

Tracking No.:

NATIONAL MARINE FISHERIES SERVICE SECTION 7 CONSULTATION

Originating Person: Joy Albertson

Telephone Number: (510) 792-0222

Date:

I. Region: CNO; San Francisco Bay NWR Complex

II. Refuge: Farallon NWR

III. Pertinent Species and Habitat:

A. Listed species and/or their critical habitat within the action area:

Steller Sea Lion (*Eumatopias jubata*)

Steller Sea Lion Critical Habitat

B. Essential fish habitat, critical habitat

C. Proposed species and/or proposed critical habitat within the action area:

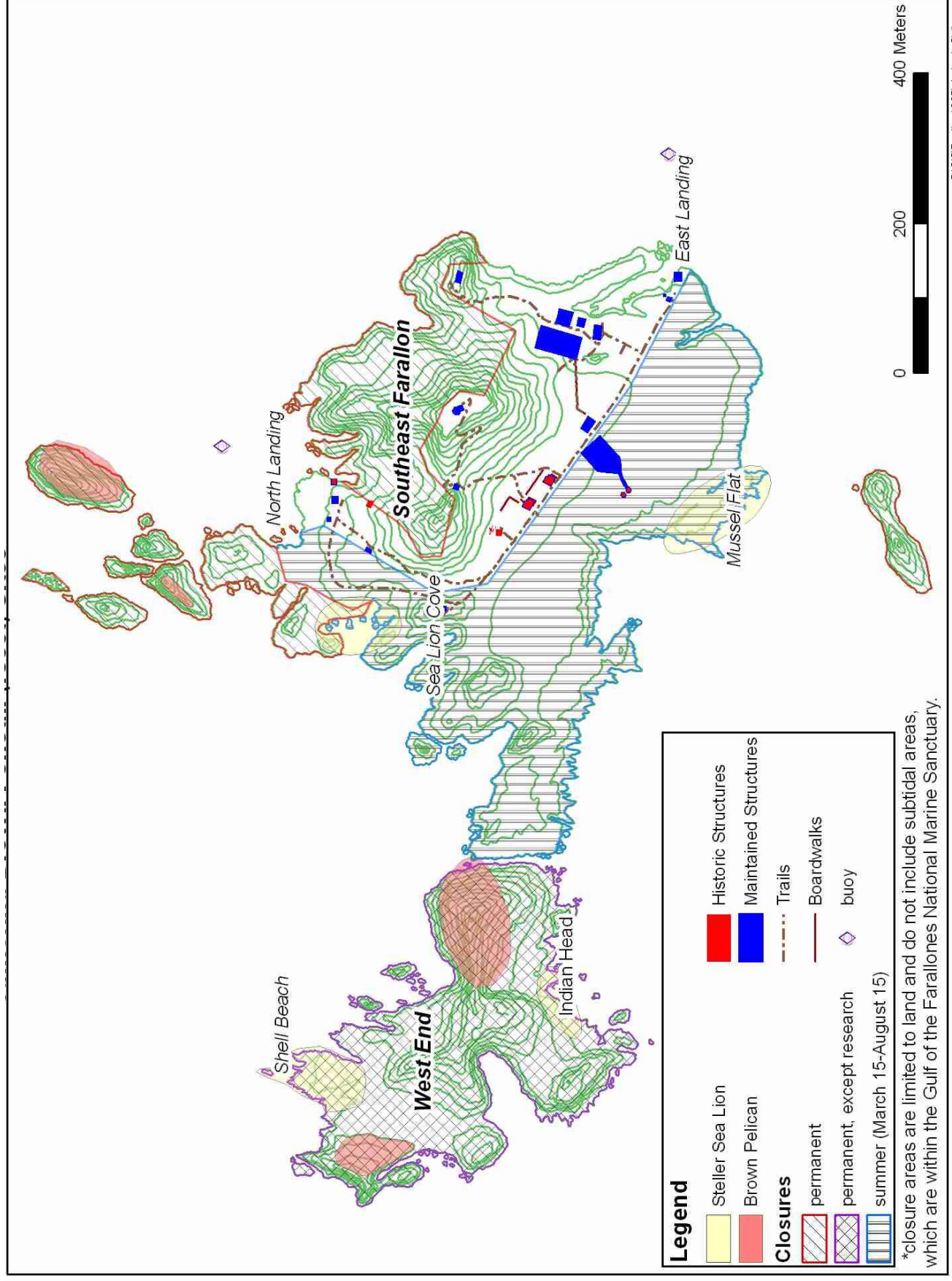
D. Candidate species within the action area:

E. Include species/habitat occurrence on a map.

Steller sea lions haul-out and pup on West End (at Shell Beach and Indian Head) and Southeast Farallon Island (at Sea Lion Cove and Mussel Flat) (See Figure 1). The South Farallon Islands (SFI) was identified as critical habitat in the Steller Sea Lion Recovery Plan (1991). Historical records indicate current numbers of approximately 100 adult Steller sea lions is at about 10% of historical records. The Refuge currently does not meet the criteria identified in the Recovery Plan to qualify as a major pupping site. The SFI is near the southernmost edge of the current range.

