

ENVIRONMENTAL IMPACT STATEMENT

NISOURCE GAS TRANSMISSION AND STORAGE, INC.

MULTI-SPECIES HABITAT CONSERVATION PLAN

APPLICATION FOR INCIDENTAL TAKE PERMIT

May, 2013

U.S. Fish and Wildlife Service
Federal Energy Regulatory Commission
U.S.D.A. Forest Service
U.S. Army Corps of Engineers
National Park Service



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EXECUTIVE SUMMARY

Introduction

Private landowners, corporations, State or local governments, or other non-Federal entities who wish to conduct activities that might incidentally “take” animals listed as threatened or endangered under the Endangered Species Act (ESA) must first obtain an Incidental Take Permit (hereafter “ITP”) from the U.S. Fish and Wildlife Service (Service) to avoid liability under the ESA. Section 9 of the ESA and its implementing regulations prohibit the take of animals listed as federally threatened or endangered. Take, as defined by the ESA, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The ESA includes mechanisms that provide exceptions to the Section 9 take prohibitions. These are addressed in Section 7(a)(2) for federal actions and Section 10(a)(1)(B) for non-federal actions.

In late 2005, NiSource Gas Transmission and Storage (NiSource) contacted the Service to discuss options for obtaining ESA compliance under Section 10(a)(1)(B) for their natural gas transmission and storage activities. The Service agreed to assist NiSource with the development of a Multi-Species Habitat Conservation Plan (MSHCP).

On July 16, 2009, NiSource filed an application with the Service for a Section 10(a)(1)(B) Incidental Take Permit (hereafter “ITP”) for 10 ESA listed species that occur in portions of their 14-state operating territory (hereafter “Covered Land”). The Covered Land for the MSHCP and requested ITP includes 12 counties in Ohio, Pennsylvania, Maryland, and West Virginia; and a one-mile wide corridor associated with 15,562 miles of existing NiSource right-of-way.

The NiSource MSHCP was prepared to meet the requirements of Section 10(a)(1)(B) of the ESA; cover a 50-year timeframe; and include a suite of conservation measures designed to avoid, minimize, and mitigate potential impacts to species. The MSHCP also includes a monitoring and adaptive management strategy designed to minimize risk associated with uncertainty, and to allow for continuous improvement of the MSHCP, including a process for amending the MSHCP and ITP, when appropriate.

Issuance of an ITP by the Service to NiSource is a federal action that may affect the quality of the human environment and therefore subject to review under the National Environmental Policy

Act (NEPA). To comply with the NEPA, the Service prepared this Environmental Impact Statement (EIS). The EIS analyzes and discloses potential impacts that could result from issuance of an ITP to NiSource and through subsequent implementation of their MSHCP (Proposed Action). As required by NEPA, this EIS also evaluates alternatives to the Proposed Action, which were developed in response to public, stakeholder, and agency input.

The Service was the lead federal agency for preparation of this EIS. The Federal Energy Regulatory Commission (FERC), the U.S. Army Corps of Engineers (USACE), the U.S. Department of Agriculture (USDA) Forest Service (USFS) Eastern Region and Southern Region, and the National Park Service (NPS) Southeast Region served as cooperating agencies.

MSHCP Overview

The NiSource activities addressed in their MSHCP are those activities necessary for safe and efficient operation of NiSource's pipeline system, many of which are performed pursuant to the regulations and guidance of the FERC, the USDOT, and other regulatory authorities. These activities (hereafter "Covered Activities") can be divided into three main categories of activities related to NiSource's natural gas pipeline system: (1) general operation and maintenance; (2) safety-related repairs, replacements, and maintenance; and (3) certain expansion activities.

Forty-three species from nine taxonomic groups were originally analyzed in the MSHCP. Since that original analysis, one of the candidate species (sheepnose) was listed as endangered and the Lake Erie watersnake was delisted. The remaining 42 MSHCP species include six mammals, one bird, one reptile, two amphibians, six fish, two crustaceans, 17 freshwater mussels, four insects, and three plants. However, after analysis of the species and the Covered Land, it was concluded that NiSource Covered Activities will have no impact on 32 of the 42 MSHCP species. It was determined that 23 of these 32 species were absent from the Covered Land, and for the remaining nine species, NiSource agreed to implement conservation measures to avoid all impacts, which are described in the MSHCP and in the Service's Biological Opinion. Therefore, NiSource is requesting incidental take for the remaining 10 species, for which take could be minimized, but not avoided. These species (hereafter "Take Species") include: Indiana bat, bog turtle, Madison Cave isopod, clubshell mussel, northern

riffleshell mussel, fanshell mussel, james spiny mussel, sheepnose mussel, Nashville crayfish, and American burying beetle.

In addition to the 42 species in the MSHCP, 46 additional ESA-listed, proposed, or candidate species are either known to occur or potentially occur within the NiSource Covered Land. Potential impacts to these species are discussed in this EIS and in the Service's Biological Opinion.

Purpose and Need

The purpose of issuing an ITP to NiSource is to authorize take of 10 listed species that is incidental to, but not the purpose of, their otherwise lawful activities. The ITP would also require implementation of the MSHCP. The decision whether to issue an ITP to NiSource is based upon the statutory and regulatory criteria of the ESA, which are detailed in Section 1.6.1 of this EIS.

Presently, NiSource complies with the ESA through the Federal nexus it has with the FERC and consultation with the Service required by Section 7(a)(2) of the ESA. The primary need for the Proposed Action is based on the desire by NiSource to receive incidental take authorization under Section 10 of the ESA rather than Section 7 of the ESA. NiSource believes that, under Section 10 of the ESA, the Company would have more certainty in planning their future operation and maintenance and new construction activities for their business.

Scope of the Analysis

The scope of the analysis in this EIS covers the direct, indirect, and cumulative effects (i.e., impacts) of the proposed incidental take, and environmental consequences associated with implementing the species avoidance, minimization, and mitigation measures in the MSHCP within the Covered Land. Additional analyses are presented in the EIS on other federally listed species that NiSource could potentially encounter, with the understanding that future ESA Section 7 consultations will occur for those species.

Due to the geographic breadth of the proposed Covered Lands, and the inability of NiSource to identify the precise location and timing of future projects, including mitigation, the Service's analyses are necessarily limited in scope. Further, conservation measures designed to avoid

and minimize impacts to species and species habitat from NiSource Covered Activities may only be implemented in areas where a species range overlaps with the NiSource Covered Land.

Public/Stakeholder Involvement

On October 11, 2007, the Service published a Notice of Intent (NOI) to prepare an EIS in the Federal Register (FR, Vol. 72, No. 196, pp 57953 - 57956), to solicit participation of federal, state, and local agencies, Tribes, and the public to determine the scope of this EIS and provide input relative to issues associated with the proposed MSHCP project. In addition to the publication of the NOI, the scoping process included informal stakeholder and agency consultations, 13 public scoping meetings and a mailing to approximately 1,300 known interested parties. The letter provided project information, information on scoping meetings, and contact numbers. Public scoping lasted until December 8, 2007. A Scoping Report is included with this EIS.

In accordance with NEPA, a draft EIS was circulated for public review and comment. The public review period was initiated with the publication of the Notice of Availability (NOA) in the FR on July 13, 2011, (FR 76, No. 134, pp 41288 - 41293) and the public comment period was extended for an additional 90 days (FR 76, No. 199, 63950). The comment period closed on December 13, 2011, culminating a 150-day public review period. A variety of comments were received on the DEIS which are available at <http://www.fws.gov/midwest/endangered/permits/hcp/nisource/index.html>. Written responses to public comments are appended to this document.

EIS Alternatives

Three alternatives have been identified in this EIS for detailed analysis. Six additional alternatives are discussed in Chapter 2, which were considered, but eliminated from detailed analysis. Regardless of the alternative selected, NiSource will continue to implement its Columbia Gas ECS (2008), Columbia Gulf ECS (2008), and Virginia ECS (2008) businesses per requirements set forth by regulatory agencies both federal and state.

Alternative 1 – No Action Alternative (Status Quo)

Under Alternative 1, NiSource would continue to comply with the ESA through Section 7(a)(2). NiSource would not receive an ESA Section 10(a)(1)(B) ITP from the Service. Incidental take

for federally listed species would be through FERC, USFS, NPS, or USACE authorizations, certifications or permits, by way of an Incidental Take Statement from the Service (see Section 1.5.2.3).

Alternative 2 – Issuance of a 50-Year ITP and Approval of NiSource’s MSHCP (Proposed Action)

Under Alternative 2 (Preferred Alternative), NiSource would receive incidental take authorization for 10 federally listed species through Section 10(a)(1)(B) of the ESA. The Service would approve the NiSource MSHCP and issue NiSource a 50-year ITP for species that occur within the NiSource Covered Land.

Alternative 3 – Issuance of a 10-Year ITP and Approval of the NiSource HCP

Alternative 3, NiSource would receive incidental take authorization for 10 federally listed species through Section 10(a)(1)(B) of the ESA. The Service would approve the NiSource MSHCP and issue NiSource a 10-year ITP for species that occur within the NiSource Covered Land.

Environmental Impacts

All of the species in the NiSource MSHCP are dependent on the physical, biological, and to some extent, social resources in the Covered Land. NiSource Covered Activities impact a variety of these resources. Conservation measures designed to avoid, minimize, and mitigate impacts to species will also avoid and minimize impacts to these resources.

Over the next 50 years, NiSource anticipates 904 acres of new disturbance and 18,505 acres of disturbance on previously disturbed land, most of which is vegetation maintenance within existing rights-of-way (ROW), on an annual basis. This equates to a total annual disturbance of approximately 0.2% of the total Covered Land (0.19% within the existing ROW and 0.0092% in areas outside of their existing ROWs). While the Covered Land boundary represents the area for which NiSource seeks incidental take coverage for its Covered Activities, only a very small portion of the Covered Land will actually be impacted by NiSource’s Covered Activities. Table 2.1 in the MSHCP lists anticipated annual impacts within the Covered Land.

