacts remain at a level below significance.

Alyssa Berry, Biologist
Padre Associates (representing Aera Energy)
Dated: May 4, 2020

Comment Berry-1

We suggest removing DOGGR throughout the document and replacing it with CalGEM

The Final Programmatic Environmental Assessment (EA) has been revised globally to re-define the Division of Oil, Gas, and Geothermal Resources (DOGGR) with the California Geologic Energy Management Division (CalGEM), as appropriate.

Comment Berry-2

The Introduction may benefit from including an introduction of the Lompoc yerba santa, similar to introduction for CTS and CRLF above. It seems that at least one sentence is missing prior to lines 19-21 to introduce the species, provide its listing status, scientific name, and define the LYS acronym.

Refer to Comment McCormick-1. Section 1.1, *Introduction*, of the Final Programmatic EA has been revised to include the species name, scientific name, acronym definition, and listing status for the Lompoc yerba santa (LYS), as suggested and consistent with the introductions of California tiger salamander (CTS) and California red-legged frog (CRLF).

Comment Berry-3

"The process for an Applicant to obtain an ITP has four primary phases..." We suggest: "In the absence of a GCP, the process for an Applicant to obtain an ITP has four primary phases..."

Refer to Comment McCormick-2. Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Final Programmatic EA has been revised as following *"Under existing conditions, the process for an Applicant to obtain an Incidental Take Permit (ITP) has four primary phases..."* to clarify the process for obtaining an ITP under existing conditions and under the No Action Alternative.

Comment Berry-4

Please add a section describing process for obtaining an ITP under this GCP, to clarify and avoid confusion. The GCP document provides the following description:

"The process for an Applicant to obtain an ITP, under a GCP, has three primary phases:

1) Pre-Application. The Service provides the Applicant guidance in deciding if an ITP is appropriate and if so, whether the HCP would fit the Applicant's needs.

2) Processing of the Permit. A complete application package including an ITP application, and fee is submitted to the Service by the Applicant. The Service publishes a Notice of Availability (NOA) of the package in the Federal Register to allow for public comment as well as interagency comment. The Service issues an ITP pursuant to Section 10(a)(1)(B) upon a determination by that all statutory criteria have been met. The Service notifies the public of permit issuance is through the publication of a notice in the Federal Register. The Service also prepares an Intra-Service Section 7 Biological Opinion and a Set of Findings, the latter which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria.

3) Post-Issuance Compliance. During the post-issuance phase, the permittee(s) and any other responsible entities are required to implement the GCP in accordance with the terms and conditions of the ITP. The Service monitors permittee(s) compliance with the conservation plan as well as its long-term progress and success."

Refer to Comment McCormik-3. Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* describes the existing process for proponents to comply with the Endangered Species Act (ESA) by applying for an ITP from the Service pursuant to Section 10(a)(1)(B). This section of the Programmatic EA summarizes the purpose and need for the proposed GCP described in Section 2, *Proposed Action and Alternatives*. Covered activities and actions are described along with the limits on maximum allowable permanent and temporary impacts under the proposed GCP. Additionally, the compensatory mitigation, avoidance, and minimization measures are also described.

Additional information has been added to Section 2, *Proposed Action and Alternatives* has been revised to describe that the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual non-Federal oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the Mitigation Monitoring and Reporting Program (MMRP); and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

The specific process for obtaining an ITP under the proposed GCP is described in Section 6, *Permit Processing and Implementation* of the proposed GCP, which has been attached to the EA as an appendix. As described in the proposed GCP, to apply for an ITP under the proposed GCP, an Applicant must submit a complete Permit Application Package, which would include the following items:

- A 3-200-56 Federal Fish and Wildlife Permit Application Form (including supplementary information requested in the Permit application form: total number of acres, covered activities requested under the Permit, etc.);
- Application processing fee of $100;
- A copy of the GCP Eligibility Determination document:
    - Project proponents interested in applying for a Permit must complete the Eligibility Determination document. This document can assist potential applicants with determining whether their project, or projects, may be eligible for a Permit under this GCP. If a proposed project is determined to not be eligible to participate through the GCP, the Eligibility Determination document provides recommendations intended to assist project proponents to identify alternate processes that can help them achieve compliance with the Act. If project proponents determine that their project, or projects, may be eligible for coverage, they may seek Permit issuance through the application process.
- Individual Project Package, which includes:
    - A recent (within 90 days) printout of the IPaC system query for the project area.
    - Map and description of the location of impacts, including photographs (as described below);
    - Duration of proposed Covered Activities;
    - Description or proposed Covered Activities;
    - Survey results for the Covered Species or notification that the presence of these species will be assumed based on habitat;
    - Species assessment and estimation of take (more information below);
    - List of minimization measures appropriate for the project;
    - Proposed mitigation and associated calculations; and
    - Funding assurances and commitment necessary to implement the proposed minimization and mitigation measures (more information below).

Comment Berry-5

It might be helpful here to add the following clarification: "As such, the GCP process would not directly result…"

The U.S. Fish and Wildlife Service (Service) has no authority in the approval (or denial) of non-Federal oil and gas activities. Section 1.5, *Scope of the Environmental Assessment* of the Final Programmatic EA has been revised to clarify that the GCP process would not directly result in any ground-disturbing activities that could result in potential impacts to other environmental resource areas.

Comment Berry-6

We suggest adding this EA language to the GCP document also, under "Other Relevant Laws and Regulations". We provided this same suggestion as a comment on the GCP document.

A description of the *California Endangered Species Act* is provided under on Page 9 of the proposed GCP under *Other Relevant Laws and Regulations*.

Comment Berry-7

In light of the CDFW's participation with other stakeholders in the GCP development process, the efforts made to include CDFW's input and requirements into the GCP, and the many discussions regarding the development of a streamlined State Consistency Determination process for ITP applicants under the GCP, we believe it would be helpful for the GCP and the EA to include a discussion regarding how CDFW would utilize the information in the GCP, and which portions of the GCP and EA CFDW concurs with.

Refer to Comment McCormick-4. As described in Section 1.6.3, *California Endangered Species Act*, individual permittees that obtain an ITP for CTS through the GCP pursuant to Section 10(a)(1)(B) could request that the Director of the California Department of Fish and Wildlife (CDFW) find the Federal ITP consistent with the California Endangered Species Act (CESA). Permittees would be responsible for submitting individual Section 2080.1 Consistency Determination Request(s) for CTS to the CDFW. However, the CDFW cannot issue a Section 2080.1 Consistency Determination for LYS because the Service does not include plants on Federal ITPs. Therefore, Applicants seeking coverage for LYS would need to pursue a separate permit with the CDFW. Applicants would be able to use the GCP application materials and the requirements of the proposed GCP to seek a Section 2081 Permit for 13 listed plants from the CDFW.

CDFW has provided input and guidance on the proposed GCP; however, the CDFW is not compelled to sign to the GCP as CESA is a state-level requirement. CDFW will use the information from the GCP application to facilitate their consistency findings.

Comment Berry-8

We believe "but" is intended here, not "by".

Section 2, *Proposed Action and Alternatives* of the Final Programmatic EA has been revised to reference the correct title for Section 2.3, *Alternatives Considered but Eliminated from Detailed Analysis*.

Comment Berry-9

As many oil and gas developments operate for 30+ years, it would be helpful to have a 30 year term for the GCP.

As described in the proposed GCP *"[p]ermits issued under the GCP will cover only incidental take associated with construction, operations, maintenance, and decommissioning activities for up to 20 years after Permit issuance."* As such, activities outside of that 20-year term would not be eligible for the GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Comment Berry-10

Please refer to our comments on the GCP document, including some additions, and clarifications to "covered activities", which we believe should also be applied to this document.

Since "Upstream" and "Midstream" definitions vary, and since there appears to be considerable overlap in "covered activities" across the two sectors, we believe it would be simpler and clearer to include all covered activities (Upstream and Midstream) together, as simply "Covered Activities", rather than try to characterize then as "Upstream" or "Midstream".

As described in Section 2.1.3.1, *Upstream Activities* of the Programmatic EA, the definition of upstream production is defined by the proposed GCP as activities associated with oil, natural gas, and other petroleum products and development of the infrastructure required to extract those resources. As described in Section 2.1.3.2, *Midstream Activities* of the EA, the definition for midstream activities is defined by the proposed GCP as gathering, processing and treatment, transmission, and/or distribution of crude oil, natural gas, or other petroleum products. As described in Section 2, *Covered Activities* of the proposed GCP and Section 2.1.3, *Covered Activities and Actions* of the EA, some overlap may occur between these categories and different Federal agencies may define "upstream" and "midstream" differently to the definition in the proposed GCP.

Comment Berry-11

We suggest a 'global' replacement of 'DOGGR' with 'CalGEM', since DOGGR has now become CalGEM.

As described in Comment Berry-1, the Final Programmatic EA has been revised globally to re-define DOGGR with the CalGEM, as appropriate.

Comment Berry-12

As commented on the GCP document: We request consideration to provide GCP coverage and applicability to those portions of a project that lie within the GCP Planning Area. Using the GCP's example of a pipeline extending beyond the GCP Planning Area, there currently exist transmission pipelines where the potential species impacts occur wholly within the GCP Planning Area. Beyond the Planning Area the pipeline alignment is within an urban setting lacking species impacts. If such projects are excluded from the GCP, it would force applicants to seek individual take authorization for project activities that only occur within the Planning Area. In addition to these existing known instances, there are foreseeable instances where species impacts are limited to the Planning Area while the project may extend beyond the boundaries.

A defined geographic area (i.e., GCP Planning Area) was necessary during the development of the proposed GCP to establish maximum allowable impacts within CTS or CRLF habitat consistent with the species' Recovery Plans. Similarly defined geographic area was necessary to establish maximum allowable impacts within LYS habitat based on recovery criteria in the species' *5-year Review: Summary and Evaluation* (Service 2011). Oil and gas activities located outside of the GCP Planning Area would not be eligible for the GCP and would be considered separately pursuant to Section 10(a)(1)(B) of the ESA.

Comment Berry-13

We suggest replacing the term "Upstream Production" with "Upstream", to help clarify that "Upstream" includes both exploration (and exploration wells that are not production wells) as well as production.

The Final Programmatic EA has been revised to describe these activities as "Upstream Activities" to include all construction operation, maintenance, and decommissioning of pipelines and associated surface facilities. Similarly, "Midstream Development" has been revised to "Midstream Activities."

Comment Berry-14

"We suggest that "Covered activities" could include, but not be limited to:

1. Geophysical exploration, including seismic exploration

2. Well field development (construction, operation, and maintenance of new and existing well field infrastructure and decommissioning of obsolete facilities) including:

a) Well pads

b) Drilling and completion equipment

c) Pipelines located within the oil field, including gathering lines, header systems, pigging stations, pump stations

d) Wells

e) Processing equipment

f) Gas treatment, gas thermal oxidation, and gas combustion (flaring) equipment

g) Work roads and access roads

h) Electrical equipment and distribution lines (voltage must be 34.5 kilovolts (kV) or less)

i) Equipment pads

j) Communication towers

k) Tanks and tank batteries

l) Personnel offices

m) Parking areas

n) Warehouses

o) Grading stockpiles and borrow areas

p) Stormwater management infrastructure including detention/retention basins

q) Spill containment infrastructure

r) Mixing pads

3. Renewable energy production facilities and infrastructure: (construction, operation, and maintenance of new and existing renewable energy infrastructure and decommissioning of obsolete facilities)

4. Incident preparedness and response activities

4. Remedial investigation and remediation activities

5. Onsite mitigation activities

6. Habitat restoration activities

7. Livestock grazing and carbon farming"

Your comment regarding the proposed Covered Activities under the proposed GCP has been received and has been considered by the Service; however, at this time the Service has declined to revise the covered activities described under the proposed GCP.

Comment Berry-15

We suggest it might be helpful to include the following to describe some common 'operations actions': well development; well operations and maintenance; planned and unplanned facility maintenance; materials receiving, shipping and storage, facility inspection, testing, and surveillance

Section 2.1.3.1, *Upstream Activities* of the Programmatic EA aligns with the proposed GCP and generally describes "operation and maintenance of new and existing well field infrastructure and decommissioning of obsolete facilities." The subsequent list provides examples of such activities and is not meant to be an exhaustive list.

Comment Berry-16

We suggest replacing "Midstream Development" with "Midstream" to avoid confusion.

As described in Comment Berry-13 The Final Programmatic EA has been revised to describe these activities as "Midstream Activities" to include all construction operation, maintenance, and decommissioning of pipelines and associated surface facilities.

Comment Berry-17

We suggest adding "Incident preparedness and response" and "Remedial site investigations and remediation" to the covered activities.

Your comment regarding the proposed Covered Activities under the proposed GCP has been received and has been considered by the Service; however, at this time the Service has declined to revise the covered activities described under the proposed GCP.

Comment Berry-18

We suggest also including: 'Offices, warehouses, parking lots' as associated surface facilities

Your comment regarding the proposed Covered Activities under the proposed GCP has been received and has been considered by the Service; however, at this time the Service has declined to revise the covered activities described under the proposed GCP.

Comment Berry-19

"The term "known breeding ponds" seems to be used interchangeably in this document with "breeding habitat". We believe that it would be helpful to define these terms here and use them consistently throughout the document.

We suggest that it would be helpful to include a definition of 'breeding habitat'. We think that the breeding habitat definition that is provided in the Conservation Strategy is the appropriate definition to be included in the GCP and EA documents. We suggest adding

the geographic limitation of the Santa Barbara County Distinct Population Segment range, which is located within the Santa Maria Basin Geomorphic Province, between the interface of the westernmost extent of the east-west trending Transverse Ranges and the southernmost extent of the north-south trending Coast Ranges (shown in Figure 1 of the 2016 USFWS Recovery Plan [https://www.fws.gov/ventura/docs/recplans/SB%20CTS%20Final%20RP%20Signed.pdf]).

Definition of CTS Breeding Habitat:

Aquatic breeding habitat for California tiger salamanders is characterized as ponds with seasonal, shallow wetlands that alternate between dry and wet periods. For regulatory purposes, ponds with a documented breeding California tiger salamander population are identified as known breeding ponds. Ponds with the appropriate hydroperiod to support California tiger salamander breeding (i.e., at least 10 weeks) and surrounding upland habitat, but California tiger salamander breeding has not been documented, are identified as potential breeding ponds. Potential breeding ponds may have breeding California tiger salamander populations that have not been documented for a variety of reasons, including insufficient survey effort. Salamanders can forego breeding for 2 to 8 years, resulting in negative aquatic surveys despite the presence of the species in adjacent uplands (Trenham et al. 2000). For the purpose of this document, potential breeding ponds are treated the same as known breeding ponds. For project purposes, potential breeding ponds are presumed to be known breeding ponds unless a negative finding is achieved by correctly and completely following the Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (Service and Department 2003)."

Refer to Comment McCormick-5. The Final Programmatic EA has been revised to describe "CTS Breeding Ponds" consistently with a cross reference to the California Tiger Salamander Conservation Strategy (Service and Department 2017), which is also referenced in the proposed GCP.

Comment Berry-20

"It is not clear whether the "No impacts to CTS breeding habitat" is intended to mean no impacts to known CTS ponds or no impacts to known and potential ponds. Please clarify.

We find it confusing that the sentence containing "known CTS breeding ponds" is immediately followed by the sentence about "CTS breeding habitat". We suggest defining the term "breeding habitat", so that it is not incorrectly interpreted as being synonymous with "known breeding ponds" if that is not the intent. It would also be helpful to clarify exactly what will or will not be authorized.

The traverse radius distances referenced throughout the EA and the GCP documents are not completely consistent. We suggest making them consistent or explaining the differences.

This has been clarified in the Final Programmatic EA to describe "CTS breeding ponds" (refer to Comment Berry-19). The dispersal distance from a documented known breeding pond for the CTS is defined as 1.3 miles throughout the proposed GCP and in Section 2.1.4.1, *California Tiger Salamander (Santa Barbara County DPS)* of the EA.

Comment Berry-21

We believe it would be helpful to include a definition for "upland habitat". Specifically, is "upland habitat" the land area within the 1.3 mile traverse radius of known breeding habitat or of known and potential breeding habitat?

Even when protocol studies performed on potential breeding habitat (ponds) indicate that there is no potential for breeding, it is not clear how or if those ponds are reclassified… i.e., there does not seem to be a clear and publicly transparent process to identify and classify ponds and potential ponds, to regularly update those classifications as additional data is collected, and to eliminate no-potential ponds from future consideration as potential breeding habitat. We believe that such a management process would be helpful to the species and stakeholders.

Refer to Comment McCormick-6. The proposed GCP and Section 2.1.4.1, *California Tiger Salamander (Santa Barbara County DPS)* of the Programmatic EA describe the CTS's upland habitat as area within the 1.3-mile dispersal distance from a documented known CTS breeding ponds.

No permanent impacts to potential CTS breeding ponds would be authorized under the proposed GCP; therefore, protocol level surveys would be required to determine consistent with the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander October 2003*.

Comment Berry-22

The maximum allowable impacted habitat acreage provided here in Table 2-1 does not seem to take in account relative habitat value of the acreage. Yet, the impacts assessments and mitigation requirements of the GCP are totally based on a more meaningful measure, i.e., the relative habit value as determined from the Searcy Model. We believe that the Maximum Allowable Impacts to CTS Upland Habitat within the Planning Area should be determined and expressed as habitat value.

The allowed permanent and temporary impacts to CTS upland habitat provided in Tables 2-1 and 2-2 in the Final Programmatic EA aligns with the allowed impacts provided in the *Impact Analysis and Estimated Incidental Take* discussion within the proposed GCP. The proposed GCP, which is provided as an appendix to the Final Programmatic EA, goes on to provide additional information about how these allowed impacts were calculated:

> *"The California Tiger Salamander Conservation Strategy (Service and Department 2017) explains the methodology for calculating impacts to California tiger salamander and its habitat. The mitigation methodology outlined in the California Tiger Salamander Conservation Strategy is based on work by Searcy and Shaffer (2008) who demonstrate that there are two components of habitat loss for California tiger salamanders: (1) project footprint plus (2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, which is straight-forward in concept. More complex is the "deficit wedge" that results from the impact to habitat. The deficit wedge is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a California tiger salamander migrating in a straight line away from the center of a pond. The total impact of the project includes a sum of the footprint and the deficit wedges (or shadows) where habitat has become inaccessible to salamanders from ponds within dispersal distance of the project.*
>
> *In calculating mitigation owed for impacts to California tiger salamander and/or the habitat that supports them, impacts that impede dispersing salamanders (shadowed impacts) are treated differently from impacts that do not impede dispersing salamanders. Impacts that impede dispersing California tiger salamander are calculated using the methodology outlined in Searcy and Shaffer (2008), as described above. The deficit wedge (shadow) described above is only created by permanent, long-term, or vertical impacts that impede California tiger salamanders that are dispersing across the landscape. Examples of impacts that do not impede dispersing California tiger salamander include: temporary impacts occurring over one dry season, certain linear features such as roads, buried pipelines, etc., and restoration activities. For temporary impacts occurring over one dry season (approximately May to October), there is no shadow because California tiger salamanders are not migrating or dispersing during the dry season. Calculating mitigation owed for temporary impacts only includes the direct loss of habitat within the project footprint where the impact to habitat occurs."*

The intent of the Final Programmatic EA is to evaluate the physical and human impacts of the proposed GCP. Pursuant to recent Department of the Interior-issued (DOI) guidance (e.g., Secretarial Order 3355) the Final Programmatic EA need not re-state all of the methodology that went into the development of the proposed GCP.

Comment Berry-23

It is unclear whether these maximum allowable impacts acreage limits in Table 2-1 include upland habitat acreage that is "presumed" CTS habitat because protocol surveys were not feasible, or do they only include upland habitat acreage around known breeding ponds. If the limits include "presumed" upland habitat, then it seems that few projects will be permittable.

Please include a definition of "upland habitat" in this EA and in the GCP for clarity.

Additional language from the proposed GCP has been added to the Final Programmatic EA to describe that *"Occupied CTS habitat is defined as: 1) areas within California tiger salamander dispersal distance (i.e., 1.3 miles) from a documented known breeding pond; or 2) where CTS are assumed present by the Applicant (i.e., no surveys have been conducted)."*

Comment Berry-24

It is not clear why these PCE's are included as part of this EA document, or if/how they were used to compute the Allowed Permanent and Temporary Impacts to Critical Habitat, listed in Table 2-1.

Were the acreages associated with PC 1, PC 2, and PC 3 measured and added together to get to the Critical Habitat Size in Table 2-2?

Clarification would be helpful.

Critical habitat receives protection under Section 7 of the ESA through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. Therefore, impacts within designated critical habitat would not be covered under the GCP and the discussion of PCEs has been removed.

Comment Berry-25

We have the same comments for Table 2-2 as we provided for Table 2-1: The maximum allowable impacted habitat acreage provided here in Table 2-2 does not seem to take in account relative habitat value of the acreage. However, the impacts assessments and mitigation requirements of the GCP are totally based on a more meaningful measure, i.e., the relative habit value as determined from the Searcy Model. We believe that the Maximum Allowable Impacts to CTS Upland Habitat within the Planning Area should be determined and expressed as habitat value.

Refer to Comment Berry-22.

Comment Berry-26

It is unclear whether these maximum allowable impacts acreage limits in Table 2-2 include upland habitat acreage that is "presumed" CTS habitat because protocol surveys were not feasible, or do they only include upland habitat acreage around known breeding ponds meeting the definition in PC 1.

Refer to Comment Berry-23.

Comment Berry-27

We believe this should read: "potentially occur". Please see Table 3-1 and pg. 3-7, both of which use "potential to occur."

Several of the federally listed species listed in Table 3-1 (e.g., Southwestern willow flycatcher, Gaviota tarplant, La Graciosa thistle, etc.) are known to occur within the GCP Planning Area. Other federally listed species included in Table 3-1 (e.g., least Bell's vireo, El Segundo blue butterfly, vernal pool fairy shrimp, etc.) have the potential to occur within the Planning Area due to the presence of suitable habitat. The Final Programmatic EA has been revised to clarify that a total of 11 other federally listed species (besides the Covered Species) are known to occur or have the potential to occur in the Planning Area.

Comment Berry-28

Please provide added clarification that individual ITP applications would not be required to submit an HCP and EA if the application is under the GCP, perhaps including or referencing the description of the permitting process under the GCP, that is included in Section 6 of the GCP document.

Refer to Berry-4.

Under the Proposed Action, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the MMRP; and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

For each application received under the proposed GCP, the Service would conduct an appropriate level of NEPA-compliant analysis dependent upon impacts to the human and physical environment. The Service would use the project-specific CEQA document to help inform this NEPA-compliant analysis. If the CEQA-compliant document identifies significant and unavoidable impacts and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to what level of NEPA-compliant analysis is appropriate. If the Service determines that the project is likely to have significant

adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment Berry-29

We suggest including a description of this requirement early in this EA to clarify the permitting process that ITP applicants would use under the GCP. As we detailed in our earlier comments in this document regarding the permit process: it's not clear in the beginning of this document how the GCP will change the current permit process.

Refer to Berry-4 and Berry-28.

Section 4.2, *Vegetation* of the Final Programmatic EA has been revised to cross-reference the description of the GCP process in Section 2, *Proposed Action and Alternatives.*

Comment Berry-30

We suggest including a description of this requirement early in this EA to clarify the permitting process that ITP applicants would use under the GCP. As detailed in our earlier comments in this document regarding permit process: it's not clear in the beginning of this document how the GCP will change the current permit process. Also, would be helpful to reference the GCP process description.

Refer to Berry-4, Berry-28, and Berry-29.

Section 4.2, *General Wildlife* of the Final Programmatic EA has been revised to cross-reference the description of the GCP process in Section 2, *Proposed Action and Alternatives.*

Comment Berry-31

For clarity, it would be helpful to define "Breeding Habitat". It would also be helpful to associate "Breeding Habitat" with, or distinguish it from, "known breeding ponds".

As described in Section 3, *Environmental Setting and Covered Species* of the GCP, the CTS breed in pools or ponds that are inundated with water for more than 2 months and the CRLF breed in several types of aquatic habitat (e.g., pools, ponds, ephemeral creeks, and other drainages). As described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP and Section 2.1.4.2, *California Red-Legged Frog* of the Programmatic EA, Aquatic Breeding Habitat is defined as *"[s]tanding bodies of fresh water (with salinities less than 4.5 parts per trillion [ppt]), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years."* Therefore, breeding ponds are included in the definition for Aquatic Breeding Habitat.

Comment Berry-32

Some temporary impacts to CTS breeding habitat may need to occur to maintain the habitat, for instance, dry season stock pond maintenance. Many of the oil fields within the GCP coverage area have, for decades, provided grazing leases to ranchers, and continue to. We recommend that these activities be covered under the GCP.

As described in Section 2.1.4.1, *California Tiger Salamander (Santa Barbara County DPS)* of the EA, standing bodies of fresh water, including natural and man-made (e.g., stock) ponds, provide breeding habitat for the CTS. As described in Section 4, *Biological Impacts and Take Assessment* of the proposed GCP and Section 4.3, *Threatened and Endangered Species* of the Programmatic EA, no permanent impacts to potential CTS breeding ponds would be covered under the proposed GCP; however, covered activities could occur in upland areas that are occupied by CTS.

Comment Berry-33

We believe that the "or" should be an "and" here.

The Programmatic EA describes that the deficit wedge (i.e., area of habitat that becomes isolated from a given breeding pond and is rendered inaccessible to CTS migrating in a straight line form the center of a breeding pond) is only created by permanent, long-term, or vertical impacts that impede CTS from dispersing across the landscape, consistent with Section 4, *Biological Impacts and Take Assessment* of the proposed GCP.

Comment Berry-34

It is unclear what is meant by "aquatic habitats". Is this term meant to be synonymous with "known breeding ponds"? It seems that there would need to be at least temporary impacts to some known breeding ponds, such as stock ponds and other manmade breeding ponds, which typically require various types of maintenance.

As described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP and Section 2.1.4.2, *California Red-Legged Frog* of the Programmatic EA, Aquatic Breeding Habitat is defined as *"[s]tanding bodies of fresh water (with salinities less than 4.5 parts per trillion [ppt]), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years."* Therefore, breeding ponds are included in the definition for Aquatic Breeding Habitat. Aquatic Non-Breeding Habitat is defined in these same sections of the proposed GCP and Programmatic EA, respectively, as *"[f]reshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult CRLF."*

Comment Berry-35

This document earlier refers to "known breeding ponds", "breeding ponds", "breeding habitat", and now… "aquatic features" and "aquatic habitats", without clear definition or distinction. We recommend including clear terminology definitions early in the document, consolidating terms if possible, and providing consistent terminology throughout.

As described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP, the CTS breed in pools or ponds that are inundated with water for more than 2 months and the CRLF breed in several types of aquatic habitat (e.g., pools, ponds, ephemeral creeks, and other drainages). As described in Section 3, *Environmental Setting and Covered Species* of the proposed GCP and Section 2.1.4.2, *California Red-Legged Frog* of the Programmatic EA, Aquatic Breeding Habitat is defined as *"[s]tanding bodies of fresh water (with salinities less than 4.5 parts per trillion [ppt]), including natural and manmade (e.g., stock) ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest of years."* Therefore, breeding ponds are included in the definition for Aquatic Breeding Habitat. Aquatic Non-Breeding Habitat is defined in these same sections of the proposed GCP and Programmatic EA, respectively, as *"[f]reshwater pond and stream habitats, as described above, that may not hold water long enough for the species to complete its aquatic life cycle but which provide for shelter, foraging, predator avoidance, and aquatic dispersal of juvenile and adult CRLF."*

Comment Berry-36

This seems to imply that only non-functioning habitat can be purchased and restored to establish a mitigation site.

This does not seem consistent with what the GCP and the Conservation Strategy allows. There are other options available besides purchasing land such as: establishing a conservation easement, paying to the Account, or making a mitigation bank purchase.

Impacts to CTS upland habitat would be mitigated in accordance with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* (Service 2019) or the most current version and the support recovery needs as stated in the recovery plan (Service 2016) for the CTS, Santa Barbara County DPS in support of Goal 5, Objective 5.1 of the GCP. The final recovery plan for CTS, Santa Barbara County DPS establishes several recovery criteria to support long-term viability of the CTS, Santa Barbara County DPS including but not limited to:

- A minimum of 623 acres of functional upland habitat around each preserved pond is in fully preserved status.

- Adjacent to the fully preserved ponds and fully preserved upland habitat, a minimum of 1,628 acres of additional contiguous, functional upland habitat is present, which is at least 50 percent unfragmented and partially preserved.

To meet the recovery criteria established in the final recovery plan for the CTS, Santa Barbara County DPS, mitigation sites must prioritize restoring metapopulation areas in which habitat disturbance occurs as result of the Covered Activities.

The Service removed the CTS Conservation and Mitigation Account as a viable mitigation option for the CTS. The CTS is both a federally and state-listed species and is governed by the Service and CDFW. CDFW cannot accept payments into species mitigation accounts as suitable mitigation because it does not meet their fully mitigated standard, which is one of their permit issuance criteria. The Service intends to work with Applicants to ensure any federal incidental take permit that is issued under the GCP meets CDFW's fully mitigated standard. Therefore, the Service removed this mitigation option for CTS from the GCP.

Comment Berry-37

We believe that impacts to manmade aquatic habitat, such as stock ponds, should be covered by the GCP so that maintenance activities can occur in retention basins and drainage infrastructure.

Refer to Comment Berry-32.

Comment Berry-38

We believe that this is inconsistent with the statement two paragraphs below and with Table 2-4.

Section 4.3.1.1, Covered Species of the Final Programmatic EA has been revised to describe that the proposed GCP would allow for impacts of up to 27.5 acres of LYS habitat across the two geographic areas that encompass three populations of LYS consistent with Section 4, *Biological Impacts and Take Assessment* of the proposed GCP and Table 2-4 of the EA.

Comment Berry-39

We believe that this is correct, but inconsistent with the statement two paragraphs above.

Section 4.3.1.1, *Covered Species* of the Final Programmatic EA has been revised to describe that the proposed GCP would allow for impacts of up to 27.5 acres of LYS habitat across the two geographic areas that encompass three populations of LYS consistent with Section 4, *Biological Impacts and Take Assessment* of the proposed GCP and Table 2-4 of the EA.

Comment Berry-40

We believe that this should be "LYS", not CRLF.

Section 4.3.1.1, *Covered Species* of the Final Programmatic EA has been revised to clarify that implementation of the proposed GCP would result in minor overall beneficial impacts to LYS.

Comment Berry-42

We believe that this should be "have potential to occur" to be consistent with Table 3-1 and earlier statements. We suggest: "… a total of 11 other federally listed species have potential to occur in the Planning Area…"

Several of the federally listed species listed in Table 3-1 (e.g., Southwestern willow flycatcher, Gaviota tarplant, La Graciosa thistle, etc.) are known to occur within the GCP Planning Area. Other federally listed species included in Table 3-1 (e.g., least Bell's vireo, El Segundo blue butterfly, vernal pool fairy shrimp, etc.) have the potential to occur within the Planning Area due to the presence of suitable habitat. The Final Programmatic EA has been revised to clarify that a total of 11 other federally listed species are known to occur or have the potential to occur in the Planning Area.

Kimberly McCormick, Attorney
Law Office of Kim McCormick (representing Pacific Coast Energy Company)
Dated: May 4, 2020

Responses have been provided to comments on the technical sufficiency of the Draft Programmatic Environmental Assessment (EA). Comments on the Draft General Conservation Plan (GCP) will be considered by the Service separately and administrative clarifications and revisions will be made as necessary. However, none of these comments would affect the description of the existing and proposed permit processes or description of impacts associated with the implementation of the proposed GCP.

Comment McCormick-1

Please add introduction for Lompoc yerba santa similar to intro for CTS and CRLF above

Refer to Comment Berry-1. Section 1.1, *Introduction*, of the Final Programmatic EA has been revised to include the species name, scientific name, acronym definition, and listing status for the Lompoc yerba santa (LYS), as suggested and consistent with the introductions of California tiger salamander (CTS) and California red-legged frog (CRLF).

Comment McCormick-2

"The process for an Applicant to obtain an ITP has four primary phases:"

Please clarify that this process is for an ITP in the absence of this GCP

Refer to Comment Berry-3. Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* of the Final Programmatic EA has been revised as following *"Under existing conditions, the process for an Applicant to obtain an Incidental Take Permit (ITP) has four primary phases..."* to clarify the process for obtaining an ITP under existing conditions and under the No Action Alternative.

Comment McCormick-3

Please add section describing process for obtaining an ITP under this GCP, to clarify and avoid confusion.

Refer to Comment Berry-4. Section 1.2.2, *Section 10 Conservation Plans and Incidental Take Permits* describes the existing process for proponents to comply with the Endangered Species Act (ESA) by applying for an ITP from the Service pursuant to Section 10(a)(1)(B). This section of the EA sets up the purpose and need for the proposed GCP described in Section 2, *Proposed Action and Alternatives*. Covered activities and actions are described along with the limits on take and maximum allowable impacts under the proposed GCP. Additionally, the compensatory mitigation, avoidance, and minimization measures are also described.

Additional information has been added to Section 2, *Proposed Action and Alternatives* has been revised to describe that the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual oil and gas activity is eligible for the GCP permitting process. The form would require:

- Identification of the local or state Lead Agency pursuant to CEQA;
- Copy of the CEQA-compliant documentation, CEQA findings, and the Mitigation Monitoring and Reporting Program (MMRP); and
- Record of consultation with appropriate Federal, state, and local agencies as well as appropriate Native American tribes.

The specific process for obtaining an ITP under the proposed GCP is described in Section 6, *Permit Processing and Implementation* of the proposed GCP, which has been attached to the Programmatic EA as an appendix. As described in the proposed GCP, to apply for an ITP under the proposed GCP, an Applicant must submit a complete Permit Application Package, which would include the following items:

- A 3-200-56 Federal Fish and Wildlife Permit Application Form (including supplementary information requested in the Permit application form: total number of acres, covered activities requested under the Permit, etc.);
- Application processing fee of $100;
- A copy of the *GCP Eligibility Determination Form*:
    - This form would assist potential Applicants with determining whether their project, or projects, may be eligible for an ITP under the GCP. If a proposed project is determined to not be eligible to participate through the GCP, the *GCP Eligibility Determination Form* would provide recommendations intended to assist Applicants to identify alternate processes that can help them achieve compliance with the ESA. If Applicants determine that their project, or projects, may be eligible for coverage, they may seek ITP issuance through the application process.
- Individual Project Package, which includes:
    - A recent (within 90 days) printout of the IPaC system query for the project area.
    - Map and description of the location of impacts, including photographs (as described below);
    - Duration of proposed Covered Activities;
    - Description or proposed Covered Activities;
    - Survey results for the Covered Species or notification that the presence of these species will be assumed based on habitat;
    - Species assessment and estimation of take (more information below);
    - List of minimization measures appropriate for the project;

- Proposed mitigation and associated calculations; and
- Funding assurances and commitment necessary to implement the proposed minimization and mitigation measures.

Comment McCormick-4

Have discussions taken place with CDFW to confirm that the proposed mitigation for LYS under the GCP and as discussed in this EA will meet CDFW fully mitigated requirements for LYS?

Refer to Comment Berry-7. As described in Section 1.6.3, *California Endangered Species Act*, individual permittees that obtain an ITP for CTS through the GCP pursuant to Section 10(a)(1)(B) could request that the Director of the California Department of Fish and Wildlife (CDFW) find the Federal ITP consistent with the California Endangered Species Act (CESA). Permittees would be responsible for submitting individual Section 2080.1 Consistency Determination Request(s) for CTS to the CDFW. However, the CDFW cannot issue a Section 2080.1 Consistency Determination for LYS because the Service does not include plants on Federal ITPs. Therefore, Applicants seeking coverage for LYS would need to pursue a separate permit with the CDFW. Applicants would be able to use the GCP application materials and the requirements of the proposed GCP to seek a Section 2081 Permit for 13 listed plants from the CDFW.

CDFW has provided input and guidance on the proposed GCP; however, the CDFW is not compelled to sign to the GCP as CESA is a state-level requirement. CDFW will use the information from the GCP application to facilitate their consistency findings.

Comment McCormick-5

Please add a definition of CTS breeding habitat to this EA and to the GCP for clarity. The 2020 Conservation Strategy document, pgs. 4-5, cited by the Service in the GCP, uses the following: "Aquatic breeding habitat for CTS is characterized as ponds with seasonal, shallow wetlands that alternate between dry and wet periods... Ponds with a documented breeding CTS population are identified as known breeding ponds. Ponds with the appropriate hydroperiod to support CTS breeding (i.e. at least 10 weeks) and surrounding upland habitat, but CTS breeding has not been documented, are identified as potential breeding ponds."

Refer to Comment Berry-19. The Final Programmatic EA has been revised to describe “CTS Breeding Ponds” consistently with a cross reference to the *California Tiger Salamander Conservation Strategy* (Service and Department 2017), which is also referenced in the proposed GCP.

Comment McCormick-6

Please include a definition of "upland habitat" in this EA and in the GCP for clarity. How do these maximum allowable impact numbers work in conjunction with Searcy model, which is based on reproductive value of habitat for CTS?

The proposed GCP and Section 2.1.4.1, *California Tiger Salamander (Santa Barbara County DPS)* of the Programmatic EA describe the CTS's upland habitat as area within the 1.3-mile dispersal distance from a documented known CTS breeding pond (refer to Comment Berry-21).

The proposed GCP, which is provided as an appendix to the Final Programmatic EA, goes on to provide additional information about how these allowed impacts were calculated using the Searcy model:

> *"The California Tiger Salamander Conservation Strategy (Service and Department 2017) explains the methodology for calculating impacts to California tiger salamander and its habitat. The mitigation methodology outlined in the California Tiger Salamander Conservation Strategy is based on work by Searcy and Shaffer (2008) who demonstrate that there are two components of habitat loss for California tiger salamanders: (1) project footprint plus (2) "deficit wedge." The project footprint is the direct loss of habitat where the impact occurs, which is straight-forward in concept. More complex is the "deficit wedge" that results from the impact to habitat. The deficit wedge is the habitat that becomes isolated from a given breeding pond as a consequence of the impact and is rendered inaccessible to a California tiger salamander migrating in a straight line away from the center of a pond. The total impact of the project includes a sum of the footprint and the deficit wedges (or shadows) where habitat has become inaccessible to salamanders from ponds within dispersal distance of the project.*
>
> *In calculating mitigation owed for impacts to California tiger salamander and/or the habitat that supports them, impacts that impede dispersing salamanders (shadowed impacts) are treated differently from impacts that do not impede dispersing salamanders. Impacts that impede dispersing California tiger salamander are calculated using the methodology outlined in Searcy and Shaffer (2008), as described above. The deficit wedge (shadow) described above is only created by permanent, long-term, or vertical impacts that impede California tiger salamanders that are dispersing across the landscape. Examples of impacts that do not impede dispersing California tiger salamander include: temporary impacts occurring over one dry season, certain linear features such as roads, buried pipelines, etc., and restoration activities. For temporary impacts occurring over one dry season (approximately May to October), there is no shadow because California tiger salamanders are not migrating or dispersing during the dry season. Calculating mitigation owed for temporary impacts only includes the direct loss of habitat within the project footprint where the impact to habitat occurs."*

The intent of the Final Programmatic EA is to evaluate the physical and human impacts of the proposed GCP. Pursuant to recent Department of the Interior-issued (DOI) guidance (e.g., Secretarial Order 3355) the Final Programmatic EA need not re-state all of the methodology that contributed to the development of the proposed GCP.

Comment McCormick-7

This should be "potentially occur." See Table 3-1 and also pg. 3-7, using "potential to occur."

Refer to Comment Berry-27. Several of the federally listed species listed in Table 3-1 (e.g., Southwestern willow flycatcher, Gaviota tarplant, La Graciosa thistle, etc.) are known to occur within the GCP Planning Area. Other federally listed species included in Table 3-1 (e.g., least Bell's vireo, El Segundo blue butterfly, vernal pool fairy shrimp, etc.) have the potential to occur within the GCP Planning Area due to the presence of suitable habitat. The Final Programmatic EA has been revised to clarify that a total of 11 other federally listed species (besides the covered species) are known to occur or have the potential to occur in the Planning Area.

Comment McCormick-8

Perhaps add a reference to GCP Section 6, which more fully describes the permit application process under the GCP.

Refer to Comment McCormick-4.

Comment McCormick-9

Temporary impacts to "CTS breeding habitat" that are required to maintain the habitat, such as dry season stock pond maintenance, should be covered by the GCP.

Refer to Comment Berry-32. As described in As described in Section 2.1.4.1, *California Tiger Salamander (Santa Barbara County DPS)* of the EA, standing bodies of fresh water, including natural and man-made (e.g., stock) ponds, provide breeding habitat for the CTS. As described in Section 4, *Biological Impacts and Take Assessment* of the proposed GCP and Section 4.3, *Threatened and Endangered Species* of the Programmatic EA, no permanent impacts to potential CTS breeding ponds would be covered under the proposed GCP; however, covered activities could occur in upland areas that are occupied by CTS.

Comment McCormick-10

"As described in Section 4, *Biological Impacts and Take Assessment* of the GCP (see Appendix A), no impacts to designated critical habitat for LYS would be covered under the proposed GCP"

This is incorrect. Please see the statement below, Table 2-4 and the GCP.

Refer to Comment Berry-38. Section 4.3.1.1, *Covered Species* of the Final Programmatic EA has been revised to describe that the proposed GCP would allow for impacts of up to 27.5 acres of LYS habitat across the two geographic areas that encompass three populations of LYS consistent with Section 4, *Biological Impacts and Take Assessment* of the proposed GCP and Table 2-4 of the EA.

Comment McCormick-11

Specifically, the implementation of the proposed GCP would allow for impacts of up to 20 acres of LYS habitat outside the boundaries of designated critical habitat and impacts to 7.5 acres of LYS habitat which could occur within the boundary of designated critical habitat as shown in Table 2-4." This is correct but inconsistent with the above statement.

Refer to Comment McCormick-9

Comment McCormick-12

"[Impacts to LYS would be mitigated through...] 2) through acquisition of habitat that was historically or is currently occupied by LYS"

Would this include habitat that is suitable for LYS but is no longer occupied?

To confirm this could include the acquisition of habitat that was historically occupied by LYS.

Comment McCormick-13

This should be "LYS", not CRLF.

Section 4.3.1.1, *Covered Species* has been revised in the Final Programmatic EA to clarify that implementation of the proposed GCP would result in minor overall beneficial impacts to LYS.

Comment McCormick-14

This should be "have the potential to occur" to be consistent with Table 3-1 and earlier statements.

Refer to Comment Berry-42. Several of the federally listed species listed in Table 3-1 (e.g., Southwestern willow flycatcher, Gaviota tarplant, La Graciosa thistle, etc.) are known to occur within the GCP Planning Area. Other federally listed species included in Table 3-1 (e.g., least Bell's vireo, El Segundo blue butterfly, vernal pool fairy shrimp, etc.) have the potential to occur within the GCP Planning Area due to the presence of suitable habitat. The Final Programmatic EA has been revised to clarify that a total of 11 other federally listed species are known to occur or have the potential to occur in the GCP Planning Area.

Lawrence E. Hunt, Biologist
Hunt & Associates
May 5, 2020

Comment Hunt-1

I am a consulting biologist and herpetologist with over 35 years of field experience with the California tiger salamander (CTS) and the California red-legged frog (CRLF). I was a member of the Scientific Committee that helped prepare the Draft Recovery Plan for the Santa Barbara County Distinct Population Segment of CTS and commented extensively on the Draft and Final versions of the Recovery Plan for CRLF.

Thank you for your comments regarding the *Draft Programmatic Environmental Assessment (EA) for the General Conservation Plan for Oil and Gas Activities Associated with Issuance of Endangered Species Act Section 10(a)(1)(b) Permits in Santa Barbara County, California*. Your contribution to the Draft and Final Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (CTS) is recognized. Additionally, your letter to Marvin L. Plenert, Regional Director, U.S. Fish and Wildlife Service (Service) Portland Oregon regarding proposed listing for the California red-legged frog (CRLF) (1993) is also recognized.

Comment Hunt-2

In general, a GCP-based approach to protecting and conserving CTS and CRLF habitat could be a significant improvement over the current piecemeal, project-by-project approach because it incorporates a mechanism for large-scale habitat conservation. However, project-specific details that are unique to each project and that could negatively affect CTS and CRLF habitat could be overlooked if individual applications are not thoroughly reviewed.

As described in Section 1.1, *Introduction* of the Programmatic EA:

> *"A GCP is a mechanism that meets the definition of a conservation plan in Section 10(a)(1)(B) of the ESA and enables the construct of a programmatic permitting and conservation process to address a defined suite of proposed activities over a defined planning area. As opposed to a Habitat Conservation Plan (HCP) that addresses conservation on a project-by-project basis in response to individual ITP applications (see Section 1.2.2, Section 10 – Conservation Plans and Incidental Take Permits), a GCP establishes a framework under which covered activities are reviewed for compliance with the standardized requirements as individual ITP applications are submitted."*

Further, as described in Section 1.3.1, *Purpose* of the Programmatic EA:

> *"Rather than processing individual ITP applications and associated HCPs for individual Applicants, the proposed approval and implementation of the GCP would allow the Ventura Field Office to issue ITPs for defined non-Federal oil and gas activities that are in compliance with the requirements of the GCP. This standardized approach would allow greater consistency in the application of avoidance, minimization, and mitigation measures."*

Even with the proposed establishment of the proposed General Conservation Plan (GCP), the Service would continue to consider each project individually. For example, the GCP application process would begin within the completion of the *GCP Eligibility Determination Form* to determine whether the individual non-Federal oil and gas activity is eligible for the GCP permitting process. Based on the required application materials – including environmental documentation prepared by the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site (refer to Section 1.6.1, *California Environmental Quality Act* of the Programmatic EA) – the Service would use the "Low Effect" screening form to determine if a project qualifies for a Categorical Exclusion or whether a project-specific EA would be required. The project-specific EA, if necessary, would analyze all project-specific impacts to the full suite of environmental resources associated with the proposed non-Federal oil and gas activity. If the CEQA-compliant document identifies significant and unavoidable impacts (e.g., significant impacts to CTS, CRLF, or Lompoc yerba santa [LYS] or their habitats) and requires a Statement of Overriding Considerations, the Service would carefully review the project and make careful considerations as to whether a Categorical Exclusion or an EA would be appropriate. If the Service determines that the project is likely to have significant adverse impacts, preparation of an EIS may be required and the project would not be eligible for take coverage under the GCP.

Comment Hunt-3

The need to prioritize lands for conservation should include the goal of conserving the full spectrum of landforms on which CTS evolved in Santa Barbara County. Proposing to abandon ponds now isolated by anthropogenic factors will not preserve Santa Maria Valley CTS, particularly the East Santa Maria Valley metapopulation where all of the surviving breeding sites are now "isolated", per the GCP proposal. The hydrologically unique system of vernal pools and ponds found in the Santa Maria Valley formed on an ancient dune sheet, the Orcutt Terrace, that historically supported the highest concentration of vernal wetlands in the Santa Barbara DPS (L. Hunt, photointerpretation of historical aerial photographs; Hunt, L.E. 1992. Origin, maintenance, and land use of aeolian sand dunes in the Santa Maria Basin, California. Prep. for The Nature Conservancy and U.S. Air Force, Vandenberg AFB. 72 pp.). The Santa Maria Valley populations of CTS have suffered the highest level of pool loss and upland habitat fragmentation. Indeed, the distinction between an Eastern and Western Santa Maria

Valley "metapopulations" is an artifact of urban and agricultural development. Rather than write-off isolated ponds, the GCP should focus on increasing the amount of upland habitat around the few remaining ponds with the goal of re-creating a connected landscape on which additional ponds could be restored, enhanced, or created, so that this significant part of the DPS is not lost.

The proposed GCP does not propose to "*abandon* [emphasis added] ponds now isolated by anthropogenic factors." Rather, the mitigation actions included in the proposed GCP simply *prioritize* the conservation of sites within each of the six metapopulations that are functionally connected to one another and have sufficient functional upland habitat to support long-term viability of a metapopulation. This approach to conservation is consistent with the *Conservation Strategy and Mitigation Guidance for the California Tiger Salamander* (Service 2017) and the *Recovery Plan for the California Tiger Salamander* (Service 2016).

As described in the GCP:

> *"[i]n support of goal 3, objective 3.1, compensatory mitigation will be implemented in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander [Service 2017] or the most current version and support recovery needs as stated in the recovery plan [Service 2016] for the California tiger salamander, Santa Barbara DPS. The final recovery plan (Service 2016) for the California tiger salamander, Santa Barbara DPS establishes the following recovery criteria to support long-term viability:*
>
> 1. *At least four functional breeding ponds are in fully preserved status per metapopulation area.*
> 2. *A minimum of 623 acres of functional upland habitat around each preserved pond is in fully preserved status.*
> 3. *Adjacent to the fully preserved ponds and fully preserved upland habitat, a minimum of 1,628 acres of additional contiguous, functional upland habitat is present, which is at least 50 percent unfragmented and partially preserved.*
> 4. *Effective population size in the metapopulation is, on average, increasing for 10 years.*
> 5. *Management is implemented to maintain the preserved ponds free of non-native predators and competitors (e.g., bullfrogs and fish).*
> 6. *Risk of introduction and spread of non-native genotypes is reduced to a level that does not inhibit normal recruitment and protects genetic diversity within and among metapopulations."*

The implementation of the proposed GCP would conserve at least four breeding ponds within each of the six metapopulations, including the East Santa Maria Valley Metapopulation. Further, as described in Section 4, *Biological Impacts and Take Assessment* of the proposed GCP there

are 10,411 acres of CTS habitat within East Santa Maria. Under the proposed GCP, 104 acres of permanent impacts would be allowed, and 208 acres of temporary impacts would be allowed. This amounts to less than 3 percent of the total habitat in this area.

It should be noted that the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual non-Federal oil and gas activities would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the CEQA. It is likely that proposed Projects involving fragmentation of CTS habitat would result in significant and unavoidable impacts and would require a Statement of Overriding Considerations. Such projects would likely require an EIS, making the project ineligible for the proposed GCP (refer to Comment Hunt-2).

Comment Hunt-4

Previous studies have concluded that migration/dispersal between breeding and upland habitats in pond-breeding amphibians very likely depends on a number of site-specific factors and thus, management conclusion should not rely on a single study. For example, a larger study of radio- tagged CRLF found that 66% of adult females and 25% of adult male frogs routinely moved between the breeding site (a pond) and non-breeding habitat (a stream/riparian area located about 350 feet away) even when water remained at the breeding site. The median distance moved was 495 feet, which means that half of the frogs moved even greater distances and females moved greater distances than males (Fellers, G. and P. Kleeman. 2007. California Red-Legged Frog (*Rana draytonii*) Movement and Habitat Use: Implications for Conservation. J. Herpetology, 41(2): 276-286). The study underscores the importance of all three habitat components for CRLF conservation: breeding habitat, non-breeding (upland) habitat, and migration/dispersal corridors, and recommends creating buffers that encompass all three elements so that human activities don't degrade one or more habitats. The GCP should evaluate additional radio-tracking studies, pitfall trap surveys, and anecdotal information from species experts in northern and central coastal California to better understand the site-specific reasons for and the wide variation in CRLF movements, then make management recommendations based on a consensus of expert opinions. Because adult female CRLF are reproductively more important than males to population persistence and appear to move greater distances, conservation measures in the GCP should emphasize the importance of protecting dispersal habitat so that connections between critical habitat components across a landscape are preserved.

The proposed GCP relies on the comprehensive body of evidence provided in the *Ventura Field Office's Strategic Conservation Plan* (Service 2016) to assess temporary/permanent impacts,

wet/dry impacts and aquatic/upland dispersal impacts. This is consistent with how impacts have been calculated for individual ITPs and associated Applicant-prepared HCPs and EAs pursuant to Section 10 of the ESA. While the proposed GCP cannot respond to each individual study associated with the dispersal of CRLF, if future studies, when considered collectively, merit revisions to the *Recovery Plan for the California Red Legged Frog* or the *Ventura Field Office's Strategic Conservation Plan* (Service 2016) the recovery criteria and impact calculations would be revised accordingly in the GCP and applied to all *future* ITP issuances under the GCP. Refer to the *Changed Circumstances* discussion in the proposed GCP, which describes: *"Section 10 of the Act regulations (69 FR 71723 as codified in 50 CFR §17.22[b][2] and §17.32[b][2]) require that a habitat conservation plan specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the habitat conservation plan."*

Comment Hunt-5

"Because quantification of the number of California tiger salamander that would be taken incidental to Covered Activities is not possible given available data, relying on impacts to occupied California tiger salamander habitat is a suitable surrogate to estimate the amount of take that is likely to occur. Within this plan, 'occupied California tiger salamander habitat' is defined as:
1) Areas within California tiger salamander dispersal distance (1.3 miles) from a documented known breeding pond; OR
2) Where California tiger salamanders are assumed present by the applicant/permittee (no surveys have been conducted)."
Shouldn't Item 2 state, "Where CTS are assumed present by the Service..." not the "applicant"? The burden of proof of presence/absence of CTS lies with the applicant, who must demonstrate that breeding and/or upland habitat is not occupied by CTS by conducting protocol surveys involving two consecutive years of drift fence/pitfall trap surveys in average or above-average rainfall years. The applicant may assume CTS and/or CRLF are present in a given area and proceed accordingly, but what if the applicant assumes absence, will the Service require surveys? The language in this section should be more specific.

The second criteria is correct as written in the proposed GCP. The Service does not make an assumption whether CTS (or any other federally listed or candidate species) are present/absent within an individual area located outside of the established CTS dispersal area. The Service simply enforces the provisions of the ESA, which prohibit the take of federally listed species. If requested, the Service can help determine whether a project or action is likely to result in take; however, the Applicant is responsible deciding whether to pursue an ITP.

ITP permit holders can proceed with an activity that is legal in all other respects, but that results in the "incidental" taking of a listed species. The Service also developed a regulation to address the problem of maintaining regulatory assurances and providing certainty to landowners through the HCP process, called the “No Surprises” regulation. Therefore, it is often to a landowner’s benefit to assume presence of CTS (and/or other federally listed or candidate species, as appropriate) as it allows the landowner to apply for an ITP without conducting lengthy protocol level surveys necessary to confirm presence.

Comment Hunt-6

The tables on p. 57 and 58 give a misleading impression that the Santa Maria Valley, i.e., eastern and western metapopulations combined, has the greatest amount of remaining CTS habitat compared to the other areas. The tables should include a column of index of habitat fragmentation, e.g., average acreage of intact upland habitats remaining around known CTS breeding sites and another column stating whether or not breeding sites are functionally connected to other breeding sites. In this way, the reader can see the relative connectivity of upland habitat remaining in the various metapopulations, which relates to my comment on p. 1.

The CTS metapopulations described in the proposed GCP have been defined to align with the metapopulations described in the Recovery Plan for the California Tiger Salamander, “*(1) West Santa Maria/Orcutt, (2) East Santa Maria, (3) West Los Alamos, (4) East Los Alamos, (5) Purisima Hills, and (6) Santa Rita Valley.”*

Nevertheless, the proposed GCP recognizes the special circumstances in the West Santa Maria and East Santa Maria:

> *“East and West Santa Maria metapopulation areas are under the greatest threat from land conversion and habitat loss. For example, within the East Santa Maria metapopulation there is currently not enough available California tiger salamander habitat to meet recovery criteria as described in the California tiger salamander final Recovery Plan (Service 2016). Therefore, it is necessary to restore it to function as California tiger salamander habitat in this metapopulation area in order to meet recovery criteria. The West Santa Maria metapopulation is in a similar state. In order to avoid precluding recovery in these metapopulation areas, mitigation for impacts in West Santa Maria and East Santa Maria should occur within these metapopulations areas, rather than be directed to metapopulations areas outside of this distinct genetic group.”*

The amount of permanent and temporary habitat impacts within these metapopulations was calculated by the Service based on the amount of habitat necessary to meet the recovery criteria for CTS.

Comment Hunt-7

This take coverage assumes that individual CTS killed or injured by traffic on access road are observable. Experience has shown with night-driving on paved roads that unless the number of individuals crossing the road is large and concentrated in a particular area, the likelihood of finding the carcass of this small, soft-bodied amphibian is practically extremely low. Detection is even more unlikely on unpaved access roads where the coarse roadbed and semi-permeable surface would further conceal the carcass. There is no way that take of up to three individual CTS or ten CRLF per year by vehicles can be monitored or verified. Additionally, not all "take" is equal. Take of reproductively mature CTS or CRLF migrating between upland refugia and breeding ponds will have much more serious consequences for Ne (effective population size) compared to take of metamorphs dispersing from the pond into upland habitat, especially if repeated annually. Other mitigation measures proposed in the GCP, such as limiting the speed of vehicles and restricting vehicular access to daytime hours also will be impossible to enforce.

CTS are large bodied amphibians that can range from approximately 7 inches (adult female) to 8 inches (adult male) long. Similarly, CRLF are also large bodied amphibians ranging from approximately 4.5 inches (adult male) to 5.5 inches (adult female). As such, individuals that are killed or injured by traffic on access roads would be observable by a Service-approved biologist. Additionally, as described in *Measures to Avoid and Minimize Impacts* in the proposed GCP various requirements would be implemented to avoid of potential take of covered species along access roads. In particular:

"7. Personnel will limit their vehicle use to existing routes of travel. Travelling off designated roads will be prohibited unless access is determined critical for a particular activity and the route has been flagged to avoid or minimize adverse effects.

8. To minimize the potential for road mortality of covered wildlife within their habitats, nighttime traffic will be minimized during the construction phase to the extent feasible; all hauling activities within habitat for covered wildlife will be restricted to daylight hours, defined as the hours after sunrise and before sunset.

9. Except in areas with posted speed limits greater than 10 miles-per-hour, project-related vehicle speeds will not exceed 10 miles-per-hour when driving within California tiger salamander or California red-legged frog habitats.

10. Prior to moving vehicles or equipment, personnel will look under the vehicles or equipment for the presence of California tiger salamanders or California red-legged frogs. If a covered wildlife species is observed, the vehicle will not be moved until the

animal has vacated the area on its own accord or has been relocated out of harm's way in accordance with Measure 12."

The level of take allowed for CTS and CRLF and the requirements for monitoring by a Service-approved biologist are generally consistent with project-specific, Applicant-prepared HCPs issued for non-Federal oil and gas activities in the region.

Comment Hunt-8

New oil and gas exploration and extraction within the watershed of individual vernal pools known to provide breeding habitat for CTS and/or CRLF should be banned. The hydroperiod of natural and man-made pools and ponds are very sensitive to sedimentation. In addition to vehicle strikes, potential movement barriers, and sources of increased potential for predation posed by roadways, the construction of roadways, well pads and associated linear infrastructure such as telecommunication and power lines within the "watershed" of individual breeding ponds creates long-term sources of soil erosion, pond sedimentation, and degraded soil and water quality in the form of oil and other contaminants from road runoff.

Importantly, the Service has no authority in the approval (or denial) of non-Federal oil and gas activities. Land use approval(s) and impact assessment for individual oil and gas are the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Once an individual non-Federal oil and gas activity is approved by the appropriate local or state agency(ies), the Applicant must determine whether an ITP is necessary. The Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·
- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Therefore, the Service cannot *ban* new oil and gas exploration and extraction within the watershed of individual vernal pools. However, as described in Section 4, *Biological Impacts and Take Assessment* of the proposed GCP *"…no direct or indirect impacts to CTS breeding habitat would be covered under the proposed GCP."* Further, as described in Section 4.4., *Wetlands/Waters of the U.S.* of the Programmatic EA *"compensatory mitigation for CTS and CRLF under the proposed GCP would preserve and protect core habitat areas for these species including breeding ponds and adjacent wetland and upland areas."*

Comment Hunt-9

These mitigation measures should be replaced with a strategy that carefully reviews all proposed road alignments (including existing access roads), as well as other linear infrastructure such as telecommunication and power lines during the planning stage of a proposed project, similar to the avoidance and minimization measures proposed on p. 70 of the GCP, which states that, "During the project planning phase, applicants will site all impacts away from known and potential California tiger salamander and California red-legged frog breeding habitats, avoid high quality upland and dispersal habitat..." This measure presumably refers to new projects/construction, but should also include existing projects, such as a review of where existing roadways could be abandoned and restored, etc. The language in this measure uses vague terms such as "away from" and "high quality upland and dispersal habitat" without defining their meaning. The applicant will always favor the shortest and most direct routes between production and delivery points in o der to reduce costs associated with creating and maintaining access roads, without considering the spatial layout of CTS/CRLF habitat elements. FWS biologists should review proposed plans and work with applicants at the planning stage to re-route and reduce the number of existing and proposed access road alignments and other infrastructure in such a way that preserves and/or restores barrier-free upland habitat around and between known CTS and CRLF breeding sites. This will require field site visits to evaluate potential routes.

As previously described, land use approval(s) and impact assessment for individual non-Federal oil and gas activities – including associated access roads – would continue to be the responsibility of the local or state agency(ies) with the appropriate jurisdiction(s) over an individual project site. Impacts to the full range of environmental resources for individual non-Federal oil and gas activities would be performed during that review and permitting process in compliance with the California Environmental Quality Act (CEQA). As a part of this process, the CEQA document would identify: 1) mitigation measures to reduce impacts to reduce potentially significant impacts to the maximum extent feasible; and 2) alternatives (including redesign of the proposed Project) to avoid potentially significant impacts. For project involving potential impacts to CTS, CLRF, or LYS (and/or other federally listed or candidate species) the Service would have the opportunity to comment on the draft CEQA document – including the sufficiency of the identified mitigation measures and alternatives – as a part of the CEQA process. However, once a non-Federal individual oil and gas activity is approved by the appropriate local or state agency(ies), the *Applicant* must determine whether an ITP is necessary. The Service is *obligated* to issue an ITP if:

- The taking is incidental to an otherwise lawful activity; ·
- Impacts are monitored, minimized, and mitigated to the maximum extent practicable; ·

- Procedures are provided to deal with unforeseen circumstances; ·
- Adequate funds exist to implement the HCP; and
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Nevertheless, the *Measures to Avoid and Minimize Impacts* in the proposed GCP describe various requirements regarding avoidance of potential impacts to covered species. In particular:

"6. All proposed linear routes (i.e., roads and pipelines) will be reviewed and modified, if necessary, in the field to minimize impacts to Covered Species with assistance by the on-site biologist or environmental monitor."

Comment Hunt-10

The GCP requires that compliance, efficacy, and adaptive management of avoidance and minimization measures presented therein be summarized in annual reports submitted to the Service by the applicant's biologist (Service-approved). The GCP should include at least an annual site visit by Service biologist(s) to each project site after receipt of the annual report in order to verify compliance with GCP requirements and how non-compliance issues will be handled.

The *Measures to Avoid and Minimize Impacts* in the proposed GCP describe various requirements overseen a Service-approved biologist. In particular:

"4. A Service-approved biologist will periodically review and monitor construction and restoration efforts and will be responsible for ensuring that conditions of approval are being enforced and that success criteria are being met. Except for emergency situations, a Service-approved biologist will have the authority to temporarily halt activities if permit requirements and conditions are not being met."

Response to Form Letters Provided by the Service on April 20, 2020

I am writing to oppose the U.S. Fish and Wildlife Service's draft General Conservation Plan ("GCP"), as well as the draft Environmental Assessment ("EA"), for oil and gas activities in Santa Barbara County. By streamlining the permitting process under the Endangered Species Act for oil and gas operators at the expense of meaningful conservation of three protected species, the GCP would make it easier for operators to conduct their dangerous and risky projects proposed for the Cat Canyon Oil Field.

The GCP would allow oil and gas operators to permanently destroy 675 acres of habitat for the California tiger salamander, 355 acres of critical habitat for the California red-legged frog, and 27.5 acres of Lompoc yerba santa stands. Under the GCP, the steps that

an applicant must take to minimize and mitigate these significant impacts are inadequate to ensure the survival and recovery of the species.

Globally, around one million species are currently threatened with extinction and more than forty-percent of amphibians are threatened, according to a recent UN report. Climate change is a major driving force behind this loss of biodiversity and habitat destruction, which we are also experiencing in Santa Barbara County. As this County continues transitioning to a clean energy future, we ask that you withdraw the proposed GCP and EA in the interest of the recovery of these protected species.

The U.S. Fish and Wildlife Service (Service) developed the proposed General Conservation Plan (GCP) and associated Programmatic Environmental Assessment (EA) to ensure conservation is implemented in a way that aids recovery of these species when the Service analyzes oil and gas activities in Santa Barbara County. The proposed GCP would allow the Service to take a more proactive, strategic, and landscape-level approach to conservation in Santa Barbara County rather than a reactive, project-by-project approach while ensuring project compliance under the Endangered Species Act (ESA).

We especially want to address the statement in your letter that says, *"Under the GCP, the steps that an applicant must take to minimize and mitigate these significant impacts are inadequate to ensure the survival and recovery of the species."* As described in Page 70-90 of the GCP the measures that must be implemented to avoid and minimize effects of permitted projects on these species and mitigate for impacts that are unavoidable. We developed these minimization and mitigation requirements and limited the maximum extent of impacts that can be covered under the GCP, to ensure that these activities do not hinder the recovery of these species. If an applicant is unwilling to meet these terms, they will not be covered under the GCP.

The purpose of the GCP is to ensure actions are conducted in a manner that is consistent with conservation of listed species and project Applicants are compliant with the ESA. This plan does not circumvent the need for project compliance with other permit requirements (e.g., California Environmental Quality Act [CEQA]) or approval processes that typically include county hearings and local approval. Project Applicants seeking a permit under the proposed GCP must comply with all applicable Federal, state, and local statutes and regulations.

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APPENDIX A

NOTICE OF AVAILABILITY

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R8–ES–2019–N015; FXES11140800000–190–FF08EVEN00]

Draft Environmental Assessment and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of availability; request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce the availability of a draft General Conservation Plan (GCP), as well as the associated draft environmental assessment (EA), for oil and gas activities in Santa Barbara County. The Service developed the GCP in accordance with the Endangered Species Act to provide a streamlined mechanism for proponents engaged in oil and gas activities to meet statutory and regulatory requirements while promoting conservation of the Santa Barbara County distinct population segment of the California tiger salamander, California red-legged frog, and Lompoc yerba santa. The Service prepared the draft EA in accordance with the National Environmental Policy Act to evaluate the potential effects to the natural and human environment resulting from issuing permits under the GCP. We invite public comment on these documents.

DATES: Written comments should be received on or before April 6, 2020.

ADDRESSES: *Obtaining documents:* You may download a copy of the draft GCP and draft EA at *http://www.fws.gov/ventura/,* or you may request copies of the documents from the Ventura Fish and Wildlife Office by U.S. mail (address below) or by phone (see **FOR FURTHER INFORMATION CONTACT**).

Submitting written comments: Please send us your written comments using one of the following methods:

- *U.S. mail:* Stephen P. Henry, Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2493 Portola Road, Suite B, Ventura, CA 93003.
- *Email: sbc-oilandgasgcp@fws.gov.*

FOR FURTHER INFORMATION CONTACT: Rachel Henry, Fish and Wildlife Biologist, Ventura Fish and Wildlife Office (see **ADDRESSES**), by phone at 805–677–3312 or via the Federal Relay Service at 1–800–877–8339 for TTY assistance.

SUPPLEMENTARY INFORMATION: We, the U.S. Fish and Wildlife Service (Service), announce the availability of a draft General Conservation Plan (GCP), as well as the associated draft environmental assessment (EA), for oil and gas activities in Santa Barbara County. The GCP was developed by the Service in accordance with section 10(a)(2)(A) of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*). The GCP meets the issuance criteria as required by section 10(a)(2)(B) of the ESA for issuance of a section 10(a)(1)(B) incidental take permit (ITP).

The Service developed the GCP to provide a streamlined mechanism for proponents engaged in oil and gas development, expansion, operations, maintenance, and decommissioning of infrastructure to meet statutory and regulatory requirements while promoting conservation of the Santa Barbara County distinct population segment (DPS) of the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and Lompoc yerba santa (*Eriodictyon capitatum*). The GCP includes measures to mitigate and minimize impacts to the covered species. Permits issued under the GCP would authorize incidental take of the covered species for up to 20 years after the plan becomes effective. The Service prepared the draft EA in accordance with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) to evaluate the potential effects to the natural and human environment resulting from issuing permits under the GCP. We invite public comment on these documents.

Background

The Service listed the Santa Barbara County DPS of the California tiger salamander as endangered on September 21, 2000 (65 FR 57242); the Lompoc yerba santa as endangered on March 20, 2000 (65 FR 14888); and the California red-legged frog as threatened on May 23, 1996 (61 FR 25813).

Section 9 of the ESA and its implementing regulations prohibit the take of fish or wildlife species listed as endangered or threatened. The ESA defines ''take'' as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. 1532); however, under section 10(a)(1)(B) of the ESA, we may issue permits to authorize incidental take of listed species. Our regulations at 50 CFR 17.3 define ''incidental taking'' as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. Regulations governing incidental take permits for endangered and threatened species are in the Code of Federal Regulations (CFR) at 50 CFR 17.22 and 17.32, respectively. Under the ESA, protections for federally listed plants differ from the protections afforded to federally listed animals. Issuance of an incidental take permit also must not jeopardize the existence of federally listed fish, wildlife, or plant species. The permittees would receive assurances under our ''No Surprises'' regulations ((50 CFR 17.22(b)(5) and 17.32(b)(5)) regarding conservation activities for the Santa Barbara County DPS of the California tiger salamander, California red-legged frog, and Lompoc yerba santa.

Proposed Action

The proposed action is approval of the GCP that has been prepared by the Service in accordance with section 10(a)(2)(A) of the ESA to provide a more efficient and standardized mechanism for proponents engaged in commercial oil and gas development, expansion, operations, maintenance, and decommissioning of infrastructure on non-Federal lands. The GCP meets the permit issuance criteria as required by section 10(a)(2)(B) of the ESA and enables the establishment of a programmatic permitting and conservation process to address a defined suite of proposed activities over a defined planning area. The proposed GCP would allow private individuals, local and State agencies, and other non-Federal entities to meet the statutory and regulatory requirements of the ESA by applying for a permit and complying with the requirements of the GCP, including all applicable avoidance, minimization, and mitigation actions.

The draft EA provides the required NEPA documentation for the proposed Federal action (*i.e.,* approval of a conservation plan and subsequent issuance of permits pursuant to section 10(a)(1)(B) of the ESA), providing information on the environmental baseline and a discussion of impacts to the human and natural environment that may occur as a result of implementation of the proposed GCP. Importantly, the scope of the EA is limited to the evaluation of the proposed GCP as a mechanism to standardize permit issuance for covered activities; this EA neither evaluates nor results in approval of oil and gas development projects or activities.

Alternatives

We are considering a no-action alternative to the proposed action in the EA. Under this alternative, the Service would not establish the proposed GCP as a standardized mechanism for

compliance with section 10 of the ESA. Entities planning to conduct oil and gas activities involving potential impacts to the Santa Barbara County DPS of the California tiger salamander and California red-legged frog would continue to be required to obtain permits with associated project-specific HCPs.

Public Availability of Comments

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public view, we cannot guarantee that we will be able to do so.

Authority

We provide this notice under section 10(c) of the ESA (16 U.S.C. 1531 *et seq.*) and its implementing regulations (50 CFR 17.22 and 17.32) and NEPA (42 U.S.C. 4321 *et seq.*) and its implementing regulations (40 CFR 1506.6).

Stephen Henry,

Field Supervisor, Ventura Fish and Wildlife Office, Ventura, California.

[FR Doc. 2020–04562 Filed 3–5–20; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLWY921000.L14400000.ET0000; WYW 141567]

Public Land Order No. 7892; Extension of Public Land Order No. 7434; Withdrawal of Public Land for Whiskey Mountain Bighorn Sheep Winter Range, Wyoming

AGENCY: Bureau of Land Management, Interior.

ACTION: Public land order.

SUMMARY: This order extends the duration of the withdrawal created by Public Land Order (PLO) No. 7434, which would otherwise expire on March 23, 2020, for an additional 20-year period. PLO No. 7434 withdrew 1,430.92 acres of public lands from settlement, sale, location, or entry under the general land laws, including the United States mining laws, but not from leasing under the mineral leasing laws. The purpose of this withdrawal extension is to protect the Whiskey Mountain Bighorn Sheep Winter Range and capital investments in the area for an additional 20-year term.

DATES: This PLO takes effect on March 24, 2020.

FOR FURTHER INFORMATION CONTACT: Keesha Cary, Realty Specialist, at (307) 775–6189, Bureau of Land Management, Wyoming State Office, P.O. Box 1828, Cheyenne, Wyoming 82003. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service (FRS) at 1–800–877–8339 to contact the above individual. The FRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: This Order extends the existing withdrawal to continue to protect the Whiskey Mountain Bighorn Sheep Winter Range and capital investments in the area.

Order

By virtue of the authority vested in the Secretary of the Interior by Section 204 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1714, it is ordered as follows:

1. Subject to valid existing rights, PLO No. 7434 (65 FR 15920 (2000)), which withdrew 1,430.92 acres of public lands from settlement, sale, location, or entry under the general land laws, including the United States mining laws, but not from leasing under the mineral leasing laws, is hereby extended for an additional 20-year period.

2. This withdrawal extended by this Order will expire on March 23, 2040, unless as a result of a review conducted prior to the expiration date pursuant to Section 204(f) of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1714(f), the Secretary determines that the withdrawal shall be further extended.

Dated: March 2, 2020.

Rob Wallace,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2020–04637 Filed 3–5–20; 8:45 am]

BILLING CODE 4310–22–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–1151]

Certain Photovoltaic Cells and Products Containing Same; Commission Decision Not To Review an Initial Determination Granting Complainants' Unopposed Motion To Amend the Complaint and Notice of Investigation

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review an initial determination (''ID'') (Order No. 38) of the presiding administrative law judge (''ALJ'') granting complainants' unopposed motion to amend the complaint and notice of investigation (''NOI'') in the above-captioned investigation to substitute Hanwha Solutions Corporation (''HSC'') for Hanwha Q CELLS & Advanced Materials Corporation (''HQC–AMC'') as a complainant.

FOR FURTHER INFORMATION CONTACT: Clint Gerdine, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 708–2310. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205–2000. General information concerning the Commission may also be obtained by accessing its internet server at *https://www.usitc.gov*. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov*. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on April 9, 2019, based on a complaint filed on behalf of Hanwha Q CELLS USA, Inc. of Dalton, Georgia and HQC–AMC of Seoul, Republic of Korea. 84 FR 14134–35 (April 9, 2019). The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337, based upon the importation into the United States, the sale for importation, and the sale

APPENDIX B

COMMENTS RECEIVED

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

April 1, 2020

Rachel Henry
U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93101

Subject: Draft Environmental Assessment for the General Conservation Plan for Oil and Gas Activities, Santa Barbara County, California

Dear Mr. Henry:

The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Draft Environmental Assessment evaluates the potential impacts associated with the issuance of Incidental Take Permits to implement activities covered by the General Conservation Plan for Oil and Gas Activities. The U.S. Fish and Wildlife Service developed the GCP to streamline the habitat conservation planning process and ensure consistent mitigation and minimization measures for three federally listed species (California tiger salamander, California red-legged frog, and the Lompoc yerba santa) in Santa Barbara County, California. Covered activities include geophysical exploration, development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure (p. 2-3 to 2-6).

The EPA appreciates the opportunity to review the Draft EA and has identified areas for additional analysis and disclosure as the USFWS is preparing the Final EA and considering preparation of a Finding of No Significant Impact.

Scope

The Draft EA is detailed in its analyses of impacts to covered species given the direct relationship to issuing an ITP, but excludes potential impacts to other resources (i.e., air, water, vegetation, etc.). Although ITP issuance does not produce direct impacts, it could facilitate oil and gas development by addressing one of the various statutory and regulatory requirements tied to project authorization. As such, we recommend addressing additional resources at a programmatic level to reflect the indirect nature of the proposed action, the geographic breadth of the Plan Area, and the lack of information on the precise location and timing of covered activities. We suggest referring to the GCP examples on the USFWS HCP Toolbox website.[1] USEPA-1

[1] These examples include the *Oil and Gas Industry Conservation Plan* (i.e., GCP) and its environmental assessment for the American Burying Beetle in Oklahoma. Available at: https://www.fws.gov/endangered/what-we-do/hcp-handbook-toolbox.html (found under "GCP Examples" in the "Templates and Examples" section).

Avoidance, Minimization, and Mitigation Measures

As the scope is expanded to address additional resources at the programmatic level, we recommend including additional avoidance, minimization, and mitigation measures. For example, include measures to reduce impacts associated with air emissions such as a limiting the speed of earth-moving equipment to 10 mph and maintaining engines per manufacturer specifications to perform at the state's and/or EPA certification levels. We also recommend committing to these measures in the FONSI. USEPA-2

Regulatory Framework

The USFWS can only issue permits to authorize incidental take resulting from activities which are otherwise lawful (HCP Handbook p. 1-8, 9); therefore, project proponents seeking a permit under the GCP "must comply with all applicable Federal, State, and local statutes and regulations" (HCP Handbook p. 1-6). As such, the EPA recommends addressing the "suite of permits required for project approval" (p. 4-1, 2) in the Final EA and discuss all applicable regulations, including the Clean Air Act, Clean Water Act, Bald and Golden Eagle Protection Act, and the Energy Act of 2005 (p 1-7). USEPA-3

Migratory Birds

According to the USFWS, oil operations, electrocutions, and collisions with electrical lines are leading causes of migratory bird mortality;[2] however, the Draft EA does not assess the potential impacts to migratory birds from covered activities. We encourage the USFWS to disclose this information in the Final EA, and commit to activity-specific best practices to avoid, minimize, or mitigate bird mortality. USEPA-4

Consultation with Tribal Governments

The EPA recommends that the Final EA describes the outcome of tribal consultation between the FWS and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed. USEPA-5

The EPA appreciates the opportunity to review this Draft EA. When the Final EA and FONSI are released for public review, please email the documents to samples.sarah@epa.gov. If you have any questions, please contact me at 415-947-4167, or Sarah Samples at 415-972-3961.

Sincerely,

Jean Prijatel, Manager
Environmental Review Branch

[2] U.S. Fish and Wildlife Service. November 2018. Threats to Birds. Available at https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
FAX (415) 904-5400
TDD (415) 597-5885

May 4, 2020

Stephen P. Henry
Field Supervisor
Ventura Fish and Wildlife Office
U.S. Fish and Wildlife Service
Attn: Rachel Henry
2493 Portola Road, Suite B
Ventura, CA 93003

Re: Draft Environmental Assessment and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, CA

Dear Mr. Henry:

The Coastal Commission staff offers the following comments on the above-referenced Draft General Conservation Plan (GCP). One of our main concerns is that the draft GCP does not contain sufficient information to assess the Coastal Commission's jurisdiction under the federal Coastal Zone Management Act (CZMA)[1] over activities covered in the document. While the Draft GCP appears fairly detailed in terms of the *types* of activities it would cover, it does not describe the *locations* in sufficient detail to enable us to determine whether covered activities could occur within the coastal zone, or within areas where they could result in downstream effects on the coastal zone (in which case the CZMA would or could be triggered). CCC-1

The Draft GCP contains only two maps: one showing general planning areas (which include the Santa Barbara coastline), and a second showing listed species habitat areas (inland of the coastal zone). The term "Project Area" is found throughout the Draft GCP, but no maps were included depicting where these project areas are located. Since the Planning Areas (and hence the potential project impact areas) include the coastline, we can only presume (absent additional information and analysis) that the potential exists for individual project impacts on the coastal zone. CCC-2

Due to this lack of information and understanding, we decided not to request permission at this time from the Office for Coastal Management (OCM) to review this GCP. This would

[1] **16 USC § 1456**

have been the appropriate procedure for us to engage in under the federal consistency procedures applicable to federally-permitted activities that are: (1) not "listed" federal permits that would automatically trigger CZMA review under the California Coastal Management Program (CCMP); and/or (2) are located fully outside the coastal zone. The test for any such request by us is whether the federally permitted activity can be considered "reasonably likely to affect the coastal zone" (15 CFR Part 930, Section 930.53(a)(2) and 930.54).

CCC-2 (Cont.)

Although we did not submit a request to OCM at this time, we would have future opportunities to request review of your authorization of activities covered under this GCP during consideration of future Habitat Conservation Plans (HCPs), if activities covered under those plans are reasonably likely to affect the coastal zone. To ensure a timely and appropriate review, we request that you keep us informed when those future HCPs are being considered. The proper time for this notice would be when you receive an application for a Habitat Management Plan (HMP) that comes under the auspices of this GCP. Ideally, we would appreciate earlier, more informal notification, to enable us to be involved and made aware of upcoming and pending applications. This would also enable us to coordinate with Santa Barbara County to discuss whether any activities would be located in an area where they could affect the County's coastal zone, and/or could be located partially or fully *within* the coastal zone (in which case they would likely need coastal development permits that would be appealable to the Coastal Commission).

CCC-3

Furthermore, we recommend that you include the CZMA in the Other Relevant Laws and Regulations section (p. 9) of the Draft GCP. If you have sufficient information that leads you to conclude that the potential does not exist for project activities to affect coastal resources, then we would appreciate a detailed explanation describing why the activities covered under the Draft GCP could not be "reasonably likely to affect the coastal zone."

CCC-4

As a separate matter, we have some confusion regarding the interplay between: (a) the 20-year term of the Draft GCP; (b) the "No Surprises" rule that places the burden on USFWS to determine changed circumstances, and limits additional measures to those imposing no additional costs to an applicant without the applicant's consent; (c) the reliance on future HMPs to provide additional specificity and certainty regarding species protection needs and mitigation effectiveness; and (d) the discussion on pages 91-93 of the Draft GCP with respect to changed circumstances and adaptive management.

While we understand the value of the proposed programmatic approach inherent in a GCP, if pursuing it would constrain future options for avoidance, monitoring, and mitigation measures under the "No Surprises" rule, then perhaps the "no project" alternative you describe, which is to continue to review oil and gas proposals in association with individual HCPs, could be a more environmentally beneficial alternative. Therefore we would appreciate a more detailed explanation of how any "No Surprises" limitations on your ability to unilaterally require additional measures (absent agreement by project

CCC-5

proponents) dovetails with the lengthy 20 year term of the proposed GCP and with the review process for subsequent individual HCPs that would follow. CCC-5 (Cont.)

Finally, with respect to decommissioning activities, we have two questions: (1) is it reasonable to expect they would take place within the 20-year term of the GCP?; and (2) would the “No Surprises” concern we raised in the previous two paragraphs limit your options for decommissioning? It may be worth considering separating decommissioning from the rest of the activities described in the Draft GCP. CCC-6

Thank you for your consideration of these comments. If you have any questions regarding this letter, feel free to contact me at kate.huckelbridge@coastal.ca.gov.

Sincerely,

Kate Huckelbridge, PhD
Deputy Director
Energy, Ocean Resources & Federal Consistency Division

cc: CCC Ventura District Office (Barbara Carey)
US Fish and Wildlife Service (Rachel Henry)
Office for Coastal Management (David Kaiser, Kerry Kehoe)
California Department of Fish and Wildlife (Kelly Schmoker)
Santa Barbara County Department of Planning & Development (Errin Briggs)
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

May 6, 2020

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Subject: Comments on the Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County [FWS-R8-ES-2019-N015; FXES11140800000-190-FF08EVEN00]

Dear Mr. Henry:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Draft General Conservation Plan (GCP) for cultivation activities in Santa Barbara County, California. The U.S. Fish and Wildlife Service (Service) developed the GCP in accordance with the federal Endangered Species Act (FESA; 16 U.S.C. 1531 *et seq.)* to provide a streamlined mechanism for proponents engaged in activities associated with oil and gas development to meet statutory and regulatory requirements while promoting conservation of the Santa Barbara County distinct population segment (DPS) of the federally-listed (endangered) California tiger salamander (*Ambystoma californiense;* CTS*),* California red-legged frog (*Rana draytonii*), and Lompoc yerba santa *(Eriodictyon capitatum).* CTS was CESA-listed as threatened throughout its entire range in 2010, Lompoc Yerba Santa was listed as State Rare in 1979, and California red-legged frog is not covered under the California Endangered Species Act. Both CTS and Lompoc yerba santa are legally protected from unauthorized take by the California Endangered Species Act (CESA) and Native Plant Protection Act respectively (NPPA). The NPPA of 1977 (Fish and Game Code Section 1900-1913) CDFW, then Department of Fish and Game, to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA

gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protected endangered and rare plants from take.

The Service has prepared the GCP to provide a more efficient and standardized mechanism for proponents in activities associated with the installation and operation of oil and gas development on non-federal lands. The GCP meets the permit issuance criteria as required by section 10(a)(2)(B) of FESA and would allow private individuals, local and state agencies, and other non-federal entities to meet the statutory and regulatory requirements of FESA by applying for permits and complying with the requirements of the GCP, including all applicable avoidance, minimization, and mitigation actions. FESA permits issued under the GCP would authorize incidental take of the Santa Barbara County DPS of the California tiger salamander, Lompoc yerba santa, and red-legged frog for up to 20 years after the plan becomes effective.