Management of Steller sea lion is centered on avoiding or minimizing disturbance. Stellers feed in the water around the island; their haul-out and pupping areas are generally barren areas just above the intertidal zone.

Figure 1. Steller Sea Lion Distribution on SEFI



IV. Geographic area or station name and action: Farallon NWR, Comprehensive Conservation Plan.

V. Location (attach map):

A. Ecoregion Number and Name: 3 - Central Valley / San Francisco Bay Ecoregion

B. County and State: San Francisco County, California

C. Section, township, and range (or latitude and longitude): 123. 00", 37'42"

D. Distance (miles) and direction to nearest town: Bolinas, CA is 18 miles northeast of the South Farallon Islands (SFI).

VI. Description of Proposed Action:

The US Fish and Wildlife Service (Service) proposes implementing the Farallon CCP to direct future management of Refuge activities for the next 15 years in accordance with the National Wildlife Refuge System Improvement Act of 1997. The CCP evaluates a range of alternatives concerning types and intensity of management activities allowed on the Refuge. We propose adopting Alternative B, which expands resources management, research, and public education and outreach. The CCP is designed to cover all species and habitats, but this Consultation will address only the aspects of the CCP that affect Steller sea lions.

Four broad goals that include objectives and strategies are proposed (listed below) for the Refuge that are consistent with the Refuge purpose, ecoregion goals, NWRS goals, the National Wildlife Refuge System Improvement Act of 1997, Service Policy, and international treaties. Specific objectives have been developed to reduce threats and expand knowledge of the Steller sea lion to support their recovery efforts.

CCP Goals

Goal 1: Protect, inventory, monitor, and restore to historic levels breeding populations of 12 seabird species, five marine mammal species, and other native wildlife. Maintain and develop partnerships to support wildlife and habitat conservation on the Refuge.

Goal 2: Restore degraded habitat and reduce the prevalence of nonnative vegetation in order to re-establish historic abundance and distribution of native plant species.

Goal 3: Increase public awareness of the marine environment and the Refuge's purposes through wildlife-dependent recreation, environmental education, and interpretation opportunities, while preserving and enhancing wildlife populations and the wilderness character of the Refuge.

Goal 4: Inventory and preserve the valuable cultural and wilderness elements of the Refuge in order to chronicle the history of the Farallon Islands and share this knowledge with the San Francisco Bay Area community and the public as a whole.

The Refuge goals with detailed objectives and strategies to implement them are presented in Chapter 5 of the CCP. Research and monitoring, management, and public access are the primary CCP activities that may affect the Steller sea lion are described below.

Research and Monitoring Actions

A. Wildlife Research and Monitoring

Intensive research is conducted on the Refuge to examine life histories, populations, diet, productivity and other ecological aspects of the wildlife on the Refuge (See Table 1). The National Marine Fisheries Service (NMFS) conducts aerial pinniped surveys at least annually

during the pupping season. NMFS also conducts surveys in the intertidal areas around SEFI 2-3 times per year. Under the CCP, the majority of research will continue to be directed at wildlife on SEFI. Additional Steller sea lion research will be conducted to determine limiting factors to reproductive success, causes of declining breeding populations, and enhancement opportunities. Trips will be limited for research, monitoring, and habitat management to West End and around North Farallon (boat-based). Not more than 12 survey visits to West End will be allowed annually and two visits for vegetation management will be conducted. New monitoring techniques will also be introduced including remote cameras.