Impacts to Physical Resources

Pipeline activities have the potential to impact surface water resources that provide habitat for several listed species (primarily mussels). This includes hydrostatic testing (water removal and disposal), clearing and grading of stream-banks, in-stream trenching or other work, trench dewatering, blasting, and weed spraying. Impacts may arise from lack of shading, suspension of sediments (turbidity), direct impact to aquatic organisms, and release of drilling fluids during horizontal directional drilling. Implementation of regulatory requirements for impact avoidance (e.g., erosion control, stream setbacks for herbicide use, agency approved crossing techniques, equipment bridges, wetland mats, seasonal restrictions, etc.) are expected to reduce or eliminate potential for long-term or otherwise significant impacts the vast majority of the time. No long-term significant impacts to surface water resources are expected to result from NiSource activities.

Future NiSource construction activities and storage field operations have the potential to directly or indirectly impact localized ground water resources. Impacts could include contamination associated with blasting activities, turbidity associated with trench construction (in shallow aquifers), reductions in ground water quantity due to dewatering, contamination associated with hydraulic fracturing activities associated with storage field construction and operations. Implementation of standard environmental construction standards (BMPs) and other regulatory requirements associated with permitting is expected to reduce the potential for significant or long term impacts.

NiSource operation and construction activities are expected to have minimal impacts to local or regional geology, topography, or geologic hazards. An example of a potential geologic impact and measures that will be used to avoid the impact would be the practice of surveying and clearly marking karst features, and identifying adequate buffers around such features during ground disturbing activities. No long-term significant impacts to geological resources are expected to result from NiSource activities.

Future impacts to soil resources from NiSource activities could include impacts to soil stability impacts, erosion, compaction, and contamination. NiSource's standard construction practices include measures to reduce or avoid potential soil impacts including temporary erosion control, stockpiling topsoil for reclamation, and standard spill prevention, containment, and control

practices. No long-term significant impacts to soil resources are expected to result from NiSource activities.

NiSource future activities would not be expected to result in large-scale changes to local or regional climate. Future operations and construction activities may potentially influence local air quality, though they would not be expected to influence climate either directly or indirectly. Required compliance with the Clean Air Act and National Ambient Air Quality Standards, as well as any local or site-specific regulations for air quality within the Covered Lands footprint, is expected to minimize impacts to air quality. Impacts from future activities may include short-term local air quality degradation related to ground disturbance (dust) and/or internal combustion exhaust.

Impacts to Biological Resources

NiSource's future activities could potentially impact a variety of non-listed fish and wildlife species, including migratory birds, depending on the nature of the activity, timing, and location. Potential impacts could include direct mortality from vehicle traffic, vegetation maintenance or mowing, noise-related impacts from construction, habitat degradation from construction, or habitat loss due to impacts to aquatic resources. NiSource's current standard construction requirements, including stipulations and standards related to mowing, clearing, grading, trenching, water body crossing, spill prevention, and restoration would serve to minimize the potential for significant impacts to wildlife from future activities.

Potential impacts to federally listed, proposed, and candidate species would be similar to that discussed for non-listed wildlife and fish. Future activities would potentially directly or indirectly impact these species depending on the nature of the activity, timing, and location. Standard avoidance and/or minimization measures that are implemented as part of NiSource's environmental construction practices, as well as MSHCP AMMs, would reduce the potential for significant impacts, with the exception of the 10 species for which the company is requesting take authorization. A summary of potential take is as follows. With respect to the 10 take species, mitigation proposed by NiSource is expected to fully compensate for any adverse impacts associated with take. As a result, we do not expect impacts to takes species to be significant.

Summary of Incidental Take Requested Over the 50-Year Permit Duration

Species	Summary of Take Requested
Indiana bat	Incidental take is requested for no more than 69,900 acres of summer and/or spring staging/fall swarming habitat that could support up to 2,584 Indiana bat individuals.
Bog turtle	Incidental take is requested for impacts to turtles and habitat at 25 sites
Madison Cave Isopod	Incidental take is requested for two populations as represented by 2,764.5 surface acres and associated subsurface area of effect of Madison Cave Isopod habitat
Clubshell Mussel	Incidental take is requested for up to 166 acres of clubshell habitat
Northern Riffleshell Mussel	Incidental take is requested for up to 165.3 acres of Northern Riffleshell habitat
Fanshell Mussel	Incidental take is requested for up to 283.2 acres of Fanshell habitat
James Spiny mussel	Incidental take is requested for up to 12.8 acres of James Spiny mussel habitat
Sheepnose Mussel	Incidental take is requested for up to 250.4 acres of Sheepnose habitat
Nashville crayfish	Incidental take is requested for up to 4.0 acres of Nashville crayfish habitat
American burying beetle	Incidental take is requested for 4 American burying beetle individuals

Impacts to Social Resources

The Covered Land area includes federal, state, local, and private ownership, along with the various land use regulations pertaining to each. Land management agencies as well as private land owners have agreements entered into with NiSource for ROW easements. As such, NiSource may access and manage the lands under easement to the extent described in the easement. Typically, NiSource is authorized to access the property for ROW maintenance and access to pipeline facilities for operation. Approval of the ITP and MSHCP and future NiSource activities is not expected to have significant direct or indirect impact to future land use within the Covered Lands footprint, although activities associated with proposed conservation and mitigation projects could serve to protect certain lands from future development.

No measurable direct or indirect impacts to employment, income, population (including low income/minority populations), housing, or public services are expected to occur as a result of NiSource Covered Activities. Variations in employment and/or goods and services associated with future construction activities, as well as any HCP-associated mitigation projects may occur, but these are expected to be localized and insignificant in scope.

With all alternatives, future NiSource projects would be subject to regulatory and utility approval, including permits for ROW encroachment, and many would also require additional state or federal level permits or review. Conditions of approval within transportation-related permits might include notification requirements and traffic control measures during construction and maintenance, depending on the activity. Mitigation related to utilities could include efforts to avoid temporary construction-related disruptions in service, coordination with utility providers prior to construction, and schedule planning to minimize disruption during construction.

Public lands that are available for recreation have existing land use restrictions that guide allowable development and uses on this land. As such, these restrictions would guide all NiSource activities regardless of the issuance of the ITP, and would not be influenced or impacted by the ITP or implementation of the MSHCP. Future NiSource projects may result in short-term impacts to localized recreation resources during construction and/or maintenance activities, though these are not expected to be large scale or of long duration. NiSource mitigation projects could increase recreation opportunities as additional land is restored and enhanced for take species.

Implementation of any of the alternatives would not directly affect the quality of visual resources within the Covered Lands footprint. Potential direct or indirect impacts to visual resources (e.g., permanent clearing of vegetation or view shed modification due to ROW construction) may occur. To the extent that these modifications are subject to future site-specific approval, the activities would be subject to conditions of approval applied at the time of occurrence.

Cumulative Impacts

The proposed federal action in this EIS is the Service's issuance of an ESA Section 10(a)(1)(B) incidental take permit (ITP) to NiSource for the purpose of authorizing "take" of federally listed species protected by the ESA, within the context of a conservation plan. The scope of the cumulative impact analysis therefore focuses mainly on impacts to federally listed species, and

the habitat resources that support them. The geographic scope of the analysis corresponds with the NiSource Covered Lands, and the resources contained within, as described in Chapter 3. The temporal range, or how far into the past and future the analysis looked, was based on whether the effects would be temporary, short-term, long-term, or permanent. The cumulative impact analysis in Chapter 5 is organized within the three resource categories covered in Chapters 3 and 4, namely physical resources, biological resources, and social and economic resources.

The NiSource Covered Land is diverse spatially and includes a variety of topographic, geologic, ecological, and unique land-use features (see Chapter 3 of this EIS). Past and present activities within the Covered Land that have impacted physical, biological, and socioeconomic resources included natural gas production, storage, and transmission (i.e., NiSource Activities); agriculture development; wind energy development; commercial timber production; urban development; and transportation infrastructure. Collectively, these activities have had profound impacts to the Covered Land landscape, the most notable being the loss and/or conversion of native landscapes to intensive agricultural production lands, urban and rural development, and transportation infrastructure. The result is a variety of past and present actions within the Covered Land that has shaped its condition today, as described in Section 3.3.1 of this EIS.

Due to the large geographic scope of the Covered Land, a quantifiable, project-specific evaluation of past, present and reasonably foreseeable activities is not feasible or practical. However, reasonably foreseeable activities can be anticipated based on history, current land use patterns, and other factors. We assume that innumerable activities are reasonably certain to occur within the Covered Land, including those noted above.

Physical Resources

NiSource's Covered Activities are not expected to significantly contribute to loss or degradation of physical resources, including surface water, groundwater, geology, soils, or air quality, nor are they considered to create a separate, additive cumulative effect to any physical resources beyond that which already exists with the Covered Land.

Broadly, impacts could occur to surface waters or groundwater due to inadvertent spills or contamination; impacts on geologic resources due to limiting of access to mineral resources; impacts on soils due to topsoil loss, erosion, and contamination; and impacts on air quality, due

to fugitive dust emissions and pollutants. Mitigation projects, such as riparian restorations, could have positive impacts to surface water resources. However, impacts would be site-specific and negligible, at best. As such, implementation of the proposed MSHCP should not contribute to significant negative or positive cumulative impacts to physical resources within the Covered Land.

Biological Resources

NiSource's Covered Activities, AMMs and mitigation are not expected to significantly contribute to, or result in, loss or degradation of biological resources, including vegetation, wetlands, fish and wildlife, and special status species.