The proposed federal action is approval of the GCP and subsequent issuance of permits. The Service prepared a draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.)* to evaluate the potential effects to the natural and human environment resulting from issuing incidental take under the GCP. The draft EA provides the required NEPA documentation for the proposed Federal action, providing information on the environmental baseline and a discussion of impacts to the human and natural environment that may occur as a result of implementation of the proposed GCP. Importantly, the scope of the EA is limited to the evaluation of the proposed GCP as a mechanism to standardize permit issuance for covered activities; the EA neither evaluates nor results in approval of oil and gas development projects or activities.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & Game Code, § 1600 *et seq*.). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & Game Code, §1900 et seq.), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

CDFW appreciates the opportunity to work with the Service on the conservation of CTS in Santa Barbara County. Over the past few years CDFW has worked closely with the Service supporting CTS research and collaborating on CTS assessments.

The following comments are provided for consideration in the GCP to assure CDFW regulatory requirements are addressed by the applicants/permittees during the process.

General Comments

1) CESA: The GCP states that Project proponents seeking a Permit under this GCP, must comply with all applicable Federal, State, and local statutes and regulations to ensure that the action is otherwise lawful. CDFW concurs and adds for clarification that CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination (not available for plant take) in certain circumstances, among other options [Fish and Game Code §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA ITP. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and

CDFW-1

specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

Action: CDFW requests notification from USFWS of any applications submitted for coverage under this GCP, within 15 days of submittal. CDFW-1 (Cont.)

Specific Comments

2) Lompoc yerba santa. CDFW recommends using another approach to determining impacts and appropriate mitigation under the GCP.

   a. Page 81 of the GCP calls for a 3:1 ratio (mitigation area: impact area) for Lompoc yerba santa. CDFW recommends this be modified to include a more robust account of impacts that capture 1) the impact and replacement of the number of genetically unique individual plants impacted, 2) the number of ramets of one genetic clone being impacted, and 3) ensuring impacts to individual (genetically unique) plants and ramets are also mitigated at a 3:1 ratio and not just the acreage. CDFW-2

      Any biological assessment for coverage under the GCP should include, 1) differentiating between ramets and genetically unique individual plants being impacted, 2) determining the genetic composition of the occurrence (defined by CNDDB) being impacted, (e.g.,. one genetic clonal unit). This assessment should also include what proportion of genetic diversity would be lost comparing the impact area to the occurrence as a whole (CNDDB occurrence). The value of counting the ramets at each site is limited because it can be an extremely inaccurate estimation of the number of genetic individuals present at a site. Impacts to Lompoc yerba santa should not be allowed until the genetic composition of the occurrence is known. Without this information, assessing the value and biological appropriateness of any mitigation proposed to meet CDFW's fully mitigated standard is tenuis at best.

   b. Page 90, bullet 4 of the GCP lists adaptive management measures including: "Conduct research to determine threats to the species', its breeding system (asexual vs sexual reproduction), its reproductive strategies (does it self- fertilize, is it an obligate out crosser, does it produce seed)". Research currently exists that assesses

Lompoc yerba santa's breeding system, patch size and incompatible pollen transfer, genetic diversity, parasitism, and seed set (Elam, 1994). Additionally, the Santa Barbara Botanic Garden (Schnieder & Carson, 2019) recently conducted a germination experiment of the Orcutt population providing valuable data on germination treatments and rates. The Santa Barbara Botanic Garden is currently conducting a genetic study of the Orcutt population of Lompoc yerba santa (Matt Guilliams, pers. Comm.). For studies to count as part of a mitigation package, they should contain new, valuable analysis to assist in conservation of the species. CDFW recommends any mitigation strategy use all available data to ensure any proposed restoration or manipulation of population genetics does not come with unintended consequences. CDFW-3

c. Page 26 (Habitat Restoration Activities): The GCP states restored areas will be maintained and monitored, including weed removal focused on noxious weeds, and excluding non-native annual grasses. However, non-native plant species are listed as one of the main threats to Lompoc yerba santa. CDFW recognizes that grazed land containing invasive grasses is considered compatible with California tiger salamander conservation, however, this has not been demonstrated to be compatible with Lompoc yerba santa conservation. CDFW recommends clarification of what amount/percentage of invasive annual grasses, and what covered species restoration activities would be acceptable in covered species restoration habitat. CDFW recommends having zero (0%) coverage of invasive plant species (including annual grasses) as listed on any list (including watch list) from the California Invasive Plant Council, within a habitat restoration area for Lompoc yerba santa. CDFW-4

d. Page 9 states "Applicants can, however, use this GCP as the document to seek a 2081 permit for listed plants from the Department." CDFW notes that the threshold for permitting take under CESA needs to meet the state's fully mitigated threshold. Common reasons why federal statements/permits are not consistent with CESA are: 1) federal endangered species act (FESA) does not require full mitigation nor financial assurances to carry out mitigation, while CESA does; 2) CDFW cannot add any conditions to a federal statement/permit to meet CESA's full mitigation standard; 3) the federal statement/permit may not describe mitigation measures in enough detail to meet CESA standards; and 4) FESA does not prohibit the take of listed plants, while CESA does (also see https://www.wildlife.ca.gov/Conservation/CESA/Consistencv-Determinations). For the State to issue a take permit, the applicant would have to demonstrate that any actions to Lompoc yerba santa would not be detrimental (genetically) to the specific occurrence being manipulated (impact or restoration/mitigation manipulation). CDFW-5

3) Alternatives. The GCP only considered the no-action alternative, stating this is not practical or feasible. CDFW requests reduced take alternatives be explored as part of the GCP to ensure take is minimized to the extent necessary to meet the Project needs to the proponents, as well as further reduce take allowed under this GCP. One example would be the reduction in the right of way widths for pipeline construction and alternative construction methods in areas with covered species present. Alternative methods of construction and maintenance should be investigated to provide further avoidance. CDFW-6

Development of an NCCP-HCP should be evaluated as an alternative to the GCP. An NCCP could allow for inclusion of State assurances and provide coverage for other species that may also occur within the GCP area (e.g., foothill yellow-legged frog (*Rana boylii*), Crotch bumble bee (*Bombus crotchii*), La Graciosa thistle (*Cirsium scariosum var. loncholepis*), Gaviota tarplant (*Deinandra increscens ssp. villosa*), California jewelflower (*Caulanthus californicus*), mountain lion (*Puma concolor*), and other species). CDFW-7

4) Other Specific Comments.

General Conservation Plan for Oil and Gas Activities in Santa Barbara County Table 1. CDFW Specific Comments	
• The GCP identifies “no surprises” assurances as part of the federal take authorization. It is important to acknowledge that such assurances are not available under CESA but may be available through a Natural Community Conservation Plan (NCCP; Fish and Game Code Section 2800 et seq.). NCCPs can provide that "additional land, water, or financial compensation or additional restrictions on use of land, water, or other natural resources shall not be required without the consent of plan participants" [Section 2820(f)(2)]; however, no such provision currently exists under CESA.	CDFW-8
• CDFW recommends any Project seeking coverage under this permit should develop a weed management plan and implement it over the life of the Project (maximum 20 years) if ongoing operations and maintenance are a part of the Project.	CDFW-9
• Page 23 (Roads and Bridges): The GCP includes construction and maintenance of roads and bridges as covered activities. These activities would require LSA notification where	CDFW-10

they could substantially affect/alter any river, stream, or lake so conditions to conserve existing fish and wildlife resources can be included in the project. The GCP should also provide minimum design standards for roads and crossings to allow for adequate wildlife movement, including fish passage, red-legged frog, and CTS dispersal.	CDFW-10 (Cont.)
• Page 26 (Habitat Restoration Activities): For State permitting, restoration alone will likely not meet the CESA fully mitigated standard but may be included as part of a package that also includes conserving additional acreage that is proportional to the magnitude and extent of the proposed impact	CDFW-11
• Page 70, 71, and 72 (Measures to Avoid and Minimize Impacts): If the GCP is intended to help fulfill State permitting requirements, CDFW should be included in the approval process (e.g., biologists, mitigation plans, conservation easements)	CDFW-12
• Page 74 (Measures to Avoid and Minimize Impacts): Item 23 should also include notifying CFDW of any mortality of CTS or Lompoc yerba santa since they are State-listed species and the GCP indicates that all applicable Federal, State, and local authorizations will be required prior to issuance of federal incidental take.	CDFW-13
• Page 76 (Onsite Mitigation Areas and/or Off-site Mitigation Banks): To satisfy State requirements, all such mitigation banks proposed for use under the GCP will need to be approved by CDFW. On- or off-site mitigation lands will require conservation easements, must satisfy due diligence requirements, and has to meet the CESA fully mitigated standard. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance, and be dedicated to a qualified entity for long-term management and monitoring. Under Government Code Section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.	CDFW-14

Conclusion

We appreciate the opportunity to comment on the Project to assist the County of Santa Barbara in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any

response that the County has to our comments and to receive notification of any forthcoming hearing date(s) for the Project [CEQA Guidelines; § 15073(e)]. If you have any questions or comments regarding this letter, please contact Kelly Schmoker-Stanphill, Senior Environmental Scientist (Specialist), at (626) 335-9092 or by email at Kelly.schmoker@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erinn Wilson-Olgin
B6E58CFE24724F5...

Erinn Wilson
Environmental Program Manager I

ec: CDFW
Erinn Wilson – Los Alamitos
Steve Gibson – Los Alamitos
Sara Rains – Fillmore
Dolores Duarte – San Diego
CDFW CEQA Email

State Clearinghouse

References:

California Department of Fish and Wildlife [CDFW]. March 20,2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see https://www.wildlife.ca.gov/Conservation/Plants).

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May 6, 2020

Via Electronic Mail

Stephen P. Henry, Field Supervisor
Ventura Fish and Wildlife Office
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sbc-oilandgasgcp@fws.gov.

Re: ***Draft Environmental Assessment for the General Conservation Plan for Oil and Gas Activities Associated with Issuance of Endangered Species Act Section 10(a)(1)(b) Permits in Santa Barbara County, California***

Dear Mr. Henry:

On behalf of the Center for Biological Diversity (the Center) and its members, I am submitting the following comments regarding the Draft Environmental Assessment for the General Conservation Plan for Oil and Gas Activities Associated with incidental take permits in Santa Barbara California.

The Draft Environmental Assessment (EA) inadequately discloses and analyzes the significant environmental impacts of issuing incidental take permits for three species for all oil and gas projects in Santa Barbara County. The EA provides the public and decision-makers inadequate information regarding the true extent of environmental harm that will result directly and indirectly from this agency action. The analysis provides no information on the number of oil and gas projects that it would facilitate under the Draft General Conservation Plan (GCP). Any restrictions are meaningless because compliance is voluntary.

Moreover, given the recent Plains All America pipeline spill in 2015, and another oil spill from an overturned truck this year, it is baffling that the Service is working to facilitate *more* oil and gas production in Santa Barbara County. Even more concerning is that the agency would attempt to do so by greenlighting all oil and gas projects in the county for the next 20 years through a single, cursory environmental assessment that fails to take into account the damage from these spills and others likely to follow. CBD-1

We strongly urge the Service to set aside this GCP and provide meaningful protections to the many plant and wildlife species harmed by oil and gas activities. At a minimum, the Service should scrap its intent to fast-track oil and gas development under a single, legally deficient environmental review.

I. Background

California has experienced countless spills, leaks, and accidents resulting from fossil fuel production. In 2015 the Plains All American pipeline Line 901, which runs along the Gaviota Coast in southern Santa Barbara County, ruptured on May 19, 2015, and spilled about 142,000 gallons of crude oil onto the shoreline and into the ocean.[1] This year, a truck carrying crude oil overturned and spilled 6,000 gallons of oil into the Cayuma River, which flows into the Twitchell Dam and reservoir.[2]

Recent large-scale spills further demonstrate the dangers of oil and gas production. In 2019, a massive spill in Kern County released 1.3 million gallons of oil and waste fluid, contaminating soil, harming wildlife and emitting dangerous gases into the air. This release was just one of many occurring in 2019, including one spill that had been activating on and off for about 15 years, cumulatively releasing 85 million gallons of oil and waste fluid.[3] In 2019, 13 spills were reported in the Cymric oil field alone.[4] As of April 15, 2020, a separate major spill is ongoing and has so far released another one million gallons of oil and waste fluid in the same field.[5] Nineteen separate spills are currently listed on CalGEM's surface expressions update webpage.[6]

CBD-2

Multiple proposed oil and gas projects would add hundreds of new wells to the county's existing operations, further threatening species habitat, air and water quality, human health, and undermining the state's greenhouse gas reduction goals.[7]

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[1] Magnoli, Giana, *Plains All American Pipeline Faces 46 Criminal Charges in Refugio Oil Spill*, Noozhawk, May 17, 2016, https://www noozhawk.com/article/plains_faces_criminal_charges_in_santa_barbara_countys_refugio_oil_spill (last accessed May 4, 2020).

[2] Associated Press, *Overturned tanker spills 6K gallons of oil near California dam*, Mercury News, March 21, 2020, https://www.mercurynews.com/2020/03/21/overturned-tanker-spills-6k-gallons-oil-near-california-dam/ (last accessed May 4, 2020).

[3] California Department of Conservation, CalGEM, Oil Field Surface Expressions, https://www.conservation.ca.gov/calgem/Pages/Chevron-Cymric-oil-spill.aspx (last accessed May 1, 2020). ("CalGEM Surface Expressions webpage")

[4] CalGEM Surface Expressions webpage.

[5] California Governor's Office of Emergency Services, Hazardous Materials Spill Report 20-1649 (May 1, 2020), https://w3.calema.ca.gov/operational/malhaz.nsf/SpillAllDocs/D003DFAB2082B9A3882585350001060C?OpenDocument; California Governor's Office of Emergency Services, Hazardous Materials Spill Update 19-7186 (Nov. 8, 2019), https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a/49845d9b02510fe68825853100821840?OpenDocument&Highlight=0%2c19-7186.

[6] CalGEM Surface Expressions webpage.

[7] See, e.g., Aera East Cat Canyon project, which would add 296 new wells and utilize steam injection for enhanced oil recovery (Santa Barbara County Planning and Development Department, project page for AERA East Cat Canyon Redevelopment Project, https://www.countyofsb.org/plndev/projects/energy/AERA.sbc); ERG West Cat Canyon Project (233 new wells) (Santa Barbara County Planning and Development Department, project page for ERG West Cat Canyon Revitalization Plan Project, https://www.countyofsb.org/plndev/projects/energy/ERGWestCC.sbc); PetroRock LLC Cat Canyon Project (231 wells) (Santa Barbara County Planning and Development Department, project page for PetroRock UCCB Production Plan Project, https://www.countyofsb.org/plndev/projects/energy/PetroRock.sbc). (All web pages last visited May 4, 2020).

II. The "General Conservation Plan" Does Not Comply with the ESA

The Service's GCP does not comply with the ESA. Indeed, the entire purpose of the GCP is meant to shortcut important, statutorily mandated permitting requirements for the benefit of the fossil fuel industry. Approval of the GCP would be the essence of arbitrary agency decisionmaking. CBD-3

In enacting the ESA, Congress recognized that certain species "have been so depleted in numbers that they are in danger of or threatened with extinction."[8] Accordingly, a primary purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such . . . species."[9]

To accomplish these goals, the ESA provides a variety of procedural and substantive protections to listed species to ensure not only the species' continued survival, but also its ultimate recovery.[10] Section 9 of the ESA prohibits any person, including any federal agency, from "taking" an endangered species without proper authorization through a valid incidental take permit.[11] The term "take" is statutorily defined broadly as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[12] The definition of "harm" has been defined broadly by regulation as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[13] Congress intended the term "take" to be defined in the "broadest possible manner to include every conceivable way" a person could harm or kill fish or wildlife.[14] CBD-4

The ESA contains limited exceptions to this otherwise broad prohibition on take. One of those exceptions is contained within Section 10 of the ESA, which provides for the incidental take of a listed species where, "such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."[15] To issue such an "incidental take permit" ("ITP"), the Service must ensure that a permit applicant submits a habitat conservation plan ("HCP") specifying:

(i) the impact which will likely result from such taking;
(ii) what steps the applicant will take to monitor, minimize, and mitigate such impacts, and the funding that will be available to implement such steps;
(iii) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and

[8] 16 U.S.C. § 1531(a)(2).
[9] *Id.* § 1531(b).
[10] *See, e.g.*, *Alaska Oil & Gas Ass'n v. Jewell*, 815 F.3d 544, 550-51 (9th Cir. 2016) (purpose of the ESA is to ensure the recovery of endangered and threatened species, not merely the survival of their existing numbers").
[11] *Id.* § 1538(a)(1)(B).
[12] *Id.* § 1532(19).
[13] 50 C.F.R. § 17.3; *see also Babbitt v. Sweet Home Ch. of Communities for a Great Oregon*, 515 U.S. 687 (1995) (upholding regulatory definition of harm).
[14] See S. Rep. No. 93-307, at 7 (1973), as reprinted in 1973 U.S.C.C.A.N. 2989, 2995.
[15] 16 U.S.C. § 1539(a)(1)(B).

(iv) such other measures that the [Service] may require as being necessary or appropriate for purposes of the plan.[16]

After reviewing the HCP, the Service must make a determination that the "impact which will likely result from such taking" and the "steps the applicant will take to minimize and mitigate such impacts . . . will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."[17]

Before issuing an ITP, the Service must also make a finding that the application and conservation plan provide:

(i) the taking will be incidental;
(ii) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
(iii) the applicant will ensure that adequate funding for the plan will be provided;
(iv) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
(v) the measures, if any, required under subparagraph (A)(iv) will be met.[18]

CBD-4 (Cont.)

The Service must also confirm that it "has received such other assurances" as it may require to ensure the HCP is implemented, and that the ITP contains any such terms and conditions "necessary or appropriate" to carry out the purposes of Section 10.[19] Prior to granting an ITP application, the Service must also undergo the intra-agency consultation process outlined in Section 7 of the ESA and its implementing regulations and must comply with NEPA.

As the Service explains in its recently updated HCP Handbook, the primary goal of the HCP should be conservation, and "[t]he conservation strategy defines what the HCP is trying to accomplish through biological goals, how the applicant will track progress through the monitoring program, and how the applicant will adjust implementation of the HCP through adaptive management and changed circumstances."[20]

The GCP, however, makes clear that its primary purpose is to streamline permitting requirements, rather than conservation. Specifically, the Service's draft GCP would cover take incidental to oil and gas activities in Santa Barbara County, including "geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products and construction, maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure."[21] The Service states that the GCP is intended to be in place for 20 years, and cover "construction, operations,

CBD-5

CBD-6

[16] *Id.* §1539(a)(2)(A)(i)–(iv); 50 C.F.R. §§ 17.22(b)(1)(iii), 17.32(b)(1)(iii).
[17] 16 U.S.C. § 1539(a)(2)(B)(i)–(v); 50 C.F.R. §§ 17.22(b)(2)(i), 17.32(b)(2)(i).
[18] *Id.* § 1539(a)(2)(B). The term "measures" in subsection (v) refers to "any additional measures the Secretary may require as being necessary or appropriate for the purposes of the plan." *Id.* § 1539 (a)(2)(A)(iv).
[19] *See, e.g.*, 16 U.S.C. § 1536(a)(2).
[20] U.S. Fish & Wildlife Service & National Oceanic and Atmospheric Administration, Habitat Conservation Planning and Incidental Take Permit Processing Handbook (2016) ("HCP Handbook") at 9-2.
[21] U.S. Fish & Wildlife Service, Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, California (85 Fed. Reg. 13181) March 6, 2020 ("GCP") at 1.

maintenance, and decommissioning activities" during this time.[22] According to the Service, "[p]roject proponents that choose to participate in the GCP and meet issuance criteria would subsequently be granted a permit through the GCP" and "[t]he Service will issue Permits in an expeditious manner."[23]

CBD-6 (Cont.)

The entire premise of the Service's GCP is flawed as it does not—and cannot—provide for a careful, comprehensive analysis of the level of take it would authorize. Because the Service cannot know how many applicants will apply for coverage under the GCP, the Service cannot accurately evaluate the extent of take authorized under the GCP, let alone the impact of that level of take on California tiger salamanders, California red legged frogs, and Lompoc yerba santa.

Relatedly, the Service cannot know the specific scope, timing, and location of activities to be conducted under the GCP. As such, the Service's GCP fails to ensure the necessary measures are in place at the project-level to adequately mitigate, minimize, and monitor any incidental take based on the specific scope, timing, and location of activities to be conducted by a particular applicant.

CBD-7

The GCP thus fails to comply with the requirements enumerated in Section 10 of the ESA and its implementing regulations that are necessary to authorize an incidental take permit, and the overall purposes of the ESA. Indeed, the concept of a GCP is not provided for anywhere in the statute, and the Service lacks the legal authority to issue one.

While the concept of a GCP is not provided for by the statute, it appears the Service first developed the notion of a GCP in 2007 via a policy document.[24] The policy, however, has not gone through notice and comment and cannot provide the requisite legal authority for the Service to issue a GCP. Moreover, the premise of the policy is also itself flawed, as it is states that the use of a GCP "eliminat[es] the need for in-depth review" of each ITP application.[25]

Further, as explained in a memorandum about the policy, the Service developed the policy to reduce burdens on "the small landowner applicant" who may not have the resources to adequately prepare the necessary components of an HCP.[26] Expanding the policy to apply to fossil fuel companies—entities that are clearly not "the small landowner applicant" the Service intended its GCP policy to benefit—arbitrarily expands the scope of the policy and underscores the arbitrary nature of the Service's proposal.

CBD-8

Moreover, the examples of the types of activities the Service included in the memorandum on the policy—"homebuilding on small lots" and "specific agricultural practices"—also make clear that

[22] GCP at 2. It is possible take coverage under the GCP could last for much longer than 20 years. For example, if an applicant applies in year 19 or 20 of the GCP's existence, will the Service then issue a 20-year ITP to the applicant, meaning the GCP would actually issue take authorizations 40 years into the future? Such approach is inappropriate as the environmental baseline and the status of the species could change dramatically in this timeframe.
[23] GCP at 4.
[24] U.S. Fish and Wildlife Service, Memorandum to Assistant Regional Directors, Regions 1 – 7 Manager, California/Nevada Operation Office re: Final General Conservation Plan Policy (Oct 5, 2007), https://www.fws.gov/policy/m0369.pdf.
[25] *Id.*
[26] *Id.*

the Service intended the policy to apply to small scale activities, not all oil and gas activities in Santa Barbara County that range from seismic exploration to pipeline building to well drilling.[27] The scope of activities to be authorized under the GCP far exceeds that contemplated under the Service's policy.

CBD-8 (Cont.)

The GCP also undermines the important role that public notice and comment plays in the Service's issuance of ITPs and ensuring the agency complies with the law in doing so. As the Service states in the GCP, "[t]he Service is required by statute to provide public notice before issuing a Permit under Section 10(a)(1)(B)."[28] While the GCP states that the Service still intends to publish notice of and seek public comment on permit applications in the Federal Register, the GCP states that the Service may do so "in batches."[29] Commenting on ITP applications "in batches" cannot provide for the careful review of individual permit applications the public notice and comment requirement of the ESA is intended to provide. The EA as drafted. serves no purpose as an informational document. The Service, local officials, nor the public are able to discern from this assessment what the true extent of harm will be. The Service should abandon its plan to issue the GCP.

CBD-9

III. The "Project" Is Improperly Segmented from Oil and Gas Projects

NEPA prohibits agencies from hiding the true extent to environmental impacts by artificially segmenting or piecemealing a project into separate pieces.[30] By separating the impacts of the GCP to three species and ignoring other aspects of oil and gas activity, the Service improperly piecemeals both the project and its impacts. An agency cannot limit its analysis and postpone analysis of other impacts until a later date.

CBD-10

Authorizing dangerous oil and gas may lead to increased spills, air pollution, water contamination, and harm to wildlife. Steam injection projects, for example, pose a particular threat to wildlife. Last year a spill caused by a steam injection project in Kern County resulted in at least four bird fatalities.[31] The GCP will also lead to downstream production. Therefore, the foreseeable harms from transportation, refining, and combustion should be included.

Just as local land use permits must account for impacts other than land, the issuance of an ITP must disclose and analyze the impacts beyond those to a few select species.

IV. THE EA and GCP Are Inadequate

Even if it were permissible to conduct a single environmental assessment to cover species impacts for all potential oil and gas projects in the county for the next 20 years—which it is not—the EA and GCP still fall far short of disclosing and analyzing the reasonably foreseeable environmental impacts of the oil and gas activity this GCP would facilitate.

CBD-11

[27] *Id.*
[28] Draft GCP at 4.
[29] Draft GCP at 4.
[30] *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985).
[31] California Dept. of Fish and Wildlife, Cymric Oil Field Incident: Cymric Incident Update 10/11/19, Press Release (Oct 11, 2019), https://calspillwatch.wordpress.com/tag/cymric-oil-field-incident/ (last accessed May 04, 2020) "Cymric Incident Update").

The scope of the General Conservation Plan is impermissibly narrow. Standardizing the issuance of incidental take permits ignores the varied impacts that could occur from any individual project. Different projects may have different associated harms and therefore may need specialized forms of mitigation. A GCP, meanwhile, attempts a one size fits all approach. Furthermore, an EA that is supposedly meant to assess the environmental impacts of the GCP simply does not make sense, given that the GCP is merely a plan for streamlining the approval of projects rather than a true accounting of the impacts of those projects. In relying on a GCP, the harms of individual projects are at risk of being minimized and overlooked.

CBD-11 (Cont.)

The EA notes that several resource areas were dismissed from further analysis because, "the GCP process neither reduces nor increases the number and types of permits required and would not affect the required agency coordination and/or consultation required by applicable laws, regulations, guidance, etc."[32] Essentially, the claim is that other potential environmental harms from oil and gas projects under the GCP would be mitigated by other permitting processes. However, given that harms in some of the resource areas excluded from consideration could adversely impact the species to be covered by the GCP, those resource areas should not be excluded from the EA. This includes the resource areas air quality and greenhouse gas emissions, water resources and water quality, soils, and the interrelated areas of land use, transportation, and noise.[33] Impacts in any of these areas are not only significant themselves; they could translate to harms to those species to be covered by the GCP, namely the California tiger salamander, the California red-legged frog, and the Lompoc yerba santa. Harms could extend to other protected species as well.

CBD-12 (Cont.)

A. Air Quality

The harmful impacts of air pollutants can extend to soils, water quality, plants, and animals. Ozone, for instance, can cause reduced growth in some sensitive plant species. Meanwhile, the atmospheric deposition of sulfur and nitrogen compounds can cause negative ecosystem effects such as acidification, eutrophication, and changes in soil and water chemistry. Acidification of soils and water bodies can result in changes in community structure, biodiversity, reproduction, and decomposition. Heavy metals and persistent organic compounds deposited from the atmosphere can bioaccumulate in the food chain, leading to behavioral, neurological, and reproductive effects in fish, birds, and wildlife. Overarchingly, the observed results of air pollution include stress on plant and animal life numbers and well-being.[34] As discussed below, such air pollution is all too prevalent with oil and gas development, such as that which would be sanctioned by the Santa Barbara GCP.

CBD-13

Harmful air pollutants are emitted during every stage of oil and gas development, including drilling, completion, well stimulation, production, and disposal, as well as from transportation of

[32] Environmental Assessment ("EA") at p. 1-7.
[33] EA at p. 1-7.
[34] U.S. Fish & Wildlife Service, National Wildlife Refuge System, Effects of Air Quality, https://www.fws.gov/refuges/AirQuality/effects html (last accessed May 04, 2020).

water, sand, and chemicals to and from the well pad.[35] The well stimulation stage, for instance, can emit diesel exhaust, VOCs, particulate matter, ozone precursors, silica, and acid mists.[36] Meanwhile, oil and gas drilling and fracking operations can produce VOCs, NOx, methane, and ethane, all of which are potent ground-level (tropospheric) ozone precursors.[37] VOCs can form ground-level (tropospheric) ozone when combined with nitrogen oxides ("NOx") from compressor engines, turbines, other engines used in drilling, and flaring,[38] in the presence of sunlight. This reaction can diminish visibility and air quality and harm vegetation, which could include the Lompoc yerba santa. Many regions around the country with substantial oil and gas operations are now suffering from extreme ozone levels due to heavy emissions of these pollutants.[39]

CBD-13 (Cont.)

Drilling and casing the wellbore require substantial power from large equipment. The engines used typically run on diesel fuel, which emits particularly harmful types of air pollutants when burned. Similarly, high-powered pump engines are used in the fracturing and completion phase. This too can amount to large volumes of air pollution. In total, VOCs emitted by car and truck engines, as well as the drilling and completion stages of oil and gas production, make up about 3.5 percent of the gases emitted by oil or gas operations.[40] Vehicles and equipment are also responsible for generating harmful particulate matter.[41]

Flaring and venting of gas are also potential sources of air emissions. Gas flaring and venting can occur in both oil and gas recovery processes when underground gas rises to the surface and is not captured as part of production. Emissions from flaring typically include carbon monoxide, nitrogen oxides, benzene, formaldehyde and xylene, but levels of these smog-forming compounds are seldom measured directly.[42]

Fugitive emissions can occur at every stage of extraction and production, often leading to high volumes of gas being released into the air. Methane emissions from oil and gas production are as

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[35] McCawley, Michael, Air Contaminants Associated with Potential Respiratory Effects from Unconventional Resource Development Activities, 36 Seminars in Respiratory and Critical Care Medicine 379 (2015) ("McCawley 2015"); Shonkoff, Seth B.C. et al., Environmental Public Health Dimensions of Shale and Tight Gas Development, 122 Environmental Health Perspectives 787 (2014) ("Shonkoff 2014").

[36] McCawley 2015; Shonkoff 2014.

[37] U.S. Environmental Protection Agency, Integrated Science Assessment (ISA) for Ozone (O3) and Related Photochemical Oxidants (2013).

[38] *See, e.g.*, U.S. Environmental Protection Agency, Oil and Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution: Background Technical Support Document for Proposed Standards at 3-6 (July 2011); Armendariz, Al, Emissions for Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements (2009) ("Armendariz 2009") at 24.

[39] Armendariz, Al Ph.D., Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements (2009) at 1, 3, 25-26; Koch, Wendy, *Wyoming's Smog Exceeds Los Angeles' Due to Gas Drilling*, USA Today (May 9, 2011); Craft, Elena, Environmental Defense Fund, Do Shale Gas Activities Play a Role in Rising Ozone Levels? (2012); Colorado Dept. of Public Health and Environment, Conservation Commission, Colorado Weekly and Monthly Oil and Gas Statistics (July 6, 2012) at 12.

[40] Brown, Heather, Memorandum to Bruce Moore, U.S.EPA/OAQPS/SPPD re Composition of Natural Gas for use in the Oil and Natural Gas Sector Rulemaking (July 28, 2011) ("Brown Memo") at 3.

[41] Earthworks, Sources of Oil and Gas Pollution (2011); Bay Area Air Quality Management District, Particulate Matter Overview, Particulate Matter and Human Health (2012).

[42] Physicians for Social Responsibility and Concerned Health Professionals of NY, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, Fourth Edition (November 17, 2016).

much as 270 percent greater than previously estimated by calculation.[43] Studies show that fugitive emissions from pneumatic valves (which control routine operations at the well pad by venting methane during normal operation) and equipment leaks are higher than EPA estimates.[44] This is of great concern because ground-level ozone can be formed by methane in substantial quantities as it interacts with nitrogen oxides and sunlight.[45] One paper modeled reductions in various anthropogenic ozone precursor emissions and found that "[r]educing anthropogenic CH_4 emissions by 50% nearly halves the incidence of U.S. high-O_3 events . . . ."[46]

Ethane, also a greenhouse gas, breaks down and reacts with sunlight to create smog. Ethane emissions have risen steeply in recent years due to U.S. oil and gas production. A recent study documented that ethane emissions in the Northern Hemisphere increased by about 400,000 tons annually between 2009 and 2014, with the majority coming from North American oil and gas activity, reversing a decades-long decline in ethane emissions.[47] About 60 percent of the drop in ethane levels that occurred over the past 40 years has already been made up in the past five years. At this rate, U.S. ethane levels are expected to hit 1970s levels in about three years. About two percent of global ethane emissions originate from the Bakken Shale oil and gas field alone, which emits 250,000 tons of ethane per year.[48] Because global ethane levels were decreasing until 2009, the U.S. shale gas boom is thought to be responsible for the global increase in levels since 2010.

CBD-13 (Cont.)

Evaporation from pits can also contribute to air pollution. Pits that store drilling waste, produced water, and other waste fluid may be exposed to the open air. Chemicals mixed with the wastewater—including the additives used to make fracking fluids, as well as volatile hydrocarbons, such as benzene and toluene, brought to the surface with the waste—can escape into the air through evaporation. Some pits are equipped with pumps that spray effluents into the air to hasten the evaporation process. For example, in California, unlined disposal pits for drilling and fracking waste are documented sources of contamination.[49] Even where waste fluid is stored in so-called "closed loop" storage tanks, fugitive emissions can escape from tanks. Truck traffic related to oil and gas extraction contributes to air emissions. Trucks capable of transporting large volumes of chemicals and waste fluid typically use large engines that run on diesel fuel, also increasing threats of NO_x and PM emissions.

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[43] Miller, Scot M. et al., Anthropogenic Emissions of Methane in the United States, 110 PNAS 20018 (2013).
[44] Allen, David et al., Measurements of Methane Emissions at Natural Gas Production Sites in The United States, 110 PNAS 17768 (2013); Harriss, Robert et al., Using Multi-Scale Measurements to Improve Methane Emission Estimates from Oil and Gas Operations in the Barnett Shale Region, Texas, 49 Environ. Sci. Technol. 7524 (2015).
[45] Fiore, Arlene et al., Linking Ozone Pollution and Climate Change: The Case for Controlling Methane, 29 Geophys. Res Letters 19 (2002) ("Fiore 2002"); U.S. Environmental Protection Agency, Oil and Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews Proposed Rule, 76 Fed. Reg 52,738 (Aug 23, 2011).
[46] Fiore 2002; *see also* Martin, Randal et al., Final Report: Uinta Basin Winter Ozone and Air Quality Study Dec 2010 - March 2011 (2011) at 7.
[47] Helmig, Detlev et al., Reversal of Global Atmospheric Ethane and Propane Trends Largely Due to US Oil and Natural Gas Production, 9 Nature Geoscience 490 (2016).
[48] Kort, Eric A. et al., Fugitive Emissions From the Bakken Shale Illustrate Role of Shale Production in Global Ethane Shift. 43 Geophysical Research Letters 4617 (2016).
[49] Stringfellow, William T. et al., Impacts of Well Stimulation on Water Resources, In California Council on Science and Technology, An Independent Assessment of Well Stimulation in California, Volume 2, Chapter 2 (2015) ("CCST 2015") at 110-113.

Thus, there are varied and abundant sources of air pollution that can be found associated with oil and gas development, where many of the air pollution constituents can be connected to direct environmental harms. In this case, those harms could present themselves in the habitats of the California tiger salamander, the California red-legged frog, and the Lompoc yerba santa. Therefore, air quality should not be dismissed as a resource area outside of the scope of the intended GCP.

CBD-13 (Cont.)

B. Water Quality

In addition to the water quality harms imposed by air pollution, water quality is often affected directly by oil and gas extraction itself. In a December 2016 report from the US EPA, the following factors were found to potentially impact water quality: (1) Water withdrawals for enhanced oil recovery or fracking in times or areas of low water availability; (2) Spills during the management of produced water, fracking fluids, or chemicals; (3) Injection of enhanced oil recovery or fracking fluids into wells with inadequate mechanical integrity; (4) Injection of fluids directly into groundwater resources; (5) Discharge of inadequately treated wastewater to surface water resources; and (6) Disposal or storage of wastewater in unlined pits. The compilation of this list was based on studies that found impacts to wastewater from the listed activities.[50]

Many toxic chemicals used in oil and gas extraction are water soluble and thus pose a direct threat to water quality. For example, hydrochloric acid is used to initiate rock fractures, ethylene glycol is used to prevent scale deposits in pipes, and glutaraldehyde is used to eliminate bacteria from produced water.[51] There are also chemicals that are directly associated with fossil fuels and produced water, such as the BTEX chemicals.[52]

CBD-14

These chemicals can be mobilized in a number of ways, one of which is spills. Several studies have noted spills of fracking fluids or additives, most of which were caused by equipment failure or human error. For instance, an EPA analysis characterized 151 spills of fracking fluids or additives on or near well sites in 11 states between January 2006 and April 2012. Of the total, 34% of the spills were due to equipment failure, 25% were due to human error, and more than 30% of the spills were from fluid storage units.[53] In addition, of the 151 spills analyzed by the EPA, the spill amount ranged from 5 gallons up to 19,320 gallons. Thirteen of the 151 spills reached a surface water body, with the largest spill volume reported reaching a water body being 7,350 gallons.[54] Such noted mobility of spill waters ultimately poses a threat to both surface and ground waters, such as those relied upon by the California tiger salamander and the California red-legged frog. Similar threats are posed by spills of produced water as well.

[50] U.S. Environmental Protection Agency, Hydraulic fracturing for oil and gas: impacts from the hydraulic fracturing water cycle on drinking water resources in the United States (Final Report) (2016) ("EPA 2016 HF Study"), at ES-3.
[51] California Council on Science and Technology, Advanced Well Stimulation Technologies in California (2016), http://ccst.us/publications/2014/160708-blm-report.pdf, at 381.
[52] *See* California Division of Oil, Gas, and Geothermal Resources, Benzene from water produced from Kern County oil fields containing fresh water. (1993).
[53] EPA 2016 HF Study at ES-22.
[54] *Id.* at ES-23.

Another way in which chemicals can be mobilized is through unintended flow pathways in the subsurface resulting from fluid injection for oil and gas production or disposal. A well with insufficient mechanical integrity (e.g. due to well casing and tubing leaks, uncemented annulus, gaps in cement, gaps between casing and cement) can allow unintended fluid movement. Also, the fracture network produced during injection could intersect sources of groundwater or surface water constituting a conduit for polluted water to flow. There have been instances where injection into one well has affected a nearby oil and gas well, resulting in spills of the nearby well.[55] Finally, the Plain All America pipeline spill despoiled long stretches of Refugio Beach and state waters of the Pacific Ocean.

CBD-14 (Cont.)

Evidence of water contamination has been found in Santa Barbara County, specifically. From 2017 to 2019, the U.S. Geological Survey ("USGS") conducted a survey of the Orcutt Oil Field as part of the Regional Monitoring Program authorized by Senate Bill 4. USGS compiled historical information about the study area and collected groundwater samples from seven domestic, six irrigation, and three monitoring wells of varying depths and compared these samples to produced water samples collected from five oil wells and one injection site. Preliminary results show evidence of mixing between oil-field fluids and groundwater in four of the 16 wells sampled.[56] Similar evidence of contamination has since been found in the Fruitvale, Lost Hills, and South Belridge oil fields in Kern County.[57] Such evidence shows how impacts to water quality should be factored into the EA of the GCP, and how streamlining the oil and gas permitting process only discounts such impacts.

C. Soil Quality

Of course, any spills pose the risk of not only contaminating surface water bodies, but land environs as well. The sources of such contamination also extend beyond chemical additives used at oil and gas sites and associated wastewater. There are also the dangers posed by oil field surface expressions. An example of this has been the ongoing surface expressions found in the Cymric Oil Field in Kern County, first revealed in July 2019. One surface expression was found to have released more than 1.3 million gallons of oil and wastewater before it was sealed. Meanwhile, an estimated 82 million gallons of oil and wastewater have flowed intermittently since 2003 at another Cymric surface expression. Yet another series of seeps were revealed where tens of millions of gallons of fluid have surfaced intermittently over the last 16 years. [58] Finally, another large-scale surface expression has been discovered which, having started

CBD-15

[55] *Id.*

[56] Anders, Robert, et al., Abstract: Groundwater quality results from the Regional Monitoring Program study of the Orcutt Oil Field, presented at California State Water Resources Control Board Stakeholder Meeting, February 25, 2019, Sacramento, California, United States Geological Survey (2019) ("Anders 2019"), *available at*: https://www.waterboards.ca.gov/water_issues/programs/groundwater/sb4/regional_monitoring/index.html.

[57] McMahon, P.B. et al., Occurrence and sources of radium in groundwater associated with oil fields in the Southern San Joaquin Valley, California, 53 Environmental Science & Technology 9398 (2019); McMahon, P.B. et al., Preliminary Results from Exploratory Sampling of Wells for the California Oil, Gas, and Groundwater Program, 2014-2015, USGS (2017); Gillespie, J.M. et al., Groundwater salinity and the effects of produced water disposal in the Lost Hills—Belridge oil fields, Kern County, California, 26 Environmental Geosciences 73 (2019).

[58] Klein, *Kerry, Millions of Gallons of Oil Water Have Surfaced In A Kern County Oil Field, And More Keeps Coming* (November 15, 2019), Valley Public Radio, https://www.kvpr.org/post/millions-gallons-oily-water-have-surfaced-kern-county-oil-field-and-more-keeps-coming.

November 2019, has cumulatively spilled hundreds of thousands of gallons of oil and waste fluid and is still ongoing.[59] A probable link has been found between these surface expressions and cyclic steam injection, meaning a direct connection between such surface expressions and oil and gas development. It is irresponsible to consider a GCP where such environmental pollution goes unaccounted for, especially when such pollution could have a direct impact on species' habitat.

CBD-15 (Cont.)

D. Environmental Contamination from Oil and Gas Development Will Adversely Impact Species

The potential pathways for contamination discussed above (air, water, soil) pose real and proven risks to the California tiger salamander, California red-legged frog, and Lompoc yerba santa. CTS and CRLF are extremely sensitive to contaminants because their highly permeable skin can readily absorb many types of pollutants. Meanwhile, the Lompoc yerba santa, if it were to come into contact with contaminated soils or water, could uptake harmful chemicals that hinder its growth and reproduction. The Service must consider not only potential lethal effects of these chemicals on these species, but also potential sub-lethal effects such as abnormalities or depressed immune systems.

Oil production is specifically called out in the last five-year review for the Santa Barbara DPS of the salamander, which highlights the danger of oil sump ponds which may act as toxic sinks for CTS. The Review document explains that these ponds may attract salamanders seeking breeding sites, and may contain sufficient contaminants to kill CTS adults, eggs, and larvae. The CRLF may similarly be attracted to these ponds and suffer the same fate. Even when breeding sites are not so contaminated to kill amphibians directly, other impacts to future survival can be seen. For example, the five-year review document describes how salamander larvae in oil-contaminated ponds can have slower growth rates, reduced survival, and/or growth abnormalities.

CBD-16

A number of known CTS breeding ponds are also found along roads and highways in Santa Barbara County. These sites are already at risk from runoff from these roads.[60] An expansion of oil and gas operations will likely increase this risk, such as through the increased possibility of spills and accidents with an increase in trucks to transport oil. The potential for pipeline leaks should also be thoroughly analyzed with respect to their proximity to breeding sites for CTS and CRLF. However, the Service must consider the impacts of these potential spills and use of chemicals on upland habitat as well, as these species would also suffer from exposure in those areas. While the GCP claims not to allow for impacts to breeding habitats, it acknowledges expected disturbances to upland habitats, posing a threat to CTS and CRLF numbers.[61]

[59] CalGEM Surface Expressions webpage.

[60] The Fish and Wildlife Service's 2016 Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander highlighted the risks of oil runoff from roads to the species: "[o]il and other contaminants in runoff from roads have been detected in adjacent ponds and have been linked to die-offs of, and deformities in, California tiger salamanders and spadefoot toads, and die-offs of invertebrates that form most of both species' prey base (Sweet 1993). Several known breeding ponds occur along secondary roads and highways in northern Santa Barbara County and may be threatened by oil and other contaminants from road runoff." U.S. Fish & Wildlife Service, Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense) (2016)

[61] *See e.g.* GCP at p. 53.

Oil and gas operations may also generally involve the use of pesticides, such as to keep vegetation levels down around operations or pipelines. Pesticides are harmful to CTS and CRLF and their potential use must be thoroughly analyzed.

CBD-17 (Cont.

Potential harms to species extend beyond the California tiger salamander, California red-legged frog, and Lompoc yerba santa. There are other endangered or threatened species found in the Planning Area. According to the GCP, the presence of other protected species would necessitate additional permitting and hence would not conflict with the use of the GCP. However, this fails to account for how these other species may be inadvertently impacted by the streamlining of oil and gas development allowed by the GCP.

CBD-18

According to the GCP, "[w]e cannot definitively estimate the number of California red-legged frogs that will be taken because no density estimate for the planning area has been or could be calculated."[62] A similar statement is made regarding the California tiger salamander.[63] Yet, despite not having an estimate of the number of individuals, it is supposed to be taken as fact that the GCP would do enough to protect them. Moreover, we are meant to trust that there will be enough information available to identify other endangered or threatened species that could be impacted by the oil and gas projects sanctioned by the GCP, but this is difficult to prove given the sheer number of protected species that could be present.

CBD-19

E. Other Protected Species in Planning Area Could Be at Risk

The U.S. Fish and Wildlife Service listed the following endangered or threatened species, in addition to the California tiger salamander, California red-legged frog, and Lompoc yerba santa, that may occur or could potentially be affected by activities in the Planning Area (29 in total): Giant kangaroo rat; San Joaquin kit fox; Southern sea otter; California clapper rail; California condor; California least tern; Least Bell's vireo; Light-footed clapper rail; Marbled murrelet; Southwestern willow flycatcher; Western snowy plover; Arroyo toad; Tidewater goby; Unarmored threespine stickleback; El Segundo blue butterfly; Kern primrose sphinx moth; Vernal pool fairy shrimp; Beach layia; California jewelflower; Contra Costa goldfields; Gambel's watercress; Gaviota tarplant; La Graciosa thistle; Marsh sandwort; Salt Marsh bird's-beak; Spreading navarretia; and Ventura marsh milk-vetch . Of these, the Arroyo toad, California red-legged frog, Gaviota tarplant, La Graciosa thistle, Tidewater goby, Vandenberg monkeyflower, and the Western snowy plover all have critical habitat designations in the Planning Area.[64]

CBD-20

In addition, the following migratory birds, which are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, may be affected by activities in the Planning Area (53 in total): Allen's hummingbird; Bald eagle; Black oystercatcher; Black scoter; Black skimmer; Black swift; Black turnstone; Black-footed albatross; Black-legged kittiwake; Black-vented shearwater; Bonaparte's gull; Brown pelican; Burrowing owl; California thrasher; Clark's

[62] GCP at p. 62.
[63] GCP at p. 57.
[64] U.S. Fish & Wildlife Service, list of resources managed or regulated by the U.S. Fish & Wildlife services in IPaC, San Luis Obispo and Santa Barbara Counties, California ("USFWS IPaC List of Resources – SLO & SB Counties"), *available at:* https://ecos fws.gov/ipac/location/BYGLNRG4RBBBBCWJ5LFBIEXTNM/resources#endangered-species (last visited on May 4, 2020).

grebe; Common loon; Common murre; Common tern; Common yellowthroat; Costa's hummingbird; Double-crested cormorant; Golden eagle; Herring gull; Lawrence's goldfinch; Least tern; Lewis's woodpecker; Long-billed curlew; Long-tailed duck; Marbled godwit; Mountain plover; Northern fulmar; Nuttall's woodpecker; Oak titmouse; Parasitic jaeger; Pink-footed shearwater; Pomarine jaeger; Red phalarope; Red-breasted merganser; Red-necked phalarope; Red-throated loon; Ring-billed gull; Royal tern; Rufous hummingbird; Short-billed dowitcher; Song sparrow; Spotted towhee; Surf scoter; Tricolored blackbird; Whimbrel; White-winged scoter; Willet; Wrentit; and Yellow-billed magpie.[65]

CBD-20 (Cont.)

In employing the GCP as a blanket measure, it is possible that at-risk species in addition to the California tiger salamander, California red-legged frog, and Lompoc yerba santa will be overlooked and inadvertently harmed.

F. Climate Change from Continued Fossil Fuel Reliance Poses Specific Threats to Species

California tiger salamander and California red-legged frog

The Service must consider the impacts that increased oil and gas extraction in Santa Barbara County will have on climate change, along with the cumulative impacts of oil and gas extraction elsewhere. Climate change is a major threat to the survival of the CTS and CRLF and thus the role of the prospective projects, to be permitted under this plan, in contributing to climate change must be an important consideration in the Service's analysis and development of this Conservation Plan.

Amphibians and reptiles are considered to be highly sensitive to anthropogenic climate change.[66] As ectothermic animals, all aspects of their life history are strongly influenced by the external environment, particularly temperature and moisture. In northwestern North America, for example, amphibians and reptiles were ranked as the most sensitive group to climate change out of 195 plant and animal species assessed.[67] Their high sensitivity was attributed to their dependency on habitats that are projected to be significantly altered by climate change such as seasonal wetlands and streams (90% of the amphibians and reptiles were identified as having at least one highly sensitive habitat upon which they depended). Amphibians were also determined to be vulnerable to climate change due to their physiological sensitivity (e.g., highly water-permeable skin).

CBD-22

Climate change is expected to affect amphibians and reptiles at the individual and population levels though a number of pathways including shifts in phenology and range; habitat alterations including changes in hydrology, vegetation, and soil; changes in pathogen-host dynamics,

[65] USFWS IPaC List of Resources – SLO & SB Counties.

[66] *See e.g.,* Corn, P.S., Climate change and amphibians, USGS Staff—Published Research, Paper 90 (2005) ("Corn 2005"), *available at* http://digitalcommons.unl.edu/usgsstaffpub/90; Blaustein, Andrew et al., Direct and indirect effects of climate change on amphibian populations, 2 Diversity 281 (2010) ("Blaustein 2010"); Mitchell, Nicola and Janzen, F.J., Temperature-dependent sex determination and contemporary climate change, 4 Sexual Development 129 (2010) ("Mitchell 2010"); Li, Y. et al., Review and synthesis of the effects of climate change on amphibians, 8 Integrative Zoology 145 (2013) ("Li 2013").

[67] Case, Michael et al., Relative sensitivity to climate change of species in northwestern North America, 187 Biological Conservation 127 (2015).

predator-prey relationships and competitive interactions which can alter community structure; and interactions with other stressors such as UV-B radiation and contaminants, all of which can affect survival, growth, reproduction and dispersal capabilities.[68]

For amphibians, water availability is a key resource that affects survival, reproduction, activity levels, and dispersal, while temperature can affect timing of breeding, hibernation, and the ability to find food.[69] Climate change is driving greater variability in precipitation, increasing the frequency of extreme weather events, and increasing surface water temperatures.[70] As a result, climate changes-related changes in hydrological regimes (i.e., alterations in stream flow, lake depth, amount and duration and winter snow pack, pond hydroperiods, soil moisture) and warming temperatures are predicted to have largely negative effects on amphibian breeding success and survival, dispersal, and habitat suitability.[71]

Numerous studies have documented climate-associated shifts in amphibian phenology, range, and pathogen-host interactions with emerging evidence for climate change-related declines.[72] Li et al. (2013) reported the results of 14 long-term studies of the effects of climate change on amphibian timing of breeding in the temperate zone of the US and Europe. This meta-analysis indicated that more than half of studied populations (28 of 44 populations of 31 species) showed earlier breeding dates, while 13 showed no change, and 3 populations showed later breeding dates, where spring-breeding species tended to breed earlier and autumn-breeding species tended to breed later. Several studies indicate that shifts in timing of breeding can have fitness and population-level consequences. For example, amphibians that emerge earlier in the spring can be vulnerable to winter freeze events or desiccation if they arrive at breeding sites prior to spring rains. [73]

CBD-22 Cont.

Climate-associated shifts in amphibian ranges can be particularly problematic for restricted range and high-elevation species that have specific habitat requirements and limited options for movement.[74] As greenhouse gas emissions continue to grow, studies project high turnover of amphibian species as habitats become climatically unsuitable. For example, Lawler et al. (2010) projected 50% or greater climate-induced turnover of amphibian species in many regions of the US by the later part of the century.[75]

Climate change has also been implicated in stimulating the emergence of infectious amphibian diseases at the local and global scale. Increases in climate variability and extreme weather events

[68] *See e.g.,* Corn 2005; Blaustein 2010; Mitchell 2010; Li 2013.
[69] *See e.g.,* Corn 2005; Blaustein 2010; Mitchell 2010; Li 2013.
[70] Melillo, Jerry M., Climate Change Impacts in the United States: The Third National Climate Assessment, Terese (T.C.) Richmond, and Gary W. Yohe, Eds., U.S. Global Change Research Program, (2014) ("Melillo 3NCA 2014").
[71] Blaustein 2010; Walls, Susan et al., Drought, deluge and declines: the impact of precipitation extremes on amphibians in a changing climate, 2 Biology 399 (2013).
[72] *See e.g.,* Corn 2005; Blaustein 2010; Mitchell 2010; Li 2013; Lowe, Winsor, Climate change is linked to long-term decline in a stream salamander, 145 Biological Conservation 48 (2012) ("Lowe 2012"); Rohr, Jason & Brent Palmer, Climate change, multiple stressors, and the decline of ectotherms, 27 Conservation Biology 741 (2013) ("Rohr & Palmer 2013").
[73] Li 2013.
[74] *Id.*
[75] Lawler, Joshua et al., Projected climate impacts for the amphibians of the Western Hemisphere, 24 Conservation Biology 38 (2010) at Figure 3.

resulting from climate change appear to provide an advantage to pathogens, such as chytridiomycosis (chytrid fungus) which is driving amphibian declines worldwide.[76] Raffel et al. (2013) found a causal link between increased temperature variability and chytrid-induced mortality in frogs, which in the context of other studies linking chytrid outbreaks to temperature shifts, provides compelling evidence for a climate-change role in amphibian mortality from chytrid fungus. Several recent studies indicate a role of climate change in amphibian population declines, in combination with other stressors.[77]

Lompoc yerba santa

The Lompoc yerba santa is restricted to a narrow region in northern and western Santa Barbara County with some presence in San Luis Obispo County, so its abundance is exclusively subject to activities occurring in this region. Due to declining numbers, it is listed by the state of California as *rare* and federally as *endangered*.[78] Its numbers have been reduced due to its non-ubiquitous marine chaparral habitat being eroded by conversion to other land uses, weed invasion, and habitat fragmentation. The marine chaparral ecosystem is itself considered threatened and sensitive, so the Lompoc yerba santa's habitat is in jeopardy. Continued habitat loss, invasive non-native plant species, low seed productivity, residential and commercial development, and natural events such as wildfires pose significant threats to the long-term survival of this species.[79] Since ultimately all threats to the Lompoc yerba santa are progressing amidst this backdrop of climate change, such threats will be all the more severe.

CBD-22 Cont.

With the continued utilization of fossil fuels that a GCP would promote, climate change effects will only worsen, leading to increases in global temperatures, intensifying drought and changing precipitation patterns which would all threaten the conditions under which the Lompoc yerba santa thrives.[80] How a GCP would exacerbate the plight of the Lompoc yerba santa must be considered prior to the implementation of such a plan.

G. The GCP Has Global Significance in Climate Change Mitigation Efforts

In 2018, Santa Barbara County was the seventh largest producer of crude oil and natural gas in California.[81] This is significant considering that California is the seventh largest producer of crude oil in the United States. [82] Oil and gas production in Santa Barbara County therefore

[76] *See. e.g.,* Rohr, Jason & Thomas Raffel, Linking global climate and temperature variability to widespread amphibian declines putatively caused by disease, 107 PNAS 8269 (2010); Li 2013; Raffel, Thomas, Disease and thermal acclimatization in a more variable and unpredictable climate, 3 Nature Climate Change 146 (2013).
[77] Lowe 2012; Rohr & Palmer 2013.
[78] *See* Calflora.org, The Calflora Database: Information on wild California plants for education, research, and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria (2017), http://www.calflora.org (Accessed September 18, 2017).
[79] 50 C.F.R. Part 17.
[80] Garfin, G. et al., Ch. 20: Southwest Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese Richmond, G. W. Yohe, Eds., U.S. Global Change Research Program 462 (2014), *available at*: http://nca2014.globalchange.gov/report/regions/southwest.
[81] partCalifornia Department of Conservation CalGEM, Annual Production Well Count by County - 2018, file:///C:/Users/AWeber/Downloads/2018_Annual_Production_well_count_by_county.pdf (Last accessed May 4, 2020).
[82] U.S. Energy Information Administration, Rankings: Crude Oil Production, January 2020, https://www.eia.gov/state/rankings/#/series/46 (accessed April 16, 2020).

impacts the carbon footprint of California considerably and, in turn, that of the United States. Considering that California was the second largest producer of carbon dioxide emissions in 2017,[83] the importance of California reducing its reliance on and production of fossil fuels is apparent. The drafting of a GCP is counter to this effort because it promotes more production and more reliance on fossil fuels.

The severe impacts of global warming from the 1°C warming that the planet has already experienced highlight the urgency for stronger climate action to avoid truly catastrophic dangers to people and planet. Human-caused climate change is already causing widespread damage from intensifying global food and water insecurity, the increasing frequency of heat waves and other extreme weather events, flooding of coastal regions by sea level rise and increasing storm surge, the rapid loss of Arctic sea ice and Antarctic ice shelves, increasing species extinction risk, and the worldwide collapse of coral reefs.[84] The Fourth National Climate Assessment makes clear that efforts to mitigate greenhouse gas emissions do not approach the scale needed to avoid "substantial damages to the U.S. economy, environment, and human health and well-being over the coming decades."[85] Therefore, rather than promoting efforts to streamline fossil fuel extraction, that absolute opposite should occur.

CBD-22 Cont.

Scientific research has established that there is no room in the carbon budget for new fossil fuel extraction if we are to avoid the worst dangers from climate change. A 2019 study highlighted the importance of immediately halting all new fossil fuel infrastructure to preserve a livable planet. The study found that phasing out all fossil fuel infrastructure at the end of its design lifetime, starting immediately, preserves a 64 percent chance of keeping peak global mean temperature rise below 1.5°C.[86] The study found that delaying mitigation until 2030 reduces the likelihood that 1.5 °C would be attainable to below 50 percent, even if the rate of fossil fuel retirement were accelerated. In other words, every year of delay in phasing out fossil fuel infrastructure makes "lock-in" more difficult to escape and the possibility of keeping global temperature rise below 1.5°C less likely. The study concluded that although difficult, "1.5 °C remains possible and is attainable with ambitious and immediate emission reduction across all sectors."

An analysis of U.S. fossil fuel resources demonstrates that the potential carbon emissions from already leased fossil fuel resources on U.S. federal lands would essentially exhaust the remaining U.S. carbon budget consistent with the 1.5°C target. This 2015 analysis estimated that recoverable fossil fuels from U.S. federal lands would release up to 349 to 492 $GtCO_2eq$ of carbon emissions, if fully extracted and burned.[87] Of that amount, already leased fossil fuels would release 30 to 43 $GtCO_2eq$ of emissions, while as yet unleased fossil fuels would emit 319 to 450 $GtCO_2eq$ of emissions. Thus, carbon emissions from already leased fossil fuel resources

[83] U.S. Energy Information Administration, Rankings: Total carbon dioxide emissions, 2017, https://www.eia.gov/state/rankings/#/series/226 (accessed April 16, 2020).
[84] Melillo 3NCA 2014.
[85] U.S. Global Change Research Program, Impacts, Risks, and Adaptation in the United States, Fourth National Climate Assessment, Volume II, Ch 29 (2018) at 1338.
[86] Smith, Christopher J. et al., Current fossil fuel infrastructure does not yet commit us to 1.5°C warming, Nature Communications doi.org/10.1038/s41467-018-07999-w (2019).
[87] Ecoshift Consulting, et al., The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Prepared for Center for Biological Diversity & Friends of the Earth (2015) ("Ecoshift 2015").

on federal lands alone (30 to 43 $GtCO_2eq$) would essentially exhaust the U.S. carbon budget for a 1.5°C target (25 to 57 $GtCO_2eq$)[88], if these leased fossil fuels are fully extracted and burned. The potential carbon emissions from unleased federal fossil fuel resources (319 to 450 $GtCO_2eq$) would exceed the U.S. carbon budget for limiting warming to 1.5°C many times over.[89] This does not include the additional carbon emissions that will be emitted from fossil fuels extracted on non-federal lands, estimated up to 500 $GtCO_2eq$ if fully extracted and burned.[90]

The drafting of a GCP is inconsistent with California's mandates for rapid statewide GHG emissions reductions. California has strict mandates to rapidly reduce emissions to prescribed levels by the years 2020, 2030, and 2050. The Governor's Executive Order B-30-15 and Senate Bill 32 establish an ambitious greenhouse gas emissions reduction target for California of 40 percent below 1990 levels by 2030. Executive Order S-3-05 calls for the state to reduce emissions levels by 80 percent below 1990 levels by 2050. Meeting these mandates will not happen if expansions rather than contractions in oil and gas activity occur in counties such as Santa Barbara.

CBD-22 Cont.

The urgent need to prevent the worst impacts of climate change means that the world in general – and California in particular – cannot afford to invest in new fossil fuel extraction and infrastructure that locks in carbon intensive oil production for years into the future. The GCP would essentially sanction such unaffordable investment by streamlining ITP applications and sanctioning further oil and gas development.

Climate change is increasing stress on species and ecosystems—causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes—in addition to increasing species extinction risk.[91] A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed.[92] Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress.[93] With this in mind, a GCP should not be approved that facilitates one of species' biggest

[88] Robiou du Pont, Yann et al., Equitable mitigation to achieve the Paris Agreement goals, 7 Nature Climate Change 38 (2017), at Supplemental Table 1.
[89] Ecoshift 2015 at 4.
[90] Ecoshift 2015 at 3 ("the potential GHG emissions of federal fossil fuels (leased and unleased) are 349 to 492 Gt CO2e, representing 46 percent to 50 percent of potential emissions from all remaining U.S. fossil fuels").
[91] Warren, Rachel et al., Increasing impacts of climate change upon ecosystems with increasing global mean temperature rise, 106 Climatic Change 141 (2011) ("Warren 2011").
[92] Wiens, John J., Climate-related local extinctions are already widespread among plant and animal species, 14 PLoS Biology e2001104 (2016).
[93] Parmesan, Camille & Gary Yohe, A globally coherent fingerprint of climate change impacts across natural systems, 421 Nature 37 (2003); Root, Terry L. et al., Fingerprints of global warming on wild animals and plants, 421 Nature 57 (2003); Parmesan, Camille, Ecological and evolutionary responses to recent climate change, 37 Annual Review of Ecology Evolution and Systematics 637 (2006); Chen, I-Ching et al., Rapid range shifts of species associated with high levels of climate warming, 333 Science 1024 (2011); Maclean, Ilya M. D. & Robert J. Wilson, Recent ecological responses to climate change support predictions of high extinction risk, 108 Proceedings of the National Academy of Sciences of the United States of America 12337 (2011); Warren 2011. Cahill, Abigail E. et al., How does climate change cause extinction?, 280 Proceedings of the Royal Society B 20121890 (2012).

stressors, continued climate change. A GCP would allow exactly this for the California tiger salamander, California red-legged frog, and Lompoc yerba santa.

The GCP itself is no more than a plan to streamline the approval of projects rather than a true accounting of the impacts of those projects. The "No Action" alternative to the GCP would be HCPs for each individual oil and gas development project. Since only individual HCPs could comprehensively assess the cumulative impacts of multiple potential projects, the No Action alternative would be much preferred as an environmental conservation measure.

CBD-22 Cont.

V. Environmental Justice

The EA impermissibly omits an analysis of environmental justice as it relates to the disproportionate impact of oil and gas pollution on low income communities and communities of color. Wells are disproportionally located in low-income and communities of color already suffering from some of the worst air quality in the nation. Of the statewide population living within one mile of oil and gas development and in communities identified as most vulnerable by CalEPA's CalEnviroScreen 2.0, nearly 92 percent are people of color (69 percent Hispanic/Latino, 10 percent African American, 11 percent Asian, and 2 percent Other).[94] In Kern County, there are 16,690 active oil and gas production wells (roughly a quarter of all active wells in Kern) located in census blocks with median household incomes of less than 80% of Kern's area median income (AMI).[95] By one estimate, 5,229 active, idle, and newly permitted wells are located within 2,500 feet of sensitive receptors in low-income communities.[96] The EA provides no analysis for Santa Barbara.

CBD-23

Oil production will also cause pollution downstream during transportation and refining stages. Continuing to expand oil and gas production in Santa Barbara will adversely affect communities near pipelines, truck routes, and refineries in other parts of California.

High pollution levels also increase the population's vulnerability to other types of risks to health. The coronavirus, for example, has been even more deadly in areas previously suffering from air pollution. A mere 1 ug/m^3 increase in fine particulate matter (PM2.5) increased the COVID-19 death rate by 15%.[97] Elevated exposure to nitrogen dioxide (NO2) similarly increased the rate of fatality among populations infected with COVID-19.[98]

The EA fails to disclose or analyze the potential implications for environmental justice and is therefore inadequate.

VI. The Service's Purpose and Need Statement in Its Draft EA Is Unlawful

[94] Natural Resources Defense Council, Drilling in California: Who's at risk? (October 2014).
[95] Ferrar, Kyle, Impact of a 2,500' Oil and Gas Setback in California, FrakTracker Alliance (2019), *available at* https://www fractracker.org/2019/07/impact-of-a-2500-oil-and-gas-well-setback-in-california/
[96] *Id.,* Informational Table at page 4, *available at* https://www.fractracker.org/a5ej20sjfwe/wp-content/uploads/2019/07/Kern-County-Active-Oil-and-Gas-Wells-Table_5_28_19_CTquestions_KFedits.pdf
[97] Wu, Xiao et al., Exposure to air pollution and COVID-19 mortality in the United States: A nationwide cross-sectional study, MedRxiv preprint, doi https://doi.org/10.1101/2020.04.05.20054502 (2020), at 2.
[98] Ogen, Yaron, Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID-19) fatality, Sci Total Environ 726: 138605 (2020).

The Service's statement of purpose and need in its Draft EA fails to comply with NEPA. NEPA's implementing regulations provide that an environmental document should specify the underlying purpose and need to which the agency is responding in proposing the alternative including the proposed action.[99] This purpose and need inquiry is crucial for a sufficient environmental analysis because "[t]he stated goal of a project necessarily dictates the range of 'reasonable' alternatives."[100] Thus, "an agency cannot define its objectives in unreasonably narrow terms" without violating NEPA.[101]

According to the Service, the purpose of the GCP "is to provide a programmatic mechanism by which the Ventura Field Office can increase efficiency and standardize compliance with Section 10(a)(1)(B) of the ESA for oil and gas development projects on non-Federal lands in Santa Barbara County that have the potential to impact the CTS, CRLF, and LYS."[102] And the purported need for the GCP is "to eliminate the need for reviewing and processing individual HCPs and would offer a programmatic mechanism by which the Ventura Field Office can authorize incidental take of CTS and CRLF as well as impacts to LYS by a non-Federal agency engaging in otherwise lawfully permitted oil and gas development projects in Santa Barbara County."[103] CBD-24

This purpose and need is entirely inadequate because the Service considered an unreasonably narrow range of reasonable alternatives. The ESA charges the Service with ensuring that its actions do not jeopardize the continued existence of any listed species or adversely modify or destroy their critical habitat; and that it use all methods necessary to bring any listed species to the point at which the measures provided under the ESA are no longer necessary, among other requirements.[104] Accordingly, the Service should have focused its purpose and need inquiry on objectives that comport with these statutory duties, rather than on streamlining take authorizations to accommodate the oil industry.[105]

Moreover, NEPA evaluation must take place "*before* decisions are made and *before* actions are taken."[106] Such an approach ensures that agencies will take the requisite "hard look" at environmental consequences *before* approving any major federal action.[107] But the Service's purpose and need statement indicates that they did just the opposite. In other words, the purpose and need statement demonstrates that the Service already made the decision to issue the GCP and that its entire analysis was framed in a way to support that pre-determined outcome. The Service's backward approach reflects a fundamental misunderstanding of its legal obligations.

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[99] 40 C.F.R. § 1502.13.
[100] *Carmel-by-the-Sea v. U.S. Dep't of Transp*., 123 F.3d 1142, 1155 (9th Cir. 1997).
[101] *Id.*
[102] EA at 1-5.
[103] EA at 1-6.
[104] *See* 16 U.S.C. 1536(a)(1), (a)(2), 1532(3).
[105] *See Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991) (observing that "agencies must look hard at the factors relevant to the definition of purpose," including the views of Congress in authorizing the agency to act, and define goals accordingly).
[106] 40 C.F.R. § 1500.1(a) (emphasis added).
[107] *Kleppe v. Sierra Club,* 427 U.S. 390, 410, n. 21 (1976); *see also* 40 C.F.R. § 1502.5 (analysis must "not be used to rationalize or justify decisions already made").

VII. The Service Failed to Comply with Section 7 Consultation Requirements

Prior to granting an ITP application, the Service must also undergo the consultation process with itself, as outlined in Section 7 of the ESA. In addition to its obligations under the ESA, the Service also must satisfy its obligations under NEPA before it may issue an ITP. Given that the Service purports that the GCP will serve as a basis for future, unspecified numbers of ITPs, it fails to comply with Section 7 consultation requirements.

Section 7(a)(1) of the ESA sets forth a conservation mandate for all federal agencies. Specifically, "federal agencies shall . . . utilize their authorities in furtherance of the purposes of [the ESA] by carrying out programs for the conservation of endangered and threatened species."[108] "Conservation" means "to use all necessary methods and procedures which are necessary to bring any endangered species or threatened species to the point at which [conservation efforts] are no longer necessary."[109]

Accordingly, Section 7(a)(2) of the ESA requires federal agencies to undergo "consultation" for "any action [that] may affect listed species or critical habitat,"[110] which includes permitting actions such as issuing ITPs. If the agency taking an action (action agency) determines its action "may affect" a listed species, the action agency must initiate formal consultation with an expert agency—it this case, itself, through "intra-service consultation."[111] The ultimate purpose of Section 7 consultation is to ensure that federal actions are "not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species."[112] CBD-25

Formal consultation under Section 7(a)(2) results in the preparation of a biological opinion by the Services that determines if the proposed action is likely to jeopardize the continued existence of a listed species or adversely modify the species' critical habitat.[113] If so, the opinion may specify reasonable and prudent alternatives ("RPAs") that avoid such jeopardy.[114] If the Services concludes that the action or the RPAs will not cause jeopardy, but will nonetheless result in the take of a listed species, the Services will issue an incidental take statement ("ITS") as part of the biological opinion that specifies "the impact, i.e., the amount or extent, of . . . incidental taking" that may occur, and any measures necessary or appropriate to minimize such impact on the listed species.[115] The take of a listed species in compliance with the terms of a valid ITS is not prohibited under Section 9 of the ESA.[116] However, the issuance of an ITS serves several important purposes over time, including that the thresholds and measures contained in an ITS

[108] 16 U.S.C. § 1536(a)(1)
[109] 16 U.S.C. § 1532.
[110] 50 C.F.R. § 402.14(a).
[111] *Id.*; U.S. Fish & Wildlife Service & National Marine Fisheries Service, Endangered Species Consultation Handbook, 1-5-1-6, 2-6 (March 1998), https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf (hereinafter "Consultation Handbook").
[112] 16 U.S.C. § 1536(a)(2).
[113] *Id.* § 1536(b).
[114] *Id.* § 1536(b); 50 C.F.R. 402.14(h)(2).
[115] 50 C.F.R. § 402.14(h)(2), (i).
[116] 16 U.S.C. §§ 1536(b)(4), (o)(2); 50 C.F.R. § 402.14(i)(5).

ensure that, as a project is implemented, it does not have greater impacts on a species than originally anticipated. Specifically, regulations require consultation to be reinitiated if "the amount or extent of taking specified in the incidental take statement is exceeded,"[117] serving as "a check on the agency's original decision that the incidental take of listed species resulting from the proposed action will not jeopardize the continued existence of the species."[118]

CBD-25 (Cont.)

Here, the Service has failed to conduct an intra-agency consultation.

VIII. The Service Failed to Analyze a Reasonable Range of Alternatives

The Service failed to analyze a reasonable range of alternatives. NEPA requires a "detailed statement" of "alternatives to the proposed action."[119] The purpose of this section is "to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means."[120]

In the alternatives analysis, the agency must "provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact."[121] The analysis must "rigorously explore and objectively evaluate all reasonable alternatives."[122] While an agency is not obliged to consider every alternative to every aspect of a proposed action, the agency must "consider such alternatives to the proposed action as may partially or completely meet the proposals goal."[123]

CBD-26

In considering what constitutes a reasonable alternative, "an agency should always consider the views of Congress, expressed, to the extent that the agency can determine them, in the agency's statutory authorization to act, as well as in other congressional directives."[124] Moreover, while "'an agency's obligation to consider alternatives under an EA is a lesser one than under an EIS . . . NEPA requires that alternatives be given full and meaningful consideration' whether the agency prepares an EA or an EIS."[125] Accordingly, "[t]he existence of a viable but unexamined alternative renders an EA inadequate."[126]

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[117] 50 C.F.R. § 402.16(a).
[118] *Ctr. for Biological Diversity v. Salazar*, 695 F.3d 893, 911 (9th Cir. 2012) (*quoting Nat. Res. Def. Council, Inc. v. Evans*, 279 F. Supp. 2d 1129, 1182 (N.D. Cal. 2003)).
[119] 42 U.S.C. § 4332(2)(c).
[120] *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974).
[121] 40 C.F.R. § 1508.9.
[122] 40 C.F.R. § 1502.14.
[123] *Nat. Resources Defense Council, Inc. v. Callaway*, 524 F 2d. 79, 93 (2d Cir. 1975).
[124] *Citizens Against Burlington v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).
[125] *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) (internal citations omitted).
[126] *W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1050 (9th Cir. 2013) (internal quotations and citations omitted); *see also S. Utah Wilderness All. v. Norton*, 237 F. Supp. 2d 48, 52–54 (D.D.C. 2002) (holding that an agency has a "duty to conduct an independent analysis of alternatives" and cannot merely accept the "self-serving" statements of project applicants as to the feasibility of alternative courses of action).

Here, the Service considered only two alternatives: the proposed alternative of implementing the GCP and the no-action alternative. This fails to constitute the reasonable range of alternatives contemplated by NEPA.

For example, the Service failed to consider an alternative that would phase out oil and gas activity in Santa Barbara County, and thus eliminate the possibility that any ESA-listed species would be directly taken by oil and gas activity in the county. The Service also failed to consider a "no-take" alternative whereby oil and gas operations would have to avoid any direct take of ESA-listed species entirely. Such failure is particularly glaring considering the agency's own HCP Handbook, states that "HCPs typically include a no-action alternative, in which the applicant would not proceed with their proposed project or modify it to avoid take altogether."[127] The Service also failed to consider an alternative that would prohibit oil and gas activity during the rainy season, despite recognizing that activities during this season "would likely cause greater impacts to California tiger salamanders than activities during the dry season because the species is typically more active during the rainy season."[128]

The Service also failed to consider an alternative that would reduce the overall amount of take of ESA-protected species or overall habitat area that could be affected under the GCP, or an alternative that would restrict the amount of oil and gas activity permitted under the GCP. The Service also fails to consider a joint review with Santa Barbara County or state regulators under those bodies' CEQA obligations. CBD-26 (Cont.)

The omission of these alternatives was improper. Indeed, numerous courts have rejected a NEPA analysis where the agency failed to consider alternatives that would reduce the scope of the permitted activity.[129] And, again, the Service's HCP Handbook states that an HCP should evaluate alternatives that result in less take than the proposed action.[130]

IX. The Service Must Prepare an EIS

NEPA is America's "basic national charter for protection of the environment."[131] NEPA requires federal agencies to take a "hard look" at the environmental consequences of their actions before taking action.[132] In this way, NEPA ensures that federal agencies "will have available, and will CBD-27

[127] HCP Handbook 5-6.
[128] GCP at 54.
[129] *See Union Neighbors United v. Jewell*, 831 F.3d 564, 577 (D.C. Cir. 2016) (held that the Fish and Wildlife Service failed to consider a reasonable range of alternatives when its EIS on a permit authorizing a wind farm to incidentally kill or harm (i.e., "take") endangered bats failed to examine an alternative that could potentially take fewer bats than the preferred alternative by reducing turbine speed); *N.M. ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 710–11 (10th Cir. 2009) (holding an agency's alternatives analysis improper where it failed to examine an alternative that would have reduced the amount of oil and gas development allowed under a land management plan); *W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1051 (9th Cir. 2013) (questioning "how an agency can make an informed decision on a project's environmental impacts when each alternative considered would authorize the same underlying action"); *Klamath-Siskiyou Wildlands Ctr. v. U.S. Forest Serv.*, 373 F.Supp.2d 1069, 1088–89 (E.D. Cal. 2004) (holding the agency did not take a hard look at reasonable alternatives when it "dismissed out of hand any proposal which would have reduced the amount of timber harvest.").
[130] HCP Handbook at 5-7.
[131] 40 C.F.R. § 1500.1(a).
[132] *Kleppe v. Sierra Club,* 427 U.S. 390, 410, n. 21 (1976); 40 C.F.R. § 1500.1(a).

carefully consider, detailed information concerning significant environmental impacts" and that such information "will be made available to the larger [public] audience that may play a role in both the decisionmaking process and the implementation of the decision."[133] For the Service to adhere to these obligations, it must prepare a full EIS.

NEPA requires federal agencies to prepare a detailed EIS for any "major federal action significantly affecting the quality of the human environment."[134] NEPA's implementing regulations define "major federal action" to include the "[a]pproval of specific projects, such as construction or management activities located in a defined geographic area" and specify that "[p]rojects include actions approved by permit."[135]

NEPA's implementing regulations also specify factors that must be considered in determining when a major federal action may significantly affect the environment warranting the preparation of an EIS.[136] Specifically, in determining whether an action may have "significant" impacts on the environment, an agency must consider the "context" and "intensity" of the action.[137] "Context" means that the significance of the project "must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality."[138]

CBD-27 (Cont.)

The intensity of the action is determined by considering the ten factors enumerated in the regulations. These include: (1) impacts that may be both beneficial and adverse; (2) the degree to which the proposed action affects public health or safety; (3) unique characteristics of the geographic area such as proximity to ecologically critical areas; (4) the degree to which the effects on the human environment are likely to be highly controversial; (5) the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks; (6) the degree to which the action may establish a precedent for future actions with significant effects; (7) whether the action is related to other actions with individually insignificant but cumulatively significant impacts; (8) the degree to which the action may cause loss or destruction of significant scientific, cultural or historical resources; (9) the degree to which the action may adversely affect a species listed under the ESA or its critical habitat; and (10) whether the action threatens a violation of federal, state or local environmental laws.[139]

The presence of even just "one of these factors may be sufficient to require preparation of an EIS in appropriate circumstances."[140] If "substantial questions as to whether a project . . . may cause significant degradation of some human environmental factor," an EIS must be prepared.[141]

NEPA regulations dictate that "[i]t is only when the proposed action '*will not* have a significant effect on the human environment,' that an EIS is not required."[142] Wherever a question exists as

[133] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).
[134] 42 U.S.C. § 4332(2)(C).
[135] 40 C.F.R. § 1508.18.
[136] *See Id.* § 1508.27(b).
[137] *Id.* § 1508.27.
[138] *Id.* § 1508.27(a).
[139] *Id.* § 1508.27(b)(1)-(10).
[140] *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 865 (9th Cir. 2005).
[141] *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998).

to whether an EIS is required, an agency must ordinarily at least prepare an EA, which is used to determine whether the environmental effects of the action are "significant" and therefore require the preparation of an EIS.[143] An EA is "a concise public document that briefly provides evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact."[144] Here, multiple significance factors are met, clearly triggering the Service's duty to prepare an EIS. That is particularly true considering the scope of the agency's proposal—authorizing all take incidental to oil and gas activities in Santa Barbara County *for the next 20 years.*

CBD-27 (Cont.)

A. The Proposed Action Has Adverse Impacts and Affects Public Health and Safety

The Service must prepare an EIS because the proposed action may have adverse impacts and affects public health and safety. As explained above, the GCP will enable continued oil and gas activity in Santa Barbara County. As such, the Service must consider all reasonable from continued oil and gas drilling activity that affects both listed species and public health and safety, including harmful air and water pollution, greenhouse gas emissions, soil degradation, and the interrelated areas of land use, transportation, and noise.

For example, harmful air pollutants are emitted during every stage of oil and gas development, including drilling, completion, well stimulation, production, and disposal, as well as from transportation of water, sand, and chemicals to and from the well pad.[145] The well stimulation stage, for instance, can emit diesel exhaust, VOCs, particulate matter, ozone precursors, silica, and acid mists, with harmful consequences.[146] For instance, many VOCs are associated with serious short-term and long-term effects to the respiratory, nervous and circulatory systems.[147] Additionally, VOCs create ground-level ozone, or smog, which can contribute to asthma,[148] premature death, stroke, heart attack and low birth weight.

CBD-28

Additionally, oil and gas activity risks water pollution dangerous to public health. Preliminary results from USGS's recent survey of the Orcutt Oil Field show evidence of mixing between oil-field fluids and groundwater in four of the 16 wells sampled.[149] Oil and gas activity also exacerbates the climate crisis and all its attendant harms to public health. These are but a sampling of the numerous adverse effects and public health impacts from ongoing oil and gas drilling activity. The Service must prepare an EIS that adequately discloses and analyzes such impacts for the oil and gas activity that would be authorized under this GCP.

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[142] *National Audubon Soc. v. Hoffman*, 132 F.3d 7, 13 (2nd Cir. 1997) (citing 40 C.F.R. § 1508.13, emphasis by court).
[143] 40 C.F.R. § 1501.4.
[144] *Id.* at § 1508.9.
[145] McCawley 2015; Shonkoff 2014.
[146] McCawley 2015; Shonkoff 2014.
[147] Colborn, T. et al, Natural Gas Operations from a Public Health Perspective, 17 Human and Ecological Risk Assessment: In International Journal 5 (2011).
[148] Jerrett, M. et al, Long-term ozone exposure and mortality, N Engl J Med 360:1085 (2009).
[149] Anders 2019.

B. The Proposed Action Affects Unique Geographic and Cultural Areas

The Service must prepare an EIS because the GCP will enable harmful oil and gas activities in geographically unique areas and approval of the GCP may harm important cultural resources. According to the Service, the GCP planning area consists of the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and parts of the Santa Barbara Coastline. As the Service recognizes in the GCP, this area "encompasses diverse habitats [and] resources."[150] For example, courts have recognized that important habitat areas for protected species can constitute an "ecologically critical area" under NEPA.[151] The entire planning area for the GCP is critical habitat for the Santa Barbara County distinct population segment of the California tiger salamander.[152] The ground disturbing and other oil and gas activity will harm this habitat, indicating that this significance factor is met. The Service notes that "[t]hese impacts may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities."[153] The Service further found that this "habitat may be affected during operations, maintenance, and emergency response" and that it "expect[s] some level of effects to any California tiger salamanders located within the disturbed areas."[154] This is a significant concern for the species who is already suffering the effects of loss of its habitat in Santa Barbara County, which "reduces the available feeding, breeding, and sheltering opportunities required for California tiger salamander survival and reproduction."[155] Additionally, the area also contains important cultural resources. Yet the Draft EA fails to consider such impacts at all. Among other cultural resources impacts, the oil and gas activities enabled by the GCP may threaten lands and wildlife sacred to the Chumash culture. CBD-29

C. The Proposed Action Represents a Substantial Public Controversy and Would Have a Precedential Effect

The Service must prepare an EIS because the proposal constitutes a substantial public controversy. In determining whether an action is significant, CEQ regulations also require an agency to consider "[t]he degree to which the effects. . . are likely to be highly controversial."[156] "Controversial" is "a substantial dispute [about] the size, nature or effect of the major Federal action."[157] A substantial dispute exists when evidence, raised prior to the preparation of an EIS or FONSI casts serious doubt upon the reasonableness of an agency's conclusions.[158] CBD-30

Here, there is substantial controversy surrounding the size, nature, and effect of the Service's GCP and the harms it will cause. Indeed, the Service's proposal arbitrarily excludes from its

[150] GCP at 6.
[151] *Ocean Mammal Institute v. Gates*, 546 F.Supp.2d 960, 978-79 (D. Haw. 2008) (federally recognized sanctuary can be an ecologically critical area for purposes of NEPA); *Envtl. Prot. Info. Ctr. v. Blackwell*, 389 F.Supp.2d 1174, 1195-96 (N.D. Cal. 2004) (recognizing an area that provides biological connectivity for northern spotted owls as an ecologically critical area under NEPA).
[152] EA at 2-8.
[153] GCP at 1.
[154] GCP at 1.
[155] GCP at 35.
[156] 40 C.F.R. § 1508.27(b)(4).
[157] *Blue Mountains Diversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998) (citations omitted).
[158] *Protect Our Water v. Flowers*, 377 F. Supp.2d 844, 861 (E.D. Cal. 2004).

analysis numerous harmful environmental impacts that directly bear on the harm its GCP will cause to ESA-listed species and their habitats and limits the effects of its analysis to 20 years, when oil and gas activity has been occurring for much longer. Oil and gas development has long been a controversial issue in the county. In 2014, residents proposed a ballot initiative, Measure P, was strongly supported by many residents, but the measure ultimately failed after the oil industry spent vast amounts of money in order to defeat it.