Table 1. Monitoring and Research Activities at Farallon NWR

<i>Species</i>	<i>Sample Burrow Counts</i>	<i>Chick/Fledging Production</i>	<i>Diet Sampling</i>	<i>Population Size</i>	<i>Banding</i>
Leach's storm-petrel					X
Ashy storm-petrel		X			X
Double-crested cormorant				X	
Brandt's cormorant		X	X	X	X
Pelagic cormorant		X		X	
Black oystercatcher		X		X	X
Western gull		X		X	X
Common murre		X	X	X	X
Cassin's auklet	X	X	X	X	X
Pigeon guillemot		X	X	X	X
Rhinoceros auklet	X	X	X		X
Tufted puffin				X	
Brown pelican (migrant)				X	
Shorebirds (migrant)				X	
Landbirds (migrant)				X	X

<i>Species</i>	<i>Tagging</i>	<i>Pups Produced</i>	<i>Population Size</i>	<i>Monitoring</i>
Elephant seal	X	X	X	
Northern fur seal		X	X	
Steller sea lion		X	X	
Harbor seal		X	X	
California sea lion		X	X	
Whales				X (land-based)
Bats			X	X
Arboreal salamander				X
White shark				X (land-based)

B. Oil Spill and Human Disturbance Monitoring

The waters surrounding the Refuge receive heavy commercial traffic. Three shipping channels (on from each the south, north, and west) converge approximately 10 miles east of SFI and become a single main shipping. Oiled birds appeared regularly after storms passed through the area in the 1990's from an unknown source. Department of Fish and Game's (CDFG) Oil Spill Prevention and Response (OSPR) Unit, the US Coast Guard (USCG), and the US Department of Transportation (USDOT) developed a San Francisco Bay/Delta Area Contingency Plan (1993) in compliance with the Oil Pollution Act of 1990. The plan identifies the Refuge as a high priority response area due to the abundant and concentrated wildlife in addition to species listed under the Endangered Species Act.

The Refuge also experiences a considerable number of human disturbance events such as aircraft flying too low to the islands or watercraft approaching too close to the islands which results in flushing wildlife. The CCP prescribes improved coordination with other partner agencies in monitoring and reporting oil spill and human disturbance events (via watercraft and aircraft) that affect Refuge wildlife.



Management Actions

A. Mouse Eradication

Under the CCP, the Service has proposed to eradicate house mice (*Mus muscula*) from SFI. House mice were probably introduced to SFI sometime in the early days of human occupancy. Evidence gathered starting in the 1970's indicates native species have been negatively impacted by direct and indirect predation on seabirds and changes in dispersal patterns of island plants.

Treatment will occur on all of SFI, including Steller haul-out and pupping areas to ensure complete eradication of mice. Treatment will involve the use of the rodenticide brodifacoum, but the application method has not been determined, but will likely involve aerial application. Application will not occur during wildlife breeding periods to reduce disturbance to sensitive wildlife. Remaining details of the mouse eradication program have not been finalized and will be fully analyzed in a separate environmental document and Section 7. Appropriate government agencies will guide the planning of the treatment implementation, primarily to minimize disturbance, and reduce non-target and secondary poisoning.

B. Habitat Restoration

Habitat restoration activities will take place primarily in upland areas far from intertidal zones where Stellers are located. Habitat restoration primarily involves controlling nonnative vegetation which are detrimental to nesting seabirds and native vegetation. Non-native vegetation blocks access to existing and potential borrow sites and competes for space with native vegetation. Native vegetation, especially *Lasthenia maritima*, is used by surface nesting seabirds to form nest bowls and shelter hatchlings. Because of the high potential for crushing burrows, all vegetation work is conducted by trained biologists using hand equipment. Vegetation will be hand-pulled or individual plants will be sprayed by hand with refuge-approved herbicides. No mechanized equipment is allowed off the main trails. Other low-intensity methods may be explored during the life of the CCP. Under the CCP, the footprint of New Zealand spinach and cheeseweed will be reduced by 50 percent in 10 years and 95 percent eradication in the long-term.

Native plant restoration will involve collecting seed and planting. Seed propagation will also be explored. Strategies will also be implemented for reducing other nonnative grasses and plantain. Experimental plots will be set up to determine the most effective method for restoration.

The Refuge has begun experimenting with grass specific herbicide to reduce the coverage of annual grasses. The grass specific herbicide (sethoxydim) was found to be non-impacting to native plant species, however the window for effective use is short due the fast growth of the target grasses. The herbicides each have a buffer zone to prevent overspray into any water sources.

The Refuge completed a Weed Management Plan in 2004 to guide the control efforts of non-native plant species. This plan will evolve as plant information is collected over the life of the CCP. Several species cause problems for nesting seabirds while others compete with native vegetation for space. Surface nesting seabirds depend on *Lasthenia* for nesting material and generally ignore potentially suitable non-native species. The Refuge will re-evaluate the weed

management plan annually to incorporate practices determined to be successful on site using trial and error methods.

Beginning in 2001 the Refuge began experimenting with collecting *Lasthenia* seeds and moving them to areas where control of non-native plants had taken place. Again, these activities occur only in the upland habitat areas of the Refuge. The scale of the seeding effort has grown to several acres annually and the Refuge plans to continue the project indefinitely. All future seeding activity is planned for upland areas.