Vegetation and groundcover in some portions of the Covered Land area could be impacted through deforestation and destruction of vegetation, fragmentation, contamination due to chemical or petroleum spills or releases, and increases in invasive species due to future construction activities proposed by NiSource or other entities, as well as due to other types of commercial, industrial, or residential development.

Impacts to wetlands would be variable and site-specific. Depending upon local conditions, wetland resources in some portions of the Covered Land could be adversely impacted (e.g., dredge and fill, degradation, contamination due to spills or releases) due to future construction activities proposed by NiSource or other entities, and due to other types of commercial, industrial, or residential development.

Past and present actions within the Covered Land have caused the cumulative loss and degradation of wildlife habitat that supported a diversity of species. Clearing and converting land for agricultural use, urban development, utility infrastructure, roads, and other uses by past and present actions have led to cumulatively increased wildlife disturbance from human activity, increased habitat fragmentation, increased wildlife mortality from roads, and the spread of non-native vegetation that reduces habitat diversity. Timber production activities have converted large tracts of old-growth forest to managed forest land, which has also resulted in disturbance from human activity, habitat loss and fragmentation, and reduced habitat diversity.

Reasonably foreseeable development activities in previously undeveloped areas would incrementally add to cumulative wildlife impacts, both through reduction of potential habitat, and

disturbance and mortality of wildlife species in and around the sites of these actions. For instance, evidence shows that certain species of bats are particularly susceptible to mortality from operating wind turbines. Of the 45 species of bats found in North America, 11 have been observed dead at wind energy facilities. Of these, nearly 75% were eastern red bats (*Lasiurus borealis*), hoary bats (*Lasiurus cinereus*), and silver-haired bats (*Lasionycteris noctivagans*). Other bat species documented killed by wind turbines in the U.S. and of special concern to the Service include the little brown bat (*Myotis lucifugus*) and northern long-eared bat (*Myotis septentrionalis*).

Past and present actions have also resulted in cumulative impacts to fish. These include agricultural and timber harvest activities, transportation infrastructure, and other human developments, especially in floodplains. These past actions have caused the loss of streamside riparian cover and function, the loss of large in-stream woody debris sources, and the addition of sediment into streams.

Reasonably foreseeable future actions that could cumulatively impact fish include actions that would remove shade vegetation in riparian areas along rivers or streams and actions that degrade water quality in rivers or streams from soil erosion. These future actions include forest harvest activities, residential and commercial development (especially in floodplains), and creation or expansion of ROWs for gas transmission and/or power transmission lines. NiSource Covered Activities, regardless of the alternative, would, to a small degree, remove forested vegetation in riparian areas along the ROWs and access roads, and these areas would be managed by restricting future vegetation growth. However, projects and practices will also be implemented to mitigate riparian functions. In particular, riparian area restoration and protection projects by NiSource as mitigation for mussel species take would result in additional riparian habitat being restored and protected, and would likely improve water quality for many fish and aquatic species.

Cumulative impacts of past, present, and future actions on special status species due to future construction activities proposed by NiSource or other entities, as well as due to commercial, industrial or residential development, would be similar to those on other wildlife and fish species. Through the application of species-specific AMMs and mitigation, impacts to MSHCP and take species would be avoided, minimized, or compensated for in regards to NiSource activities. Similarly, local, state, and federal wildlife laws such as the ESA would serve to reduce the

potential for impacts from other potential projects in the area. Overall, NiSource Covered Activities are not expected to result in cumulative impacts to T&E or special status species.

Social Resource

NiSource Covered Activities are not expected to significantly contribute to loss or adverse impacts to social and/or economic resources, including land use, transportation and utilities, cultural resources, recreation, visual resources or noise, nor are they considered to create a separate, additive cumulative effect to any social and/or economic resources beyond that which already exists with the Covered Land area. Potential cumulative impacts due to future construction activities by NiSource or other entities, as well as due to other types of commercial, industrial, or residential development, would vary state-to-state, county-to-county, and city-to-city.

NiSource Covered Activities would not cause significant demands on public services or facilities. During construction, public services such as police, fire, and medical facilities, would be needed only in cases of emergency, which would likely be the case with other construction projects that could potentially coincide with Covered Activities. Covered Activities would not have a noticeable adverse impact on local landfill resources or their ability to handle other current or future waste streams. NiSource Covered Activities would not contribute to cumulative impacts to public services or facilities.

Future urbanization within the Covered Land, as well as industrial development and associated transportation and infrastructure development, could translate into an increase in population within the general vicinity of that development, along with potential changes to employment, tax revenues, and personal income. No specific environmental justice impacts are anticipated to occur to low income or minority populations due to such cumulative actions.

Employment created by NiSource or other entities would be temporary jobs that would last only through project construction. If construction coincides with construction-related activities from other reasonably foreseeable future actions, such as those described above, this would increase the number and/or duration of temporary jobs, which would increase the cumulative need for temporary construction workers in the area. None of the alternatives would change populations or the need for permanent housing. There likely would be a need for temporary lodging for construction workers not hired from the local area. These impacts would be

cumulatively beneficial as they would increase lodging-related revenue and other ancillary businesses such as restaurants, grocery stores, gas stations, and other businesses necessary to support temporary construction workers.

While beneficial, local construction-related expenditures, employment, and earnings would be small relative to the total amount of economic activity in the Covered Land area, and would, as a result, make a small positive contribution to cumulative impacts on any local economy. Other reasonably foreseeable projects would make similar positive, yet small contributions to local economies. Overall, the cumulative actions combined with the proposed project would have a small beneficial cumulative effect on local economies.

Chapter 1 Introduction

1.1 Overview

The U.S. Fish and Wildlife Service (Service) is in receipt of an application from NiSource Gas Transmission and Storage (NiSource) for an Incidental Take Permit (ITP), pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 (ESA or Act), as amended. Specifically, NiSource filed an application on July 16, 2009, seeking authorization for incidental take of ten federally-listed and proposed species that would result from NiSource's otherwise lawful interstate natural gas transmission (INGT) activities across a 14-state operating territory. The duration of the requested ITP is 50 years. One aspect of the application is the associated Multi-species Habitat Conservation Plan (MSHCP). The NiSource MSHCP evaluates effects to 42 species representing nine taxonomic groups. Of these, NiSource anticipates take of ten federally listed species (hereafter referred to as "take species"). The MSHCP concludes that NiSource's activities will not cause take to the remaining 32 species (hereafter referred to as "MSHCP Species").

The MSHCP Covered Activities, or those NiSource activities that fall under the purview of the ITP, include a wide range of operation, maintenance, and new construction activities (described more fully in Chapter 2) that are specific to NiSource Inc.'s wholly owned pipeline subsidiaries: Columbia Gas Transmission, LLC, Columbia Gulf Transmission Company, Crossroads Pipeline Company, Central Kentucky Transmission Company, and NiSource Gas Transmission and Storage Company (companies referred to collectively as "NiSource"), and to the area covered by the NiSource MSHCP (hereafter referred to as "Covered Land") (see **Figures 1.1-1** through **Figures 1.1-4**). The Covered Land for the MSHCP includes 12 counties in Ohio, Pennsylvania, and West Virginia; and a one-mile wide corridor associated with 15,562 miles of existing NiSource right-of-way (see Chapter 2 of the MSHCP for a complete discussion of NiSource Covered Land and Covered Activities).

Preparation of this EIS has been conducted in accordance with the requirements of NEPA, its implementing regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508), the U.S. Department of the Interior's (USDOI) NEPA Procedures (43 CFR Part 46), and other Service guidance for compliance with those regulations. The Service is the lead federal agency for

preparation of the EIS. The Federal Energy Regulatory Commission (FERC), the U.S. Army Corps of Engineers (USACE), the U.S. Forest Service (USFS), and the National Park Service (NPS) were formal cooperators with the Service on the production of this EIS. NiSource's activities are under FERC's jurisdiction, and FERC will use this EIS and MSHCP in its analysis and evaluate the need for any further consultation with Service to comply with ESA.