The Service must also prepare an EIS because the proposed action has precedential effects as the first GCP for oil and gas activities in the county.[159] In considering whether to prepare an EIS, CEQ regulations require an agency to consider "the extent to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration."[160] "The purpose of that section is to avoid the thoughtless setting in motion of a 'chain of bureaucratic commitment that will become progressively harder to undo the longer it continues.'"[161] Allowing a GCP for oil and gas activities for the next 20 years in Santa Barbara County could encourage other counties to request similar authorizations and thereby eliminate the site-specific protections ITPs and HCPs are intended to provide.

CBD-30 (Cont.)

D. The Proposed Action Would Have Cumulatively Significant Impacts

CEQ regulations also require the preparation of an EIS if the proposed action "is related to other actions with individually insignificant but cumulatively significant impacts."[162] "Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment."[163] A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency. . . or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."[164]

CBD-31

Authorizing take of ESA-listed species incidental to all oil and gas activity in Santa Barbara County for the next 20 years clearly has significant cumulative impact triggering the duty to prepare an EIS, particularly considering the numerous harmful impacts already facing the California tiger salamander, California red-legged frog, and Lompoc yerba santa. The cumulative impact of oil and gas projects are likely to collectively cause significant harm to the three species subject to the GCP as well as other wildlife and habitat.

[159] *See* 40 C.F.R. § 1508.27(b)(6).
[160] *Id.*
[161] *Presidio Golf Club v. Nat'l Park Serv.*, 155 F.3d 1153, 1162-63 (9th Cir. 1998) (quoting *Sierra Club v. Marsh,* 769 F.2d 868, 879 (1st Cir.1985)).
[162] 40 C.F.R. § 1508.27(b)(7).
[163] *Id.*
[164] 40 C.F.R. § 1508.7.

E. The Proposed Action Affects Threatened and Endangered Species

The Service must prepare an EIS because the proposed action may have significant negative impacts on species listed under the ESA.[165] Courts have held that actions "likely" to adversely affect members of an endangered species trigger this factor.[166]

That standard is clearly met here. Indeed, the entire purpose of the GCP is to authorize the otherwise prohibited take of three species protected under the ESA: the California tiger salamander, California red-legged frog, and Lompoc yerba santa. The GCP admits that there may be adverse impacts to all three species "in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities" and that their "habitat may be affected during operations, maintenance, and emergency response (excluding crude oil spills) during the life of the permit."[167] As such, the Service anticipates adverse impacts to all three species,[168] and must prepare an EIS. CBD-32

F. The Proposed Action Threatens a Violation of Federal and State Law

The Service must prepare an EIS because the proposed action threatens a violation of the ESA and its implementing regulations—federal laws to protect the environment.[169] As explained in these comments, the Service's GCP fails to properly consider and account for the level of take it proposes to authorize, fails to ensure take of the California tiger salamander, California red-legged frog, and Lompoc yerba santa is mitigated to the greatest extent practicable, fails to provide for sufficient monitoring of incidental take, and otherwise fails to comply with the ESA.

In addition, it is foreseeable that the GCP will authorize oil and gas projects that utilize steam injection, a dangerous technique that inevitably results in large-scale spills of oil and wastewater. These "surface expressions" are prohibited under state regulations,[170] but injection projects have resulted in multiple million-gallon spills and several smaller spills.[171] These violations cause significant harm to the environment. Surface expressions caused by steam injection kills wildlife.[172] CBD-33

The EA also fails to explain how expanded oil and gas production is consistent with California's AB 32 greenhouse gas reduction targets. Producing, refining, transporting and burning the fossil fuel from new projects in Santa Barbara is inconsistent with the state's mandate to reduce greenhouse has emissions.

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[165] *See* 40 C.F.R. § 1508.27(b)(9).
[166] *See Cascadia Wildlands v. U.S. Forest Serv.*, 937 F. Supp. 2d 1271, 1283 (D. Or. 2013) (holding project may have significant effect on environment where project will "likely adversely affect" northern spotted owl); *Klamath-Siskiyou Wildlands Ctr. v. U.S. Forest Serv.*, 373 F. Supp. 2d 1069, 1080-81 (E.D. Cal. 2004) (same).
[167] GCP at 1.
[168] GCP at 1.
[169] *See* 40 C.F.R. § 1508.27(b)(10) (in determining the significance of a proposed action's effects on the environment, an agency must evaluate "[w]hether the action threatens the violation of a Federal, state or local law… imposed for the protection of the environment.").
[170] 14 Cal. Code Reg. § 1724.11(a).
[171] As of May 1, 2020, CalGEM lists 19 spills, including multiple ongoing spills releasing over a million gallons, on its website, https://www.conservation.ca.gov/calgem/Pages/Chevron-Cymric-oil-spill.aspx (visited May 1, 2020)
[172] Cymric Incident Update.

X. Conclusion

We urge the Service to reject the proposed GCP that the legally deficient approach to its environmental review. The draft EA does not meet ESA or NEPA requirements, undermines the NEPA's very purpose, and should be set aside for the reasons discussed herein. At minimum, the Service must assess each oil and gas project individually and receive full environmental review through a NEPA-compliant EIS. CBD-34

Respectfully submitted,

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environmental
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Re: Comments on the Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County and Draft Environmental Assessment (85 FR 13181)

Dear Mr. Henry:

The Environmental Defense Center ("EDC") submits these comments regarding the U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office's ("Service") Draft Environmental Assessment ("EA") and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County ("County"), California ("GCP") on behalf of EDC, Sierra Club, by and through the Los Padres Chapter, and Santa Barbara County Action Network ("SBCAN"). These comments are further supported by two expert reports attached hereto produced by David Magney, a California Certified Consulting Botanist with over thirty years of experience consulting on botanical resources,[1] and Michael Bumgardner, a biological consultant with over thirty years of experience in conducting biological assessments, studies, and inventories, and developing mitigation and conservation plans.[2] Mr. Magney and Mr. Bumgardner's professional resumes are attached hereto.[3]

[1] Letter from David Magney, California Certified Consulting Botanist, to Stephen Henry, U.S. Fish and Wildlife Service, regarding expert opinion on the U.S. Fish and Wildlife Service's Oil & Gas General Conservation Plan and Draft Environmental Assessment for the Lompoc yerba santa (April 30, 2020) (hereafter referenced as "Magney") (Attachment A).
[2] Letter from Michael Bumgardner, biological consultant, to Stephen Henry, U.S. Fish and Wildlife Service, regarding expert opinion on the U.S. Fish and Wildlife Service's Oil & Gas General Conservation Plan and Draft Environmental Assessment for the California tiger salamander and California red legged frog (April 30, 2020) (hereafter referenced as "Bumgardner") (Attachment B).
[3] Resume of David Magney (Attachment C); Resume of Michael Bumgardner (Attachment D).

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The Sierra Club is dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and encouraging humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club's conservation interests encompass everything from National Forest Wilderness areas of the Santa Ynez Mountains to the Channel Islands National Park in the Santa Barbara Channel. SBCAN is a countywide grassroots organization that works to promote social and economic justice, to preserve our environmental and agricultural resources, and to create sustainable communities. EDC is a non-profit public interest law firm that represents community organizations in environmental matters affecting California's south-central coast. EDC's service area includes Santa Barbara, San Luis Obispo, and Ventura Counties.

For the reasons set forth herein, the GCP and EA must not be approved. The GCP does not achieve the most basic requirements for a conservation plan under Section 10 of the Endangered Species Act ("ESA") and is inconsistent with the Service's policy for general conservation plans.[4] 16 U.S.C. § 1539(a)(2)(A)(i)-(iv). Despite the ESA's purpose to conserve and recover species to a point that statutory protections are no longer needed, the misguided intent of the GCP is to "streamline the application for a section 10(a)(1)(B) incidental take permit by allowing the Service to develop a single general conservation plan for a local area." (GCP at 3, 16 U.S.C. § 1531(b), 16 U.S.C. § 1532(3)) In the interest of efficiently permitting oil and gas activities under the ESA, the GCP encompasses an overly-broad Planning Area that even includes coastal areas, covers a wide-ranging list of complex and technical oil and gas activities, fails to identify any specific project sites, provides for a 20-year permit duration despite the fact that the average lifespans of oil and gas projects are thirty to fifty years, and includes an improperly narrow and unsupported analysis of alternatives. EDC-1

Given these omissions and deficiencies in the description of the GCP's purpose and need, the biological impacts analysis for the three species is likewise flawed. The GCP omits critical background information on the current status of the listed species and their critical habitats in reaching their survival and recovery goals, and fails to disclose all of the direct and indirect impacts that will likely result from take incidental to oil and gas activities, such as oil field fires (at least three have occurred since 2016 in the Cat Canyon Oil Field alone).[5] 16 U.S.C. § 1539(a)(2)(A)(i). The incidental take figures for the three species are also unsupported or unexplained in the GCP, and the limitations of the Searcy model with regards to California tiger salamander (*Ambystoma californiense*) ("CTS") are not disclosed in the GCP. Finally, the avoidance standards are weak and unworkable, especially where no analysis of project redesign EDC-2 EDC-3

[4] Memorandum from Director of U.S. Fish and Wildlife Service to Assistant Regional Directors, Regions 1, 2, 3, 4, 5, 6, and 7, and Manager, California/Nevada Operations Office, Subject: Final General Conservation Plan Policy at 1 (October 5, 2007) (hereafter referenced as "GCP Policy").

[5] Santa Barbara County Fire Department, *Cat Fire Incident Report* (June 27, 2016); Santa Barbara County Fire Department, *Lease Fire Incident Report (NFIRS-1 Basic)* (December 5, 2017); Edhat Reader, *Brush Fire Near Sisquoc Stopped at Two Acres* (September 15, 2019), available at: https://www.edhat.com/news/brush-fire-near-sisquoc-stopped-at-two-acres.

or alternative siting to avoid impacts is required, and many of the measures in the GCP to minimize and mitigate take will not do so to the "maximum extent practicable," as required under Section 10. *Id.* Collectively, the GCP does not set forth the required information and analysis mandated under Section 10, and therefore approval of this GCP would be in violation of the ESA. EDC-3 (cont.) EDC-4

Furthermore, the preparation of an Environmental Impact Statement ("EIS") under the National Environmental Policy Act ("NEPA") is required because the GCP and the oil and gas activities proposed thereunder will result in significant adverse effects on the environment. Even if an EA were appropriate, the EA prepared in this case is inadequate because it fails to address the full scope of activities that may occur and fails to analyze all of the possible environmental consequences. In addition, the EA does not include an adequate discussion of alternatives, mitigation measures, or cumulative impacts. EDC-5 EDC-6

I. Overview of the Proposed Action and Covered Species

A. The GCP Will Make It Easier for Oil and Gas Operators to Obtain a Permit to Generate More Fossil Fuel Energy in Santa Barbara County.

In 2019, a landmark report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services found that globally, approximately one million animal and plant species are now threatened with extinction, more than ever before in human history.[6] More than forty percent of amphibian species are threatened with extinction, and climate change is a major driver of this threat.[7] The GCP, however, would allow the permanent take of 675 acres of CTS upland habitat, including 152 acres of federally designated CTS critical habitat, and temporary take of 1,254 acres of habitat. (GCP at 57-59) With regards to the California red-legged frog ("CRLF") (*Rana draytonii*), the GCP would allow permanent take of 355 acres of CRLF critical habitat and 710 acres of temporary impacts. (GCP at 63) Notably, there is no cap on take of CRLF habitat located outside of designated CRLF critical habitat. (GCP at 59-64) Finally, the GCP would authorize permanent take of 27.5 acres of Lompoc yerba santa ("LYS") (*Eriodictyon capitatum*) habitat, including 7.5 acres of critical habitat. (GCP at 64-65). The GCP would also allow injury or mortality to three CTS and ten CRLF *per year* as a result of vehicle-strikes along access roads. (GCP at 63) EDC-7

The GCP sets the foregoing take limits for the three species throughout the 674,220 acre-Planning Area in order to provide a streamlined mechanism for oil and gas operators to comply with the statutory and regulatory requirements under the ESA for covered activities involving "geophysical exploration (seismic), development, extraction, storage, transport, remediation, and/or distribution of crude oil, natural gas, and/or other petroleum products, and construction,

[6] United Nations, *UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating',* (May 6, 2019), available at: https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/.
[7] *Id.*

maintenance, operation, repair, and decommissioning of oil and gas pipelines and well field infrastructure." (GCP at 3, 5) Although the GCP fails to identify a single oil and gas project site in the County, the Planning Area does overlap with the Cat Canyon Oil Field where two operators, TerraCore and Aera Energy ("Aera"), propose to drill and operate nearly 500 new wells, utilizing carbon-intensive steam injection production methods to extract the heavy crude oil in the Field.[8] The approval of these two projects alone would triple the County's current onshore oil production.[9]

EDC-7 (cont.)

B. The Santa Barbara County Distinct Population Segment of CTS is Federally-Listed as an Endangered Species.

The listing petition for the Santa Barbara County Distinct Population Segment ("DPS") of CTS was submitted to the Service in 1992.[10] Not until September 21, 2000 was the species federally listed as endangered, first on an emergency basis and then through a final rule.[11] In the emergency rule, the Service found that half of the then-documented breeding sites and associated upland habitats "have been destroyed or have suffered severe degradation" in the 18 months previous, and additional planned development posed "a significant and imminent risk" to the species' survival, considering that development had already "reduced greatly" available habitat.[12]

At the time of listing, the Service recognized the role of oil production in contributing to CTS decline, with "oil sump ponds" potentially acting as "toxic sinks" that attract and kill adult CTS seeking breeding sites, and oil wells "burping" hydrogen sulfide gas that "settles in low-lying areas, reducing the survival rates of larvae and adults."[13] Additionally, runoff containing contamination from oil production was detected in ponds, and linked to CTS die-offs and deformities.[14]

Litigation was necessary in order to compel the Service to designate critical habitat. *Environmental Defense Center, et al. v. U.S. Fish and Wildlife Service, et al.,* No. EVCD 03–00195 (C.D. Cal). After EDC prevailed in 2003, the Service issued proposed and final designations in 2004.[15] While these events were pending, the Service also attempted to downgrade the status of CTS to threatened, and to de-categorize the Santa Barbara CTS as a DPS, as part of a court-approved consent decree in which the Service was supposed to be adding protections for CTS by listing the Central California population, rather than removing protections for the Santa Barbara population. *Compare Center for Biological Diversity v. U.S.*

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[8] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* (November 2018); Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* (February 2019).
[9] Santa Barbara County Planning & Development Energy & Minerals Division, *Overview of Oil Operations*, available at: https://www.sbck.org/wp-content/uploads/2016/01/County-Oil-Gas-Briefing-2.24.16.pdf.
[10] 68 Fed. Reg. 28647.
[11] 65 Fed. Reg. 57242.
[12] 65 Fed. Reg. 3096.
[13] *Id.*; *See also* 65 Fed. Reg. 57242, 57253, 57257.
[14] *Id.*; *See also* 65 Fed. Reg. at 57258.
[15] 69 Fed. Reg. 3064; 69 Fed. Reg. 68568.

Fish & Wildlife Serv., No. C04-04324, 2005 WL 2000928, at *2 (N.D. Cal. Aug. 19, 2005) *with* 68 Fed. Reg. 28648 (May 23, 2003); 69 Fed. Reg. 47212 (Aug. 4, 2004).[16]

EDC challenged this effort in court, and the court restored both the endangered status of CTS and the designation of Santa Barbara population as a DPS, recognizing that the final rule was "bereft of any analysis" to support the decision to eliminate the population categories, and "neither the final rule nor the record indicate any discernible path regarding *why* FWS eventually down-listed the populations." *Ctr. for Biological Diversity v. United States Fish and Wildlife Service*, 2005 WL 2000928, at *13-14 (N.D. Cal. 2005).

In 2012, environmental groups had to sue *again* to compel the Service to complete the recovery plan for the Santa Barbara County DPS for CTS, with a proper plan finally put in place due to a settlement agreement in the litigation in 2016.[17] *Center for Biological Diversity v. Salazar*, No. CV 12 1767 JCS, 2012 WL 1237865 (N.D. Cal. Apr. 12, 2012) (complaint). Getting close to thirty years after the initial listing petition and twenty years after the listing, EDC again must challenge the proposed approach to conservation planning for CTS for the reasons set forth in these comments on the GCP.

CTS use aquatic and upland habitats during their life cycle and as such, may be present in either or both habitats on a given property.[18] CTS spend most of their life below ground in burrow systems that are created and maintained by rodents. (GCP at 30) However, winter rains cause CTS to emerge from underground burrows in search of breeding ponds. (*Id.*) "Currently, there are approximately 60 known extant tiger salamander breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations…." (*Id.* at 35) CTS populations are more or less distributed around breeding sites (seasonal pools and ponds) and populations that are linked by dispersal form a 'metapopulation.' (*Id.* at 31-32, 34) The existing geographic range of CTS in Santa Barbara County is distributed as six clusters of breeding sites (labeled as 'metapopulations') across a series of hill and valley landforms. (*Id.* at 32-33) Anthropogenic factors have significantly fragmented and isolated each of these metapopulations so that there is no longer any genetic interchange between them. (GCP at 34, 36) "The loss, destruction, degradation, and fragmentation of habitat represents the primary threats to" CTS. (*Id.* at 35)

"Additional threats to the species include hybridization with non-native tiger salamanders, predation and competition by non- native species, vehicle-strike mortality, and lack of regulatory compliance. Other potential threats include contaminants, disease, and climate change." (*Id.*)

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[16] FWS apparently issued the proposed rule at the behest of a variety of industry groups, who had challenged the CTS listing and designation of distinct population segments in court. *Home Builders Ass'n of N. Cal. v. Williams*, No. S-04-0345 LEK GG (E.D. Cal.) (dismissed as moot in light of the FWS proposed rule).

[17] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* (December 12, 2016).

[18] U.S. Fish and Wildlife Service, *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* at 1 (October 2003).

C. The CRLF is Federally-Listed as Threatened and Has Been Extirpated or Nearly Extirpated from Seventy Percent of Its Former Range.

CRLF is endemic to California and Baja California, Mexico, at elevations ranging from sea level to approximately 5,000 feet.[19] Monterey, San Luis Obispo, and Santa Barbara Counties support the largest extent of currently occupied habitat.[20] On May 23, 1996, the species was federally listed under the ESA as a threatened species throughout its range in California.[21] The species has sustained a seventy percent reduction in its geographic range in California as a result of several factors acting singly or in combination.[22] EDC played a major role in winning protection for the CRLF as a threatened species in litigation to compel the final determination on the proposed rule that CRLF be listed under the ESA. *Environmental Defense Center v. Babbitt*, 73 F.3d 867 (9th Cir. 1995).

CRLF occur in different habitats depending on their life stage, the season, and weather conditions. Rangewide, and even within local populations, there is much variation in how frogs use their environment; in some cases, they may complete their entire life cycle in a particular habitat (i.e., a pond is suitable for all life stages), and in other cases, they may seek multiple habitat types.[23] Generally speaking, CRLF combine both specific aquatic and riparian components.[24] The adults require dense, shrubby or emergent riparian vegetation closely associated with deep, still or slow-moving water.[25] The largest densities of CRLF are associated with deep-water pools with dense stands of overhanging willows and an intermixed fringe of cattails.[26] However, CRLF have been found up to thirty meters (ninety-eight feet (ft)) from water in adjacent dense riparian vegetation for up to seventy-seven days.[27] Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter.[28]

In Santa Barbara County, the species is typically located in perennial front and back country creeks and rivers in the southern Los Padres National Forest. The species are also present in Gaviota Creek and many perennial creeks along the Gaviota Coast.[29] In the past, the species has been an issue in projects such as Colson Quarry (La Brea Creek), and Fox, McCoy, and Alder Creeks (water diversion projects).

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[19] U.S. Fish and Wildlife Service, Sacramento Fish & Wildlife Office, *California Red-Legged Frog* (March 3, 2017).
[20] *Id.*
[21] 61 Fed. Reg. 25813.
[22] U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, *California Red-Legged Frog* (April 11, 2011).
[23] U.S. Fish and Wildlife Service, *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* 16 (August 2005).
[24] 61 Fed. Reg. 25813.
[25] *Id.*
[26] *Id.*
[27] *Id.*
[28] *Id.*
[29] U.S. Department of the Interior, National Park Service, Pacific Great Basin Support Office, *Gaviota Coast Draft Feasibility Study & Environmental Assessment* at 196 (April 2003).

Breeding sites for CRLF generally entail deep,[30] still or slow-moving water. CRLF can breed at sites with dense shrubby riparian or emergent vegetation, such as cattails, tules, or overhanging willows or can proliferate in ponds devoid of emergent vegetation and any apparent vegetative cover, such stock ponds.[31] The CRLF disperse upstream and downstream of their breeding habitat to forage and seek estivation habitat.[32] Estivation habitat, and the ability to reach estivation habitat, is essential for the survival of the species within a watershed.[33] Estivation habitat for CRLF is potentially all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture during the dry season within 300 feet of a riparian area.[34]

A number of species prey on CRLF, including raccoons, garter snakes, bass, sunfish, mosquito fish, herons, egrets, cats, foxes, coyotes, and most importantly, the introduced American bullfrog.[35] The most secure aggregations of CRLF are found in aquatic sites that support substantial riparian and aquatic vegetation for cover and lack exotic predators.[36] Nevertheless, the fragmentation of existing habitat and the continued colonization of existing habitat by nonnative species may represent the most significant current threats to CRLF.[37] Over-harvesting, habitat loss, non-native species introduction, and urban encroachment are other primary factors that have negatively affected CRLF throughout its range. (GCP at 45)

D. The Current Distribution of LYS is Restricted and Only Five Known Populations Exist, Significantly Heightening the Risk of this Species' Extinction.

In April 19, 2000, LYS was listed as endangered pursuant to the ESA and state-listed as rare.[38] LYS critical habitat was designated on November 7, 2002.[39] This species occurs along the south-central California coast and is endemic to western Santa Barbara County. This species occurs in sensitive habitats, including central sage scrub, maritime chaparral, and southern bishop pine forest. (GCP at 46)

There are only five known populations of LYS, two in the Solomon Hills, two on the western portion of Burton Mesa (both of which are on Vandenberg AFB), and one in the Santa Ynez Mountains on Hollister Ranch about 10 miles south of Lompoc.[40] "Based on our current understanding of *E. capitatum*, there are no more than 68 or 69 individual plants exist, each

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[30] Greater than 2.5 feet.
[31] U.S. Fish and Wildlife Service, Sacramento Fish & Wildlife Office, *California Red-Legged Frog* (March 3, 2017).
[32] 61 Fed. Reg. 25813.
[33] *Id.*
[34] *Id.*
[35] *Id.*
[36] *Id.*
[37] *Id.*
[38] 50 C.F.R. 17; Magney at 3.
[39] 67 Fed. Reg. 67968.
[40] Magney at 4.

presenting as either small or large clones. This means that the genetic variability of *E. capitatum* is extremely limited, which also means that it has higher vulnerability, or lower ability, to adapt to changes in its environment, such as from disease or climate change."[41]

The limited, restricted distribution and small population sizes of LYS makes it more vulnerable and at risk of extinction due to stochastic events. (GCP at 52) "All or some of the populations are at risk of destruction from vegetation clearing, oil and gas exploration and extraction, urban development, agriculture (including over-grazing), too frequent wildfires (CNPS 2001), competition from invasive exotic plants (D'Antonio et al. 1993) and animals (feral pigs), and/or climate change (Myers et al. 2019)."[42] In particular, oil and gas development in the County threatens the survival of the species because these activities significantly reduce its habitat.[43] Expansion of well pads, pipeline installation, oil seeps, surface expressions, installation and maintenance of existing and new oil seep cans, and potential future pipeline spills have the potential for short-term and permanent degradation or loss of habitat for LYS. EDC-8

II. Legal Background

Implementing the conservation strategy proposed under the GCP will require compliance with various provisions under both the ESA and NEPA. The issuance of Incidental Take Permit ("ITPs") triggers the statutory requirements set forth under Section 7 and Section 10 under the ESA. Additionally, the Service's proposed action will require a full environmental review under NEPA. EDC-9

A. Endangered Species Act

The ESA, 16 U.S.C. §§ 1531, *et seq.*, is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tenn. Valley Authority v. Hill* 437 U.S. 153, 180 (1978). The statute's fundamental purposes are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such endangered species and threatened species…." 16 U.S.C. § 1531(b). To achieve these objectives, the ESA directs the Service and the National Marine Fisheries Service ("NMFS")[44] to determine which species of plants and animals are "threatened" and "endangered" and place them on the list of protected species. 16 U.S.C. § 1533(a)(1). An "endangered" species is one "in danger of extinction throughout all or a significant portion of its range," and a "threatened" species is one "likely to become endangered in the near future throughout all or a significant portion of its range." *Id.*; 16 U.S.C. §§ 1532(6); 1532(20).

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[41] *Id.* at 11.
[42] *Id.* at 4-5.
[43] Letter from Steve Henry, Field Supervisor, US Fish and Wildlife Service, to Glenn Russell, Director, Santa Barbara County Planning and Development at 8 (April 3, 2015).
[44] The Service and NMFS share responsibility for implementing the ESA. 16 U.S.C. § 1532(15). The Service retains jurisdiction over terrestrial species and freshwater aquatic species, while NMFS retains jurisdiction over marine species and most anadromous fish.

Section 9 of the ESA prohibits the "taking" of any endangered species. 16 U.S.C. § 1538(a)(1)(B). The ESA defines the term "take" broadly to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). "Take" includes indirect as well as direct harm and need not be purposeful. *See Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or.* 515 U.S. 687, 704 (1995).

Section 10 of the Act provides exceptions for activities otherwise prohibited by Section 9. 16 U.S.C. § 1539. Section 10(a)(1)(A) authorizes the Services to issue an ITP for any taking that is incidental to "an otherwise lawful activity. 16 U.S.C. § 1539(a)(1)(B) However, an ITP may not be issued unless the applicant submits a habitat conservation plan ("HCP") that meets certain requirements. *See* 16 U.S.C. § 1539(a)(2)(A); *see also National Wildlife Federation v. Babbitt,* 128 F.Supp.2d 1274, 1291 (2000) (held issuance of ITP to member of regional group which planned to engage in immediate development was arbitrary and capricious.)

Section 10(a)(2)(A) requires that an HCP specify: (1) "the impact which will likely result from such taking;" (2) "steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;" (3) "alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized;" and (4) "other measures that the Secretary may require as being necessary or appropriate for purposes of the plan." 16 U.S.C. § 1539(a)(2)(A)(i)-(iv). The Service must only issue an ITP upon finding that "the taking will be incidental;" "the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;" "the applicant will ensure that adequate funding for the plan will be provided;" "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;" and "other measures required by the Secretary will be met." 16 U.S.C. § 1539(a)(2)(B)(i)-(v).

Finally, Section 7 of the ESA requires federal agencies to consult with the Service and/or NMFS to ensure that "any action authorized, funded, or carried out by such agency…is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of critical habitat. 16 U.S.C. § 1536(a)(2). The consultation process is designed "to ensure compliance with the [ESA's] substantive provisions." *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985). "Issuance of an incidental take permit by the Service, pursuant to section 10(a)(1)(B), constitutes a Federal action that is subject to the requirements of section 7(a)(2), and the Service must prepare an internal consultation to address the effects of the permit issuance." (GCP at 7)

Formal consultation under Section 7 mandates the issuance of a biological opinion ("BiOp") to set forth the determination about whether the proposed action is likely to jeopardize a listed species or destroy or adversely modify its critical habitat. 16 U.S.C. § 1536(b)(3)(A). The BiOp must use the best available scientific information to evaluate the current status of the species and habitats, the effects of the action on species conservation, and the cumulative effects. 16 U.S.C § 1536(a)(2), (b)(3)(A); 50 C.F.R. §§ 402.14(g)-(h), 402.02. If the action will not cause jeopardy, based on the analysis in the BiOp, the Service may authorize incidental take and issue an incidental take statement ("ITS"). *Id.*

B. National Environmental Policy Act

NEPA is "our basic national charter for protection of the environment" and "promote[s] efforts which will prevent or eliminate damage to the environment and biosphere…."40 C.F.R. § 1500.1; 42 U.S.C. § 4321. The scope of NEPA is quite broad, mandating disclosure and consideration of direct and indirect environmental effects. 40 C.F.R. §§ 1502.14(a), 1508(b). Direct effects are caused by the action and occur at the same time and place as the proposed project. 40 C.F.R. § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in distances, but are still reasonably foreseeable. 40 C.F.R. §§ 1508.8(a), 1508.8(b). Both direct and indirect impacts include "effects on natural resources, structures, and functioning of affected ecosystems." 40 C.F.R. §§ 1508.8(a), 1508.7.

Additionally, NEPA mandates disclosure and consideration of "connected," "cumulative," and "similar" environmental effects. 40 C.F.R. §§1502.14(a), 1508(b). A cumulative impact is defined as:

> "the impact on the environment which results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7.

NEPA requires each federal agency to prepare, and circulate for public review and comment, a detailed environmental impact statement ("EIS") prior to undertaking any major federal action[45] significantly[46] affecting the quality of the human environment. 42 U.S.C. § 4332(C). *American Horse Protection Ass'n, Inc. v. Andrus* 608 F.2d 811, 815 (1979). An EIS functions to disclose information to not only inform the federal agencies of a proposed action's potential environmental effects, but also to disclose this information to the public. 40 C.F.R. § 1502.1. As such, an EIS is critical to ensure informed decision-making and that the public is able to engage in a full and fair discussion of the potentially significant environmental impacts of a proposed project. "The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government." *Id.* "An environmental impact statement is [thus] more than a disclosure document … [i]t shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions." *Id*.

NEPA and its implementing regulations embody a precautionary approach under which an agency must prepare an EIS when there is a substantial question whether there may be any significant impacts. *Klamath Siskiyou Wildlands Center v. Boody* 468 F.3d 549, 562 (9th Cir. 2006) (EIS "must be prepared if substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor."); *see also Idaho Sporting*

[45] 40 C.F.R. § 1508.18.
[46] 40 C.F.R. § 1508.27.

Congress v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998) ("[A] plaintiff need not show that significant effects will in fact occur, but if the plaintiff raises substantial questions whether a project may have a significant effect, an EIS must be prepared."). In considering the threshold for preparing an EIS, the Ninth Circuit has repeatedly emphasized that "[t]his is a low standard." *Klamath Siskiyou Wildlands Center*, 468 F.3d at 562.

C. Coastal Zone Management Act

The GCP includes the coastal zone in the Planning Area; therefore, the Coastal Zone Management Act ("CZMA," 16 U.S. C. §§ 1451 *et seq*.) applies. Under the CZMA, the State of California must be allowed to review the GCP to ensure its consistency with the State's Coastal Management Program. 16 U.S.C. § 1456(c)(1)(A).

III. Argument

A. The GCP Violates the ESA and its Implementing Regulations and Does Not Ensure Consistency with the CZMA.

The GCP must "specify the amount of take anticipated, avoidance and minimization measures, mitigation required, and any other measures necessary to meet the issuance criteria as required by section 10(a)(2)(B) of the Act."[47] While a landscape-scale approach to conservation planning is an appropriate tool under certain circumstances, this GCP is too ambitious in scope and scale to constitute a legally-defensible plan under Section 10 of the ESA. Encompassing all oil and gas activities from exploration through decommissioning for 674, 220 acres within the County, the GCP fails to specify the impacts which will likely result from take of the three species and as a result, does not adequately determine what steps to take to avoid, minimize and mitigate such impacts. (GCP at 5, 16 U.S.C. § 1539(a)(2)(A)) The GCP also improperly limits the scope of alternatives to only the no action alternative, which is summarily dismissed without adequate consideration.

EDC-10

EDC-11

The GCP is intended to set the course for conservation planning for CTS, CRLF, and LYS over the course of twenty-plus years. Challenges arise with landscape-scale plan areas, such as:

- "biological information such as species occurrence and habitat conditions may be less available and more difficult to acquire for a large plan area;
- less data availability for large plan areas can lead to greater uncertainties associated with the impacts of implementing these HCPs;
- more robust monitoring and adaptive management programs are often needed to address the uncertainties associated with large plan areas; …."[48]

EDC-12

[47] GCP Policy at 3.
[48] *Id.* at 6-3.

As evidenced by the numerous omissions and unsupported analysis in the GCP, the challenges associated with regional and multi-species conservation planning are difficulties that this GCP has not overcome. For the reasons set forth herein, the GCP must not be utilized as the conservation planning strategy to issue ITPs pursuant to Section 10(a)(1)(B) of the ESA for oil and gas activities in Santa Barbara County. EDC-12 (cont.)

1. The GCP Purpose and Need Statement is Inadequate.

To inform the GCP and EA, the proposed action must be adequately defined to ensure that the impacts and alternatives are sufficiently addressed. *See* 43 CFR § 46.420(a)(1). The Service's purpose and need, however, is distinct from that of an applicant.[49] The Service must not consider the need for the particular development, like oil and gas activities, but instead determine whether the activity complies with the requirements under the ESA.[50] For the reasons detailed below, the purpose and need for the GCP fails to fulfill the Service's conservation obligations under Section 10 of the ESA, focusing instead on streamlining the ITP process for the benefit of oil and gas operators. (GCP at 3) EDC-13

a. The GCP Violates the ESA and Its Implementing Regulations.

The GCP would significantly curtail the recovery efforts for the species covered under the plan and sets forth highly questionable mitigation measures, violating the fundamental objectives of the ESA—"to halt and reverse the trend toward species extinction, whatever the cost." *Tenn. Valley Authority v. Hill*, 437 U.S. at 175. EDC-14

It is well-established that agency decisions must not be inconsistent with the governing statue. 5 U.S.C. § 706(2)(A) ("arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law"). Although the purpose of the ESA is to protect and preserve species, Section 10 of the ESA provides a narrow exception for take upon issuance of an ITP. 16 U.S.C. § 1539(a)(1)(B). Prior to issuing an ITP, the applicant must submit a conservation plan, the purpose of which is to ensure adequate minimization and mitigation of the effects of any incidental take. Such a plan must specify:

- "the impact which will likely result from such taking;
- what steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;
- what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and
- such other measures that the Secretary may require as being necessary or appropriate for purposes of the plan." 16 U.S.C. § 1539(a)(2)(A)(i)-(iv).

[49] U.S. Fish & Wildlife Serv., HABITAT CONSERVATION PLANNING AND INCIDENTAL TAKE PERMIT PROCESSING HANDBOOK, at 13 (2016) (hereafter referenced as "Handbook" or "HCP Handbook").
[50] *Id.*

Subsequently, an ITP may be issued upon finding that:

- "the taking will be incidental;
- the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
- the applicant will ensure that adequate funding for the plan will be provided;
- the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; …." 16 U.S.C. § 1539(a)(2)(B)(i)-(v).

Despite the clear process for habitat conservation planning under the ESA, the Service here initiated the GCP approach for the improper purpose of "streamlin[ing] the application for a section 10(a)(1)(B) incidental take permit by allowing the Service to develop a single general conservation plan for a local area." (GCP at 3) As utilized here, the GCP manipulates the incidental take exception to entirely swallow the rule against harm to species and adverse modification of habitat. EDC-15

i. The GCP Fails to Consider the Geographic Scope of the Planned Activities and Therefore the Planning Area is Overly-broad.

Section 10 of the ESA mandates that no ITP may be issued unless the applicant submits an HCP that meets certain requirements. 16 U.S.C. § 1539(a)(2)(A). One such requirement is that prior to issuing an ITP, there must be consideration of the "geographic scope of the applicant's planned activities, including the amount of listed species habitat that is involved and the degree to which listed species and their habitats are affected." 50 C.F.R. § 17.22(b)(2)(ii). The HCP Handbook further explains that "[t]he general conservation plan's plan area should be tailored to the prospective covered activities and conservation needs of the affected species. The Services define the type of activity and applicant who would qualify to participate in the general conservation plan."[51]

The Planning Area for the GCP is an estimated 674,220 acres, including areas within the California coastal zone. (GCP at 5) The Planning Area spans nearly the entirety of Santa Barbara County and comprises some oil and gas fields as well as agricultural lands, undeveloped lands, and urban development. (*Id.* at 6) Yet, the GCP admits that "[t]he Covered Activities would not affect all of the Planning Area," and that most covered activities occur "within northern Santa Barbara County, California." (*Id.* at 4-5) Despite the fact that the "plan area should be tailored to the prospective covered activities and conservation needs of the affected species," the Planning Area here extends substantially beyond such areas without any explanation.[52] This analysis is improperly missing from the GCP. The GCP is silent as to where oil and gas operations occur within the Planning Area or why coastal areas within the County are included under the GCP. EDC-16

[51] *Id.*
[52] HCP Handbook at 3-13.

Moreover, Section 10 requires that an HCP must specify "the impact which will likely result from such taking." 16 U.S.C. §1539(a)(2)(A)(i). "[T]he area analyzed to determine the impact of the taking on a covered species is the entire range of that species. However, this analysis is often conducted using a stepwise approach with local and intermediate areas analyzed such as the area occupied by a local population and a recovery unit."[53] Despite the clear requirements under ESA implementing regulations and the Service's own guidance, the GCP Planning Area comprises nearly the entire County, including lands not suitable for oil and gas development. Given the failure of the GCP to provide any basis for the massive geographic scope of the Planning Area, the analysis in the GCP is too speculative to comply with Section 10 of the ESA. EDC-16 (cont.)

ii. The GCP Fails to Identify or Discuss Any Project Sites within the Planning Area.

The GCP does not adequately identify the projects eligible to participate in the Plan and fails to specify where such projects occur throughout the County.[54] Although the GCP defines the term "Project Area," there is no further discussion about the project areas throughout the County or the projects that may apply. (GCP at 5) EDC-17

iii. The Twenty-Year Permit Duration Lacks a Rational Basis When Considering the Duration of the Covered Activities and the Impacts Associated with Oil and Gas Activities.

Pursuant to regulations under the ESA, "[i]n determining the duration of a permit, the Director shall consider the duration of the planned activities, as well as the possible positive and negative effects associated with permits of the proposed duration on listed species, including the extent to which the conservation plan will enhance the habitat of listed species and increase the long-term survivability of such species." 50 C.F.R. § 17.22(b)(4). The GCP provides no explanation or scientific basis for covering incidental take associated with oil and gas activities "for up to 20 years after Permit issuance." (GCP at 6)

The Service's guidance in the Handbook emphasizes the importance of carefully considering permit duration for a general conservation plan because "[t]hese considerations directly influence the analysis of effects in the plan."[55] The recommended approach is "to consider total 'build-out' in the plan area over a projected period."[56] Here, no analysis is provided in the GCP with regards to the 20-year permit duration. Setting the individual permit duration to a maximum of 20 years may present serious problems given that the project life for most oil and gas projects is at least thirty years. For example, the project life for the two massive EDC-18

[53] *Id.* at 6-4.
[54] *Id.*
[55] *Id.*
[56] *Id.*

onshore oil projects proposed in Cat Canyon Oil Field are estimated to range from thirty to fifty years or more.[57]

Moreover, decommissioning, as a covered activity in the GCP, may not occur for decades after an oil and gas development project is approved and therefore could be after the ITP expires. (GCP at 21, 26) If an ITP issued under this GCP were to terminate years before decommissioning, the permittees would be required to prepare HCPs to apply for ITPs outside of the GCP process, ultimately reducing the streamlining and efficiency purposes of the GCP. (GCP at 3; EA at 1-2) Similar concerns were raised by the California Coastal Commission in the letter dated May 4, 2020 concerning the GCP.[58] Given the foregoing considerations, the GCP must provide a thorough explanation of the considerations for the 20-year ITP duration and also describe how the duration identified in the GCP ties into the purpose and need for the GCP. EDC-18 (cont.)

Finally, there are inconsistencies in the GCP and EA about the duration of the GCP as compared to the duration of the ITPs. (GCP at 6, EA at 7-1). Please clarify the duration for both ITPs and the GCP itself.

iv. The GCP Contains a Legally Inadequate Discussion of Alternatives.

The ESA requires an applicant for an ITP to prepare an HCP that includes a discussion of "what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized." 16 U.S.C. § 1539(a)(2)(A)(iii). To satisfy this statutory standard, the Service "must make an independent determination of practicability and make a finding that the impacts of the taking will be minimized and mitigated 'to the maximum extent practicable.'" *Sw. Ctr. For Biological Diversity v. Bartel,* 470 F. Supp. 2d 1118, 1158 (S.D. Cal. 2006), *appeal dismissed and remanded,* 409 F. Appix 143 (9th Cir. 2011); *citing to* 16 U.S.C. § 1539(a)(2)(B)(iii). An ITP for a "less protective proposal" must not be issued if an "alternative that would have provided more mitigation or caused less harm to the endangered species" was feasible, but nevertheless rejected. *Id.*

Although the case law does not suggest that more than one alternative must be considered, the courts have required at least a showing that alternatives resulting in less take and additional mitigation measures were actually considered. *See Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 576 (D.C. Cir. 2016); *National Wildlife Federation v. Babbitt*, 128 F. Supp. 2d at 1292–93.

Here, the GCP severely limited the alternatives analysis to address only the no action alternative, which was summarily dismissed on the grounds that no action would not achieve the EDC-19

[57] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-5 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oilfield Redevelopment Project* at 2-2 (November 2018).
[58] Letter to Stephen P. Henry from Kate Huckelbridge regarding Draft Environmental Assessment and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, CA, at 3 (May 4, 2020).

needs of the project proponents. (GCP at 13) No explanation is provided to support the decision to analyze only one alternative. The failure to meaningfully consider additional alternatives that would cause less take is a glaring omission in the GCP that violates the statutory standard. Compare the alternatives analysis in this GCP with the facts in *Union Neighbors United*, . There, the D.C. Circuit rejected an ITP as arbitrary and capricious in violation of NEPA where, "[v]iewing the range of alternatives through the lens of its stated goals, the Service failed to consider a reasonable range of alternatives because it did not consider any reasonable alternative that would be economically feasible while taking fewer bats than Buckeye's proposal." 831 F.3d at 576. Although the Service was not expected to consider an infinite array of options, the court determined that considering a "realistic mid-range alternative…that would take materially fewer bats than [the] proposal while allowing the project to go forward would suffice." *Id.* at 577. Likewise, the lack of consideration in the GCP of any reasonable alternative that would involve less take is arbitrary and capricious. EDC-19 (cont.)

In *National Wildlife Federation v. Babbitt*, the Eastern District of California rejected the issuance of an ITP because of the three alternatives analyzed, none involved additional mitigation measures. 128 F. Supp. 2d at 1292–93. The court determined that the duty under the ESA to minimize and mitigate impacts "to the maximum extent practicable" mandated consideration of alternatives involving greater mitigation and the failure to consider additional mitigation was a violation of the ESA. *Id.*; *citing to Sierra Club v. Babbitt,* 15 F.Supp.2d 1274, 1282 (S.D.Ala.1998)("The Administrative Record must contain some analysis of why the level or amount selected is appropriate for the particular project at issue.") Thus, as applied here, the GCP's swift rejection of only one alternative is an improperly limited analysis of alternatives to the proposed incidental taking of CTS, CRLF, and LYS in violation of the ESA.

Additionally, Section 10 of the ESA requires the GCP to actually consider the no action alternative, but this analysis was improperly omitted from the GCP. (GCP at 13) As compared to the taking allowed under the GCP, the no action alternative would minimize take and maximize recovery without worsening climate change and fires, or increasing threats from spills of oil and produced water. This alternative would prevent take of the three species caused by vehicle-strikes, loss of upland and dispersal habitat, crushing, entombment, spills, and fires. (*Id.*) The alternative would also decrease the indirect effects of oily stormwater runoff entering into breeding ponds, which harm CTS.[59] The conservation of CTS through stakeholder collaboration to purchase habitat easements and restore habitats through grants, as envisioned in the Recovery Plan, is also possible under the no action alternative.[60] For example, recently in April 2020, the Land Trust for Santa Barbara County purchased a 118-acre conservation easement from a private EDC-19 (cont.)

[59] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 (December 12, 2016) ("Oil and other contaminants in runoff from roads have been detected in adjacent ponds and have been linked to die-offs of, and deformities in, California tiger salamanders and spadefoot toads, and die-offs of invertebrates that form most of both species' prey base (Sweet 1993). Several known breeding ponds occur along secondary roads and highways in northern Santa Barbara County and may be threatened by oil and other contaminants from road runoff.)
[60] *Id.* at I-20 – I-22.

landowner to permanently preserve critical habitat for CTS.[61] The property hosts the largest natural vernal pond in the County, the protection of which is vital for CTS survival.[62] The collaboration between private landowners, organizations like the Land Trust, and the Service to conserve and recover CTS in the County will be used as a model for future acquisitions and is recognized as "[t]he only way to ensure [CTS] persist[] in the wild,…."[63] Thus, achieving the conservation goals for the species through stakeholder collaboration under the no action alternative would minimize take to the maximum extent practicable, as required by Section 10 of the ESA. 16 U.S.C. §1539(a)(2)(A)(ii).

The no action alternative also achieves Biological Goal 1 for CTS and CRLF to "[a]void and minimize take and related disturbance" by "avoid[ing] any actions that could result in take of federally listed-species." (GCP at 13, 66) Comparatively, the GCP allows for the permanent take of up to 675 acres of upland CTS habitat, 355 acres of CRLF critical habitat, and 27.5 acres of LYS stands. (GCP at 57-66) The no action alternative also accomplishes Biological Goal 2 by preserving and maintaining suitable and occupied upland habitats. (GCP at 66-67) To the contrary, the GCP would open the door for hundreds of acres to be graded within CRLF and CTS upland habitats and the permanent loss of designated critical habitat for all three species. (GCP at 58 – 65) Finally, the no action alternative better achieves Biological Goals 3 and 4 by avoiding LYS, whereas the GCP allows take of 27.5 acres of LYS. (GCP at 65) The aforementioned analysis was improperly omitted from the GCP and clearly demonstrates that the no action alternative best conserves CTS, CRLF, and LYS by avoiding significant impacts to the species, while allowing oil and gas activities that do not cause take. For activities where take cannot be avoided, project proponents could simply apply for an ITP and develop an HCP to comply with the ESA. (EA at 2-17) Thus, the GCP incorrectly asserts that the no action alternative "would not meet the needs of project proponents." (GCP at 13)

EDC-19 (cont.)

In sum, the GCP does not meet the statutory obligations under the ESA given that only the no action alternative was identified, and the GCP provided an inadequate consideration of this alternative.

b. The GCP is Inconsistent with the Service's Policy for General Conservation Plans.

The ESA does not envision general conservation planning as a tool for species protection. Rather, this concept was developed by the Service and memorialized in a memorandum detailing the general conservation plan policy ("Policy" or "GCP Policy").[64] The express purpose for the Policy is to "streamlin[e] and reduc[e] the processes associated with developing Habitat Conservation Plans (HCPs) under section 10(a)(1)(B) of the Endangered Species Act (Act)."[65]

[61] Land Trust of Santa Barbara County, *Land Trust Conservation on Lompoc Farm Receives State Funds* (May 5, 2020).
[62] *Id.*
[63] *Id.*
[64] GCP Policy at 1.
[65] *Id.*

Alarmingly, the Policy admits that the GCP process "eliminat[es] the need for in-depth review of each application."[66] Although the Policy acknowledges that a GCP must be compliant with the issuance criteria under Section 10, the Policy also states that the GCP approach *reduces* the processes involved in developing a HCP to allow for "formulaic" issuance of ITPs, ultimately "eliminating the need for in-depth review of each application."[67] Streamlining the review process for ITPs in the interest of oil and gas activities will undoubtedly result in the failure to conduct an adequate analysis of the impacts and thus is inconsistent with Section 10 requirements. EDC-20

The Policy acknowledges that the GCP approach is not recommended in all situations and has limitations.[68] For example, the Policy explains that the GCP process is appropriate "where a large-scale HCP covering many similar actions is needed, but where such a plan is not available or feasible."[69] Here, no showing has been made to demonstrate the need for the GCP. Instead, the Service's decision to draft the GCP solely appears to be based on the fact that oil and gas companies requested that the Service utilize the GCP process to expedite the processing of future projects.[70] However, permitting oil and gas activities in the County should not be rushed and environmental review should not be reduced. Without the requisite showing to support the need for the GCP process, there is no basis for circumventing the express HCP procedures under the ESA. EDC-21

Finally, the Policy expressly states that it is intended to benefit small landowners who are burdened in time and expense by the HCP process.[71] Here, prospective applicants are sophisticated, resource-rich oil and gas companies—a far cry from "small landowners." The oil companies should bear the burden of drafting their own individual HCPs rather than place the burden on the Service and reap the benefits of an expedited, streamlined permitting process.

c. The GCP Improperly Omits Critical Information about Activities in the Coastal Area.

The Santa Barbara coastline is purportedly included in the GCP Planning Area, but the GCP entirely omits any discussion about which oil and gas activities are currently occurring or may occur in coastal areas. (GCP at 5) Without an understanding of what activities are in the coastal area, potential impacts to the three listed species remain unknown, unassessed, and unmitigated. Moreover, if the County's coastal areas are included in the Planning Area, the GCP and EA must assess the applicability of the CZMA, California Coastal Act, and the County's Local Coastal Program. EDC-22

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[66] *Id.*
[67] *Id.*
[68] *Id.*
[69] *Id.*
[70] E-mail from Robyn Gerstenslager, U.S. Fish & Wildlife Service, Ventura Fish & Wildlife Office, Public Affairs Specialist, to Wendy Motta, District Representative, Office of Representative Salud Carbajal (August 18, 2017).
[71] GCP Policy at 1.

2. The Oil and Gas Activities Covered under the GCP are Numerous and Highly-complex, Which Severely Weakens the Adequacy of the GCP as a Conservation Planning Tool.

Pursuant to Section 10 of the ESA, covered activities in a conservation plan must be: (1) otherwise lawful, (2) non-Federal, and (3) under the direct control of the permittee. 16 U.S.C. §1539(a)(1)(A)-(B). The Handbook explains that covered activities may be of any scale, but there are challenges to consider in identifying covered activities, including, but not limited to, "increased complexities with understanding multiple activities and all the various resulting impacts, developing a variety of activity-specific minimization measures, […] developing more complex monitoring and adaptive management programs necessary for the suite of covered activities; and difficulties in understanding proposed activities when multiple competing commercial entities under a single HCP must protect proprietary business information."[72] For the reasons identified below, the GCP fails to adequately consider the aforementioned challenges in selecting the scope of covered activities and is therefore deficient.

a. *The Laundry List of Covered Activities in the GCP Confirms that a General Conservation Plan is the Wrong Conservation Tool for Oil and Gas Activities in Santa Barbara County.*

The covered activities in the GCP range from exploration to decommissioning—and nearly everything in between. (GCP at 14) The covered activities involve highly complex and technical activities associated with oil and gas development, including, but not limited to, geophysical exploration, well drilling, installation of renewable energy facilities, pipeline construction, and decommissioning. (GCP at 14-27) Under Section 10 of the ESA, a conservation plan must analyze each activity and how the activity would impact the species for which incidental take coverage would be available.[73] For this reason, the Policy states that a "GCP will be most useful in situations in which a *smaller subset of activities,* such as building single family homes, a specific type of agricultural practice, or similar activities of limited scope can be described and their impacts to listed species and their habitats can be adequately analyzed by the Service."[74] To the contrary here, the numerous activities covered by the GCP are wide-ranging and dissimilar, involving specific processes and equipment as well as a host of different impacts. Given the scope of activities covered under the GCP, the analysis of the impacts to listed species and their habitats is severely deficient, as discussed in more detail in these comments. For the foregoing reasons, a general conservation plan is simply not the proper conservation planning tool for multifaceted and extremely technical oil and gas activities.

EDC-23

EDC-24

[72] HCP Handbook at 5-3.
[73] *Id.* at 5-1.
[74] Memorandum from Director of U.S. Fish and Wildlife Service to Assistant Regional Directors, Regions 1, 2, 3, 4, 5, 6, and 7, and Manager, California/Nevada Operations Office, Subject: Final General Conservation Plan Policy at 4 (October 5, 2007) (emphasis added).

Moreover, the Policy recognizes that a significant limitation of a general conservation plan is that its scope is "limited to what Service personnel can effectively analyze."[75] Here, the oil and gas activities covered under the GCP involve a specialized area of expertise and technical background. In fact, the GCP admits that "[i]ndustry standards, disturbance area estimates, and averages were obtained primarily from representatives of the oil and gas industry…."[76] (GCP at 14) Rather than narrow the scope of covered activities, the GCP sets forth an inadequate analysis that fails to acknowledge the host of limitations and assumptions. EDC-24 (cont.)

The foregoing underscores the flaws inherent in a broad GCP as opposed to a project-specific HCP. Without any actual project applications, the GCP can only engage in pure speculation as a means of projecting what the actual impacts on the covered species will be from the laundry list of covered activities, essentially throwing a dart into the midst of 674,220 acres spread throughout the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, Cuyama Valley, and a portion of the Santa Barbara Coastline. EDC-25

b. The GCP is Inconsistent in Covering Oil Seep Management, but Omitting Oil Spill Cleanup and Management as a Covered Activity.

Oil spill management is not listed as a covered activity in the GCP. (GCP at 14 – 27) Oil seep management, however, is covered by the GCP. (GCP at 21 and 24 – 25) The GCP's approach is inconsistent because oil spill management and oil seep management involve similar responsive actions, such as vegetation removal in similar areas, like terrestrial habitats. Therefore, oil seep management should be excluded from covered activities for consistency. EDC-26

c. The GCP is Unclear with Respect to Whether Soil Remediation is a Covered Activity.

The GCP states that it covers oil and gas development, including "remediation." (GCP at 4) However, the description of covered activities under "Decommissioning and Reclamation" does not list soil remediation as a covered activity. (GCP at 26) EDC-27

d. Wind Energy Projects Serving Oil and Gas Projects are Limited to 300 Kilowatts, but No Such Limit is Provided for Solar Projects Serving Oil and Gas Projects.

The GCP covers renewable energy projects serving oil and gas operations and would cover wind turbine projects between 50 kW and 300 kW. (GCP at 20) However, solar photovoltaic ("PV") projects serving oil and gas production, which also can disturb habitat and cause take, are not limited by kilowatts. (GCP at 20) The GCP must include a limit on the energy EDC-28

[75] *Id.* at 5.
[76] "It is disturbing that the USFWS is willing to accept at face value what oil industry standards and disturbance area estimates are allowed when other USDI services have expertise in oil and gas exploration activities." Magney at 4.

capacity for solar projects to minimize take to the maximum extent practicable, as it does for wind energy projects serving oilfields. EDC-28 (cont.)

In addition, the GCP lists PV and wind projects under covered activities, but states that, "Project proponents with wind turbines should seek consultation with the Ventura Fish and Wildlife Office to address potential impacts to listed species through a separate permitting process." (*Id*.) This raises the question: why are wind turbines under 300 kW listed as covered under the GCP, but then expressly required to undertake a separate take permitting process in conflict with the streamlining purpose of the GCP? EDC-29

e. Decommissioning is a Covered Activity, but This Activity May Occur Thirty to Fifty Years After the GCP and ITP(s) Expire.

The GCP describes decommissioning as a covered activity. (GCP at 21 and 26) However, decommissioning may not occur for decades after an oil and gas development project is approved and will likely occur after the twenty-year permit duration expires. For example, the project life for the two massive onshore oil projects proposed in Cat Canyon are for thirty to fifty or more years.[77] The ITPs for these projects may be issued by the Service prior to construction, and if the ITP duration is for up to twenty-years, the ITP would terminate years before decommissioning. Permittees would then be required to prepare HCPs and apply for ITPs outside of the GCP process, contravening the streamlining and efficiency purposes of the GCP. (GCP at 3, EA at 1-2) The GCP must set forth a thorough analysis that addresses the interaction between the twenty-year ITP duration and the potentially decades-long oil and gas activities covered under the GCP. EDC-30

f. The CTS Recovery Plan Does Not Identify the Need for the GCP for Oil and Gas Activities.

The 2016 CTS Recovery Plan's Action 1.3 recommends developing a regional HCP for agriculture and urban development in northern Santa Barbara County and Santa Maria.[78] The Recovery Plan makes this recommendation for the purpose of managing lands for CTS and to ensure "appropriate mitigation."[79] In 2019, the Service developed the County's first general conservation plan for cultivation activities.[80] A second general conservation plan for cultivation EDC-31

[77] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-5 (February 2019); *See also*: Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oilfield Redevelopment Project* at 2-2 (November 2018).
[78] US Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at III-3 (December 12, 2016).
[79] *Id*.
[80] US Fish and Wildlife Service, *General Conservation Plan for Cultivation Activities Santa Barbara County, California* (September 19, 2019).

activities in the Los Alamos area was also recently noticed.[81] Nevertheless, the CTS Recovery Plan does not recommend developing a GCP for oil and gas projects because the Recovery Plan's Recovery Strategy, Criteria, and Actions do not recommend authorizing take for oil and gas activities within the CTS' range.[82] Moreover, as explained above, the authorization of take under the GCP for CTS is inconsistent with the Recovery Plans' Recovery Strategy, Criteria, and Actions.

EDC-31 (cont.)

g. The GCP Would Authorize Take for Oil and Gas Projects that Worsen Climate Change, Which Threatens the Survival and Recovery of CTS, CRLF, and LYS.

The GCP would authorize take of CTS, CRLF, and LYS for oil and gas activities within the 674,220-acre Planning Area in Santa Barbara County, including the Cat Canyon Oil Field where proponents of two new steam injection projects propose to drill nearly 500 new wells, tripling onshore oil production in the County.[83] (GCP at 5) The significant greenhouse gas emissions ("GHG") generated by these two projects alone will contribute to climate change impacts, such as increased droughts, fires, and floods, which directly affect recovery efforts for CTS, CRLF, and LYS.[84] For example, the TerraCore project would emit 250,876 metric tons per year of CO2 equivalent ("MTCO2e") and Aera's project would emit 302,532 MTCO2e annually.[85] By way of comparison, the County identifies GHG emissions over 1,000 MTCO2e to be a significant climate change impact.[86] The emissions from new or expanded oil and gas

EDC-32

[81] Federal Register Vol. 85 No. 70 *Draft Categorical Exclusion and Draft Los Alamos Conservation Plan for Cultivation Activities in Santa Barbara County, California* at 20295 – 20296 online at https://www.fws.gov/policy/library/2020/2020-07574.pdf (April 10, 2020).
[82] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at II-1 – III-11 (December 12, 2016).
[83] Santa Barbara County Planning & Development Energy & Minerals Division, *Overview of Oil Operations* (February 24, 2016), available at: https://www.sbck.org/wp-content/uploads/2016/01/County-Oil-Gas-Briefing-2.24.16.pdf (Slide 14 showing 2016 production for multiple onshore oilfields); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 2-1, 2-68 (November 2018); Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-33 – 2-34 (February 2019); Lara Cooper, *Supervisors Get Update on Oil Production in Santa Barbara County,* Noozhawk (July 21, 2015).
[84] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at 28 (May 28, 2002); *See also* U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-16 (December 12, 2016); U.S. Fish and Wildlife Service, *Eriodictyon capitatum (Lompoc yerba santa) 5-Year Review: Summary and Evaluation* at 16, 18 (February 8, 2011).
[85] *See e.g.,* Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.4-14 - 16 (February 2019); Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.4-21 (November 2018).
[86] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.4-13 and 4.4-14 (February 2019) ("The Santa Barbara County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2015b) specifies that: All industrial stationary-source projects shall be subject to a numeric, bright-line threshold of 1,000 MTCO2e per year to determine if greenhouse gas emissions constitute a significant cumulative impact. Annual GHG emissions that are equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change unless mitigated.")

projects in Santa Barbara County would worsen these climate change impacts on CTS, CRLF, LYS, and their habitats. Issuing ITPs for oil and gas projects would be counter to the conservation of CTS, CRLF, and LYS given the significant climate change impacts from these fossil fuel energy projects. EDC-32 (cont.)

h. The GCP Section Titled "Other Relevant Laws and Regulations" Must be Updated to Correct Omissions and Misstatements.

The GCP refers to the County of Santa Barbara as the Lead Agency under the California Environmental Quality Act ("CEQA"). The GCP omits specific cities (e.g., Carpinteria, Goleta) within the Planning Area which may also be CEQA Lead Agencies on oil and gas projects, including decommissioning. (GCP at 9) EDC-33

Under Division of Oil Gas, and Geothermal Resources (DOGGR), the GCP should be revised to reflect the agency's current name: California Division of Geologic Energy Management Division ("CalGEM"). (*Id.*) EDC-34

Also, under DOGGR or CalGEM, "water disposal wells" are more accurately characterized as wastewater disposal wells. Water is generally not harmful to CTS, CRLF, and LYS, but oil operation wastewater contains toxic constituents. (*Id.*) EDC-35

Under California Department of Fish and Game, the agency's name was changed to California Department of Fish and Wildlife in 2013. (*Id*. at 11) EDC-36

3. <u>Critical Information is Omitted in the Discussion Regarding Environmental Setting and Covered Species.</u>

The GCP purports to provide baseline information pertaining to the three covered species, but the discussion omits information that is directly relevant and necessary to support the subsequent impacts analysis and take assessment. EDC-37

a. The GCP Lacks Requisite Information about the Existing Status of CTS and CRLF and Therefore Does Not Adequately Assess the Scope of Impacts to the Species.

The ESA requires an applicant for an ITP to submit an HCP that specifies "the impact which will likely result from such taking." 16 U.S.C. § 1539(a)(2)(A)(i). The Service may not approve such a plan unless finding that "the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking," and "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." 16 U.S.C § 1539(a)(2)(B)(ii) & (iv).

To inform this analysis, the regulations under the ESA require that an ITP application identify the "number, age, and sex of such species, if known." 16 U.S.C. §1539(a)(2)(B)(ii), 50

C.F.R. 17.22(b)(1). "The impact of the taking cannot be clearly articulated without some baseline information about the presence and status of the species in the covered area, or a logical explanation of potential impacts based on habitat characteristics, carrying capacities, etc. and by taking into consideration likely future changes due to climate change effects or other causes."[87]

In order to understand the scope of impacts to endangered and threatened species, there is a host of critical information that must first be collected and assessed: (1) the preexisting status of those species in the covered areas—i.e., how many currently exist, where they live, and what the current numbers say about overall species health in the covered areas; (2) how many individuals and how much habitat are necessary to ensure species survival and recovery; (3) the nature of the project—i.e., how many individuals and how much habitat will be taken through the activities covered under a ITP, and where, exactly, the take will occur (especially relevant with CTS, which has six distinct metapopulations); and (4) the effect of such take relative to the species' baseline and survival/recovery needs. Without knowing the foregoing details, the Service cannot fulfill its statutory gatekeeping responsibility of ensuring minimization and mitigation of impacts, and making sure that incidental takings will not appreciably reduce the likelihood of survival and recovery. EDC-37 (cont.)

i. It is Unclear Which CTS and CRLF Recovery Criteria Have Been Met.

The GCP is unclear regarding which, if any, of the recovery criteria for CTS and CRLF under their respective recovery plans have been met. The CTS Recovery Criteria include preservation of 623 acres of unfragmented upland habitat and 1,628 acres of partially fragmented habitat around each of at least four preserved ponds in each metapopulation area (Criteria 1, 2, and 3).[88] (GCP at 68) CTS Recovery Criterion 4 is to maintain an increasing population in each metapopulation for ten years.[89] The CRLF Recovery Criteria include establishing a CRLF population where one has been extirpated (Criterion 4), and stable populations in core areas (Criterion 2).[90] The GCP should quantitatively describe which of the CTS and CRLF Recovery Criteria have been met, how long they have been met, in which areas or populations they have been met, or describe how close other Criteria are to being achieved. EDC-38 EDC-38 (cont.)

ii. The GCP Lacks Sufficient Species Information for CTS to Meet the Required Elements under Section 10 of the ESA.

In one paragraph, the GCP characterizes CTS as consisting of six distinct metapopulations with "a high potential for recovery and a high degree of threat in conflict with development." (GCP at 32) The GCP provides a map purporting to outline the boundaries of EDC-39

[87] HCP Handbook at 7-4.
[88] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at iv (December 12, 2016).
[89] *Id*.
[90] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at iv (May 28, 2002).

each metapopulation but admits that the Service "[does] not have data on the actual population size or trends" for the Santa Barbara CTS population. (*Id.* at 33) The GCP also claims to include "Table 1" identifying "approximately 60 known extant tiger salamander breeding ponds in Santa Barbara County (Service 2009) distributed across the six metapopulations," but no such table appears in the GCP. (*Id*. at 35) EDC-39 (cont.) EDC-40

The GCP admits that data on "effective population size" could have been obtained based on "recent advances in molecular techniques," but failed to apply such techniques. (GCP at 33) As a result, the GCP does not quantify the effective population size for any of the six CTS metapopulations. (GCP at 33-34) Studies have been conducted on the abundance of the species in other areas. A study in Monterey County found the number of breeding adults visiting a pond varied from 57 to 244 individuals.[91] A Contra Costa County breeding site showed a similar pattern of variation, suggesting that such fluctuations are typical.[92] Nevertheless, the GCP does not explain why surveys described by Searcy and Shaffer to "quantify California tiger salamander landscape use" in the Central Valley were not undertaken here to estimate CTS densities in the Planning Area.[93] EDC-41

Finally, the GCP states that "larger vernal pools are more valuable for the conservation of the species than smaller ones," without mapping out the location and size of such pools as part of its graphic. (*Id.*) Such information is essential to the baseline conditions, especially given that the GCP recognizes that the metapopulations are not interchangeable. (*Id.* at 34) In fact, a Monterey County CTS study of 16 breeding locations confirmed "genetic differences at almost every site." (*Id.*) EDC-42

iii. The Impacts Analysis in the GCP is Deficient Given That Baseline Information about CRLF is Omitted.

Similarly, the GCP acknowledges that CRLF "has been extirpated or nearly extirpated from 70 percent of its former range," and currently occurs in only five populations over eight recovery units, with recovery strategies differing per recovery unit as opposed to overall range. (*Id.* at 43-44). As a result, recovery of the species under the Recovery Plan is largely focused on stabilizing existing populations and reestablishing additional populations in suitable habitat areas.[94] EDC-43

Despite the shrinking range of this species, the entire "plan area is within the range of…and…contains suitable…habitat" for CRLF. (GCP at 60) The GCP, however, provides no

[91] Trenham P.C., H.B. Shaffer, W.D. Koening and M.R. Stromberg, *Life history and demographic variation in the California tiger salamander* (2000).
[92] Loredo, I., and D. Van Vuren, *Reproductive ecology of a population of the California tiger salamander* (1996).
[93] Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander* at 999 (August 2008),
[94] U.S. Geological Survey, *Amphibian Research in Southern California,* available at: https://www.usgs.gov/centers/werc/science/amphibian-research-southern-california?qt-science_center_objects=0#qt-science_center_objects.

discussion about the current distribution of the CRLF population throughout the Planning Area. Information about existing CRLF populations, distributional data of the species, and its habitat throughout the Planning Area is important to determine the likelihood that the species will occur at a project site. The CRLF Recovery Plan recognizes the importance of monitoring and surveying known CRLF populations in order to obtain the data necessary to conduct an adequate impacts analysis for the species.[95] The Recovery Plan explains that "[a] better understanding of the demographics and distribution will give a fuller picture of population viability and threats to [CRLF] populations."[96] EDC-43 (cont.)

Currently, the Western Ecological Research Center for the U.S. Geological Survey ("USGS") is "using genetic techniques to characterize existing [CRLF] populations in the southern part of their range."[97] The USGS is employing these methods to determine genetic diversity within populations and whether any CRLF populations are genetically unique, recent population history, and effective population sizes.[98] The efforts are intended to inform future conservation of CRLF by better understanding the magnitude of documented amphibian declines.[99] This is but one example of a study tracking CRLF populations and collecting data on population densities for the species in southern California. In order to assess the threats to CRLF and causes of CRLF losses, the GCP must first provide the requisite baseline information about CRLF populations throughout the Planning Area. If this information truly cannot be collected, as alleged in the GCP, the grounds to support this claim must be set forth in the GCP. (GCP at 62) EDC-44

The GCP also does not include a map depicting CRLF Recovery Units. This information is directly relevant to inform the impacts analysis and take assessment. EDC-45

iv. Surveys and Other Information Gathering about LYS Individuals and Genetic Variability in Santa Barbara County Must Be Performed to Ensure that the Impacts Analysis is Adequate in the GCP.

The GCP admits that "[v]ery few surveys have been completed for [LYS] since it was federally listed in 2000." (GCP at 47) As a result, there is little to no information about the long-term viability of LYS, the age of an individual plant, the breeding system of LYS, the number of ramets needed to sustain an individual plant, how long a ramet lives, or when a new ramet will sprout.[100] One reason for the lack of surveys is "[b]ecause of its clonal habit (reproducing EDC-46

[95] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at 82 (May 28, 2002).
[96] *Id.*
[97] U.S. Geological Survey, *Amphibian Research in Southern California,* available at: https://www.usgs.gov/centers/werc/science/amphibian-research-southern-california?qt-science_center_objects=0#qt-science_center_objects.
[98] *Id.*
[99] *Id.*
[100] Magney at 8.

asexually such that all 'individuals' in a population are genetically identical), the number of genetically unique [LYS] individuals is difficult to count." (GCP at 51) Given the lack of surveys for this species, "information on the distribution of [LYS] has remained relatively unchanged since the time of listing;" the only updated information being from a 2010 survey for the Vandenberg populations of LYS. (*Id.*) Moreover, with regards to this 2010 survey, the GCP dismisses the data as inconclusive, explaining that it has "no confidence in the total number of plants in existence since survey protocols were either not well documented or they varied in methodology from year to year, and there were too few monitoring events to draw any conclusions from."[101]

As recognized in the expert report by California Certified Consulting Botanist, David Magney, "information on the requirements and reproductively of the LYS are lacking, primarily because there have not been studies sufficient to make science-based conclusions."[102] Yet, the GCP nevertheless proposes to generate a conservation strategy for the species while simultaneously allowing up to 27.5 acres of habitat and 7.5 acres of critical habitat be destroyed by oil and gas activities. (GCP at 65) Given the dearth of information about the species, it is entirely unclear what information and data the GCP utilized to support the strategies and conclusions relied on for LYS, indicating that the GCP's proposed conservation plan for LYS will not ensure the long-term survival and recovery of the species. These concerns are substantiated in the report by David Magney in which he concludes that "[t]here is no evidence that the proposed GCP will result in 'better conservation' of the LYS. … a conclusion by the USFWS that the GCP would improve conservation of this species is baseless and wishful thinking."[103] This is especially concerning when factoring in consideration of the impacts on LYS from future environmental changes due to climate change.[104] EDC-46 (cont.)

For the foregoing reasons, and as confirmed by Mr. Magney in his report, the Service must "determine how many individual plants exist before issuing a blanket take permit for the LYS. This is quite feasible as there are only five known populations, three of which occupy small areas. The largest known population is located in the middle of the active Orcutt Oil Field, and is at extreme risk from take under the proposed GCP."[105]

v. Detailed Species and Habitat Information Must be Set Forth in the GCP to Inform Section 7 Consultation.

Section 7 of the ESA requires all federal agencies to consult with the Services to ensure that "any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of critical habitat. 16 U.S.C. § 1536(a)(2). "Issuance of an incidental take permit by the Service, pursuant to section 10(a)(1)(B), constitutes a Federal

[101] *Id.* at 4.
[102] *Id.* at 10.
[103] *Id.* at 16.
[104] *Id.* at 7-8.
[105] *Id.* at 2.

action that is subject to the requirements of section 7(a)(2), and the Service must prepare an internal consultation to address the effects of the permit issuance." (GCP at 7)

As recognized in the Handbook, "[d]etailed species and habitat information are also needed for the intra-Service section 7 consultation," because "[a]ll covered species, listed or not, will be assessed under section 7 for direct, indirect, and cumulative effects and the likelihood of jeopardy, and for listed covered species, the destruction or adverse modification of critical habitat…."[106] Accordingly, the GCP may "serve[] as a biological evaluation and can greatly simplify the writing of the biological opinion (BO) by referencing the information from the HCP in the BO."[107] However, given the substantial omissions of specific species and habitat information for CTS, CRLF, and LYS in the GCP, the related Section 7 consultation will also be inadequate if relying upon the information in the GCP. EDC-47

b. The GCP Improperly Relies on the Assumption that All LYS Seeds Will Germinate.

LYS is a state and globally imperiled species with some occurrences containing "one or only a few genetic individuals and have extremely limited seed production."[108] As few as 68 individual LYS remain in the world today in as small an area as 385 acres.[109] "[T]he genetic variability of *E. capitatum* is extremely limited, which also means that it has higher vulnerability, or lower ability, to adapt to changes in its environment, such as from disease or climate change."[110] The GCP claims that LYS "cannot produce viable seeds." (GCP at 95) This is because LYS is self-incompatible and therefore uniclonal stands of LYS cannot produce seed unless pollen is imported from another genetic individual.[111] The GCP, however, contradicts itself by claiming that LYS seeds will germinate in open spaces. (GCP at 64) Of the six LYS stands, two are uniclonal and cannot produce seeds.[112] Thus the GCP does not adequately analyze which LYS stands can reproduce by seed and therefore the conclusion that all LYS will reproduce by seed is inaccurate. EDC-48

4. <u>The Analysis of Biological Impacts and Corresponding Take Assessment Violates the Requirements under Section 10 of the ESA and is Inadequate.</u>

The analysis of biological impacts and take assessment for CTS, CRLF, and CRLF are fatally flawed in the GCP due to several omitted or unknown variables that are material to the EDC-49

[106] HCP Handbook at 7-5.
[107] *Id.*
[108] NatureServe Explorer, *Eriodictyon capitatum, Lompoc yerba santa* (April 11, 2020), available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.128691/Eriodictyon_capitatum.
[109] Magney at 2, 16.
[110] *Id.* at 11.
[111] U.S. Fish and Wildlife Service, *Eriodictyon capitatum (Lompoc yerba santa) 5-Year Review: Summary and Evaluation* at 16 (February 8, 2011).
[112] *Id.*; Magney at 2.

analysis under Section 10. These defects are irremediable given the inherent overly broad nature of the GCP, as discussed above. EDC-49 (cont.)

a. The Take Assessment for CTS and CRLF Relies on a Habitat-Based Analysis that Contravenes the Requirements under the ESA.

The GCP does not contain a numerical estimate for take of individuals that will result from the permitted oil and gas activities. Instead, the GCP utilizes the less favorable "habitat as a proxy" method for assessing take for each species. (GCP at 55, 61). Take, however, must be expressed in measurable and enforceable terms.[113] "Congress has clearly declared a preference for expressing take in numerical form, and an Incidental Take Statement that utilizes a surrogate instead of a numerical cap on take must explain why it was impracticable to express a numerical measure of take."[114] *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031, 1037 (9th Cir. 2007); *see also Nat. Res. Defense Council v. Evans*, 279 F. Supp. 2d 1129, 1184 (N.D. Cal. 2003) (where "possible, the impact should be specified in terms of a numerical limitation on the federal agency or permittee or licensee."); *Miccosukke Tribe of Indians or Florida v. U.S.*, 566 F.3d 1257, 1274 (11th Cir. 2009) ("Congress wanted incidental take to be stated in numbers of animals, where practical, not in terms of habitat markers"). Expressing take in terms of acreage of habitat loss is not the type of numerical limitation Congress had in mind.[115] *Or. Nat. Res. Council v. Allen*, 476 F.3d at 1037–38; *See also* H.R. Rep. No. 97-567 at 27. EDC-50

In the absence of a numerical measure, courts have held that "the Fish and Wildlife Service must establish that no such numerical value could be practically obtained." *Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1250 (9th Cir. 2001). Thus, a surrogate—in this case habitat as proxy—may be used so long as it is accompanied with an explanation as to why the use of a numerical measure of take would be impracticable. *Or. Nat.* EDC-50 (cont.)

[113] HCP Handbook at 8-4.

[114] Although these cases pertain to Incidental Take Statements under Section 7 of the ESA, the requirements are also applicable to ITPs under Section 10. The courts have discussed the general similarity between Section 7 and Section 10. *See, e.g.*, *Nat'l Wildlife Fed.*, 128 F. Supp. 2d at 1286 ("In every respect except for this 'best scientific and commercial data' requirement, the no jeopardy finding required by ESA § 7(a)(2) is identical to the survival finding required under § 10(a)(2)(B)(iv)."). Moreover, the House Report relied upon in many of these cases states that under § 10, an ITP applicant must "specify the number of species likely to be taken" and that the Service will make its decision "under the same standard as found in Section 7(a)(2)"—"whether the taking would jeopardize the continued existence of the species." H.R. Rep. No. 97-567 at 31. On its face, this language suggests that there is a preference for numerical take under both Section 7 and Section 10. Finally, the HCP Handbook also recognizes that the Service has the same responsibility under Section 7 as it does under Section 10. Handbook at 8-3.

[115] The Ninth Circuit's decision in *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.* demonstrates the circumstances under which courts have found a numerical value for take to be impractical. 698 F.3d 1101 (9th Cir. 2012). The facts in that case are wholly distinguishable from the GCP. There, the court held that the use of "habitat characteristics" was a permissible surrogate for a numerical limit on the number of "eggs and fry" of threatened Lahontan cut-throat trout to be taken during the construction a natural gas pipeline. *Id.* at 1127. The court relied upon the House Report, which specifically listed number of fish eggs as an example for when a numerical value would be unavailable. *Id.*, *quoting* H.R. Rep. No. 97-567, at 27 (1982). Based on the House Report, the court reasoned that the Incidental Take Statement need not explain why a numerical value could not be practically obtained. *Id.* As such, this holding is very narrow and not applicable to CTS and CRLF.

Res. Council, 476 F.3d at 1037. This explanation must describe a causal link between the surrogate and take of the covered species, explain why expression of numerical take is not practical, and set a clear limit for when the level of take is exceeded, if using a surrogate.[116] There must also be a "rational connection between the surrogate and the taking of the species." *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 531 (9th Cir. 2010); *Az. Cattle Growers*, 273 F.3d at 1250 (invalidating use of ecological conditions for failure to articulate rational connection to take). Here, the GCP fails to adequately explain (1) why using a numerical measure instead of habitat as a proxy would be impracticable, and (2) the rational connection.

EDC-50 (cont.)

To illustrate this point, in *Oregon Natural Resources Council v. Allen*, the Ninth Circuit held that an Incidental Take Statement violated the ESA for failing to explain why a numerical measure was infeasible. 476 F.3d at 1037. Although the Service's Biological Opinion explained that the surveys were out of date, it did not state that the surveys could not have been updated. *Id.* at 1038. The court determined that "[t]his does not establish the numerical data's impracticability." *Id.* Similarly here, the GCP does not adequately explain why data that would provide a proper numerical measure is unavailable and cannot be obtained. To the contrary, the GCP admits that data on "effective population size" for CTS could have been obtained based on "recent advances in molecular techniques," but such techniques were not applied. (GCP at 33-34) Moreover, the USGS is currently collecting data on CRLF populations in the southern part of their range by "using genetic techniques to characterize existing [CRLF] populations."[117] The study will enable USGS to determine effective population sizes, in relevant part.[118] The efforts are consistent with the CRLF Recovery Plan's recommendation to "[c]onduct quantitative assessments of representative populations" in each recovery unit.[119] The CRLF Recovery Plan specifies that "[q]uantitative data needs include, but are not limited to, numbers of individuals per age class, reproductive rates, survival, recruitment rates, immigration and emigration rates."[120]

EDC-50 (cont.)

Thus, the GCP must adequately explain the impracticability of providing numerical data for the take assessment. If no explanation is provided in the GCP, the use of a habitat surrogate for the take assessment in the GCP is wholly inconsistent with the requirements under the ESA.

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[116] HCP Handbook at 8-3.
[117] U.S. Geological Survey, *Amphibian Research in Southern California,* available at: https://www.usgs.gov/centers/werc/science/amphibian-research-southern-california?qt-science_center_objects=0#qt-science_center_objects.
[118] *Id.*
[119] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog* at 82 (May 18, 2002).
[120] *Id.*

b. The Searcy Model Does Not Account for Impacts on CTS from Spills, Noise, Vibrations, Night-lighting, Fires, or Climate Change.

The Searcy Model does not account for all impacts to CTS, including impacts from oil, wastewater, and chemical spills, fires, climate change, noise, vibrations, and lighting.[121] These activities may result in harm to the species or the destruction of habitat. Except for Measure 20 to lessen the impact of oil spills, the GCP includes no mitigation for these impacts to CTS. (GCP at 68 – 98)[122]

i. The Searcy Model Does Not Account for Climate Change Impacts from Oil and Gas Projects.

EDC-51

The Searcy Model does not account for climate change impacts on the species. As discussed herein, climate change harms amphibian species such as CTS. However, GHG emissions are not a factor in the Model, even though the CTS Recovery Plan identifies climate change as impacting the recovery of CTS.[123] This is a major limitation of the Model and results in impacts that may not be adequately mitigated.

ii. The Searcy Model is Based on Drift Fence Surveys and Survivorship Figures from Different Populations in Different Locations.

The Searcy Model calculates the Central Valley tiger salamander's reproductive values, impacts, and mitigation based on a site's distance to a pond, survivorship, and densities.[124] However, the densities were determined using drift fence surveys at Olcott Lake, over 350 km from Santa Maria, and the survivorship numbers are based on a single study in Monterey, over 220 km away.[125] Olcott and Monterey are 225 km apart.[126] Searcy and Schaffer advise that it will be necessary to "individually negotiate each mitigation plan" for each project rather than the broad programmatic use of the Model, like in the GCP.[127] The GCP's broad application of the Searcy Model also runs the risk of not accounting for region-to-region differences in CTS survivorship or habitat parameters. Studies to ascertain survivorship rates in Santa Barbara County populations are needed to inform and apply the Searcy Model appropriately to the Santa Barbara County CTS population.[128] Protocol-level surveys and other surveys, such as the drift

EDC-52

[121] Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander,* (August 2008).
[122] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-49 – 50, 4.3-55 (February 2019).
[123] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 – 19 (December 12, 2016).
[124] Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander*, (August 2008).
[125] *Id.; See also* Bumgarnder at 4-5.
[126] *Id*.
[127] *Id*.
[128] *Id.*

fence surveys underpinning the Searcy Model, are not proposed in the GCP. CTS surveys and habitat assessments in the Planning Area are necessary to ensure that the significant impact of permanent CTS take is accurately disclosed and sufficiently mitigated through the GCP.

iii. The Searcy Model is Based on a Single Habitat Parameter.

Searcy and Shaffer acknowledge that the Model is based on only one of numerous habitat parameters: distance from a pond's shoreline.[129] Other factors not considered include vegetation, topography, presence and density of predators, and presence and density of mutualistic species such as gophers which can increase CTS densities and alter distribution.[130] These are site-specific factors that vary from project to project and region to region. In recommending site-specific as opposed to broad programmatic application of the Model, the authors advise that "[i]n principle, these and other biologically relevant factors could be included in mitigation calculations for individual species and landscapes."[131] It is clear from Searcy that habitat parameters differ by location.[132] However, the GCP improperly applies the Searcy Model as if habitat parameters are the same at Olcott Lake, Monterey, and Santa Barbara County.

EDC-52 (cont.)

iv. The Searcy Model is Based on an Oversimplification.

As expressly recognized by the researchers, the Model oversimplifies the analysis by assuming all adults have equal reproductive value, when studies indicate that CTS located closer to ponds have more mass.[133] "Our current model also assumes that all adults have the same reproductive expectation, which is almost certainly an oversimplification."[134] As a result, the Model will overvalue locations further from ponds and may undervalue habitats located closer to ponds. As a result, and further substantiated in the attached expert report, "the model, by itself, does not appear to adequately predict the amount of compensation land that would be required to fully offset the loss or disturbance of habitat authorized under a Permit."[135]

c. The Incidental Take Figures for CTS, CRLF, and LYS are Unsupported and Unexplained in the GCP, Thus Invalidating the GCP.

The incidental take figures in the GCP for CTS, CRLF, and LYS are arbitrary and unsupported. A conservation plan will not withstand judicial scrutiny where "the factual basis

EDC-53

[129] Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander* at 1004 (August 2008).
[130] *Id*.
[131] *Id*.
[132] California State Water Resources Control Board, GeoTracker; Map with Oilfield Boundaries (April 5, 2020), available at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento.
[133] Bumgardner at 5.
[134] Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander,* at 1002 - 1004 (August 2008).
[135] Bumgardner at 5.

for the agency's assertions was either absent or masked by convoluted provisions." *Sw Ctr. For Biological Diversity v. Bartel*, 470 F. Supp. 2d at 1149. In *Southwest Center for Biological Diversity v. Bartel*, the court invalidated a regional HCP and ITP because together they arbitrarily permitted 12% destruction of habitat. 470 F. Supp. 2d at 1146–47, 1155. The court held the Service had not properly analyzed the impact of 12% destruction of habitat, because the BiOp contained inconsistencies—in some places it said there would be no significant effect and in others that any net loss (including the 9% to 14% possible destruction) in habitat would be significant. *Id.* at 1147–48. The 12% figure also contradicted studies that the Service relied upon as well as one of the recovery plans. *Id.* at 1154–55. Therefore, the percentage of permitted habitat destruction provided by the Service was not supported by the evidence.