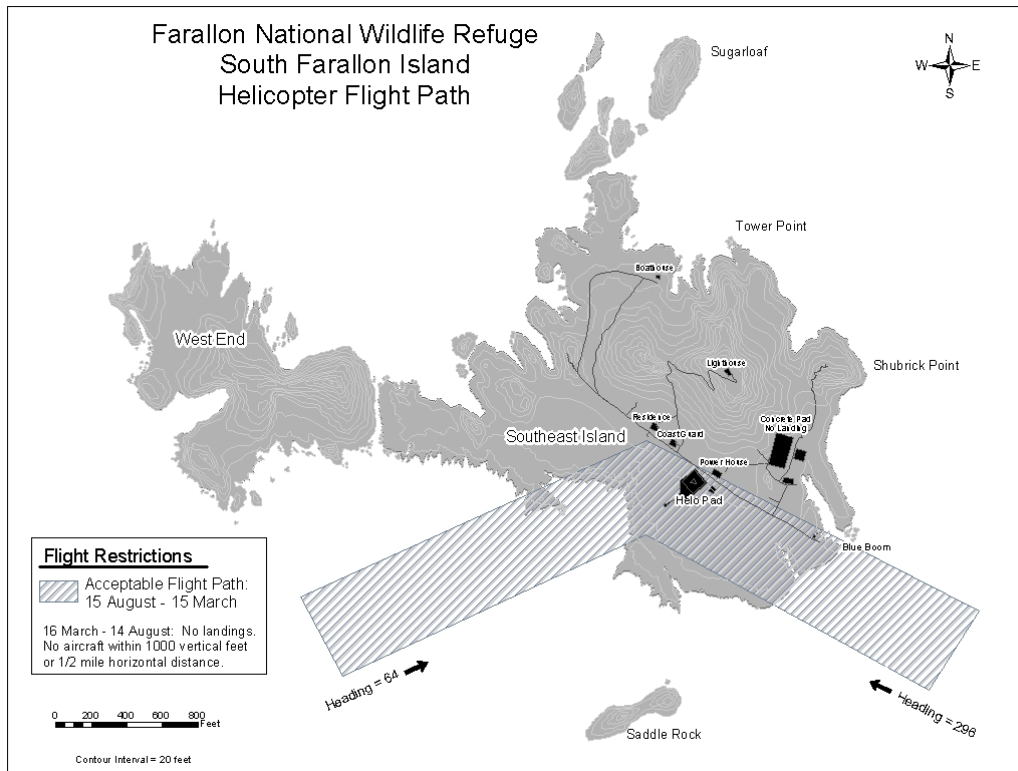
Excess materials will also be prioritized for use or removal. Materials are located throughout SEFI and would be reused for seabird nesting habitat.

C. Other Helicopter and Watercraft Operations

Helicopters are permitted from August 15-March 15 with authorization from the Refuge Manager. A helicopter flight path (See Figure 2) has been developed to minimize disturbance to wildlife. Steller sea lions primary habitat is located away from the flight path with the exception of Mussel Flat. In some weather conditions the US Coast Guard (USCG) circles the island before landing citing safety concerns. The USCG provides logistical support to the Refuge by transporting personnel and equipment. They also transport Coast Personnel to maintain the automated lighthouse which continues to operate as an aid to navigation. The Refuge operates without a dock and all boat transported personnel and equipment must be landed via a boat-to-boat transfer on the open ocean. Items over 75 pounds are difficult to load and have a high probability of dropping into the sea. Most large projects would not be possible without helicopter support.