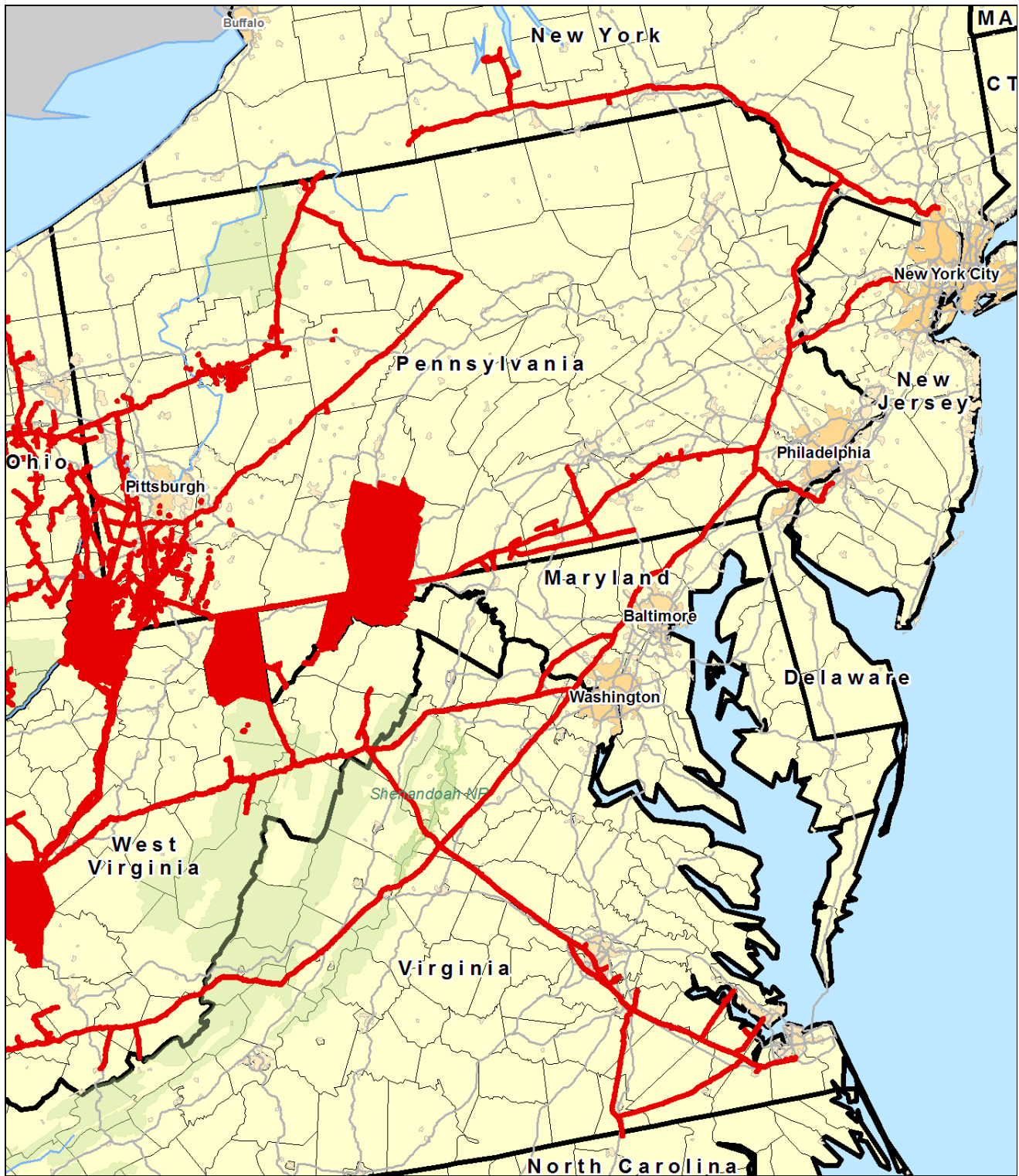
1.2 Purpose

The purpose of ITP issuance is to comply with the ESA by providing protection and conservation of certain listed species while enabling NiSource to conduct legally authorized activities associated with (1) construction and expansion; (2) general operation and maintenance activities that do not require significant earth disturbance; and (3) safety-related repairs, replacements, and maintenance. The ITP would also require implementation of the MSHCP. The decision whether to issue the ITP to NiSource is based upon the statutory and regulatory criteria of the ESA, and is further detailed in Section 1.6.1. In applying these criteria, the Service has analyzed the effect of proposed Covered Activities on species within the NiSource Covered Lands and proposed conservation measures to minimize impacts. Consistent with Service guidance, we considered the appropriateness of the proposed permit duration, the adaptive management strategy, and other issuance criteria. These determinations are documented in the ESA Section 10 Findings document, the NEPA Record of Decision (ROD), and the Intra/Inter-Service ESA Section 7 consultation and resulting Biological Opinion (BO).



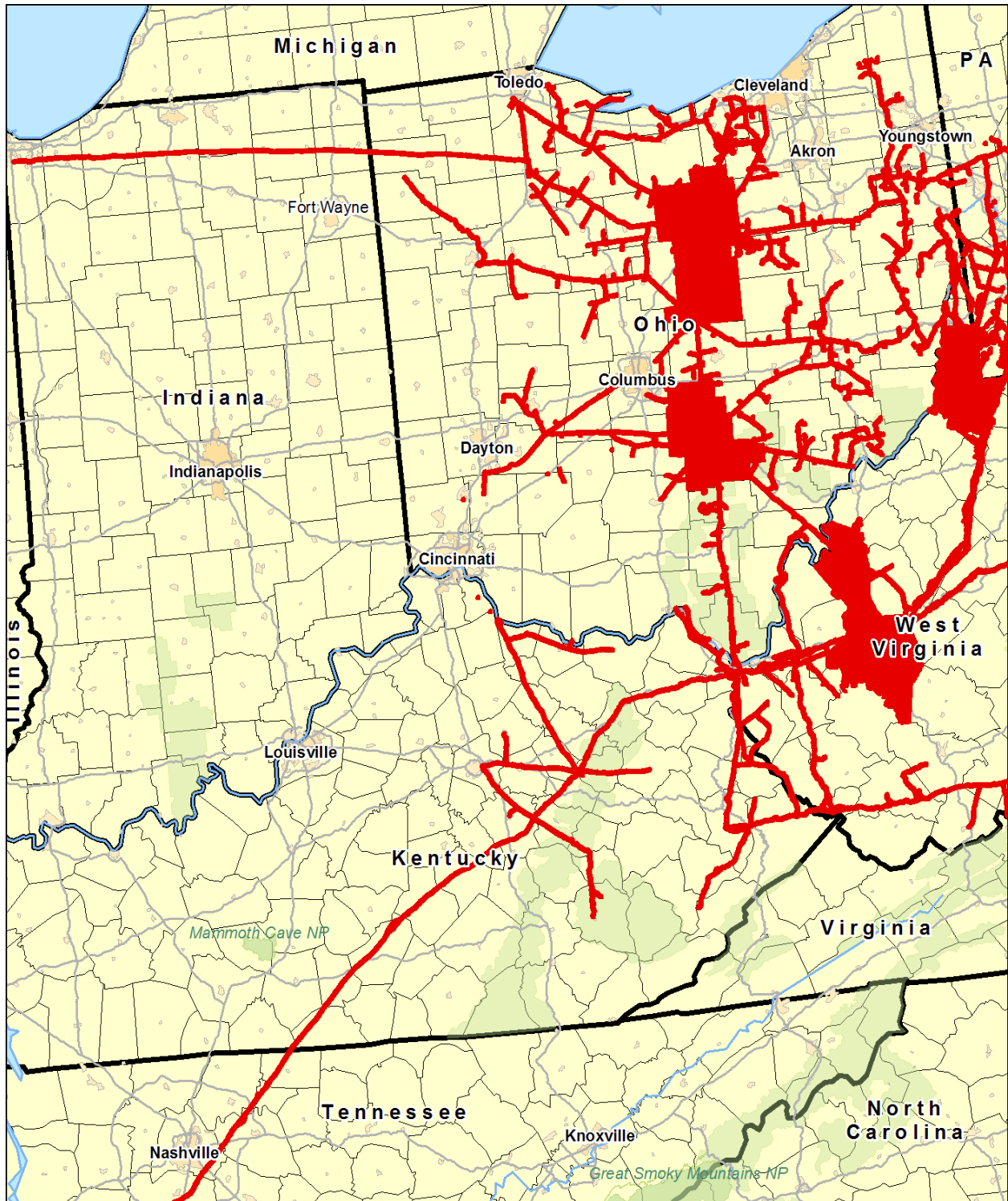
Source: ESRI 2004

Figure 1.2-1: NiSource Covered Lands Overview Map



Source: ESRI 2004

Figure 1.2-2: NiSource Covered Lands Northeast Map



Source: ESRI 2004

Figure 1.2-3: NiSource Covered lands Central Map



Source: ESRI 2004

Figure 1.2-4: NiSource Covered Lands South Map

1.3 Need

Section 9 of the ESA (“Prohibited Acts”) describes the prohibitions for listed species (T&E) and what may constitute “take.” Presently, NiSource complies with the ESA through the Federal nexus it has with FERC and consultation with the Service required by Section 7 of the ESA. The primary need for the Proposed Action is based on the desire by NiSource to receive incidental take authorization under Section 10 of the ESA rather than Section 7 of the ESA. NiSource feels that under Section 10 of the ESA, the Company would have more certainty in planning their future operation and maintenance and new construction activities for their business. NiSource is designated as FERC’s non-Federal representative for purposes of informal consultations with the Service (18 CFR Section 380.13 (b)(1)) for Section 7 of the ESA and regularly consults with the Service regarding the effects to species caused by proposed NiSource activities, which FERC authorizes, licenses or approves. Traditionally, the take of a listed species that is incidental to otherwise lawful activities has been evaluated and authorized through project-by-project and/or annual consultations under Section 7 of the ESA. NiSource however has elected to seek take authorization through Section 10 of the ESA, with preparation of an MSHCP and issuance of an ITP by the Service. The ITP that NiSource has applied for would authorize incidental take of 10 listed species (See Table 2.3-1) that might occur incidental to implementation of NiSource Covered Activities. The Service may specify additional conservation measures as permit conditions. The Service must also find that NiSource will minimize and mitigate impacts to Covered Species to the maximum extent practicable. Through the Intra/Inter-Service Consultation on the Federal action of permit issuance, the Service will ensure that NiSource’s Covered Activities will not appreciably reduce the likelihood of survival and recovery in the wild, of these, or other ESA-listed species.

1.4 Proposed Action

The Proposed Action being evaluated by this EIS is the request from NiSource to the Service for an ITP authorizing take of 10 federally listed species within the NiSource Covered Land (hereafter referred to as “Take Species”), including NiSource’s implementation of its MSHCP for the other 32 species. Take Species include the Indiana bat (*Myotis sodalis*), bog turtle (*Glyptemys muhlenbergii*), Madison Cave isopod (*Antrrolana lira*), clubshell mussel

(*Pleurobema clava*), northern riffleshell mussel (*Epioblasma torulosa rangiana*), fanshell mussel (*Cyprogenia stegaria*), James spinymussel (*Pleurobema collina*), sheepnose mussel (*Plethobasus cyphus*), Nashville crayfish (*Orconectes shoupi*), and the American burying beetle (*Nicrophorus americanus*).