Despite the claimed lack of data for CTS, CRLF, LYS, and their habitats in the GCP, the total acreage of habitat loss permitted from oil and gas activities is calculated in the GCP for the three species. (GCP at 57-58, 63, 65) To use a habitat-based model, however, a conservation plan must, first, identify the minimum habitat requirements for the continued survival and recovery of the species and, second, explain the effect of acreage loss authorized under the plan on the species. *See Sierra Club v. Norton*, 207 F. Supp. 2d 1310, 1329 (S.D. Ala. 2002). In order to gain an understanding of the minimum habitat requirements, the GCP should have cited to or collected the "necessary data," including science-based estimates of (1) "minimum population necessary for survival and recovery";[136] (2) "range-wide population," and (3) "distribution within the range."[137] *Id.* Without this information for CTS, CRLF, and LYS, the take assessment in the GCP is arbitrary. The GCP also does not explain how indirect impacts to the three species, such as from spills of oil and produced water, fires, and contaminated oil-field runoff, are calculated and addressed using the habitat as a proxy model for take assessment.[138]

EDC-53 (cont.)

EDC-54

Furthermore, allowing for 27.5 acres of LYS habitat to be impacted "is a very large percentage of the known LYS distribution/area occupied."[139] Nowhere in the GCP is it disclosed how many individual plants would be lost from the permitted LYS habitat destruction under the GCP.[140] Based on the information provided in the GCP, a host of questions arise, including, but not limited to, "how [is] the impact [] actually measured and what [are] the end results[?] Is the

EDC-55

[136] CTS Recovery Plan Recovery Actions 5.1 (Priority 2) and 6.1 (Priority 1) recommend conducting population viability and effective population surveys, but these surveys were not undertaken in the Planning Area to inform the GCP and are not required of GCP applicants. U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at III-9 – III-10 (December 12, 2016). Effective population surveys can be used to estimate population sizes and trends. (GCP at 33) This has been done for the Central Coast DPS of CTS, but not yet for the Santa Barbara County DPS. (*Id.*)
[137] The GCP also fails to require applicants to conduct burrow surveys. Burrow surveys would have helped to estimate upland population densities relative to distance from breeding ponds. U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (October 2003), available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/cts_survey_protocol.pdf.
[138] Bumgardner at 3.
[139] Magney at 16.
[140] *Id.*

impact the loss of number of individual plants? Loss of ramets? Loss of occupied habitat? Loss of suitable habitat?"[141]

As discussed in the attached expert report by David Magney,

> "Loss of 27.5 acres of LYS, the amount allowed under the proposed GCP, represents approximately 7.1% of the known area occupied by LYS. Since 'take' of just one individual is prohibited under the Endangered Species Act without a permit, the loss of one individual is considered significant. Expand that to 7.1% of the entire species and the severity is magnified accordingly. This is a large percentage, especially since very little is known about the growth, reproduction, and viability of the LYS, or each population. Since nothing is known about the feasibility of translocation of LYS, or what is required to establish a new population, stating that this loss does not represent a significant and unmitigable impact is not supported by any evidence."[142]

EDC-55 (cont.)

The GCP also erroneously claims that no impacts to aquatic habitats for CTS and CRLF are allowed under the GCP. (GCP at 59, 63) However, "[i]ndirect impacts associated with changes in the upslope watershed of individual aquatic breeding sites could result in reduced CTS recruitment" at ponds, and "[t]he GCP's use of upland habitat as a proxy for individual 'take' does not address potential changes in the value of aquatic habitat from Permittee caused or induced indirect impacts."[143] Given the importance of aquatic habitat to the survival and recovery of CTS and CRLF, the failure to evaluate these impacts in the GCP is a glaring omission.

EDC-56

Finally, the numerical take figures for vehicles using access roads for CTS and CRLF are not explained and therefore do not appear to be based in fact. (GCP at 57-58, 63, 65) According to the attached expert report, it is entirely "unclear in the GCP as to how these take limits were formulated and biologically justified."[144] The GCP also fails to define "access roads" as it applies to this take assessment.[145] Finally, there are many challenges with monitoring and reporting roadkill for CTS and CRLF to estimate take, yet none are acknowledged or assessed in the GCP.[146] "[R]oad-killed individuals of very small species such as CTS and CRLF are generally under-counted due to a variety of factors including, but not limited to, condition of carcass, removal by scavengers, type of road, vehicle speed, experience of individuals charged with finding and recording roadkills, and potential issues with self-reporting. The GCP does not address any of these latter issues."[147] Thus, the incidental take figures in the GCP for CTS, CRLF, and LYS are arbitrary and capricious.

EDC-57

EDC-58

EDC-59

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[141] *Id.* at 10.
[142] *Id.* at 16-17.
[143] Bumgardner at 2.
[144] *Id.* at 4.
[145] *Id.*
[146] *Id.*
[147] *Id.*

d. The GCP Would Result in a Net Loss of CTS Critical Habitat.

Critical habitat is the area that is essential to the conservation of the species and which may require special management considerations or protections. 16 U.S.C. § 1532(5)(A). The GCP would allow permanent loss of 152 acres of designated critical habitat without replacement. (GCP at 58 – 78) Permanent loss of 152 acres of CTS critical habitat is a significant unavoidable loss allowed by the GCP because it is a permanent net loss of essential habitat.

e. The GCP Does Not Limit Take and Impacts to CRLF Habitat Which is Not Designated Critical Habitat.

The GCP limits permanent impacts in each CRLF critical habitat Unit to between one and 119 acres, totaling 355 acres, and allows take of double the acreage for temporary impacts. (GCP at 63) However, the GCP does not limit take of CRLF habitat in locations outside of designated critical habitat. CRLF Critical Habitat constitutes around 35,426 acres of the Planning Area's total 674,220 acres. (GCP at 59 and 63) The lack of a limit on take of CRLF within the remaining 638,794 acres creates a double standard in the analysis. The GCP limits the loss of LYS and CTS habitats in both critical habitats and other habitat areas, but take for CRLF habitat is subject to a loophole in the GCP. (GCP at 58 and 65) EDC-60

f. The GCP will Result in a Net Decrease in the Acreage of CTS and CRLF Upland Habitats in Conflict with the Recovery Plans.

The GCP will result in a net loss of CTS and CRLF upland habitat acreage because the GCP allows the permanent loss of 675 acres of CTS upland and dispersal habitat, and 355 acres of CRLF upland critical habitat. (GCP at 57, 63). The GCP does not include creation of any new CTS or CRLF upland or dispersal habitat or restoration of former habitat. Thus, the GCP's approach will result in net on-the-ground losses of habitat acreage. Easements and protection of existing habitats do not compensate for the permanent net loss of up to 675 acres of CTS upland habitat, and up to 355 acres of CRLF critical habitat. Moreover, there is no guarantee that the proposed mitigation measures in the GCP are feasible, as explained herein and in detail the attached expert reports. EDC-61

g. The GCP's Permanent Net Loss of CTS and CRLF Upland Habitats Conflicts with the Recovery Plans' Recovery Actions.

The GCP sets forth maximum allowable permanent take of 675 acres of CTS habitat, including 152 acres of designated CTS critical habitat and 355 acres of permanent take of CRLF habitat. (GCP at 57 to 63) These losses are inconsistent with the CTS and CRLF Recovery Plans.

The CRLF Recovery Plan focuses on: EDC-62

"1) protecting existing populations by reducing threats; 2) *restoring and creating* habitat that will be protected and managed in perpetuity; 3) surveying and monitoring

populations and conducting research on the biology of and threats to the subspecies; and 4) reestablishing populations of the subspecies within its historic range."[148]

The CRLF Recovery Plan also requires that populations throughout the range are stable before delisting can be approved.[149]

Similarly, the CTS Recovery Plan Recovery Criterion 4 requires that each CTS Metapopulation must increase over the same ten-year period before delisting can occur.[150] The GCP is inconsistent with this Criterion because the GCP permanently reduces the acreage of CTS habitat by up to 675 acres, and does not require population surveys to track compliance with Criterion 4.

EDC-62 (cont.)

Taken together, the GCP results in a net loss of CTS and CRLF habitat, and the loss of at least some of the individual CTS and CRLF located in those habitats, because compensatory mitigation primarily protects existing habitats. (GCP at 75-80) Therefore, faced with permanent loss of up to 675 acres of CTS habitat and up to 355 acres of CRLF critical habitat, populations may not increase and, in fact, may decrease. The net loss of CTS and CRLF habitats represents a significant impact of the GCP. Such losses are inconsistent with the Recovery Plans and would fail to minimize take to the maximum extent practicable.

h. The GCP May Result in a net Loss of LYS Stands and LYS Critical Habitat.

The GCP may result in the continued loss of LYS. The range of LYS has been severely reduced from 22,239 acres originally to 8,649 acres by 1988 and has since been further degraded and fragmented. (GCP at 46) The Service designated critical habitat on November 7, 2002.[151] There has been an 8.5% decrease in the total number of individual LYS on Vandenberg Air Force Base since 2006. (GCP at 51) No new populations were identified during 2010 surveys on Vandenberg Base. (GCP at 47)

EDC-63

Despite the declines observed with LYS in the County, the GCP proposes to allow the removal of up to 27.5 acres of LYS stands, including 7.5 acres of designated critical habitat. (GCP at 64 – 65) This would represent up to a 7.1% decrease in the acreage of LYS causing a significant unavoidable impact.[152] "All or some of the populations are at risk of destruction from vegetation clearing, oil and gas exploration and extraction, urban development, agriculture (including over-grazing), too frequent wildfires (CNPS 2001), competition from invasive exotic

[148] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog* at 45 (May 28, 2002) (emphasis added).
[149] *Id*. at v.
[150] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at iv (December 12, 2016) ("Effective population size (Ne) in the metapopulation shows an overall positive trend across 10 years.")
[151] 67 Fed. Reg. 67968.
[152] Magney at 16-17.

plants (D'Antonio et al. 1993) and animals (feral pigs), and/or climate change (Myers et al. 2019). (CNPS RPP 2020)"[153] Indirect impacts of the GCP also threaten LYS: "Climate change could render conditions at each of the five populations inhospitable for the continued existence of LYS if they become too dry to support normal growth and reproduction since the most recent climate change model for Santa Barbara County modeled a significantly hotter and drier climate by 2050 (Myers et al. 2019)."[154] Finally, altered fire regime, i.e., more frequent, more intense, and/or out-of-season fires, remains one of the most significant threats to LYS.[155] (GCP at 48) This impact can lead to a dominance of invasive exotic plant species which further change the fire regime and threaten LYS and it habitat.[156]

Although mitigation involves a 3:1 replacement by acreage, this ratio is too low given the rarity of LYS and problems encountered trying to propagate it.[157] David Magney recognized in his report that "[t]he USFWS provides no evidence that any of the generic proposed mitigation measures will actually work for LYS, so viability of this approach is highly questionable."[158] As a result, LYS replacement under the GCP may not provide any offset of the 27.5-acre reduction because the GCP does not require creation or restoration of LYS stands, and propagation and restoration of LYS is uncertain.[159] EDC-63 (cont.)

Furthermore, the Service has the "option" of requiring permanent protection for LYS restoration sites, indicating that such sites may not be permanently protected. (GCP at 26) As of now, there are no restoration sites available, and the feasibility of obtaining such sites is questionable.[160] As such, the GCP would likely result in a net loss of LYS and LYS critical habitat.[161]

i. Runoff from Oil and Gas Project Roads is a Significant Threat to CTS and CRLF but the GCP Does Not Sufficiently Address this Impact.

Oil and other contaminants in runoff from oilfield roads, which are sometimes paved with the local tar-like crude, can be so toxic they have been known to contaminate breeding ponds and kill and deform CTS and western spadefoot toad, a California Species of Special Concern in the Planning Area.[162] The impacts from contaminated runoff on CTS and CRLF, however, are not disclosed in the GCP. EDC-64

[153] *Id.* at 4-5.
[154] *Id*. at 7-8.
[155] U.S. Fish and Wildlife Service, *Eriodictyon capitatum (Lompoc yerba santa) 5-Year Review: Summary and Evaluation* at 9, 11, 18 (February 8, 2011).
[156] *Id*. at 11.
[157] *Id*. at 11.
[158] *Id*. at 10
[159] *Id*. at 11.
[160] Magney at 13-14.
[161] *Id.* at 16-17.
[162] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 (December 12, 2016).

The CTS Recovery Plan states:

> New technologies for extracting oil from shale that underlies most of Santa Barbara County have significantly increased the number of oil extraction operations in the county in recent years (Santa Barbara County Planning and Development 2013). Oil and other contaminants in runoff from roads have been detected in adjacent ponds and have been linked to die-offs of, and deformities in, California tiger salamanders and spadefoot toads, and die-offs of invertebrates that form most of both species' prey base (Sweet 1993). Several known breeding ponds occur along secondary roads and highways in northern Santa Barbara County and may be threatened by oil and other contaminants from road runoff.[163]

The GCP incorrectly claims that ponds will not be impacted by the activities covered under the plan.[164] (GCP at 59 and 63) The GCP, however, fails to sufficiently address runoff from oilfield roads into breeding ponds, and the resulting CTS mortality and deformation that has been documented in the County.[165] The GCP merely discloses that CTS may be impacted by "landscape pollution (via hydrological changes)," but does not describe the impact of polluted runoff from oilfield roads on individual CTS and their breeding habitat. CRLF are also threatened by stormwater runoff containing high levels of sediment.[166] Moreover, this problem will be substantially exacerbated if the two Cat Canyon oil and gas development projects are approved. For example, the TerraCore Project proposes to pave ninety-one acres of new roads, and the Aera Project would grade six million cubic yards of soil.[167] In failing to address the impacts to breeding ponds in the GCP from oilfield runoff and the resulting damage to CTS and CRLF, these impacts remain a significant impact that illustrates take is not adequately minimized under the GCP. EDC-64 (cont.)

j. The GCP Does Not Adequately Address the Noise and Vibration Impacts from Covered Activities to CTS and CRLF from the Covered Activities, as Well as to Ground Squirrels That Create Burrow Habitat for These Species.

The GCP fails to minimize take of CTS and CRLF that may be caused by noise and vibrations from oilfield construction, drilling, and operations. Substantial changes in foraging and anti-predator behavior, reproductive success, densities, and community structure has been documented in various wildlife species that was attributed to "acoustical masking" of auditory EDC-65

[163] *Id.*
[164] Bumgardner at 2.
[165] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 (December 12, 2016); *See also* Bumgardner at 2-4.
[166] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog* at 32 (May 28, 2002).
[167] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-11, 2-17 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 2-38 (November 2018).

signals by chronic noise.[168] "Noise can cause some species to leave the area and can disrupt foraging, breeding, or other activities."[169] Researchers have also found no evidence of habituation to chronic noise in ground squirrels (prairie dogs), indicating chronic noise may be a permanent impact to populations living in affected areas.[170]

As recognized in the attached report by Michael Bumgardner:

> There are other environmental effectors such as noise, vibration, or lighting that may also result in indirect impacts to CTS or CRLF (Rich and Longcore 2006), Barber et al. 2010, Feuka et al. 2017). These effectors can be reasonably expected to occur and 'bleed' to offsite adjacent lands. The GCP does not address these April 30, 2020 Page 3 impacts, the amount of land that must be protected to offset these types of impacts, or other means of avoiding, minimizing, or compensating for these impacts.[171]

EDC-65 (cont.)

Furthermore, California ground squirrels and other burrowing animals may also be affected by noise and vibration generated by oil and gas activities. These species create and maintain the burrow systems that serve as refugia for CTS and CRLF during the dry season.[172] If noise causes squirrels to vacate an area, this could result in loss of burrow habitat for CTS.[173] The GCP mentions that noise and vibrations adversely affect CTS and CRLF (See e.g., GCP at 59), but fails to address the impact of noise on ground squirrels as an impact on CTS burrow habitat. (*Id*. at 59-60)

EDC-66

k. The GCP Does Not Adequately Analyze the Impacts of Nighttime Lighting on Migrating and Dispersing CRLF and CTS.

The GCP does not adequately disclose or minimize the impacts of nighttime lighting on CTS and CRLF. Drilling operations occur 24 hours per day, typically over the course of several

EDC-67

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[168] Habib, L., E.M. Bayne, and S. Boutin, *Chronic industrial noise affects pairing success and age structure of ovenbirds, Seiurus aurocapilla* (2006); *See also* Barber, J.R., K.R. Crooks, and K.M. Fristrup, *The costs of chronic noise exposure for terrestrial organisms* at 180-189 (2010); *See also* Ortega, C., *Effects of noise pollution on birds: A brief review of our knowledge* (2012).
[169] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.3-73 (August 2018); *See also* Letter from Lawrence Hunt, Lawrence Hunt and Associates Biological Consulting to Nancy Minick, Planner, Santa Barbara County Planning and Development Department (August 2, 2018) (hereafter referenced as "Hunt 2018") (Attachment E); *See also* Letter from Lawrence Hunt, Lawrence Hunt and Associates Biological Consulting to Santa Barbara County Planning Commission at 6 (March 7, 2019) (hereafter "Hunt 2019(a)") (Attachment F).
[170] Shannon, G., et al., *Road traffic noise modifies behaviour of a keystone species* at 135-141 (2014).
[171] Bumgardner at 2-3.
[172] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-6 (December 12, 2016); *See also* U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at 14 (May 28, 2002).
[173] *Id.*

days until completed.[174] Drilling at night requires lighting, which is very bright and constant. In addition to lights required for nighttime drilling, the Cat Canyon projects, for example, will generate a lot of nighttime lighting for construction and security.[175] Lighting would also be required at some of the tank batteries.[176] The central processing facility will have night lighting next to Cat Canyon Creek. Creeks are wildlife movement corridors.[177] Studies show that arachnids, insects, amphibians, raptors, and mammals that are active at night avoid or abandon lighted areas, thus potentially creating impediments to migration for species like CTS and CRLF that migrate at night.[178] There also is evidence that night-lighting may affect dispersal of adult and juvenile salamanders and frogs moving through upland habitats.[179] However, the GCP does not disclose these significant impacts and therefore provides no avoidance or minimization standards or mitigation measures to address these impacts. EDC-67 (cont.)

l. Control of Burrowing Gophers and Ground Squirrels Can Cause Take of CTS and CRLF, Which is Not a Covered Activity and Also Not Identified as an Impact of the GCP, and There are No Measures to Mitigate these Impacts.

The GCP discloses that eradication of ground squirrels and pocket gophers harms CTS under "Threats and the Decline of California Tiger Salamander," but the GCP fails to attribute these impacts to the oil and gas activities and does not mitigate these impacts. (*See e.*g., GCP at 14-27, and 36- 37) Pocket gopher and ground squirrel are present in Santa Barbara County oil fields, including the Cat Canyon Oil Field.[180] Burrows created by these species form important habitat for CTS.[181] However, routine oilfield maintenance in the Cat Canyon Oil Field has involved "removing small mammal burrows that could be used by CTS and [western spadefoot toad]."[182] Activities to control burrowing animals may harm CTS. (GCP at 36-37) For this reason, the Recovery Action 1.5 in the CTS Recovery Plan seeks to "reduce California ground squirrel and Bota's pocket gopher eradication efforts deemed to threaten the Santa Barbara EDC-68

[174] Santa Barbara County, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-55 (February 2019) (Noting that well drilling cannot be halted at night).
[175] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.3-60 (November 2018).
[176] Santa Barbara County, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* (noting that well drilling cannot be halted at night) at 2-24 (February 2019).
[177] Lindsey Cavallero, et al., *Designing Road Crossings for Safe Wildlife Passage: Ventura County Guidelines* (April 2005).
[178] Bumgardner at 2-3; *See also* Rich, C. and T. Longcore, *Ecological consequences of artificial night-lighting* at 458 (2006); *See also* Hallmann, C.A. et al., *More than 75 percent decline over 27 years in total flying insect biomass in protected areas* at 28-38, (2017); *See also* Grubisic, M., et al., *Insect declines and agroecosystems: does light pollution matter?* at 20-25, (2018); *See also* Hunt 2018 at 6-7.
[179] Feuka, A., et al., *Effects of light pollution on habitat selection in post-metamorphic wood frogs (Rana sylvaticus) and unisexual blue-spotted salamanders (Ambystoma laterale x jeffersonianum)* at 470-476, (2017).
[180] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.3-17 (August 2018).
[181] *Id.* at 4.3-28.
[182] Garcia and Associates, *Biological Assessment United California, California and Bradley Energy Project* at 23 (June 25, 2015).

County California tiger salamander on protected lands, and other areas as feasible."[183] The GCP's minimization measures, however, omit a requirement to reduce oilfield ground squirrel and gopher control efforts where practicable in order to minimize take and protect CTS. Therefore, this significant impact is not mitigated and the GCP may result in unnecessary take of CTS by way of enabling burrowing animal control programs. EDC-68 (cont.)

m. The GCP Omits Impacts to CTS and CRLF Caused by Proposed Detention Basins.

Detention basins act like vernal pools by filling up after rains and attracting wildlife like CTS and CRLF. However, subsequent maintenance on these basins can harm these species. Oil and gas projects may involve the construction of detention basins on the project site for operations. For example, the Aera East Cat Canyon Redevelopment Project would construct sixteen detention basins.[184] Basins fill with water seasonally to help mitigate peak discharges and flooding impacts.[185] Basins also collect sediment to reduce erosion.[186] However, CRLF have been known to colonize sediment basins.[187] Moreover, flood control maintenance, which includes sediment removal, is a threat to CRLF.[188] CTS and CRLF may be attracted to these seasonal sediment basins during breeding season, then harmed during basin maintenance.[189] This is a potentially significant source of take, but the GCP does not disclose or minimize this impact. EDC-69

n. The GCP Omits Information and Data on Oil Spills in the Planning Area.

Oil, chemical, and polluted wastewater spills from tanks, pipelines, wells, seeps, trucks, and other facilities present significant and unavoidable impacts on species including CTS, and CRLF, LYS. and their habitats.[190] The GCP omits important information about the impacts of EDC-70

[183] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at III-4 (December 12, 2020).
[184] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.9-22 (November 2018).
[185] *Id.*
[186] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.9-21 - 22 (November 2018).
[187] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog* at 20 (May 18, 2002); *See also* California State Parks Department, *Area 5 Restoration (Hollister Hills SVRA)* (April 9, 2020), available at: http://www.ohv.parks.ca.gov/?page_id=25697.
[188] Santa Barbara County Public Works Department, *SAN ANTONIO BASIN SEDIMENT TAKEN TO GOLETA BEACH COUNTY PARK* (March 24, 2020), available at: https://www.edhat.com/news/san-antonio-basin-sediment-taken-to-goleta-beach-county-park; U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog* at 20 (May 18, 2002).
[189] Letter from Lawrence Hunt, Lawrence Hunt and Associates Biological Consulting to Kathryn Lehr, Planner, Santa Barbara County Planning and Development Department at 10 (January 28, 2019). (hereafter referenced as "Hunt 2019(b)") (Attachment G).
[190] Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for West Cat Canyon Revitalization Plan* at 4.3-49 – 4.3-50 (February 2019); *See also* Santa Barbara County Planning

spills, including the frequency and volume of spills. This relevant information is available and must be quantified to support the impacts analysis in the GCP. For example, the environmental impact reports for the two Cat Canyon projects estimate that at least four spills will occur per year.[191] Information on spill history in the Planning Area is available in the staff reports for the semiannual Santa Barbara County Board of Supervisors Oil Briefings.[192] The GCP is deficient for omitting this important information. EDC-70 (cont.)

o. The GCP Does Not Analyze Impacts from Wildfires Started by Oil and Gas Operations.

Fires started by oilfield operations, including climate change-driven fires of "inappropriate season, intensity, severity, or frequency," cause numerous impacts to listed species. (GCP at 93) Recently in 2019, the Woolsey Fire in Ventura County wiped out CRLF populations in the Santa Monica Mountains.[193] As discussed in more detail in comments on the EA below, wildfires started by oil and gas projects, including oil tanker truck accidents, impact the GCP's covered species, but these impacts are not adequately addressed in the GCP. Fires started by oilfield operations also threaten other listed species, as discussed in detail below. However, the GCP does not consider, discuss, or disclose the threat of take by oilfield-started wildfires. EDC-71

5. <u>The GCP Violates the ESA Because It Does Not Minimize and Mitigate the Impacts of the Taking of Federally Listed Species to the Maximum Extent Practicable.</u>

The GCP does not mitigate the impacts of the taking of CTS, CRLF, and LYS to the maximum extent practicable. To issue an ITP, the Service must find that the habitat conservation plan minimizes and mitigates the impacts of incidental take "to the maximum extent practicable." 16 U.S.C. § 1539(a)(2)(B)(ii). "It is not just the quantity of take that needs to be minimized and mitigated, rather it is the 'impacts of the taking' that must be minimized and mitigated. … Impacts of the taking depend on the specific situation and could include more than just the loss of individuals or loss of habitat."[194] The requirement under the ESA to minimize and mitigate the impacts of take on listed species is intended to ensure that conservation plans meaningfully contribute to the recovery of the species by providing a net conservation benefit. EDC-72

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and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.3-56 – 4.3-58 (November 2018).

[191] The number of spills was calculated based on the Aera and ERG Projects EIRs which estimate that PetroRock, ERG, and Aera would cumulatively result in 6 spills per year. With PetroRock withdrawing its application, cumulative spills would be reduced by roughly 33% to four spills per year.

[192] Board of Supervisors Agenda Letter from Glenn Russell, Ph.D., Director, Santa Barbara County Planning and Development Department to Santa Barbara County Board of Supervisors Regarding Briefing on Oil and Gas Development in Santa Barbara County (July 21, 2015).

[193] Joe Dworetzky, *The threatened frogs of the Santa Monica Mountains always had it hard. The Woolsey fire made things much worse* (July 25, 2019), available at: https://www.latimes.com/california/story/2019-07-24/woolsey-fire-red-legged-frog.

[194] HCP Handbook at 9-29.

To demonstrate that the impacts are minimized and mitigated to the maximum extent practicable, the GCP must "1. estimate the type and amount of take expected from covered activities, and the impacts of such taking on the species and/or its habitat; 2. determine from a biological perspective how conservation measures in the HCP will minimize the impacts of the taking on the species' status and/or its habitat; and 3. determine from a biological perspective how conservation measures in the HCP will mitigate the remaining impact of the taking on the species' status and/or its habitat."[195] If impacts are not fully offset under the proposed minimization and mitigation measures, the Service has the burden to demonstrate that additional mitigation is not practicable.[196]

A decision is arbitrary "'if the agency has ... entirely failed to consider an important aspect of the problem.'" *Nat'l Wildlife Fed'n v. Babbitt*, 128 F. Supp. 2d at 1291–92; *quoting Motor Vehicle Manufs. Ass'n v. State Farm Automobile Ins. Co.*, 463 U.S. 29, 43 (1983). For the reasons set forth below, the GCP fails to consider the practicability and enforceability of the measures identified to minimize and mitigate impacts, and does not explain why additional measures are infeasible, rendering the determination arbitrary that the impacts are minimized and mitigated to the maximum extent practicable.

a. The Avoidance Standards in the GCP are Toothless and Illusory.

The GCP contains a list of "Measures to Avoid and Minimize Impacts," many of which are caveated with the requirement that they will only be implemented "to the maximum extent feasible," "to the extent feasible," "to the extent practicable," "at the discretion" of a Service-approved biologist, or with certain exceptions. (GCP at 70-74) Qualifying these measures in such a manner severely restricts the effectiveness and force of the measures to ensure adequate minimization and mitigation of impacts. This is especially true with regards to Measure 2, stating that applicants "will site all impacts away from known and potential [CTS] and [CRLF] breeding habitats, avoid high quality upland and dispersal habitat, and avoid habitats supporting or immediately surrounded [*sic*] [LYS] to the maximum extent feasible." (GCP at 70) At the same time, the GCP is premised on the concept that "[c]omplete avoidance of federally-listed species and their associated habitats is not practical or feasible for most oil and gas industry activities within the Planning Area," and that curtailment of "exploration, storage, remediation, development, and transportation of crude oil, natural gas, and petroleum products" in order to avoid take "would not meet the needs of project proponents." (*Id.* at 13) Thus, under the GCP, if an applicant unilaterally determines that the proposed avoidance measures are not possible on a given site, such measures can be circumvented in favor of mitigation.

EDC-72 (cont.)

The Southern District of California enjoined a regional ITP under similar circumstances, recognizing that "the duty to 'avoid'" was "toothless" and "utterly otiose." *Sw. Ctr. for Biological Diversity v. Bartel*, 470 F. Supp. 2d at 1140-41. The court determined that "each avoidance standard allows the . . . [project applicant] to unilaterally determine that a particular

[195] *Id.* at 9-28.
[196] *Id.* at 9-33.

development project cannot avoid the vernal pools on the proposed construction site," and applicants "have a strong financial interest" against avoidance where avoidance will impede them from "obtaining the highest financial return on expensive real estate." *Id.* at 1140. Thus, the court reasoned that applicants could simply "proclaim that avoidance . . . is not possible on the site, and thus shift their attention to providing [] mitigation." *Id.* at 1141.

The GCP admits that similar risks are present here with regards to the stated avoidance standards. However, an ITP must not be issued unless the applicant "*will*…minimize…the impacts of a taking." 16 U.S.C. § 1539(a)(2)(B)(ii) (emphasis added). This required finding cannot be made upon unenforceable commitments. *Klamath-Siskiyou Wildlands Ctr.*, 99 F. Supp. 3d at 1054. Therefore, the GCP must set forth "concrete, objective criteria to enforce" avoidance measures to site impacts away from CTS and CRLF breeding habitats, avoid high quality upland and dispersal habitats for CTS and CRLF, and avoid habitats supporting or surrounding LYS to the maximum extent feasible. (*Id.*; GCP at 70) EDC-72 (cont.)

b. The 3:1 Mitigation Ratio for LYS is Severely Inadequate in the GCP to Mitigate the Impacts from Take.

As discussed above with regards to the GCP's unsupported incidental take figures, this GCP will not withstand judicial scrutiny where "the factual basis for the agency's assertions was either absent or masked by convoluted provisions." *Sw Ctr. For Biological Diversity v. Bartel*, 470 F. Supp. 2d at 1149.

As confirmed by David Magney's report, "[a] 3:1 impact to mitigation ratio is too low" because (1) it does not provide incentive to avoid the impact in the first place, and (2) habitat restoration or translocation have not proven to be effective.[197] Additionally, "a 3:1 mitigation ratio (mitigation: impact) is a low ratio considering the rarity of LYS," and the limited genetic variability of LYS, which creates greater vulnerability and a reduced ability to adapt to changes in the environment.[198] EDC-73

There are also issues with the enforceability of the GCP requirement for a 3:1 replacement of LYS, as evidenced by oil operations in Solomon Hills. The GCP states that "trimming and removal of LYS does not occur frequently" at the Solomon Hills site. (GCP at 49) However, LYS was trimmed and/or removed for oilfield maintenance in 2007 and/or 2008, and again in 2010 within the 2,239-acre Solomon Hills Critical Habitat Unit.[199] (GCP at 51 – 52) These removals were not reported to the Service or mitigated, highlighting a concern that enforcement of the GCP's mitigation for unavoidable impacts to LYS may be inadequate.[200] EDC-74

[197] Magney at 10.
[198] *Id.* at 10-11.
[199] Letter from Steve Henry, Field Supervisor, US Fish and Wildlife Service, to Glenn Russell, Director, Santa Barbara County Planning and Development at 8 (April 3, 2015).
[200] *Id.*

On August 31, 2010, the California Department of Fish and Wildlife ("CDFW") issued a letter to the Orcutt Oilfield operator Breitburn, referring to a 2008 notice Breitburn provided to CDFW concerning LYS trimming and/or removal that occurred during 2008.[201] (GCP at 51 refers to Breitburn trimming or removing LYS in 2007 and 2010.) However, Breitburn did not notify the Service of the 2007 or 2008 trimming and/or removals either before or after the fact.[202] The failure to report past trimming and/or removal of LYS by oil operators underscores the concern that LYS may be trimmed or removed but not reported, and that enforcing the GCP's 3:1 replacement for LYS may be infeasible. (GCP at 81)

The 2006 Mitigated Negative Declaration ("MND") approved by Santa Barbara County for Breitburn's Orcutt Hill Diatomite Project required a 10:1 replacement of impacted LYS. (GCP at 51) The Service noted in its 2015 comment letter that, "To our understanding, this mitigation has never been enforced onsite."[203] In 2016 the County denied the oilfield expansion proposed by Breitburn's successor, Pacific Coast Energy Company ("PCEC"), but approved the Seep Can Management Alternative to manage preexisting seeps.[204] The Conditions of Approval for this Alternative require "replacement of impacted Lompoc Yerba Santa at a 10:1 ratio for past impacts and a 3:1 ratio for future impacts (Condition No. 15, MM Bio-2f)."[205] Although the County approved PCEC's 2017 Habitat Restoration Plan, the plan omits Breitburn's 2007-2008,and 2010 LYS trimming and/or removals, and only mitigates for the impacts of PCEC's 100 seep cans, and at 3:1.[206] Given this, it appears that prior LYS removals and/or trimming in 2007, 2008, and/or 2010 not associated with seep cans, and which were not reported to the Service, have not been mitigated through creation or restoration of compensatory habitat and planting of LYS at a 10:1 ratio as required in the 2006 Mitigated Negative Declaration, 2016 Environmental Impact Report ("EIR"), and County Conditions of Approval for the Seep Can Only Alternative. Based on evidence in the record, no LYS mitigation has been implemented for the 2007, 2008, and 2010 LYS removals and/or trimming. As a result of this history, enforcement of the GCP's mitigation measure for 3:1 replacement of LYS cannot be assured, and therefore the GCP does not adequately mitigate LYS take. EDC-74 (cont.)

c. The GCP Fails to Minimize Take to the Maximum Extent Practicable Because the GCP Allows Substantial Habitat Loss Which is Inconsistent with the CTS and CRLF Recovery Plans.

The GCP is designed to allow take of CTS, CRLF, and LYS up to maximum acreages for each species, which the EA describes as "consistent with the" CTS and CRLF Recovery Plans and the LYS 2011 5-Year Review. (EA at 1-1) However, the CTS and CRLF Recovery Plans do EDC-75

[201] *Id*.
[202] *Id.*
[203] *Id.*
[204] Santa Barbara County Board of Supervisors, *Action Letter* at 1- 2 (November 14, 2016).
[205] *Id.* at 7.
[206] AECOM, *Habitat Restoration and Monitoring Plan – Seep Can Only Alternative Orcutt Hills Resource Enhancement Plan* at 1, 4, 10 (November 2007).

not set forth a maximum allowable acreage of impact.[207] Instead, the CTS Recovery Strategy involves "alleviating the threat of habitat loss and fragmentation," and conservation of remaining habitat.[208] The CRLF Recovery Strategy involves protecting, restoring, creating, monitoring, surveying, and reestablishing CRLF.[209] None of the Recovery Actions in the CRLF Recovery Plan result in loss of habitat or critical habitat.[210] The GCP, however, would allow permanent take of 675 acres of CTS upland habitat, including 152 acres of federally designated CTS critical habitat, and temporary take of 1,254 acres. (GCP at 57 – 59) The GCP would allow permanent take of 355 acres of CRLF critical habitat and 710 acres of temporary impacts. (GCP at 63) As discussed below, the GCP does not cap take of CRLF habitat located outside of designated CRLF critical habitat. (GCP at 59 – 64) The GCP would also authorize permanent take of 27.5 acres of LYS habitat, including 7.5 acres of critical habitat. (GCP at 64 – 65) As discussed further below, LYS has already shown a decline in Santa Barbara County, including an 8.5% decline on Vandenberg Air Force Base from 2006 to 2010.[211] Such significant losses of vital habitat areas are not consistent with the CTS and CRLF Recovery Plans and the GCP does not minimize take of the three species to the maximum extent practicable. EDC-75 (cont.)

d. The GCP's Measures 7 - 9 to Minimize Vehicle-Strike Take on Access Roads are Unclear, and the Take Limit is Unenforceable.

Roadkill is a significant form of take in the Santa Maria Metapopulations for CTS.[212] (GCP at 35 and 54) The GCP provides take coverage from vehicle-strikes on access roads to three CTS and ten CRLF per year for all permittees in the Planning Area. There is no biological justification for the take limits of three CTS and ten CRLF on access roads.[213] However, as discussed below, there may be many more mortalities before these take limits are reached, and they are unenforceable.

i. The Take Limits for Vehicle-strikes Present Challenges Because it is Difficult to Identify, Count, and Track Vehicle-strike Take. EDC-76

Counting take from this activity will present challenges that could lead to exceeding take limits because an unknown and potentially considerable percentage and number of dead or injured CTS and CRLF may never be found or recorded on or near access roads. Drivers who strike a CTS or CRLF may never know they hit one. CTS, for example, are similar in color to

[207] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 (December 12, 2016).
[208] *Id.* at iii.
[209] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at 45 (May 28, 2002).
[210] *Id*. at 61-72.
[211] U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, *Eriodictyon capitatum (Lompoc yerba santa) 5-Year Review: Summary and Evaluation* at 7 (February 8, 2011).
[212] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-17 (December 12, 2016); *See also* Hunt 2019(a) at 6.
[213] Bumgardner at 4.

asphalt and small.[214] Biologists report having to drive slow to see CTS on the road.[215] Even if a driver caused take of a CTS or CRLF and saw it happen, the driver or other oilfield personnel may not have the expertise to identify the species and document the CTS or CRLF roadkill.[216] Specimens also may be unidentifiable after being stricken, may be off of the road deceased, or may have left the scene injured and not found or scavenged before being documented.[217] In fact, the GCP admits that "encountering dead or injured individuals is unlikely." (GCP at 62) Given difficulties counting take, there could be take of many CTS and CRLF before the limits of the respective three and ten reported takes are reached. Therefore, the proposed GCP vehicle-strike take limits may be unknowingly exceeded and result in a significant impact to the conservation of these species.

EDC-76 (cont.)

ii. The GCP Does Not Adequately Describe "Access Roads" Where GCP-Covered Vehicle-Strike Take May Occur.

The GCP's and ITP's proposed vehicle-strike take limits of three CTS and ten CRLF would "provide take coverage for access roads." (GCP at 58 and 63) The GCP must define "access roads."[218] (*Id.*) Specifically, the GCP must explain which private and or public roads and/or road segments are considered access roads and thus covered. The GCP is therefore unenforceable with respect to vehicle-strike take of CTS and CRLF.

e. The GCP Does Not Require Redesign to Avoid Take Where Practicable and Instead Relies on "Capture and Relocation," Which Causes Mortality of CTS and CRLF, to Mitigate Impacts.

i. The Cat Canyon Projects Have Not Been Redesigned to Avoid or Minimize Take.

Aera's East Cat Canyon Revitalization Project is one of several projects intending to utilize the GCP, but the project has not been designed or redesigned to avoid CTS and CRLF upland and dispersal habitat.[219] Instead, the Service submitted comments to the County Planning and Development Department, dated February 26, 2018, in which the Service concluded that Aera's proposed compensatory mitigation was sufficient based on the Searcy Model:

EDC-77

[214] *Id.*
[215] *Id.*
[216] *Id.*
[217] *Id.*
[218] *Id.*
[219] Letter from Amber Conway, Project Manager, SCS Tracer Environmental to Santa Barbara County Planning and Development at 1 (June 3, 2014) (Describing ERG Project in original permit application as, "233 new thermal wells" and related equipment); *See also* Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-1 (February 2019).

> "For each proposed Project alternative, a corresponding conservation area was proposed to proportionally compensate for Project related impacts, including oak tree removal. Each conservation area was more than sufficient for CTS mitigation purposes."[220]

EDC-77 (cont.)

However, compensatory mitigation under the Searcy Model only addresses habitat loss and deficit wedges, not the significant impacts to species from oil spills, spill cleanups, oil and gas operation-started wildfires, roadkill, noise, lighting, or climate change.[221] As such, oil and gas projects covered by the GCP will not be redesigned to avoid or minimize take.

ii. Measure 12 (Capture and Relocation) Causes Take.

When projects are proposed within CTS and CRLF habitat, workers will resort to trying to capture some of the animals prior to construction by digging into ground squirrel and gopher tunnel complexes. (GCP at 72) Capture and relocation under Measure 12 may result in mortalities, however, due to handling, stress, being relocated into unsuitable habitat or habitat that is at carrying capacity, lack of familiarity with the release habitat, and increased risk of predation. (GCP at 54-55 and 60). As Lawrence Hunt of Hunt and Associates Biological Consulting stated in a letter regarding the ERG Draft EIR:

> If listed species are found, then the area is either flagged for avoidance or the individual(s) is captured and relocated to suitable habitat out of harm's way. This measure may work for special-status plants but will not work for animals, particularly CTS and CRLF and small mammals, which have demonstrated high fidelity for refugia and microhabitat features and will return to the capture point or die trying (Villasenor et al., 2009; AECOM, 2010; Ford et al., 2013).[222]

EDC-78

Capture and relocation should lessen direct mortality but may still result in significant mortality.[223]

In addition, the GCP does not require sufficient means to track and monitor capture and relocation. (See comments regarding Section 6 Processing and Implementation below.) Specifically, the capture and relocation measure (Measure 12 on page 72) suffers from the following additional shortcomings:

- Does not require photo-documenting and recording each relocation to track take.
- Does not require recording coordinates of capture and release locations.
- Does not authorize collecting tissue samples from dead or injured animals for DNA analysis if provided for by the Service or CDFW.

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[220] Letter from Lena Chang, Acting Assistant Field Supervisor, U.S. Fish and Wildlife Service, to Kathryn Lehr, Planner, Santa Barbara County Planning and Development Department (February 26, 2018).
[221] *Id.*
[222] Hunt 2018 at 9-10.
[223] Bumgardner at 6.

- Does not adequately explain tracking of relocation takes.
- Does not provide for adequate monitoring of relocated CTS and CRLF and/or relocation sites to better estimate post-relocation survival rates.

Furthermore, Measure 12 is deficient and may lead to mortality because CTS migrate in a unidirectional route between breeding habitats and upland refugia.[224] Capture and relocation can place CTS outside of their route such that they will never make it back to their pond or refugia.[225] EDC-78 (cont.)

f. The GCP Does Not Avoid and Minimize Take of CTS, CRLF, and LYS by Siting Development in Areas Outside of Occupied and Suitable Habitat Whenever Feasible.

The GCP's Goal 1, Biological Objective 1.3, for CTS and CRLF emphasizes the importance of siting oil and gas projects outside of both occupied and suitable habitats to conserve and recover the species. (GCP at 6 and 70) With regards to LYS, Goal 3, Objective 3.2 states, "Site project impacts in areas unoccupied by the Lompoc yerba santa to the maximum extent feasible." (GCP at 67) In line with these goals and objectives, Measure 2 provides that, "applicants will site all development away from known and potential California tiger salamander and California red-legged frog breeding habitats, avoid high quality upland and dispersal habitat, and avoid habitats supporting and immediately surrounding Lompoc yerba santa to the maximum extent feasible." (GCP at 70) It is feasible to avoid the species, including LYS.[226] EDC-79

However, the GCP fails to ensure that oil and gas development will be sited to avoid or minimize take to the maximum extent practicable. As discussed further under Section 6 (Permitting and Implementation) below, the GCP does not require redesign to avoid take where feasible, so it does not adequately minimize take.

g. Objectives 1.4 and 3.4 to Restore Disturbed Areas to Original Conditions Should Specify Aggressive Timeframes for Restoration.

GCP Biological Objective 1.4 for CTS and CRLF and Biological Objective 3.4 for LYS are to restore disturbed areas to original conditions, as feasible. (GCP at 66, 67) The GCP, however, does not evaluate or disclose a timeframe for restoration. A timeframe is important because restoration is likely required only upon decommissioning.[227] The two Cat Canyon projects, if authorized, will not be decommissioned for thirty to fifty years or more after approval.[228] EDC-80

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[224] *Id*.
[225] *Id.*
[226] *Id.* at 3.
[227] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-10 (February 2019) (Describing soil remediation at time of "decommissioning.")
[228] *Id.* at 2-5 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oilfield Redevelopment Project* at 2-2 (November 2018).

h. The GCP Fails to Require Permanent Protection of Habitat Restoration Sites to Ensure Take is Mitigated, Resulting in Inadequate Compensation.

The GCP states that the Service has the "option" of requiring permanent protection of habitat restoration sites required to mitigate unavoidable impacts. (GCP at 26; See also: GCP Measure 22 at 74, and GCP at 81) Permanent protection is essential because without it, the restoration sites may be cleared and developed in the future. Failure to provide permanent protection would mean that the GCP will not mitigate take to the maximum extent practicable. For example, in 2011, the former Bixby-Cojo Ranch (now Dangermond Preserve) disked a mitigation site for federally endangered Gaviota tarplant in the Planning Area.[229] The County had not required permanent protection of the mitigation site and did not issue a violation.[230] The GCP must require permanent protection of habitat restoration sites to ensure adequate mitigation of take. EDC-81

i. Measure 5's Signage to Protect All Covered Species' Habitats Must Apply to Occupied and Suitable Habitats and Be Installed at Sufficient Intervals.

Measure 5 appropriately requires signage to protect "All Covered Species' habitats" during construction. (GCP at 71) However, Measure 5 fails to specify that signage must be installed to protect all habitats for covered species, rather than only habitats known to be occupied. It is difficult to determine whether burrows are occupied. Therefore, Measure 5 is deficient because it does not include signage to protect suitable upland habitats from grading and construction in order to minimize take and impacts to CTS and CRLF. EDC-82

Measure 5 also fails to specify the distance between the "No Entry" signs, such as 100 feet or less, to ensure crews and equipment do not unintentionally enter habitat areas and cause unnecessary take. EDC-83

j. Measure 8 Insufficiently Limits Nighttime Traffic to Protect CTS and CRLF.

Nighttime traffic is a significant threat to wildlife including breeding migrant and dispersing CTS and CRLF during rains, with kill rates in one study as high as "25 to 72%" of all CTS crossing the road. (GCP at 54) More than half the CTS observations on some roads are of EDC-84

[229] Notice of Violation Letter from Heather Johnston, South Central Coast District Enforcement Officer, California Coastal Commission to Carl Steinberg, California Canyon Oaks LLC, California Coastal Oaks LLC, and California Mountain Gardens LLC (July 11, 2011).
[230] Letter from Kimberly McCarthy, Zoning Enforcement Program, Santa Barbara County Planning and Development Department to California Ocean Oaks LLC, California Canyon Oaks LLC, California Mountain Gardens LLC, and Coastal Management Resources LLC (April 23, 2011).

dead and dying CTS.[231] Such mortality has been found to have the potential to cause local extinctions in related species. (*Id*.) Limiting construction traffic during nights under Measure 8 will not minimize roadkill because drilling and oil tanker deliveries must continue twenty-four hours per day for seven days per week.[232] GCP Mitigation Measure 8 says that "all hauling activity within habitat for covered species will be restricted to daylight hours," but this measure is likely not feasible. In the Final EIR for the ERG Project, Mitigation Measure BIO-2m was modified to clarify that nighttime traffic and CTS and CRLF roadkill cannot be substantially reduced due to the need for day and night oil and salt deliveries, worker safety, security, and spills:[233] EDC-84 (cont.) EDC-85

> To minimize the potential for mortality of wildlife, including listed CTS, routine construction, operations, and maintenance activities shall be conducted during daylight hours ~~only~~ to the maximum extent feasible (defined as the hours after sunrise and before sunset). Allowed ~~N~~nighttime work activities shall be limited to well drilling, significant well workovers (which in part include replacement of the well liner), and repair/replacement of critical equipment necessary to maintain overall facility operation/throughput. Nighttime vehicle activities shall be limited to LCO deliveries, export of blended crude (until such time the FPP is operational), bulk salt deliveries for the Soft Water Plant, and nighttime operator facility reconnaissance to ensure safe operations. Nighttime traffic shall ~~only~~ also be allowed for activities required for facility and worker safety and emergencies, including security and law enforcement patrols and oil release response and clean-up activities. For planned nighttime work, such as well drilling and workovers, prior notification ~~a request~~ shall be submitted to County P&D for review ~~and approval~~ and work shall not commence without prior P&D approval.[234]

Furthermore, Measure 8 applies only during construction. (GCP at 71) It does not apply during operations, which can last for thirty to fifty or more years. During operations, Aera's project would add 523 vehicle trips per day, including 190 oil tankers truck trips day and night in and around CTS and CRLF habitat in the Santa Maria Valley.[235] Many of the trucks will also use Highway 166, endangering CRLF in the Cuyama River.[236] The ERG Project would entail 126 tanker trips each day.[237] For these reasons. GCP Measure 8 is infeasible and does not sufficiently minimize vehicle-strike take. EDC-85 (cont.)

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[231] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-17 (December 12, 2016).
[232] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.8-15 (February 2019).
[233] *Id.* at 4.3-55.
[234] *Id*.
[235] Santa Barbara County Planning and Development Department, *Draft EIR for Area East cat Canyon Redevelopment Plan* at 4.10-13 (November 2018).
[236] *Id.*
[237] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.10-19 (February 2019).

k. The GCP refers to Measure 10 in Section 3 of the Main Report.

The Footnote to the unnamed table on Page 80 of the GCP refers to Measure 10 in Section 3 of the Main Report, but we are unable to locate this Measure. EDC-86

l. Measure 11 Fails to Specify Sufficient Time for Preconstruction Surveys.

Measure 11 requires preconstruction surveys "immediately prior to the onset of any ground disturbance" to relocate CTS and CRLF. (GCP at 71) Measure 13 requires burrow excavation surveys "until it is certain that the burrows are unoccupied," or covering burrows with steel plates during construction. (GCP Measure 13 at 73) Effective burrow excavation surveys needed to capture and relocate CTS and CRLF during or prior to construction are time intensive because they involve careful hand digging of gopher and ground squirrel burrows to capture CTS and CRLF. "Based on their life history, it is unlikely a salamander would be found during preconstruction monitoring and surveys unless the surveys included actions such as burrow excavation, pitfall traps and drift fencing,"[238] Mitigation Measure BIO-13 in the Final EIR for the ERG West Cat Canyon Project requires focused pre-construction surveys within twenty-four hours of construction.[239] This is insufficient time to complete focused surveys for CRLF and CTS which require careful burrow excavation.[240] Biologists conducting burrow excavation must not be rushed or take will not be minimized. Moreover, it is infeasible to conduct effective borrow excavation using only hand tools; therefore, Measure 13 does not ensure that take of CTS is minimized to the maximum extent practicable.[241] Accordingly, GCP Measures 11 and 13 are flawed because they do not set forth any time for burrow excavation surveys to ensure CRLF and CTS take is minimized to the maximum extent practicable. EDC-87

m. Measures 12, 13, 14, and 17 Fail to Specify How Much Time Will be Provided for CTS or CRLF to Vacate A Work Area Before Work May Resume.

Measures 12, 13, 14, and 17 involve Capture and Relocation but fail to provide the timeframe to provide CTS and CRLF with an opportunity to vacate a work site.[242] (GCP at 72 - 73) By failing to specify a timeframe, these Measures will not sufficiently minimize take. EDC-88

n. Mitigation Measure 20 for Oil Spills is Reactive and Therefore Will Not Avoid Impacts on Species from Spills.

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[238] Letter from Gregg Erickson, Regional Manager, Bay Delta Region, California Department of Fish and Wildlife to Ms. Crystal Acker, Planner, Sonoma County Permit and Resource Management Department at 2 (March 6, 2020).
[239] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-87 (February 2019).
[240] Bumgardner at 6-7.
[241] *Id.*
[242] The GCP incorrectly cites to Measure 17 instead of Measure 18 in the last full paragraph on Page 79.

Mitigation Measure 20 does not minimize or mitigate oil spill-related take to the maximum extent practicable because it cannot prevent or reduce the frequency of spills and is merely reactive. (GCP at 73-74) The two Cat Canyon projects will cumulatively result in approximately four oil and or polluted wastewater spills per year, or 120 to 200+ spills during the 30 – 50+ year lifetime of the projects.[243] Based on state spill averages, every year an average of around 160 barrels would be spilled from these two projects, which does not even account for spills resulting from existing operations in the County.[244] The ERG Final EIR and the Aera Draft EIR identify spills as a significant unavoidable impact to water and to biological resources, including CTS and CRLF.[245] The only measure in the GCP proposed to directly address the significant unavoidable impacts of oil and waste spills on CTS and CRLF is to prepare an Emergency Response Action Plan ("ERAP") to try to limit the damage after-the-fact, but this Measure is already required in the County EIRs for the Cat Canyon oil projects.[246] (GCP at 73-74) More importantly, Measure 20 does not avoid a significant impact to CTS and CRLF because it includes no proactive measures such as project redesigns, alternative siting, or automatic pipeline valve shutoffs to avoid or minimize spill related take.[247] Measure 2 seeks to have applicants plan to avoid breeding and high quality upland habitats, but as discussed below there is no implementation measure to ensure avoidance and minimization alternatives are adequately considered. (GCP at 70) Spills and spill cleanups cause take.[248] These impacts are inadequately mitigated because Measure 20 does not mandate preventative measures.

EDC-89

In addition, Measure 20 also only applies to oil spills. The GCP omits prevention or mitigation measures for chemical and toxic wastewater spills. Since these spills may occur in different areas with different resources and contain hazardous materials with different impacts than oil, it is necessary for the GCP to require an ERAP for oil, wastewater, and chemical spills. Preventative measures should also be required.

EDC-90

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[243] Number of spills (four) estimated by multiplying the projected six spills per year by 66% to account for the withdrawal of the PetroRock Application. *See* Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.9-35 – 4.9-35 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.9-33 (November 2018).
[244] *Id.*; Average volume of two remaining projects' spills (160 Barrels per year) was estimated by multiplying 240 barrels per year by 66% to account for the withdrawal of the PetroRock application.
[245] Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for ERG West Cat Canyon Revitalization Plan* at 4.3-49 – 4.3-50; 4.9-16 – 4.9-17 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.3-56 – 4.3-58; 4.9-15 – 4.9-16 (November 2018).
[246] *See e.g.,* Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for West Cat Canyon Revitalization Plan* at 4.3-50 (February 2019).
[247] *Id*.
[248] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-49 - 50 (February 2019).

o. Measure 23 Fails to Require Timely Notification of Injured CTS and CRLF.

Measure 23 is deficient because it allows up to seventy-two hours to report injured CTS and CRLF. (GCP at 74; *See also* GCP at 108) Seventy-two hours is too long to report injuries to these species because injured wildlife may perish in this time.[249] Injured wildlife need heat and hydration within twenty-four hours.[250] Moreover, Measure 23 fails to require permittees to take injured wildlife to an emergency veterinary hospital for treatment, which must be required to minimize take. As a result, GCP Measure 23 is insufficient to mitigate take by preventing mortalities. EDC-91

p. There is a Risk that Permittee-Responsible Mitigation for Oil and Gas Activities May Not Adequately Mitigate Take of CTS, as Evidenced by the Proposed Aera Project.

Mitigating loss of CTS habitat by setting aside existing habitat is inadequate to mitigate take if the conservation area is small or narrow, or if there is a net loss of habitat. For example, Aera's East Cat Canyon Project Conservation Area is configured such that it will not adequately compensate for loss of habitat. CTS Pond SISQ-19 is located outside the southeast corner of the Aera East Cat Canyon site.[251] The proposed Conservation Area includes land north of SISQ-19 along a thin section of land that widens northward. "The SISQ-19 lies just beyond the southeast corner of the project site. Given the geometry of the proposed Conservation Area, it is not clear that it will mitigate impacts to CTS dispersal caused by project build-out. The easement conserves open space north of SISQ-19 via a narrow strip of land that gradually widens northward, but habitat fragmentation will occur northwest and west of SISQ-19 in the project area under the proposed project scenario."[252] As shown in Figure 2 below, it contains only a small portion of SISQ-19's upland habitat.[253] Moreover, where the conservation area widens in its northern section, is beyond the 1.3-mile CTS range so it offers no compensatory habitat for CTS in this wider area. Furthermore, upland habitat to the northwest and west of SISQ-19 in the Aera project area will be developed and fragmented under the proposed project, resulting in a permanent net loss of upland habitat surrounding SISQ-19.[254] This example demonstrates that permittee-responsible mitigation under the GCP is insufficient where it provides insufficient EDC-92

[249] Phone call between Julia Parker, Director of Operations, Santa Barbara County Wildlife Care Network, and Brian Trautwein, Environmental Analyst/Watershed Program Coordinator (April 20, 2020).
[250] *Id*.
[251] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.3-30 (Figure 4.3-8a) (November 2018).
[252] Hunt 2019(b) at 9-10.
[253] *Id*.; *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 2-12 (Figure 2-6) (November 2018).
[254] *Id*. at 4.3-30.

compensation, is beyond the species dispersal range, or results in a net loss of upland habitat. EDC-92 (cont.)

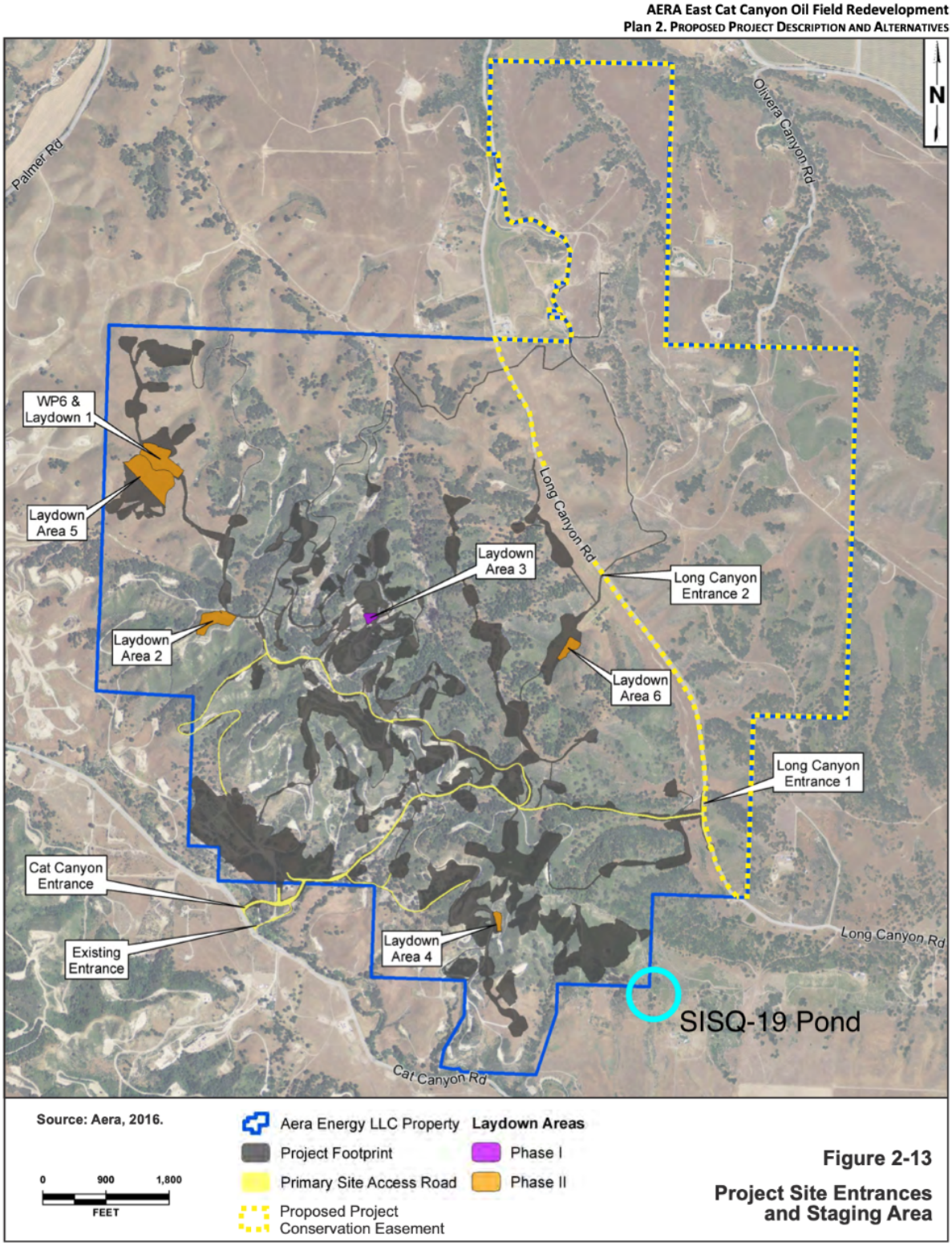

Figure 2. Aera Conservation Area. Santa Barbara County Planning and Development Department, Aera Draft EIR Figure 2-13.

q. The GCP does not Require Specific Equipment to Minimize Take During Project Development.

The GCP does not require any specialized equipment to minimize take of CTS and CRLF during exploration, construction, production of oil and gas, or decommissioning. As a result, the GCP does not minimize and avoid impacts to listed species to the maximum extent practicable. EDC-93

r. The GCP Omits Measures to Avoid and Minimize Take During Pipeline Construction.

The GCP lacks measures to minimize the impact of pipeline construction on sensitive habitats. Measure 2 requires that applicants must site their projects to avoid habitats to the maximum extent feasible. (GCP at 70) However, the GCP fails to include measures to effectuate this goal such as project-specific avoidance-based alternatives analyses to ensure pipelines placement minimizes take to the maximum extent practicable. The failure to specify measures to minimize take caused by pipeline construction demonstrates that the GCP fails to avoid and minimize take to the maximum extent practicable. EDC-94

s. Temporary and Permanent Impacts to CRLF Dispersal Habitat are Not Adequately Mitigated.

The GCP assigns an eighty percent reduction in the requirement to compensate for temporary loss of CRLF dispersal habitat. (GCP at 62 and 79) Thus, a temporary loss of dispersal habitat can be replaced at only .2:1. For permanent impacts to CRLF dispersal habitat, the GCP invokes a sixty percent reduction when calculating the mitigation-to-impact ratio (.4:1).

Dispersal habitats serve a critical function in the conservation and recovery of CRLF. Dispersal habitat is one of the Primary Constituent Elements of the CRLF.[255] "[H]abitat fragmentation, occurs when remaining populations are isolated because the links between habitat patches have been destroyed."[256] "The destruction of upland dispersal habitat can result in the increased isolation of breeding populations. … fragmentation can result in decreased heterozygosity and inbreeding depression."[257] Given the importance of dispersal corridors at maintaining long-term genetic exchange and CRLF viability, and in order to minimize impacts associated with take, unavoidable temporary and permanent impacts and mitigation for CRLF dispersal habitats should have been calculated at higher than twenty percent and forty percent, respectively. Loss of dispersal habitat remains a significant unavoidable impact but is not EDC-95

[255] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog* at 31-32 (May 18, 2002).
[256] LSA Associates, Inc., Solano County Water Agency, *Public Draft Solano HCP* at 8, available at: http://www.scwa2.com/Home/ShowDocument?id=724.
[257] *Id.* at 8.

disclosed as such. By utilizing such low mitigation ratios for CRLF dispersal habitat, the GCP fails to mitigate take to the maximum extent practicable. EDC-95 (cont.)

t. The CTS Mitigation and Conservation Account has Not Been an Effective Tool for Compensating for Habitat Losses.

The GCP proposes continued use of the East and West Santa Maria CTS Metapopulations Mitigation and Conservation Account. (GCP at 76 – 77) According to the Service, this Account has not been a successful tool for mitigating impacts to CTS and may be closed.[258] Given this, the GCP must not rely on the Conservation Account to minimize or compensate take. EDC-96

u. The Uncertainties and Challenges with Mitigation Banks for CTS are Not Disclosed in the GCP and thus the Feasibility of this Mitigation is Insufficiently Analyzed.

As defined in the Service's guidance document on conservation banks dated May 2, 2003, "[a] conservation bank is a parcel of land containing natural resource values that are conserved and managed in perpetuity, through a conservation easement held by an entity responsible for enforcing the terms of the easement, for specified listed species and used to offset impacts occurring elsewhere to the same resource values on non-bank lands."[259] A bank may be created through the "(1) acquisition of existing habitat; (2) protection of existing habitat through conservation easements; (3) restoration or enhancements of disturbed habitat; (4) creation of new habitat in some situations; and (5) prescriptive management of habitats for specified biological characteristics."[260] However, "[t]he important point in establishing a bank is to site banks in appropriate areas that can reduce the threat of fragmentation and provide management measures that address other threats that a species might encounter, …."[261]

i. The GCP Must Specify Which Conservation Banks are Approved by the Service to Provide Compensation for Impacts to CTS.

Under the GCP, a permittee is permitted to "purchase credits from an approved conservation bank commensurate with the required mitigation, to provide compensation for EDC-97

[258] Personal Communication between Rachel Henry, HCP Coordinator, Jenny Marek, Deputy Field Supervisor, Steve Henry, Field Supervisor, and Chris Diel, Recovery Permit Coordinator, United States Fish and Wildlife Service; Tara Messing, Staff Attorney, Elizabeth Fisher, Staff Attorney, and Brian Trautwein, Environmental Analyst/Watershed Program Coordinator; and Wendy Motta, District Representative for Congressmember Salud Carbajal, in Santa Barbara (March 3, 2020).
[259] Memorandum from the Director of the U.S. Department of the Interior, Fish and Wildlife Service, to Regional Directors, Regions 1-7, and Manager of California Nevada Operations, *Guidance for the Establishment, Use, and Operation of Conservation Banks* at 2 (May 2, 2003).
[260] *Id.*
[261] *Id.* at 4.

[unavoidable] impacts to [CTS]." (GCP at 76) However, the GCP does not provide any information about which conservation bank(s) are Service-approved to fulfill this mitigation requirement. It is therefore unknown if the conservation bank must be within the same CTS metapopulation as the impacts or even in the County. In addition, the parameters for purchasing mitigation credits from CTS mitigation bank(s) must be disclosed in the GCP to ensure that the mitigation measure will meaningfully conserve the species. EDC-97 (cont.)

ii. The Ranch Upon Which the La Purisima Conservation Bank Exists is for Sale, Complicating Mitigation under the GCP.

The ranch which hosts the La Purisima Conservation Bank is for sale, threatening the viability of the Bank.[262] There are multiple noncontiguous parcels which form the Bank.[263] To the extent that a sale of the ranch would complicate the Bank's value and success, the GCP should disclose the pending sale and discuss the implications for mitigating impacts to CTS.

iii. The GCP Omits Critical Information about the La Purisima Conservation Bank in Order to Evaluate the Success of the Bank.

The GCP provides no information about the successes or challenges with the La Purisima CTS Mitigation Bank, which was established over six years ago, but nevertheless relies on this bank to mitigate unavoidable impacts to CTS.[264] (GCP at 76) Two metrics are utilized to measure the success of a conservation bank: (1) ecological measures and (2) economic measures.[265] "Ecological metrics of conservation bank success are important in determining whether banks are meeting ecological performance goals."[266] These measures include, but are not limited to, linkage to existing conservation areas, preserving ecologically valuable private lands, increasing the number of preserved acreage, meeting Recovery Plan criteria, maintaining a stable or growing population, profitability, and more.[267] The GCP is entirely silent as to whether the La Purisima Bank is reaching any ecological or economic metrics to demonstrate success. Based on the discussion in the GCP, it is entirely unknown which metrics, if any, the Service is tracking to determine the success of the La Purisima Bank. In failing to set forth this information EDC-98

[262] Santa Barbara Land Trust, *La Purisima Conservation Bank*, available at: https://www.sblandtrust.org/portfolio-item/la-purisima-conservation-bank/.
[263] Personal Communication between Rachel Henry, HCP Coordinator, Jenny Marek, Deputy Field Supervisor, Steve Henry, Field Supervisor, and Chris Diel, Recovery Permit Coordinator, United States Fish and Wildlife Service; Tara Messing, Staff Attorney, Elizabeth Fisher, Staff Attorney, and Brian Trautwein, Environmental Analyst/Watershed Program Coordinator; and Wendy Motta, District Representative for Congressmember Salud Carbajal, in Santa Barbara (March 3, 2020).
[264] U.S. Army Corps of Engineers, *Regulatory In-lieu Fee and Bank Information Tracking System; La Purisima Conservation Bank,* available at: https://ribits.ops.usace.army.mil/ords/f?p=107:10:::NO::P10_BANK_ID:2938.
[265] U.S. Department of the Interior, Office of Policy Analysis, *Results from a Survey of Conservation Banking Sponsors and Managers* at 35 (September 2016).
[266] *Id.*
[267] *Id.* at 20.

in the GCP, the mitigation measure is unproven in terms of feasibility and adequacy to mitigate impacts from covered activities.

Finally, the U.S. Army Corps of Engineer's Regulatory In-lieu Fee and Bank Information Tracking System ("RIBITS") provides information about the status of the La Purisima Conservation Bank, including a credit ledger summary.[268] The summary identifies available credits, withdrawn credits, released credits and potential credits—none of which is disclosed or assessed in the GCP.[269] The GCP must evaluate the credit availability for the La Purisima Conservation Bank in the discussion on mitigation banks for CTS given that the analysis relies on this bank to mitigate unavoidable impacts on CTS from oil and gas activities. EDC-98 (cont.)

v. The Adaptive Management Strategy in the GCP May Not Ensure that the Biological Goals and Objectives in the Conservation Strategies for the Species are Achieved.

i. The Adaptive Management Strategy in the GCP for LYS has the Potential to Result in a Massive and Significant Loss of LYS Plants or Ramets.

The GCP would allow a 20% loss of the number of LYS ramets or the area occupied by LYS due to changed or unforeseen circumstances before adaptive management actions may be implemented. (GCP at 89 - 90) This "threshold is far too high (bar is too high) and would put [] this species at risk of extinction."[270] Not enough information is known about LYS viability to set such a high threshold.[271] EDC-99

ii. Adaptive Management for CTS Regarding Surveys May Never be Triggered.

CTS adaptive management requires annual surveys over five-year periods to determine whether ten or fewer larvae are captured in a number of ponds. (GCP at 87) The GCP refers to annual range-wide surveys. However, there is no evidence of annual surveys to count CTS larvae in the Planning Area in the GCP. This trigger would never be met if there are not five consecutive years of surveys. Given funding limitations and access to private ponds, it likely this trigger will never be met even if the CTS population drops significantly because there may never be five consecutive years of surveys in enough ponds to trigger adaptive management. EDC-100

[268] U.S. Army Corps of Engineers, *Regulatory In-lieu Fee and Bank Information Tracking System; La Purisima Conservation Bank,* available at: https://ribits.ops.usace.army.mil/ords/f?p=107:10:::NO::P10_BANK_ID:2938.
[269] *Id.*
[270] *Id.* at 15.
[271] Magney at 15.

iii. The CRLF Adaptive Management Strategy Relies on Populations at Two South County Preserves but Includes No Reference Populations in the Central or North County.

Adaptive management for CRLF is triggered by fifty percent reductions in CRLF populations at locations such as Arroyo Hondo and Baron Ranch (Arroyo Quemada). (GCP at 89) However, these reference populations are on the South Coast in adjacent canyons. The GCP is flawed because it does not include representative reference populations from central and north County areas, or criteria for identifying representative regional reference populations, such as existing preserved open spaces and ponds or private mitigation banks, to reflect regional population dynamics. (*See* GCP at 69). Given the lack of north and central County reference population triggers, the GCP fails to minimize take to the maximum extent practicable. EDC-101

iv. The Adaptive Management Strategy under the GCP is Severely Constrained by the Voluntary Nature of Any Additional Conservation and Mitigation Measures.

The adaptive management measures are voluntary under the GCP. (*See e.g. Id.* at 85-90) Terms in the GCP such as "can" and "should" characterize the elements of adaptive management as optional. (*Id.* at 85, 87-90) The GCP fails to include enforceable language such as "must" and "shall" to ensure implementation of measures, including adaptive management, to minimize the impacts of take to the maximum extent practicable.

If adaptive measures are not implemented due to their voluntary nature, CTS and CRLF take will increase and the GCP will fail to avoid, minimize, and mitigate the impacts of take to the maximum extent practicable. As the California Coastal Commission points out, the GCP "would constrain future options for avoidance, monitoring, and mitigation measures."[272] The limitation to those options that impose no additional costs to an applicant without the applicant's consent is especially troublesome.[273] EDC-102

x. The GCP Fails to Protect Species from Changed and Unforeseen Circumstances

The application of the No Surprises Rule will result in reasonably foreseeable future impacts and harm that will not be mitigated or minimized. Given the long duration of the GCP, these impacts may be quite severe, which is unacceptable given the imperiled status of these species. In addition, no additional measures will be required unless the permittees agree. (GCP at 90-91) EDC-103

[272] Letter to Stephen P. Henry from Kate Huckelbridge regarding Draft Environmental Assessment and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, CA, at 2 (May 4, 2020).
[273] *Id.*

i. The No Surprises Rule May Prohibit Additional and Necessary Conservation and Mitigation Measures.

The No Surprises Rule provides that upon issuance of an ITP, the permittee "may remain secure regarding the agreed upon cost of conservation and mitigation," assuming that the terms of the plan are being implemented.[274] 50 C.F.R. § 17.22(b)(5); 50 C.F.R. § 17.32(b)(5). The No Surprises Rule provides such assurances in the case of changed or unforeseen circumstances. *Id.* Given the twenty-year duration of ITPs under the GCP, unforeseen and changed circumstances may arise that require adaptive management. (GCP at 90-97) If additional conservation and mitigation measures are needed to account for changed circumstances, the permittee must implement the measures provided for in the plan. 50 C.F.R. § 17.22(b)(5)(i)-(ii). However, to the extent that "such measures were not provided for in the plan's operating conservation program, the Director will not require any conservation and mitigation measures in addition to those provided for in the plan without the consent of the permittee, provided the plan is being properly implemented." *Id.* Moreover, with regards to unforeseen circumstances, no "additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the species covered by the conservation plan without the consent of the permittee" is required. 50 C.F.R. § 17.22(b)(5)(iii).

The GCP identifies "reasonably-foreseeable [changed] circumstances and their anticipated effects on the covered species," but then states that "Applicants should identify up-front the range of possible operating conservation program adjustments that could be implemented as new information or data is obtained. This range defines the limits of what resource commitments may be required of the applicant." (GCP at 91) The GCP's proposed approach for mitigating for changed circumstances is inconsistent with ESA regulations, which require changed circumstances to be "provided for in the plan," and improperly defers to the discretion of the permittee who has no incentive to be inclusive regarding changed circumstances. 50 C.F.R. § 17.22(b)(5)(ii). Moreover, the approach may lead to inconsistencies among permittees with regards to which additional conservation and mitigation measures may be required. The GCP's reliance on the applicant to identify the range of changed circumstances further heightens concerns that impacts from covered activities may not be mitigated to the maximum extent practicable. EDC-103 (cont.)

As recognized by the California Coastal Commission, "if pursuing [the GCP] would constrain future options for avoidance, monitoring, and mitigation measures under the 'No Surprises' rule, then perhaps the 'no project' alternative you describe, which is to continue to review oil and gas proposals in association with individual HCPs, could be a more environmentally beneficial alternative."[275]

[274] 63 Fed.Reg. 8859, 8867.
[275] Letter to Stephen P. Henry from Kate Huckelbridge regarding Draft Environmental Assessment and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, CA, at 2 (May 4, 2020).

ii. The Twenty-five Percent Total Cover Trigger for Addressing Invasive Exotic Plants in LYS Stands is Too High to Minimize Take of LYS.

The GCP uses twenty-five percent total cover as a trigger for implementing remedial action to address invasion of new invasive exotic plants. (GCP at 96) Once an invasive exotic plant species covers twenty-five percent of the ground in an area supporting LYS, the problem is already significant.[276] This is because the exotic species' seed bank will be substantial.[277] If "an invasive plant-fire regime cycle" becomes established, then "restoration to preinvasion conditions becomes more difficult (Brooks et al. 2004)."[278] Given this, the GCP fails to minimize the impacts of LYS take to the maximum extent practicable. EDC-104

iii. Fires are an Impact of the GCP and Not a "Changed Circumstance."

The GCP improperly treats fires as a "changed circumstance," not an impact of the GCP. (GCP at 92-93) However, the GCP will ultimately lead to increased oil and gas activities, more fires, and a greater threat of fire to the species covered under the GCP. By failing to evaluate the impacts from fires on the species and instead identifying these disasters as "changed circumstance," the GCP fails to avoid and minimize take by oilfield-started fires to the maximum extent practicable and does not mitigate the significant impacts of oilfield-started fires on listed plant species. EDC-105

iv. The List of Changed Circumstances in the GCP is Too Limited and Will Prevent the Implementation of Additional Mitigation and Conservation Measures that May Be Necessary in the Future.

The list of changed circumstances in the GCP is also too limited and must include additional changed circumstances, including, but not limited to, emergency repairs or maintenance, especially if such activities require habitat clearing, expansion of the three species' range in the County, new diseases impacting the species, and new scientific or commercial data related to survey protocols, species range, habitat delineation, etc. EDC-106

y. Mitigation Measure Numbering in the GCP does not Track with the Numbering in the EA.

The GCP mitigation measures do not appear to track with the EA's references to mitigation measures. Some appear to be off by one. (See e.g.: GCP Measures 18 and 21) EDC-107

[276] Email from Karen Flagg, Restoration Ecologist, to Brian Trautwein, Environmental Analyst / Watershed Program Coordinator, EDC (March 25, 2020).
[277] *Id*.
[278] U.S. Fish and Wildlife Service, *Eriodictyon capitatum (Lompoc yerba santa) 5-Year Review: Summary and Evaluation* at 11 (February 8, 2011).

6. Permit Processing and Implementation under the GCP is Intended to Streamline Permitting but Must Still Comply with Section 10 and Section 7 of the ESA.

a. Required Information to Meet All Issuance Criteria Pursuant to Section 10 is Improperly Omitted from the GCP and Deferred to the Individual Project Packages.

The Policy for implementing a general conservation plan makes clear that this approach must comply with existing statutory and regulatory authorities."[279] Consequently, a general conservation plan must "specify the amount of take anticipated, avoidance and minimization measures, mitigation required, and any other measures necessary to meet the issuance criteria as required by section 10(a)(2)(B) of the Act."[280] To ensure consistency with the ESA, the Policy mandates that a "GCP will include everything that a traditional HCP has EXCEPT the names of an applicant or the future permittees."[281] The Policy "stress[es] that the only difference between the GCP and a traditional HCP is that the Service develops the GCP under which individual ITPs can then be issued to landowners, instead of an applicant doing so."[282]

This GCP is a significant departure from the type of plan envisioned under the Policy. Here, much of the information gathering and analysis under Section 10 is deferred until after an individual applicant submits its "Permit Application Package." (GCP at 99) The GCP, for example, does not include maps and a discussion of the locations of impacts, evaluation of the duration of proposed covered activities, discussion of current and proposed oil and gas projects in the County, estimation of typical size and frequency of operation or maintenance activities, or description and analysis of the survey results for the covered species. (*Id.*) This information is instead to be included in the individual project package. (*Id.*) The scope, magnitude, and complexity of this GCP is the very reason why the Policy limits the use of a general conservation plan "to activities that the Service has the expertise and ability to analyze."[283] The GCP is not legally permitted to circumvent the requirements of Section 10 by deferring the necessary information gathering and analysis until after an applicant submits their project package. Such an approach is entirely inconsistent with the Policy and the ESA. EDC-108

b. The GCP Must Not Allow an Applicant to Piecemeal the Significant Environmental Impacts of an Oil and Gas Project When Applying for an ITP.

The GCP permits an applicant for newly-constructed oil and gas projects to include construction, operation, and maintenance activities for a project within the same permit application, or to submit an individual project package for each activity. (GCP at 100) The EDC-109

[279] GCP Policy at 2.
[280] *Id.* at 3.
[281] *Id*. (emphasis in original)
[282] *Id.* at 4.
[283] *Id.*

piecemealed approach under the latter option is extremely problematic. If an applicant is able to artificially sever a single project into many little activities, the impacts analysis along with the minimization and mitigation measures will likewise be disjointed. Although cumulatively the impacts may have disastrous consequences for the species, the applicant is able to hide these impacts by chopping up the project. Furthermore, funding assurances may be inadequate if the costs to implement the minimization and mitigation measures are not assessed as a whole. The GCP must ensure that improper piecemealing of projects is not permitted. EDC-109 (cont.)

c. The Permit Application Package Does Not Require Protocol-level Surveys Which are Needed to Document CTS and CRLF.

The Application Package must contain survey results, but the GCP fails to specify the type of surveys or the need for protocol-level surveys.[284] Mere reconnaissance-level surveys are inadequate for surveying fossorial species such as CTS and CRLF because they do not involve actively searching for CTS or CRLF in their burrows, or conducting protocol-level drift fence surveys.[285] The Service and CDFW developed protocol-level surveys for CTS and CRLF to consistently assess presence and absence to ensure conservation of the species.[286] It is essential that the GCP require the Service's approved protocol-level surveys and population density surveys to establish baseline population estimates. Reconnaissance-level surveys would generate insufficient or inaccurate information and may lead to the GCP's underestimation of take and failure to sufficiently minimize and mitigate take. EDC-110

d. Reporting Fails to Specify How Take is Tracked and How Data is to be Publicly Displayed.

The GCP requires tracking and reporting of the number of CTS or CRLF that are subject to take due to the GCP, including take by vehicle-strike (when known). (GCP at 104 - 105) However, the GCP does not require or clarify how capture and relocation take is to be tracked, and how monitoring results for capture and relocation will be tracked and reported, including where take information is stored and whether it in available to the public on a website. EDC-111

e. GCP Implementation Does Not Require Applicants to Demonstrate That Projects Avoid and Minimize Take to the Maximum Extent Practicable.

The GCP's Biological Goals and Objectives emphasize avoidance and minimization of impacts to the species' habitat areas. (GCP at 66-68) However, GCP implementation does not EDC-112

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[284] U.S. Fish and Wildlife Service and CDFW, *Interim Guidance on Conducting Site Assessments and Field Surveys for Determining Presence or A Negative Finding of the California Tiger Salamander* (2003), available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/cts_guideline_cover.pdf.
[285] *Id.*
[286] U.S. Fish and Wildlife Service, *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (August 2005), available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/crf_survey_guidance_aug2005.pdf.

include a clear mechanism to ensure that alternative siting and designs are considered to minimize take whenever practicable. (GCP at 103 – 106) Specifically, under Permit Implementation, the GCP list of permittee responsibilities omits an analysis of alternative siting and designs to minimize take and impacts to LYS, CTS, and CRLF habitats.[287] (GCP at 103) Annual reports described also fail to require reporting of consideration of alternative siting and designs that could feasibly avoid or minimize take. (GCP at 103-104) While the Permit Application Packages will include the applicants' lists of appropriate minimization measures, these measures may not include alternative siting and design options or otherwise demonstrate that avoidance or further minimization was infeasible. (*Id*. at 99) Without including an analysis in the Individual Permit Packages of the feasibility of alternative siting and designs to avoid or minimize impacts to LYS, CTS, and CRLF habitats, the GCP does not sufficiently minimize take when practicable. (GCP at 99-100)

EDC-112 (cont.)

Instead, the GCP requires the Package to include details about compensatory habitat mitigation including information on compensatory mitigation calculations, compensatory mitigation funding assurances and payments, and proof of endowments and land acquisitions. (GCP at 99 – 102) Thus, the GCP's focus is primarily on compensatory mitigation instead of avoidance. As described, implementation of the GCP will not ensure that take is avoided or minimized to the maximum extent practicable.

f. The GCP Does Not Provide Adequate Information or Analysis Necessary to Support Consultation under Section 7.

As explained above, Section 7 of the ESA requires that the Service engage in an intra-agency consultation to ensure that issuance of the ITP will not result in jeopardy to a listed species.[288] 16 U.S.C. § 1536(a)(2). If an action is likely to adversely affect a listed species or designated critical habitat, the Service must develop and issue a Biological Opinion that reaches a jeopardy or no jeopardy finding. 16 U.S.C. § 1536(b)(3)(A). In the context of the approval of an HCP, the Service must carry out an intra-agency consultation to ensure that issuance of the ITP will not result in jeopardy to a listed species.[289]

The "no jeopardy" standard under Section 7 is nearly identical to the finding required under Section 10 that the taking "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." 16 U.S.C. § 1539(a)(2)(B). However, it is unlikely that a determination under Section 7 could be properly issued based on the available information and analysis in the GCP. Given the numerous omissions and deficiencies identified herein, the GCP fails to provide the requisite information and analysis to support a determination under Section 7 that the issuance of an ITP will not result in jeopardy to the three listed species.