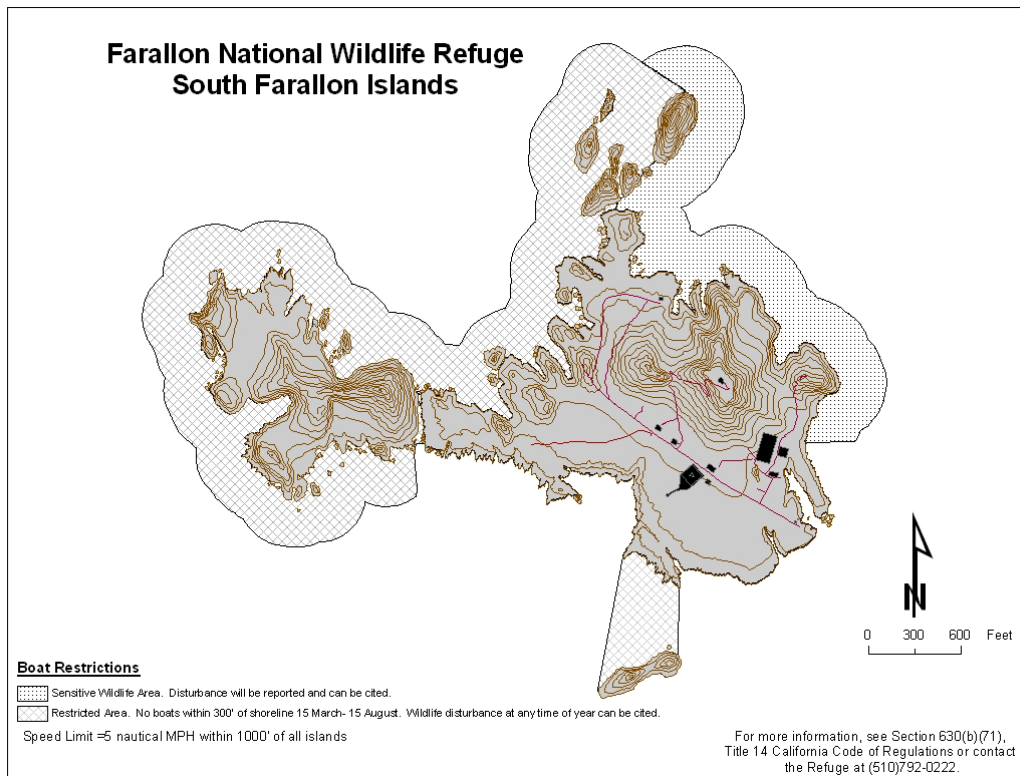
Contractors generally subcontract with private helicopter operations for large construction projects. The pilots from both the USCG and private operators must clear all flights with the Refuge Manager. During the flight approval process all pilots are instructed on the flight path and given a copy of the flight path. No exceptions are granted to the August 15th – March 15th flight window for construction projects. In the event of a life threat emergency an exemption would be granted.

Figure 2. Farallon NWR Flight Restrictions



Staff and supplies generally travel to the Refuge by motorboat or sailboat. One boat travels to the island year-round roughly every two weeks, weather permitting. Boats anchor near East Landing and a small inflatable boat is dispatched from the island to the boat for pickup (See Figure 3). The small inflatable is then lifted by crane onto the island. No identified Steller sites are near East Landing.

Figure 3. Farallon NWR Boat Restrictions



D. Individual Predator Removal

Burrowing owls and western gulls are native to the Refuge. Burrowing owls have a unique relationship with ash storm petrels due to the introduced house mice described in section A. Western gulls are low level natural predators of ash storm-petrels. Ash storm-petrels are nocturnal while the western gulls are diurnal so encounters are relatively rare. Anthropogenic features of the area have increased the encounters and predation events. Gull populations are sustained at artificially high levels by feeding at mainland refuse disposal sights. Light pollution from the lighthouse, bunkhouses, ocean going vessels, and the urban area on clear nights greatly enhances the western gull's ability to target ash storm-petrels. The stone trail leading to the lighthouse has seemingly concentrated petrel nest sights in the wall, which combined with more gulls nesting near the stone wall leads to more predation. From time to time several individual gulls or pairs of gulls have been known to become adept at killing petrels as evidenced piles of wings in and around the gull's nest bowl. The Refuge is planning capturing and humanly euthanize individual gulls known to predate the petrels.

The Refuge believes eradication of the mice will dramatically reduce the incidence of predation on petrels by burrowing owls. Until the mice are successfully eradicated the Refuge has been capturing owls and returning them to the mainland under a migratory bird permit and releasing them on another refuge unit where the service is managing for burrowing owls. Capturing the owls on the island is done on the marine terrace and hillsides of SEFI, well away from any Steller sea lions. Steps have been taken to reduce the amount of artificial light by covering the bunkhouse windows at night and working with local fisherman to reduce lights from fishing vessels anchored at the landings. Fishermen have been generally receptive to reducing light pollution once they were alerted to the problem.

E. Cultural Resources

Structures and other man-made elements on the Refuge have been surveyed over time by Service archaeologists. Refuge policy does not allow removal or destruction of any evaluated historical

elements. Service archaeologists are consulted prior to any ground disturbing activity or significant repair/modification of existing buildings. Certain structures no longer in use have not been maintained and are in poor condition. After the Service began management of SEFI in 1969, many structures not needed by the field station were removed to reclaim habitat for wildlife. Under the CCP, remnants of abandoned infrastructure will continue to be evaluated, removed, and reused as opportunities allow. These elements are generally located in the upland, away from intertidal areas.