1.4.1 Scope of Analysis

A basic tenet of the Proposed Action of issuing NiSource an ITP and the subsequent implementation of the MSHCP is that the Service does not directly authorize the NiSource operations, maintenance, or construction activities that may cause take of species or species habitat, and regardless of the alternative selected in this EIS, NiSource will continue to implement its businesses. NiSource activities are authorized by other federal, state, and local agencies (i.e., FERC, USDOT, States, Municipalities, etc.) primarily through certifications and permitting (see section 1.5.2.3 below). The scope of analysis in this EIS therefore covers the direct, indirect, and cumulative effects (i.e., impacts) of the proposed incidental take, and environmental consequences associated with implementing the species avoidance, minimization, and mitigation measures in the MSHCP within the Covered Land. Additional analyses are presented in the EIS on other federally listed species that NiSource could potentially encounter, with the understanding that future ESA consultations would occur for those species, based in-part on the analysis presented in this EIS and ESA Consultation for the Proposed Action. However, due to the geographic breadth of the proposed Covered Lands, and the inability of NiSource to identify the precise location and timing of future projects, including mitigation, the Service's analyses are necessarily limited in scope. Further, conservation measures designed to avoid and minimize impacts to species and species habitat from NiSource Covered Activities may only be implemented in areas where a species range overlaps with the NiSource Covered Land. Notwithstanding, because NiSource presents a reasonable worst case analyses for species impacts in the MSHCP, the EIS is more robust in its analysis of species and species habitat than for other aspects of the human environment. Potential impacts to other aspects of the human environment (e.g., air quality, vegetation, resident wildlife, etc.) are discussed on a more programmatic basis.

The Proposed Action and associated analysis assumes involvement of the Cooperating Agencies in the authorization of future NiSource Covered Activities, including NEPA

compliance, where appropriate. These authorizations include Section 404 of the Clean Water Act for discharges of dredged or fill material into waters of the United States (USACE); Special Use Permits for federal land (NPS, USFS, FWS); and Certificates of Necessity for operation, maintenance, and construction of rights-of-way (FERC), to name a few. In furtherance of any continuing NEPA and ESA obligations, the Cooperating Agencies have summarized their respective regulatory authorities and procedures in Section 1.6 below. Incidental take coverage under the terms of the ITP is conditioned on NiSource having obtained all the necessary approvals, permits, and/or licenses prior to undertaking Covered Activities within the Covered Land.

1.5 Regulatory Overview

The protection of federally-listed T&E species is the responsibility of numerous federal agencies that operate and administer various Federal statutes. NiSource Covered Activities fall primarily within FERC and USDOT jurisdiction (see below). However, they may also be subject to the review and oversight of other federal agencies (such as USACE, USFS, and NPS). The following section provides information regarding governing legal authorities and the potential overlap with this NEPA document and the ITP process.

1.5.1 National Environmental Policy Act

NEPA is the basic national charter for protection of the environment. It establishes policy, sets goals, and provides a means for carrying out the policy. NEPA and the CEQ *Regulations for Implementing NEPA* (40 CFR 1501) contain provisions to ensure that all federal agencies act according to the letter and spirit of NEPA.

The NEPA process is intended to help federal agencies make decisions that are based on an understanding of potential environmental consequences, and take actions that consider the effects of their decisions on the human environment. NEPA regulations provide the direction to achieve that purpose. NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. Accurate scientific analysis, agency comments, and public scrutiny are essential to implementing NEPA. NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. Agencies must identify and

eliminate from detailed study the issues which are not significant, or which have been covered by prior environmental review (40 CFR 1506.3), narrowing the discussion of these issues in the EIS to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.

NEPA implementation requires that federal agencies prepare an EIS for federal actions potentially “significantly affecting the quality of the human environment” (40 CFR 1501). As described above, the Service, as the Lead Federal Agency, determined that an EIS should be prepared prior to acting on the NiSource ITP application. As indicated in Section 1.1, the FERC, USACE, USFS, and NPS cooperated with the Service on the production of this EIS. A cooperating federal agency has jurisdiction by law or special expertise with respect to environmental impacts involved with the proposal and is involved in the NEPA analysis.

1.5.2 Endangered Species Act

The purpose of the ESA is to provide a means whereby the ecosystems upon which T&E species depend may be conserved, and to provide a program for the conservation of such T&E species. Both the Service and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service have responsibilities for the conservation and protection of T&E species under the ESA. NOAA-Fisheries is responsible for enforcing provisions of the ESA for most marine and anadromous species. All of the species which would be the subject of the Proposed Action are under the sole jurisdiction of the Service. Therefore no further discussion of NOAA-Fisheries in the implementation of the ESA is included in this EIS (NOAA-Fisheries 2010).

1.5.2.1 ESA Section 9

Section 9 of the ESA and its implementing regulations prohibit the take of animal species listed as T&E. The definition of take under the Act includes the following activities: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect listed animal species, or attempt to engage in such conduct (16 USC § 1538). Section 9 also prohibits the removal and reduction to possession of any listed plant species from areas under Federal jurisdiction, as well as the removal, damage, or destruction of such plants on any other areas in knowing violation of any state law. The Service’s implementing regulations at 50 CFR 17 further define the term “harm” to mean an act which actually kills or injures wildlife, which may include significant habitat

modification. The regulations also define “harass” as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns.

1.5.2.2 ESA Section 10

Section 10 of the ESA establishes a program whereby persons seeking to pursue activities that otherwise could give rise to liability for unlawful “take” of federally-protected species as defined in Section 9, may receive an ITP, which exempts them from such liability.

To obtain an ITP, the applicant must submit an application that includes a conservation plan that meets certain criteria (16 USC § 1539(a)(1)(B) and 1539(a)(2)(A)). The submission and issuance criteria are detailed in Section 1.6.1 of this EIS. How the applicant (NiSource) has met permit issuance criteria is detailed in the Service’s Findings Document.

Since it was originally made available in December 1996, the Service also considers the *Handbook for Habitat Conservation Planning and Incidental Take Permitting Process* (Service and NOAA 1996) (Handbook) during HCP development, review, and implementation processes. Its purpose is to provide policy and guidance for Section 10(a)(1)(B) procedures to promote efficiency and nationwide consistency within and between the Service and NOAA-Fisheries. However, as noted in Section 1.5.2, all species which would be the subject of the Proposed Action are under the sole jurisdiction of the Service.

An addendum to the Handbook was published in the Federal Register (FR) on June 1, 2000 (FR 65-106). This addendum, also known as the “Five Point Policy”, provides additional guidance on HCPs, specifically regarding: (1) biological goals; (2) adaptive management; (3) monitoring; (4) permit duration; and (5) public participation. The addendum was created in order to incorporate lessons learned, recommendations received, and methods the Service and NOAA-Fisheries were using to strengthen the HCP process since the original issuance of the Handbook.

The Service and NiSource considered the applicable statutory and regulatory criteria, the Handbook and Five Point Policy when developing the MSHCP.

1.5.2.3 ESA Section 7

Section 7 of the ESA requires all federal agencies, in consultation with the Service, to ensure that any action “authorized, funded, or carried out” by any 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. As the applicant for such authorizations (e.g., permits), NiSource currently addresses issues related to federally listed species for its projects pursuant to Section 7, through FERC, USFS, NPS, or USACE authorizations, certifications or permits.

Before initiating an action, the federal action agency, or their designated nonfederal representative, must determine whether the proposed project may affect listed or proposed species and/or their critical habitat. If the action agency determines that their proposed project would have no effect on listed or proposed species or their critical habitat, no further consultation is required under the ESA. If the determination is that a project may have an effect, further consultation is required.

If the action agency determines (and the Service concurs) that the project is neither likely to adversely affect any listed or proposed species nor adversely modify designated critical habitat, the consultation (informal to this point) is concluded and the Service’s concurrence is provided. If the action agency determines that a project may adversely affect a listed or proposed species and/or designated or proposed critical habitat, there must be formal consultation for listed species or a conference for proposed species. For intra-service consultation, which is required here because the Service is the agency issuing the ITP, the Service is also obligated to conduct a conference opinion for candidate species

During formal consultation, the Service prepares a biological opinion (BO) in response to the information provided by the federal agency (normally provided as a biological assessment or BA). The BO analyzes the effects on the listed species and analyzes whether the Proposed Action would be likely to jeopardize the continued existence of the species or destroy or adversely modify designated critical habitat. If the BO reaches a jeopardy or adverse modification conclusion, the opinion must develop a “reasonable and prudent alternative” that would avoid that result. If the BO concludes that the project, as proposed, would involve the take of a listed species, but not to an extent that would jeopardize the species’ continued

existence, the BO includes an incidental take statement and specifies reasonable and prudent measures to minimize the impact of the take. The incidental take statement specifies an amount of take that the Service believes may occur as a result of the action. The Service may also make conservation recommendations, which are non-binding, such as: identifying additional discretionary conservation measures to reduce adverse effects: identifying additional needed studies, monitoring or research, and recommending how the action agency might assist species conservation in furtherance of ESA Section 7(a)(1). If the action complies with the BO and the incidental take statement, it may be implemented without violation of the ESA, and the take is thereby exempted.

The issuance of an ITP to NiSource with implementation of the associated MSHCP would be a federal action that triggers a Section 7 consultation. We refer to this as an Intra-agency consultation because the Service essentially consults with itself. But the future federal actions of the cooperating agencies over the proposed MSHCP activities also trigger a need for consultation between the Service and these agencies. This is referred to as an Inter-Agency consultation. The Service, as the federal action agency, will complete a combined Intra- and Inter-Agency consultation to perform the analysis. The resulting BO will encompass the issuance of the ITP and implementation of the MSHCP, along with anticipated actions by cooperating agencies. Because the action agencies' approvals for NiSource's Covered Activities will occur in the future, the BO will be programmatic for certain species or activities where effects cannot now be fully analyzed.