EDC-113

[287] For example, see David Magney's comment that avoidance of LYS is feasible given the species' rarity and the fact that it occupies discrete and small areas. Magney at 3.
[288] HCP Handbook at 3-15.
[289] *Id.*

7. The Discussion of Costs to Implement the GCP is Inadequate.

Congress enacted the ESA to "halt and reverse the trend toward species extinction, whatever the cost." *Tenn. Valley Authority v. Hill,* 437 at 184. Section 10 of the ESA requires that "the applicant [] submits to the Secretary a conservation plan that specifies... (ii)... the funding that will be available to implement such steps." 16 U.S.C. § 1539(a)(2)(A)(ii), *See also* 50 C.F.R. § 17.22(b)(1)(iii)(B). The GCP misstates this statutory requirement as obligating a future applicant to ensure that adequate funding will be provided. (GCP at 110) Although a project-specific analysis of funding sources will be necessary upon receipt of an Individual Project Package, the GCP is statutorily required to specify "the funding that will be available to implement" the steps to minimize and mitigate the impacts of the covered activities. 16 U.S.C. § 1539(a)(2)(A)(ii).

a. The GCP Fails to Adequately Discuss the Costs Associated with Fully Implementing the Actions Described in the GCP.

As discussed above, a general conservation plan must meet the same standards as a traditional HCP under the Policy, which includes specifying the funding available.[290] The GCP is legally deficient in failing to include the requisite analysis and instead deferring this discussion to the Individual Project Package. (GCP at 110) Other general and multi-species conservation plans acknowledge that project-specific analysis will be required later, but nevertheless provide an explanation of the funding obligations as required by Section 10. For example, the General Conservation Plan for the Desert Renewable Energy Conservation Plan includes a detailed discussion of applicant funding assurances as well as the Service's funding assurances.[291] The plan also refers to "a detailed analysis of land acquisition costs and of costs to implement non-acquisition mitigation measures."[292] Furthermore, the Lower Colorado River Multi-Species Conservation Program's Final Habitat Conservation Plan "provides an estimate of the cost for implementing" the plan.[293] The costs, which are summarized in a table, include "program administration; land acquisition; planning, design, and engineering; habitat creation; environmental compliance; fish augmentation; conservation area management and maintenance; additional law enforcement and firefighting staff; existing habitat maintenance; Topock Marsh pumping; research, monitoring, and adaptive management; remedial measures; and water acquisition."[294] Each cost category is explained along with a discussion of how the costs were derived.[295] The assumptions made in the plan's costs analysis are clearly stated in the plan as well.[296]

EDC-114

[290] GCP Policy at 6.
[291] U.S. Fish and Wildlife Service, *General Conservation Plan for the Draft Desert Renewable Energy Conservation Plan* at M-15 (August 18, 2014).
[292] *Id.*
[293] *Id.* at 7-1
[294] *Id.*
[295] *Id.*
[296] *Id.*

In contrast, the GCP omits any cost analysis for implementing the actions described therein. To the extent that the required cost information is not within the Service's expertise, the Handbook recognizes that "[a]n economist may be useful to help calculate costs…or to help develop funding assurance measures."[297] In order to comply with the requirements under Section 10, the Service may need to consult with outside expertise to ensure that the analysis is legally and factually sufficient.

EDC-114 (cont.)

Finally, the GCP is silent as to the Service's funding assurances for administering the GCP, i.e., staff time to review Individual Project Packages, etc. Although the GCP is intended to streamline the permitting process, staff time and resources will be used to implement the GCP, which must be accounted for in the discussion of funding.

b. The GCP Must Disclose the Oil Operators that Financially Contributed to the GCP Development.

Although the Service drafted the GCP, several oil companies provided the necessary funds to initiate this process. In the interest of transparency and full disclosure, the GCP must identify the names of each company that contributed financially to the GCP as well as the dollar amount provided by each company to the Service.

EDC-115

B. The Service Violated NEPA by Failing to Prepare an EIS and by Issuing an Inadequate EA.

The primary purposes of NEPA are to "encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; [and] to enrich the understanding of the ecological systems and natural resources important to the Nation." 42 U.S.C. § 4321. As with other federal agencies, the Service must protect the environment for future generations; ensure "beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences;" provide a healthy environment for all people; "restore and enhance the quality of the human environment;" and avoid or minimize any possible adverse effects on the environment. 42 U.S.C. § 4331; 40 C.F.R. § 1500.2(f). These responsibilities are implemented by ensuring an analysis and consideration of potential environmental impacts *before* action is taken. *Kleppe v. Sierra Club*, 427 U.S. 390, 409-10 (1976); *Robertson v. Methow Valley Citizens*, 490 U.S. 332, 349-50 ((1989); 42 U.S.C. § 4332(C).

If a proposed action may result in adverse effects on the environment, the lead agency must prepare a detailed EIS. 42 U.S.C. § 4332(C); 40 C.F.R. § 1502.3. The EIS must address the environmental impact of the action, unavoidable adverse environmental impacts, alternatives to the proposed action, the relationship between local short-term uses and the maintenance and

[297] HCP Handbook at 3-12.

enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources that would result. 42 U.S.C. § 4332(C).

An EIS is required in this case because the GCP and activities proposed thereunder will result in significant adverse effects on the environment. In addition, even if an EA were appropriate, the Draft EA prepared in this case is inadequate because it fails to address the full scope of activities that may occur and fails to analyze all of the possible environmental consequences. In addition, the EA does not include an adequate discussion of alternatives, mitigation measures, or cumulative impacts. EDC-116 EDC-117

1. An EIS is required.

The EA admits that the proposed action will result in significant *unavoidable* impacts. (EA at 2-16, referencing GCP Section 5 and Appendix A) Section 5 of the GCP identifies "Measures to Mitigate Unavoidable Impacts." (GCP at 75-85) The fact that the action will cause unavoidable impacts requires preparation of an EIS.

Moreover, the proposed GCP is a major federal action significantly affecting the quality of the human environment, thus requiring the Service to prepare an EIS. 42 U.S.C. § 4332(C). Preparation of an EIS is critical to ensure that an agency takes a "hard look" at potential environmental consequences *before* taking action. *Kleppe*, 427 U.S. at 409-10. Without an EIS, "there may be little if any information about prospective environmental harms and potential mitigating measures." *Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 23 (2008). EDC-118

An EIS must be prepared if there are "substantial questions" regarding whether the action may have significant impacts; a plaintiff need not show that significant effects will in fact occur. *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 864–65 (9th Cir. 2005); *Idaho Sporting Congress*, 137 F.3d 1146, 1150 (9th Cir. 1998) (overruled on other grounds by *The Lands Council v. McNair*, 537 F.3d 981 (2008)); *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d at 562. As the Court noted in *Klamath Siskiyou Wildlands Ctr.*, the threshold for requiring an EIS is a "low standard." *Id*.

The NEPA regulations set forth criteria that must be considered when determining whether an action may significantly affect the environment. 40 C.F.R. § 1508.27. In making this determination, an agency must consider "both context and intensity." *Id*. Context refers to the setting of the proposed action. *Id*. § 1508.27(a). As explained in *American Rivers v. Federal Energy Regulatory Commission*, the consideration of context "depends on the action's effects in the immediate locale, rather than in the broader ecosystem or world as a whole." 895 F.3d 32, 50 (D.C. Cir. 2018). In this case, the fact that the proposed action would occur in an area covered with designated critical habitat for at least three listed species requires preparation of an EIS.

Intensity "refers to the severity of the impact" and requires analysis of ten specific factors. 40 C.F.R. § 1508.27(b). The presence of any single factor may be enough to demonstrate that the action is significant. *Ocean Advocates*, 402 F.3d at 865. Here, several factors are met. EDC-118 (cont.)

a. An EIS is Required Because the GCP May Adversely Affect Endangered and Threatened Species and Their Critical Habitats.

First, an EIS is required because the GCP "may adversely affect an endangered or threatened species, or its habitat that has been determined to be critical under the [ESA]." 40 C.F.R. § 1508.27(b)(9). The GCP itself notes numerous potential impacts to endangered and threatened species. CTS will be impacted by loss of upland habitat and critical habitat; disruption of normal behavior patterns; spills or leaks of chemicals, fuels, and lubricants; damage to burrows; vehicle strikes; roads that fragment habitat and cause migratory obstacles; capture and relocation activities; crushing and collision; impacts to breeding habitat; increased habitat fragmentation; and changes in vegetation community. (GCP at 53-55, 57-59) CRLF will be impacted by equipment and vehicle strikes; crushing and collision; ground disturbance; accidental spills; loss of critical habitat; disruption by noise and vibrations; disruption of normal behavior patterns; habitat loss/conversion and fragmentation; attraction of predators by trash; exposure to infections, pathogens, and parasites; and capture and relocation activities. (GCP at 59-62) LYS will be impacted by loss of individual plants and habitat; changes in hydrology and erosion; increases in the abundance of nonnative species; dust; loss or change in the abundance of pollinators; road maintenance activities; ground disturbance; vehicles crushing plants; habitat fragmentation. (GCP at 64-65)

EDC-118 (cont.)

The GCP also admits the activities allowed pursuant to the plan would result in *unavoidable* adverse impacts to CTS, CRLF, LYS, and their habitats. (GCP at 75) As discussed herein, the measures proposed to compensate for such unavoidable impacts are woefully inadequate.

Comments by scientific experts confirm the adverse effects that would result if the GCP is approved and oil and gas activities proceed based on the GCP. Magney notes the extremely rare and vulnerable status of LYS, and the lack of any known, effective mitigation to ameliorate such harm: "The limited distribution and size of the LYS populations are so small that any loss of individual represents a significant impact, and the USFWS has provided no evidence that impacts to LYS can reasonably be considered likely to be mitigable."[298]

EDC-119

Bumgardner identifies unavoidable impacts which the GCP omits. "Nonetheless, the failure to address specific unavoidable impacts appears to be a substantive omission, particularly where certain impacts can be considered reasonably likely to occur (e.g., oil spills, fires, mosquito abatement, etc.)."[299] He also describes indirect impacts omitted by the GCP, including reduction of the hydroperiod of CTS breeding ponds, and oilfield runoff.[300]

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[298] Magney at 18.
[299] Bumgardner at 6.
[300] *Id*. at 2.

b. An EIS is Required Because the Proposed Action will Affect an Ecologically Critical Area.

Second, the proposed action will affect an "ecologically critical area." 40 C.F.R. § 1508.27(b)(3). The GCP would allow oil and gas development in areas that are currently designated as critical habitat under the ESA. Such areas are inarguably "ecologically critical." In addition to critical habitat for CTS, CRLF, and LYS, the proposed activities would impact critical habitat for southern California steelhead[301] and tidewater goby.[302] The proposed GCP would impact critical habitat for the endangered La Graciosa thistle which occurs in and around the Guadalupe, Santa Maria Valley, Orcutt, and Casmalia Oilfields.[303] The GCP would affect critical habitat for endangered Vandenberg Monkeyflower in the Lompoc Oilfield.[304] Other "ecologically critical areas" would also be impacted, including but not limited to, San Antonio Creek, Barka Slough, Sisquoc River, Santa Maria River, Cuyama River, Gaviota Creek, Carpinteria Creek, Arroyo Hondo Creek, Zaca Creek, Coal Oil Point Reserve, and Arroyo Hondo Preserve. These areas are near roads and highways that could be used for trucking oil and could be impacted by spills under the GCP.[305] To the extent activities occur in the Santa Barbara Coastline area, Gaviota State Park,[306] El Capitan State Beach,[307] Refugio State Beach,[308] Marine Protected Areas including Campus Point SMCA, Goleta Slough SMCA, Kashtayit SMCA, Naples SMCA, Point Conception SMR,[309] coastal streams and estuaries including Carpinteria Salt Marsh, Goleta Slough, and Devereux Slough, and environmentally sensitive habitat areas[310] such as marine mammal haul outs, oak woodlands, bishop pine forests, riparian habitats, coastal wetlands, maritime and other types of chaparral, and other habitats within the Gaviota Coast Plan area would also be impacted.[311]

EDC-120

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[301] 65 Fed. Reg. 7778.
[302] 78 Fed. Reg. 8746.
[303] State Water Resources Control Board, *GeoTracker Map,* available at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento; *See also* California Department of Fish and Wildlife, BIOS Website Map, available at: https://apps.wildlife.ca.gov/bios/?al=ds752.
[304] State Water Resources Control Board, *GeoTracker* Map online at https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento; *See also* 80 Fed. Reg. 48142.
[305] Department of Conservation Division of Land Resource Protection, *Santa Barbara County Important Farmland Map* (January 2018).
[306] California Department of Parks and Recreation, *Gaviota State Park*, available at: https://www.parks.ca.gov/?page_id=606.
[307] California Department of Parks and Recreation, *El Capitan State Beach*, available at: https://www.parks.ca.gov/?page_id=601.
[308] California Department of Parks and Recreation, *Refugio State Beach,* available at: https://www.parks.ca.gov/?page_id=603.
[309] California Department of Fish and Wildlife, *CDFW Marine Region News*, available at: https://cdfw.maps.arcgis.com/apps/webappviewer/index.html?id=c00c82e1f32a49e99c747e2411e3439e.
[310] The California Coastal Act defines as "environmentally sensitive area" as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." Pub. Res. Code Section 30107.5.
[311] Santa Barbara County Planning and Development Department, *Gaviota Cast Plan* at 2-15 – 16 (November 17, 2018).

c. An EIS is Required Because the Effects on the Environment are Highly Controversial.

Third, the effects on the environment are "highly controversial." 40 C.F.R. § 1508.27(b)(4). Controversy is demonstrated when "a substantial dispute exists as to the size, nature, or *effect*" of the action. *Sierra Club v. U.S. Forest Serv.*, 843 F.2d 1190, 1193-94 (9th Cir. 1988) (emphasis in original) (internal quotations omitted). A substantial dispute exists when evidence presented "casts serious doubt upon the reasonableness of an agency's conclusions." *Nat'l Parks & Conservation Ass'n. v. Babbitt*, 241 F.3d 722, 736-37 (9th Cir. 2001). Several organizations, individuals, agencies, and scientists have raised concerns about the potential effects on the environment if these activities are allowed to proceed.[312]

EDC-121

The potential impacts to endangered and threatened species are highly controversial because these species are threatened with extinction and determined to warrant the utmost protection to ensure their survival and recovery. In addition, the GCP's net loss of designated critical habitat results in a highly controversial effect because it is a permanent loss of habitat that the Service has determined is essential to the conservation and recovery of CTS, CRLF, and LYS. As discussed above, the permanent loss of 152 acres of CTS critical habitat, 355 acres of CRLF critical habitat, and 7.5 acres of LYS critical habitat with no known replacement demonstrates a substantial dispute with the EA's finding of no significant effect.

In addition to effects on the identified listed species, the activities authorized under the GCP would significantly affect other special-status plants and wildlife for a total of thirty-seven special status plant species and sixty-seven special-status wildlife species in the Cat Canyon Oilfield alone,[313] in addition to impacts to water quality,[314] air quality and public health.[315]

EDC-122

d. An EIS is Required Because the Potential Impacts are Highly Uncertain or Involve Unique or Unknown Risks.

Fourth, the potential impacts on the environment are "highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27(b)(5); *Nat'l Parks & Conservation Ass'n.*, 241 F.3d at 732-33; *Sierra Club v. U.S. Forest Service,* 843 F.2d at 1194. Proponents of the main oil and gas development projects that would benefit from the GCP propose the use of cyclic steam injection, which involves the injection of highly toxic chemicals and water under pressure. They also propose to inject toxic wastewater into aquifers that are currently protected under the Safe Drinking Water Act. The potential effects on groundwater and other important resources is of great concern and raises uncertain, unique, or unknown risks.

EDC-123

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[312] See, for example, comments submitted by David L. Magney and Michael Bumgardner.
[313] See e.g., Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-31 – 40 (February 2019).
[314] *Id*. at 4.9-16 – 17.
[315] Letter from Alicia Roessler, Staff Attorney, Tara Messing, Staff Attorney, and Brian Trautwein, Environmental Analyst/Watershed Program Coordinator to Nancy Minick, Planner, Santa Barbara County Planning and Development Department Energy, Minerals, and Compliance Division at 29-39, 75, 115-116 (August 3, 2018).

With respect to the covered species, there is substantial uncertainty regarding the current status of the populations. The EA itself states that the number of CTS that will be taken cannot be estimated because no density estimate is available for the planning area.[316] (EA at 56) However, presence can be determined by conducting protocol-level surveys.[317] Drift fence and pitfall trap surveys as described by Searcy and Shaffer to "quantify California tiger salamander landscape use" in the Central Valley would have helped estimate CTS densities in the Planning Area, but were not undertaken.[318] Similar uncertainty exists as to LYS. As Magney points out, "The size of the populations of LYS are generally unknown, in particular as to the number of individual plants, and at least one population (Santa Ynez Mountains) was seriously overstated."[319] The GCP defers surveys until after approval of the plan. (GCP at 99, stating "survey results for the Covered Species" or notification of assumed presence must be included in Permit Application Package)

EDC-124

EDC-125

Such studies must be completed *before* significant environmental damage may occur. *Nat'l Parks & Conservation Ass'n.*, 241 F.3d at 736; *see also Sierra Club v. U.S. Forest Service*, 843 F.2d at 1195 (the purpose of an EIS "is to obviate the need for such speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action"); *Ocean Advocates*, 402 F.3d at 870-71 (requiring agency to gather data and conduct analysis in an EIS); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998).

In addition, the EA fails to adequately address impacts from climate change. As discussed above, there is a substantial amount of scientific literature demonstrating that climate change adversely impacts species, and specifically amphibian survival. The CTS Recovery Plan also provides a discussion of climate change impacts on amphibians, including CTS.[320] The UN's Global Assessment discusses the impacts of climate change on ecosystems and species, and the Final Summary for Policy Makers was released in 2020.[321] The EA should use this information to guide its assessment of the GCP's climate change impacts stemming from authorizing take for oil and gas projects.

EDC-126

Uncertainty regarding proposed mitigation measures also requires preparation of an EIS. *Nat'l Parks & Conservation Ass'n.*, 241 F.3d at 733-35 (uncertainty regarding the ability of the

EDC-127

[316] Bumgardner at 3.
[317] U.S. Fish and Wildlife Service and CDFW, *Interim Guidance on Conducting Site Assessments and Field Surveys for Determining Presence or A Negative Finding of the California Tiger Salamander* (2003).
[318] Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander* at 999 (August 2008).
[319] Magney at 17.
[320] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-10, I-16 – 19, II-1 (December 12, 2016).
[321] Sandra Díaz, et al., *IPBES Global Assessment on Biodiversity and Ecosystem Services Draft,* United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (May30, 2019), available at: https://ipbes.net/global-assessment; *Final Summary for Policy Makers* (2019), available at: https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf.

Park Service to offset the environmental impact required preparation of an EIS). In this case, there is substantial uncertainty whether the proposed payments would actually result in adequate mitigation for impacts to CTS, CRLF, and LYS. There is also uncertainty whether adequate conservation sites are available for acquisition.

For example, there is uncertainty regarding mitigation because there is only one CTS mitigation bank for one of six metapopulations, and mitigation is supposed to occur in the metapopulation that is impacted.[322] There is uncertainty regarding the La Purisima CTS Mitigation Bank because it is for sale, it contains non-contiguous parcels, and there are mineral rights in intervening areas that could be developed.[323] The Conservation Account is uncertain, does not work for CDFW, and has not been very effective.[324] Furthermore, Bumgardner testifies that CTS mitigation is uncertain because:

> Other environmental factors that could affect the predictions of the Searcy and Shaffer model (e.g., geospatial distribution of suitable burrows, barriers to movement, presence of local roads and associated vehicle volumes, etc.) may all significantly bias the results of the model toward predictions of less impact and the subsequent requirement for less mitigation. Therefore, the model, by itself, does not appear to adequately predict the amount of compensation land that would be required to fully offset the loss or disturbance of habitat authorized under a Permit.[325]

EDC-127 (cont.)

Mitigating CRLF take is also uncertain in its reliance on "payment of mitigation fees into a mitigation account." (GCP at 78) In addition, the reliance on measures to mitigate impacts to LYS by relocation and propagation are unrealistic and speculative given that efforts to date have not proven to be successful.[326] Not only are these proposed mitigation measures unlikely to be effective, but the reliance on mitigation banks, credits, or offsite acquisitions to mitigate impacts to LYS is equally unfounded.[327]

Finally, there is uncertainty whether the proposed ratios are adequate to mitigate the harm that will occur.[328] Uncertainty regarding mitigation measures is further discussed above in comments on the GCP's minimization and mitigation measures.

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[322] Personal Communication between Rachel Henry, HCP Coordinator Jenny Marek, Deputy Field Supervisor, Steve Henry, Field Supervisor, and Chris Diel, Recovery Permit Coordinator, United States Fish and Wildlife Service; Tara Messing, Staff Attorney, Elizabeth Fisher, Staff Attorney, and Brian Trautwein, Environmental Analyst/Watershed Program Coordinator; and Wendy Motta, District Representative for Congressmember Salud Carbajal, in Santa Barbara (March 3, 2020); *See also* Hunt 2019(b) at 13.
[323] *Id*.
[324] *Id.*
[325] Bumgardner at 5.
[326] Magney at 9-18.
[327] *Id.* at 13-14, 17.
[328] *Id.* at 10-11.

e. An EIS is Required Because the GCP Would Establish a Precedent for Future Actions with Significant Effects.

Fifth, the GCP would "establish a precedent for future actions with significant effects." 40 C.F.R. § 1508.27(b)(6). We are not aware of any other GCPs in California that support new oil and gas development in areas that would affect threatened and endangered species. The proposed GCP would establish a precedent for additional oil and gas development throughout the State by providing a mechanism to take listed species and avoid the individual ITP/HCP process. In particular, this GCP would set a precedent for allowing activities that would harm threatened and endangered species without requiring avoidance or adequate mitigation. EDC-128

f. An EIS is Required Because the GCP Would Result in Cumulatively Significant Impacts.

Sixth, the GCP would allow actions that will lead to cumulatively significant impacts on the environment. 40 C.F.R. § 1508.27(b)(7); *Sierra Club v. U.S. Forest Service,* 843 F.2d at 1194-95. For example, the ERG Cat Canyon project EIR finds that cumulative biological resource impacts, noise impacts, and surface and groundwater resources impacts from eighteen oil and gas projects and twenty-three other projects are "significant and unavoidable."[329] As discussed further below under Section 5 Cumulative Impacts, the EA improperly omits numerous cumulative projects. EDC-129

g. An EIS is Required Because the GCP Threatens Violations of Federal, State, and Local Laws and Requirements for the Protection of the Environment.

Finally, the GCP "threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment." 40 C.F.R. § 1508.27(b)(10). In addition to federal ESA protections for CTS, CRLF, and LYS, the GCP would result in harm to other federally protected species such as southern California steelhead, arroyo toad, tidewater goby, and unarmored three-spined stickleback.[330]

The GCP would also violate the California ESA due to the resulting harm to state-listed species such as least Bell's vireo, southwestern willow flycatcher, unarmored three-spine stickleback, and La Graciosa thistle.[331] The GCP may also harm the state-endangered blunt-nose leopard lizard which occurs in the Cuyama Valley of northeast Santa Barbara County and may occur along oil and gas trucking routes within and outside of the Planning Area.[332] In addition, EDC-130

[329] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 3-3 – 3-8, 4.3-80 – 81, 4.8-24 – 25, 4.9-34 – 35 (February 2019).
[330] *See e.g., Id*. at 4.3-37 – 38.
[331] *Id*. at 4.3-20 - 23, 4.3-31 – 40.
[332] U.S. Fish and Wildlife Service, *Blunt-nosed Leopard lizard Species Account,* available at: https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-

the GCP threatens a violation of California's Fully Protected Species law, which prohibits take of ringtail cat which is a fully protected mammal pursuant to the California Fish and Game Code.[333]

Activities that would be allowed in the Santa Barbara Coastline area threaten harm to environmentally sensitive habitats, water quality, marine and coastal resources, and recreation, in violation of the California Coastal Act.

The GCP also threatens violations of the Santa Barbara County Comprehensive Plan, including the Hazardous Waste Element (Goal 7-1 and Policy 7-1), Conservation Element (Oak Tree Policy 1 and Oak Tree Protection Development Standard 1), Land Use Element (Land Use Development Policy 10; Hillside and Watershed Protection Policies 1, 2, 7; Streams and Creeks Policy 1; Flood Hazard Area Policies 1 and 2; Visual Resources Policy 2, Parks/Recreation Policy 4; Historical and Archaeological Site Policy 2), Safety Element (Hazardous Facility Safety 3-1: Siting), Seismic and Safety Element (Fire Protection and Prevention Goal 1), Safety Element Supplement (Gas Pipeline Safety Policy 4-B: Safe Operations, and Energy Element (Policy 4.3). EDC-130 (cont.)

To the extent activities occur in the Santa Barbara Coastline area, they threaten violations of the Santa Barbara County Local Coastal Program and its protections for environmentally sensitive habitats, water quality, marine and coastal resources, and recreation.

Any violations of the California Coastal Act and/or the Santa Barbara County Local Coastal Program would also violate the CZMA which requires consistency with the state's Coastal Management Program. 16 U.S.C. § 1456(c)(1)(A).

Oil spills would potentially violate protections afforded by the Clean Water Act.

Impacts to nesting birds may constitute violations of the Migratory Bird Treaty Act.

2. The EA Fails to Comply with NEPA.

Even if an EA is appropriate in this case, the Draft EA fails to meet several basic NEPA requirements. As such the EA fails to take a "hard look" at the potential environmental impact of the proposed action. *Save the Yaak Committee v. Block,* 840 F.2d 714, 717-19 (9th Cir.1988); *Nat'l Parks & Conservation Ass'n.*, 241 F.3d at 730. In this case, the EA fails to adequately consider all potential activities and impacts, relies on speculative and inadequate mitigation measures, and unduly constrains the scope of alternatives. EDC-131

Reptiles/blunt_nosed_leopad_lizard/documents/blunt-nosed_leopard_lizard.pdf; *See also* California Department of Fish and Wildlife, *Approved Survey Methodology for Blunt-nosed Leopard Lizard* (Revised, October 2019).

[333] California Department of Fish and Wildlife, Fish and Game Code 4700; *See also* California Department of Fish and Wildlife, *Fully Protected Species*, available at: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html; See also: Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-39 (February 2019).

a. The Scope of the EA is Incomplete and Inconsistent.

i. The Timeframe is Inappropriately Limited.

The EA evaluates impacts over a twenty-year timeframe. (EA at 1-1, 2-6) The GCP, however, has a longer timeframe, as it applies for up to twenty years "after Permit issuance." (GCP at 6) Thus, a permit could issue in ten or twenty years from now, and cover activities for an ensuing twenty years. The EA must be revised to evaluate impacts over the potential life of the GCP and the activities authorized under the GCP.

In addition, the oil and gas development projects that would utilize the GCP are planned to last much more than twenty years. The Aera project, for example, would last thirty to fifty years,[334] and the TerraCore (formerly ERG) project would last approximately forty years.[335] Both project EIRs reference the GCP.[336] EDC-132

The EA must be revised to address the reasonably foreseeable impacts to listed species over the full expected life of the oil and gas development activities. *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1078 (9th Cir. 2011) (court rejected five-year timeframe when coal bed methane wells were expected to produce over a twenty-year period).

ii. The Affected Area is Unclear.

The EA states that the GCP applies to "non-Federal oil and gas activities in Santa Barbara County, California." (EA at 1-1) The GCP is inconsistent in terms of the geographic extent of the proposal, stating on the one hand that the plan is focused on oil and gas activities "within northern Santa Barbara County, California" (GCP at 4), and on the other hand stating that the Planning Area of the GCP "consists of the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline" (GCP at 5). The EA must provide a clear and consistent description of the location of the proposed activities. EDC-133

iii. The List of Species Considered in the EA is too Narrow.

The GCP acknowledges that other species could be affected by oil and gas development activities covered by the GCP. (GCP at 12) The EA omits an analysis of such potential impacts, however, instead deferring to separate review of individual HCPs. (EA at 2-3) Because such EDC-134

[334] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 2-2 (August 2018).
[335] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-5 (February 2019).
[336] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.3-34 (August 2018); *See also Santa Barbara County Planning and Development Department, Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-29 (February 2019).

impacts are a reasonably foreseeable consequence of the GCP, they must be evaluated and disclosed in the EA.

The Final EIR for one of the Cat Canyon projects identifies species that are omitted from the EA, including endangered southern California steelhead (listed in EA Section 3 Affected Environment but not in Section 4 Environmental Consequences), arroyo toad, tidewater goby, unarmored three-spine stickleback, longhorn fairy shrimp, and Vandenberg monkeyflower which occur in the Planning Area.[337] Additional species, including the Gaviota tarplant (*Deinandra increscens* ssp. *villosa*), La Graciosa thistle (*Cirsium scariosum* var. *longcholepis),* and Vandenberg Monkeyflower (*Diplacus vandenbergensis*) also occur in the Planning Area.[338] Blunt-nosed leopard lizard still occurs in the Cuyama Valley and may occur along tanker truck haul routes such as Highway 166 inside and outside the Planning Area.[339] Other species are listed in EA Table 3-1 but are not considered in the impact analysis, including Gambell's watercress, and Gaviota tarplant. These species could be affected by spills, spill response,[340] seeps, stormwater runoff, fires ignited by oil and gas operations, and/or habitat loss e.g. well pad and road construction resulting from the GCP. EDC-134 (cont.)

iv. The Scope of the EA is Incomplete and Omits a Discussion of all Direct, Indirect, and Cumulative Impacts.

An EA must discuss the need for the proposal, alternatives, environmental impacts of the proposed action, and alternatives. 40 C.F.R. § 1508.9. The scope of an EA is similar to that of an EIS. *D'Agnillo v. U.S. Dep't of Housing and Urban Development*, 738 F. Supp. 1443, 1447 (S.D.N.Y. 1990) (holding that "[w]hile the regulations do not specifically address how an agency is to determine the appropriate scope of an EA, some guidance may be found in the provisions that relate to the scope of EIS's"). As such, an EA must include an assessment of impacts, including direct, indirect, and cumulative impacts.

In this case, the EA excludes a discussion of most impacts because it says the GCP would not "directly" result in approval of any oil and gas development. (EA at 1-7) However, it is reasonably foreseeable that approval of the GCP will result in new oil and gas development in Santa Barbara County (in fact, the proponents of the Cat Canyon projects are already relying on the approval of the GCP). Therefore, the EA must be revised to include an assessment of all direct, indirect, and cumulative impacts caused by such activities. For example, the construction and operation of pipelines and other infrastructure located outside the Planning Area are directly related to the "covered activities" and must be analyzed as part of the proposed action. EDC-135

[337] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-31, 4.3-20 - 23 (February 2019).
[338] Magney at 3.
[339] U.S. Fish and Wildlife Service, *Blunt-nosed Leopard Lizard Species Account*, available at: https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/blunt_nosed_leopad_lizard/documents/blunt-nosed_leopard_lizard.pdf.
[340] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-49 – 50.

Light crude oil must be trucked in to blend with the thick crude produced at some Planning Area oil and gas operations so it can be transported to refineries.[341] More than 200 tankers per day would go in and out of the County loaded with crude just for the two Cat Canyon projects.[342] The GCP, however, does not cover inter-County infrastructure such as pipelines and highways. (GCP at 14) By authorizing take for oil and gas activities, the GCP will ultimately result in more tanker crashes, like the March 21, 2020 crash that spilled 4,500 gallons of crude into the Cuyama River.[343] The EA does not disclose the GCP's direct and indirect impacts of oil tanker accidents, including spills and fires in habitats within and outside of the Planning Area. EDC-136

The GCP does not cover wildfires started by oil and gas operations despite evidence showing that fires occur when oil and gas projects are authorized. As discussed below, oilfield fires in the Planning Area have occurred over the last four years, and wildfires have been known to wipe out CRLF populations.[344] The EA fails to analyze the GCP's direct and indirect impacts of fires started by oil and gas operations including tanker accidents.

Fires started by oilfield operations, including climate change-driven fires of "inappropriate season, intensity, severity, or frequency" cause numerous impacts to listed species. (GCP at 93) Recently in 2018, the Woolsey Fire in Ventura County wiped out CRLF populations in the Santa Monica Mountains.[345] Wildfires started by oil and gas projects, including tanker accidents, impact the GCP's covered species but are not adequately addressed in the GCP. The 2016 Cat Fire Incident in the Cat Canyon Oil Field started "when unknown equipment or powerline issue caused a non-exempt fuse to open and emit sparks or burning material, or Parallel Groove Connector became overheated and emitted the sparks or burning material into grass and vegetation located at the base of the pole."[346] The operator at the time, ERG, failed to clear vegetation around the pole allowing the fire to spread, triggering a violation of Public Resources Code Sections 4292 and 4296.[347] This is just one of two wildfires started by ERG in the past several years. The cause of the 2017 Lease Fire "was determined to be electrical arcing from private ERG electrical transmission lines."[348] The 2019 Rig Fire also burned in the EDC-137

[341] Santa Barbara Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-10 – 11 (February 2019).
[342] *Id*. at 4.10-15 ("[D]uring project operations, the Project would result in a net increase of 78 daily round truck trips over existing conditions when the FPP is unavailable (156 one-way; 126 one-way trips exporting blended produced oil and 30 one-way trips associated with the delivery of light crude oil)); *See also Id*. at 3-1 – 3-2; Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.10-22 (November 2018).
[343] California Department of Fish and Game Office of Oil Spill Prevention and Response, *OSPR Liaison Update #10, Cuyama River Incident – Final Update* (April 3, 2020).
[344] Joe Dworetzky, *The threatened frogs of the Santa Monica Mountains always had it hard. The Woolsey fire made things much worse*, (July 25, 2019), available at: https://www.latimes.com/california/story/2019-07-24/woolsey-fire-red-legged-frog.
[345] *Id*.
[346] Santa Barbara County Fire Department, *Cat Fire Incident Report* at 2 (June 27, 2016).
[347] *Id*. at 1.
[348] Santa Barbara County Fire Department, *Lease Fire Incident Report (NFIRS-1 Basic)* at 2 (December 5, 2017).

Cat Canyon Oilfield and reports associated the fire with powerlines.[349] The 2019 Harris Grade Fire burned in the Lompoc Oilfield.[350] The GCP describes clearing power pole ROWs on pages 20 and 35, but the GCP cannot ensure clearing is done. Harm or death to species caused by oil and gas operation-started fires is not a covered activity, is not disclosed, and is not minimized or mitigated in the GCP.

Fires started by oilfield operations also threaten other listed species. Fires denude slopes exposing soil to erosion which threatens creeks and rivers with sedimentation.[351] Sedimentation following the Tea and Jesusita Fires increased sedimentation by several orders of magnitude.[352] Sedimentation caused by fires threatens steelhead, can smother red-legged frog eggs, and "decrease the holding capacity" of CTS breeding ponds.[353] (GCP at 93) Similarly, ash, debris, and sedimentation from fires threatens other listed fish, including tidewater goby and unarmored three-spine stickleback.[354] The Copper Fire eliminated unarmored three-spine stickleback from San Francisquito Canyon north of Los Angeles, one of a handful of creeks in the world where this species exists, including San Antonio Creek which is threatened by oil spills under the GCP.[355]

EDC-137 (cont.)

Fire may also adversely affect LYS by allowing invasion of exotic ice plant.[356] While some studies have shown that LYS exhibits vigorous growth after fires, experts such as Dr. Dennis Odion, a Vegetation Ecologist at Southern Oregon University, have recommended weeding ice plant seedlings for two to three years after fires in LYS stands to protect them from ice plant invasions.[357] Increased human-caused fires have been documented as a threat to the species, including "proliferation of nonnative species concurrent with a reduction in the number of native species." (GCP at 48) The increase in nonnative species resets the fire frequency and "a shorter fire return interval than the one that naturally occurs could negatively impact native plant species by destroying plants before seed set occurs or destroying the seed bank." (*Id*.) Given this, there is evidence that increased fire-frequency, including oilfield-started fires, threaten LYS with take. However, the GCP does not identify fire as an impact of the GCP and fails to minimize or mitigate the threat of take by wildfire.

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[349] Edhat Reader, *Brush Fire Near Sisquoc Stopped at Two Acres* (September 15, 2019), available at: https://www.edhat.com/news/brush-fire-near-sisquoc-stopped-at-two-acres.
[350] Edhat Staff, *Powerlines the Cause of Harris Grade Fire* (July 16, 2019), available at: https://www.edhat.com/news/power-lines-the-cause-of-harris-grade-fire.
[351] Leslie Abramson, et al., *Post-Fire Sedimentation and Flood Risk Potential in the Mission Creek Watershed of Santa Barbara* (March 2009), available at: http://www.bren.ucsb.edu/research/documents/Hydro_Final_Report.pdf.
[352] *Id*.
[353] Tim Framm, *Fire and Steel*, (August 18, 2016), available at: https://www.wildsteelheaders.org/fire-and-steel/.
[354] U.S. Fish and Wildlife Service, Pacific Southwest Region, *Endangered Southern California fish saved after population threatened by fire* (May 8, 2017), available at: https://www.fws.gov/cno/newsroom/featured/2017/unarmored_threespine_stickleback/; *See also* Jason Bittel, *When a Wildfire Raged Outside L.A., These Biologists Went on a Rescue Mission—for a Fish,* (August 31, 2017), available at: https://www.nrdc.org/onearth/when-wildfire-raged-outside-these-biologists-went-rescue-mission-fish.
[355] *Id*.
[356] NatureServe Explorer, *Eriodictyon capitatum, Lompoc yerba santa*, available at: https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.128691/Eriodictyon_capitatum.
[357] *Id*.

Oil, chemical, and polluted wastewater spills from tanks, pipelines, wells, seeps, trucks, and other facilities present significant and unavoidable impacts on species including CTS, and CRLF, and LYS and their habitats.[358] For example, the environmental impact reports for the two Cat Canyon projects estimate that at least four spills will occur per year.[359] Spills would average an estimated 156 - 160 barrels of oil or produced water per year.[360]

Spills threaten harm to the federally endangered unarmored three-spine stickleback, tidewater goby, and other special-status species in San Antonio Creek and Barka Slough.[361] According to Hunt in his comments regarding the ERG Draft EIR,

> Barka Slough, which although truncated at its upstream end by agriculture, remains the largest freshwater marsh in Santa Barbara County. Remnant populations of a number of special-status aquatic and aquatic-associated species, including tidewater goby (Eucyclogobius newberryi), threespine stickleback (Gasterosteus aculeatus), arroyo chub (Gila orcutti), California red-legged frog (Rana draytonii), western pond turtle, and two-striped garter snake (Thamnophis hammondii) still occur at now-isolated sites scattered throughout the floodplain area of the Los Alamos Valley (Hunt, pers. observ.), and attest to their historically widespread occurrence."[362]

EDC-138

There are at least eight oilfields which drain into San Antonio Creek.[363] Tidewater goby has been documented five miles upstream from the San Antonio Creek mouth in the vicinity of the Four Deer, Lompoc, Jesus Maria, Orcutt, Harris Canyon NW, Barham Ranch, Los Alamos, and Careaga Canyon Oilfields.[364] Nevertheless, these species are omitted from the analysis. (EA Table 3-1 at 3-12 – 3-13) Spills could also impact tidewater goby critical habitat in Winchester Canyon-Bell Canyon, Gaviota Creek, four Hollister Ranch streams, and the Santa Maria River.[365]

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[358] Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for West Cat Canyon Revitalization Plan* at 4.3-49 – 4.3-50 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.3-56 – 4.3-58 (November 2018).

[359] The number of spills was calculated based on the Aera and ERG Projects EIRs which estimate that PetroRock, ERG, and Aera would cumulatively result in 6 spills per year. With PetroRock withdrawing its application, cumulative spills would be reduced by roughly 33% to four spills per year.

[360] With PetroRock withdrawing its application, cumulative spill volumes would be reduced by roughly 33% to 156 – 160 barrels per year. Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.9-34 – 4.9-35 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.9-33 (November 2018).

[361] U.S. Fish and Wildlife Service, *Unarmored Three-spine Stickleback (Gasterosteus aculeatus williamsoni) 5-Year Review: Summary and Evaluation* at 7 (May 29, 2009); *See also* Hunt 2018 at 7-8.

[362] Hunt 2018 at 7-8.

[363] California State Water Resources Control Board, *GeoTracker; Map with Oilfield Boundaries*, available at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento.

[364] *Id.;* U.S. Fish and Wildlife Service Arcata Fish and Wildlife Office, *Tidewater Goby* (April 11, 2020), available at: https://www.fws.gov/arcata/es/fish/Goby/goby.html.

[365] 73 Fed. Reg. 5920.

Endangered southern California steelhead, steelhead critical habitat, and endangered arroyo toad in the Sisquoc River and other watersheds would be at risk due to increased oil tanker traffic. According to Hunt in comments regarding the Aera Draft EIR,

> With a projected project life of 30 to 50 years, an unknown fraction of 2,700 to 4,500 barrels (113,400 to 189,000 gallons) of oil will be spilled, which could enter drainages and directly affect biological resources downstream of the project site. The impact analysis should be expanded to include biological resources in drainage reaches downstream of the project site and potentially-affected portions of the Sisquoc and Santa Maria rivers.[366]

EDC-138 (cont.)

If the TerraCore project is approved, many more tankers trucks would travel on Highway 166, where a tanker crashed on March 21, 2020.[367] (See Figure 1 below.) This road is a long, windy, remote two-lane highway that follows the Cuyama River. It is well-known for accidents. The March 21, 2020 accident spilled approximately 4,500 gallons of crude oil into the flowing Cuyama River near Twitchell Reservoir, oiling at least two CRLF.[368] Nine California-protected western pond turtles were oiled.[369] The western pond turtle is undergoing review by the Service as "a candidate for listing" under the ESA.[370] Oil tanker accidents are not a covered activity, but would increase substantially as a result of new oil and gas projects, and cause harm to listed species, such as CTS, CRLF, LYS, arroyo toad, steelhead, tidewater goby, and unarmored three-spine stickleback.[371] The GCP does not sufficiently disclose or analyze the impacts to the species survival from these non-covered activities.

EDC-138 (cont.)

[366] Hunt 2019(b).
[367] Tom Bolton, Executive Editor, *Tanker Truck Leaks Crude Oil into Cuyama River After Crash on Highway 166,* Noozhawk (March 21, 2020), available at: https://www.noozhawk.com/article/tanker_leaking_crude_oil_into_cuyama_river_after_crash_on_highway_166.
[368] California Department of Fish and Wildlife Office of Oil Spill Prevention and Response, *OPR Liaison Update #10, Cuyama River Incident – Final Update* (April 3, 2020).
[369] *Id*.
[370] UCLA Institute of Environment and Sustainability, *Western Pond Turtle at-risk species assessment Practicum Project 2019*, available at: https://www.ioes.ucla.edu/project/western-pond-turtle-at-risk-species-assessment/; Washington Department of Fish and Wildlife, *Status of the Western Pond Turtle (Clemmys marmorata) in Washington*, available at: https://wdfw.wa.gov/publications/01528.
[371] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.9-35 – 4.9-35 (February 2019).

Figure 1. On March 21, 2020, an oil tanker traveling on Highway 166 lost control and crashed, spilling 4,500 gallons of crude oil into the flowing Cuyama River, oiling at least two CRLF. (Santa Barbara County Fire Department, March 21, 2020)

v. The EA Fails to Identify Regulatory Requirements Pertaining to the Santa Barbara Coastline.

The GCP includes five areas, including the "Santa Barbara Coastline." (GCP at 5) Accordingly, the EA must be revised to identify the CZMA as an applicable regulatory requirement. (EA at 1-8) Pursuant to the CZMA, any federal agency activity "that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs." 16 U.S.C. § 1456(c)(1)(A). In this case, the GCP must be reviewed by the California Coastal Commission to ensure that it is consistent with the State's certified coastal management program. EDC-139

b. The Statement of Purpose and Need is Unlawfully Narrow and Misleading.

An EA must include a discussion of the need for the proposal. 40 C.F.R. § 1508.9(b). "The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. The statement of purpose and need must not be so narrow as to preclude consideration of a

reasonable range of alternatives. *City of Carmel-by-the-Sea v. Dept. of Transportation*, 123 F.3d 1142, 1155 (9th Cir. 1997).

The EA defines the purpose of the proposed action as increasing efficiency, standardizing compliance, ensuring consistency, and incorporating established maximum allowable impacts. (EA at 1-5) According to the EA, the GCP would provide a programmatic mechanism and eliminate the need for individual HCPs. (EA at 1-6) The EA identifies the need for better conservation of CTS, CRLF, and LYS. (*Id*.)

As written, however, the purpose of the GCP is not to protect the three identified listed species, but rather to allow private oil and gas development projects to proceed despite their impacts to the species. Although the EA professes that the purpose and need is to ensure compliance with the ESA and provide for "better conservation" of the species, the species would actually be better protected and conserved without the massive increase of oil and gas development proposed by the private companies and allowed by virtue of the GCP.[372] EDC-140

If the goal of the GCP is truly to provide better conservation of CTS, CRLF, and LYS, the GCP and EA should be revised to eliminate threats to these species and focus on recovery. This statement would be consistent with the ESA. Alternatives that achieve this purpose would focus on specific project review to ensure complete information and analysis, and could also prohibit oil and gas development activities in areas inhabited by the species or essential to their conservation and recovery.

c. The Description of the Proposed Action is Incomplete.

According to the EA, the Planning Area encompasses 674,200 acres (approximately 1,053 square miles). (EA at 2-1) The EA, however, fails to identify more specifically where the proposed oil and gas development activities would occur. Without this information, it is impossible to ascertain the potential impacts or determine whether the EA completely and adequately disclosed such potential impacts. EDC-141

In addition, the proposed Planning Area includes the Santa Barbara Coastline, and yet there is absolutely no discussion of potential activities or impacts located within this area in the EA. Why is this area included? The EA must describe the activities that may occur in this area, as well as the impacts that would result. EDC-142

d. The Discussion of Alternatives is Misleading and Unlawfully Narrow.

Despite the importance of alternatives to informed decision-making, the EA dispenses of this discussion in one page. (EA at 2-17) The EA evaluates only the No Action Alternative (as EDC-143

[372] *See* Magney at 16 ("There is no evidence that the proposed GCP will result in 'better conservation' of the LYS.").

required by law) and summarily rejects any other alternatives, in clear violation of NEPA. In addition, the discussion of the No Action Alternative in the EA does not match the No Action Alternative in the GCP and contains false and misleading information.

i. The No Action Alternative is Inconsistent and Misleading.

The GCP states that "[t]he only alternative to the proposed incidental taking we considered is for project proponents to avoid any actions that could result in take of federally-listed species." (GCP at 13) The GCP goes on to state that "[t]his is synonymous with a no-action alternative, in which the project proponent would modify their [sic] project to avoid take of listed species altogether." (*Id*.)

The EA should likewise identify the No Action Alternative as avoiding any actions that could result in take of listed species. Instead, the No Action Alternative in the EA would allow activities that could result in take of federally-listed species, but would require the project proponent to apply for individual ITPs. (EA at 2-17) This alternative should be evaluated separate from the No Action Alternative. Under this alternative, applications for individual ITPs would be subject to project-specific review. Such permits would impose limits for take and appropriate mitigation measures. Therefore, the statement in the EA that there would be "no defined maximum impact limits" without the GCP is incorrect and misleading. (EA at 2-17) In fact, the Service would still be required to impose maximum impact limits. As the California Coastal Commission notes, requiring individual HCPs would actually be environmentally preferential, given the long duration of the GCP and the limitations on addressing changed or unforeseen circumstances.[373] EDC-144

Similarly, the statement that there would be no cohesive planning is not true, given the fact that any proposed take must be reviewed with reference to the effect on the species as a whole, and to compliance with the adopted Recovery Plan. Accordingly, the EA must be revised to note that individual proposed ITPs and HCPs must ensure full compliance with the ESA.

ii. The Range of Alternatives is Woefully Inadequate.

NEPA requires that agencies consider appropriate alternatives that will avoid or minimize adverse effects on the environment. 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1500.2(e). EAs should be held to the same standard as EISs, because the requirement to consider alternatives in an EA specifically references and incorporates section 102(2)(E) of the statute. *See* 40 CFR §1508.9(b); *see also Native Ecosystems Council v. U.S. Forest Serv.,* 428 F.3d 1233, 1245 (9th Cir. 2005). The requirement to consider alternatives is "the heart" of NEPA review. *Center for Biological Diversity v. National Highway Transportation and Safety Administration*, 538 F.3d 1172, 1217 (9th Cir. 2008) ("*CBD v. NHTSA*"). In *CBD v. NHTSA*, the court rejected an EA on the grounds

[373] Letter to Stephen P. Henry from Kate Huckelbridge regarding Draft Environmental Assessment and Draft General Conservation Plan for Oil and Gas Activities in Santa Barbara County, CA, at 2 (May 4, 2020).

that it failed to consider an adequate range of alternatives. Despite the fact that five alternatives were discussed, all of the alternatives were "hardly different" from the option that was ultimately adopted. *Id*. at 1218-19.

In this case, the EA does not consider *any* alternatives (other than the No Action alternative). The lack of a range of alternatives deprives the decision-makers of options to consider or adopt.

iii. The EA Fails to Consider an Alternative that Avoids or Lessens Take.

The GCP dismissed an alternative that would avoid federally-listed species and their habitats on the grounds that such an alternative "is not practical or feasible for most oil and gas industry activities within the Planning Area." (GCP at 13) As noted above, the EA did not even attempt to analyze such an alternative, so there is no basis for this conclusion. For example, it may be feasible to site oil and gas development in a manner that avoids take of LYS because the species occupies "discrete and generally small areas."[374] Accordingly, well pads, roads, and pipelines can easily be sited to avoid LYS.[375] EDC-145

Nor does the EA analyze a reduced take alternative. The GCP would allow permanent removal of 675 acres of CTS upland habitat, 355 acres of CRLF Critical Habitat, and 27.5 acres of LYS stands. (EA at 2-8 – 2-14; GCP at 57 - 65) The EA is deficient for failing to evaluate an alternative that minimizes take.

e. The EA Omits Critical Information from the Description of the Affected Environment.

An EA must accurately describe the baseline environmental conditions in order to properly assess the project's impacts. *Oregon Natural Desert Association v. Rose*, 921 F.3d 1185, 1190, 1192 (9th Cir. 2019) (EA rejected for failing to assess the actual baseline conditions in the area). Not only does the EA fail to include the necessary information regarding the affected environment, by referring back to the GCP, but the information contained in the GCP and EA is incomplete and inaccurate.

i. The EA Omits the Estimated Number of CTS and CRLF in the Planning Area, and Protocol-Level Surveys and Population Density Surveys were not Undertaken. EDC-146

The EA fails to sufficiently disclose the Affected Environment, including the estimated number of CTS and CRLF in the Planning Area. (*See e.g.,* EA at 2-8, 2-10, and 4-7) The Service and CDFW have adopted protocol-level survey methodologies for both species, but these

[374] Magney at 3.
[375] *Id.*

surveys have not been performed as part of the EA's analysis.[376] Other surveys to estimate the baseline populations and densities in the Planning Area and inform the EA have not been undertaken.[377] For example, methods of surveying for CTS involve burrow excavation, and fiber-optic scope surveys during which flexible scopes are fed into burrows in an effort to document the number of CTS and/or CRLF underground in upland areas.[378] These surveys were not undertaken to inform the EA with estimated CTS and CRLF populations and densities in the five Planning Area units.

The EA itself notes that the Service "cannot predict the number of individual CTS that would be incidentally subject to take, because no density estimate (i.e., the number of CTS per acre) has been calculated for the Planning Area." (EA at 2-8) The EA's Affected Environment Section is deficient because no density estimates were calculated in the Planning Area to inform the EA.

EDC-146 (cont.)

Using habitat as a proxy for individual numbers to assess take of CTS and CRLF has a significant shortcoming. Absent Planning Area protocol-level surveys and other surveys to determine densities and survivorship, the GCP is uncertain about which upland and dispersal habitats are inhabited or the densities present. Instead, surveys to inform the Model occurred in different populations over two hundred kilometers apart, and over two hundred kilometers from Santa Maria.[379] Without knowing the distribution and densities of CTS and CRLF in the Planning Area, the GCP cannot account for regional differences between Santa Barbara and Central Valley populations and habitats, and the Searcy Model cannot be calibrated to equate acreage of habitat to an estimated number of animals present in the Planning Area or in a project area. As a result, it may "bias the results."[380] Areas with relatively high densities that are not known due to lack of adequate surveys could be developed with insufficient compensatory mitigation based on a model-predicted lower density.

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[376] U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (October 2003), available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/cts_survey_protocol.pdf; *See also* U.S. Fish and Wildlife Service and California Department of Fish and Game, *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (August 2005).
[377] Surveys to estimate CTS's Central DPS densities were undertaken by Searcy and Shaffer. Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander*, Vol. 22, No. 4 Conservation Biology at 999 (August 2008).
[378] U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* at 7 (October 2003), available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/cts_survey_protocol.pdf.
[379] *Id.; See also:* Bumgardner at 4-5.
[380] Bumgardner at 5.

ii. The EA Omits the Estimated Number of LYS in the Planning Area.

The EA fails to substantiate the number of plants that exist in the Planning Area. The EA must identify the existing status and condition of the species, including the number of potentially affected plants.[381] This should be feasible, given the fact that "there are only five known populations, three of which occupy small areas."[382] Simply identifying the acres of habitat does not provide the same information.[383] EDC-147

iii. The EA Fails to Identify Other Federally Listed Species in the Planning Area that may be Affected by Oil and Gas Development Activities.

The EA notes that approximately fourteen federally listed species "have been identified or have the potential to occur within the Planning Area." (EA at 3-7) The EA, however, fails to identify the other eleven species or consider which ones may be impacted by oil and gas development in the Planning Area.

The EA fails to identify the federally endangered unarmored three-spine stickleback[384] and tidewater goby which occur in San Antonio Creek near the Four Deer, Orcutt, Lompoc, Barham Ranch, Los Alamos, Jesus Maria, Harris Canyon, and Careaga Canyon Oilfields.[385] Tidewater gobies occur in several other estuaries and freshwater rivers and streams in the Planning Area, including the Santa Ynez River and in critical habitat in the Santa Maria River.[386] The EA also omits the federally endangered arroyo toad which occurs in the Sisquoc River downstream from the Cat Canyon Oilfield.[387] Suitable habitat for the longhorn fairy shrimp occurs in Cat Canyon Oilfield, but this species is also omitted.[388] The endangered blunt-nosed leopard lizard still occurs in the Cuyama Valley within the Planning Area, and potentially occurs along tanker truck routes in Kern County.[389] These federally threatened and endangered species EDC-148

[381] Magney at 2.
[382] *Id.*
[383] *Id.*
[384] The three-spine unarmored stickleback is a listed as federally endangered, state endangered, and as a Fully Protected Species pursuant to the California Fish and Game Code which means no permit can be issued to take this species; take is prohibited. California Department of Fish and Wildlife, *Fully Protected Species*, available at: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html; *See also*: Santa Barbara County Planning and Development Department, *Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-31 (February 2019).
[385] California State Water Resources Control Board, *GeoTracker Website Map with Oilfield Boundaries*, available at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento.
[386] 78 Fed. Reg. 8759.
[387] Santa Barbara County Planning and Development Department, *Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-29 and -32 (February 2019).
[388] *Id*. at 4.3-31.
[389] U.S. Fish and Wildlife Service, *Blunt-nosed Leopard Lizard Species Account*, available at: https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/blunt_nosed_leopad_lizard/documents/blunt-nosed_leopard_lizard.pdf.

are at risk due to the GCP because of habitat loss, stormwater runoff,[390] spills from tankers,[391] pipelines,[392] wells, tanks, and other facilities, fires started by oil and gas operations, and/or vehicle-strike.

Other listed plant species are also present in the Planning Area, including *Deinandra increscens* ssp. *villosa*, *Cirsium scariosum* var. *longcholepis*, and *Diplacus vandenbergensis*.[393] EDC-148 (cont.)

The EA is inadequate due to the omission of these federally listed species as part of the Affected Environment.

iv. The EA Mischaracterizes and Omits Special-status Species.

The EA describes "general wildlife," including "common species," Threatened and Endangered Species, and Non-covered Sensitive Species. (EA at 3-5 - 3-11). However, some species the EA refers to as "common" are protected by the State of California, including coast horned lizard, mountain lion, arroyo chub, western pond turtle, western mastiff bat, western red bat, fringed myotis, and hoary bat.[394]

The EA omits State-listed and Fully Protected Species discussed above. The EA omits other State-protected wildlife species including the silvery legless lizard, coast patched-nose snake, two-striped garter snake, San Diego woodrat, American badger, and western spadefoot toad, which are California State Species of Special Concern.[395] These species are threatened by oil and gas development in the Planning Area but were improperly omitted from the EA.[396] EDC-149

v. The EA Omits Marine Species, Including Federally Listed Marine Species Adjacent to the Planning Area.

The EA limits its analysis to the Planning Area; however, GCP impacts can occur outside of the Planning Area. Oil or other hazardous materials spills from pipelines and tankers can enter drainages, rivers, and the ocean. Spills such as the 2015 Refugio Oil Spill that originated on land but spread to the Pacific Ocean may impact federally listed marine species including southern sea otter,[397] blue whale,[398] and pink abalone.[399] In response to the Refugio Oil Spill, over 1,000 EDC-150

[390] US Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 (December 12, 2016).
[391] California Department of Fish and Wildlife, Office of Spill Prevention and Response, *OSPR Liaison Update #9, Cuyama River Incident* (April 1, 2020).
[392] Thomas D. Lorenson, U.S. Geologic Survey, *The USGS response to the May 19, 2015 Plains All American Pipeline 901 oil spill near Refugio State Beach, California, USGS.*
[393] Magney at 3.
[394] Santa Barbara County Planning and Development Department, *Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-31 - 40 (February 2019).
[395] *Id.*
[396] *Id.*
[397] Southern Sea Otter is a federally threatened species and a California State Fully Protected Species. U.S. Fish and Wildlife Service, *Southern Sea Otter*, available at: https://www.fws.gov/ventura/endangered/species/info/sso.html.

calls to CDFW documented over 300 sightings of oiled wildlife.[400] According to the most recent report regarding the natural resource damages from the Refugio Oil Spill, the incident killed hundreds of birds, marine mammals, and other wildlife.[401] The EA is deficient for not setting forth marine resources, including federally listed marine species, as part of the Affected Environment and in Table 3-1. EDC-150 (cont.)

vi. The EA Fails to Use the Service's Definition of Wetlands and Omits One- and Two-parameter Wetlands.

The EA discusses potential impacts to wetlands in Section 3.4, but it defines wetlands narrowly and inconsistent with Service Policy. The Service uses the following definition:

> "WETLANDS are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes;[1] (2) the substrate is predominantly undrained hydric soil;[2] and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year."[402]

EDC-151

The Service's definition requires that *only one of three* wetland attributes (or parameters) must be present to be a wetland: hydrology, soils, *or* vegetation. However, the EA considers only those wetlands *exhibiting all three* wetland parameters: hydrology, soils, *and* vegetation. (EA at 3-14). The EA is deficient because it does not utilize the Service's one-parameter wetland definition and omits one- and two-parameter wetlands from the Affected Environment.

vii. The Affected Environment Section Contains Geographical Errors.

The EA lists the Orcutt River on page 3-7. This may to be a reference to Orcutt Creek. EDC-152
The EA misrepresents the Barka Slough as an estuary. (EA at 3-15) Barka Slough is one of the EDC-153

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[398] NOAA Fisheries, *Draft Recovery Plan for the Blue Whale (Balaenoptera musculus)* (October 11, 2018), available at: https://www.fisheries.noaa.gov/resource/document/draft-recovery-plan-blue-whale-balaenoptera-musculus.
[399] U.S. Fish and Wildlife Service, *White Abalone*, available at: https://www.fisheries.noaa.gov/species/white-abalone.
[400] California Department of Fish and Wildlife, *Refugio Oil Spill: Summary of Recommendations from the Office of Spill Prevention and Response* at 25 (May 2016).
[401] *Refugio Beach Oil Spill Natural Resource Damage Assessment Update*, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=157739&inline.
[402] U.S. Fish and Wildlife Service, *Wetlands and Deepwater Habitats*, available at: https://www.fws.gov/wetlands/Documents/classwet/wetlands.htm.

largest freshwater marshes in the region and is located several miles inland from the San Antonio Creek Estuary.[403] EDC-153 (cont.)

f. The EA Discussion of Environmental Consequences Fails to Disclose the Complete Range and Extent of Impacts that will Result if the GCP is Approved.

An EA must evaluate the potential impacts of the proposed action and alternatives. (40 C.F.R. § 1508.9(b).) The Draft EA fails to fulfill the requirements of NEPA because it does not consider all the potential activities that may occur; limits the timeframe, breadth of listed species that may be impacted, and other impacts that could result if the GCP is approved; and fails to assess both direct and indirect effects.

The EA also improperly relies on separate environmental review under the California Environmental Quality Act ("CEQA") to assess impacts from the oil and gas projects that will utilize the GCP. (EA at 4-5) The fact that local and state agencies must comply with CEQA does not relieve the Service of the requirement to disclose these significant direct and indirect impacts in the EA. Environmental review must occur early in the process "to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts." 40 C.F.R. § 1501.2, *Idaho Sporting Congress, Inc. v. Alexander*, 222 F.3d 562, 567-68 (9th Cir. 2000). Accordingly, the Service must conduct complete environmental review before taking action on the proposed GCP. EDC-154

i. The GCP Will Result in a Significant Unmitigated Net Loss of Designated Critical Habitat for the CTS.

The EA discloses in Table 2-2 the Maximum Allowable Permanent Impacts to six CTS Critical Habitat Units (152 acres total). As discussed above in comments on the GCP, the GCP allows removal of CTS critical habitat which is not replaced in-kind with new critical habitat. (EA at 2-9) This net loss of critical habitat acreage is a significant and unavoidable impact because it is a permanent impact to an essential habitat. The EA fails to identify this loss as a significant impact. EDC-155

ii. The EA Claims that No Impacts to CTS Breeding Habitat Would be Authorized, However, the EA Omits Oil Road Runoff Impacts and Reduced Hydroperiod Impacts to CTS Breeding Habitat.

The EA states that "aquatic features (PCE 1) would not be adversely affected because no impacts to aquatic habitats would be permitted under the proposed GCP." (EA at 4-9; *see also* EA at 4-11) The EA also claims that "the GCP may result in beneficial affects [sic] to PCE 1 EDC-156

[403] Audubon, *Important Bird Areas: Vandenberg Air Force Base and Santa Ynez Estuary*, available at: https://www.audubon.org/important-bird-areas/vandenberg-air-force-base-and-santa-ynez-estuary.

because aquatic habitats would be protected." (EA at 4-9) However, the EA's conclusory statements overlook the following indirect impacts to CTS aquatic and breeding habitats: altered runoff patterns in watersheds, and increased non-point source pollution including sediment, oil, and grease entering ponds and creeks. For instance, as discussed in more detail in comments on the GCP, the CTS Recovery Plan states that stormwater runoff from oilfield roads resulted in mortality and deformation of CTS and the western spadefoot toad in the Planning Area.[404] Bumgardner identifies other impacts to breeding ponds including reducing ponds' hydroperiod to less than twelve contiguous weeks by modifying ponds' watersheds and reducing surface and subsurface flows into the pond.[405] The EA is deficient for not identifying this documented form of take and significant impacts to breeding CTS, CTS breeding habitats, CTS prey base, and western spadefoots. EDC-156 (cont.)

iii. The EA Omits Impacts to One- and Two-parameter Wetlands.

As discussed above in comments regarding the GCP and the EA's Affected Environment section, the EA defines wetlands much more narrowly than the Service's definition. The EA uses the U.S. Corps of Engineers definition – the narrowest of all wetland definitions in our region. Under the Corps' definition, an area must exhibit all three wetland parameters: soil, plants, *and* hydrology. Under the Service's definition, however, an area qualifies as a wetland if only one parameter is met. As a result, the EA omits impacts to all one- and two-parameter wetlands. Such wetlands often constitute the majority of wetlands on parcels in Santa Barbara. For example, the 2008 Final EIR for Santa Barbara Ranch identifies a much greater number and acreage of one- and two-parameter wetlands than three-parameter wetlands.[406] The EA's omission of impacts to all one- and two-parameter wetlands renders it deficient. EDC-157

iv. The EA Does not Adequately Disclose the Significant Impacts of Noise, Vibrations, and Night-lighting on CTS, CRLF, and Other Wildlife.

As discussed above in the comments on the GCP, the EA does not adequately disclose the impacts of lighting on wildlife movement, nesting, and foraging. The EA fails to identify potentially significant impacts to CTS, CRLF, other listed species, special-status species, and general wildlife from noise and vibrations. For example, the TerraCore West Cat Canyon Project will result in significant impacts from nighttime noise to surrounding neighbors.[407] This noise could significantly impair intraspecies communications by masking auditory signals and may EDC-158

[404] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 (December 12, 2016).
[405] Bumgardner at 2.
[406] Santa Barbara County Planning and Development Department, *Final EIR for Santa Barbara Ranch*, Figure 3.4-2 (2008).
[407] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.8-15 (February 2019).

reduce reproduction in amphibians and reptiles.[408] The EA is deficient for omitting noise, vibration, and lighting impacts on CTS and CRLF. EDC-158 (cont.)

v. The EA does not Limit Impacts to CRLF Habitat that is not Designated Critical Habitat.

CRLF critical habitat constitutes 35,426 of the Planning Area's 674,220 acres. (EA at 2-10) The GCP caps take of CRLF within this 35,426-acre critical habitat. (EA Table 2-3 at 2-11) However, the EA does not cap take of CRLF in the remaining 638,794 acres outside of designated critical habitat. In contrast, the GCP does cap take for LYS outside designated critical habitat areas.[409] (EA Table 2-4 at 2-14) The lack of a cap on CRLF take outside designated critical habitat means that the GCP could result in substantial loss of CRLF habitat in the remaining 638,794 acres. The failure of the EA to consider or analyze the impact of allowing take outside designated CRLF critical habitat is a significant omission. EDC-159

vi. The EA Inconsistently Reports No Impacts to LYS.

The EA's description of impacts to LYS states that "no impacts to designated critical habitat for LYS would be covered under the proposed GCP." (EA at 4-12) On the other hand, the EA identifies "impacts to 7.5 acres of LYS habitat which could occur within the boundary of designated critical habitat as shown in Table 2-4." (*Id*.) This substantive inconsistency confuses the impact analysis and renders the EA deficient. EDC-160

In fact, impacts to LYS would be significant due to the few numbers and locations of the plant, the existing threats, the amount of plants that would be taken and the difficulties with propagating LYS, and impediments to expansion and migration.[410] As Magney states, "The limited distribution and size of the LYS populations are so small that any loss of individual represents a significant impact."[411] Moreover, there is no evidence that such impacts can be mitigated.[412] EDC-161

vii. The EA Omits the Impacts of Take Caused by Tanker Truck Accidents and Spills.

The EA discusses mitigating the impacts of oil spills (but not chemical or polluted wastewater spills) and spill cleanups pursuant to an ERAP. (EA at 4-4) However, this impact is limited to spills from "oil drilling, oil wells, and/or oil pipelines." (*Id.*) The EA omits the impacts of take caused by tanker truck accidents resulting in oil spills, explosions, and fires. Tanker EDC-162

[408] Andrea Simmons and Peter Narins, *Effects of Anthropogenic Noise on Amphibians and Reptiles* (August 21, 2018).
[409] The GCP does not address take for CTS outside designated critical habitat because the entire Planning Area overlaps with CTS critical habitat. (EA at 2-8)
[410] *See* Magney.
[411] Magney at 18.
[412] *Id*.

trucks may also haul chemicals which may require different responses than crude oil, and thus may require a different ERAP. Tanker trucks drive on roads and highways following and crossing major rivers and streams which support listed species both within and outside of the Planning Area as discussed above. As noted above, on March 21, 2020, an oil tanker crash spilled 4,500 gallons of oil into the Cuyama River, oiling at least two CRLF during CRLF breeding season.[413] Given this recent accident and spill, there is no excuse for the EA to omit tanker accidents and spills and their impacts on CTS, CRLF, LYS, and other fish, wildlife, and vegetation. EDC-162

viii. The EA Omits the Significant Environmental Impacts of Fires Caused by Oil and Gas Activities Which May Take CTS, CRLF and LYS and Impact Other Special-status Species and Habitats.

The EA fails to disclose and evaluate take and impacts to CTS and CRLF habitats and LYS stands caused by wildfires started by oil and gas operations. For instance, as discussed above, the 2016 Cat Fire, 2017 Lease Fire, 2018 Rig, and 2019 Harris Grade Fire started in North County oilfields, and were linked to oilfield electrical equipment.[414] Like oil spills, these fires are not lawful activities and therefore cannot be covered by the GCP but result in take which must be disclosed in the EA. EDC-163

As discussed above, in 2018 the Woolsey Fire in the Santa Monica Mountains wiped out several populations of CRLF and was a "major setback for" CRLF.[415] Frequent fires eliminate chaparral and shrubland communities where LYS is found.[416] "Fires more than once every 20 years, or during the cool season by prescribed fire, can eliminate chaparral by first reducing its biodiversity through the loss of fire-sensitive species, then by converting it to non-native weedlands (called type-conversion)."[417] The potentially significant impacts of oilfield-started wildfires, including take of CTS, CRLF, and LYS, are not disclosed in the EA, nor are they minimized or mitigated by any measure in the GCP. Omission of take and significant unavoidable impacts caused by oil and gas operation-started wildfires renders the EA deficient. EDC-163 (cont.)

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[413] California Department of Fish and Game Office of Oil Spill Prevention and Response, *OSPR Liaison Update #10, Cuyama River Incident – Final Update* (April 3, 2020).
[414] Santa Barbara County Fire Department, *Cat Fire Incident Report* at 2 (June 27, 2016); *See also* Santa Barbara County Fire Department, *Lease Fire Incident Report (NFIRS-1 Basic)* at 2 (December 5, 2017); *Brush Fire Near Sisquoc Stopped at Two Acres* (September 15, 2019), available at: https://www.edhat.com/news/brush-fire-near-sisquoc-stopped-at-two-acres; *Powerlines the Cause of Harris Grade Fire*, (July 16, 2019), available at: https://www.edhat.com/news/power-lines-the-cause-of-harris-grade-fire.
[415] National Parks Traveler, *Woolsey Fire A Major Setback for California Red-legged Frogs* (June 20, 2019), available at: https://www.nationalparkstraveler.org/2019/06/woolsey-fire-major-setback-california-red-legged-frogs.
[416] Emma C. Underwood, et al., *Global Change and the Vulnerability of Chaparral Ecosystems,* (October 2018).
[417] California Chaparral Institute, *Loss of Chaparral*, available at: www.californiachaparral.org/threatstochaparral.html.

ix. The EA Omits Impacts Outside of Santa Barbara County.

The GCP could result in spill-related, oilfield fire-related, and vehicle-strike take of CRLF and other listed wildlife species outside the County; however, the EA's discussion of impacts is limited to resources in "The Planning Area" in "Santa Barbara County." (EA at 4-2, 4-5, and 4-10) The GCP does not cover take caused by linear infrastructure which extends beyond the County line, such as some pipelines and oil tankers on highways. (GCP at 14) However, out-of-County impacts are one ultimate result of the GCP. The EA's omission of impacts outside of the Planning Area, including fires and spills from tanker crashes and oil field operations, pipeline spills, and increased traffic outside the County is a serious flaw in the EA. EDC-164

x. The EA's Analysis of the GCP's Climate Change Impacts is Deficient.

The EA omits the impacts of take associated with climate change caused by authorized oil and gas projects' GHG emissions. The 674,220-acre Planning Area for the GCP covers the Cat Canyon Oil Field where proponents of two new steam injection projects propose to drill nearly 500 new wells, tripling onshore oil production in the County.[418] (GCP at 5) The significant GHG emissions generated by these two projects alone will contribute to climate change impacts, such as increased droughts, fires, and floods, which directly affect recovery efforts for CTS, CRLF, and LYS.[419] For example, the TerraCore project would emit 250,876 metric tons per year of CO2 equivalent ("MTCO2e") and Aera's project would emit 302,532 MTCO2e annually.[420] By way of comparison, the County identifies GHG emissions over 1,000 MTCO2e to be a significant climate change impact.[421] The emissions from new or expanded oil EDC-165

[418] Santa Barbara County Planning & Development Energy & Minerals Division, *Overview of Oil Operations* (February 24, 2016), available at: https://www.sbck.org/wp-content/uploads/2016/01/County-Oil-Gas-Briefing-2.24.16.pdf (Slide 14 showing 2016 production for multiple onshore oilfields); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 2-1, 2-68 (November 2018); Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 2-33 – 2-34 (February 2019); Lara Cooper, *Supervisors Get Update on Oil Production in Santa Barbara County,* Noozhawk (July 21, 2015).

[419] U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at 28 (May 28, 2002); *See also* U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-16 (December 12, 2016); U.S. Fish and Wildlife Service, *Eriodictyon capitatum (Lompoc yerba santa) 5-Year Review: Summary and Evaluation* at 16, 18 (February 8, 2011).

[420] *See e.g.,* Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.4-14 - 16 (February 2019); Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.4-21 (November 2018).

[421] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.4-13 and 4.4-14 (February 2019) ("The Santa Barbara County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2015b) specifies that: All industrial stationary-source projects shall be subject to a numeric, bright-line threshold of 1,000 MTCO2e per year to determine if greenhouse gas emissions constitute a significant cumulative impact. Annual GHG emissions that are equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change unless mitigated.")

and gas projects in Santa Barbara County would worsen these climate change impacts on CTS, CRLF, LYS, and their habitats.

Globally, GHG emissions have doubled since 1980, increasing global temperatures by at least 0.7 degrees Celsius.[422] Even more alarming, the County's average temperature has increased by 2.3 degrees Fahrenheit, placing it among the fastest warming locations in the country.[423] Amphibians have thin, highly permeable skin[424] and typically prefer moist environments.[425] These species are thus disproportionately impacted by warmer and dryer summertime conditions.[426] According to a recent UN report, forty percent of amphibian species are currently in danger of extinction, including CTS.[427] (GCP at 40) The GCP explains how climate change is already adversely affecting CTS and other amphibians:

> Global amphibian declines have been increasingly attributed to factors resulting from global climate change over the last decade (Corn 2005, Wake 2007, Reaser and Blaustein 2005). Factors such as epidemic disease (Pounds et al. 2006), changes in breeding phenology (Terhivuo 1988; Gibbs and Breisch 2001; Beebee 1995), changes in environmental conditions such as leaf litter (Whitfield et al. 2007), increased evaporation rate (Corn 2005, but see Pyke and Marty 2005), increased frequency of storm events and drought (Kagarise-Sherman, and Morton 1993) and ultraviolet radiation (Blaustein et al. 1998) have been identified to affect amphibian persistence. Diseases, such as the amphibian chytrid fungus, may become more virulent in changing climatic conditions (Pounds et al. 2006). Warmer temperatures have been linked to earlier breeding in some amphibians (Blaustein et al. 2001, Beebee 1995). Changes to the hydroperiod of ephemeral ponds due to changing weather patterns have significant implications for the diversity of amphibians that rely on those ponds for breeding (Corn 2005). Ultraviolet radiation has been shown to have negative effects on amphibian eggs and embryos around the world (Blaustein et al. 1998). (GCP at 40)

EDC-165 (cont.)

[422] Sandra Díaz, et al., *IPBES Global Assessment on Biodiversity and Ecosystem Services,* United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (May 30, 2019), available at: https://ipbes.net/global-assessment; Final Summary for Policy Makers (2019), available at: https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf.
[423] Steven Mufson, et al., *2°C: BEYOND THE LIMIT: Extreme climate change has arrived in America,* Washington Post (August 13, 2019), available at: https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america/.
[424] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense*) at VI-20 (December 12, 2016).
[425] *Id.*at I-6.
[426] Inside Ecology, *Amphibians and Climate Change* (March 2, 2018), available at: https://insideecology.com/2018/03/02/amphibians-and-climate-change/.
[427] *Id.*

Additionally, biological invasions are forecast to increase as the effects of climate change on ecosystems become widespread.[428] Climate change disturbs habitats and facilitates the establishment of invasive species, thereby impacting the local biodiversity.[429] One consequence of nonnative species invasion of particular concern for the CTS is hybridization—the cross-breeding between invasive and native species—a phenomena that has been proven to accelerate greatly during periods of warming.[430] In 2014, research determined that climate change-induced invasive hybridization could lead to extinction for many species.[431] This is particularly relevant in the Cat Canyon Oil Field due to the ongoing invasion of exotic tiger salamanders in the Planning Area, as discussed in the GCP. (GCP at 38) Climate change may further accelerate this impact on CTS.[432]

Leading CTS biologists Searcy and Schaffer conducted a 2016 analysis of how models predicted climate change impacts on CTS. Unfortunately, they found that four separate projections "showed a significant decrease in habitat suitability."[433] The Santa Barbara CTS fared particularly unfavorably in the modeling.[434] Finally, with respect to the Recovery Plan's identification of invasive salamanders noted just above, Searcy and Schaffer point to the current "hybrid swarm" threat in Santa Barbara County and how climate change is expected to worsen this threat.[435]

EDC-165 (cont.)

Climate change will also affect LYS as conditions become too dry to support normal growth and reproduction.[436] If areas that currently support LYS become uninhabitable, it will be more difficult for LYS as compared to some species to migrate to survive due to limitations on seed viability and successful propagation.[437] In addition, there "likely unsurmountable barriers to its successful migration northward or upward in elevation."[438] Migration is limited because the soils in which LYS grow are highly restricted and lacking, and because urban and agricultural development blocks paths for migration.[439] Therefore, any impacts from climate change will only exacerbate the perilous condition of LYS.

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[428] Scholes, R. J., et al., *IPCC Working Group II Assessment Report 5 Chapter 4 Terrestrial and Inland Water Systems*, Intergovernmental Panel on Climate Change (2014).
[429] International Union for the Conservation of Nature, *Invasive Alien Species and Climate Change* (April 29, 2020), available at: https://www.iucn.org/resources/issues-briefs/invasive-alien-species-and-climate-change.
[430] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 – I-19 (December 12, 2016).
[431] Muhlfeld, C. C., et al., *Invasive Hybridization in a Threatened Species Is Accelerated by Climate Change*, Vol. 4 Nature Climate Change at 620–624 (2014).
[432] U.S. Fish and Wildlife Service*, Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-18 – I-19 (December 12, 2016*).*
[433] Christopher Searcy and Brad Schaffer, *Do Ecological Niche Models Accurately Identify Climatic Determinants of Species Ranges?* at 432 (February 22, 2016).
[434] *Id*.
[435] *Id*.
[436] Magney at 7-8.
[437] *Id.* at 8.
[438] *Id.* at 15-16.
[439] *Id.* at 16.

Increased fire frequency caused in part by climate change may further reduce LYS stands in chaparral through a process known as type-conversion. (GCP at 49)[440] The GCP itself finds that wildfire can extirpate entire uniclonal populations. (GCP at 50) Nonnative "iceplant and veldt grass have both followed fire into the chaparral habitat and have been displacing Lompoc yerba santa."[441] Therefore, while the EA lacks information about the effects of climate change on LYS, there is ample evidence demonstrating that climate change increases fire frequency which can extirpate the two uniclonal LYS populations, and cause invasion of nonnative plants into LYS stands further degrading them and reducing their size.

We know enough about the effects of climate change to understand that LYS, CTS, and CRLF are already subject to or will be adversely affected by these changes. The oil and gas projects that would benefit from the GCP will exacerbate climate change and adversely impact LYS, CTS, and CRLF. Authorizing take for oil and gas projects does not help to conserve these species and instead increases long-term climate change threats to them. The EA fails to disclose and minimize these significant impacts.

EDC-165 (cont.)

Moreover, the biological impacts from climate change catalyzed by fossil fuel energy development, for which the GCP would provide take authorization, are not limited to the CTS, CRLF, and LYS. Changes in temperatures, precipitation, food sources, and predator-prey patterns are disrupting cyclical biological events and species' ranges in terrestrial ecosystems worldwide.[442] Recent research published in *Nature Climate Change* found that climate change is already affecting more than 700 species of threatened or endangered mammals and birds.[443] One million species of plants and animals are now at risk of extinction due to climate change.[444] Based on the foregoing, the failure to adequately analyze the impacts on CTS, CRLF, and LYS in the EA is a significant omission.

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[440] California Chaparral Institute, *Loss of Chaparra* (April 5, 2020), available at: www.californiachaparral.org/threatstochaparral.html; *See also* California Native Plant Society *Calscape* (April 11, 2020), available at: https://calscape.org/Eriodictyon-capitatum-().
[441] Encylopedia.com (April 11, 2020), available at: https://www.encyclopedia.com/environment/science-magazines/lompoc-yerba-santa.
[442] Singer, M.C., *Shifts in Time and Space Interact as Climate Warms*, Vol.114, Proceedings of the National Academy of Sciences at 12848–12850 (2017).
[443] Pacifici, M., et al., *Species' Traits Influenced Their Response to Recent Climate Change*, Vol. 7, Nature Climate Change at 205–208 (2017).
[444] Sandra Díaz, et al., *IPBES Global Assessment on Biodiversity and Ecosystem Services Draft*, United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (May 30, 2019), available at: https://ipbes.net/global-assessment; *Final Summary for Policy Makers* (2019), available at: https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf.

xi. The EA Omits Impacts to Federally Listed Southern California Steelhead, Arroyo Toad, Unarmored Three-spine Stickleback, Tidewater Goby, Blunt-nosed Leopard Lizard, Vernal Pool Fairy Shrimp, and Longhorn Fairy Shrimp, Including Spills, Runoff, and Vehicle-strikes.

The EA fails to disclose the GCP's direct and indirect impacts and potential take of endangered steelhead, arroyo toad, tidewater goby, unarmored three-spine stickleback, blunt-nosed leopard lizard, and longhorn and vernal pool fairy shrimp. The EA claims, "there would be beneficial impacts to noncovered species" because "avoidance, minimization, and mitigation measures from the proposed GCP – intended for CTS, CRLF, and LYS – also apply to the other noncovered species cross the Planning Area." (EA at 4-14) However, the EA provides no explanation whatsoever regarding how the GCP's measures would allegedly apply to these seven listed but noncovered species and the other listed species in EA Table 3-1.

The EA's Affected Environment section acknowledges that the federally endangered steelhead is present. (EA at 3-7) Steelhead critical habitat has been designated below dams in almost all significant waterways, including the Sisquoc and Santa Maria Rivers downstream from the Cat Canyon Oilfield.[445] Arroyo toad occurs in the Sisquoc River downstream from the Cat Canyon Oilfield.[446] Oil spills, toxic wastewater spills, and other hazardous liquids spills – while unlawful and thus not covered by the GCP – could enter the Sisquoc River where they could significantly impact steelhead and arroyo toad.[447] However, the impact of spills on steelhead and arroyo toad in the Sisquoc and Santa Maria Rivers is omitted from EA Section 4 - Environmental Consequences. As discussed further below, GCP Measure 20 is intended to mitigate the impact of spills after-the-fact, but the ERAP does not avoid or substantially minimize the significant unavoidable effects of spills on arroyo toad and steelhead.[448] EDC-166

The EA omits federally endangered unarmored three-spine stickleback within San Antonio Creek.[449] (*See e.g.*, EA Table 3-1 Federally Listed Species with Potential to Occur within the GCP Planning Area) Federally endangered tidewater goby occurs in many estuaries, lagoons, and streams in the Planning Area, including designated critical habitat,[450] but the goby is also omitted from the EA. "Although usually associated with lagoons and estuaries, the tidewater goby has been documented in slack freshwater habitats as far as 5 miles upstream from San Antonio lagoon in Santa Barbara County."[451] This ability to migrate five miles up San

[445] Conservation Biology Institute, *Critical Habitat for Steelhead in the Southern California ESU*, available at: https://databasin.org/datasets/f5879236662d4d23b771cb87653acdc7.
[446] Santa Barbara County Planning and Development Department, *Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-32 (February 2019).
[447] *See e.g., Id.* at 4.3-49.
[448] *Id*. at 4.3-49 – 50.
[449] U.S. Fish and Wildlife Service, *Unarmored Three-spine Stickleback (Gasterosteus aculeatus williamsoni) 5-Year Review: Summary and Evaluation* at 7 (May 29, 2009).
[450] U.S. Fish and Wildlife Service, *Tidewater Goby Eucyclogobius newberryii,* available at: https://www.fws.gov/arcata/es/fish/Goby/goby.html.
[451] *Id*.