Little or no cultural resources are known to remain in Steller sea lion areas or any intertidal area due to the open ocean's destructive force. No cultural resource activities are expected to occur in Steller sea lion habitat through the CCP.

Visitor Services and Environmental Education Actions

A. Visitor Services

The Refuge is currently closed to the general public access. Currently, only limited visits when requested by media representatives are considered for the purposes of public outreach. Such visits are supervised and limited in scope and number of visitors. Several priority public uses identified in the National Wildlife Refuge Improvement Act of 1997 include components that would involve allowing the public on the island. Such uses that can be allowed on refuges are: wildlife observation, wildlife photography, environmental education, and interpretation. The other remaining uses, hunting and fishing, are not considered because there are no appropriate target species. Due to the safety challenges of accessing the island, the CCP prescribes limited public access through media tours and volunteer opportunities to support management needs. Efforts will also be made to enhance visitor experience on existing privately-run wildlife boat tours around the islands (they do not land). Allowing limited access to established media outlets is the most effective way to reach large numbers of people with minimal impacts. The Refuge staff will organize small group media tours at least once per year, and continue to consider individual media requests.

Media visits are guided by multiple Refuge staff and PRBO biologists to keep everyone out of sensitive areas and attempt to insure accuracy in reporting. Visitors are not allowed in areas where pinniped or pelican disturbance is likely. They are also restricted to the main trails and buildings to prevent introduction of non-native vegetation into new areas.

Volunteers will conduct activities under supervision of staff that can include vegetation removal, wildlife monitoring and improving infrastructure. They will also be restricted to designated trails and buildings to reduce wildlife disturbance.

B. Environmental Education

Because the Refuge is remote, the CCP prescribes the use of a remote video camera system to provide an interface with the public. Once installed, the wireless camera would allow a much higher level of monitoring while decreasing disturbance by requiring fewer trips to the area by biologists. The wireless camera set up will enable the Refuge to broadcast live feeds of seabird nesting colonies and pinnipeds haul-out areas to the mainland for anyone to access. Cameras will be installed in Steller sea lion habitat and may be directly affected. However the camera will be installed and removed only during the non-breeding seasons to avoid disturbance to wildlife during sensitive periods.

VII. Determination of effects:

A. Explanation of effects of the action on species and critical habitats in items III. A, B,

and C:

Steller sea lions and their critical habitat may be affected by the actions prescribed in the CCP.

Explanation of Effects of the Research and Monitoring Actions

A. Wildlife Research and Monitoring

The majority of wildlife research and monitoring activities proposed in the CCP are focused on non-listed species and no handling of Steller sea lions is proposed. Research and monitoring activities generally take place on upland areas, away from Steller habitat. Seabird research takes place in upland habitat on SEFI. Most of the intensive research and monitoring activity occurs on the Marine Terrace and Lighthouse Hill. Observation studies of birds nesting close to the intertidal zone are conducted at Garbage Gulch and North Landing using binoculars and spotting scopes.

The limited research and monitoring at West End may have an indirect impact on Stellers. Biologists conducting elephant seal research (*Mirounga angustirostris*) travel across West End to reach the elephant seal breeding site at Shell Beach. While crossing West End it is sometimes unavoidable to encounter Steller sea lions. All precautions will be taken to prevent flushing the Stellers by taking alternate routes. Steller sea lions pupping and haul-out sites are concentrated on West End which is off limits except for limited elephant seal research consisting of not more than twelve trips annually. Access to intertidal areas will continue to be closed March 15-August 15 to protect nesting seabirds which coincides with the Steller pupping season, their most sensitive time period. No daily operations will occur on West End under management proposed in the CCP.

Expanded research and monitoring efforts directed at Stellers may result in temporary disturbance, but should not adversely affect the populations. Such research is intended to improve knowledge of and conservation for the Steller sea lion.

Those research activities directed at Stellers may temporarily disturb individual Stellers though the Refuge will continue operating under a minimum pinniped disturbance policy. It is a long standing policy to avoid Steller sea lions when conducting research activities and the CCP will continue the policy. Research of Stellers consists of a weekly census from distant vantage points. No hands on research is conducted or proposed at this time.

B. Oil Spill and Human Disturbance Monitoring

Oil Spill and disturbance monitoring is conducted from a distance and generally disturbance of wildlife is not permitted for monitoring. In the event of a probable oil spill, biologists may need to enter pinniped areas to better assess the spill or collect samples. In the event of a confirmed spill, clean-up would take precedence over disturbance issues. Spills of less than 42 gallons would be handled by Refuge staff and PRBO biologists while any larger spill clean-up would be directed to the Spill Prevention Coordinator who would likely award the clean up operation to contractors. Oil spill clean up activities are likely to cause take of Steller sea lions frequently until the clean up is completed. Personnel would need access to the intertidal areas to conduct the clean up. Disturbance monitoring is not expected to have any affect on Stellers.