1.5.3 Natural Gas Act

The FERC, under the authority of the Natural Gas Act (NGA), has the mission to promote the development of safe reliable and efficient energy infrastructure that serves the public interest. As provided by the NGA (15 USC § 717 *et seq.*), FERC has the sole authority to grant Certificates of Public Convenience and Necessity (18 CFR 157), which allow for the construction and operation of INGT facilities. Many of the NiSource activities covered in this EIS and MSHCP are authorized through NiSource's Blanket Certificate authorizing construction, maintenance and operations, as permitted in Docket No. CP83-76-000. These types of projects are described further below, as well as FERCs planning and permitting processes, which are described in Appendix K of the MSHCP.

FERC provides three permitting tracks for natural gas pipeline projects. Very small projects are categorically excluded from reporting or filing at FERC. Examples of categorically excluded projects are constructing facilities within fenced pipe yards (e.g., dehydrators, gas cooling equipment, station buildings, etc.), painting and greasing valves and pig traps, and installing and painting pipeline right-of-way markers. FERC also offers a Blanket Automatic Authorization certificate. Under a blanket certificate issued pursuant to section 7(c) of the Natural Gas Act, a natural gas company may undertake a restricted array of routine activities without the need to obtain a case-specific certificate for each individual project. The blanket certificate program provides an administratively efficient means to enable a company to construct, modify, acquire, operate, and abandon a limited set of natural gas facilities, and offer a limited set of services, provided each activity complies with constraints on costs and environmental impacts set forth in FERC regulations. There are two types of blanket certificate projects: 1) Automatic and 2) Prior Public Notice.

Automatic projects are smaller scale blanket certificate projects where the company must notify potentially affected landowners of the planned project at least 45 days in advance, describing the planned project and how a landowner can contact the company. The notification must also include an explanation of the FERC's Enforcement Hotline procedures and the Enforcement Hotline phone number. The FERC and the public, other than the affected landowners, do not receive notification of planned projects that qualify under this type of blanket certificate authority. The project may proceed after the landowner notification requirement has been met.

All other blanket certificate projects are subject to Prior Public Notice, whereby a company, in addition to providing potentially affected landowners with advance notice, must also file a description of a planned project with the FERC. Notice of the planned project will be issued by the FERC and published in the Federal Register. Within 60 days of publication in the Federal Register, any person may participate by intervening or by protesting a planned project. Once the 60-day period expires, if no protest has been filed, the project may proceed. However, if a protest is filed by the public or by FERC staff, interested persons have 30 days to resolve the issues. If the issues are not resolved, and the protest is not withdrawn or dismissed, the planned project may not be authorized under the company's blanket certificate, but will instead be subject to Section 7 (c) for full review.

NiSource activities that would fall under the Blanket Certificate Authorization are minor piping changes or adjustments that do not enlarge the certificated design delivery capacity of the system, miscellaneous rearrangement of facilities due to highway construction, dam construction, etc. The FERC has done a NEPA analysis on potential impacts of activities certificated under its Blanket Certificate Program, and the results were a “finding of no significant impact” (FONSI).¹ If, in fact, NiSource would undertake to construct and operate a facility under its FERC blanket certificate that was something other than a FONSI, then that undertaking would not be permissible and NiSource would have to file a complete Section (7)c application with the FERC to seek authorization. Larger pipeline projects that exceed the established criteria for blanket certification require applicants to follow the FERC natural gas certificate process.

FERC oversees environmental matters related to INGT projects, including the evaluation of project impacts under NEPA (see FERC’s 1981 Blanket Certificate Program Environmental Assessment). During its project review, NiSource, as FERC’s non-federal representative, consults with the Service when projects have the potential to affect federally listed species. The Service does not authorize activities for placement or operation of those INGT facilities; rather, the Service provides direction related to conservation of listed species within a proposed project area. Projects that qualify for coverage under blanket certificates may not include construction in areas that include sensitive species or their habitats unless further review is completed. In the event that sensitive species (or habitats) occur within an area, NiSource would be required to file additional reports with FERC.

1.5.4 Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act of 1968 (PSA), as amended, 49 USC § Chapter 601, authorizes the U.S. Department of Transportation (USDOT), through the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), to regulate pipeline transportation of natural gas and other gases. The federal pipeline safety regulations promulgated under the PSA (1) assure safety in design, construction, inspection, testing, operation, and maintenance of pipeline facilities; and (2) set out parameters for

¹ As discussed elsewhere in this EIS, we adopt and incorporate FERC’s NEPA analysis for its blanket certificate program by reference.

administering the pipeline safety program (49 CFR parts 190-199). The regulations are written as minimum performance standards.

NiSource's activities must achieve compliance under the PSA and its associated regulations. When there is a federal permit involved under other legislation, the activities themselves are typically under the purview of other federal agencies (e.g., FERC, USACE Section 10 and/or 404 permit, USFS Special Use Permit, or NPS authorization).

1.5.5 USACE Regulatory Authorities

The USACE Regulatory mission is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions.

The USACE is authorized to issue permits to allow the discharges of dredged or fill material into waters of the U.S. pursuant to Section 404 of the Clean Water Act (CWA) (33 USC § 1344; 33 CFR 320-332). Other activities are regulated under other permit authorities of the USACE, including certain structures or work in or affecting navigable waters of the U.S. pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC § 403; 33 CFR 320-332). In all cases, the USACE must comply with NEPA, ESA, and other statutes as part of their regulatory review in the decision-making process. To the extent that impacts to the human environment are not fully analyzed in previous USACE permit decision documents, additional NEPA review may be necessary, and this EIS may be utilized to the extent it applies to threatened and endangered species or other resource concerns.

1.5.6 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), 16 USC § 703 *et seq.*, implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful as is taking of any parts, nests, or eggs of such birds.

FERC and the Service entered into a Memorandum of Understanding under Executive Order 13186 relative to migratory bird conservation on March 30, 2011. This MOU will enhance protection for birds over the long term for projects that fall under FERC jurisdiction. FERC has committed to evaluate environmental impacts for projects it authorizes with special

consideration for effects on migratory birds and an emphasis on birds that are species of special concern, priority habitats, and key risk factors. It is important to note that this consideration will be broader than simply looking at federally-listed birds under the ESA. For this EIS, we evaluate impacts to migratory birds in addition to listed bird species.

For those species that are listed as threatened or endangered under the ESA and also protected by the MBTA, an ITP can function as a Special Purpose Permit under the MBTA (50 CFR § 21.27). A Special Purpose Permit would be valid for three years from the effective date of the permit, provided that the ITP remains in effect for that period. The Special Purpose Permit is renewed provided that the permittee continues to fulfill its obligations under the MSHCP and Implementation Agreement (IA). Each renewal would be valid for the period allowed by 50 CFR § 21.27 or its successor at the time of renewal.

NiSource's MSHCP has analyzed the effects on one federally-listed migratory bird, the Interior least tern (*Sterna antillarum*), which is proposed as an MSHCP Species in the NiSource Covered Lands area. The MSHCP provides measures to avoid potential effects to the species, therefore, no take is anticipated or requested. Since the ITP would not authorize take of the Interior least tern, a Special Purpose Permit would not be required in this case. Should other federally-listed bird species be requested for inclusion in the future, the Service would evaluate whether the ITP would serve as a Special Purpose Permit for those species as part of the ITP amendment request.

1.5.7 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA), 16 USC § 668 *et seq.*, as amended, prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. Take is defined in the Act as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” In the context of the NiSource pipeline operations, anticipated take would come in the form of disturbance. FWS has defined the term “disturb” to mean “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior”. BGEPA Regulations (50 CFR 22) require that a

project proponent apply for a non-purposeful take permit in the event that a new activity near an eagle nest may disturb or otherwise cause the take of eagles.

This EIS includes a discussion of potential impacts associated with implementing the MSHCP as it relates to bald and golden eagle disturbance and/or protections.

1.5.8 The National Historic Preservation Act

The National Historic Preservation Act (NHPA) is a procedural statute that prescribes the steps an agency must follow before approving a permit or a license that might result in adverse effects to historic properties. The following summarizes the NHPA procedures applicable to NiSource's Covered Activities.

Section 106 of the NHPA, and its implementing regulations, apply when two thresholds are met: (1) there is an undertaking, and (2) such undertaking has the potential to affect properties listed or eligible for listing in the National Register of Historic Places.

The regulations implementing Section 106 impose a series of procedural requirements federal agencies must satisfy before approving a project. In part, these requirements include: (1) consideration of potential effects from the project to historic properties; (2) consultation with the relevant State Historic Preservation Officers (SHPOs); (3) consultation with any Indian tribes that attach religious and cultural significance to historic properties that may be affected by the project (including properties not located on tribal lands); (4) consultation with local governments; and, in some cases, (5) consultation directly with the federal Advisory Council on Historic Preservation (ACHP).

Each federal agency with licensing or permitting authority over some part of a project is individually responsible for compliance with Section 106. However, when multiple federal agencies are involved in an undertaking, some or all of the agencies may designate a lead federal agency to act on their behalf, fulfilling their collective Section 106 obligations. Similarly, when more than one state is involved in an undertaking, the relevant SHPOs may agree to designate a SHPO to take the lead and act on their behalf in the Section 106 process, including taking actions that would conclude such process.