Antonio Creek places tidewater goby in the vicinity of at least eight oilfields, and places it at risk from oil and wastewater spills in the Planning Area. These species are threatened by oil and wastewater spills from production, processing, storage, and transportation of oil by pipeline or truck within the Planning Area. With respect to truck and pipeline transport, take can occur both inside and outside of the Planning Area, but impacts to these endangered fish are omitted from the EA.[452] The unarmored three-spine stickleback and tidewater goby are also threatened by frack-outs during hydraulic directional drilling ("HDD") proposed to install a natural gas line under San Antonio Creek to support oil and gas operations.[453]

Vernal pool and longhorn fairy shrimp are threatened by the GCP's authorization of construction and operation of oil and gas projects, including habitat loss from construction, mowing, and off-road vehicles, and crushing of cysts in dry ponds.[454] Blunt-nosed leopard lizards are at risk due to the oil and gas development and vehicle-strike under the GCP. Considering effects on other species of endangered lizards, oilfield-started fires and increased fire frequencies worsened by climate change may also threaten the endangered blunt-nosed leopard lizard.[455] EDC-166 (cont.)

The EA's failure to disclose significant impacts to southern California steelhead, arroyo toad, unarmored three-spine stickleback, tidewater goby, vernal pool and longhorn fairy shrimp, and blunt-nosed leopard lizard renders the EA deficient and undermines the public's right to a fair and transparent analysis.

xii. The EA Omits Impacts to Special-status Species not Listed as Federally Endangered or Threatened.

The EA fails to disclose impacts to State-protected special-status species which are not federally listed, such as the western pond turtle[456] and two-striped garter snake.[457] The EA omits the GCP's impacts to other special-status species which were improperly excluded from the EA, such as the ringtail, silvery legless lizard, San Diego woodrat, and American badger.[458] These EDC-167

[452] Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for West Cat Canyon Revitalization Plan* at 4.3-49 – 4.3-50 (February 2019). See also: Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.3-56 – 4.3-58 (November 2018).
[453] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Redevelopment Plan* at 4.3-104 (November 2018).
[454] Letter from Karen A. Goebel, Assistant Field Supervisor, US Fish and Wildlife Service to Mr. Baltazar Mejia, Senior Engineer, Public Services Department, City of Costa Mesa at 5 ("Mowing equipment can crush cysts"); *See also* Jennifer Oldham, *Shrimp Pose Big Problem for LAX, Los Angeles Times* (August 15, 2004), available at: https://www.latimes.com/archives/la-xpm-2004-aug-15-me-shrimp15-story.html.
[455] Sarsha Gorrisen, et al., *The Impacts of Fire Regimes on Populations of an Endangered Lizard* in *Montane South-eastern Australia* (2015); *See also* Fenner, A. L., and C. M. Bull, *Short-term impact of grassland fire on the endangered pygmy bluetongue lizard* at 444 - 450 (2007).
[456] Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for West Cat Canyon Revitalization Plan* at 4.3-33 (February 2019).
[457] *Id.*
[458] *Id.* at 4.3-39 – 40.

species could be significantly impacted by oil spills, oilfield-started wildfires, roadkill, habitat loss, and crushing during construction. The EA omits these significant impacts to these special-status species. EDC-167 (cont.)

xiii. The EA Results in Net Loss of Habitat for Special-status Species.

The GCP results in a net loss of habitat for listed, State-protected, and other species, causing a significant unavoidable adverse impact which is omitted in the EA. As discussed above in comments on the GCP, the GCP would authorize permanent take of up to 675 acres of CTS upland habitat, 355 acres of CRLF designated critical habitat, 27.5 acres of LYS. (EA at 2-8 to 2-14) In exchange, the GCP identifies Compensatory Mitigation including a Mitigation Bank, CTS and CRLF Mitigation and Conservation Accounts, and Permittee-Responsible Mitigation. (GCP at 76 - 81) All of these measures involve existing habitat but do not offset the loss of habitat acreage by creating or sufficiently restoring upland habitat as described in the CTS Recovery Plan.[459] Therefore, even when existing habitat is placed under an easement as mitigation for habitat loss, there is a net loss in habitat acreage for CTS, CRLF, LYS, other federally listed species, State-protected species, and general wildlife. The EA omits this significant unavoidable impact of net habitat loss. EDC-168

xiv. The EA Omits the Impacts and Take of Threatened and Endangered Estuarine and Marine Species Caused by Oil Spills from Trucks and Pipelines.

As discussed above in comments on the GCP and the EA's Affected Environment section, oil or wastewater spills that begin onshore at GCP-authorized oil and gas facilities and reach offshore, or come from trucking accidents along the coast, may impact listed marine species such as sea otter,[460] federally endangered white abalone,[461] and blue whale.[462] The EA improperly limits its analysis to terrestrial environments and omits impacts to marine species. EDC-169

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[459] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at III-4 – III-5 (December 12, 2016); *See also* U.S. Fish and Wildlife Service, *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* at 69 (May 28, 2002).
[460] Southern Sea Otter is a federally Threatened Species and a California State Fully Protected Species. U.S. Fish and Wildlife Service, *Southern Sea Otter*, available at: https://www.fws.gov/ventura/endangered/species/info/sso.html.
[461] U.S. Fish and Wildlife Service, *White Abalone*, available at: https://www.fisheries.noaa.gov/species/white-abalone.
[462] NOAA Fisheries, *Draft Recovery Plan for the Blue Whale (Balaenoptera musculus)* (October 11, 2018), available at: https://www.fisheries.noaa.gov/resource/document/draft-recovery-plan-blue-whale-balaenoptera-musculus.

xv. The EA Improperly Concludes Beneficial Impacts to Vegetation and Wildlife by Relying on Speculative Mitigation Measures.

The EA concludes that the GCP may result in beneficial impacts for vegetation and general wildlife, but this conclusion is based on an illogical analysis. (EA at 4-4 and 4-6) The EA reaches this incorrect conclusion by relying on speculative mitigation measures. In fact, the GCP does not result in beneficial impacts to vegetation and wildlife from authorizing oil and gas projects. Instead, the GCP will result in take of endangered and threatened species by allowing activities that will cause harm to species and their habitats from oils spills, construction, habitat loss, stormwater runoff, fires, vehicle-strikes, etc.

The GCP will result in permanent loss of 675 acres of CTS upland habitat, including 152 acres of critical habitat, 355 acres of CRLF critical habitat, and 27.5 acres of LYS, including 7.5 acres of critical habitat. The Aera East Cat Canyon Project will result in a permanent loss of 201.4 acres of vegetation and would result in the removal of hundreds of oak trees, causing a significant unavoidable impact.[463] The Aera and TerraCore Projects will result in an estimated four spills per year causing significant unavoidable adverse impacts to biological resources even after mitigation measures are implemented.[464] While the GCP includes measures to mitigate and compensate for these losses, the measures do not avoid the adverse impacts and do not make oil spills, fires, and habitat loss beneficial biological impacts. EDC-170

xvi. The EA Incorrectly Concludes that the GCP will Result in Beneficial Impacts by Confusing Administrative Benefits with Environmental Benefits.

The EA touts a "standardized approach" and "greater consistency" with regards to implementing avoidance and minimization measures for native vegetation and general wildlife. (EA at 4-4 and 4.6) However, greater consistency and a standardized approach do not necessarily ensure that the impacts are mitigated any more than they would be by using HCPs for individual projects (the No Action Alternative, EA at 2-17). Greater consistency and a standardized approach make issuing permits more efficient, which is part of the GCP's purpose. (EA at 1-5) These administrative benefits are not biological benefits, which this GCP does not provide for the reasons stated herein. In fact, as stated above, individual ITPs and HCPs would provide more thorough analysis and greater protection for listed species. EDC-171

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[463] Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.3-57, 4.3-89 - 90 (November 2018).
[464] Santa Barbara County Planning and Development Department, *Proposed Final Environmental Impact Report for West Cat Canyon Revitalization Plan* at 4.3-49 – 4.3-50 (February 2019); *See also* Santa Barbara County Planning and Development Department, *Draft EIR for Aera East Cat Canyon Oil Field Redevelopment Plan* at 4.3-56 – 4.3-58 (November 2018).

xvii. The EA's Discussion of Habitat Fragmentation is Deficient.

The EA does not sufficiently discuss the impacts of the GCP on wildlife movement corridors. The EA refers to "fragmentation" but does not analyze the impacts of oil and gas activities on wildlife movement. (EA at 4-5) In his comments regarding the Aera and ERG EIRs, Hunt finds these impacts may be significant.[465] The EA id deficient in its assessment of wildlife movement impacts. EDC-172

xviii. The EA Omits Significant Impacts on Oak Woodlands and Coastal Sage Scrub.

Oil and gas activities under the GCP may result in removal of over a thousand mature oak trees and over a hundred acres of coastal sage scrub.[466] One project in Cat Canyon would remove up to 1,504 mature oak trees.[467] The EA discusses impacts to vegetation and objectives to restore damaged areas. However, this discussion is inadequate because it does not address the temporal habitat impacts which may last decades until project decommissioning. EDC-173

g. The Discussion of Cumulative Impacts is Improperly Narrow.

An EA must assess the cumulative impacts of a proposed action. *Kern v. U.S. Bureau of Land Mgmt*., 284 F.3d 1062, 1076-79 (9th Cir. 2002) ("Given that so many more EAs are prepared than EISs, adequate consideration of cumulative effects requires that EAs address them fully" (quoting Council on Environmental Quality, *Considering Cumulative Effects Under the National Environmental Policy Act* 4 (Jan.1997)); *Hall v. Norton,* 266 F.3d 969, 978 (9th Cir. 2001); *Te-Moak Tribe v. US DOI*, 608 F.3d 592, 602-603 (9th Cir. 2010); *Sierra Nevada Forest Protection Campaign v. Weingardt*, 376 F.Supp.2d 984, 991 (E.D. Cal. 2005).

A cumulative impact "is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7.

In this case, the EA fails to identify other past, present, and reasonably foreseeable future actions that may impact CTS, CRLF, and LYS. For example, the EA omits the approved Santa Barbara County Cultivation GCP which allows take of 5,325 acres of CTS habitat in the same EDC-174

[465] Hunt 2019(b) at 8-9; *See also* Hunt 2019(a) at 6.
[466] Hunt 2019(b) at 10-12.
[467] *Id.*

area as the Oil and Gas GCP.[468] The EA also omits the proposed Los Alamos, Santa Barbara County Cultivation GCP listed in the Federal Register on April 9, 2020.[469]

LYS are already at risk of destruction from vegetation clearing, oil and gas exploration and extraction, urban development, over-grazing, wildfires, invasive plants, feral pigs, and climate change.[470] CTS are at risk from habitat loss, alteration, and fragmentation from cultivation activities, urban growth including roads which form obstacles or barriers, vehicle-strikes, disease, burrowing animal control, oil production, contaminants, runoff from oil roads, and drought and climate change.[471]

The Santa Barbara County Hoop Structures Ordinance will allow hoop structures to touch the ground and block the migration of CTS. The proposed mitigation measures requiring 12-inch gaps to allow CTS movement through such structures was rejected.[472]

The EA also fails to consider the cumulative effects of Santa Maria's Las Flores Landfill Project located west of the Cat Canyon Oilfield and south of the Santa Maria Valley Oilfield.[473]

EDC-174 (cont.)

The EA omits the May 2017 Final Habitat Conservation Plan for Laguna County Sanitation District Facilities Construction, Operation, and Maintenance, Western Santa Maria Valley, Santa Barbara County, California. This ongoing project is in the Planning Area and affects CTS and CRLF.[474]

The EA also omits several CTS HCPs approved for North County projects including:

- Campbell Home Ranch California Tiger Salamander HCP[475]

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[468] U.S. Fish and Wildlife Service, *General Conservation Plan for Cultivation Activities Santa Barbara County, California* at 31 (September 2019).
[469] U.S. Fish and Wildlife Service, *Draft Categorical Exclusion and Draft Los Alamos Conservation Plan for Cultivation Activities in Santa Barbara County, CA* (April 10, 2020).
[470] Magney at 4-5, 7.
[471] U.S. Fish and Wildlife Service, *Recovery Plan for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander (Ambystoma californiense)* at I-8 - I-19 (December 12, 2016).
[472] Memorandum from Dan Klemman, Deputy Director, Long Range Planning Santa Barbara County Planning and Development Department, to Santa Barbara County Board of Supervisors regarding Revisions (RV01) to the Final Environmental Impact report (17EIR-00000-00004)) – Hoop Structures Ordinance Amendment: Planning and Development Case Number 17ORD-00000-00005 at 5 – 8 (April 9, 2019).
[473] Janene Scully, *Santa Maria OKs Contract Marking 1st Step Toward New Landfill at Los Flores Ranch*, Noozhawk (November 25, 2017), available at: https://www.noozhawk.com/article/santa_maria_oks_contract_new_los_flores_ranch_landfill_20171125.
[474] Santa Barbara County Public Works Department Laguna County Sanitation District, *Final Habitat Conservation Plan Laguna County Sanitation District Facilities Construction, Operation, and Maintenance Western Santa Maria Valley, Santa Barbara County, California* (May 2017), available at: https://www.fws.gov/ventura/docs/LagunaCountyHCP/HabitatConservationPlan.pdf.
[475] Department of the Interior, U.S. Fish and Wildlife Service, *Federal Register* Vol. 82, No. 195, *Receipt of Application for Incidental Take Permit; Draft Low-Effect Habitat Conservation Plan for the California Tiger Salamander; Campbell Home Ranch, Santa Barbara County, California* at 47243 (October 11, 2017).

- Rice Ranch Development Project HCP[476]
- La Purisima Golf Course Solar Array Project[477]
- East Clark Avenue HCP[478]
- Curletti Farm Project[479]
- Phillips 66 HCP[480]

There is another HCP proposed by FWS for the Oak Hills Estates in Santa Barbara County.[481]

EDC-174 (cont.)

The EA does not explicitly consider the cumulative effects of the ExxonMobil SYU Re-start and Trucking Project, which would result in Class I (unmitigated) impacts to special-status species and habitats, including CRLF and CTS.[482] The Plains Pipeline may impact CRLF and CTS, but the EA does not identify these as cumulative projects.[483] The EA also omits "several oil and gas projects near Garey that are currently under construction or proposed."[484] The EA is unclear whether these oil and gas projects are intended to be captured in Section 5.1.1 on pages 5-1 - 2.

h. The Mitigation Measures are Inadequate to Reduce Impacts to an Insignificant Level.

Mitigation measures in an EA must be real, effective, and enforceable. *Friends of Back Bay v. United States Army Corps of Engineers*, 681 F.3d 581, 589 (4th Cir. 2012). An EA must

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[476] Department of the Interior, U.S. Fish and Wildlife Service, *Federal Register* Vol. 82, No. 196, *Receipt of Application for Incidental Take Permit; Draft Low-Effect Habitat Conservation Plan for the California Tiger Salamander; Rice Ranch Development Project, Santa Barbara County, California* at 47572 (October 12, 2017).
[477] Department of the Interior, U.S. Fish and Wildlife Service, *Federal Register* Vol. 82, No. 196, *Receipt of Application for Incidental Take Permit; Draft Low-Effect Habitat Conservation Plan for the California Tiger Salamander; La Purisima Golf Course Solar Array Project, Santa Barbara County, California* at 47571 (October 12, 2017).
[478] Department of Interior, U.S. Fish and Wildlife Service, *Incidental Take Permit TE38360D-0* (July 1, 2019).
[479] Department of the Interior, U.S. Fish and Wildlife Service, *Federal Register* Vol. 82, No. 195, *Receipt of Application for Incidental Take Permit; Draft Low-Effect Habitat Conservation Plan for the California Tiger Salamander and the California Red-Legged Frog; Curletti Farming Project, Santa Barbara County, California,* at 47243 (October 11, 2017);
[480] Department of the Interior, U.S. Fish and Wildlife Service, *Federal Register* Vol. 82, No. 213, *Receipt of Application for Incidental Take Permit; Draft Low-Effect Habitat Conservation Plan for the California Tiger Salamander; Phillips 66 Line 300 Project, Santa Barbara County, California* at 52428 (November 6, 2017).
[481] Department of the Interior, U.S. Fish and Wildlife Service, Federal Register Vol 85 No 37 *Notice for Draft Habitat Conservation Plan and Draft Environmental Assessment for Oak Hills Estate, Santa Barbara County, California* at 10713 (February 25, 2020).
[482] *Draft Supplemental Environmental Impact Report for the ExxonMobil Interim Trucking for Santa Ynez Unit (SYU) Phased Restart Project*, Santa Barbara County EIR No. 19EIR-00000-00001 (April 2019) at 4.3-32.
[483] Sage Institute, *PLAINS PIPELINE, L.P. LINE 901 & LINE 903 FULL REPLACEMENT PROJECT BIOLOGICAL RESOURCES ASSESSMENT* at 7, 57 – 58 (Janaury 19, 2018), available at: https://www.countyofsb.org/uploadedFiles/plndev/Content/Projects/Att.%20C.1%20SII_PlainsPipeline_BA-Report_01-19-18_Final_Full.pdf.
[484] Santa Barbara County Planning and Development Department, *Proposed Final EIR for ERG West Cat Canyon Revitalization Plan* at 4.3-80.

provide assurances that mitigation measures will be adequate to render potential impacts "so minor as to not warrant an EIS." *Nat'l Parks & Conservation Ass'n.,* 241 F.3d at 734. Rather than discuss mitigation measures in the EA, the document refers back to the GCP. (EA at 2-16)

The proposed "Measures to Avoid and Minimize Impacts" in the GCP are vague and consequently ineffective to assure adequate mitigation. Many measures are caveated with the requirement that they will only be implemented "to the maximum extent feasible," "to the extent feasible," "to the extent practicable," "at the discretion" of a Service-approved biologist, or with certain exceptions. (GCP at 70-74) These caveats render such measures hypothetical and uncertain.

In addition, the proposed 3:1 ratio for LYS is too low to adequately mitigate for impacts, especially given the rarity of the species and the uncertainty regarding the viability of the proposed mitigation measures.[485] In addition, the limited genetic variability of LYS creates greater vulnerability and reduced ability to adapt to changes in the environment, such as from disease or climate change.[486] Breeding opportunities are very limited because successful pollination can only occur from other plants.[487] Accordingly, the loss of even a few plants will have a significant effect that will be extremely difficult to mitigate. Moreover, translocation or planting of LYS has not proven effective and should not be relied upon for mitigation.[488] Simply funding research does not mitigate the sure loss of LYS.[489] As such, these measures do not assure adequate mitigation. EDC-175

The EA fails to analyze the feasibility of avoiding take. As discussed above, avoidance of LYS is feasible given the small and discrete populations.[490] Avoidance is also the most cost-effective approach to protecting covered species.[491] EDC-176

Measures to mitigate harm to CTS are also inadequate. Some measures require excavation of burrows or relocation of CTS, which may have negative consequences.[492] (GCP at 72-73) None of these measures are quantified or evaluated to ensure they will be effective in avoiding or mitigating impacts.

To the extent the GCP relies on a 1:1 ratio for CTS, such "mitigation" would result in a net loss of habitat in the amount disturbed or destroyed. In *Foundation for North American Wild Sheep v. U.S. Dept of Agric*., 681 F.2d 1172, 1181-82 (9th Cir. 1982), the court held that a proposal to mitigate impacts to sheep by translocating them from another area was inadequate to mitigate for the project's adverse impacts because it would result in a reduction in sheep in the EDC-177

[485] Magney at 10.
[486] *Id.* at 11.
[487] *Id*.
[488] *Id*. at 11-12.
[489] *Id*. at 12.
[490] *Id*. at 3.
[491] *Id*. at 9.
[492] Bumgardner at 6.

area from which the sheep were transplanted. Similarly here, the species will be reduced in the affected area where the oil and gas development activities occur, even if they are maintained elsewhere.

Bumgardner raises concerns about mitigation ratios for CTS by pointing out that the Model may undervalue habitat closer to ponds and overvalue habitat further from ponds because the Model gives all adults equal reproductive values, when in reality adult CTS closer to ponds have greater value.[493] The proposed ratios in the GCP fail to account for this difference in value and function of habitat. EDC-177 (cont.)

Finally, the "Measures to Mitigate Unavoidable Impacts" rely on "compensatory" mitigation such as buying credits for a mitigation provider (mitigation bank), paying mitigation fees, or establishing a mitigation site. (GCP at 75-84) None of these options guarantee timely or adequate compensation. In addition, the EA does not identify any specific projects or sites for the proposed compensatory mitigation. There is only one proposed location for a mitigation bank for CTS in the County, and the ranch upon which it exists is for sale, threatening its viability.[494] In addition, this site is for only one metapopulation area at Purisima Hills. (GCP at 34) The other five metapopulation areas can't use it for mitigation. Moreover, the CTS conservation account has not been effective to mitigate impacts to CTS.[495] EDC-178

There is no current mitigation bank for LYS, and it is unlikely that one will be successfully created.[496] The sites on Vandenberg Air Force Base are not eligible, and it would be prohibitively expensive to acquire and attempt to implement a mitigation project on private land.[497] Moreover, as explained above, such an attempt would likely not be successful. As such, these measures are illusory and cannot be relied upon to mitigate the significance adverse impacts to these threatened and endangered species. EDC-179

i. The Adaptive Management Measures are Inadequate.

The adaptive management approach will cause further harm to the listed species. For example, the GCP would allow a 20% loss of the number of LYS ramets or the area occupied by LYS due to changed or unforeseen circumstances before adaptive management actions may be EDC-180

[493] *Id*. at 5; *See also* Christopher A. Searcy and H. Bradley Shaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander* at 1000-1004 (August 2008).
[494] Santa Barbara Land Trust, *La Purisima Conservation Bank*, available at: https://www.sblandtrust.org/portfolio-item/la-purisima-conservation-bank/.
[495] Personal Communication between Rachel Henry, HCP Coordinator, Jenny Marek, Deputy Field Supervisor, Steve Henry, Field Supervisor, and Chris Diel, Recovery Permit Coordinator, United States Fish and Wildlife Service; Tara Messing, Staff Attorney, Elizabeth Fisher, Staff Attorney, and Brian Trautwein, Environmental Analyst/Watershed Program Coordinator; and Wendy Motta, District Representative for Congressmember Salud Carbajal, in Santa Barbara (March 3, 2020).
[496] Magney at 13, 17.
[497] *Id.* at 13-14.

implemented. (GCP at 89 - 90) This "threshold is far too high (bar is too high) and would put [] this species at risk of extinction."[498]

In addition, the adaptive management trigger for invasive weed species is too high. The trigger does not occur until the invasive species reaches 25%. (GCP at 96) By that time the problem is out of hand because the seed bank will be full of weed seeds, and it will be difficult to control the invasive plants.[499] Moreover, adaptive management measures do not need to be implemented if the permittee chooses not to.

The adaptive management trigger for CRLF would be based on populations of two adjacent south county creeks: Arroyo Quemada (Baron Ranch) and Arroyo Hondo. (GCP at 89) There is no central or north county reference populations, so there is lack of geographic representation in the reference streams. As a result, north county populations could be crashing but no adaptive management would be triggered if the two south county populations remained above 50%. (*Id.*)

EDC-180 (cont.)

CTS adaptive management requires annual surveys over five-year periods to determine whether ten or fewer larvae are captured in a number of ponds. (GCP at 87) The GCP refers to annual range-wide surveys. However, there is no evidence of annual surveys to count CTS larvae in the Planning Area in the GCP. This trigger would never be met if there are not five consecutive years of surveys. Given funding limitations and access to private ponds, it likely this trigger will never be met even if the CTS population drops significantly because there may never be five consecutive years of surveys in enough ponds to trigger adaptive management.

The EA fails to disclose the impacts that will result due to the inadequacies of the adaptive management triggers and requirements.

j. The Measures to Address Changed and Unforeseen Circumstances Will Result in Significant Impacts.

The EA fails to address the reasonably foreseeable impacts that may occur as a result of changed circumstances. The GCP references several threats to listed species, but limits the applicability of mitigation to address such threats. (GCP at 90-96) The same holds true for unforeseen circumstances. (GCP at 97) In both instances, the GCP requires consent by the permittee to implement measures to mitigate harm. This requirement renders the measures illusory and speculative.

EDC-181

In addition, the trigger to remediate invasion of new invasive weed species is too high. The trigger does not occur until the invasive species reaches 25%. (GCP at 96) By that time the

EDC-182

[498] *Id.* at 15.
[499] Email from Karen Flagg, Restoration Ecologist, to Brian Trautwein, Environmental Analyst / Watershed Program Coordinator, EDC (March 25, 2020).

problem is out of hand because the seed bank will be full of weed seeds, and it will be difficult to control the invasive plants.[500] EDC-182 (cont.)

k. The EA Fails to Disclose the Irreversible and Irretrievable Commitment of Resources

NEPA requires consideration of "any irreversible or irretrievable commitments of resources which would be involved with the proposal should it be implemented." 40 C.F.R. § 1502.16. The EA states that irretrievable resource commitments "involve the loss in value of an affected resource that cannot be restored as a result of the action, such as extinction of a threatened or endangered species." (EA at 6-1) Nevertheless, the EA improperly relies on two rationales for determining that "the long-term viability of all three species would not be adversely affected." (*Id*.)

First, the EA relies on the assertion that the GCP would not itself result in the direct approval of oil and gas activities in Santa Barbara County. (*Id*.) As noted above, however, the GCP would authorize activities that will take listed species. The GCP itself admits that the proposed activities will result in significant and unavoidable impacts to these threatened and endangered species. EDC-183

Second, the GCP relies on illusory and inadequate mitigation measures to conclude that such impacts will be minimized. For the reasons discussed above, the GCP will adversely affect species that are already considered at the brink of extinction, and thus will further their demise. Such an effect will cause an "irreversible and irretrievable commitment of resources" which must be disclosed under NEPA.

l. The EA Fails to Adequately Assess the Short-Term Use of the Environment in Comparison to Long-Term Productivity and Impacts.

NEPA also requires agencies to consider the relationship between the short-term uses of the environment and long-term productivity. 40 C.F.R. § 1502.16. The GCP would allow a broad scope of construction and operational activities that will affect the environment. The effects of these activities will be long-lasting (up to fifty years and perhaps even longer). The EA minimizes these long-term impacts by relying on the mitigation measures proposed in the GCP. (EA at 7-1) As discussed above, the mitigation and compensatory measures set forth in the GCP are inadequate to ensure the long-term conservation of species that are protected under the ESA and will negatively impact the long-term productivity of valuable and irreplaceable ecosystems. EDC-184

[500] *Id.*

Furthermore, the EA fails to address the long-term cumulative effects on climate change to which the GCP would contribute by facilitating new and expanded oil and gas development in Santa Barbara County at a time when the County must reduce its GHG emissions. EDC-185

IV. Conclusion

For the foregoing reasons, we urge the Service to not go forward with the GCP process. The GCP does not achieve the most basic requirements for a conservation plan under Section 10 of the ESA. 16 U.S.C. § 1539(a)(2)(A)(i)-(iv). The GCP omits the required information and analysis mandated under Section 10 and therefore approval of this GCP would be in violation of the ESA. EDC-186

Furthermore, the preparation of an EIS under NEPA is required here because the GCP and the oil and gas activities proposed thereunder will result in significant adverse effects on the environment. The EA prepared in this case is inadequate because it fails to address the full scope of activities that may occur and fails to analyze all of the possible environmental consequences. In addition, the EA does not include an adequate discussion of alternatives, mitigation measures, or cumulative impacts. EDC-187

Thank you for your consideration of these comments. We look forward to working with the Service to ensure protection of endangered and threatened species in our region.

Sincerely,

Linda Krop
Chief Counsel

Tara Messing
Staff Attorney

Brian Trautwein
Environmental Analyst

Attachments:

A— Letter from David Magney, California Certified Consulting Botanist, to Stephen Henry, U.S. Fish and Wildlife Service, regarding expert opinion on the U.S. Fish and Wildlife Service's Oil & Gas General Conservation Plan and Draft Environmental Assessment for the Lompoc yerba santa (April 30, 2020)

B— Letter from Michael Bumgardner, biological consultant, to Stephen Henry, U.S. Fish and Wildlife Service, regarding expert opinion on the U.S. Fish and Wildlife Service's Oil & Gas General Conservation Plan and Draft Environmental Assessment for the California tiger salamander and California red legged frog (April 30, 2020)

C— Resume of David Magney

D— Resume of Michael Bumgardner

E— Letter from Lawrence Hunt, Lawrence Hunt and Associates Biological Consulting to Nancy Minick, Planner, Santa Barbara County Planning and Development Department (August 2, 2018)

F— Letter from Lawrence Hunt, Lawrence Hunt and Associates Biological Consulting to Santa Barbara County Planning Commission at 6 (March 7, 2019)

G— Letter from Lawrence Hunt, Lawrence Hunt and Associates Biological Consulting to Kathryn Lehr, Planner, Santa Barbara County Planning and Development Department (January 28, 2019)

ATTACHMENT A

David Magney Environmental Consulting
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1 May 2020

Stephan Henry
U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

Subject: Expert Opinion on the USFWS Oil & Gas General Conservation Plan and Draft Environmental Assessment for the Lompoc Yerba Santa

Dear Mr. Henry:

This letter represents my expert opinion on the feasibility and appropriateness of the U.S. Fish and Wildlife Service's (USFWS's) proposed General Conservation Plan for Oil and Gas Activities, Santa Barbara County, California, and Draft Environmental Assessment for the General Conservation Plan for Oil and Gas Activities Associated with Issuance of Endangered Species Act Section 10(a)(1)(b) Permits in Santa Barbara County, California.

I, David L. Magney, am a California Certified Consulting Botanist (#CCB-0001), and have served as an Expert Botanist and witness for the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers on the Adam Bros wetlands violation case (in Santa Barbara County), and on private lawsuits in Santa Barbara, Ventura, and Los Angeles Counties. I earned a B.A. in Environmental Studies and Geography (with emphasis in Botany) from the University of California, Santa Barbara in 1985. I have worked as an environmental consultant, focusing on botanical resources, since 1986, and have owned and operated David Magney Environmental Consulting since 1997.

Comments and expert opinion are provided below in two parts, the first part focuses on the proposed General Conservation Plan (GCP) and the second part focuses on the Draft Environmental Assessment (DEA) for the GCP. Passages from the two documents are provided in italics.

I have been retained by the Environmental Defense Center to critically review and comment on the GCP and DEA focusing on *Eriogonum capitatum*, Lompoc Yerba Santa.

From Federal Register 1998-03-30- Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Four Plants from South Central Coastal California *"Eriodictyon capitatum occurs in maritime chaparral with bush poppy (Dendromecon rigida), scrub oaks (Quercus berberidifolia, Q. parvula), and buck brush (Ceanothus cuneatus) and in southern bishop pine forests (Pinus muricata) that intergrade with chaparral including manzanita (Arctostaphylos spp.) and black sage (Salvia mellifera) (Smith 1983). The four known populations of E. capitatum occur in western Santa Barbara County. Two of these, composed of three colonies, are on Vandenberg Air Force Base (VAFB). The other two populations are located in the oilfields south of Orcutt (one colony), and at the western end of the Santa Ynez Mountains (three colonies). The latter populations are on private land. Based on isozyme analysis, Elam (1994) determined that all of the Santa Ynez Mountains colonies and two of the VAFB colonies were*

multiclonal. The other two VAFB colonies are uniclonal. The Orcutt colony was not studied due to inaccessibility. A clone is composed of many stems produced by the vegetative spread of the root system. The three Santa Ynez Mountains colonies had a total of 48 clones. The three VAFB colonies had a total of 19 clones. Eriodictyon capitatum is self-incompatible (i.e., it requires pollen from genetically different plants to produce seed) and its fruits are parasitized by an insect (Elam 1994). A study of one of the uniclonal colonies at VAFB showed that E. capitatum resprouted successfully from the base of the plant after a prescribed fire. However, several stems died, no seedling recruitment occurred, and there was heavy damage from herbivory (Jacks et al. 1984).”

Additional information about *Eriodictyon capitatum* (LYS) has been obtained since it was federally listed as Endangered. The Federal Register notice identifies colonies at the Solomon Hills, Vandenberg, and Santa Ynez Mountains populations consisting of 68 clones (assuming that the two VAFB colonies are actually two different clones (of different genetic individuals). For the purposes of this review, I am assuming that we have a total of 68 genetic individuals in total. No evidence has been provided to indicate that there are more than 68 genetic individuals; however, since genetic analysis has not been performed on all 68 clones, the total number of genetic individuals may be exaggerated.

GENERAL CONSERVATION PLAN

Page 2 - “*The Service is using number of acres of Lompoc yerba santa habitat disturbed as a surrogate for the number of individual plants in order to estimate the amount of adverse impacts that are likely to occur (Section 4). Disturbance of Lompoc yerba santa habitat may occur within the Planning Area. These impacts may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities. Additionally, habitat may be affected during operations, maintenance, and emergency response (excluding crude oil spills) during the life of the permit. We expect some level of effects to any Lompoc yerba santa plants located within the disturbed areas*.”

In other words, the USFWS has no idea how many plants would be taken as a result of permitted activities. How does the number of acres of Critical Habitat, and habitat for *Eriodictyon capitatum*, Lompoc Yerba Santa (LYS) compare to the actual number of LYS plants? Does the USFWS even have an idea of population density from known populations of LYS? The actual number of individual plants of woody species such as the LYS is very important compared to the acres of habitat. The definition of area of LYS is also important as the actual area supporting LYS plants is quite different from the area of suitable habitat or formally designated Critical Habitat. These differences need to be explained.

The USFWS needs to determine how many individual plants exist before issuing a blanket take permit for the LYS. This is quite feasible as there are only five known populations, three of which occupy small areas. The largest known population is located in the middle of the active Orcutt Oil Field, and is at extreme risk from take under the proposed GCP. Also of concern is that the number of individual plants (as opposed to ramets of clones) is not known, at least for the Vandenberg AFB populations (which are clones of a single individual plant).

“*DURATION OF PERMITS ISSUED UNDER THE PLAN: 20 years for construction, operations, maintenance, and decommissioning activities*.”

Twenty years is a long time because many things may change during that period of time, such as frequent wildfires, severe drought (or a severe wet period), changes in operating practices by oil companies, and

changes in regulations (even relaxation of the regulations). Will the GCP be re-authorized automatically on year 20? How much real scrutiny will the USFWS give the GCP and take of LYS during the first 20 years?

Page 5 – "*The Planning Area consists of the Santa Maria Valley, San Antonio Creek, Lompoc Valley, Santa Ynez Valley, and a portion of the Santa Barbara Coastline. The entire Planning Area is 674,220 acres*." Other listed species occur within the planning area, such as *Deinandra increscens* ssp. *villosa, Cirsium scariosum* var. *loncholepis,* and *Diplacus vandenbergensis*.

Eriodictyon capitatum (Lompoc Yerba Santa - LYS) is federally Endangered and state-listed Rare. The California Fish and Game Commission listed LYS as Rare under the Native Plant Protection Act in September 1979[1].

Page 12 – "*The Service evaluated the potential for other federally-listed species, candidate species, species proposed for Federal listing, eagles, and migratory birds with the GCP Planning Area that could be affected by the Covered Activities (Section 2). Project proponents must avoid or receive separate take authorization for other federally-protected species that occur within their respective project area(s) to meet issuance criteria for participation in the GCP. Failure to provide for compliance with the Act for other regulated species may constitute a violation of Section 9, and may result in suspension or revocation of Permits issued under the GCP*." Why did the USFWS decide not to include *Deinandra increscens* ssp. *villosa, Cirsium scariosum* var. *loncholepis,* and *Diplacus vandenbergensis*?

Page 13 – "*Alternatives to the Taking Section 10(a)(2(A)(iii) of the Act requires that the applicant describe "what alternative actions to the taking the applicant considered, and the reasons why such alternatives are not being utilized." The only alternative to the proposed incidental taking we considered is for project proponents to avoid any actions that could result in take of federally-listed species. This is synonymous with a no-action alternative, in which the project proponent would modify their project to avoid take of listed species altogether. Under this alternative, exploration, storage, remediation, development, and transportation of crude oil, natural gas, and petroleum products would be curtailed within the range of these federally-listed species (to avoid take of the species) and therefore would not meet the needs of project proponents. Complete avoidance of federally-listed species and their associated habitats is not practical or feasible for most oil and gas industry activities within the Planning Area*."

Is complete avoidance for such an obvious and identifiable shrub really not feasible? What evidence is used to claim that avoidance of take of LYS is not feasible? Since LYS is a shrub that occupies discrete and generally small areas, avoidance is in fact highly feasible with minor repositioning of all oil exploration, extraction, and transportation activities. Well pads can easily be sited to avoid existing populations, as well as roads, pipelines, and electric transmission lines. Slant drilling, to even extreme extents, is a common practice, making the need to place a drilling pad directly over the oil-bearing substrate not necessary[2]. Oil pipelines can also be easily routed around any and all LYS plants, or well under them. Roads can easily be routed around any LYS.

The use of the excuse to meet the sole needs of the oil companies from being inconvenienced with figuring out how to avoid take of the LYS is a dereliction of duty by the USFWS when avoidance is indeed feasible.

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[1] [CNPS RPP] California Native Plant Society, Rare Plant Program.. 2020. *Inventory of Rare and Endangered Plants of California* (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 29 April 2020]

[2] Allison, E. and B. Mandler. 2018. Petroleum and the Environment Part 9: Land Use in the Oil and Gas Industry. AGI Critical Issues Program. *American Geosciences Institute* (https://www.americangeosciences.org/sites/default/files/AGI_PE_LandUse_web_final.pdf).

Page 14 – *Covered Activities. "Industry standards, disturbance area estimates, and averages were obtained primarily from representatives of the oil and gas industry and were used when estimating the overall oil and gas development that may occur within the Planning Area over the term of the GCP.*"

It is disturbing that the USFWS is willing to accept at face value what oil industry standards and disturbance area estimates are allowed when other USDI services have expertise in oil and gas exploration activities. There is no evidence that the USFWS consulted with other oil and gas experts not employed by an oil or gas company to determine as to what "areas of disturbance" are actually needed. This writer has personal professional experience working in oil and gas fields in California, both as a truck driver for Dresser Magobar (a oil and gas supply services company) and as an environmental consultant to oil companies, including: Chevron, Mobil, Unocal, Shell, and Arco. While the standard size of an oil exploration pad varies from 1 acre to 5 acres[3], that much area is often not required to drill for, and extract oil or gas.

Page 45 – *Description of Lompoc Yerba Santa. "Lompoc yerba santa is an evergreen shrub with narrow, leathery leaves in the borage family (Boraginaceae) and grows to approximately 9.8 feet tall.*"

Eriodictyon capitatum, and all species of *Eriodictyon* have been segregated out of the Boraginaceae and/Hydrophyllaceae into a new family, Namaceae[4]. While this change has yet to be updated in the Jepson eFlora, this change has been accepted by the botanical community and should be used here.

Page 47 – "*These five populations are from three geographically distinct areas referred to here as Solomon Hills, west Burton Mesa, and Santa Ynez Mountains. The five populations are distributed within these three geographic areas as follows:*

1. *Solomon Hills: two large populations occur here, approximately 12 miles north of the city of Lompoc. These lands are privately owned and managed for oil extraction by Pacific Coast Energy Company. One population (occurrence 1) is associated with Bishop Pine, while the second population (occurrence 11) occurs in coastal sage scrub and chaparral.*
2. *West Burton Mesa: two populations encompassing three occurrences are located within the boundaries of Vandenberg. The 35th Street population adjacent to the cantonment area (occurrences 9 and 10) occurs in maritime chaparral. The Pine Canyon population (occurrence 2) is on the less-used eastern edge of the base and occurs in chaparral and Bishop Pine forest.*
3. *Santa Ynez Mountains: approximately 10 miles south of Lompoc, one population (occurrence 5) is scattered along a 5-mile stretch of the mountains, from the ridgeline to halfway down the south-facing slopes. The land, known as Hollister Ranch, is privately-owned.*"

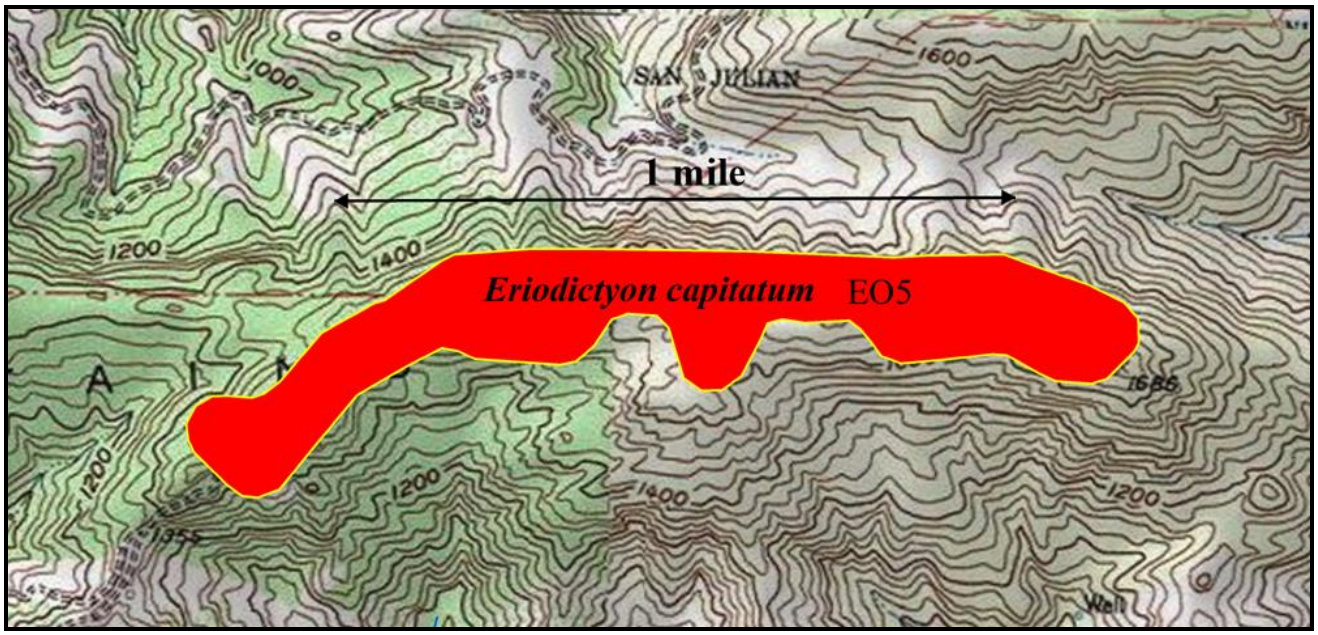
There are only five (5) known populations of LYS, two in the Solomon Hills, two on the western portion of Burton Mesa (both of which are on Vandenberg AFB), and one in the Santa Ynez Mountains on Hollister Ranch about 10 miles south of Lompoc. Only the Vandenberg AFB 35th Street population is managed (Page 49, 1st sentence 2nd full paragraph). All or some of the populations are at risk of destruction from vegetation clearing, oil and gas exploration and extraction,

[3] Ibid.

[4] Molinari-Novoa, E.A. 2016. Two New Lamiid Families for the Americas. *Weberauerella* 1(7):1-4.

urban development, agriculture (including over-grazing), too frequent wildfires[5], competition from invasive exotic plants[6] and animals (feral pigs), and/or climate change[7].[8]

California Department of Fish and Wildlife's Natural Diversity Database (CNDDB) Element Occurrence (EO) 1 for LYS, which includes former EO2, is reported to have about 500 plants from a 1986 report[9]. The bounds of this population are generally mapped by the CNDDB based on Melissa Mooney's 1986 hand-drawn map[10]; however, the accuracy of the mapping is unknown.



"Many plants" were reported by Mooney from a 22 November 1986 site visit of the Santa Ynez Mountains/Hollister Ranch population (EO5). The bounds of this population has been mapped by Mooney; however, the accuracy of the delineation is not known, nor how many individual genetic plants, much less number of ramets, is unknown[11]. A GIS-generated map of EO5 on a topographic base is included below, indicating the area the CNDDB staff mapped for this population, plus a scale bar exactly 1 mile long. This mapped polygon is 1.43 miles long and occupies approximately 122.2 acres, generally following the ridge top.

[5] California Native Plant Society. 2001. *Inventory of Rare and Endangered Plants of California.* Sixth Edition. Sacramento, California.

[6] D'Antonio, C., M., D.C. Odion, and C.M. Tyler. 1993. Invasion of Maritime Chaparral by the Introduced Succulent *Carpobrotus edulis. Oecologica* 19:25-41.

[7] Myers, M., P.L. Barnard, E. Beighley, D.R. Cayan, J.E. Dugan, D. Feng, D.M. Hubbard, S.F. Iacobellis, J.M. Melack, and H.M. Page. 2019. A Multidisciplinary Coastal Vulnerability Assessment for Local Government Focused on Ecosystems, Santa Barbara Area, California. *Ocean and Coastal Management* 185. (DOI:10.1016/j.ocecoaman.2019.104921).

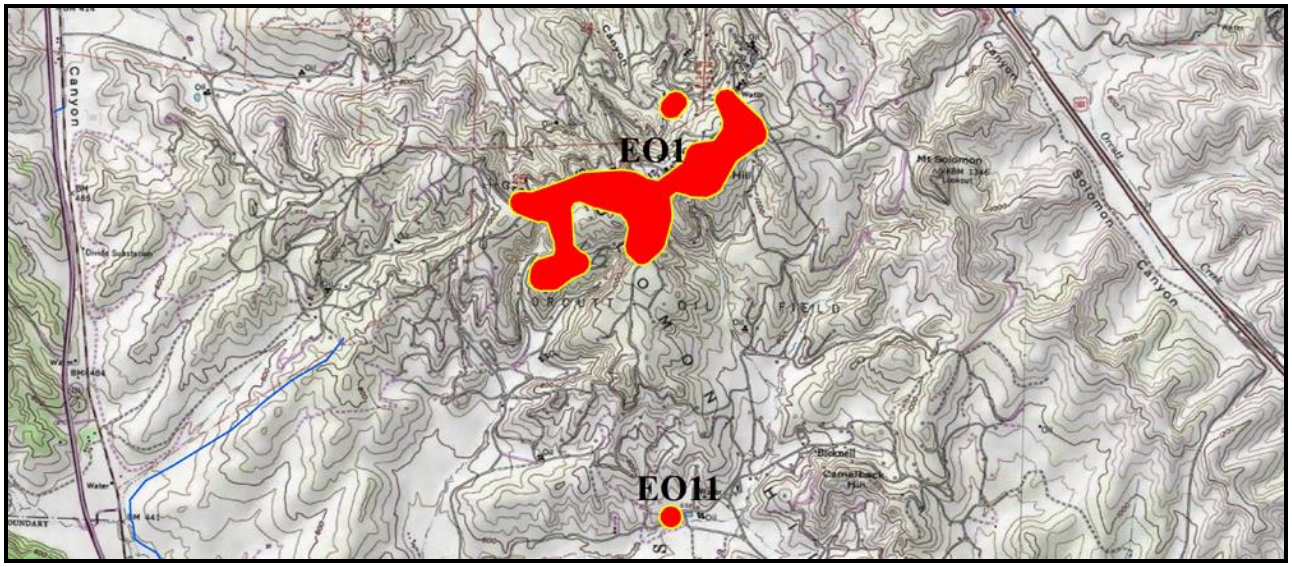
8 [CNPS RPP] California Native Plant Society, Rare Plant Program.. 2020. *Inventory of Rare and Endangered Plants of California* (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 29 April 2020].

[9] CNDDB. 2016. GIS shapefile of Sensitive Species. California Department of Fish and Wildlife, Sacramento, California.

[10] Melissa Mooney, 2020. Email communication on 18 April 2020 regarding Santa Ynez Mountains/Hollister Ranch population.

[11] Melissa Mooney, 2020. Email communication on 18 April 2020 regarding Santa Ynez Mountains/Hollister Ranch population.

EO1 is reported to have approximately 500 plants. The CNDDB mapped this population at about 195 acres. EO11 is reported to have between 20 and 30 plants, based on a 2007 report[12]; however, the bounds of this population have not been delineated and mapped. Both of the EOs are in the Solomon Hills/Orcutt Oil Field, all on property owned by Orcutt Fee LLC, with a Los Angeles address[13]. The Solomon Hills populations are shown on the map below, showing the CNDDB mapped polygons.



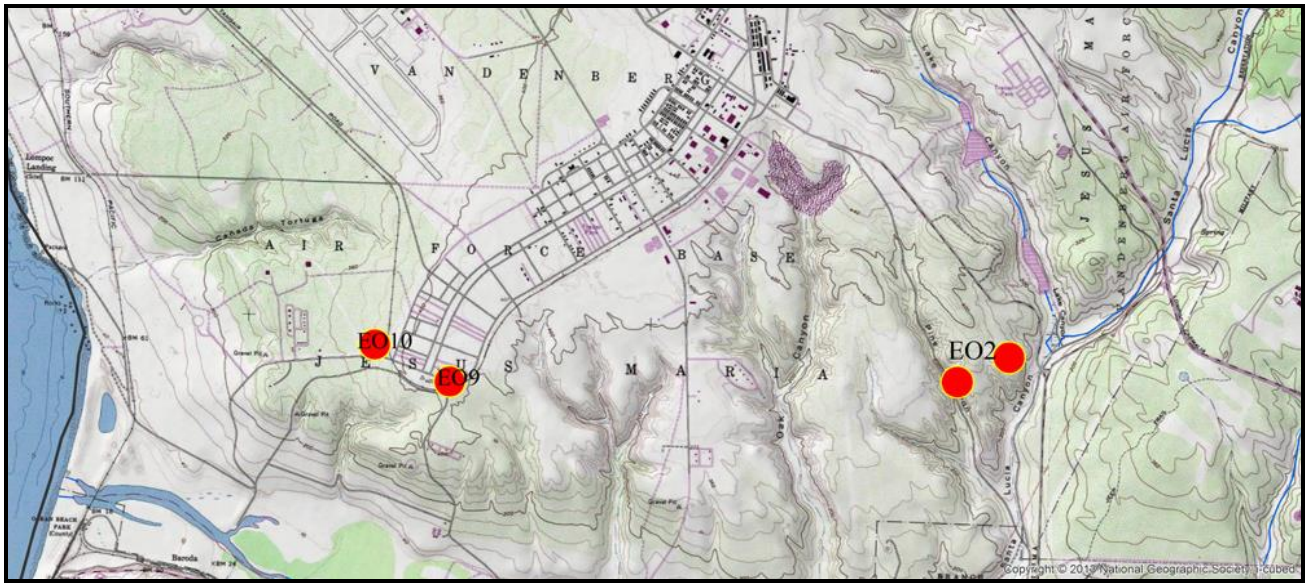
The Type Locality, designated at the western subpopulations of EO2, is in lower Pine Canyon on Vandenberg AFB above Santa Lucia Canyon along a small road. A 1982 observation found 41 stems and only 8 in 1987. The eastern subpopulation of EO2 was reported to have 27 stems in 1982. The bounds of either of these subpopulations have not been delineated and or mapped, nor have the actual number of genetic individuals been determined.

EO9 is located at the southwestern corner of the Vandenberg AFB cantonment area on the western edge of Burton Mesa. It is represented by fewer than 500 plants based on a 1987 report. These plants represent one genetic individual, with about 500 ramets. EO10, located about 2,575 feet east of EO9, is located at the southeastern corner of the Vandenberg AFB cantonment area. It is reported to consist of "several open, laxly spreading shrubs" in 1987. The USFWS considers these two EOs as one population, referred to as the 35th Street population. The three CNDDB Element Occurrences on Vandenberg AFB are shown on the map below, EO2, EO9, and EO10. Each is delineated by a ¼-mile diameter circle as these populations have never been accurately delineated.

At least for EOs 9 and 10, the USFWS states that surveys were done of these populations in 2006 and 2010, with counts made during 2010 found 1,520 individuals (stems?), but how many individual plants are present is unknown since this species is clonal. The USFWS stated that monitoring of this population found a decline over time of the number of countable individuals.

[12] Ibid.

[13] Santa Barbara County Assessor's Office



Page 48 – Threats to and Decline of the Lompoc Yerba Santa, states that based on a 2006 field survey, feral pigs caused extensive damage to the 35th Street population, which includes both EO 9 and 10, but little feral pig damage was observed in 2010. The Pine Canyon population (EO2) was threatened by encroachment by Pampas Grass (*Cortedaria jubata*), a highly invasive clumping grass. Increased frequency of wildfires, which are naturally extremely rare events, from human-started fires represents a potential threat to all LYS populations. In addition, there is a steady loss of potential loss of habitat for the LYS as a result of converting natural vegetation to urban, farming, and military uses. The USFWS stated that stochastic events represent a threat to LYS, as well as climate change.

Pages 50-51 – Climate Change: "*Current climate change predictions for terrestrial areas in the Northern Hemisphere indicate warmer air temperatures, more intense precipitation events, and increased summer continental drying (Field et al. 1999, Cayan et al. 2005, Intergovernmental Panel on Climate Change 2007). Recently, the potential impacts of climate change on the flora of California were discussed by Loarie et al. (2008). Based on modeling, they predicted that species' distributions will shift in response to climate change, specifically that the species will "move" or disperse to higher elevations and northward, depending on the ability of each species to do so. Species diversity will also shift in response to these changes with a general trend of increasing diversity shifting towards the coast and northwards with these areas becoming defacto future refugia. However, predictions of climatic conditions for smaller sub-regions such as California remain uncertain. It is unknown at this time if climate change in California will result in a warmer trend with localized drying, higher precipitation events, or other effects. While we recognize that climate change is an important issue with potential effects to listed species and their habitats, we lack adequate information to make accurate predictions regarding its effects to Lompoc yerba santa at this time.*" The most recent local climate change model supports earlier models referenced in the GCP but takes those projected trends further, and applies them to the GCP region[14].

[14] Myers, M., P.L. Barnard, E. Beighley, D.R. Cayan, J.E. Dugan, D. Feng, D.M. Hubbard, S.F. Iacobellis, J.M. Melack, and H.M. Page. 2019. A Multidisciplinary Coastal Vulnerability Assessment for Local Government Focused on Ecosystems, Santa Barbara Area, California. *Ocean and Coastal Management* 185. (DOI:10.1016/j.ocecoaman.2019.104921).

Climate change could render conditions at each of the five populations inhospitable for the continued existence of LYS if they become too dry to support normal growth and reproduction since the most recent climate change model for Santa Barbara County modeled a significantly hotter and drier climate by 2050[15]. Since very little is actually known about how much soil moisture (as provided by seasonal precipitation), air temperature limits (high and low), direct conclusions about at what point climatic conditions will no longer support LYS, conclusions made by climate models are highly speculative. What can reasonably be deduced is that LYS does not occupy similar substrates and slope aspects in the region with wetter/cooler climates or hotter/drier climates. There have been several climate models developed to predict how precipitation and temperature may change with global warming, but none are very accurate at any one location except that climatic conditions are expected to change from current conditions. If existing habitat with current temperature and precipitation regimes change to the degree that LYS can no longer survive or reproduce, then LYS will need to migrate to survive.

Research by Robledo-Amuncio et al. (2014[16]) found that, "Paleoecological records, especially rich for woody plants, suggest that latitudinal and altitudinal displacements from multiple refugial sources have been the main responses of many plant species to past climate changes". In other words, the plants have migrated up in elevation and towards the poles when climate became drier and hotter. It can be reasonably assumed that LYS, a woody plant, would migrate similarly, ***if*** suitable habitat exists along its migration path, without migration barriers impeding its migration.

If climate change is significant enough that it renders nearby habitat that appears to be suitable for LYS, otherwise suitable habitat will no longer be available. Without suitable habitat nearby for which the plants to migrate to, each population will become extirpated. Since seed viability appears to be extremely low, propagation and expansion of LYS depends on vegetative propagules spreading beyond the bounds of the existing populations. There is no evidence this is happening (no new populations have been documented since 2001) and dispersal in this manner is much slower than what typically happens with dispersal of viable seeds[17].

There are three basic vectors to plant reproduction that contribute to dispersal: polychory, ambophily, and mutualistic networks[18]. At this point in time the USFWS lacks even the basic understanding of how LYS is pollinated, how successful pollination attempts are, how far seeds are dispersed, or how long seeds remain viable. Also unknown is if there is any variation in any of these vectors between the five populations, except that we do know that LYS is not self-compatible (it cannot self-pollinate).

The USFWS, on Page 51, stated that it had no confidence in the total number of plants in existence since survey protocols were either not well documented or they varied in methodology from year to year, and there were too few monitoring events to draw any conclusions from.

Pages 70-74 – Avoidance, Minimization, and Mitigation Measures: "*Section 10 of the Act requires that conservation plans "minimize and mitigate" the impacts of take authorized by an incidental take permit, and that issuance of the permit will not "appreciably reduce the likelihood of the survival and*

[15] Ibid.

[16] Robledo-Arnuncio, J.J., E.K. Klein, H.C. Muller-Landau, and L. Santamaria. 2014. Space, Time and Complexity in Plant Dispersal Ecology. *Movement Ecology* 16.

[17] Ibid.

[18] Ibid.

recovery of the species in the wild." In general, conservation plans should include mitigation programs that are based on sound biological rationale, and are practicable and commensurate with the impacts of the project on species for which take is requested. If the proposed project is expected to result in permanent habitat loss, then the mitigation strategy must include compensatory mitigation consisting of the permanent preservation of suitable habitat or similar measures. Applicants under this plan must provide mitigation for permanent impacts to the California tiger salamander, California red-legged frog, and Lompoc yerba santa.
"In accordance with these guidelines and the requirements of the federal Endangered Species Act, the conservation program of this General Conservation Plan is intended to achieve its biological goals and objectives and to ensure that the impacts of Covered Activities on California tiger salamander, California red-legged frog, and Lompoc yerba santa are minimized and mitigated to the maximum extent practicable. Avoidance and minimization measures are provided below."

Based on my personal experience as an environmental consultant, avoidance is indeed both the preferred and most cost-effective approach to protecting covered species since mitigation of any kind is both expensive and time-consuming. Costs associated with mitigating impacts to a listed plant such as the LYS include: surveys and plans to minimize impacts, fencing to protect remnants not to be impacted, collection and handling of propagules, contract growing of plant material for planting at mitigation sites, surveying and analyzing potential mitigation site(s), securing the mitigation site(s), developing a detailed mitigation and monitoring plan, preparing the mitigation site(s), planting the plants, maintaining the plantings, monitoring implementation, and monitoring the results, with reports prepared for each step of this process. Again, based on my personal experience designing and implementing such mitigations, a typical mitigation measure with each of the steps listed above could easily cost $100,000, excluding the cost of the land or any required easements and bonds or endowments that are typically required by regulatory agencies to ensure success. Avoiding the impact would significantly reduce the mitigation costs, and not result in any loss of LYS plants or populations.

Starting on Page 70 - Measures to Avoid and Minimize Impacts. "*1. At least 15 days prior to ground-disturbing activities, the applicant will submit the names and credentials of biologists and monitors to the Service for approval to conduct the minimization measures outlined below. Excluding an emergency activity, no project activities will begin until the applicant has received notice from the Service that the biologists and monitors are approved to do the work.*" This measure is good; however, the USFWS should require that the approved biologists for any work associated with the LYS should be a California Certified Consulting Botanist, and for monitoring work that biologist should be either a Certified Consulting Botanist or a California Certified Field Botanist to ensure that the botanists that guide the protection measures for the LYS are truly qualified and experienced, something that the California Botanist Certification program does.

"*3. A Service-approved biologist will conduct a biological resources training program for all construction workers and their contractors to minimize potential impacts to Covered Species and sensitive habitats. Training will occur prior to initial construction activities and be repeated, annually and as needed for new workers for the duration of each project covered by the permit. The training program will be reviewed and approved by the Service and will include a description of: (1) important biological resources within their project site, specifically California tiger salamander, California red-legged frog, and Lompoc yerba santa that have potential to occur within or adjacent to work areas; (2) the applicable avoidance and minimization measures; (3) the roles and responsibilities of personnel; and (4) communication protocols if Covered Species are detected. Applicants who submit their training*

programs along with their permit applications should expect to receive an approval at the time they receive their Permit. Applicants who submit their training programs after they submit their permit application should expect to receive an approval within 30 days of receipt of the training program." The same requirement for the "qualified biologist" is recommended here; for any work associated with the LYS, that work should be at least overseen by a California Certified Consulting Botanist.

"*4. A Service-approved biologist will periodically review and monitor construction and restoration efforts and will be responsible for ensuring that conditions of approval are being enforced and that success criteria are being met. Except for emergency situations, a Service-approved biologist will have the authority to temporarily halt activities if permit requirements and conditions are not being met.*" The monitoring should be conducted by a California Certified Field Botanist to ensure a truly qualified botanist is conducting the monitoring. This recommendation applies to measure 11 as well. "*Biologists will conduct surveys for Lompoc yerba santa in areas that have potential to support the species. Applicants will perform a Information, Planning, and Consultation System (IPaC) query for the project area to inform biologists where surveys should occur. An IPaC query can be obtained from: https://ecos.fws.gov/ipac/*." Frankly, all proposed work areas should be surveyed as part of the project planning phase to identify whether covered species such as the LYS, as well as other special-status species that are not covered are detected (if present).

Page 75 – Measures to Mitigate Unavoidable Impacts: "*For projects that have unavoidable adverse impacts on the California tiger salamander, California red-legged frog, Lompoc yerba santa, and/or their habitats, mitigation is needed to compensate for impacts to these species. Mitigation would be undertaken in a strategic way such that it contributes to meeting the recovery criteria in the affected population. The amount of compensatory mitigation to offset a proposed project's impacts should be determined by assessing a project's level of impacts to California tiger salamanders, California red-legged frogs, Lompoc yerba santa, and their habitat. Compensatory mitigation, in this plan, refers to actions that support the permanent conservation, management, and endowment of habitat to ensure conservation benefits for the Covered Species*."

How does it address long-term conservation of LYS? We don't really know how many individual plants of LYS exist, or what is really required to obtain viable seeds, from pollinators, minimum distance from contributing parent plants, etc. The USFWS provides no evidence that any of the generic proposed mitigation measures will actually work for LYS, so viability of this approach is highly questionable.

Page 81 – Lompoc Yerba Santa "*Unavoidable impacts to Lompoc yerba santa will be mitigated at a 3:1 ratio (mitigation area: impact area) through restoration of habitat suitable for Lompoc yerba santa or through acquisition of habitat that is currently occupied by Lompoc yerba santa*." A 3:1 impact to mitigation ratio is too low on two levels, it does not provide enough incentive for the oil company to try harder to avoid the impact and, since no one has any experience yet with mitigating for impacts to the LYS, mitigation through habitat restoration and/or translocation is unknown as a viable mitigation strategy. Furthermore, a 3:1 mitigation ratio (mitigation:impact) is a low ratio considering the rarity of LYS. Questions arise as to how the impact is actually measured and what the end results are. Is the impact the loss of number of individual plants? Loss of ramets? Loss of occupied habitat? Loss of suitable habitat? What justification does the USFWS have in using a 3:1 mitigation ratio? Is it intended to compensate for temporal losses? For example, every year that individual (genetic) plants are not reproducing, the number of propagules is decreased. Many questions need to be answered before take should be allowed, such as how many viable seeds are produced each year in an

inflorescence? How long do seeds remain viable in the seed bank? How many seeds occur in the seed bank for each population?

From Federal Register 1998-03-30– *Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Four Plants from South Central Coastal California "Eriodictyon capitatum occurs in maritime chaparral with bush poppy (Dendromecon rigida), scrub oaks (Quercus berberidifolia, Q. parvula), and buck brush (Ceanothus cuneatus) and in southern bishop pine forests (Pinus muricata) that intergrade with chaparral including manzanita (Arctostaphylos spp.) and black sage (Salvia mellifera) (Smith 1983). The four known populations of E. capitatum occur in western Santa Barbara County. Two of these, composed of three colonies, are on Vandenberg Air Force Base (VAFB). The other two populations are located in the oilfields south of Orcutt (one colony), and at the western end of the Santa Ynez Mountains (three colonies). The latter populations are on private land. Based on isozyme analysis, Elam (1994) determined that all of the Santa Ynez Mountains colonies and two of the VAFB colonies were multiclonal. The other two VAFB colonies are uniclonal. The Orcutt colony was not studied due to inaccessibility. A clone is composed of many stems produced by the vegetative spread of the root system. The three Santa Ynez Mountains colonies had a total of 48 clones. The three VAFB colonies had a total of 19 clones. Eriodictyon capitatum is self-incompatible (i.e., it requires pollen from genetically different plants to produce seed) and its fruits are parasitized by an insect (Elam 1994). A study of one of the uniclonal colonies at VAFB showed that E. capitatum resprouted successfully from the base of the plant after a prescribed fire. However, several stems died, no seedling recruitment occurred, and there was heavy damage from herbivory (Jacks et al. 1984)."*

Based on our current understanding of *E. capitatum*, there are no more than 68 or 69 individual plants exist, each presenting as either small or large clones. This means that the genetic variability of *E. capitatum* is extremely limited, which also means that it has higher vulnerability, or lower ability, to adapt to changes in its environment, such as from disease or climate change.

The USFWS (2011[19]) in its 5-Year Review of *E. capitatum*, stated that there are only 11 to 20 genetic individual plants. The remaining plants are just clones of one or more of those individuals. Has there been additional studies since 2011 to indicate there are more, or has that number been refined?

Elam (1994) determined that *E. capitatum* is self-incompatible, which means that individual plants cannot breed with themselves; rather, successful pollination can occur only from other individuals. Since most of the populations are represented by one or several clones, cross-pollination is a rare event. Since a clone is defined as one single individual, and there are only 68 known individuals, the loss of a clone would represent a high loss of compatible individuals even though it would represent only a 1.4% loss of all individuals. If we use the USFWS's 2011 number, 20 genetic individuals, then the loss of 1.4% would represent, potentially, the elimination of one (1) individual or a ¼ of an individual (which must be rounded up to 1 since we can't have a partial remains of an individual. For a statistically valid sample size, we need to have a minimum of 20 individuals to capture sufficient population variability[20].

As of this date, no information has been published that suggests that anyone has attempted any sort of translocation or planting of LYS. Santa Barbara Botanic Garden (SBBG) has participated in

[19] USFWS. 2011. *Eriodictyon capitatum* (Lompoc yerba santa) 5-Year Review: Summary and Evaluation. 8 February 2011. U.S. Fish and Wildlife Service, Ventura Field Office, Ventura, California.

[20] Dytham, Calvin. 2003. *Choosing and Using Statistics: A Biologist's Guide*. Second Edition. Blackwell Science, Malden, Massachusetts.

propagation of root cuttings and outplantings, with poor success in that many of the outplantings died[21]. Seed germination trails at Rancho Santa Ana Botanic Garden have also found low germination rates, stating, "[RSA] has 8 small collections from 2015, one of which is on our germination testing schedule. We were able to get 54% germination with fresh seeds and 35% germination for the 1-year follow up test with a 20 minute heat treatment (220 degrees F) and then soaking in diluted liquid smoke for 24 hours prior to sowing on agar. In general we have found that Eriodictyon are difficult to propagate from seed."[22]. Without rigorous trials or attempts to grow this species from seed or cuttings and planting them in suitable habitat means that we have almost no knowledge or experience by which to measure the probability of success as a mitigation measure.

Page 81 – "*The habitat restoration plan will include funding in the amount of $25,000/year for a period of five (5) years to support research to determine whether and to what extent individual Lompoc yerba santa plants may be propagated to establish a new population in the wild*." This proposed requirement supports my claim that this approach, while fairly standard in habitat restoration, is untried and requires significant research. This means this mitigation measure is entirely experimental without any experience with LYS to indicate that translocation may be a viable mitigation approach.

SBBG has had good success with a specific seed stratification approach to stimulate seed germination at over 90% viability; however, the only population with what appears to be producing viable seed is from the Solomon Hills[23]. How many genetic individuals the seeds originated from or how many mother lines have been propagated thus far has not yet been reported, or is unknown.

Page 82 – Table of impact types and mitigation measures, includes two impact types for LYS: ground disturbance and vegetation removal. Proposed mitigation for ground disturbance includes, "*Surveys and relocation; Protective fencing; Personnel education; Minimizing impacts to natural areas; Habitat restoration to disturbed areas; Compensatory mitigation*", which meets stated biological goals and objectives "Goal 5, Objective 5.1". Vegetation removal impacts would be mitigated by "*Survey and relocation; Protective fencing; Personnel education; Minimizing impacts to natural areas; Habitat restoration to disturbed areas; Compensatory mitigation*", of which there is no tested, much less tried, experience for LYS habitat restoration or compensation for it.

Page 84 – Monitoring. "*Monitoring tracks compliance with the terms and conditions of the HCP and incidental take permit. There are three types of monitoring: (1) compliance monitoring tracks the permit holder's compliance with the requirements specified in the GCP and permit; (2) effects monitoring tracks the impacts of the covered activities on the Covered Species; and (3) effectiveness monitoring tracks the progress of the conservation strategy in meeting the HCP's biological goals and objectives (includes species surveys, reproductive success, etc.). Monitoring provides information for making adaptive management decisions*."

This proposed monitoring is a reasonable mechanism to obtain information on how the GCP is being followed; however, it primarily is a means to document what the impact to LYS is rather than if the impact(s) can be avoided. For example, the GCP on Page 85 – Effects Monitoring, states "*The*

[21] Schneider, Heather, SBBG Rare Plant Biologist, 19 April 2020 - Email personal communication regarding germination and propagation results for *Eriodictyon capitatum.*

[22] Naomi Fraga, Rancho Santa Ana Botanic Garden, personal communication (email). 20 April 2020. Results of propagation studies of *Eriodictyon capitatum*"

[23]. Schneider, Heather, SBBG Rare Plant Biologist, 19 April 2020 - Email personal communication regarding germination and propagation results for *Eriodictyon capitatum.*

biologist will measure the number of Lompoc yerba santa plants that were removed or damaged as a result of the covered activities."

Page 86 goes on to say "*Biological Goal 3 and Biological Goal 4 is to avoid and minimize disturbance to the Lompoc yerba santa and its habitat within the project areas and to preserve and maintain or enhance the Lompoc yerba santa populations within the Planning Area, respectively. Measures to avoid, minimize, and offset project impacts to Lompoc yerba santa are described above under Measures to Avoid and Minimize Impacts. Modification or augmentation of these measures (such as newly developed methods to protect Lompoc yerba santa) may be necessary to ensure maximum protection of the species. To that end, applicants will monitor the efficacy of the avoidance, minimization and mitigation measures and will quantify the actual extent of project impacts in annual reports. The review of mitigation measure effectiveness will be done by the Service at least once per year or as determined to be necessary. Annual reports will be submitted to Service for review in order to determine the quantification of actual take and assessment of avoidance and minimization effectiveness*."

While monitoring reports are important and necessary, waiting for an annual compliance report may be far too late for the USFWS to require any changes, as the damage will have already been done. It does no good for the LYS for the monitoring report to state that X number of plants were taken and mitigation failed. Too late. Damage done. The GCP also is extremely weak in failing to state the requirements of the qualifications of the monitoring botanist. In fact, the GCP does not state that the compliance monitor must be a botanist at all, just a biologist. To ensure that the botanist monitoring or studying the impacts and mitigation of LYS, the botanist should be a California Certified Consulting or California Certified Field Botanist[24].

Page 87 states "*Biological Goal 5 is to provide compensatory mitigation to further meet recovery criteria and support long-term viability of the California tiger salamander, California red-legged frog, and Lompoc yerba santa. While compensatory mitigation for permit issued under this Plan will be completed in one step (i.e., purchasing credits from a conservation bank, making payment to a mitigation account, establishment of a conservation easement) and prior to the onset of project impacts, it is important to ensure that the mitigation is helping to meet recovery criteria and support the long-term viability of the Covered Species*."

Most of Biological Goal 5 is meaningless, when referring to compensatory mitigation can be accomplished through purchasing mitigation credits from a conservation bank – one does not exist, and one will almost certainly never exist as there are only five known populations and two are under federal ownership (U.S. Air Force), which is prohibited from creating a mitigation bank for private entities. The only way a mitigation bank can be created is for an entity to purchase suitable habitat for the LYS, plant LYS onsite, monitor those plantings for several years to determine success, most likely 10 years, and obtain approval from a mitigation banking agency such as the California Department of Fish and Wildlife. Since all mitigation banks have very high financial foundation requirements, meaning that funds must be set aside to ensure success in perpetuity, and that there is a very small market for this type of mitigation bank, no private enterprise or non-profit organization is likely to even consider establishing a LYS mitigation bank. The market is much too small that the potential for economic viability is almost non-existent. While this sounds good in the GCP, the reality is that a mitigation bank is highly unlikely to ever be available for the LYS.

[24] California Native Plant Society Certified Botanist Program - https://www.cnps.org/education/botanist-certification

Page 88 – the USFWS, for LYS states "*Compensatory mitigation for the Lompoc yerba santa focuses on contributing to the recovery of the species through restoration of habitat suitable for Lompoc yerba santa or through acquisition of habitat that was historically or is currently occupied by Lompoc yerba santa. The overall intent of this goal is to protect and manage habitat to ensure conservation benefits for the Lompoc yerba santa*."

Two populations of LYS occur on federal land (Vandenberg AFB, so one-third of the known populations are NOT available for an oil company to purchase for conservation and mitigation purposes. That leaves only three populations that might be available, with two of those in the Orcutt Oil Field, exactly where the intended impacts are to be permitted to occur under the proposed GCP. That leaves only the Hollister Ranch population potentially available for purchase, if the parcels containing that population were available for purchase. And if any of those parcels were to become available for purchase, the price would almost certainly be far beyond what the cost to avoid the impact would be. For example, a 33-acre parcel at 38 Hollister Ranch Road, not far from the LYS population, sold in late 2018 for $1.150M[25].

EO5, the Hollister Ranch population, is spread across eight (8) parcels on top of a ridge. Those parcels include:

- APN 083-660-032, a 102.05-acre parcel, last transferred on 22 January 2008, assessed value $2,370,693
- APN 083-660-001, a 102.9-acre parcel, last transferred on 1 March 1975, assessed value $742,260
- APN 083-660-033, a 102.46-acre parcel, last transferred on 1 March 1975, assessed value $309,204
- APN 083-540-013 (083-660-013?), a 611.24-acre (114.37-acre) parcel, (last transferred on 19 March 1999, assessed value $596,019)
- APN 083-660-028, a 100.12-acre parcel, last transferred on 1 March 1975, assessed value $383,688
- APN 083-660-029, a 104.78-acre parcel, last transferred on 31 August 1992, assessed value $470,226
- APN 083-660-027, a 103.8-acre parcel, last transferred on 17 June 2009, assessed value $1,802,349, 43 Hollister Ranch Road, Gaviota, CA 93117
- APN 083-660-030, a 113.83-acre parcel, last transferred on 2 February 2013, assessed value $1,065,257

As of the date of the parcel database used (5 April 2006), all of these parcels had different owners. The assessed values are from the Santa Barbara County Assessor's Office for 2019[26]. The assessed values provide an indication of the expected lowest prices each of these parcel would likely sell for; however, being assessed values will almost certainly represent values well below market value.

Page 89 – Lompoc Yerba Santa Adaptive Management. "*Adaptive management actions will be implemented for the Lompoc yerba santa if survey, project and monitoring data for Lompoc yerba santa*

[25] Zillow.com - https://www.zillow.com/homedetails/38-Hollister-Ranch-Rd-LAND-Goleta-CA-93117/2087374149_zpid/?
[26] http://sbcassessor.com/assessor/ValueNotices.aspx?APN=083660032

in the plan area indicates a severe decline in Lompoc yerba santa abundance or site-specific conditions within the planning area. A severe decline for the species would be if:
1) Site conditions deteriorate such that: a. A 20 percent increase in nonnative species is detected (density); or b. Nonnative species within or adjacent to occupied Lompoc yerba santa habitat makeup 20 percent of the plant cover.
2) A significant/notable decline in number of ramets (an individual or stalk of a clone) or occupied area such that: a. A 20 percent decline in number of ramets is detected from the start the permit issuance; or b. A 20 percent decline in the occupied area is detected from the start the permit issuance date."

This approach of the GCP for LYS has the potential to result in a 20% loss of LYS plants or ramets, which is a huge and significant loss, particularly considering that the potential to mitigate for that loss is very low since we really know nothing about our ability to grow LYS, particularly at a restoration site. That threshold is far too high (bar is too high) and would put of this species at risk of extinction. Since this species is so extremely rare in terms of actual number of individual plants, a much more conservative threshold should be set in order to have any real meaning in protecting this species. A threshold of 1% would be more appropriate, which is about equivalent to the loss of one individual (not to be equated with individual ramets). Since we know nearly nothing about the long term viability of this species, or the age of an individual plant, we don't know how many ramets are necessary to sustain an individual plant. No studies have been completed about how long any one ramet lives, or when a new ramet will sprout.

Until we learn the answers to the questions about viability, how long a plant lives, how many ramets are necessary to maintain long-term survival, etc., a 10% threshold is more appropriate to the loss of ramets of one plant, IF that individual plant has more than one ramet.

To increase the chance of survival, as much genetic variability within a population as possible is needed, not just that of one clone. The proposed mitigation includes augmenting a population with the planting of additional ramets. Presumably, this means that a stem (rooted?) would be planted in suitable habitat adjacent to an existing population; however, unless that ramet originated from a different plant, it will really only represent another part of the same plant of the mitigated population, really a population of one. If the genetics of that one plant are insufficient to adapt to slightly different habitat conditions, or climate change alters natural conditions too much, that entire population is at risk of failure.

This mitigation also requires research on the breeding system of the LYS. Frankly, that research needs to be performed BEFORE any take is allowed for this species. If the oil and gas industry wants to benefit from an HCP for this species, let them fund, or assist in funding, the required research to determine exactly how this species behaves, and what it needs, to survive long term.

Adaptive action item 5, on Page 91, is definitely appropriate, as a measure to AVOID take of LYS plants and/or ramets. Where plants are at risk from normal oil field operations or expansion, fence off the edge at risk and install warning signs to prevent damage to these plants.

Page 91 – Changed Circumstances, refers to the No Surprises Rule, to provide surety to the permittees that they will not be required to do more than what is covered or required under the ITP. The fact that so little is known about the LYS and what is needed to protect it, or how to mitigation for impacts to it, puts the species at risk since it is entirely possible, and likely, that the cost to properly mitigate for impacts to LYS is significantly higher than the permittees believe will cost, or what they are willing to spend.

The parties that wish to take the LYS should be required to fully mitigate any and all impacts to it that result from their actions, regardless of the unexpected costs. To avoid unexpected costs, they can simply avoid the impacts. The GCP has provided no evidence that avoidance is not feasible.

Page 96 – Climate Change. The GCP correctly describes the potential for loss of individual populations or the entire species as a result of stochastic events, repeated wildfires, competition from invasive exotic species, and a change in growing conditions as the region experiences decreased precipitation and increases in average and high temperatures, as predicted by climate change models. Plant species often have the ability to migrate, albeit slowly, to more suitable habitats. However, such migration requires that no barriers to that migration be in the way. For the LYS, there are likely unsurmountable barriers to its successful migration northward or upward in elevation. First, there must be suitable substrates available along the migration path. The soils in which LYS grow are highly restricted and lacking in between areas with suitable soils. Urban and agricultural development already occurs all around each population except the Hollister Ranch population, so they have no paths to migrate long. The Santa Maria Valley occurs to the north of the Solomon Hills where the Orcutt Oil Fields occur, and is entirely developed in either agriculture or urban land uses, neither of which is conducive to LYS migration. The same is true for the populations on Vandenberg AFB; however, those populations have a bit more space and fewer barriers to migrate northward, such as in to the Casmalia Hills or Purisma Hills, assuming suitable habitat is present in those areas.

DRAFT ENVIRONMENTAL ASSESSMENT

A Draft Environmental Assessment for the proposed GCP was prepared on behalf of the USFWS and published in late 2019. Page 12, line 4 states "*The proposed GCP would fulfill a need for better conservation of CTS, CRLF, and LYS within Santa Barbara County in a more comprehensive manner.*" There is no evidence that the proposed GCP will result in "better conservation" of the LYS. If fact, the analysis of this expert in this letter demonstrates that too little is known about this extremely rare plant (maximum of 69 individual plants?) and that any mitigation proposed is experimental at best. Therefore, a conclusion by the USFWS that the GCP would improve conservation of this species is baseless and wishful thinking. Furthermore, since the GCP includes a No Surprises provision, the USFWS is not able to fully require the measures needed to fully protect or mitigation impacts to the listed species such as the LYS as more information about it is gathered.

DEA Page 2-14, Table 2-4 – Limits on Impacts to LYS under the Proposed GCP provides allowed permanent impacts to habitat within and outside designated critical habitat; however, the metrics are not defined. For the Solomon Hills, assuming 8 acres? would be impacted, then the GCP would allow a total of 27.5 acres of LYS habitat to be impacted. This is a very large percentage of the known LYS distribution/area occupied. Does the USFWS know how many individual plants would be lost?

DEA Page 2-16, Line 15 states that the USFWS has yet to develop a Recovery Plan for the LYS, which would provide a great deal of information considered necessary to determine how to conserve this species. To issue a GCP to take 27.5 acres of LYS is simply not justified or supportable by the facts, or more appropriately the lack of information about the needs of LYS. Defaulting to the "standard conservation practices for this species" is nonsensical since no standard conservation practices have ever been developed, published, or implemented for LYS.

The populations of LYS as mapped by the CNDDB total approximately 385 acres[27]. Loss of 27.5 acres of LYS, the amount allowed under the proposed GCP, represents approximately 7.1% of the known area occupied by LYS. Since "take" of just one individual is prohibited under the Endangered Species Act without a permit, the loss of one individual is considered significant. Expand that to 7.1% of the entire species and the severity is magnified accordingly. This is a large percentage, especially since very little is known about the growth, reproduction, and viability of the LYS, or each population. Since nothing is known about the feasibility of translocation of LYS, or what is required to establish a new population, stating that this loss does not represent a significant and unmitigable impact is not supported by any evidence.

DEA Page 2-6 – 2.1.4 Limits on Take and Maximum Allowable Impacts under the Proposed GCP. "*the proposed GCP includes defined permitted limits on take for CTS and CRLF as well as impacts to LYS to ensure that the recovery criteria for these species is met. In the event that the maximum permitted take or impacts to a covered species is reached during the 20-year term of the proposed GCP, additional impacts or take authorization would not be available under the GCP for that particular species. The standardized process would measure and account for take of CTS and CRLF as well as impacts to LYS through established maximum allowable impacts within these species' habitats*." As stated in comments on the GCP above, the allowable limit of take for the LYS is far too high based on the known small number of individuals and lack of data and experience mitigating for this species.

Page 2-13, Line 14 of the DEA states, "*LYS are scatted* [sic] *along a 5-mile stretch of the mountains from the ridgeline to halfway down the south-facing slope*." Unless the USFWS has new information about the size of the Santa Ynez Mountains/Hollister Ranch population, this statement is incorrect, greatly overstating the size of this population. The CNDDB shows a polygon along the ridgetop that is approximately only 0.25-mile long, occupying approximately 122.2 acres, with the road running through the middle of this elongated population. Furthermore, that population does NOT stretch down the south-facing slope, but only occurs along the ridgetop in an east-west direction.

In summary, information on the requirements and reproductively of the LYS is lacking, primarily because these aspects have not been studied sufficiently to make science-based conclusions. Furthermore, no one yet has any experience mitigating for impacts to LYS and the few attempts to plant LYS in the wild have mostly failed or were not monitored such that necessary information was obtained to inform mitigation strategies.

The size of the populations of LYS are generally unknown, in particular as to the number of individual plants, and at least one population (Santa Ynez Mountains) was seriously overstated.

No mitigation credits for LYS are available at any approved (or unapproved) mitigation bank and none are likely to ever be available.

Allowing take of 27.5 acres/7.1% of LYS without solid (if any) evidence that the proposed mitigation would be successful argues against issuing the proposed GCP and the DEA is deficient in assessing the significance and feasibility of the proposed mitigation.

[27] The total area was determined using the XTools extension developed for the Esri GIS ArcView 3x software, to measure the area of each polygon mapped by the CNDDB.

The limited distribution and size of the LYS populations are so small that any loss of individual represents a significant impact, and the USFWS has provided no evidence that impacts to LYS can reasonably be considered likely to be mitigatable.

Avoidance is the only real and tangible method to protect this species until a substantial amount of experimentation and statistically valid studies are performed before a general conservation plan and ITP such as proposed can be considered acceptable.

Please contact me if you have any questions regarding this expert report.

Sincerely,

David L. Magney, CCB #0001
California Certified Consulting Botanist #0001
ISA Certified Arborist #WE-7674A

ATTACHMENT B

Michael Bumgardner
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Gold River, CA 95670-8216

Bumgardner Biological Consulting

May 4, 2020

Stephen P. Henry
Field Supervisor
Ventura Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003

Dear Mr. Henry:

This letter represents my expert opinion on the U.S. Fish and Wildlife Service's (USFWS's) proposed General Conservation Plan (GCP) for Oil and Gas Activities, Santa Barbara County, California, and Draft Environmental Assessment (EA) for the General Conservation Plan for Oil and Gas Activities Associated with Issuance of Endangered Species Act Section 10(a)(1)(b) Permits within Santa Barbara County, California.