Explanation of Effects of Management Actions

A. Mouse Eradication

The mouse eradication is likely to cause disturbance to most of the island wildlife with the possible exception of elephant seals. A similiar project at Anacapa Island in southern California

indicated the pinnipeds, mostly California sea lions, disturbed by helicopter did not flush into the water because the speed of the helicopter made the duration of the disturbance event very short. Steller sea lions are known to be sensitive to human activities and it probable that all Steller sea lions on SFI will experience at least a low level of disturbance qualifying as take under the ESA. As a secondary planning process is being conducted for the mouse eradication, the Refuge will work closely with NOAA Fisheries to mitigate the disturbance while still achieving the goal of the project.

The application method of the project (yet to be determined) will generate some level of wildlife disturbance. Stellers will likely be temporarily flushed from their haul-out sites. Effects will further be defined when a separate environmental document is developed specifically for the mouse eradication project. Boating and flight restrictions will be adhered.

Rodenticide may also be consumed by Stellers. The grain based bait pellets contains 0.25% brodifacoum and is toxic to mammals including Steller sea lions. However, it is unlikely that Steller sea lions will be interested in bait pellets as food, nor incidentally consume enough pellets to have a toxic effect. While a few pellets are enough to kill a house mouse, it would take hundreds of bait pellets to fatally poison a mammal with the mass of Steller sea lions. It is reasonable to assume that no pinnipeds will be fatally poisoned by the eradication project. A similar project at Anacapa Island resulted in no poisoned pinnipeds.

The toxicity of a particular compound on an individual animal is often expressed in a value known as the “LD50” – the dosage (D) of a toxin that is lethal (L) to 50 percent of animals in a laboratory test. The EPA has compiled laboratory data on the LD50 quantity of brodifacoum for a number of species. However, due to the difficulty and expense of obtaining extensive laboratory data, the LD50 values for most species remain unknown. Therefore, for the purpose of estimating individual impacts, this document will use the following LD50 values to generalize potential toxicity for birds and mammals respectively (adapted from Erickson and Urban 2004). For mammals, an LD50 value of 0.4 mg/kg will be used – this is the average LD50 value for the laboratory rat (*Rattus norvegicus*).

The values used in this document are conservative; the output of this toxicity model would most likely under-estimate the amount of bait that an individual animal would need to consume to have a 50 percent chance of mortality. This model assumes that an animal’s body mass is the primary determinant of how much brodifacoum is required for that animal to reach an LD50 threshold, within each taxonomic category (in this case, birds and mammals). In reality, there are other variables that affect LD50 as well, but using conservative LD50 values such as those above decreases the possibility that the model will under-estimate the risk to individual animals. Regardless, the EPA has determined that the toxicity of brodifacoum to all birds and mammals in general is high (Erickson and Urban 2004). Therefore, the value that is most informative for this analysis is an estimate of the amount of toxin an individual animal would need to ingest to reach the hypothetical LD50 threshold set above, based on body weight.

No brodifacoum LD50 value specifically for marine mammals have been established. Using the conservative LD50 figure of 0.4 mg/kg, a small juvenile Steller sea lion weighing 45 kg (100 lbs) would need to ingest the equivalent of approximately 720 g (1.6 lb) of bait to be at a 50 percent risk of mortality. A large male adult, weighing 1,088 kg (2,400 lbs), would need to ingest more than 17,400 g (17.4 kg; 38.4 lb) of bait. However, these figures are presented for comparative purposes only, because Steller sea lions are carnivorous (almost exclusively piscivorous) and brodifacoum ingestion would need to occur either accidentally or through an intermediate prey species (fish) that previously consumed bait pellets. Fish themselves are extremely unlikely to consume the bait themselves

B. Habitat Restoration

Habitat restoration activities take place on the SEFI in many areas above the intertidal zone. It is possible incidental take could occur when a Steller sea lion is encountered near vegetation control activities. The topography of the coastline provides for many sheltered haul-out areas which may hide individual pinnipeds until very close range. Once detected, personnel are instructed to leave the area and return to complete the work after the Stellers has left the area.

Control of non-native invasive plants is conducted by hand and chemical methods. Herbicide use is not allowed within 100' of the intertidal zone to prevent the chemicals from entering the water. Herbicide is also applied by hand and no Stellers should be directly exposed. Hand-pulling is used to control non-native plants bordering the intertidal zone. Other potential methods will be analyzed for their impacts to wildlife.