Typically, the Section 106 review begins with the identification of the relevant SHPOs, potentially interested Indian tribes, state or local governments with jurisdiction over the Project, and/or other potentially interested parties. Then the agency's qualified experts or consultants make a reasonable and good-faith effort to identify historic properties that may be affected by the Project. This may involve a records review, a literature search, and/or a survey of the areas of potential effect (APEs) for direct and visual effects for the proposed Project. The agency must then determine whether any previously unlisted properties were subsequently listed or are eligible for listing on the National Register of Historic Places. In consultation with the SHPO, the agency will determine whether the proposed activity will adversely affect any qualified properties.

If the agency makes a determination for the Project of either "no historic properties affected" or "no adverse effect," and the relevant SHPO(s) concur(s), the Project may go forward. If the agency finds an adverse effect to one or more historic properties, the agency must consult further to avoid, minimize, or mitigate such adverse effect(s), and resolve the same by executing with the SHPO(s) a memorandum of agreement (MOA) specifying the measures required for such resolution. Failing agreement on an MOA, the agency must submit the matter to the ACHP for its comments, to which the head of the federal agency must respond in writing.

This consultation process is generally coordinated with the National Environmental Policy Act (NEPA) process and documented in the NEPA analysis. If the agency notifies the ACHP and complies with certain procedures, it may use the NEPA process and documentation to comply with Section 106 in lieu of the procedures in the ACHP's rules. A project sponsor (like NiSource) requiring a certificate from the Federal Energy Regulatory Commission (FERC) under Section 7 of the Natural Gas Act (NGA) is required to follow the procedures in the applicable FERC regulations and guidelines to assist the FERC in complying with Section 106. Projects constructed under the Natural Gas Policy Act (NGPA) or the NGA blanket certificate program must also meet requirements of the NHPA and comply with the applicable FERC regulations. Therefore, a project sponsor's construction and operation and maintenance activities must be in compliance with the NHPA to be authorized.

Under FERC's regulations, project sponsors assist the FERC in meeting its NHPA obligations. For NGA Section 7 projects, the project sponsor must submit a cultural resources report with its

application for a certificate. The resource report must contain the following information: (1) documentation of the applicant's initial cultural resources consultation, including consultations with Native Americans and other interested persons (if appropriate); (2) overview and survey reports, as appropriate, which describe information gathered and surveys done to identify the cultural resources that may be affected by the project; (3) an evaluation report, as appropriate, which assesses site eligibility and project impacts; (4) a treatment plan, as appropriate, which provides a proposal for the mitigation of effects upon any historic property that a project would affect; and (5) written comments from the SHPO(s) and applicable land-managing agencies.

FERC prefers that projects avoid historic properties, wherever possible. However, if avoidance is not possible and the project would affect historic properties, the project sponsor must prepare a treatment plan to mitigate effects. The treatment plan can include data recovery, documentation, restoration, or other measures. The project sponsor then must implement the treatment plan after FERC has consulted with all appropriate parties, executed a Memorandum of Agreement, if applicable, and has issued written notification to proceed. NiSource must present the results of any treatment in a management summary and/or a treatment report.

For activities conducted under FERC blanket certificates, the FERC regulations require that the activity to be authorized under such blanket certificate comply with the NHPA. To that end, the certificate holder must (1) check the National Register of Historic Places and consult with the SHPO to identify all listed properties within the area of the project's potential environmental impact; (2) consult with the SHPO – and, to the extent deemed appropriate by the SHPO, check public records and consult with other individuals and organizations with historical and cultural expertise – to determine whether unlisted properties that satisfy the National Register Criteria for Evaluation are known or likely to occur within the area of the project's potential environmental impact; and (3) consult with the SHPO to determine the need for surveys to identify unknown unlisted properties. The certificate holder must evaluate the eligibility of any known unlisted properties located within the area of the project's potential environmental impact according to the National Register Criteria for Evaluation.

If the SHPO deems that cultural resource surveys are required, the certificate holder must complete such surveys and submit the results to the SHPO. The certificate holder will be

deemed to be in compliance with FERC's regulation requiring NHPA compliance when one of the following conditions is satisfied:

- (1) if the SHPO agrees with the certificate holder that no survey is required, and that no listed properties or unlisted properties that satisfy the National Register Criteria for Evaluation occur in the area of the project's potential environmental impact;
- (2) if, upon conclusion of the surveys, the certificate holder and the SHPO agree that no listed properties, and no unlisted properties which satisfy the National Register Criteria for Evaluation, occur in the area of the project's potential environmental impact;
- (3) if the certificate holder and the SHPO, or Tribal Historic Preservation Officer (THPO), as appropriate, agree that the project will not affect the historical, architectural, archeological, or cultural characteristics of a property that qualified such property to meet National Register Criteria for Evaluation; or
- (4) if the certificate holder relocates the project to a site where no such properties occur, if either the certificate holder or the SHPO finds that the project may affect a listed property or an unlisted property which satisfies the National Register Criteria for Evaluation, located within the area of the project's potential environmental impact.

If the certificate holder and the SHPO, as appropriate, are unable to agree upon the need for a survey, the adequacy of a survey, or the results of application of the National Register Criteria for Evaluation to an unlisted property, the project cannot proceed under the blanket certificate.

Operation and maintenance activities that occur on ancillary facilities associated with FERC jurisdictional facilities, but that are not under FERC's jurisdiction, usually do not involve surface disturbance. However, for those operation and maintenance activities that could result in minor ground disturbance (e.g., cathodic protection ground-bed installation), NiSource personnel follow the FERC's Plan for Unanticipated Historic Properties and Human Remains to minimize potential impacts to cultural resources.

The Nationwide Permit (NWP) program administered by the USACE includes a general condition requiring compliance with the NHPA for all NWPs. The NWP general condition states: "In cases where the district engineer determines that the activity may affect properties listed, or

eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the [NHPA] have been satisfied.” If the proposed activity may have the potential to cause effects to historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties, a non-federal permittee must submit a pre-construction notification (PCN) to the district engineer. The USACE will proceed to process the PCN in accordance with General Condition 31 of the 2012 Nationwide Permits regulation (77 FR 10184) and subsequent reissuances of the Nationwide Permit Program. Compliance with NHPA for standard individual permit reviews is outlined in Appendix C to 33 CFR Part 325 and applicable agency guidance.

When a project requires both a certificate from FERC and a permit from the USACE, FERC is the lead agency for NHPA compliance.

1.5.9 Relationship to Other Plans and Regulations

In addition to the regulatory requirements discussed above, NiSource’s INGT activities are also subject to various other federal, state, local, and private regulatory or easement-related requirements. The EIS and subsequent issuance of the ITP would not conflict with or supersede those requirements. In fact, NiSource must be in compliance with other applicable laws for an ITP to be valid. All requirements beyond the direct scope of this EIS and the associated permit action are separate and solely the responsibility of NiSource to ensure compliance.

NiSource’s facilities cross lands administered by the USFS, USACE, Service, and NPS. In those instances, depending on the scope or nature of NiSource’s activities, those activities may require independent agency authorization. These approvals are sometimes referred to as “Special Use Permits.” Issuance of permits or authorizations for NiSource actions represent “federal actions” and are subject to both NEPA and ESA compliance.

Specific to the USFS, the National Forest Management Act (NFMA) reorganized, expanded and otherwise amended the Forest and Rangeland Renewable Resources Planning Act of 1974, which called for the management of renewable resources on national forest lands. The NFMA requires the Secretary of Agriculture to assess forest lands, develop a management program

based on multiple-use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System (NFS). It is the primary statute governing the administration of national forests.

The Act requires the Secretary of Agriculture to specify guidelines for developing management plans (also known as Forest Plans) that ensure consideration of both economic and environmental factors, provide for wildlife and fish and recreation, provide for diversity of plant and animal communities, ensure timber harvesting will occur only where water quality and fish habitat are adequately protected from serious detriment, ensure timber harvesting will be done where it may be done in a manner consistent with the protection of soil, watersheds, fish, wildlife, recreation, aesthetic resources, and regeneration of timber resources. The Forest Plans must be updated when significant new information or conditions are identified or at least once every 15 years.

In the event that NiSource must implement one or more of the Covered Activities on NFS lands, the USFS, through its special use permitting process, would assess whether the activities are allowed by that unit's Forest Plan, and then conducts project-specific NEPA analysis to identify and evaluate effects to various resources. As part of the site-specific analysis, a Biological Evaluation is conducted (Forest Service Manual 2670.31) to determine the potential for effect on T&E species, species proposed for listing, and Regional Forester Sensitive Species. Normally the USFS has consulted with the Service for their Forest Plan through a programmatic BO and initiates consultation or conference with the Service (through a tiered consultation) when the USFS determines that proposed activities may have an effect on T&E species; are likely to jeopardize the continued existence of a proposed species; or result in the destruction or adverse modification of critical or proposed critical habitat.

In addition to permits, the USACE may, under Army Regulation 405-80 (Management of Title and Granting Use of Real Property), require real estate instruments (including modifications to existing instruments, if any, or new temporary construction easements) wherever the NiSource Covered Lands area crosses government fee property and flowage easements (i.e., Cumberland River, Old Hickory Lake, Tennessee). Real estate management activities may include third-party use of Army and Civil Works property including use under instruments such as leases, easements, licenses or permits. USACE Engineer Regulation 405-1-12, The Real

Estate Handbook, (USACE 1985) requires compliance with NEPA and other environmental laws prior to the issuance of any real estate instrument. The USACE will evaluate NEPA requirements for future transactions and their effects to endangered species, to determine whether this EIS satisfies the endangered species aspects of permitting and land management regulations and thus may be tiered from for these purposes.