As the owner and president of Bumgardner Biological Consulting (BBC), I have been in business since 2001 as an incorporated and certified small business in California (OSDC Reference No. 28840). I have more than 30 years of experience in conducting biological assessments, studies, and inventories, and developing mitigation plans, restoration plans, conservation plans and strategies, and constraints analyses. My clientele has included the U.S. Fish and Wildlife Service; U.S. Forest Service, U.S Department of Defense; California Department of Parks and Recreation; University of California; natural gas and oil industry; reclamation districts; ski industry; mining industry; transportation agencies; Union Pacific Railroad; water, wastewater and power utilities; and building industry. Much of my project backlog has involved resolving conflicts between new proposed land uses and sensitive biological resources. As such, I have served as the lead biologist for the development of habitat conservation plans (HCPs), safe harbor agreements, habitat management plans (HMPs), integrated natural resources management plans (INRMPs), and mitigation/conservation banks. Lastly, I hold both federal and state permits (TE785564-8; SC-007184) for work with the California tiger salamander and have almost 20 years addressing the species in relation to development, operations, and maintenance activities in all three Distinct Population Segments (DPSs). I believe this breadth of experience, which includes projects in Santa Barbara County, qualifies me to comment on the proposed GCP for Oil and Gas Activities in Santa Barbara County.

The comments I am submitting were prepared on behalf of the Environmental Defense Center (EDC) who retained BBC. The comments are numbered sequentially and correspond to, as identified, the draft GCP or EA and California tiger salamander (CTS) or California red-legged frog (CRLF).

#1 On page 41 of the Santa Barbara County General Conservation Plan (GCP) the following text is found "*These areas should be located within areas that are capable of supporting a minimum viable population of California tiger salamanders. As specified in the Service's (2016) recovery plan, a minimum of 623 acres of fully preserved, functional upland habitat around a preserved pond is necessary to support a minimum viable population*." This part of the GCP identifies how priorities should be addressed for lands that are essential for conservation. However, it is unclear regarding whether the 623 acres are additive for situations where there is more than one breeding site in close proximity (i.e., are 623 discrete acres of fully preserved, functional upland habitat required for each breeding pond or can there be overlap in the fully preserved, functional upland habitat required when two or more ponds are in close proximity?). It is my opinion that the requirement should be amended to reflect that the required 623 acres of fully preserved, functional upland habitat is discrete to each breeding site (i.e., no overlap is allowed such that the same land can be utilized to meet the 623-acre requirement of two or more ponds).

#2 On page 2-6 of the EA for the Santa Barbara County GCP the following text is found "*No impacts to CTS breeding habitat would be authorized under the proposed GCP*." Similar text is found on page 54 of the Santa Barbara County GCP: "*No impacts to California tiger salamander breeding habitat are authorized under this Plan*." Both documents indicate that no impacts to CTS breeding habitat will be allowed. However, both documents only address prohibiting covered activities' direct impacts to aquatic breeding habitat. Indirect impacts associated with changes in the upslope watershed of individual aquatic breeding sites could result in reduced CTS recruitment if the hydroperiod of the breeding site is substantially reduced (i.e., to less than 12 contiguous weeks). Decreased surface or subsurface flows to a breeding site could occur as a result of upslope development and subsequent water retention, redirection, etc. Other indirect impacts may occur from oilfield runoff and subsequent toxicological impacts to individuals and their breeding habitat. The GCP's use of upland habitat as a proxy for individual "take" does not address potential changes in the value of aquatic habitat from Permittee caused or induced indirect impacts. Note that other potential indirect impacts are addressed in comments #3 and #4.

#3 There are other environmental effectors such as noise, vibration, or lighting that may also result in indirect impacts to CTS or CRLF (Rich and Longcore 2006), Barber et al. 2010, Feuka et al. 2017). These effectors can be reasonably expected

to occur and "bleed" to offsite adjacent lands. The GCP does not address these impacts, the amount of land that must be protected to offset these types of impacts, or other means of avoiding, minimizing, or compensating for these impacts.

#4 Incidental take can take many forms, not all expressible as direct or immediate injury or death to individual animals. Some take can be in the form of a decrease in biological fitness due to reduced ability to breed or a shortened lifespan. Furthermore, the Services (US Fish and Wildlife Service and National Marine Fisheries Service) have found that in many cases, the biology of a listed species or the nature of the proposed action can make it impractical to detect or monitor take of individual animals. In these cases, evaluating impacts to a surrogate (e.g., habitat, ecological conditions, or similarly affected species) may be the most prudent way to describe the amount or extent of anticipated take of a listed species. The GCP utilizes habitat as a surrogate to estimate the amount of take of CTS and CRLF. See the below concerns regarding the use of habitat as a proxy.

The text of the final rule indicates that surrogates may be used, provided the biological opinion or incidental take statement: (1) describes the causal link between the surrogate and take of the listed species; (2) describes why it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of individuals of the listed species; and (3) sets a clear standard for determining when the allowable take has been exceeded. In response to comments, the Services expounded on these requirements, stating "*use of a surrogate in an incidental take statement is predicated on a finding that measuring take impacts to a listed species is not practical and on establishing a link, based on best available scientific information, between effects of the action to a surrogate and take of the listed species*."

In the GCP the Service uses number of acres of CTS upland habitat disturbed as a surrogate for the number of individuals affected in order to estimate the amount of take that is likely to occur from covered activities. Disturbance of CTS upland habitat may occur within the GCP planning area and such impact may occur in the form of permanent and temporary habitat impacts resulting from construction of oil and gas facilities. Additionally, habitat may be affected during operations, maintenance, and emergency responses during the life of the Permit. Direct impacts to CTS due to construction-related activities are relatively easy to calculate and address using habitat as a proxy. However, impacts from operations, maintenance, and emergency responses appear less "straight-forward" especially when such impacts are indirect impacts. The GCP does not address indirect impacts (e.g., oil spills, fires, contaminated runoff, etc.) or how such impacts will be avoided, minimized, or compensated. The recovery plan for CTS (Service 2016b) contains the following: "Oil and other contaminants in runoff from roads have been detected in adjacent ponds and have been linked to die-offs of, and deformities in,

California tiger salamanders and spadefoot toads, and die-offs of invertebrates that form most of both species' prey base (Sweet 1993)." If habitat is again to be used as a proxy for take of individuals, how will take and mitigation be calculated for these indirect impacts?

#5 On page 58 of the Santa Barbara County GCP the following text is found "*Under this GCP, we allow for the take in the form of injury or mortality of up to three individual California tiger salamanders per year as a result of vehicles using access roads*." The GCP, on page 63, also provides the following text "*Under this GCP, we allow for the take in the form of injury or mortality of up to 10 individual California red-legged frogs per year as a result of vehicles using access roads*." It is unclear in the GCP as to how these take limits were formulated and biologically justified. It is also unclear whether these take limits correspond to each individual Permit or the entire GCP planning area. Lastly, how are access roads defined? Are these any roads used in the service of gas and oil operations in the county or are they only roads on lands owned by or otherwise under the control of a Permittee? Finally, it should be noted that road-killed individuals of very small species such as CTS and CRLF are generally under-counted due to a variety of factors including, but not limited to, condition of carcass, removal by scavengers, type of road, vehicle speed, experience of individuals charged with finding and recording road-kills, and potential issues with self-reporting. The GCP does not address any of these latter issues.

#6 On page 107 of the GCP it is stated "*Major Amendments to individual Permits would be required for any modification of the Covered Activities that is expected to cause take of Covered Species not analyzed or authorized in the original Permit or if the authorized amount of take is insufficient for the Permittee's need. These amendments must be completed prior to the activities causing take.*" If major amendments to individual Permits are allowed under the GCP for Permittees that exceed the amount of authorized take, how does the GCP provide an incentive for Permittees to fully implement all GCP avoidance and minimization measures, and what prevents the Permittee from assuming that a major amendment can always be processed? Without a cap on major amendments it is not possible to assess whether impacts can be avoided or minimized to the maximum extent feasible.

#7 Within the GCP, "occupied CTS habitat" is defined as areas within CTS dispersal distance (1.3 miles) from a documented known breeding pond. However, it should not be assumed that all areas within 1.3 miles from a documented known CTS breeding pond are suitable upland or dispersal habitat. Nor can it be assumed that each acre of affected suitable habitat has the same relative value to the species. The Searcy and Shaffer (2008) model for the calculation of biologically accurate mitigation credits (i.e., model used by the GCP) is based only on survivorship values and density distributions. Furthermore, the model is based on survivorship

values from a study in Monterey County (Trenham et al. 2000), while the density distributions were derived from two studies at a site in Solano County (Trenham and Shaffer 2005, Searcy and Shaffer 2008). In addition, it should be noted that the model used by the GCP assumes that all adults have the same expectation of reproductive output, when it is possible that an individual's future reproductive output is correlated with distance of that individual from the breeding pond (e.g., individuals that travel further away from the breeding pond expend more energy in movement, have less mass, and therefore have reduced reproductive output) (Regosin et al. 2003). This latter scenario would result in land nearer to the breeding pond having even greater relative value than that predicted by the model. Other environmental factors that could affect the predictions of the Searcy and Shaffer model (e.g., geospatial distribution of suitable burrows, barriers to movement, presence of local roads and associated vehicle volumes, etc.) may all significantly bias the results of the model toward predictions of less impact and the subsequent requirement for less mitigation. Therefore, the model, by itself, does not appear to adequately predict the amount of compensation land that would be required to fully offset the loss or disturbance of habitat authorized under a Permit.

#8 On page 70 of the Santa Barbara County GCP the following text is found "*During the project planning phase, applicants will site all impacts away from known and potential California tiger salamander and California red-legged frog breeding habitats, avoid high quality upland and dispersal habitat, and avoid habitats supporting or immediately surrounded Lompoc yerba santa to the maximum extent feasible.*" However, the GCP does not qualify or quantify what constitutes "high quality upland and dispersal habitat" for CTS and CRLF. The statement insinuates that upland and dispersal habitat can vary in value given the use of the term "high quality." Furthermore, it should be expected that different areas of upland and dispersal habitat will vary in their relative value and potential to support these species. For example, dispersal and migratory habitat value for CTS typically decreases with an increase in distance from the natal pond (Searcy and Shaffer 2008). In addition, suitable subterranean refugia (typically California ground squirrel or Botta's pocket gopher burrows) can vary in density by location placing individual CTS on the surface for longer periods of time during dispersal or migration. Greater time on the surface increases the probability of predation or desiccation when burrow densities are low or aggregated to limited areas. CTS may also encounter effective barriers to further movement, requiring individuals to travel around such structure or to curtail further movement in the vicinity of the barrier potentially placing individuals in less suitable habitat. Without a better definition of what constitutes "high quality" upland and dispersal habitat it is not possible to assess whether impacts can be avoided or minimized to the maximum extent feasible.

#9 On page 75 of the Santa Barbara County GCP the following text is found "*Unavoidable impacts to the California tiger salamander or its habitat will be mitigated in accordance with the Conservation Strategy and Mitigation Guidance for the California tiger salamander (Service 2019). The Conservation Strategy and Mitigation Guidance provides guidance for assessing land use and project development impacts to the Santa Barbara County DPS of the California tiger salamander and identifies our preferred approaches to offset unavoidable impacts through compensatory mitigation.*" However, unavoidable impacts, as they relate to each species addressed by the GCP, are not identified in the GCP or the referenced "Conservation Strategy and Mitigation Guidance for the California Tiger Salamander (Service 2019)." Note that there is no 2019 version of the conservation strategy. Only the draft 2016 version is available for review. Nonetheless, the failure to address specific unavoidable impacts appears to be a substantive omission, particularly where certain impacts can be considered reasonably likely to occur (e.g., oil spills, fires, mosquito abatement, etc.). Failure to identify these unavoidable impacts precludes much opportunity to prepare and implement more effective mitigation measures that focus on minimization rather than compensation.

#10 Measure 12 in Measures to Avoid and Minimize Impacts of the Santa Barbara County GCP requires relocation of individual CTS found within the project footprint to an active rodent burrow system located no more than 300 feet outside of the project area unless otherwise approved by the Department and Service. However, implementation of this minimization measure may not allow many relocated individuals to return to either their natal pond, pond where they previously bred, or upland site they occupy outside the breeding season. CTS, like some other migratory salamanders including other *Ambystoma* sp., have been shown to migrate unidirectionally (i.e., in a straight line). The mechanism for this type of movement is not fully understood but may involve magnetic orientation or cognitive mapping as shown in some other salamander species (Organ 1961, Shoop 1968, Stenhouse 1985, Madison 1997, Dodd and Cade 1998, Wilson 2001, Malmgren 2002, Johnson 2003. Jenkins et al. 2006, Homan et al. 2008). Removal of an individual from the bearing on which it is located could then place the individual on a different heading than that which would take it back to its breeding pond. An individual that cannot find its breeding pond could then be effectively precluded from breeding unless it happens upon, by chance, another nearby breeding pond. The GCP does not address this potential impact of the avoidance and minimization measure.

#11 Measure 13 in Measures to Avoid and Minimize Impacts of the Santa Barbara County GCP requires the following: "*Rodent burrows within the project areas that overlap the Covered Species' habitat will be excavated by a Service-approved biologist using hand tools until it is certain that the burrows are unoccupied*." However, in my experience, after excavation of many thousands of rodent burrows [particularly those of California ground squirrel (*Otospermophilus beechey*)], I have

found it is impossible to excavate many burrows with only hand tools. To excavate to the burrow endpoints has often required a slow methodical approach with the assistance of an experienced backhoe operator under the guidance of a qualified biologist. Furthermore, without excavation to the burrow endpoints, it cannot be assured that the burrow is unoccupied. Without complete burrow excavation, it is not possible to meet the criterion of avoidance or minimization to the maximum extent feasible.

#12 Monitoring and reporting are required for many activities in the GCP. However, it is not clear whether the Permittee has direct responsibility for all monitoring and reporting or whether an independent 3rd party will be responsible for any part of the monitoring and reporting. Unfortunately, self-reporting tends to result in under-reporting. Therefore, this aspect of the GCP is unlikely to meet the threshold of avoidance or minimization to the maximum extent feasible.

#13 How compensatory mitigation for the California tiger salamander, particularly beyond 896 meters from a breeding pond, will be implemented through the GCP is unclear. Compensatory Mitigation for the California Tiger Salamander #3 on page 68 of the GCP provides the following text: "*Adjacent to the fully preserved ponds and fully preserved upland habitat, a minimum of 1,628 acres of additional contiguous, functional upland habitat is present, which is at least 50 percent unfragmented and partially preserved*." This latter mitigation is consistent with the guidance of the recovery plan (Service 2016b) which further explains the intent of the measure: "*Ideally, the 623 acres would include all habitat within 896 meters of the breeding pond because placement of the pond in the protected area will affect how many of the salamanders are protected. The area of this additional functional upland habitat (1,628 acres) supporting the 25% of the population most distant from the pond, combined with the fully protected habitat (623 acres) supporting 75% of the population, is estimated to support approximately 95% of the tiger salamander population*" (Service 2016b). However, the language "partially preserved" does not provide clarity on when, where, and how the mitigation measure will be implemented. Regarding "when" this protection will be provided, does it occur concurrently with protection of the 623 acres of fully preserved habitat or is it phased to occur after a minimum of 623 acres of fully preserved habitat has been protected? Regarding "where" this protection will be provided, it is clear it is beyond 896 meters (2,940 feet) from the breeding pond edge but is not clear what or if there is a maximum limit to how far from the pond edge. Lastly, "how" this protection will be provided is not defined. Not only is the accounting (i.e., how much acreage the Permittee is individually responsible for) unclear, but what does "partially preserved" mean? Also, "partially preserved" seems to suggest that there is no guaranteed long-term protection for these lands. The uncertainty associated with this measure is therefore inconsistent with the requirement to avoid and minimize impacts to the maximum extent feasible.

#14 The GCP does not address how habitat that provides linkage between two or more breeding ponds in a CTS metapopulation or between metapopulations will be preserved. However, the following statement is made on page 35 of the GCP: "*Maintaining inter-pond dispersal potential (connectivity between ponds) is important for the long-term viability of California tiger salamanders; however, the inter-pond linkages between populations of California tiger salamanders in Santa Barbara County are considerably degraded (Pyke 2005)*." The GCP shows this as an important aspect of recovery of the species but provides no clear methods by which inter-pond linkages will be maintained or created.

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Should you have any questions or require clarification please do not hesitate to contact me (916-638-7368) or (916-812-2540).

Sincerely,

Michael Bumgardner

ATTACHMENT C

Resume

David Magney Environmental Consulting

David L. Magney

President, Biologist/Certified Consulting Botanist, Wetland Scientist, Certified Arborist

EDUCATION:

B.A. Environmental Studies and Geography (emphasis is botany, cartography, and remote sensing), University of California at Santa Barbara, 1985.

A.S. Landscape Horticulture and Certificate of Completion in Natural Resources, Ventura College, 1975.

CERTIFICATIONS AND PERMITS:

Certified Consulting Botanist #0001, California Native Plant Society, Board of Certification

Approved Biologist: Los Angeles County Regional Planning Department, Sensitive Ecological Areas

Approved Biologist: Ventura County Planning Division

Approved Biologist: Santa Barbara County Planning Department

Certified Arborist: International Society of Arboriculture (certification #WE-7674A)

Approved Arborist: City of Oxnard

Expert Witness, Botanist: U.S. Department of Justice

California Dept. of Fish and Game Scientific Collecting Permit #801066-05

TRAINING:

Improving Wetland Restoration Success: Riverine/Riparian Wetland Restoration Webinar, Assoc. of State Wetland Managers, 9 June 2015

Hydrogeomorphic Assessment of Wetland Function training course: National Wetland Science Training Cooperative, 1996.

Hydrogeomorphic Approach to Assessment of Functions of Waters of the U.S., Including Wetlands, in the Santa Margarita Watershed. National Wetland Science Training Cooperative, 1997.

Wetland Delineation, Federal Wetland Policy: Wetland Training Institute, 1989, 1991.

Desert Tortoise Handling and Surveying: trained by Desert Tortoise Council (John Weir), 1988.

Hazardous Waste Health and Safety Monitoring Training: Dames & Moore, 1987.

ArcView 3 (GIS) training: Geo InSight International, 1998.

ArcGIS 10.4 (GIS) trainings: beginning and intermediate, ESRI 2017

Vegetation Rapid Assessment Classification: California Native Plant Society, 2003.

Successful CEQA Compliance 2005: Ron Bass, for Ventura County Resource Management Agency, 16 June 2005. CEQA = California Environmental Quality Act.

California Red-legged Frog Survey Methods: Vince Semonsen 2005.

The Wildlife Society San Joaquin Valley Chapter workshop: Habitat Conservation Planning, 1992.

American Association for the Advancement of Science symposium: Vernal Pools, 1989.

Professional Soil Scientists of California workshop: Field Identification of Hydric Soils, 1989.

SPOT Image Corporation: Satellite Imagery and GIS training course, 1995.

Jones & Stokes Associates workshops: Project Management Seminars, 1990-92, Hydric Soils, 1991, 1992; Clean Water Act Regulations Concerning Wetlands (1989), and CEQA Requirements and Document Preparation, 1993, 1990, 1989; WordPerfect, Lotus 1-2-3 and Allways, Microsoft Word, Excel, ArcView, and GRASS software programs.

Project Management Training: Dames & Moore seminar, 1988.

California Agricultural Pest Control Adviser's License, 1975-77 (expired).

QUALIFICATIONS AND EXPERIENCE:

Mr. Magney, President of David Magney Environmental Consulting, has over 30 years experience in biological studies and 25 years in environmental consulting. He has worked on or managed projects focusing on large-scale habitat classification and mapping, wetlands inventory and restoration planning, and water reuse and diversion that affect wetland habitats (palustrine, riverine, and estuarine) containing Southern Steelhead Trout, Tidewater Goby, Unarmored Threespine Stickleback, California Red-legged Frog, and Southwestern Pond Turtle. He has surveyed for and/or monitored projects with Desert Tortoise, Giant Garter Snake, Blunt-nosed Leopard Lizard, San Diego Horned Toad, Snowy Plover, California Least Tern, Least Bell's Vireo, California Gnatcatcher, Burrowing Owl, San Joaquin Kit Fox, San Joaquin Antelope Squirrel, Mojave Ground Squirrel, Giant Kangaroo Rat, Tipton's Kangaroo Rat, Stephen's Kangaroo Rat, Los Angeles Pocket Mouse, fairy shrimp, as well as numerous special-status plant species. Mr. Magney also managed special-status species surveys in the Four Corners Region, Great Valley, Sierra Nevada, the California Central Coast, Southern California (coastal and Inland Empire), and on Santa Cruz Island.

David L. Magney

President, Biologist/Certified Consulting Botanist, Wetland Scientist, Certified Arborist

QUALIFICATIONS AND EXPERIENCE (continued):

Mr. Magney has prepared and reviewed biological resources sections of Environmental Impact Statements (EIS) and Environmental Assessments (EA) prepared pursuant to the National Environmental Policy Act (NEPA).

He managed the botanical resources section for EIS on the Central Valley Project Improvement Act of 1990, which included most of California; EAs for Fort Hunter Ligget, Camp Roberts, a drilling project in the Los Padres National Forest (LPNF), off-highway vehicle trails in the LPNF, and the Santa Cruz Island Acoustic Range Facility (a former Navy facility).

Mr. Magney has prepared and managed biological resources sections of Environmental Impact Reports (EIRs) and Initial Studies (IS) pursuant to the CEQA for numerous projects in California. He has prepared EIRs for: General Plans for the Cities of Lodi and Fairfield; the San Joaquin North County Landfill; a water main extension for Newhall County Water District, the Bridle Ridge Development in Santa Barbara County, and the Lyons Canyon Ranch development in Newhall for Los Angeles County Regional Planning. Mr. Magney has prepared numerous Initial Studies on biological resources for the Ventura County Planning Division since 1995. He has critically reviewed numerous CEQA documents since 1982, including Ventura Regional Sanitation District's EIR for the Toland Road Landfill on behalf of Ventura County Planning, and an EIR on a landfill project in Orange County for a neighboring city.

Mr. Magney has conducted numerous floristic, focused rare plant surveys, and vegetation sampling throughout California and the West. He has completed a floristic survey of 62,000+ acres of the Tejon Ranch for the Tejon Ranch Conservancy, documenting the flora, rare plants, and plant communities of 5 areas of the ranch; a floristic survey of the Wind Wolves Preserve in southern Kern County, and is currently conducting floristic surveys of the Bitter Creek National Wildlife Refuge in southwestern Kern County.

Mr. Magney has sampled natural vegetation in a wide variety of habitats, including grasslands, wetlands, chaparral, and desert communities. He conducted floristic and rare plant surveys for Sprint's fiberoptic cable between San Bernardino and Las Vegas, Nevada, which included construction monitoring. Mr. Magney has conducted botanical surveys at scattered sites throughout the Great Basin, Mojave, and Colorado Deserts, including near China Lake, the Owens Valley, Granite Mountains, Clark Mountains, Randsburg/Johannasburg, Clipper Mountains, Chuckwalla Mountains, Chuckwalla Bench, Needles area, and the I-10 corridor (ARCO Line 90 pipeline from Colton, California to Albuquerque, New Mexico).

Mr. Magney has managed projects to establish wetland habitat mitigation banks, one in the Mojave Desert focused on playa and desert wash wetlands, and two banks focused on perennial, intermittent, and ephemeral wetland and upland habitats in Ventura County. These projects included delineation of jurisdictional wetlands, measuring wetland functions using HGM, determining existin biological resources at each site, and developing restoration and management plans for increasing wetland functions.

Mr. Magney has served as an expert witness in Federal and California state courts. He was the U.S. Department of Justice's expert witness botanist on the EPA vs. Adam Bros. et al. wetlands violation case (Los Angeles District Court). He served as wetlands/environmental expert witness for the Old Creek Ranch vs. Robert Watson (Ventura County Superior Court) on a property damages liability lawsuit. Both cases were settled prior to trial in DMEC's client's favor. Mr. Magney is also an expert witness one a property damage case related to landscape maintenance and a personal injury case focusing on nonvascular plants for Pro/Consul, Inc.

Mr. Magney has interpreted and processed satellite and aerial imagery (Landsat, SPOT, SAR, and color and IR aerial photography) using GRASS, ARC/INFO, and ERDAS Imagine software for large-scale projects: all of California to support an EIS for the Central Valley Project Improvement Act of 1992, natural vegetation of the Calleguas Creek watershed (n Ventura County) for the USFWS, Camp Pendleton Marine Corps Base, endangered species habitats within the Contra Costa Water District interim service area, central Ventura County for Unocal, the Ventura River for the Matilija Dam Removal Project, pipeline projects in coastal Ecuador and Mississippi to Alabama, and an impact evaluation for an oil-related project in Amazonian Ecuador. He has used satellite imagery to map vegetation/land cover for the Great Basin as part of a transmission line routing study.

David L. Magney

President, Biologist/Certified Consulting Botanist, Wetland Scientist, Certified Arborist

QUALIFICATIONS AND EXPERIENCE (continued):

Mr. Magney has managed oak tree assessment projects in California, including for the Lyons Canyon Ranch development in Newhall, creating a unique and robust GIS database and maps of all assessed oak trees, working closely with Certified Arborists.

Mr. Magney is conducting extensive research on the flora of Ventura County, California, which will be published a A Flora of Ventura County, California, with an expected publication date in late 2013. A complete checklist was published in October 2011. This project was started in earnest in 1982 and includes original research and research on collections made by other botanists.

Mr. Magney has worked on watershed management plans, including the Calleguas Creek watershed in Ventura County, focusing on upland and wetland habitat functions, characterizing habitat conditions, and developing restoration and management strategies to restore or enhance impacted functions. He also characterized and analyzed the urban streams within the City of Ojai.

Mr. Magney has been involved with a wide variety of projects including studies for oil/gas facilities, dams, residential and commercial developments, transportation facilities, landfills, sand and gravel mining operations, off-highway vehicle trails, wind farm siting, and electrical/communications transmission lines. He has studied botanical and zoological resources, classified and mapped vegetation, delineated jurisdictional wetlands and waters of the United States, identified opportunities and constraints for land development, conducted initial studies and investigations for projects requiring CEQA and NEPA documentation, and prepared Natural Environmental Studies for Caltrans. Mr. Magney has extensive experience in wetlands, developing mitigation and restoration plans for coastal, riparian, and vernal pool wetlands.

Mr. Magney has conducted water quality sampling and monitoring for several projects to establish baseline conditions and conduct construction and post-construction monitoring, such as for Exxon's Las Flores refinery in Corral Canyon, Santa Barbara County. He has developed and implemented water quality controls for use during project construction and mitigation implementation. Mr. Magney is developing a water quality field sampling educational program for the Ojai Unified School District, including purchasing of field sampling equipment.

Prior to establishing David Magney Environmental Consulting, Mr. Magney worked as Senior Program Manager for Natural Resources at Fugro West, Inc. from 1995 to 1997; as a Senior Botanist for Jones & Stokes Associates, Inc., of Sacramento, California, from 1989 to 1995 where he worked on and managed projects with major biological or regulatory compliance components; and prior to 1989, and as the Botanist for Dames & Moore at their Santa Barbara office. He has also worked with the U.S. Forest Service, Los Padres National Forest, as a GS-9 Botanist (temporary) and on a voluntary basis, and as a Research Associate with the UC Santa Barbara Herbarium, NOREAS, and BioResource Consultants. Mr. Magney formerly owned and operated the Ojai Wilderness Institute.

PROFESSIONAL AFFILIATIONS:

American Society of Plant Taxonomists
AnacapaGIS, co-founder
Association of State Wetland Scientists
Botanical Society of America
California Botanical Society
California Lichen Society, Conservation Committee
California Native Plant Society (President 1991-1994; Chairman of Chapter Council 2011-2014; Board Member 2002-2007, VP Conservation 1996; VP Legislation 1995; Channel Islands Chapter President 2004-2013, Redbud Chapter Conservation Committee Chairman 2010-2016, Fellow), Botanist Certification Program Committee Chairman (2014-2018)
Channel Islands Regional Geographic Information Systems (CIRGIS), charter board member
International Society for Arboriculture (ISA), Western Chapter ISA, since 2006
Native Plant Coalition, founder
Northern California Botanists
Sespe Institute, cofounder and president
Society of Wetland Scientists
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PUBLICATIONS:

Magney, David L. in ed. *A Flora of Ventura County*. David Magney Environmental Consulting, Cedar Ridge, California.

Magney, David L. in ed. Vascular Flora of Ventura County, California. Submitted to *Madroño*.

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Magney, D.L., J. Broberg, J. Logan, and V. Peters. 2015. A Preliminary Draft Regional Guidebook for Applying the Hydrogeomorphic Approach to Assessing Wetland Functions of Playa Depressional Wetlands in the Mojave Desert. (PN 12-0004.) David Magney Environmental Consulting, Ojai, California. Prepared for U.S. Army Corps of Engineers, Los Angeles, California. Prepared on behalf of Richard and Laurie Lyons, Ojai, California.

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David L. Magney

President, Biologist/Certified Consulting Botanist, Wetland Scientist, Certified Arborist

PUBLICATIONS (continued):

Magney, David L., and Illeene Anderson. 2005. Plants of the Dead Mountains, Mojave Desert, California. 22 March 2005. David Magney Environmental Consulting, Ojai, California. http://magney.org/photofiles/DeadMtnpics.htm

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Magney, David L., and Emily B. Roberson. 1995. CNPS Statement on Seeding Following Wildfire. In *Brushfires in California: Ecology and Resource Management* (conference proceedings). International Association of Wildland Fire, Fairfield, Washington.

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Magney, David L. 1992. Descriptions of Three New Southern California Vegetation Types: Southern Cactus Scrub, Southern Coastal Needlegrass Grassland, and Scalebroom Scrub. *Crossosoma* 18(1):1-9, June.

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David L. Magney

President, Biologist/Certified Consulting Botanist, Wetland Scientist, Certified Arborist

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Magney, David L. 1988. Analysis of water quality of an intermittent stream, Santa Barbara County, California. (Presented as a poster at the California Riparian Systems Conference), Davis, California, September.

Magney, David L. 1987. Distribution and Two New Populations of *Boschniakia strobilacea* (Orobanchaceae). *Madroño* 34(4):379-380.

Olson, T., and David L. Magney. 1987. Distribution of Sensitive Plant and Wildlife Species Along Transmission Line Corridors in Southwestern San Joaquin Valley, California. In *Endangered and Sensitive Species of the San Joaquin Valley, California,* (proceedings of a conference) Contribution 36, December 10-11, California State College, Bakersfield.

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Magney, David L. 1986. A Flora of Dry Lakes Ridge, Ventura County, California. (Herbarium Publication No. 5.) University of California, Santa Barbara.

AWARDS AND GRANTS:

California Native Plant Society - 1985, grant to conduct research on the flora of Ventura County, California.

Swedish-American Bicentennial Fund - 1995, grant from Swedish government to conduct research on a comparison of American and Swedish wetland protection laws and how they are applied.

California Native Plant Society – 2013, designated as a Fellow.

COMMITTEES:

California Native Plant Society, Botanist Certification Program Committee chairman since 2014.

Ojai Trees, Inc., Advisor Arborist, 2014-2016.

Caltrans Environmental Advisory Committee member, 1991-1996; also a panelist for Caltrans Mid-Level Managers training workshops.

U.S. Army Corps of Engineers Regional Assessment Team "A-Team" vernal pool expert for developing Hydrogeomorphic Model for Vernal Pool Wetlands, an inter-agency task force for the National Plan to implement the Hydrogeomorphic Approach for assessing wetland functions, 1995-1996.

Caltrans CaliforniaWILD (Wildflowers in Landscape Design) steering committee member.

Calleguas Creek Watershed Management Plan Committee member, since 1996. Habitat and Recreation Subcommittee and Scientific Advisory Group member.

Ojai Valley Land Conservancy, Lands Committee

Sespe Institute, nonprofit California Corp.

California Lichen Society, Conservation Committee

California Native Plant Society, Rare Plant Program Committee, since 2000, Conservation Committee.

Channel Islands Regional Geographic Information Systems Collaborative (CIRGIS), charter member since 2000, Incorporator, Chairman for 2002-2003, Board of Directors 2004-2007.

East Merced County NCCP, Habitat & Biological Resources Committee, 2002-2004.

Ventura County Planning Division, Sensitive Biological Resources Committee, since 2003.

City of Ojai, Tree Committee, 2005-2016.

Los Angeles County Regional Planning, Environmental Review Board, member 2006-2016.

Ventura River Watershed Planning Committee, member 2005-2016

ATTACHMENT D

MICHAEL BUMGARDNER

Principal, Bumgardner Biological Consulting

Mr. Bumgardner has over 25 years of experience with the terrestrial vertebrates, invertebrates, and flora of North, Central, and South America; Asia; Africa; and western Europe. He also has 23 years of experience in the management and preparation of environmental documents that comply with the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), Tahoe Regional Planning Agency (TRPA) Rules of Procedure, Federal Endangered Species Act (FESA), and California Endangered Species Act (CESA). He has extensive experience in the coordination and preparation of biological resource assessments, impact assessments, management plans, mitigation programs, and habitat conservation planning and permitting associated with special-status species.

TECHNICAL CAPABILITIES

- Experienced with the statutory requirements and guidelines for federal Endangered Species Act Section 7 Consultations, Section 10(a)(1)(B) incidental take permits, Section 10(a)(1)(A) safe harbor agreements, and California Fish and Game Code Section 2081 management agreements and Section 2080.1 consistency determinations.
- Experienced in the preparation of biological assessments and conservation strategies for state and federal threatened and endangered species and other special-status species.
- Managed and conducted surveys for species including, but not limited to: *valley elderberry longhorn beetle, California tiger salamander, arroyo toad, western spadefoot, mountain yellow-legged frog, California red-legged frog, desert tortoise, western pond turtle, blunt-nosed leopard lizard, giant garter snake, San Joaquin kit fox, giant kangaroo rat, California Ridgway's rail, California black rail, spotted owl, northern goshawk, burrowing owl, Swainson's hawk, least Bell's vireo, willow flycatcher, California gnatcatcher* and *vernal pool crustaceans.*
- Experienced in the management and preparation of environmental documents that comply with CEQA, NEPA, and the TRPA Rules of Procedure.
- Experienced with impact analyses involving sensitive habitats and special-status species, designing feasible mitigation measures to reduce significant impacts on biological resources, and resolving project conflicts with biological resources.
- Serves on the Science Subteam of the US Fish and Wildlife Service's Recovery Team for the Santa Barbara County Population of *California tiger salamander.*
- Served as guest lecturer for course on Ecological Methods (Sierra Community College) and Conservation Biology (California State University - Sacramento).

EDUCATION AND AFFILIATIONS

B.S., Zoology, June 1980, University of California at Davis, California

Registrations

Federal Scientific Take Permit No. TE-785564-8 for *California Gnatcatcher*, *Southwestern Willow Flycatcher*, *California Ridgway's Rail*, and *California Tiger Salamander*

California Department of Fish and Wildlife Scientific Collector's Permit #007184; Letter of Agreement for *Yellow-billed Cuckoo*, *Willow Flycatcher*, *California Gnatcatcher*, *California Black Rail*, and *California Ridgway's Rail*; and Letter Permit for *California Tiger Salamander*

Certificate for 24-hour HAZWOPER Training
Certificate for 10-hour Construction Safety Training

PROJECT EXPERIENCE

State and Federal Endangered Species Act Compliance

Alpine Sierra Subdivision Project *Sierra Nevada Yellow-legged Frog* Surveys, EcoSynthesis and Capstone Partners

California Red-legged Frog Surveys for the North Star Passive Water Treatment Facility Project, EcoSynthesis

California Red-legged Frog and *California Tiger Salamander* Site Assessment and Survey for Nella Terra Cellars, Alameda County

California Red-legged Frog Monitoring, Salvage, and Relocation for the Marsh Creek Bridge Repairs, Sycamore Environmental Consultants and Contra Costa County Planning Department

California Red-legged Frog Survey and Endangered Species Act Compliance Strategy for the Gardner Ranch Mining and Processing Facility, Granite Construction Company

California Red-legged Frog Survey for the Bee Rock Quarry and Adjacent Drainages, Granite Construction Company

Northwest Casmalia Enhanced Oil Recovery Project *California Tiger Salamander* and *California Red-legged Frog* Habitat Assessment and Endangered Species Act Compliance, Santa Maria Pacific, LLC

Byron Bethany Irrigation District Tracy Hills Water Supply Project Biological Monitoring (including *California Tiger Salamander, San Joaquin Kit Fox,* and *California Red-legged Frog*), CH2M HILL

Foothill Yellow-legged Frog Surveys for the Hauser Road Bridge Project in Sonoma County, Alluvion Biological Consulting

Eastern Segment Pipeline Project *California Tiger Salamander* Monitoring, San Francisco Public Utilities Commission

New Irvington Tunnel Project *California Tiger Salamander* Monitoring, Hatch Mott MacDonald and San Francisco Public Utilities Commission

Lower San Joaquin River Levee Repair Special-Status Species Surveys and Biological Assessments, Lower San Joaquin Levee District

Mariposa Energy Project Biological Resources Compliance Monitoring (including *California Tiger Salamander*), CH2M HILL

Jeepster Farms Orchard *California Tiger Salamander* Habitat Assessment, Jaxon Enterprises

Two-Mile Bar Tunnel *California Tiger Salamander* Monitoring, Oakdale Irrigation District

Cape Horn Tunnel Rehabilitation Project *California Tiger Salamander* Drift Fence Study and Monitoring, CH2M HILL and Oakdale Irrigation District

Tracy Hills Water Supply Pipeline Project Biological Assessment and CEQA/NEPA Assistance, CH2M HILL and Byron Bethany Irrigation District

UC Merced/University Community Federally Listed *Vernal Pool Crustacean*, *California Tiger Salamander*, *Special-Status Plant*, and *San Joaquin Kit Fox/Fresno Kangaroo Rat* Survey Programs and Biological Assessment, University of California and Merced County

California Tiger Salamander and *Western Spadefoot* Surveys for the Folsom Quarry and Preserve, Teichert Materials

Natural Resource Management Projects

California Tiger Salamander Distribution Study in Southern San Luis Obispo County, U.S. Fish and Wildlife Service

Tulare Basin Wildlife Management Area Planning Assistance, U.S. Fish and Wildlife Service

Hansen Creek (Nevada) Biological Monitoring Program, Getchell Gold Mine

Lawrence Berkeley National Laboratory Biological Baseline Database, U.S. Department of Energy

Environmental Baseline Study for a 10-year comprehensive plan that addresses 280+ petroleum-related projects in eastern Venezuela, Petroleos de Venezuela, S.A.

Utility and Infrastructure Projects

Panoche Valley Solar *Blunt-nosed Leopard Lizard* and *Giant Kangaroo Rat* Surveys, McCormick Biological and Energy Renewal Partners

Bucks Lake Hydro Relicensing Project *Willow Flycatcher* Technical Studies and Evaluation, CARDNO and PG&E

Aero Energy Tehachapi Wind Resource Project Assistance with Avian Issues Related to CEQA and Section 2081 Compliance, McCormick Biological

Biological Assessments and Monitoring for 50+ Projects on the U.S. Bureau of Reclamation's Delta-Mendota Canal, San Luis & Delta-Mendota Water Authority

Avenal Energy Project Application for Certification and Endangered Species Act Compliance, TRC Solutions

Elk Grove Routine Stormwater Channel Maintenance Program Biological Assessment for *Giant Garter Snake* and *Valley Elderberry Longhorn Beetle*, City of Elk Grove

Habitat Assessments for *Southwestern Willow Flycatcher* at Southern California Edison Facilities in the Santa Ana River Watershed, Southern California Edison

Alba Phase 3 LNG Plant Preliminary Impact Analysis, Alternatives Analysis, and Environmental Impact Assessment (EIA) (Equatorial Guinea), Marathon Oil Company

Mill Creek 2/3 Hydroelectric Project FERC Relicensing *Southwestern Willow Flycatcher* Expert Witness Services, Downy, Brand, Seymour, and Rohwer

Southern Nevada Water Authority Treatment and Transmission Facility EIS and Biological Assessment, Southern Nevada Water Authority (Nevada)

Echo Lake Dam Stabilization Environmental Assessment, PG&E

Mining Projects

Los Alamos Sand Mine *California Tiger Salamander* and *California Red-legged Frog* Surveys, Biological Assessment, and Safe Harbor Agreement, Los Alamos Sand Company

Williams Quarry Expansion Project Biological Resources Report, Resource Design Technology, Inc.

Madera Ranch Quarry *California Tiger Salamander* Biological Assessment and Draft Biological Opinion, Pacific Municipal Consultants

Ozena Valley Ranch Surface Mining Site Biological Resources Report, West Coast Environmental & Engineering

Santa Maria River Surface Mining Site Biological Resources Report, West Coast Environmental & Engineering Diamond Rock Surface Mining Site Biological Resources Report and *Blunt-nosed Leopard Lizard* Impact Avoidance Program, West Coast Environmental & Engineering

Transportation Projects

Linda Creek I-80 Overcrossing HOV Project 2008 & 2009 Nesting Bird and Roosting Bat Monitoring, Teichert Construction and California Department of Transportation

Analysis of Impacts to *Willow Flycatcher* Habitat from Emergency Washout Repairs on the Caliente Line along Meadow Valley Wash (Nevada), Union Pacific Railroad

Analysis of Impacts to *Willow Flycatcher* Habitat from Emergency Washout Repairs on the Clifton Branch of the Lordsburg Line along the Gila River (Arizona), Union Pacific Railroad

Biological Evaluations for 18 Union Pacific Railroad Bridge Replacement Projects in California, Olsson Consulting

Hill Slough Bridge Replacement Project *California Clapper Rail* Surveys, Sycamore Environmental Consultants

Union Pacific Railroad Yolo Bypass North Track Project Biological Assessment, Parsons Corporation

Kowloon-Canton Railway Corporation Lok Ma Chau Spurline (Hong Kong) Expert Witness Services, Denton Wilde Sapte (Legal Counsel, London)

Kowloon-Canton Railway Corporation Lok Ma Chau Spurline Environmental Impact Assessment Defensibility Review and Response to Comments, California Environmental Consulting Associates

Department of Defense Projects

California Gnatcatcher Surveys for the Santa Margarita River Conjunctive Use Project within MCB Camp Pendleton, Fallbrook Naval Weapons Station, and City of Fallbrook, North State Resources, Inc.

Brooks Air Force Base (Texas) Inventory of Avian Species, U.S. Air Force Center for Environmental Excellence (AFCEE)

Hohenfels Combat Maneuver Training Center (Germany) Integrated Natural Resources Management Plan-Fish and Wildlife and Threatened and Endangered Species Management Programs, U.S. Army Europe (USAEUR)

Andrews Air Force Base and Davidsonville and Brandywine Communication Sites (Maryland) Biological Inventory and Integrated Natural Resources Management Plan, AFCEE

Fort Leonard Wood (Missouri) BRAC US Army Chemical School and Military Police School Relocation Mitigation Monitoring Framework and Adaptive Management Strategy, U.S. Army

U.S. Fish and Wildlife Service World-listed, and Portuguese Government Listed Species Surveys and Integrated Natural Resources Management Plan (Azores), AFCEE and U.S. Air Force Air Combat Command (ACC)

Dyess Air Force Base (Texas) Threatened and Endangered Species, Fish and Wildlife, and Outdoor Recreation Component Plans of the Integrated Natural Resources Management Plan, ACC

Vandenberg Air Force Base (California) Fiber Optic Cable Route Biological Assessment, U.S. Air Force Space Missile Command

Camp Pendleton Relocation of Baseline Road and Case Springs Access Road Habitat Suitability and Assessment for the *Stephen's Kangaroo Rat*, *California Gnatcatcher*, *and Least Bell's Vireo,* U.S. Marine Corps

Former Mt. Owen Rifle Range Remedial Investigation Biological Monitoring for Special-Status Species including *California Tiger Salamander*, Oneida Technical Integrated Enterprises & US Army Corps of Engineers

ATTACHMENT E

Hunt & Associates
Biological Consulting Services

Nancy Minick, Project Planner
County of Santa Barbara
Planning & Development Department
123 East Anapamu Street
Santa Barbara, California 93101 2 August 2018

Subject: Comments on Biological Resources Section of DEIR Prepared by the County of Santa Barbara Planning and Development Dept. (Energy Division), for the Proposed ERG West Cat Canyon Revitalization Plan, Santa Barbara County, California.

Ms. Minick,

I have reviewed the Biological Resources section of the Draft Environmental Impact Report (DEIR) and supporting documents for the proposed ERG West Cat Canyon Revitalization Plan and submit the following comments on behalf of the Environmental Defense Center.

I have lived and worked in Santa Barbara County as a vertebrate biologist and biological consultant for over 35 years. During that time, through academic research and consulting, I have accumulated extensive field experience in the Solomon Hills region of Santa Barbara County and am familiar with the issues and biological resources raised in the DEIR. I have attached my resume to this letter for your review.

Biological Baseline Information Is Outdated. The field work summarized in the Biological Assessment of the proposed project (Sage Institute, 2014a-c), formed the basis for assessing project-related impacts in the DEIR. The baseline work in the Biological Assessment was conducted in 2014-2015 and the DEIR did not conduct additional biological surveys. Potential project-related impacts to the listed California tiger salamander (*Ambystoma californiense*) (CTS), California red-legged frog (*Rana draytonii*) (CRLF), and the special-status western spadefoot (*Spea hammondii*), are based on field work that was conducted between 2011 and 2014. Focused surveys for other listed species that are known from the project area, e.g., vernal pool fairy shrimp (*Branchinecta lynchi*) were not conducted. Consequently, the information on species presence in and around the project area may not reflect current conditions. Although there is no specific agency guidance on the 'expiration date' of biological surveys, the secretive nature of these species coupled with high inter-annual variability in rainfall means that updated

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botanical and wildlife surveys should be conducted at appropriate times of the year in order to provide the most current information for assessing impacts to biological resources in and around the project site (see next section).

Botanical and Wildlife Surveys Were Conducted In Drought Years. The botanical and wildlife surveys and vegetation mapping were conducted mostly in 2013 during a region-wide, long-term drought. Follow-up plant surveys were conducted in 2014 in focused project areas (Sage Institute, 2014c). Protocol surveys, involving both aquatic surveys and drift fence arrays were conducted for CTS at four ponds (Study Ponds A, B, D, and E) during the 2012/2013 and 2013/2014 rainy seasons by CTS biologists. The DEIR notes that rainfall for the project area was significantly below average between 2011 through 2015 and that focused surveys for CTS were inconclusive because they were limited in scope and conducted during years when the project area received significantly below-average precipitation (County of Santa Barbara, 2018b). Consequently, the surveys may have failed to detect highly secretive special-status animals that may, in fact, occur in the project area footprint but which were not detected during the surveys due to the effects of drought. For example, CTS larvae were not found in 2017 and 2018 in ponds where thousands of larvae had been found in previous years (Hunt, pers. observ.). Listed species, such as vernal pool fairy shrimp (*Branchinecta lynchi*), CTS, and CRLF that are known from the project region (CNDDB, 2018; Hunt, pers. observ.), employ life-history strategies that allow them to survive multi-year drought cycles: fairy shrimp persist as cysts that can remain viable for decades in the dried soil of vernal pools (Ericksen and Belk, 1992), CTS and CRLF may not emerge from rodent burrow systems during consecutive drought years (Trenham, 2001; Trenham et al. 2000). Given that the biological studies used to prepare the DEIR were conducted several years ago during a regional drought, the presence of fairy shrimp, CTS, and CRLF should be re-assessed using protocol-level surveys that are conducted during years of average or above-average precipitation.

Protocol-Level Surveys Are Necessary to Detect Listed and Other Special-Status Species on the Project Site. The wildlife surveys conducted for the Biological Assessment were mostly reconnaissance-level surveys, used to evaluate habitat quality and potential for occurrence of general and special-status plants and wildlife species (except as noted above for CTS at specific aquatic sites during drought years). Protocol-level surveys should be conducted for listed species that could be directly affected by project activities, such as fairy shrimp (*Branchinecta* and other genera) and CRLF. The protocol surveys for CTS were conducted in drought years and should be repeated. Surveys for CTS and CRLF should be conducted around project elements that are within dispersal distance from known or potential breeding pools. Simply assuming presence of one or more of these species and getting a take permit as a substitute for protocol-level surveys is not effective in mitigating impacts because the mitigation measures formulated under a take

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permit are generally not specific enough compared to developing site-specific measures to protect species occurrences.

Fairy shrimp, tentatively identified as the vernal pool fairy shrimp, *Branchinecta lynchi*, listed as Threatened by USFWS, were found in shallow water that had collected in tire ruts and man-made pools around disused well pads and access roads on a parcel near the intersection of Dominion Rd x Orcutt-Garey Rd in 2001 and on an adjacent parcel in subsequent years (Hunt, pers. observ.). This site is approximately five air miles northwest of the Northern Study Area. Vernal pool fairy shrimp can complete its life cycle in less than three weeks under optimal conditions (Eriksen and Belk, 1999). Direct mortality of fairy shrimp occurs when vehicles drive through these ephemeral features or when they are graded. Impacts to fairy shrimp were not adequately analyzed in the DEIR because protocol-level surveys, including cyst collection, were not conducted. Mitigation measures should require that grading of well pads be done in a manner that prevents the accumulation of standing water and paving access routes used by trucks to prevent vehicles from creating tire ruts that will collect water during storm events.

Drift fence surveys have documented that CTS, western spadefoots, and CRLF have impressive dispersal abilities through upland habitats and that interpond-dispersal is a critical feature of the life history of these species that maintains metapopulation stability (Hunt, 1999; Trenham et al. 2000; Trenham, 2001; USFWS, 2002). For example, Hunt (2014, 2015) found that juvenile western spadefoots dispersed at least 3,000 feet through annual grassland from the nearest potential breeding sites. The ability to disperse widely from natal ponds to other ponds or subterranean burrow systems in upland habitat makes these species particularly sensitive to the effects of habitat fragmentation, including direct mortality on roadways, but this issue was not analyzed in the DEIR.

The DEIR also states that at least 7,500 feet of new pipelines will be trenched and installed within the existing oil field. Trenching has the potential to destroy rodent burrows that may be providing refugia for CTS, CRLF, western spadefoots, and other special-status reptiles, such as California legless lizards (genus *Anniella*), and two-striped garter snakes (*Thamnophis hammondii*). The mitigation measures outlined in the DEIR to offset the impacts of trenching during pipeline installation should include burrow surveys using fibre-optic borescopes or hand-excavation of burrows within the pipeline right-of-way, in addition to the proposed measures.

In addition to the CRLF observation at SCS Tracer Study Pond E in 2015 noted in the Biological Assessment and DEIR, Hunt (2005) observed several CRLF, in addition to the special-status western pond turtle (*Actinemys marmorata*), in ponds on the Los Alamos Waste Water Treatment Plant, approximately 5,000 feet east-southeast of the proposed NGF pipeline route.

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Although much of the upland habitat between these sites have been converted to vineyard production, there are several agricultural ponds between this site and the pipeline route that could facilitate dispersal through this fragmented landscape to the project area.

Size of the Survey Area. Sage Institute (2014a,b) limited surveys to a 500-foot radius around project elements and the DEIR used this information in their impact assessment. This survey area is not sufficient to assess impacts to ground-dwelling species (CTS, CRLF, spadefoots among them) that may be dispersing through a post-project landscape of increased number of roads and increased vehicular traffic (see discussion above and under 'Roads and Habitat Fragmentation' section). Mitigation measures designed to reduce or avoid habitat fragmentation (e.g., route placement of access roads) and vehicular impacts (e.g., speed limits, no night driving, etc.) are needed. Additionally, noise and oil spill/gas leak impacts to drainages downstream of project elements may extend well beyond the 500-foot survey area (see discussion below for these impacts).

Wetland Plants and Need for Wetland Delineations. Appendix B (Table 1) in Sage Institute (2014a) and the observed plant list in Sage Institute (2014c), lists 236 plant species observed in the areas surveyed for this project, i.e., within 500 feet of project elements. Approximately 30 of these species (13%) are hydrophytes that are listed by Lichvar et al. (2016) as Facultative, Facultative Wetland, or Obligate Wetland plants. The County of Santa Barbara Environmental Thresholds and Guidelines Manual (2015) defines wetlands as plant communities dominated by hydrophytic vegetation. Therefore, field studies that assess the predominance of hydrophytes, e.g., wetland delineations, are typically required to determine if the one-parameter wetland standard used by the County and State of California to define wetlands has been met. Wetland delineations were not conducted for the Biological Assessment or DEIR for this project.

Sage Institute (2014a,b) did not conduct formal wetland delineations of the various drainages crossed or paralleled by proposed project pipelines for the Biological Assessment because the project description stated that footings for pipeline crossings would be placed at or beyond the top-of-bank of the drainages and would therefore avoid impacts to State and/or Jurisdictional wetlands. However, there could be impacts to the riparian corridor at these crossings. For example, even if the footings are placed at or beyond the top-of-bank, riparian vegetation within the right-of-way of the crossing may have to be trimmed or removed during construction and maintained during operations in order to keep the ROW clear of vegetation. These activities could impact vegetation under California Department of Fish and Wildlife jurisdiction and would require a LSA 1600 permit to conduct.

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The letter from the California Department of Fish and Wildlife (CDFW, 2015) comments on the Notice of Preparation for the DEIR on the project and notes that the project should, "…prevent the degradation of [waters of the State] caused by pollution and contamination…" (p. 4, para. 3b). The DEIR identified accidental spill/leaks as a Class I impact to biological resources and surface waters. Therefore, wetland delineations should be conducted at all drainage crossings within the Northern and Southern Study Areas and the existing 4-inch pipeline route in order to assess the impacts of spills/leaks. Impacts to wetlands from potential oil spills/gas leaks cannot be properly assessed unless the type and amount of wetlands under State (and County) and Federal agency jurisdiction is identified, quantified, and mapped. In the event of an oil spill or gas leak, knowing what the baseline conditions were prior to the spill is necessary to assess and remediate damage to soils and vegetation within the bed and banks of the affected drainage. Wetland delineations should extend at least 50 feet upstream and 500 feet downstream of each drainage crossing and within at least 300 feet of all ponds that are paralleled by the proposed NGF pipeline route. This information should be included in the Streambed Alteration Agreement application to CDFW recommended in the Biological Assessment (p. 30 in Sage Institute, 2014a).

In general, the presence of single-parameter wetlands should be quantified and mapped within a 500-foot radius of project elements and in drainages and other water features crossed or paralleled by project elements.

Noise and Vibration Impacts. The DEIR identifies noise from various project operations as a Class I impact to humans. Increased chronic noise levels reduce the distance and area over which acoustic signals used by insects, amphibians, birds, and mammals, can be perceived by conspecifics. Recent field studies have documented significant negative effects of anthropogenic noise, including noise from gas well compressor stations in oil fields, on avian behavior, including avoidance of noisy areas, spatial and temporal changes in foraging, decrease in pairing success, increased rate of predation, and changes in vocal communication. Researchers also have found significant changes in foraging behavior, anti-predator behavior, reproductive success, density and community structure in a wide range of taxa to 'acoustical masking' of auditory signals by chronic noise (e.g., Habib et al., 2006; Barber et al., 2010; Ortega, 2012; Nelson et al., 2015a,b; Kern and Radford, 2016). Shannon et al. (2014) found no evidence of habituation to chronic noise in ground squirrels (prairie dogs), indicating chronic noise may be a permanent impact to populations living in affected areas. Sciurids (e.g., California ground squirrels) and other burrowing rodents in California create and maintain the burrow systems that serve as refugia for California tiger salamanders, western spadefoots, and California red-legged frogs (and other species), during the dry season.

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Anthropogenic noise is a typical consequence of urban environments, but the proposed ERG project is situated in a natural ecosystem far from urban environments. The DEIR has concluded that noise impacts from the proposed project will remain significant even after mitigation measures are implemented. However, the DEIR does not conclude that noise impacts to wildlife are Class I. The proposed project could significantly increase noise levels at this relatively isolated site and could be a Class I impact to wildlife because they are a Class I impact to human receptors.

Vibration from increased vehicular traffic, well drilling, and even watering for dust control could impact western spadefoots, which inhabit the project area. This species uses vibrational stimuli from raindrops hitting the soil surface as a cue to emerge from subterranean refugia. Experimental studies have elicited emergence in spadefoots from low-frequency vibrations even when the ambient environment is physiologically detrimental to them, i.e., high air temperature and low relative humidity (Dimmitt and Ruibal, 1980). Watering for dust control on roads and trenches in grassland habitats can cause western spadefoots to emerge (Hunt, pers. observ.). Emergence outside of the rainy season by artificial stimuli could be a significant source of mortality from physiological stress and vehicular impacts.

Vibration from vehicular traffic, seismic survey testing, and well drilling during construction and operation of the proposed project could have significant impacts to burrowing small mammals, such as pocket gophers, ground squirrels, and kangaroo rats. These burrowing rodents create and maintain the burrow systems used by California tiger salamanders, western spadefoots, and California red-legged frogs as dry-season refugia, and the rodents themselves are an important food source for raptors and carnivores. To date, studies of seismic surveys (shot hole and vibroseis survey plots versus control plots) have shown no adverse impacts on abundance, survival, and body mass condition of special-status kangaroo rats in the Central Valley of California (Fiehler, et al., 2014; Cypher, et al., 2016). They attributed this apparent absence of impacts to effective implementation of mitigation measures, particularly: restricting "vibroseis" trucks to existing roads, limiting off-road vehicle activity to small tractor-mounted drilling rigs with balloon tires, and attempting to avoid all kangaroo rat burrows by at least 35 feet. These mitigation measures should be added to those previously presented in the DEIR to avoid or reduce potential impacts to burrowing rodents from seismic testing.

Night-Lighting. There is a substantial body of recent literature that documents significant negative effects of night-lighting on invertebrate (arachnids and insects) and vertebrate populations. Night-active arachnids, insects, amphibians, raptors, and mammals avoid or abandon lighted areas (e.g., Rich and Longcore, 2006; Hallman et al., 2017; Grubisic et al., 2018). There also is evidence that night-lighting may affect dispersal of adult and juvenile

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salamanders and frogs moving through upland habitats (Feuka et al., 2017). Mitigation Measure BIO-2 states that construction and operation will be limited to daytime hours, but also notes that drilling must be conducted continuously until completed. Well construction is estimated at 233 wells for up to 5-7 years, so night-lighting impacts could be more or less continuous during this time, and continue periodically at active nighttime well sites for the life of the project. It is probably not possible to reduce the impacts of night-lighting on wildlife to less than significant levels because the entire work area must be well-lit for safety reasons, so unless measures are adopted that prohibit night-lighting this impact could be considered a Class I impact to biological resources.

Impacts of Roads and New Pipeline Routes on Habitats and Wildlife. A large body of scientific literature documents the significant negative effects of roads on wildlife due to direct mortality and habitat fragmentation (Forman and Alexander, 1998; Haddad et al. 2014; 2015). The DEIR states that at least 30 miles of existing or disused roads will be paved and improved to accommodate increased vehicular traffic and almost 7,000 feet of new roads will be constructed within the project footprint. The amount of truck traffic within the project area will increase significantly under the proposed project. Increasing the number of roads, use of existing roads, and amount of truck traffic on these roads could significantly increase habitat fragmentation. Increased truck traffic could significantly increase mortality for amphibians, reptiles, and mammals, including special-status species that are active at night, such as California tiger salamanders, western spadefoot, and California red-legged frogs that may breed in and disperse through the project area.

Vehicular mortality is a significant source of mortality for western spadefoots and CTS on paved roads near the Northern Study Area (e.g., Orcutt-Garey Road, Foxen Canyon Road, and Dominion Road) and in the Eastern Santa Maria Valley metapopulation of CTS in general (Hunt, pers. observ.; USFWS, 2016). It is thought that all of this mortality occurs at night during rain events or on nights where rain occurred during the day. Because CTS have a 'high potential' to occur in the project area according to the DEIR (p. 4.3-24), vehicular mortality can be considered to be a Class I impact. Mitigation measures aimed at prohibiting nighttime vehicular traffic at night during rain events or if rain has fallen during the day may be the only way to avoid or minimize vehicular impacts.

Potential Impacts to Listed Species in San Antonio Creek. Prior to development, San Antonio Creek and its associated habitats covered a broad floodplain that extended from near the present-day town of Los Alamos downstream to coastal dunes on present-day Vandenberg AFB. Most of this floodplain has been converted to agriculture. A notable exception is Barka Slough, which although truncated at its upstream end by agriculture, remains the largest freshwater marsh

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in Santa Barbara County. Remnant populations of a number of special-status aquatic and aquatic-associated species, including tidewater goby (*Eucyclogobius newberryi*), threespine stickleback (*Gasterosteus aculeatus*), arroyo chub (*Gila orcutti*), California red-legged frog (*Rana draytonii*), western pond turtle, and two-striped garter snake (*Thamnophis hammondii*) still occur at now-isolated sites scattered throughout the floodplain area of the Los Alamos Valley (Hunt, pers. observ.), and attest to their historically widespread occurrence.

The terminal lagoon in San Antonio Creek on Vandenberg AFB contains about 5-7.5 acres of estuarine habitat occupied by the federally-endangered tidewater goby. Gobies also have been found several miles upstream of the lagoon in freshwater habitats (USFWS, 2005).

Threespine sticklebacks occur in freshwater habitats in San Antonio Creek from the terminal lagoon upstream through Barka Slough. Morphologically, these populations resemble the federally-endangered unarmored subspecies, *G.a. williamsoni*, although studies indicate that the San Antonio Creek population is genetically distinct from other *williamsoni* populations (Buth, 1984; Haglund and Buth 1988, Buth and Haglund 1994). The San Antonio Creek population could potentially be classified as an individual Distinct Population Segment (DPS) under the Service's 1996 DPS policy, as a new subspecies or species (e.g., Swift et al., 1993). However, USFWS in its last status review did not propose any changes to existing taxonomic classifications or nomenclature and continues to recognize the San Antonio Creek populations of sticklebacks as the endangered taxon, *G.a. williamsoni* (USFWS, 2009a).

California red-legged frogs (*Rana draytonii*) formerly occurred throughout San Antonio Creek from its headwaters to the terminal lagoon, but riparian and adjacent upland habitat has been greatly reduced by agricultural encroachment and surface flows severely impacted by groundwater extraction for and sedimentation from agriculture. Since 2005, CRLF have been found in the upper San Antonio Creek watershed in the project area (e.g., Tracer Study Pond 3 – Sage Institute, 2014a), Los Alamos Waste Water Treatment Plant ponds (Hunt, 2005), Barka Slough (CRCD, 2003), and the lower reaches of the creek on Vandenberg AFB (Marhdt, et al., 1976).

Sediment input due to agriculture and other ground disturbance within the watershed has been identified as the most serious impact to water and habitat quality in San Antonio Creek (Cachuma Resource Conservation District, 2003). The DEIR states that soil disturbance caused by grading for well pads and access road construction and maintenance could result in sediment inflows to drainages (DEIR, pp. 4.7-29 and 4.7-31). The DEIR also states that at least 200 truckloads of excess spoils will be generated by installation of the NGF pipeline. The spoils will be placed along the edge of the trench for transportation off-site. Grading, excavation, and

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placement of excess spoils could impact wetland habitats along the pipeline route. Likewise, disturbance of substrates in the oil field during grading for well pad development/revitalization may mobilize contaminants from previous oil field activities (spills). These contaminated sediments could be transported into drainages and San Antonio Creek. The tributary drainages, and ultimately San Antonio Creek including Barka Slough and its terminal lagoon, are the receptors for sediment and contaminant inputs. The DEIR does not sufficiently analyze potential impacts to special-status species in San Antonio Creek and Barka Slough.

Existing 4-inch Pipeline Route Connector from Southern Study Area to NGF Pipeline Study Area. The approximately 1.7-mile long existing pipeline route that will connect facilities in the Southern Study Area to a proposed new 8-inch pipeline in the PUC Pipeline Study Area was not surveyed by Sage Institute for the DEIR and the latter does not analyze impacts to habitat or species that may occur here. Sage Institute (2014a,b) notes that CRLF have recently been found in Tracer Study Pond 3. The 2,200-foot buffer around this pond encompasses a significant portion of the existing 4-inch pipeline route. Hunt (2005) found CRLF in ponds on the Los Alamos Waste Water Treatment Plant, approximately 5,000 feet east-southeast of the pipeline route. Several agricultural ponds between this site and the pipeline route and adjacent to the latter have not been surveyed for CRLF. In addition to construction-related impacts to CRLF, the DEIR also should evaluate operations/maintenance impacts in the form of increased vehicular traffic along the pipeline route. At a minimum, protocol-level surveys for CRLF should be conducted along all drainages and in agricultural ponds along the pipeline route.

The existing 4-inch pipeline route contacts or traverses two blue-line drainages. The DEIR does not analyze potential impacts to these drainages due to sedimentation from ground disturbance and or damage from oil spills and/or gas leaks.

Deficiencies in Mitigation Measures. Mitigation Measure BIO-8 (DEIR, p. 4-60) requires that an Onsite Environmental Monitor (OEM) monitor compliance with mitigation measures. However, the DEIR does not evaluate the significance of vehicular mortality on pond-breeding amphibians, particularly at night during or immediately after rain events. In addition to the duties and timing outlined in the mitigation measure, the OEM should be onsite to monitor truck speed limits within the project area and relocate individuals off the roadways (relocation to opposite side of roadway, see next paragraph).

Mitigation Measure 9 (DEIR, p. 4-65 and 4-66) requires that special-status species surveys be conducted just before construction. If listed species are found, then the area is either flagged for avoidance or the individual(s) is captured and relocated to suitable habitat out of harm's way. This measure may work for special-status plants but will not work for animals, particularly CTS

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and CRLF and small mammals, which have demonstrated high fidelity for refugia and microhabitat features and will return to the capture point or die trying (Villasenor et al., 2009; AECOM, 2010; Ford et al., 2013). The proposed project should be designed around listed species occurrences in order to comply with CEQA thresholds.

Potential Class I impacts. The DEIR analyzed impacts of project-related noise on human receptors and concluded that noise was a Class I impact. Given the extensive and recent literature on the impact of anthropogenic noise on wildlife populations, noise impacts to sensitive wildlife receptors should also be considered Class I.

Of the six metapopulations that compose the Distinct Population Segment of CTS in Santa Barbara County, the Eastern Santa Maria Valley metapopulation of CTS is the population most in danger of extirpation and mortality due to vehicular traffic. This mortality source accounts for 50% or more of the total observations of CTS in this metapopulation (USFWS 2009; 2016). The DEIR does not adequately evaluate the impact of vehicular mortality, particularly at night during or immediately following rain events, on pond-breeding amphibians that either are known from the project area or, as stated in the DEIR, have a 'high potential' of occurring there, including CTS, CRLF, and western spadefoots. The mitigation measures presented in the DEIR do not reduce the severity of this impact of vehicular mortality to less than significant levels, so this may be considered a Class I impact. Likewise, in the absence of protocol surveys, there is a moderate to high potential for the vernal pool fairy shrimp to occur in the project area. Because the DEIR does not evaluate the impact of vehicular traffic on fairy shrimp, Class I impacts of traffic on pond-breeding amphibians could be extended to these species as well.

Conclusions. With regards to Biological Resources, the DEIR does not adequately characterize existing baseline conditions or thoroughly evaluate impacts to biological resources within and around the proposed project area because:

- the field surveys were conducted three to four years ago and should be updated;
- the field surveys were conducted at the height of a long-term (on-going) drought and thus may not have detected some special-status plants and wildlife;
- protocol-level surveys for certain listed wildlife species (fairy shrimp, western spadefoots, California tiger salamander, and California red-legged frog) should be conducted in suitable habitat in order to characterize baseline habitat occupancy in the Northern and Southern Study Areas, the NGF Pipeline Study Area, and the intervening area between the two latter areas, and to provide more insight into dispersal through the project area and how increased habitat fragmentation and increased vehicular traffic could affect these species;

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- wetland delineations were not conducted around project elements or at drainages or other aquatic receptors traversed by pipelines, so baseline conditions of habitats and jurisdictional areas, which are important for guiding remediation in the event of a spill or leak, have not been documented;
- potential project-related impacts from increased sedimentation and contamination from soil disturbance and/or spills and leaks on special-status species in San Antonio Creek, especially to listed species known from Barka Slough and the terminal lagoon of San Antonio Creek, is not sufficiently analyzed and needs further evaluation.

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attachment: resume for LEH

Resume for
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Statement of Qualifications. Lawrence Hunt is a herpetologist by training and a consulting biologist with over 30 years of experience with rare, threatened and endangered plant and wildlife species and their habitats in the western United States, Mexico, and Chile, focusing on rare, threatened, and endangered plants, crustaceans, fish, amphibians, reptiles, birds, and mammals of central and southern California. Hunt & Associates BCS, headed by Lawrence Hunt, brings together qualified specialists with extensive experience in design and management of biological resource surveys and analyses, including special-status species survey design and implementation, biological assessments and evaluations, EIR/EISs, habitat restoration plans, habitat conservation plans (HCPs), statistical data analysis, local, state, and federal resource agency consultation, mitigation analyses, habitat restoration design and implementation, and permit compliance monitoring. Clients include planning departments for city and county governments and planning agencies, state and federal resource management agencies, non-governmental conservation organizations, and private corporations and individuals. Since 1985, Hunt & Associates BCS has been involved in over 900 projects throughout central and southern California and southern Nevada, as well as several international projects.

Over the past several years, Lawrence Hunt has been awarded several grants from the U.S. Fish and Wildlife Service to conserve the California tiger salamander in San Luis Obispo and Santa Barbara counties. Currently, he is collaborating with researchers at UCLA and UC-Santa Barbara to determine the extent of hybridization between the federally-listed native California tiger salamander and non-native tiger salamanders that were introduced into Santa Barbara County in the 1950s and 1960s.

Representative Project Experience. The following is a sampling of projects that Hunt & Associates has been involved with over the past 25 years. In addition to the field component, many of these projects involved project permitting, such as consultation with U.S. Fish and Wildlife Service on endangered species issues, preparation of Streambed Alteration Agreements with California Department of Fish and Wildlife, and preparation of Mitigation Monitoring and Reporting plans for State and Local agencies.

Habitat Conservation Plans, Habitat Management Plans, and Species Recovery Plans:

1989-1992: Western Pond Turtle Capture and Reintroduction Plan for the Gibraltar Dam Strengthening Project, Santa Ynez River, Santa Barbara County; CA Dept. Fish and Game and County of Santa Barbara.

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1993-2000: Kern County Valley Floor Habitat Conservation Plan for Dames & Moore, Inc. and County of Kern Planning and Development Department.

1996-1999: Emma Wood State Beach and Ventura River Estuary Management and Enhancement Plan; CA State Dept Parks and Recreation; City of San Buenaventura.

1998-2000: Status Review for Listing of the Black Legless Lizard, Monterey County; USFWS.

1998-2001: California Red-legged Frog Recovery Plan; Member, Scientific Committee; USFWS.

2001-2002: *Peer review of the Tidewater Goby Recovery Plan*; USFWS.

2002-present: California Tiger Salamander Recovery Plan; Member, Scientific Committee; USFWS.

2002-2005: California Tiger Salamander Habitat Conservation Plan for the Unocal and Dominion Road Parcels; U.S. Fish and Wildlife Service, Ventura Field Office.

2002-2004: Lake Los Carneros Habitat Restoration and Open Space Management Plan; County of Santa Barbara.

2006-2008: California Tiger Salamander Habitat Conservation Strategy; County of Santa Barbara Planning and Development Dept.

2008-2012: Southern Steelhead Recovery Plan for the South-Central California ESU and Southern California ESU; National Marine Fisheries Service. Prepared the *Threats Analysis* and *Recovery Actions* for the Recovery Plan using a modification of the Conservation Action Planning (CAP) Workbooks developed by The Nature Conservancy.

2015-present: California Tiger Salamander Hybridization Study, Santa Barbara County; funded by Section 6 grant from USFWS and CDFW.

2017-present: Monarch Butterfly Habitat Restoration and Management Plan for Honda Valley; City of Santa Barbara.

Selected Habitat Restoration Projects:

1992-2002: Habitat restoration of the former SP Milling Surface Mine, Lower Ventura River Floodplain, Ventura County.

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1997-2003: Habitat restoration of coastal sage scrub, coastal foredunes, and riparian woodland, Tecolote Creek Floodplain, Bacara Hotel and Resort, Santa Barbara County.

2003-2005: Habitat restoration of the Howard/Pacific Rock Quarry, Santa Monica Mtns, Ventura County.

2003-2006: Restoration of coastal dune habitat for the CA legless lizard (*Anniella*), Guadalupe Dunes, San Luis Obispo County.

2005-present: Vernal Pool Amphibian Habitat Management Plan, Casmalia Landfill, Casmalia Hills, Santa Barbara County.

2007-2012: San Marcos Foothills Coastal Sage Scrub and Native Grassland Restoration, San Marcos Foothills, Santa Barbara, Santa Barbara County.

2007-present: Giant Reed Removal Element for the Matilija Dam Removal Project, Ventura River and Matilija Creek watersheds, Ventura County.

2010-2012: San Antonio Creek Bridge Replacement Riparian Restoration Project, Ventura County.

2010-present: Riparian Woodland, Coastal Bluff, and Foredune Restoration Project, Lower Toro Canyon Creek, Santa Barbara County.

2013-2015: Vernal Pool Amphibian Management Plan, Santa Maria Airport, Santa Barbara County.

2015-present: Honda Valley Monarch Butterfly Habitat Restoration and Management Plan, City of Santa Barbara.

Representative Linear Infrastructure Projects Involving Special-Status Plants and Wildlife Surveys, Biological Assessments and Evaluations, EIR/EISs, and Permit Compliance Monitoring.

Electrical Transmission and Cathodic Protection:

1984-1993: Project biologist on five electrical transmission line construction projects (Mobil Oil Corporation, Unocal, and Exxon Corporation) emanating from cogeneration facilities in Monterey, Madera, Kern, Tulare, Fresno, Los Angeles, Riverside, and San Bernardino counties. Responsibilities included resource agency coordination/consultation, designing field survey protocols, organizing and conducting field surveys and vegetation mapping, preparing biological documents, project permitting, and supervising construction monitoring teams during project implementation.

1993-1994: Project biologist to County of Santa Barbara Planning & Development Department on the SCE 65Kv Transmission Line project across southern Santa Barbara County. Responsibilities included pre-construction surveys, constraints analyses, impact assessments, preparation of CEQA permitting documents, and construction monitoring.

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1997-1998: Project biologist to ENSR Consulting, Inc. on the ARCO Line 90 Electrical Transmission Project in southern Kern and central Riverside County. Responsibilities included field surveys and report preparation for CEQA permitting documents.

2001-2002: Project biologist to URS Corporation on Enron-Pastoria Creek Power Plant Project. Conducted field surveys in the Pastoria Creek, Tunis Creek, Tejon Creek, and Grapevine Creek watersheds on the western side of the Tehachapi Mountains in Kern County; prepared biological constraints analyses and impact assessments.

2012-2016: Project biologist to U.S. Dept. of Energy for endangered species surveys and biological assessment of proposed 65Kv power line installation, Ciervo Hills, Fresno and Madera counties, CA.

Fiber Optic Transmission:

1988-1992: Project biologist to Dames & Moore, Inc. on the Sprint Fiber Optic Transmission Project in Kern, Los Angeles, and San Bernardino counties, and Clark County, Nevada. Responsibilities included special-status species surveys, wrote CEQA documents, and supervised construction monitoring.

2001-2003: Project biologist/resource specialist and Environmental Compliance Coordinator to the County of Santa Barbara Planning and Development Department on the Level (3) Communications Fiber Optic Transmission Project across western and southern Santa Barbara County. I conducted special-status species surveys, wrote CEQA documents, and supervised construction monitoring.

2002-2004: Project biologist/biological monitoring for EELV Delta IV Program fiber-optic route across Vandenberg Air Force Base, Santa Barbara County. I conducted pre-construction surveys for special-status species, wrote CEQA documents, supervised construction monitoring, and prepared non-native plant eradication and native habitat restoration plan for project.

Oil and Gas Transmission:

1993-1997: Project biologist to Dames & Moore, Inc. on the 1,200-mile long Kern River Gas Transmission Project through Kern County, southern Nevada, and southwestern Utah. Responsibilities included field surveys, biological constraints analyses, impact assessments, mitigation assessment, and construction monitoring for CEQA and NEPA permitting documents.

1994-1998: Project biologist to Pacific Pipeline, LLC on the 175-mile long Pacific Pipeline Project crude oil pipeline in southern Kern County to southern Los Angeles County; included at least 60 miles through Angeles National Forest. Responsibilities included habitat evaluation and mapping, pre-construction surveys for special-status plant and animal species, intensive consultation with Tejon Ranch attorneys and land managers regarding survey results, and implementation of mitigation measures during pipeline construction.

1996-1998: Senior Environmental Scientist to the Chilean Interior Ministry on the 1,500-mile long *Proyecto Gasoducto Transandino* (Trans-Andean Gas Pipeline Project) across Argentina and Chile. Responsibilities included preparing biological evaluations of various proposed routes through the Andes from Argentina to a receiving station/gas plant on the Pacific Ocean near Santiago, Chile; identified and classified project-related impacts, developed mitigation recommendations, and permit compliance plans for the project.

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1999-2000: Project biologist to ENSR Corporation on the Thermo Eco-Tek Natural Gas Pipeline and Cogeneration Facility Project in southwestern San Bernardino County and northern Orange County. Responsibilities included pre-construction surveys, constraints analyses, impacts assessments, and preparation of environmental documents for CEQA permitting documents.

2002-2008: On-call biologist to ENSR Corporation (now AECOM) for ExxonMobil Corporation projects in Kern and Tulare counties; species surveys, biological assessments, and construction monitoring.

2003-2006: Project biologist to ENSR Corporation (now AECOM) responsible for developing the Southern California Gas Company (Sempra Energy Co.) Programmatic Biological Assessment for Operations and Maintenance in Madera, Fresno, Tulare, Kern, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, western Riverside, and western San Bernardino counties. Responsibilities included analyses of biological resources along numerous existing pipeline routes, assessing impacts, and proposing mitigation to reduce or avoid potential impacts to resources during pipeline operation and maintenance for CDFG, USFWS, and CPUC permit compliance.

2007-2008: Project biologist for ExxonMobil M-70 oil pipeline extension across Santa Clara River, Los Angeles County.

2012-2015: Project biologist on Occidental Petroleum Co. project to assess impacts of seismic testing of natural gas and crude oil reserves for proposed exploratory drilling on Newhall Ranch, Los Angeles County.

Offshore LNG Re-Gasification Facility Permitting:

2004-2009: Consulting biologist to ENSR Corporation on the Woodside Liquefied Natural Gas (LNG) Project in the Southern California Bight off Los Angeles County and adjacent onshore receiving and transmission sites in coastal Los Angeles and Orange counties. Responsibilities included evaluating proposed and alternative routes in Los Angeles and Orange counties, conducted biological constraints analyses of various routes, impact assessments, and mitigation recommendations for CEQA and NEPA permitting documents.

Renewable Energy Transmission:

2006-2009: Biologist to Aspen Environmental Group, Inc. for the Tehachapi/Antelope Valley PdV Wind Energy Project DEIR/EIS, the Antelope-Pardee DEIR/EIS, and the Tehachapi Renewable Transmission Project (TRTP) DEIR/EIS from the Tehachapi Mountains and Antelope Valley to the Los Angeles Basin, Kern and Los Angeles counties; prepared CEQA documents for permitting process (characterize biological resources, assess project-related impacts, and propose mitigation recommendations for DEIR/EIS); peer review of outside consultants' work products for California Public Utilities Commission (CPUC).

2010: One of several biologists conducting small mammal surveys for Topaz Solar Farm EIR, San Luis Obispo Co, CA; subcontracted to Althouse & Meade Consultants, Inc.

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2010-2015: Project herpetologist to CH2MHill, Inc. for the NextEra Big Sky Wind Energy Project, Piute Mtns, Kern County. Responsible for special-status reptile and amphibian surveys for project viability and constraints analysis regarding siting of turbines and access/service roads.

Highways and Bridge Removal/Replacement:

1989-1995: Project biologist to Dames & Moore, Inc. on three California Department of Transportation projects to widen and/or construct roadways in Madera, Fresno, and Kern counties. Duties included focused field surveys, impacts assessment, and mitigation recommendations for CEQA and NEPA documents, including sampling and rating over 250 vernal pools and vernal pool complexes for special-status plants, crustaceans (fairy shrimp), and amphibians.

2002-2009: Project biologist to County of San Luis Obispo Planning Department and Garcia and Associates on three bridge replacement projects in San Luis Obispo County; conducted biological evaluation and assessment for Federal Highway Works Administration CEQA/NEPA permitting documents.

2010-2013: Project biologist to Galvin Preservation Associates and County of Ventura Public Works Agency on bridge replacement project; Ventura River watershed; field surveys and construction monitoring for CA red-legged frog, least Bell's vireo, and other special-status riparian species.

Water Conveyance:

2000-2004: Project biologist to Los Angeles Department of Water and Power (LADWP) on Morris and San Gabriel Reservoir Sedimentation projects, Los Angeles County; special-status species surveys; field experiments on impacts of sedimentation on aquatic insects; biological assessment for CA Department of Fish and Game of effects of sediment sluicing on aquatic and riparian resources.

2003-2006: Project biologist to California Department of Water Resources and Aspen Environmental Group, Inc. for Mojave Check 66 Replacement Project, southwestern San Bernardino County (Mojave River); conduct special-status wildlife surveys and focused surveys and impact assessment for on the arroyo toad (*Bufo californicus*).

2004-2006: Project biologist to California Department of Water Resources and Aspen Environmental Group, Inc. for Tehachapi Embayment Project, Tejon Ranch, south slopes of the Tehachapi Mountains and adjacent Antelope Valley in Kern and Los Angeles counties; conduct field surveys and impact assessment/mitigation recommendations.

2007-present: Project biologist to Ventura County Watershed Protection District on the Matilija Dam Removal and Ecosystem Restoration Project, Giant Reed Removal Element, Ventura River watershed, Ventura County; special-status species surveys and monitoring during extensive non-native plant eradication effort; document and analyze natural recolonization of project area by native vegetation for Bureau of Reclamation and CDFG documentation.

Academic Background: Ph.D. Candidate, Evolutionary Ecology, UC-Santa Barbara
M.S., Ecology and Systematics (Herpetology), University of Kansas
B.S., Vertebrate Zoology (Herpetology), UC-Berkeley

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Citizenship: United States.

International Consulting/Research Experience: Chile, England, Mexico, Portugal, Scotland.

Professional Affiliations: American Society of Ichthyologists and Herpetologists; Society for the Study of Amphibians and Reptiles; American Society of Zoologists; Sigma Xi Scientific Society.

Peer-Reviewed Publications:

1980. Hunt, L.E. and J. Ottley. Geographic Distribution: *Crotalus viridis helleri*. Herpetological Review, 12(2): 65.
1982. Hunt, L.E. Reproduction and feeding in *Eridiphas slevini* (Serpentes: Colubridae). Herpetological Review, 13(1): 8-9.
1983. Hunt, L.E. Book Review: Annotated bibliography of the desert tortoise, *Gopherus agassizi*. Herpetological Review, 14(1): 25.
1983. Hunt, L.E. A nomenclatural rearrangement of the genus *Anniella* (Sauria: Anniellidae). Copeia 1983(1): 79-89.
1984. Seigel, R.A., L.E. Hunt, et al. (eds.) Contributions to Vertebrate Zoology and Systematics: A Tribute to Henry S. Fitch. Spec. Publ. Mus. Nat. Hist. Univ. Kansas. No. 10. 278 pp.
1984. Hunt, L.E. Geographic patterns of morphological variation in the lizard genus *Anniella*. Masters Thesis. Univ. of Kansas, Lawrence. 302 pp.
1985. Schultze, H.P., L.E. Hunt and J. Chorn. Type and figured specimens of fossil vertebrates in the collections of the University of Kansas, Museum of Natural History, Part II: Fossil amphibians and reptiles. Misc. Publ. Mus. Nat. Hist. Univ. Kansas No. 77. 66 pp.
1985. Fleischer, R., M. Murphy and L.E. Hunt. Clutch size increase and intraspecific brood parasitism in the yellow-billed cuckoo (*Coccyzus americanus*). Wilson Bull. 97(1): 125-127.
1993. Hunt, L.E. Origin, maintenance and land use of aeolian sand dunes in the Santa Maria Basin, California. Prep. for The Nature Conservancy and U.S. Air Force, Vandenberg AFB. 72 pp.
1994. Hunt, L.E. Capture, relocation and monitoring of a southwestern pond turtle (*Clemmys marmorata pallida*) population on the upper Santa Ynez River, Santa Barbara County, California; Gibraltar Dam Strengthening Project. Prepared for the City of Santa Barbara, U.S. Forest Service and Woodward-Clyde Consultants. 135 pp.
1997. Hunt, L.E. Geostatistical modeling of species distributions: Implications for biogeographical and ecological studies, pp. 427-438, In: Soares, A. et al (eds.). Geostatistics for Environmental Applications. Kluwer Academic Publishers, London. 556 pp.
2000-2003. Predicting vertebrate distributions at local, landscape, and regional spatial scales. Ph.D. Dissertation. Dept. Ecology, Evolution, and Marine Biology, University of California-Santa Barbara.
2009. Hunt, L.E. *Anniella, Anniella pulchra, Anniella geronimensis*. SSAR Catalogue of American Amphibians and Reptiles. 39 pp.
2010. Hunt, L.E. California tiger salamanders in southern San Luis Obispo County, California. Herpetological Review, *in prep*.
In prep: Geographic Distribution: *Anniella pulchra*. Herpetological Review.
Geographic Distribution: *Coleonyx variegatus abbotti*. Herpetological Review.
Hunt, L.E. Additions to the pulmonate snail fauna of Ventura County. The Veliger.
Hunt, L.E. and Barry Roth. A new species of land snail (Pulmonata: Helminthoglyptidae) from Ventura County, California. The Veliger.
Hunt, L.E. Occurrence of California tiger salamanders in the "gap region" of Central Coastal California. Herpetological Review.