Incidental take from habitat restoration activities will be very low or non-existent. The vast majority of habitat restoration takes place hundreds of meters from any haul-out area on SEFI. Limited habitat restoration will take place on West End through no more than two visits annually. These activities will include nonnative vegetation removal (through herbicide treatment and manual-pulling) and native vegetation planting, and will likely take place outside the breeding season. Personnel conducting restoration activities will be instructed not pass through haul-out or pupping areas.

West End is designated critical habitat due its importance as a haul-out site and pupping area. The areas regularly used by Stellers and other pinnipeds are generally devoid of vegetation due to constant trampling and heavy feces deposit. As a result of the sparse vegetation it is unlikely habitat restoration and potential incidental take would be needed in those areas.

C. Other Helicopter and Watercraft Operations

Steller sea lions have the potential to be temporarily flushed from their haul-out sites into the water by helicopter and watercraft traveling to the Refuge. Watercraft also has the potential to disrupt Stellers in the waters surrounding the Refuge as well. Boating has the potential disrupt Stellers during the breeding season. However, transportation is not a daily event where Stellers will be disturbed daily. Also, during the breeding season, there is a buffer area prohibiting boating that includes the Steller sea lion haul-out sites (See Figure 3). Helicopter landing could result in flushing individuals from their haul-out sites, but animals should be able to return immediately after helicopters arrive or depart. It is anticipated that any type of watercraft or helicopter transport would only last several hours, but not exceed one day.

D. Individual Predator Removal

Individual removal of burrowing owls and gulls is not expected to directly affect Stellers because these birds are located in the upland, away from haul-out sites.

E. Cultural Resource

No cultural resource activities are expected to impact Stellers.

Explanation of Effects of Visitor Services and Environmental Education Actions

A. Visitor Services

Media tours and volunteer opportunities prescribed under the CCP are not likely to adversely effect Stellers. Both activities will be supervised by staff. Furthermore, visitors will not be allowed to enter identified Steller haul-out and pupping areas. Visitors will be restricted to main trails and buildings to avoid wildlife and habitat impacts. At most, Steller in the water might be

temporarily disturbed by the transfer of visitors from the boat to the island, but these transfers should not differ from normal operational procedures.

Remote camera installation for environmental education purposes might temporarily disturb Stellers, but installation will occur over several hours during non-sensitive periods where there are fewer Stellers present. Camera removal will also take place where there are fewest Stellers during the non-breeding season.

Cameras will be located in or near Steller haul-out and pupping sites. However, wildlife is expected to become conditioned to their passive operation. It is not likely that operations will result in adverse impacts to Stellers.

B. Explanation of actions to be implemented to reduce adverse effects:

CCP objectives will be conducted with consideration for sensitive Steller breeding periods. It is not expected that staff will directly disturb or harm Stellers. Visitor service activities will be conducted under close supervision at all time to prevent disturbance. Staff will also keep appropriate distance from Stellers to avoid disturbing individuals.

- Limited or no activities during the breeding season.
- Limits on number of visitors, supervision of visitors, and prohibited access for visitors even during the non-breeding season.
- Protocol and training for staff and visitors to avoid disturb individual animals.

VIII. Effect determination and Concurrence/Approvals: *Biological Opinion Needed

****Conference: Coordination with ES Field Office Needed**

A. Listed species/designated critical habitat:

Determination

Refuge Mgr. Initials

No effect to species/critical habitat
(species/unit: Salt Marsh Harvest Mouse)

____ Concurrence

May affect, but is not likely to adversely
affect species/critical habitat
(species/unit:)

__X__ Concurrence

May affect, and is likely to adversely
affect species/critical habitat
(species/unit: _____)

____ *Formal
Consultation

B. Proposed species/proposed critical habitat: NA

Determination

Response requested

No effect on proposed species/proposed critical habitat
(species/unit: _____)

____ Concurrence

Is likely to jeopardize proposed species/

adversely modify proposed critical habitat
(species/unit: _____)

____ **Conference

C. Candidate species: NA

Determination

Response requested

No effect
(species: _____)

____ Concurrence

Is likely to jeopardize candidate species
(species: _____)

____ **Conference

Supervisory Wildlife Biologist

Date

IX. Complex Project Leader Evaluation:

A. Concurrence __X__ Non-concurrence _____

B. Formal consultation required _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed):

_____/s/ G.Mendel Stewart_____
Project Leader, SFBNWR Complex

Date