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Hunt, L.E. and H.B. Shaffer. Documentation of early-stage hybridization between native and non-native tiger salamanders in the Santa Barbara County Distinct Population Segment (DPS) of the California Tiger Salamander. Herpetological Review.

Grants, Awards, and Invited Speaker Engagements:

1976. National Science Foundation Grant
1980. Phi Sigma Biology Honor Society, Univ. Kansas
1982. Regents Scholarship, University of California-Santa Barbara
1984. Masters Thesis, with honors, University of Kansas
1985. National Audubon Society, Research Grant
1987. Chancellor's Advisory Committee, University of California Natural Reserve System
1988. Storrer Award, American Society of Ichthyologists and Herpetologists
1988. Academic Instructional Grant, University of California-Santa Barbara
1989. Graduate Dissertation Fellowship, University of California-Santa Barbara
1989. 1st World Congress in Herpetology, Canterbury, England, Invited Speaker
1990. Research Grant, The Nature Conservancy
1994-2003. UCSB Annual Academic Development Grants, Patagonia, Inc.
1996. 'Excellence in Reclamation' Award, California Mining Association
1996. 1st European Conference on Geostatistics, Lisbon, Portugal, Invited Speaker
1997. Society for Ecological Restoration-Dune Guild, San Luis Obispo, CA, Invited Speaker
1998. 2nd European Conference on Geostatistics, Valencia, Spain, Invited Speaker
2001. Santa Ynez Natural History Association, Santa Ynez, CA, Invited Speaker.
2002. OSPR Grant, Endangered Species Research Fund, California Department of Fish and Game
2003. University of California-Santa Barbara Habitat Restoration Group, Invited Speaker
2003. Threatened and Endangered Amphibians and Reptiles of Southern California, Wildlife Society and Bureau of Land Management, Riverside, CA, Invited Speaker
2005. U.S. Fish and Wildlife Service Research Grant, Ventura Field Office, Ventura, CA.
2005-2010. Lecturer, UC-Santa Barbara EEMP Courses in Endangered Species Management and Conservation Biology.
2006. Wildlife Conservation Board and U.S. Fish and Wildlife Service CA Tiger Salamander Regional Conservation Strategy Grant, Washington, D.C.
2010-present. U.S. Fish and Wildlife Service Research Grant on Hybrid Tiger Salamander Issues, Ventura Field Office, Ventura, CA.
2010-2011. Guest Lecturer, UC-Santa Barbara EEMP 188 Seminar on Ecological Restoration and Conservation.
2015-present. CTS-BTS Hybridization Study Grant, USFWS and CDFW, Ventura and Sacramento, CA.

Current Permits:

- U.S. Fish and Wildlife Service 10(a)1(a) Recovery (handling) Permits for the California tiger salamander, California red-legged frog; and several species of fairy shrimp.
- California Department of Fish and Game – Scientific Collecting Permit for amphibians and reptiles.

County Approved Qualified Biologist Lists: Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Kern.

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ATTACHMENT F

Hunt & Associates
Biological Consulting Services

County of Santa Barbara
Planning Commission
123 East Anapamu Street
Santa Barbara, California 93101

7 March 2019

Subject: Comments Regarding Proposed ERG West Cat Canyon Revitalization Plan Final Environmental Impact Report (FEIR).

Honorable Chair Parke and Santa Barbara County Planning Commissioners,

Hunt and Associates Biological Consulting Services has reviewed the FEIR for the Proposed ERG West Cat Canyon Oil Field Revitalization Plan and provides the following comments. In summary, the FEIR and its response to comments are severely deficient in their treatment of the Project's significant impacts to special-status plant and wildlife species and habitats within and around the project site. Characterization of the baseline biological resources in the FEIR is flawed due to improperly-timed surveys, lack of protocol-level surveys for special-status species, and several omissions. The FEIR inaccurately assesses and underestimates the impacts of the proposed project on the diverse biological resources found in and around the project site. Mitigation measures proposed to offset most of the project's significant impacts are infeasible and/or ineffective, resulting in significant and unavoidable (Class I) impacts to biological resources that are not disclosed in the FEIR.

A. Environmental setting and field surveys: the FEIR's analysis of existing baseline biological resources is inaccurate and deficient.

1. The Biological Resources baseline information and field surveys are outdated and inadequate.

The field surveys used to establish the FEIR's Environmental Setting are four to eight years old (2011-2015). Given the length of time that has passed since the surveys were undertaken, and the highly variable spatial and temporal occurrence of annual plants and many wildlife species, especially rare, secretive, special-status taxa, the FEIR's field surveys are inadequate. Surveys relied upon to describe the site's environmental setting are outdated and no longer reliable. The California Department of Fish and Wildlife recently informed the County

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that "[t]he Department generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of three years."[1] By improperly assessing baseline conditions so many years prior to the FEIR, the document's ability to analyze impacts to biological resources, including a wide variety of special-status plants and animals, is severely compromised.

2. Biological surveys were conducted during severe drought conditions and are therefore not representative of the Project site's biological resources.

Surveys for California tiger salamander (CTS) and California red-legged frog (CRLF) were undertaken during a significant drought and are not reliable to properly inform the FEIR's assessment of these federally-listed species' presence on and use of the site.

Rainfall totals in the project region for rainfall years 2011/2012 to 2014/2015 ranged from 47-53% of normal precipitation, indicating severe, long-term drought. Conducting surveys for animal species that are inherently rare and/or secretive during severe drought conditions likely favors non-detection. Response to Comment #2 in the Biological Resources section of the FEIR notes that the USFWS survey protocol requires an applicant to conduct aquatic and upland surveys for CTS for two consecutive years of normal or above-normal rainfall before they can declare CTS to be absent at a site. These survey protocols were not followed because the surveys were conducted during a severe drought. Instead, the FEIR assumes presence of CTS (and CRLF), allowing the applicant to apply for an Incidental Take Permit from the USFWS. However, given the large size of the project site and the well-documented ability of CTS and CRLF to disperse large distances across upland habitats, the FEIR misses the opportunity to determine if and where these species may be present and develop mitigation accordingly. As a result, impacts cannot be properly analyzed and site-specific mitigation measures to avoid or protect these species cannot be developed. The FEIR notes that potential project-related impacts to CTS and CRLF will be mitigated through voluntary applicant participation in a General Conservation Plan (GCP), however, such a plan has not even been drafted, so mitigation measures to be developed in such a document are unknown at this time. My point is that the mitigation measures developed in the FEIR and potentially supplemented with measures in a GCP, are not the same as measures supported by site-specific surveys conducted under normal rainfall conditions. Aquatic surveys for CTS and CRLF should have been conducted during normal rainfall conditions to reinforce conclusions in the FEIR regarding species' presence or absence and the suitability of aquatic habitats for these two species on and adjacent to the project site.

[1] Letter from Betty Courtney, Environmental Program Manager I, California Department of Fish and Wildlife, to Kathryn Lehr, Planner, Santa Barbara County Planning and Development Department (November 16, 2016).

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Protocol-level surveys for the federally-listed vernal pool fairy shrimp were not conducted. The FEIR conclusions that this species would not likely be impacted by the project are based on evaluations of potential aquatic habitats made during a severe drought.

The FEIR states on p. 4.3-30 that, *"Focused surveys for the federally-listed vernal pool fairy shrimp (Branchinecta lynchi) were not conducted within the Study Area and none of the proposed disturbance areas contain suitable vernal pool habitat."* The FEIR conclusions are based on a rather narrow interpretation of the kinds of aquatic habitats in which this listed species occurs. Vernal pool fairy shrimp have been found in a variety of natural and man-made seasonal aquatic habitats, including ephemeral drainages, stock ponds, roadside ditches, swales, and even tire ruts (Eng, et al., 1990; Ericksen and Belk, 1999). In addition to possessing broad habitat requirements, this species can reach maturity and complete its life cycle in as little as 18 days (Ericksen and Belk, 1999). Certainly, during years of normal or above-normal precipitation, many natural and man-made aquatic features could hold water for at least 18 days. The FEIR conclusions regarding the hydroperiod and suitability of aquatic habitats in the project site are based on observations made during a prolonged drought, and gives a skewed picture of aquatic habitats available here. Additionally, it appears that not all aquatic features in the project site were evaluated. For example, Google Earth imagery dated 5 January 2015 shows three aquatic features located at: (34.83646N; -120.31140W), (34.83665N; -120.30887W), and (34.83746N; -120.30830W), on the GWP Lease 900-1,800 feet southwest of the intersection of Palmer and Cat Canyon Roads, but there is no indication these ponds were evaluated in the Biological Assessment (see Attachment A). These aquatic features re-appear during the rainy season in other years. Given their broad habitat requirements, their ability to inhabit very ephemeral aquatic habitats, the known occurrence of *B. lynchi* and a congener, *B. lindahli*, within three miles of the project site, and the condition of various water features described in the project area in the FEIR, protocol-level surveys for fairy shrimp should have been conducted because suitable habitat does exist in the proposed project area.

Contrary to the FEIR's response to my comment, the 2010 record of fairy shrimp recorded in the CNDDB and used to characterize fairy shrimp occurrence in the FEIR is not the same occurrence I referred to in my comment letter on the DEIR, dated 2 August 2018. I observed fairy shrimp belonging to the genus *Branchinecta* (not identified to species) in two natural vernal pools on a different parcel about 2.5 air miles north of the project area in 1999 and 2000. These records are not in the CNDDB, but are recorded in subsequent CTS survey documents sent to USFWS in 2002 and 2003 (Hunt--Nicholson parcel CTS survey results). I mention this observation to highlight the fact that fairy shrimp are more widely distributed in the

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project region than has been reported and that the CNDDB should not be relied upon as the final word on species occurrences or as a substitute for protocol field surveys. The timing of surveys during the drought and the failure to conduct protocol-level surveys renders the FEIR's conclusions about listed fairy shrimp unreliable.

> *The surveys for special-status plant species, upon which the FEIR conclusions are based, are unreliable because the surveys were conducted during a severe drought. Pre-construction surveys, as a mitigation measure, are unlikely to be timed properly to identify special-status plants and would be undertaken too late to ensure avoidance.*

The FEIR's response to Comment #2 states that the background review used for the FEIR identified the status of all special-status plant species that could occur in the project area footprint. However, the field surveys used to establish the Environmental Baseline and to develop the impact analysis and mitigation for project-related impacts to special-status plants were conducted during years of severe drought and therefore cannot reliably assess the likelihood of occurrence of species. The FEIR proposes to mitigate this deficiency by requiring that pre-construction surveys be conducted at particular sites prior to work (Mitigation Measures BIO-11 and BIO-16), but such mitigation is problematic because it would be undertaken too late to ensure avoidance of resources through re-design. The County's Environmental Threshold and Guidelines Manual requires that surveys for special-status plants be conducted at the proper time of year e.g., during flowering, so that species are identifiable. It is unlikely that the timing of construction at particular sites will match the flowering phenology of special-status annual species.

> *The FEIR may have underestimated the occurrence and extent of jurisdictional wetland habitat and Waters of the State because the assessment was made during a severe drought.*

I stand by my comment on the DEIR (Hunt & Associates, 2 August 2018): Thirteen percent (13%) of the 236 plant species listed in Appendix B (Table 1) of Sage Institute (2014a) and the observed plant list in Sage Institute (2014c), are hydrophytes that are listed by Lichvar, et al. (2016) as Facultative, Facultative Wetland, or Obligate Wetland species. The County of Santa Barbara Environmental Thresholds and Guidelines Manual (2015) defines wetlands as plant communities dominated by hydrophytic vegetation. The FEIR incorrectly states that no hydrophytes were observed within the Project footprint (FEIR, p. 10-191). However, the FEIR describes numerous hydrophytes which were identified on roads and well pads to be disturbed by the project. (FEIR Appendix D, Sage Institute's August 22, 2014 ERG West Cat Canyon Production Plan Biological Assessment – Addendum 1, Tables A1-1 and A1-2.) Therefore, field studies that assess the predominance of hydrophytes, i.e., wetland delineations, should have

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been conducted to determine if the one-parameter wetland standard used by the County and State of California to define wetlands was met at these sites on the Project site. Wetland delineations were not conducted for the Biological Assessment or FEIR for this project in part because the project proposes to place footings for pipelines crossing drainages at or beyond the top-of-bank. This reasoning is flawed in two ways. First, pipelines are not the only project component that would potentially impact wetlands. Second, evaluation of potential wetland habitat and hydrophyte occurrence was conducted during a severe drought and are therefore unreliable. Hydrophytes which may be predominant during normal rainfall conditions may not be predominant or even observable during a drought.

The FEIR identifies accidental spills (Impact BIO-1) as a significant and unavoidable (Class I) impact to biological resources, even if the proposed mitigation measures are implemented. State and Federal jurisdictional wetland and Waters of the State delineations should have been conducted at all drainages within the Northern and Southern Study Areas crossed by pipelines, including the proposed NGR pipeline route, so that baseline riparian and wetland habitat conditions could be established. In the event of an oil spill or gas leak, knowing what the baseline habitat conditions were prior to the spill allows accurate assessment and remediation of damage to soils and vegetation in the affected drainage(s). Assessing the type and extent of habitats after a spill occurs, as proposed in the FEIR (p. 10-191, 192), will likely underestimate the magnitude and type of damage, let alone avoiding impacts to, Waters of the State. The FEIR should have been informed by wetland and Waters of the State delineations during normal rainfall conditions, and these delineations should have extended at least 50 feet upstream and 500 feet downstream of each drainage crossing and within at least 300 feet of all ponds that are within, adjacent to, or downgradient from the project footprint, including roads, well pads, facilities, and the NGF pipeline route. Consequently, the FEIR does not properly or accurately disclose the presence of wetlands or Waters of the State on or adjacent to the project site.

3. The FEIR's Biological Survey Area (BSA) excludes habitats that would be impacted by oil spills and other hazardous materials spills.

The FEIR's BSA did not include areas in Cat Canyon Creek or other drainages, such as the Sisquoc River, which would be impacted by oil, produced wastewater, and other hazardous materials in the event of a major spill. The BSA extended only 500 feet around project facilities. (FEIR at 4.3-1), however, oil and hazardous material spills may extend well downstream in Cat Canyon Creek and other drainages and could enter the Sisquoc River, which is critical habitat for southern steelhead, arroyo toad, CRLF, and other special-status species. (FEIR at 4.3-49) Furthermore, hydrocarbon contamination may be carried by surface runoff from the project site and transported into the Sisquoc River via Cat Canyon Creek. Therefore, the BSA should have

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been expanded to include the creek, river, and drainages that would be impacted by spills and contamination.

B. <u>The FEIR underestimates the project impacts to biological resources.</u>

1. The FEIR underestimates potential for increased habitat fragmentation and impacts to special-status wildlife species.

Response to Comment #3 in FEIR underestimates the potential for increased habitat fragmentation on and impacts to wildlife species that disperse widely through upland habitats, such as CTS, CRLF, and western spadefoots. The FEIR states that the Project will require 91 acres of new paved road surface (FEIR, p. 2-17). Although some existing roads will be used, many of these roads and well pads have been disused or rarely used for many years and will require widening and paving (FEIR Project Description). Road improvements such as grading, paving, and widening, along with increased vehicular traffic during construction and operation of the project would be expected to significantly increase the isolating and/or fragmenting effects of existing roads and well pads. The significant effects of roadway development to wildlife has been well documented (e.g., Forman et al., 1998). The potential impact of roadway improvements in the project site and related increases in vehicular traffic, will impact wildlife dispersal, including movements of state- and federally-listed species, such as CTS and CRLF. The mitigation measures proposed in the FEIR are not likely to reduce this impact to less than significant levels (see discussion of MM BIO-2m and MM BIO-12a below), thus this impact should be considered a significant and unavoidable (Class I) impact.

2. The FEIR underestimates significant and unavoidable noise impacts to wildlife.

The project will likely cause significant and unavoidable impacts to wildlife, including special-status species, because of construction and operational noise and vibration. There is a large body of research documenting the significant impacts that anthropogenic noise has on wildlife behavior and communication, particularly on species that use acoustic signals to communicate location, status, prey, and territoriality, such as pond-breeding amphibians, birds, and bats (See *Literature Reviewed* section at the end of this document). The FEIR identifies project-related noise as a Class I impact to sensitive human receptors in the vicinity of the project, therefore, it almost certainly will significantly and unavoidably impact wildlife, including listed and special-status bats, birds, and amphibians. For example, vibrations from drilling can mimic the vibrations of rainfall on the ground surface and could cause western spadefoots to emerge from their underground refugia during the dry summer months leading to substantial mortality (Dimmit and Ruibal, 1980). The FEIR's response to my comment is that

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noise impacts on wildlife would be temporary during the six-year construction process, but this response overlooks the noise and vibrations of re-drills, replacement wells, and workover during operation of the project. The mitigation measures recommended in the FEIR will not reduce this impact to less than significant levels for human receptors, consequently, Impacts BIO-2 (substantial change in character of plant or animal communities) and BIO-3 (take of special-status species) caused by increased noise during construction and operation of the project should be reclassified as significant and unavoidable (Class I).

3. The FEIR underestimates the significant and unavoidable impacts to wildlife, including special-status species, caused by vehicular traffic.

Revisions to the FEIR confirm my comments on the DEIR that, project-specific as well as cumulative impacts of increased vehicle traffic on special-status wildlife species constitute a significant and unavoidable (Class I) impact. Mitigation Measure BIO-2m on p. 4.3-55 of the DEIR, which previously restricted vehicular traffic on the project site to daylight hours only, has been modified in the FEIR to allow nighttime vehicular traffic. Traffic will be generated by well drilling, significant well workovers, repair/replacement of critical equipment, and nighttime vehicular traffic, including truck deliveries, crude oil transport, bulk salt deliveries, personnel reconnaissance and security, will occur. The Recovery Plan for CTS (USFWS, 2016), notes that 50% of the observations of CTS in the Eastern Santa Maria Valley metapopulation to date have been road-kills, demonstrating that vehicles are a significant source of mortality to this species (and all other amphibians) as they attempt to cross roadways.

Mitigation Measure BIO-12a (p. 4.3-68), which requires drivers to be escorted by a biologist or On-Site Environmental Monitor (OEM) through the project area at 5 mph during and within 24 hours after a rain event in excess of 0.5 inches, remains largely unchanged between the DEIR and FEIR. Given the number of drivers on-site day and night, this mitigation will require multiple, simultaneous escorts, and likely is not logistically feasible or enforceable. As a result, the FEIR should have classified impacts to special-status wildlife species as significant and unavoidable Class I impacts. Enforcing MM BIO-2m was going to be challenging when vehicular traffic was restricted to daytime hours. If vehicles can come and go as necessary any time of day or night as allowed in the FEIR, Measure BIO-12a becomes unrealistic, infeasible, and unsustainable. Vehicular mortality of wildlife, identified as only a Class II impact in Impacts BIO-2 and BIO-3, are not mitigated to less than significant levels in the FEIR with Mitigation Measures BIO-2m and BIO-12a, and thus is a significant and unavoidable (Class I) impact.

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Conclusions:

- The Environmental Setting section in the FEIR is based on outdated plant and wildlife surveys that were conducted in the midst of a prolonged drought. Consequently, the biological baseline does not accurately represent normal environmental conditions, which significantly affects how impacts to biological resources were assessed and mitigated in the FEIR.

- The biological surveys were conducted during a severe, long-term drought and thus may be deficient and inaccurate. Additional surveys focused on special-status annual plants, fairy shrimp, and amphibians should have been conducted during years of average or above-average precipitation in order to establish 'normal' baseline conditions.

- Baseline information on the type and extent of State and Federal jurisdictional wetlands and Waters of the State in drainages and within the Project site or traversed by pipelines was not collected for the FEIR. Thus, the document underestimates potential damage to these habitats caused by project construction and operation, including, but not limited to, grading, drilling, trucking, and accidental spills and remediation. Accidental spills were identified as a Class I impact to biological resources in the FEIR (Impact BIO-1), however, impacts to wetlands and Waters of the State (Impact BIO-5) were not properly assessed because delineations were not conducted and the baseline surveys occurred in the midst of a severe drought when wetlands and Waters of the State may not be easily documented.

- Noise impacts to sensitive human receptors are identified as a Class I impact in the FEIR. If so, they are likewise a Class I impact to wildlife (Impact BIO-2).

- Vehicular traffic may be a major source of mortality to wildlife, including listed or other special-status species assumed to be present on the project site. Mitigation measures that were originally presented in the DEIR eliminated a major potential mortality source by restricting vehicular traffic to daytime hours. This restriction was eliminated in the FEIR, and the mitigation measures proposed in the FEIR are unlikely to reduce impacts to wildlife to less than significant levels, thus Impact BIO-3 and Impact BIO-6 remain significant and unavoidable (Class I).

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Thank you for the opportunity to comment on the FEIR.

Sincerely,

Lawrence Hunt

Lawrence E. Hunt
Encl.: Attachment A.

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Aquatic features on disused well pads on GWP Lease, southwest of the intersection of Cat Canyon Road (at right) and Palmer Road (at top). Imagery dated 5 January 2015.

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ATTACHMENT G

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Kathryn Lehr, Planner
County of Santa Barbara
Planning & Development Department
123 East Anapamu Street
Santa Barbara, California 93101 28 January 2019

Subject: Comments on Biological Resources Section of DEIR Prepared by the County of Santa Barbara Planning and Development Dept. (Energy Division), for the Proposed AERA East Cat Canyon Oil Field Redevelopment Draft EIR Revitalization Plan, Santa Barbara County, California.

Dear Ms. Lehr,

I have reviewed the Biological Resources section of the Draft Environmental Impact Report (DEIR) and other supporting documents for this proposed project and submit the following comments on behalf of the Environmental Defense Center. I have lived in Santa Barbara for over 35 years and am employed as a vertebrate biologist and biological consultant. During that time, through academic research and consulting, I have accumulated extensive field experience in the Solomon Hills region of Santa Barbara County and am familiar with the biological resources in the proposed project area and the issues raised in the DEIR. I have attached my resume to this letter for your review. The references in the Literature Cited section were consulted in preparing the following comments.

A. ENVIRONMENTAL SETTING AND FIELD SURVEYS. My comments focus on the fact that the field surveys for this project were conducted during a long-term, regional drought.

1. The baseline environmental setting in the DEIR is not representative of normal conditions. The Biological Resources Survey Reports (Padre Associates, Inc., 2014a,b; 2015) of the various project elements (oil field revitalization, natural gas pipeline, and electrical transmission line) form the basis for assessing project-related impacts to biological resources in the DEIR, but the surveys are not representative of 'normal' conditions. The field work was conducted between July 2011 and May 2016, with most of it occurring between 2013 and 2015 (Table 4.3-1). Rainfall totals in the project region for rainfall years 2011/2012 to 2014/2015 ranged from 47-53% of normal precipitation, indicate severe, long-term drought. Conducting

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surveys for animal species that are inherently rare and/or secretive during severe drought conditions could favor non-detection. Similarly, characterizing wetlands, determining hydroperiods of water features, and conducting rare plant surveys during a drought could skew the results towards non-detection and may not be representative of 'normal' conditions in the project area.

The field surveys for the DEIR were conducted three to eight years ago. While vegetation communities may not have changed much since they were mapped in 2013, animal species are mobile and the information on species presence or absence in and around the project area may not reflect current conditions. The secretive nature of many of these species coupled with high inter-annual variability in rainfall means that updated botanical and wildlife surveys should be conducted at appropriate times of the year in order to provide the most current information for assessing impacts to biological resources in and around the project site. CDFW (2016) addresses this issue in their comment letter, "The Department generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years."

2. The Biological Study Area (BSA) should be expanded to include downstream drainages. The BSA for the DEIR includes:

- the project site and a 500-foot buffer around the site in the East Cat Canyon Oil Field;
- a proposed 14-mile long natural gas pipeline including a 200-ft buffer on either side of the right-of-way;
- a proposed 0.3-mile long electrical power line alignment proposed for the southwest corner of the AERA project site in East Cat Canyon, including a 500-foot buffer on either side of the right-of-way.

The proposed project crosses or is adjacent to over a dozen seasonal drainages across five watersheds (Fig. 4.3-3a,b):

- Olivera Canyon Creek (drains directly to Sisquoc River (one to two miles from project site);
- Long Canyon Creek (drains directly to Sisquoc River one mile from project site);
- main stem and three tributaries of Cat Canyon Creek (drains to Sisquoc River about three miles from Cat Canyon project site);
- three tributaries of Bradley Canyon (drains to Santa Maria River > three miles away);
- main stem and four tributaries of Orcutt Creek (drains to Santa Maria River > three miles away).

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The BSA is restricted to the main stem or tributaries of Olivera Canyon Creek, Long Canyon Creek, and Cat Canyon Creek that are within or immediately adjacent to the project area in East Cat Canyon. The Surface and Groundwater section of the DEIR concluded that, "A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on surface or groundwater quality…", and that, "Even with implementation of AMMs and MM BIO-1 (Creation of Emergency Response Action Plan), this impact remains significant and unavoidable (Class I)." (DEIR, Impact SGW-1, p. 4-9.16). The DEIR also states that, "Based on the statewide spill rate, the proposed Project, with 296 new wells, would be expected to have about 2.3 spills per year, or approximately 23 spills over a 10-year period, with a total spilled volume approximately 90 barrels per year (assuming average spill of 39 barrels, 2.3 spills per year). If not contained, these spills could result in water quality impacts to downstream beneficial uses. However, as most of the proposed wells would be in upland areas, most spills would be in these upland areas, away from surface waters."

With a projected project life of 30 to 50 years, an unknown fraction of 2,700 to 4,500 barrels (113,400 to 189,000 gallons) of oil will be spilled, which could enter drainages and directly affect biological resources downstream of the project site. The impact analysis should be expanded to include biological resources in drainage reaches downstream of the project site and potentially-affected portions of the Sisquoc and Santa Maria rivers. The DEIR's BSA is too limited in scope and fails to encompass important areas that have a high potential to be impacted by the Project's predicted 69 to 115 oil spills. Given the high potential for oil spills to reach resources downstream of the project site and the potential to impact portions of the Sisquoc and Santa Maria rivers, surveys for special-status species listed in Tables 4.3-4 and 4.3-6 should have included off-site drainage reaches and associated riparian corridors, per Comment (1) above, to establish an accurate baseline of biological resources potentially impacts by the Project.

3. The biological surveys summarized in the DEIR were conducted during drought conditions which may have affected the detection of special-status plants and wildlife. The DEIR notes that it was not possible to conduct full protocol-level surveys for California tiger salamanders (CTS) and California red-legged frogs (CRLF), which include both upland drift fence/pitfall trap surveys (for CTS) and aquatic surveys (for CTS and CRLF), because some potential aquatic breeding sites within dispersal distance of the project site were located off-site on private property, e.g., pond SISQ-19. Instead, a series of upland and aquatic surveys were conducted between 2011 and 2016 in portions of the project site that had suitable habitat for CTS and CRLF, and the hydroperiod of aquatic habitat on-site was evaluated for its ability to support CTS and CRLF larval development. The DEIR states that, "The Applicant conducted CTS surveys at the proposed Project site at the behest of USFWS and CDFW at Ponds SISQ-19,

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SISQ-20, and Pond 205. Surveys were conducted using a modified survey design as the USFWS protocol was not feasible for the size of the proposed Project site (Padre, 2017d). Upland drift fence surveys were conducted in October 2014 – April 2015 and October 2015 – April 2016. Aquatic CTS sampling was conducted in March, April, and May of 2015 and 2016. Survey design was developed in coordination with CDFW and USFWS, and the surveys were initiated in October 2014. CTS survey results were negative." (DEIR, p. 4.3-33).

Although the results of these surveys were negative, the DEIR assumes presence of both species and proposes to mitigate accordingly because: a) the large size of the project area precludes protocol-level upland (drift fence) surveys, and; b) off-site ponds near the project area could not be sampled. The DEIR presumes presence of CTS in portions of the project area (northeast and southeast corners and west-central portions) included in 2,200-foot radii around off-site and on-site ponds, and concludes that the project is 'likely to adversely affect' CTS because protocol-level surveys of aquatic and upland habitat could not be feasibly conducted. Given that the limited aquatic and upland surveys conducted between 2011 and 2016 occurred during a long-term regional drought and two to seven years have elapsed since the surveys were conducted, another round of surveys for CTS and CRLF larvae were warranted. Surveys should have included all on-site aquatic habitats and water features and should have been conducted during two rainy seasons with average or above-average precipitation.

The DEIR analyzed 34 species of plants and 64 species of animals that are either known from or potentially may occur in the project area (Tables 4.3-4 and 4.3-6, respectively). Protocol-level surveys were conducted for five species:

- straight-awned spineflower (2013);
- vernal pool fairy shrimp (wet and dry season surveys in 2014);
- CTS (modified protocol-level aquatic and upland surveys, 2011 to 2016);
- CRLF (modified protocol-level aquatic and upland surveys, 2011-2016);
- least Bell's vireo (2014).

Formal survey protocols have been developed by species experts in order to standardize field methods and focus surveys temporally and seasonally so as to maximize detectability of rare and secretive wildlife species and rare annual plant species. Reconnaissance-level surveys are sometimes used in advance of protocol-level surveys to determine whether or not suitable habitat exists for a species. This requires the biologist to assess the quality and suitability of habitat given existing land uses. Formal protocols usually reduce the subjectivity of these assessments by requiring protocol-level surveys if the site meets minimum criteria, e.g., is within dispersal distance of aquatic habitat, is within a five-mile radius of known observations, etc. Only after

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conducting protocol-level surveys can one presume absence of a species. This is particularly true for species whose phenology or surface activity is intimately tied to rainfall, such as annual plants, fairy shrimp, etc. Surveys for these species were inadequate to prove absence because they were conducted during years of significantly low rainfall.

Additionally, the protocol-level surveys that were conducted were too narrow in scope and should include: a) average or above-average precipitation years; b) drainages and riparian corridors downstream of the project site, and; c) additional surveys for least Bell's vireo (LBV) along the proposed 14-mile natural gas pipeline route (including areas included in (b) above) because the DEIR identified suitable habitat there (Table 4.3-6, p. 4.3-43).

Many of the special-status species listed in Tables 4.3-4 and 4.3-6 in the DEIR do not have formal survey protocols. For those species that were not observed during field surveys, biologists infer potential presence based on known occurrence in the project region and the presence of suitable habitat in the project area. The DEIR describes a number of measures designed to avoid or minimize impacts to these species, if they are encountered in the project area, e.g., AMM BIO-7 (Delineation of Project Disturbance Limits) and AMM BIO-8 (Pre-Activity Surveys). However, deferring focused surveys until grading and construction work is to begin (pre-construction surveys) may disproportionately affect special-status species with small home ranges and low dispersal ability (e.g., annual plants, gastropods, such as shoulderband snails and other native gastropods, amphibians, and reptiles), and does not present a full baseline to inform the impact analysis in the DEIR. Pre-construction surveys may not coincide with the season of maximum detectability of a species, e.g., pre-construction surveys in advance of soil disturbance in July would not detect wildlife species that are active in the winter. Focused surveys for these species should be conducted at appropriate times of the year that maximizes detectability.

4. Surveys used to evaluate wetlands were conducted during drought conditions. Figure 4.3-3a in the DEIR maps 17 other depressions in the project area that hold water, but gives a confused discussion of the criteria that were used to classify them as wetlands or non-wetlands. The discussion provided on pp. 4.3-13 and 4.3-14 of the DEIR states that, "Per federal, State and Santa Barbara County definitions, to be identified as a wetland, vernal pools must contain non-soil substrate covered by shallow water during the growing season, support hydrophytic vegetation, **and** contain predominately undrained hydric soils."[my emphasis], but on p. 4.3-14, it states, "However, Santa Barbara County defines a wetland as supporting at least one indicator (hydrophytic vegetation at least periodically, undrained hydric soil substrate, **or** non-soil substrate that is saturated with water at some time during the growing season each year)."[my emphasis]. These statements confuse the three-parameter criteria used by Federal agencies

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versus the one-parameter criterion used by the State of California and Santa Barbara County to classify wetlands.

Only one of the 18 water features mapped in Figure 4.3-3a of the DEIR (Pool A) was subjected to a formal wetland delineation because it appeared to meet criteria for hydrology and vegetation. This feature was classified as a wetland, but the DEIR classifies the other 17 water features as non-wetlands because, "Hydrophytic vegetation was not predominant and hydrology indicators were only present following rainfall and not during the region's growing season. In addition, all pools were located on disturbed and compacted soils that do not meet hydric soil specifications. Therefore, these pools did not meet wetland definitions for federal, state, or Santa Barbara County." (DEIR, p. 4.3-13-14, para. 5). The problem is, these surveys were not conducted under "normal" climatic conditions.

The wetland delineation for Pool A states on the wetland evaluation form in Appendix M (p. 372), as having been conducted in March 2015 under "normal climatic and hydrologic conditions", yet wetland field work for the DEIR was conducted in the midst of a long-term regional drought. The 2012-2013, 2013-2014, and 2014-2015 rainfall years when the field work was conducted received only 53%, 47%, and 52% of normal precipitation, respectively. Therefore, conclusions regarding the hydrology and hydroperiod of water features made during these drought years are not reflective of normal conditions. At a minimum, these water features should have been re-evaluated during one or more years of normal or above-normal precipitation in order to characterize hydroperiod, vegetation, and soil conditions under "normal" conditions and establish an accurate baseline for the DEIR.

B. IMPACTS AND MITIGATION.

1. The analysis of Impacts BIO-1, BIO-5, and SGW-1 in the DEIR fails to adequately analyze potential downstream impacts of a spill from the oil field redevelopment site. Impact BIO-1 of the DEIR states that, "A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on native species and habitats, special-status species and their habitats, and sensitive vegetation communities." Impact BIO-5 states that, "A rupture or leak from oil production facilities, pipelines, or transport trucks has the potential to result in a substantial adverse effect on surface or groundwater quality". The DEIR concludes that, "Implementation of the AMMs and the recommended mitigation measures would reduce impacts to waters of the U.S. and waters of the state to less than significant (Class II)." (p. 4.3-97). However, Impact SGW-1 in the Surface and Groundwater section of the DEIR concludes that, "Even with implementation of AMMs and MM BIO-1 (Creation of Emergency

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Response Action Plan), this impact [oil spill] remains significant and unavoidable (Class I)." (DEIR, p. 4-9.16). The DEIR fails to reconcile this apparent inconsistency.

The DEIR goes on to state that, "The volume, location, seasonal timing, and type of any potential spill would influence the severity of impacts to biological resources. Spills in open grassland habitat, agricultural fields, or along roads would be easier to contain and clean up than spills near aquatic or riparian habitat where oil could be transported downstream. Such a spill could flow into sensitive CTS and CRLF breeding habitat or into ephemeral drainages and subsequently into the more sensitive riparian habitat along the Sisquoc River. Spills and associated contaminated storm water runoff reaching this waterway could have significant and widespread impacts to water quality and, consequently, to sensitive biological resources associated with this habitat. In addition, further damage can occur to sensitive habitats during cleanup operations, especially if techniques such as raking, shoveling, and bulldozing are employed." (DEIR, p. 4.3-56). "Impacts to biological resources from an oil or other hazardous material spill (including seep/surface expression) associated with the proposed Project would be significant, should they occur. AERA has committed to developing an Emergency Response Plan; however, specific details of the plan are not currently known. Therefore, Mitigation Measure (MM) BIO-1 requires development and implementation of an Emergency Response Action Plan to specifically mitigate impacts to biological resources in the event of an oil or other hazardous materials spill (including produced water and any seeps or surface expressions)." (DEIR, p. 4.3-58). Because no Emergency Response Plan has been developed yet, it is not possible to determine if response measures will be sufficient to avoid or minimize impacts to biological resources, including resources in drainages downstream of the project area.

2. The DEIR underestimates the magnitude of impacts of habitat loss and degradation for some special-status species. The DEIR states on p. 4.3-62 that, "Approximately 268.3 acres of vegetation that could support other special-status reptiles, birds, and mammals would be directly impacted (see Table 4.3-8). Nesting birds, western spadefoot, coast horned lizard, silvery legless lizard, western pond turtle, two-striped garter snake, coast patch-nosed snake, American badger, pallid bat, and San Diego desert woodrat could utilize any of the vegetation types on the proposed Project site, although would only be expected occasionally in disturbed/developed areas."

This analysis focuses on vegetation as a proxy for special-status species occurrence, but soil type may be a more accurate predictor of distribution for some species, such as legless lizards, horned lizards, patch-nosed snakes, etc. For example, Arnold Sand (Ar) was mapped on over 30% of the project area, mostly in the southern half (Appendix C--Soil Report Summary Map, in DEIR Appendix M--Surface and Ground Water Quality). The potential occurrence of a number of

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special-status plants, legless lizards, horned lizards, patch-nosed snakes, etc. can be predicted with some confidence on the presence of this soil type. Consequently, the DEIR underestimates the magnitude of potential impacts to Arnold Sand-associated species.

3. Proposed project construction has the potential to result in a net loss or permanent change in the extent or functional value of sensitive vegetation communities and loss of individual oak trees. The DEIR states that even with incorporation of feasible mitigation identified by the Applicant and additional measures developed in the DEIR, the loss of over 29 acres of coast live oak woodland and over 1,500 individual oak trees would substantially reduce or eliminate species diversity or abundance at the proposed Project site (p. 4.3-55). Therefore, habitat loss resulting from the proposed project exceeds the County Environmental Threshold for a Class I impact.

Additionally, the proposed Conservation Area does not mitigate the magnitude of this impact. Arnold Sand (Ar), Elder Sand (Ed), and other sand-dominated soil types have been mapped on over 30% of the project site, mainly the southern half (see Appendix C--Soil Report Summary Map, in DEIR Appendix M--Surface and Ground Water Quality). The majority of the oak trees mapped on Figure 4.3-4 on p. 4.3-16 of DEIR occur on Arnold Sand, but Chamise shaly loam soils (Ch) predominate in the proposed Conservation Area in the Long Canyon and Olivera Canyon watersheds. These soil types have very different characteristics that could affect oak survivorship, growth, and recruitment performance criteria during habitat restoration. Consequently, the DEIR fails to evaluate the full ramification of significant habitat loss from the project.

4. Construction and routine operations associated with the proposed project have the potential to impair movement, migration, or dispersal of resident and migratory fish and wildlife species. Dispersal impacts will be greatest among ground-dwelling wildlife, particularly those with small home ranges and low dispersal ability, such as gastropods, non-flying insects, spadefoot toads, horned lizards, legless lizards, etc. Grading and road construction within the project area will further fragment an already-fragmented landscape. During operations, the largest impact to dispersal of ground-dwelling wildlife movements comes from a significant increase in vehicular traffic on project area roads from vehicles traversing the area, personnel on-site for well inspection and maintenance, access road maintenance, truck transport of light crude oil to the field and produced oil from the field, and unanticipated spills and spill response activities. The effects of roadways on wildlife dispersal and habitat fragmentation are well-documented in the literature.

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The DEIR assumes presence of CTS and CRLF (listed species), and western spadefoot (CA Species of Special Concern) in the project area, and notes, "… a moderate to high potential for CTS to move through areas of the oil field…" (p. 4.3-61). These amphibians can disperse long distances through upland habitat and traverse roads in doing so (Hunt, 1999, 2014, 2015; Trenham, 2001; Bulger, et al., 2003). CTS and spadefoot toads have been observed at night on roadways in the vicinity of the project site, e.g., Dominion Road, Orcutt-Garey Road, and Foxen Canyon Road (Hunt, pers. observ.). The proposed project will increase truck traffic by almost 200 trucks/day on existing roadways in the project site and on local roadways. Additionally, the Project will require that nine miles of new roads be paved, and an undisclosed number of existing on-site roads be graded, widened, and/or paved. When combined with trucks from ERG and PetroRock Energy projects, there could be more than 700 tanker trucks/day travelling on these roads. The DEIR presents a number of mitigation measures designed to address this potential impact (e.g., reduced truck traffic at night, low travel speeds, etc.), but the cumulative impact of this truck traffic remains a potentially significant source of mortality for amphibian and other wildlife populations in the area.

The central processing facility and associated roadways in the project area are proposed to be located adjacent to the east side of Cat Canyon Creek. To the extent that this drainage is used as a dispersal corridor by wildlife, increased human presence, night lighting, noise, and increased vehicular traffic could cause wildlife to abandon this dispersal corridor, change movement and activity patterns, or suffer increased mortality.

The DEIR states that, "Although CTS have not been documented in the proposed Project area, they cannot be ruled out due to the proximity to known occupied habitats and the suitable habitats that occur within the oil field. There is a moderate to high potential for CTS to move through areas of the oil field during dispersal, particularly during wet years." (p. 4.3-61). Based on the presumption of presence around SISQ-19, the USFWS determined that the reproductive value of the proposed Project impacts would total 31,443 units. The reproductive value of the proposed Conservation Area was calculated to be 42,741 units (Padre, 2017d and USFWS, 2018). The proposed Conservation Area represents a mitigation ratio of 1.36:1, which exceeds the 1:1 requirement of the USFWS. Therefore, the proposed Conservation Area would adequately mitigate impacts to potential CTS dispersal habitat [and]…with implementation of this measure, impacts to CTS dispersal habitat would be less than significant (Class II)."

The SISQ-19 lies just beyond the southeast corner of the project site. Given the geometry of the proposed Conservation Area, it is not clear that it will mitigate impacts to CTS dispersal caused by project build-out. The easement conserves open space north of SISQ-19 via a narrow strip of

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land that gradually widens northward, but habitat fragmentation will occur northwest and west of SISQ-19 in the project area under the proposed project scenario.

5. The DEIR fails to discuss the impacts to special-status resources caused by creating and maintaining the proposed detention basins. The proposed project includes construction and maintenance of at least 16 detention basins that will be created and maintained throughout the oil field redevelopment area. Water accumulating in these basins after rain events has the potential to present an "attractive nuisance" to wildlife, particularly pond-breeding invertebrates and amphibians, such as vernal pool fairy shrimp, California tiger salamander, western spadefoot, and California red-legged frog. Water may also create and maintain conditions suitable for wetland formation. The presence of special-status species and/or wetland soils or vegetation in these basins would preclude basin maintenance. The DEIR does not adequately describe the location, size, function, or maintenance procedures of these basins, and does not adequately analyze potential impacts of basin maintenance on listed and other special-status wildlife and wetland vegetation and soils.

6. The DEIR does not adequately analyze or mitigate impacts to wildlife communities as a result of permanent loss of over 201.4 acres of wildlife habitat, loss of 1,504 mature coast live oaks, and an unknown number of coast live oak saplings. Oak savanna and oak woodlands are iconic habitats in the California landscape. Coast live oaks are considered the "keystone structures" that determine biodiversity and ecosystem function in savanna and woodland habitats, and oak woodland is a high priority for conservation by the State of California due to habitat loss and fragmentation (Sawyer, et al. 2008; Manning et al., 2006; Tietje and Vreeland, 1997; Tietje et al, 1997). Birds and mammals inhabiting oak woodland (and using isolated oak trees) within the project area likely have home ranges (foraging, roosting, nesting, dispersal habitat) that extend beyond the boundaries of the project area into similar, adjacent habitats. Consequently, the proposed removal of 1,504 mature oak trees in the project area will significantly shrink the home range of these species, forcing them to disperse into other areas (likely already inhabited) to make up the difference, which could result in increased wildlife mortality. The DEIR correctly classifies the loss of oak woodland and mature coast live oaks under any project alternative scenario as a Class I impact (DEIR, p. 5-16).

The proposed project will remove an unknown number of smaller coast live oaks because only 'mature' coast live oaks, i.e, trees greater than 6 inches dbh were counted and analyzed in the DEIR, even though County guidelines protect smaller oaks (County of Santa Barbara, 2008). Coast live oaks less than 6 inches in diameter and less than 6 feet tall can produce acorns that contribute to overall acorn production and, ultimately, oak recruitment, as well as providing food for a wide variety of wildlife species. These trees also are an important replacement cohort when mature trees die (also see Comment 8 below).

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Rodents (pocket gophers, ground squirrels, and mice) are significant predators of coast live oak acorns and oak seedlings in oak savanna and woodland habitats in California (Tyler et al., 2006; 2008). The proposed project will significantly fragment oak woodland and remove isolated oak trees in the project area. This may reduce raptor and carnivore predation rates on rodent populations in the resulting habitat fragments because it may become more difficult for these predators to access the fragments owing to increased human presence, noise, and movement barriers (roads). Increased oak seedling predation by rodents protected from predation in these habitat fragments could result in long-term, even permanent, reduction of oak recruitment. Over time, oak density in these habitat fragments may decline and eventually disappear, resulting in a type conversion of habitat from woodland to grassland or scrub habitat. The DEIR fails to adequately analyze the full range of impacts to wildlife communities, particularly birds and mammals with large home ranges, caused by the proposed project's removal of 1,504 mature coast live oaks and loss of 29.4 acres of coast live oak woodland. Moreover, the loss of coast live oaks less than 6 inches in diameter and over 6 feet tall are not included in the tree count, so actual loss of oaks will be much higher than that analyzed in the DEIR.

The proposed Conservation Easement does not provide in-kind mitigation for oak woodland habitat lost in the project area. Arnold Sand (Ar), Elder Sand (Ed), and other sand-dominated soils occur on over 30% of the project area, mainly the southern half (see Appendix C—Soil Report Summary Map in DEIR Appendix M—Surface and Ground Water Quality). The majority of the oak trees mapped on Figure 4.3-4 on p. 4.3-16 of the DEIR occur on Arnold Sand, but very little of this soil type occurs in the proposed Conservation Easement. Chamise shaly loam soils (Ch) predominate in the Long Canyon and Olivera Canyon watersheds in the Conservation Easement, and these soil types have very different physical characteristics compared to Arnold Sand soils, which could affect oak survivorship, growth, and recruitment in the areas proposed for habitat restoration. Consequently, the proposed Conservation Easement may not adequately mitigate loss of coast live oaks and oak woodland habitat, so impacts to oaks and oak woodland habitat are significant and unavoidable (Class I).

7. Temporary impacts to coastal sage scrub vegetation are not mitigated. Four distinct types of coastal sage scrub vegetation were identified and mapped in the project area. The DEIR acknowledges the widespread loss of this habitat type and the fact that it is considered "sensitive" by State and County regulatory agencies, e.g., pp. 4.3-14, 4.3-15, and 4.3-88, but fails to provide sufficient mitigation for temporary impacts to this important habitat type. Table 4.3-8 in the DEIR states that the proposed project will temporarily impact 88.2 acres of coastal sage scrub habitat (including fire fuel management impacts) and will permanently remove 96.3 acres of coastal sage scrub habitat, for a total disturbance of 184.5 acres to this vegetation type. Temporary **and** permanent impacts to oak woodland are mitigated at a 3:1 ratio, but only permanent impacts to coastal sage scrub habitat are so mitigated (Table 4.3-9). The amount of

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compensatory coastal sage scrub vegetation in the Conservation Easement falls far short of the acreage necessary to fully mitigate impacts to this important habitat when temporary and permanent impacts are fully mitigated. This would require restoring 277.7 acres of scrub in the Conservation Easement, not 13.1 acres, as presented in the DEIR. MM BIO-6a and 6b does not offset temporary and permanent impacts associated with the proposed project and results in a net loss of sensitive coastal sage scrub vegetation acreage and the special-status plant and animal species that use this habitat. Consequently, temporary and permanent impacts to coastal sage scrub are significant and unavoidable (Class I).

8. The criteria used to protect coast live oaks under the Oak Protection Development Standard is not sufficient to reduce impacts to oaks and oak woodland to less than significant levels for this project. The Oak Tree Protection Ordinance in the Inland Rural Areas of Santa Barbara County in the Comprehensive Plan Conservation Element (Development Standard 1) protects coast live oaks if they are greater than 6 inches in diameter (dbh) or more than 6 feet tall, even if they are less than 6 inches dbh (DEIR, p. 4.3-49). Application of the standard to a project that proposes to remove between 281 and 1,504 mature coast live oaks, and results in the loss of over 29 acres of oak woodland habitat may still result in a significant, unavoidable impact (Class I). Trees that were less than 6 inches dbh and over 6 feet tall were not counted in the field surveys or DEIR, however, they are protected by the Ordinance. These trees constitute an age cohort that will be lost under any development scenario. These saplings can produce acorns and thus contribute to annual oak recruitment. Moreover, survivorship of oak seedlings to the sapling stage is very low (Tyler, et al. 2006; 2008), so loss of an unknown, but probably large, number of these saplings may impact the future habitat value of oak woodland habitat here, and constitutes a significant, unavoidable impact (Class I).

The DEIR recognizes that even the Oak Avoidance Alternative will significantly impact mature oaks and oak woodland habitat: "Proposed Project construction has the potential to result in a net loss or permanent change in the extent or functional value of sensitive vegetation communities and loss of individual oak trees. Total impacts to oak woodland would be reduced by 25.8 acres or 88.4 percent under the Oak Avoidance Alternative. This Alternative would reduce oak removals from 1,504 to 281 coast live oak trees. Even with implementation of available feasible mitigation identified here, a significant net temporal loss and permanent change in the extent and functional value of oak trees and oak woodland habitat would occur and therefore, although substantially reduced in magnitude from the proposed Project, impacts to these resources under the Oak Avoidance Alternative would remain a Class I impact." (Impact BIO-4, p. 5-16).

9. Oak woodland habitat in the Conservation Easement may not be comparable to that lost in the project area. As noted previously, at least 30% of the project area supports Arnold Sand

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(Ar) and Elder Sand (Ed) soils while these sand-dominated soils are rare in the proposed Conservation Easement. Many of the mature coast live oaks and oak woodland that would be impacted by the project occurs on sand-dominated soil types. Botanists have recognized that coast live oaks growing on sand-dominated soils have a different stature than trees growing on denser soils and rocky substrates (Wells, 1962; Pavlik et al., 1991, Tyler, et al. 2008). Differences in soil type, slope, and aspect between the project area and the Conservation Easement could influence acorn production, germination, and ultimately, recruitment.

10. Future conservation banks for California tiger salamanders and California red-legged frogs. The DEIR presumes presence of CTS (and CRLF) and states that AERA will contribute to an "established" conservation bank as mitigation for temporary and permanent impacts to potential CTS upland habitat in the project area. The only established conservation bank for CTS is located in the Purisima Hills to serve the Purisima Hills and Santa Rita Valley metapopulations of CTS. No conservation banks have been developed for the five other CTS metapopulations to date even though conservation of all six metapopulations is a critical elements of the CTS Recovery Plan (USFWS, 2016). Therefore, incremental loss of presumed CTS upland in one metapopulation cannot be offset by protecting habitat in another metapopulation area. Offsets should be established where impacts occur. The Eastern Santa Maria Valley CTS Metapopulation is the most critically endangered of the six metapopulations of the species in Santa Barbara County (USFWS, 2016). The project area is located in the Solomon Hills and drains to the Eastern Santa Maria Valley metapopulation. Most of the potential project-related impacts would occur in this metapopulation area, so this is where a conservation bank should be established to offset impacts to CTS arising from the proposed AERA project first, secondarily in the West Los Alamos/Careaga metapopulation area.

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Thank you for the opportunity to comment on this important project.

Sincerely,

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Lawrence E. Hunt

attachment: resume

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Resume for
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Statement of Qualifications. Lawrence Hunt is a herpetologist by training and a consulting biologist with over 30 years of experience with rare, threatened and endangered plant and wildlife species and their habitats in the western United States, Mexico, and Chile, focusing on rare, threatened, and endangered plants, crustaceans, fish, amphibians, reptiles, birds, and mammals of central and southern California. Hunt & Associates BCS, headed by Lawrence Hunt, brings together qualified specialists with extensive experience in design and management of biological resource surveys and analyses, including special-status species survey design and implementation, biological assessments and evaluations, EIR/EISs, habitat restoration plans, habitat conservation plans (HCPs), statistical data analysis, local, state, and federal resource agency consultation, mitigation analyses, habitat restoration design and implementation, and permit compliance monitoring. Clients include planning departments for city and county governments and planning agencies, state and federal resource management agencies, non-governmental conservation organizations, and private corporations and individuals. Since 1985, Hunt & Associates BCS has been involved in over 900 projects throughout central and southern California and southern Nevada, as well as several international projects.

Over the past several years, Lawrence Hunt has been awarded several grants from the U.S. Fish and Wildlife Service to conserve the California tiger salamander in San Luis Obispo and Santa Barbara counties. Currently, he is collaborating with researchers at UCLA and UC-Santa Barbara to determine the extent of hybridization between the federally-listed native California tiger salamander and non-native tiger salamanders that were introduced into Santa Barbara County in the 1950s and 1960s.

Representative Project Experience. The following is a sampling of projects that Hunt & Associates has been involved with over the past 25 years. In addition to the field component, many of these projects

involved project permitting, such as consultation with U.S. Fish and Wildlife Service on endangered species issues, preparation of Streambed Alteration Agreements with California Department of Fish and Wildlife, and preparation of Mitigation Monitoring and Reporting plans for State and Local agencies.

Habitat Conservation Plans, Habitat Management Plans, and Species Recovery Plans:

1989-1992: Western Pond Turtle Capture and Reintroduction Plan for the Gibraltar Dam Strengthening Project, Santa Ynez River, Santa Barbara County; CA Dept. Fish and Game and County of Santa Barbara.

1990-1993: Origin, Maintenance, and Land Use of Coastal and Inland Dunes of the Santa Maria Basin, San Luis Obispo and Santa Barbara counties, California. The Nature Conservancy, San Luis Obispo.

1993-2000: Kern County Valley Floor Habitat Conservation Plan for Dames & Moore, Inc. and County of Kern Planning and Development Department.

1996-1999: Emma Wood State Beach and Ventura River Estuary Management and Enhancement Plan; CA State Dept Parks and Recreation; City of San Buenaventura.

1998-2000: Status Review for Listing of the Black Legless Lizard, Monterey County; USFWS.

1998-2001: California Red-legged Frog Recovery Plan; Member, Scientific Committee; USFWS.

2001-2002: *Peer review of the Tidewater Goby Recovery Plan*; USFWS.

2002-present: California Tiger Salamander Recovery Plan; Member, Scientific Committee; USFWS.

2002-2005: California Tiger Salamander Habitat Conservation Plan for the Unocal and Dominion Road Parcels; U.S. Fish and Wildlife Service, Ventura Field Office.

2002-2004: Lake Los Carneros Habitat Restoration and Open Space Management Plan; County of Santa Barbara.

2006-2008: California Tiger Salamander Habitat Conservation Strategy; County of Santa Barbara Planning and Development Dept.

2008-2012: Southern Steelhead Recovery Plan for the South-Central California ESU and Southern California ESU; National Marine Fisheries Service. Prepared the *Threats Analysis* and *Recovery Actions* for the Recovery Plan using a modification of the Conservation Action Planning (CAP) Workbooks developed by The Nature Conservancy.

2015-present: California Tiger Salamander Hybridization Study, Santa Barbara County; funded by Section 6 grant from USFWS and CDFW.

2017-present: Monarch Butterfly Habitat Restoration and Management Plan for Honda Valley; City of Santa Barbara.

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Selected Habitat Restoration Projects:

1992-2002: Habitat restoration of the former SP Milling Surface Mine, Lower Ventura River Floodplain, Ventura County.

1997-2003: Habitat restoration of coastal sage scrub, coastal foredunes, and riparian woodland, Tecolote Creek Floodplain, Bacara Hotel and Resort, Santa Barbara County.

2003-2005: Habitat restoration of the Howard/Pacific Rock Quarry, Santa Monica Mtns, Ventura County.

2003-2006: Restoration of coastal dune habitat for the CA legless lizard (*Anniella*), Guadalupe Dunes, San Luis Obispo County.

2005-present: Vernal Pool Amphibian Habitat Management Plan, Casmalia Landfill, Casmalia Hills, Santa Barbara County.

2007-2012: San Marcos Foothills Coastal Sage Scrub and Native Grassland Restoration, San Marcos Foothills, Santa Barbara, Santa Barbara County.

2007-present: Giant Reed Removal Element for the Matilija Dam Removal Project, Ventura River and Matilija Creek watersheds, Ventura County.

2010-2012: San Antonio Creek Bridge Replacement Riparian Restoration Project, Ventura County.

2010-present: Riparian Woodland, Coastal Bluff, and Foredune Restoration Project, Lower Toro Canyon Creek, Santa Barbara County.

2013-2015: Vernal Pool Amphibian Management Plan, Santa Maria Airport, Santa Barbara County.

2015-present: Honda Valley Monarch Butterfly Habitat Restoration and Management Plan, City of Santa Barbara.

Representative Linear Infrastructure Projects Involving Special-Status Plants and Wildlife Surveys, Biological Assessments and Evaluations, EIR/EISs, and Permit Compliance Monitoring.

Electrical Transmission and Cathodic Protection:

1984-1993: Project biologist on five electrical transmission line construction projects (Mobil Oil Corporation, Unocal, and Exxon Corporation) emanating from cogeneration facilities in Monterey, Madera, Kern, Tulare, Fresno, Los Angeles, Riverside, and San Bernardino counties. Responsibilities included resource agency coordination/consultation, designing field survey protocols, organizing and conducting field surveys and vegetation mapping, preparing biological documents, project permitting, and supervising construction monitoring teams during project implementation.

1993-1994: Project biologist to County of Santa Barbara Planning & Development Department on the SCE 65Kv Transmission Line project across southern Santa Barbara County. Responsibilities included

pre-construction surveys, constraints analyses, impact assessments, preparation of CEQA permitting documents, and construction monitoring.

1997-1998: Project biologist to ENSR Consulting, Inc. on the ARCO Line 90 Electrical Transmission Project in southern Kern and central Riverside County. Responsibilities included field surveys and report preparation for CEQA permitting documents.

2001-2002: Project biologist to URS Corporation on Enron-Pastoria Creek Power Plant Project. Conducted field surveys in the Pastoria Creek, Tunis Creek, Tejon Creek, and Grapevine Creek watersheds on the western side of the Tehachapi Mountains in Kern County; prepared biological constraints analyses and impact assessments.

2012-2016: Project biologist to U.S. Dept. of Energy for endangered species surveys and biological assessment of proposed 65Kv power line installation, Ciervo Hills, Fresno and Madera counties, CA.

Fiber Optic Transmission:

1988-1992: Project biologist to Dames & Moore, Inc. on the Sprint Fiber Optic Transmission Project in Kern, Los Angeles, and San Bernardino counties, and Clark County, Nevada. Responsibilities included special-status species surveys, wrote CEQA documents, and supervised construction monitoring.

2001-2003: Project biologist/resource specialist and Environmental Compliance Coordinator to the County of Santa Barbara Planning and Development Department on the Level (3) Communications Fiber Optic Transmission Project across western and southern Santa Barbara County. I conducted special-status species surveys, wrote CEQA documents, and supervised construction monitoring.

2002-2004: Project biologist/biological monitoring for EELV Delta IV Program fiber-optic route across Vandenberg Air Force Base, Santa Barbara County. I conducted pre-construction surveys for special-status species, wrote CEQA documents, supervised construction monitoring, and prepared non-native plant eradication and native habitat restoration plan for project.

Oil and Gas Transmission:

1993-1997: Project biologist to Dames & Moore, Inc. on the 1,200-mile long Kern River Gas Transmission Project through Kern County, southern Nevada, and southwestern Utah. Responsibilities included field surveys, biological constraints analyses, impact assessments, mitigation assessment, and construction monitoring for CEQA and NEPA permitting documents.

1994-1998: Project biologist to Pacific Pipeline, LLC on the 175-mile long Pacific Pipeline Project crude oil pipeline in southern Kern County to southern Los Angeles County; included at least 60 miles through Angeles National Forest. Responsibilities included habitat evaluation and mapping, pre-construction surveys for special-status plant and animal species, intensive consultation with Tejon Ranch attorneys and land managers regarding survey results, and implementation of mitigation measures during pipeline construction.

1996-1998: Senior Environmental Scientist to the Chilean Interior Ministry on the 1,500-mile long *Proyecto Gasoducto Transandino* (Trans-Andean Gas Pipeline Project) across Argentina and Chile. Responsibilities included preparing biological evaluations of various proposed routes through the Andes

from Argentina to a receiving station/gas plant on the Pacific Ocean near Santiago, Chile; identified and classified project-related impacts, developed mitigation recommendations, and permit compliance plans for the project.

1999-2000: Project biologist to ENSR Corporation on the Thermo Eco-Tek Natural Gas Pipeline and Cogeneration Facility Project in southwestern San Bernardino County and northern Orange County. Responsibilities included pre-construction surveys, constraints analyses, impacts assessments, and preparation of environmental documents for CEQA permitting documents.

2002-2008: On-call biologist to ENSR Corporation (now AECOM) for ExxonMobil Corporation projects in Kern and Tulare counties; species surveys, biological assessments, and construction monitoring.

2003-2006: Project biologist to ENSR Corporation (now AECOM) responsible for developing the Southern California Gas Company (Sempra Energy Co.) Programmatic Biological Assessment for Operations and Maintenance in Madera, Fresno, Tulare, Kern, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, western Riverside, and western San Bernardino counties. Responsibilities included analyses of biological resources along numerous existing pipeline routes, assessing impacts, and proposing mitigation to reduce or avoid potential impacts to resources during pipeline operation and maintenance for CDFG, USFWS, and CPUC permit compliance.

2007-2008: Project biologist for ExxonMobil M-70 oil pipeline extension across Santa Clara River, Los Angeles County.

2012-2015: Project biologist on Occidental Petroleum Co. project to assess impacts of seismic testing of natural gas and crude oil reserves for proposed exploratory drilling on Newhall Ranch, Los Angeles County.

Offshore LNG Re-Gasification Facility Permitting:

2004-2009: Consulting biologist to ENSR Corporation on the Woodside Liquefied Natural Gas (LNG) Project in the Southern California Bight off Los Angeles County and adjacent onshore receiving and transmission sites in coastal Los Angeles and Orange counties. Responsibilities included evaluating proposed and alternative routes in Los Angeles and Orange counties, conducted biological constraints analyses of various routes, impact assessments, and mitigation recommendations for CEQA and NEPA permitting documents.

Renewable Energy Transmission:

2006-2009: Biologist to Aspen Environmental Group, Inc. for the Tehachapi/Antelope Valley PdV Wind Energy Project DEIR/EIS, the Antelope-Pardee DEIR/EIS, and the Tehachapi Renewable Transmission Project (TRTP) DEIR/EIS from the Tehachapi Mountains and Antelope Valley to the Los Angeles Basin, Kern and Los Angeles counties; prepared CEQA documents for permitting process (characterize biological resources, assess project-related impacts, and propose mitigation recommendations for DEIR/EIS); peer review of outside consultants' work products for California Public Utilities Commission (CPUC).

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2010: One of several biologists conducting small mammal surveys for Topaz Solar Farm EIR, San Luis Obispo Co, CA; subcontracted to Althouse & Meade Consultants, Inc.

2010-2015: Project herpetologist to CH2MHill, Inc. for the NextEra Big Sky Wind Energy Project, Piute Mtns, Kern County. Responsible for special-status reptile and amphibian surveys for project viability and constraints analysis regarding siting of turbines and access/service roads.

Highways and Bridge Removal/Replacement:

1989-1995: Project biologist to Dames & Moore, Inc. on three California Department of Transportation projects to widen and/or construct roadways in Madera, Fresno, and Kern counties. Duties included focused field surveys, impacts assessment, and mitigation recommendations for CEQA and NEPA documents, including sampling and rating over 250 vernal pools and vernal pool complexes for special-status plants, crustaceans (fairy shrimp), and amphibians.

2002-2009: Project biologist to County of San Luis Obispo Planning Department and Garcia and Associates on three bridge replacement projects in San Luis Obispo County; conducted biological evaluation and assessment for Federal Highway Works Administration CEQA/NEPA permitting documents.

2010-2013: Project biologist to Galvin Preservation Associates and County of Ventura Public Works Agency on bridge replacement project; Ventura River watershed; field surveys and construction monitoring for CA red-legged frog, least Bell's vireo, and other special-status riparian species.

Water Conveyance:

2000-2004: Project biologist to Los Angeles Department of Water and Power (LADWP) on Morris and San Gabriel Reservoir Sedimentation projects, Los Angeles County; special-status species surveys; field experiments on impacts of sedimentation on aquatic insects; biological assessment for CA Department of Fish and Game of effects of sediment sluicing on aquatic and riparian resources.

2003-2006: Project biologist to California Department of Water Resources and Aspen Environmental Group, Inc. for Mojave Check 66 Replacement Project, southwestern San Bernardino County (Mojave River); conduct special-status wildlife surveys and focused surveys and impact assessment for on the arroyo toad (*Bufo californicus*).

2004-2006: Project biologist to California Department of Water Resources and Aspen Environmental Group, Inc. for Tehachapi Embayment Project, Tejon Ranch, south slopes of the Tehachapi Mountains and adjacent Antelope Valley in Kern and Los Angeles counties; conduct field surveys and impact assessment/mitigation recommendations.

2007-present: Project biologist to Ventura County Watershed Protection District on the Matilija Dam Removal and Ecosystem Restoration Project, Giant Reed Removal Element, Ventura River watershed, Ventura County; special-status species surveys and monitoring during extensive non-native plant eradication effort; document and analyze natural recolonization of project area by native vegetation for Bureau of Reclamation and CDFG documentation.

Academic Background: Ph.D. Candidate, Evolutionary Ecology, UC-Santa Barbara

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M.S., Ecology and Systematics (Herpetology), University of Kansas
B.S., Vertebrate Zoology (Herpetology), UC-Berkeley

Citizenship: United States.

International Consulting/Research Experience: Chile, England, Mexico, Portugal, Scotland.

Professional Affiliations: American Society of Ichthyologists and Herpetologists; Society for the Study of Amphibians and Reptiles; American Society of Zoologists; Sigma Xi Scientific Society.

Peer-Reviewed Publications:

1980. Hunt, L.E. and J. Ottley. Geographic Distribution: *Crotalus viridis helleri*. Herpetological Review, 12(2): 65.
1982. Hunt, L.E. Reproduction and feeding in *Eridiphas slevini* (Serpentes: Colubridae). Herpetological Review, 13(1): 8-9.
1983. Hunt, L.E. Book Review: Annotated bibliography of the desert tortoise, *Gopherus agassizi*. Herpetological Review, 14(1): 25.
1983. Hunt, L.E. A nomenclatural rearrangement of the genus *Anniella* (Sauria: Anniellidae). Copeia 1983(1): 79-89.
1984. Seigel, R.A., L.E. Hunt, et al. (eds.) Contributions to Vertebrate Zoology and Systematics: A Tribute to Henry S. Fitch. Spec. Publ. Mus. Nat. Hist. Univ. Kansas. No. 10. 278 pp.
1984. Hunt, L.E. Geographic patterns of morphological variation in the lizard genus *Anniella*. Masters Thesis. Univ. of Kansas, Lawrence. 302 pp.
1985. Schultze, H.P., L.E. Hunt and J. Chorn. Type and figured specimens of fossil vertebrates in the collections of the University of Kansas, Museum of Natural History, Part II: Fossil amphibians and reptiles. Misc. Publ. Mus. Nat. Hist. Univ. Kansas No. 77. 66 pp.
1985. Fleischer, R., M. Murphy and L.E. Hunt. Clutch size increase and intraspecific brood parasitism in the yellow-billed cuckoo (*Coccyzus americanus*). Wilson Bull. 97(1): 125-127.
1993. Hunt, L.E. Origin, maintenance and land use of aeolian sand dunes in the Santa Maria Basin, California. Prep. for The Nature Conservancy and U.S. Air Force, Vandenberg AFB. 72 pp.
1994. Hunt, L.E. Capture, relocation and monitoring of a southwestern pond turtle (*Clemmys marmorata pallida*) population on the upper Santa Ynez River, Santa Barbara County, California; Gibraltar Dam Strengthening Project. Prepared for the City of Santa Barbara, U.S. Forest Service and Woodward-Clyde Consultants. 135 pp.
1997. Hunt, L.E. Geostatistical modeling of species distributions: Implications for biogeographical and ecological studies, pp. 427-438, In: Soares, A. et al (eds.). Geostatistics for Environmental Applications. Kluwer Academic Publishers, London. 556 pp.
2000-2003. Predicting vertebrate distributions at local, landscape, and regional spatial scales. Ph.D. Dissertation. Dept. Ecology, Evolution, and Marine Biology, University of California-Santa Barbara.
2009. Hunt, L.E. *Anniella, Anniella pulchra, Anniella geronimensis*. SSAR Catalogue of American Amphibians and Reptiles. 39 pp.
2010. Hunt, L.E. California tiger salamanders in southern San Luis Obispo County, California. Herpetological Review, *in prep*.
In prep: Geographic Distribution: *Anniella pulchra*. Herpetological Review.
Geographic Distribution: *Coleonyx variegatus abbotti.* Herpetological Review.
Hunt, L.E. Additions to the pulmonate snail fauna of Ventura County. The Veliger.
Hunt, L.E. and Barry Roth. A new species of land snail (Pulmonata: Helminthoglyptidae) from Ventura County, California. The Veliger.

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Hunt, L.E. Occurrence of California tiger salamanders in the "gap region" of Central Coastal California. Herpetological Review.
Hunt, L.E. and H.B. Shaffer. Documentation of early-stage hybridization between native and non-native tiger salamanders in the Santa Barbara County Distinct Population Segment (DPS) of the California Tiger Salamander. Herpetological Review.

Grants, Awards, and Invited Speaker Engagements:

1976. National Science Foundation Grant
1980. Phi Sigma Biology Honor Society, Univ. Kansas
1982. Regents Scholarship, University of California-Santa Barbara
1984. Masters Thesis, with honors, University of Kansas
1985. National Audubon Society, Research Grant
1987. Chancellor's Advisory Committee, University of California Natural Reserve System
1988. Storrer Award, American Society of Ichthyologists and Herpetologists
1988. Academic Instructional Grant, University of California-Santa Barbara
1989. Graduate Dissertation Fellowship, University of California-Santa Barbara
1989. 1st World Congress in Herpetology, Canterbury, England, Invited Speaker
1990. Research Grant, The Nature Conservancy
1994-2003. UCSB Annual Academic Development Grants, Patagonia, Inc.
1996. 'Excellence in Reclamation' Award, California Mining Association
1996. 1st European Conference on Geostatistics, Lisbon, Portugal, Invited Speaker
1997. Society for Ecological Restoration-Dune Guild, San Luis Obispo, CA, Invited Speaker
1998. 2nd European Conference on Geostatistics, Valencia, Spain, Invited Speaker
2001. Santa Ynez Natural History Association, Santa Ynez, CA, Invited Speaker.
2002. OSPR Grant, Endangered Species Research Fund, California Department of Fish and Game
2003. University of California-Santa Barbara Habitat Restoration Group, Invited Speaker
2003. Threatened and Endangered Amphibians and Reptiles of Southern California, Wildlife Society and Bureau of Land Management, Riverside, CA, Invited Speaker
2005. U.S. Fish and Wildlife Service Research Grant, Ventura Field Office, Ventura, CA.
2005-2010. Lecturer, UC-Santa Barbara EEMP Courses in Endangered Species Management and Conservation Biology.
2006. Wildlife Conservation Board and U.S. Fish and Wildlife Service CA Tiger Salamander Regional Conservation Strategy Grant, Washington, D.C.
2010-present. U.S. Fish and Wildlife Service Research Grant on Hybrid Tiger Salamander Issues, Ventura Field Office, Ventura, CA.
2010-2011. Guest Lecturer, UC-Santa Barbara EEMP 188 Seminar on Ecological Restoration and Conservation.
2015-present. CTS-BTS Hybridization Study Grant, USFWS and CDFW, Ventura and Sacramento, CA.

Current Permits:

- U.S. Fish and Wildlife Service 10(a)1(a) Recovery (handling) Permits for the California tiger salamander, California red-legged frog; and several species of fairy shrimp.
- California Department of Fish and Game – Scientific Collecting Permit for amphibians and reptiles.

County Approved Qualified Biologist Lists: Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Kern.

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Biological Consulting Services

Stephen P. Henry, Field Supervisor
Ventura Fish and Wildlife Office
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5 May 2020

Subject: Comments on Draft General Conservation Plan for Oil and Gas Activities, Santa Barbara County, California for the California Tiger Salamander (*Ambystoma californiense*), California Red-Legged Frog (*Rana draytonii*), and Lompoc Yerba Santa (*Eriodictyon capitatum*).

I am a consulting biologist and herpetologist with over 35 years of field experience with the California tiger salamander (CTS) and the California red-legged frog (CRLF). I was a member of the Scientific Committee that helped prepare the Draft Recovery Plan for the Santa Barbara County Distinct Population Segment of CTS and commented extensively on the Draft and Final versions of the Recovery Plan for CRLF. The following comments on the Draft General Conservation Plan (GCP) focus on the California tiger salamander (CTS) and California red-legged frog (CRLF). In general, a GCP-based approach to protecting and conserving CTS and CRLF habitat could be a significant improvement over the current piecemeal, project-by-project approach because it incorporates a mechanism for large-scale habitat conservation. However, project-specific details that are unique to each project and that could negatively affect CTS and CRLF habitat could be overlooked if individual applications are not thoroughly reviewed.

Hunt-1

Hunt-2

California Tiger Salamander Conservation Priority Areas (GCP, p. 41 and Draft CTS Santa Barbara DPS Conservation Strategy, p. 10): *"In general, large sites functionally connected to other permanently conserved lands are essential for conservation as they would likely contribute the greatest toward meeting recovery criteria. Within each metapopulation, areas prioritized for conservation should be directed to areas encompassing known breeding ponds and their associated upland habitat that contribute in the greatest extent to meeting the aforementioned recovery criteria. Areas sought for conservation should be steered away from ponds that are isolated from other ponds in a metapopulation area and/or that do not have sufficient functional upland habitat to support long-term viability of a metapopulation."*

The need to prioritize lands for conservation should include the goal of conserving the full spectrum of landforms on which CTS evolved in Santa Barbara County. Proposing to abandon ponds now isolated by anthropogentic factors will not preserve Santa Maria Valley CTS, particularly the East Santa Maria Valley metapopulation where all of the surviving breeding sites are now "isolated", per the GCP proposal. The hydrologically unique system of vernal pools and ponds found in the Santa Maria Valley formed on an ancient dune sheet, the Orcutt Terrace, that historically supported the highest concentration of vernal wetlands in the Santa Barbara DPS (*L. Hunt, photointerpretation of*

Hunt-3

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historical aerial photographs; Hunt, L.E. 1992. Origin, maintenance, and land use of aeolian sand dunes in the Santa Maria Basin, California. Prep. for The Nature Conservancy and U.S. Air Force, Vandenberg AFB. 72 pp.). The Santa Maria Valley populations of CTS have suffered the highest level of pool loss and upland habitat fragmentation. Indeed, the distinction between an Eastern and Western Santa Maria Valley "metapopulations" is an artifact of urban and agricultural development. Rather than write-off isolated ponds, the GCP should focus on increasing the amount of upland habitat around the few remaining ponds with the goal of re-creating a connected landscape on which additional ponds could be restored, enhanced, or created, so that this significant part of the DPS is not lost.

Hunt-3 (Cont.)

Aquatic/Upland vs. Dispersal Habitat Impacts (GCP p. 62): The GCP relies entirely on a single field study of radio-tagged frogs at one location to calculate compensatory mitigation for habitat impacts to CRLF, stating that, *"Approximately eighty percent of California red-legged frogs in coastal California remain in aquatic habitat or upland habitat within approximately 328 feet of aquatic habitat for their entire lives (Bulger et al. 2003). The remaining twenty percent utilize dispersal habitat (up to approximately 1.7 miles away from aquatic habitat) to migrate between aquatic habitat areas during the wet season. Accordingly, there is no compensation required for temporary impacts to dispersal habitat that occur only during the dry season (e.g. use of access roads only during the dry season or construction of access roads that would be removed before the wet season). Because only approximately 20% of California red-legged frogs use dispersal habitat, projects with permanent or temporary wet season impacts to dispersal habitat would require only 20% of the compensation required for an equivalent aquatic/upland habitat area to offset impacts."*

Previous studies have concluded that migration/dispersal between breeding and upland habitats in pond-breeding amphibians very likely depends on a number of site-specific factors and thus, management conclusion should not rely on a single study. For example, a larger study of radio-tagged CRLF found that 66% of adult females and 25% of adult male frogs routinely moved between the breeding site (a pond) and non-breeding habitat (a stream/riparian area located about 350 feet away) even when water remained at the breeding site. The median distance moved was 495 feet, which means that half of the frogs moved even greater distances and females moved greater distances than males (*Fellers, G. and P. Kleeman. 2007. California Red-Legged Frog (Rana draytonii) Movement and Habitat Use: Implications for Conservation. J. Herpetology, 41(2): 276-286*). The study underscores the importance of all three habitat components for CRLF conservation: breeding habitat, non-breeding (upland) habitat, and migration/dispersal corridors, and recommends creating buffers that encompass all three elements so that human activities don't degrade one or more habitats. The GCP should evaluate additional radio-tracking studies, pitfall trap surveys, and anecdotal information from species experts in northern and central coastal California to better understand the site-specific reasons for and the wide variation in CRLF movements, then make management recommendations based on a consensus of expert opinions. Because adult female CRLF are reproductively more important than males to population persistence and appear to move greater distances, conservation measures in the GCP should emphasize the importance of protecting dispersal habitat so that connections between critical habitat components across a landscape are preserved.

Hunt-4

Section 4. Biological Impacts and Take Assessment (GCP pp. 55 - Use of Impacts to Habitat as a Proxy for Take): *"Because quantification of the number of California tiger salamander that would*

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be taken incidental to Covered Activities is not possible given available data, relying on impacts to occupied California tiger salamander habitat is a suitable surrogate to estimate the amount of take that is likely to occur. Within this plan, "occupied California tiger salamander habitat" is defined as:

> *1) Areas within California tiger salamander dispersal distance (1.3 miles) from a documented known breeding pond; OR*
>
> *2) Where California tiger salamanders are assumed present by the applicant/permittee (no surveys have been conducted)."*

Hunt-5 (Cont.)

Shouldn't Item 2 state, "Where CTS are assumed present by the Service…" not the "applicant"? The burden of proof of presence/absence of CTS lies with the applicant, who must demonstrate that breeding and/or upland habitat is not occupied by CTS by conducting protocol surveys involving two consecutive years of drift fence/pitfall trap surveys in average or above-average rainfall years. The applicant may assume CTS and/or CRLF are present in a given area and proceed accordingly, but what if the applicant assumes absence, will the Service require surveys? The language in this section should be more specific.

Section 4. Biological Impacts and Take Assessment (GCP pp. 57 and 58 - Impact Analysis and Estimated Incidental Take). The tables on p. 57 and 58 give a misleading impression that the Santa Maria Valley, i.e., eastern and western metapopulations combined, has the greatest amount of remaining CTS habitat compared to the other areas. The tables should include a column of index of habitat fragmentation, e.g., average acreage of intact upland habitats remaining around known CTS breeding sites and another column stating whether or not breeding sites are functionally connected to other breeding sites. In this way, the reader can see the relative connectivity of upland habitat remaining in the various metapopulations, which relates to my comment on p. 1.

Hunt-6

Section 4. Biological Impacts and Take Assessment (GCP pp. 58 and 63 and Objective 1.3, p. 66): "*While we cannot estimate the number of California tiger salamander* [and CRLF] *that will be taken as a result of most covered activities, access roads are a common aspect of oil and gas facilities where the potential exists to document injury or mortality of individual California tiger salamanders. Therefore, we provide take coverage for access roads in the form of injury or mortality of individual California tiger salamanders. Under this GCP, we allow for the take in the form of injury or mortality of up to three individual California tiger salamanders* [and up to 10 CRLF] *per year as a result of vehicles using access roads."*

This take coverage assumes that individual CTS killed or injured by traffic on access road are observable. Experience has shown with night-driving on paved roads that unless the number of individuals crossing the road is large and concentrated in a particular area, the likelihood of finding the carcass of this small, soft-bodied amphibian is practically extremely low. Detection is even more unlikely on unpaved access roads where the coarse roadbed and semi-permeable surface would further conceal the carcass. There is no way that take of up to three individual CTS or ten CRLF per year by vehicles can be monitored or verified. Additionally, not all "take" is equal. Take of reproductively mature CTS or CRLF migrating between upland refugia and breeding ponds will have much more serious consequences for N_e (effective population size) compared to take of metamorphs

Hunt-7

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dispersing from the pond into upland habitat, especially if repeated annually. Other mitigation measures proposed in the GCP, such as limiting the speed of vehicles and restricting vehicular access to daytime hours also will be impossible to enforce.

Hunt-7 (Cont.)

New oil and gas exploration and extraction within the watershed of individual vernal pools known to provide breeding habitat for CTS and/or CRLF should be banned. The hydroperiod of natural and man-made pools and ponds are very sensitive to sedimentation. In addition to vehicle strikes, potential movement barriers, and sources of increased potential for predation posed by roadways, the construction of roadways, well pads and associated linear infrastructure such as telecommunication and power lines within the "watershed" of individual breeding ponds creates long-term sources of soil erosion, pond sedimentation, and degraded soil and water quality in the form of oil and other contaminants from road runoff.

Hunt-8

These mitigation measures should be replaced with a strategy that carefully reviews all proposed road alignments (including existing access roads), as well as other linear infrastructure such as telecommunication and power lines during the planning stage of a proposed project, similar to the avoidance and minimization measures proposed on p. 70 of the GCP, which states that, "*During the project planning phase, applicants will site all impacts away from known and potential California tiger salamander and California red-legged frog breeding habitats, avoid high quality upland and dispersal habitat…"* This measure presumably refers to new projects/construction, but should also include existing projects, such as a review of where existing roadways could be abandoned and restored, etc. The language in this measure uses vague terms such as "*away from*" and "*high quality upland and dispersal habitat*" without defining their meaning.

Hunt-9

The applicant will always favor the shortest and most direct routes between production and delivery points in order to reduce costs associated with creating and maintaining access roads, without considering the spatial layout of CTS/CRLF habitat elements. FWS biologists should review proposed plans and work with applicants at the planning stage to re-route and reduce the number of existing and proposed access road alignments and other infrastructure in such a way that preserves and/or restores barrier-free upland habitat around and between known CTS and CRLF breeding sites. This will require field site visits to evaluate potential routes.

Compliance with GCP. The GCP requires that compliance, efficacy, and adaptive management of avoidance and minimization measures presented therein be summarized in annual reports submitted to the Service by the applicant's biologist (Service-approved). The GCP should include at least an annual site visit by Service biologist(s) to each project site after receipt of the annual report in order to verify compliance with GCP requirements and how non-compliance issues will be handled.

Hunt-10

Thank you for the opportunity to comment on this important Plan.

Sincerely,

Lawrence Hunt

Lawrence E. Hunt

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[EXTERNAL] Attn: Stephen P. Henry

Holly Ragan <raganhm@gmail.com>

Thu 4/16/2020 8:27 AM

To: Ventura SBC OilandGas GCP, FW8 <sbc-oilandgasGCP@fws.gov>

Dear Mr. Stephen P. Henry,

I am writing to oppose the U.S. Fish and Wildlife Service's draft General Conservation Plan ("GCP"), as well as the draft Environmental Assessment ("EA"), for oil and gas activities in Santa Barbara County. By streamlining the permitting process under the Endangered Species Act for oil and gas operators at the expense of meaningful conservation of three protected species, the GCP would make it easier for operators to conduct their dangerous and risky projects proposed for the Cat Canyon Oil Field.

The GCP would allow oil and gas operators to permanently destroy 675 acres of habitat for the California tiger salamander, 355 acres of critical habitat for the California red-legged frog, and 27.5 acres of Lompoc yerba santa stands. Under the GCP, the steps that an applicant must take to minimize and mitigate these significant impacts are inadequate to ensure the survival and recovery of the species.

Globally, around one million species are currently threatened with extinction and more than forty-percent of amphibians are threatened, according to a recent UN report. Climate change is a major driving force behind this loss of biodiversity and habitat destruction, which we are also experiencing in Santa Barbara County. As this County continues transitioning to a clean energy future, we ask that you withdraw the proposed GCP and EA in the interest of the recovery of these protected species.

Sincerely,
Holly Ragan

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