National Wildlife Refuge System (NWRS) lands managed by the Service are generally closed to public use unless expressly authorized and opened by Service. Under the National Wildlife Refuge System Improvement Act, and its implementing regulations, a refuge may be opened for use as a right-of-way provided certain criteria are satisfied (50 CFR Part 25 and Part 29, subpart B). Authorization is also required to knowingly disturb, injure, cut, burn, remove, destroy, or possess real or personal property of the U.S., including natural growth; take or possess any fish, bird, mammal, wild vertebrate or invertebrate animal, or part, nest or egg; enter, use, or occupy a System area. Additional findings may be required in determining whether proposed or existing uses of National Wildlife Refuges are appropriate or compatible with their establishing purposes and the mission of the NWRS. All recreational activities and economic or other uses of a Refuge by the public or other non-Service entity require compatibility determinations, which must include an analysis of all facilities, structures, and improvements associated with the uses. Economic uses must also contribute to achieving refuge purposes and the mission of the NWRS. Activities authorized under a Special Use Permit on NWRS lands are subject to review under NEPA and Section 7 of the ESA, in accordance with the regulations and policy.

Lands under NPS management are managed individually under the enabling legislation establishing that particular property. As presented in the U.S. Department of the Interior's (USDOI) NPS Management Policies (NPS 2006a), "A right-of-way is a special park use allowing a utility to pass over, under, or through NPS property. It may be issued only pursuant to specific statutory authority, and generally only if there is no practicable alternative to such use of NPS lands." Before a written application is submitted to the NPS, potential applicants for a right-of-way permit should meet with the NPS to discuss the proposed project. Once an application for a right-of-way is submitted, a compliance analysis must be conducted according to NEPA, NHPA, and other statutory compliance requirements as appropriate. As such, when and if NiSource applies for permission to cross Park property, the NPS will determine appropriate NEPA and effects to ESA species and to the extent NPS believes this EIS addresses the effects

to those species may tier from it. NiSource covered activities would have to comply with all authorized uses as determined by each individual NPS property crossed by the NiSource Covered Lands area. NPS regulations pertaining to the issuance of rights-of-way are found in 36 CFR Part 14 and NPS Reference Manual 53: Special Park Uses.”

1.6 Decisions and Related Actions

1.6.1 U.S. Fish & Wildlife Service

The decision to be made by the Service is whether to issue NiSource an ITP. Section 10(a)(2)(B) of the ESA and the implementing regulations found in 50 CFR Part 17 require that specific criteria be met for the permit to be issued. The determination as to whether and how the criteria have been achieved will be described in the Service’s decision documents.

1.6.1.1 ITP Application and HCP Submission Criteria

An Applicant must prepare and submit to the Service for approval an HCP containing the mandatory elements of Section 10(a)(2)(A) and 50 CFR 17.22(b)(1)/17.32(b)(1) before an ITP can be issued. As such, the HCP must specify the following:

- The impact that will likely result from the taking;
- What steps the applicant will take to monitor, minimize, and mitigate such impacts; the funding available to implement such steps; and the procedures to be used to deal with unforeseen circumstances;
- What alternative actions to such taking the applicant considered and the reasons why such alternatives are not proposed to be used; and
- Other measures that the Service may require as being necessary or appropriate for the purposes of the plan.

1.6.1.2 Incidental Take Permit Issuance Criteria

The issuance criteria for an ITP are contained in Section 10(a)(2)(B) of the ESA and the implementing regulations for the ESA (50 CFR 17.22(b)(2)/17.32(b)(2)). These issuance criteria are listed below:

- All taking of federally-listed fish and wildlife species must be incidental to otherwise lawful activities;
- 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 HCP and procedures to deal with changed circumstances, including adequate funding to address such changes will be provided;
- The taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- The applicant will ensure that other measures that the Service may require as being necessary or appropriate will be provided; and
- The Service has received such other assurances as may be required that the HCP will be implemented.

Further, the Service's regulations require that "the Director also consider the anticipated duration and 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 CFR 17.22(b)(2)(ii))

NiSource has worked with the Service to develop an MSHCP that covers a wide array of natural gas pipeline activities over a broad geographic region, provides numerous avoidance and minimization measures (AMMs) for the Take and MSHCP Species, and identifies mitigation for species for which take is likely to occur.

As detailed in Section 1.5.2, issuance of a Section 10 permit involves a federal authorization that has been evaluated under Section 7 of the ESA. In this case, the Service conducted a Section 7 consultation that is both intra- and inter-agency in nature. The results of this multiple-agency consultation will be documented in a BO, which is incorporated to this EIS by reference.

1.6.2 Compliance with the National Environmental Policy Act

As detailed in earlier sections, issuance of an ITP is a federal action subject to NEPA compliance. An EIS is required when a major federal action has the potential to significantly affect the quality of the human environment, though an agency may produce an EIS at its discretion even in cases where significant effects are not likely to occur. The Service determined that the issuance of an ITP to NiSource would require preparation of an EIS. This NEPA EIS process culminates in a ROD, which documents the Service's decision on the Proposed Action.

1.6.3 Federal Energy Regulatory Commission

For projects under FERC's authority pursuant to the NGA, the analysis contained in this EIS may provide valuable information to the FERC when it conducts project-specific environmental reviews on NiSource Covered Activities within the Covered Lands. As a cooperating agency, FERC is providing expertise as it relates to projects under FERC's jurisdiction pursuant to the NGA. When future site-specific reviews are conducted, FERC will determine the extent to which NiSource's compliance with an ITP satisfies the Commission's NEPA requirements and Section 7 responsibilities. FERC would consider the project impacts in light of the AMMs and other terms of the ITP/MSHCP that would be part of the site-specific project at that time. This provides FERC with a mechanism to streamline project review and expedite the ESA consultation process.

FERC has promulgated regulations that NiSource must follow during its process of providing natural gas via its interstate pipeline. There are three processes that NiSource uses to obtain FERC approval and assure compliance. Selection of the process to follow depends on the size of the activity (defined in economic terms) and the on-the-ground impact. A summary of the three processes is presented below.

1.6.3.1 Blanket Certificate Program

The regulations (18 CFR 157.203) provide specific criteria that are applicable to the blanket certificate program. Within this program, it is the company's responsibility to assure that the projects that go forward fully comply with all provisions. These include limits for the impacts and procedures for assuring that projects comply with the Endangered Species Act, Clean Water Act, Historic Preservation Act, and other Federal laws. As NiSource plans its future activities, it will continue to assure compliance for those activities that fit under this Program. However, in the case of the Endangered Species Act, NiSource has additional authority with the ITP and associated documents in place and NiSource may proceed with activities under the Blanket Certificate Program, as discussed below, provided the proposed project is within the MSHCP covered lands and falls within the scope of the ITP and B.O.

Prior to the issuance of the ITP, NiSource was limited under the blanket certificate program to activities that could be concluded through the informal Section 7 ESA process (acting as the non-Federal representative for FERC). With informal Section 7 ESA consultation, the impacts to species must be limited to activities that result in a determination of "not likely to adversely affect." Prior to obtaining the ITP, NiSource would need to enlist FERC in the initiation of formal consultation for any activities that might result in take of threatened or endangered species. With the ITP in place, the authorization to take certain species while conducting otherwise lawful activities exists; therefore, NiSource will be able to proceed with those activities under the programmatic blanket certificate program provided they comply with the ITP and MSHCP as well as all other criteria applicable to the programmatic blanket certificate program.

There is not a separate NEPA review conducted for a project that meets the criteria for the blanket certificate program pursuant to 18 CFR 157.208. However, each project is reviewed for compliance with certain environmental conditions set forth in 18 CFR 157,206(b). When FERC promulgated regulations for the program, an Environmental Assessment was prepared and a FONSI was issued. The EA describes the general nature of impacts resulting from activities that fall under the blanket certificate program. Some examples of activities include limited pipeline replacement, installation of minor above-ground facilities occurring on the existing right-of-way, and work on a compressor station that does not increase capacity by more than 0.5%. The EA concludes that provided the impacts do not exceed those contemplated at the inception

of the blanket certificate program (via the EA and regulations, as updated), no new NEPA document is prepared before implementing a qualifying activity. NiSource then follows the FERC process for reporting activities conducted under the blanket certificate on an annual basis. It bears repeating that the difference here is that certain activities that could previously be conducted only with formal ESA Section 7 consultation will have that process completed for certain species and the activities may proceed without additional review by the Service, provided all other blanket certificate criteria are met and activities only involve those species and activities covered by the MSHCP, ITP or the biological opinion that covers the issuance of the ITP and its implementation. Further discussion of the implementation requirements pursuant to the biological opinion is found in the B.O. itself, which is appended to this FEIS and incorporated by reference (Appendix G). In addition, a summary of the steps required is provided at the end of this section.

1.6.3.2 Prior Notification

For activities that exceed thresholds set for the blanket certificate program, the next level of review is referred to as “prior notification”, which is outlined in 18 CFR 157.208(b). The process for the prior notification includes (1) the applicant filing an application for the project, which is given a docket number; and (2) FERC will prepare a Notice of Application allowing a time period for intervention and protest. FERC environmental staff will prepare a short environmental review document (normally an Environmental Assessment) that assesses compliance with relevant environmental regulations (18 CFR 157.206(b)) environmental issues on a site-specific basis, which is published and placed in FERC’s eLibrary for public review. If the findings are not contested by FERC, another agency, or member of the public, the project is approved to be implemented under this regulation after a 60 day period. In the event the project is contested and the issues are not resolved, and the protest is not withdrawn or dismissed, the planned project may not be authorized under the company’s blanket certificate, but may be reviewed as a 7(c) filing, in which a NEPA document would be prepared.

1.6.3.3 NGA 7c Process

When a project cannot be completed under the programmatic blanket certificate program or prior notification process, then NiSource’s proposed project will be reviewed in the 7c Process

under the Natural Gas Act. For projects to proceed, there are a number of administrative steps that an action agency (or NiSource, when serving as the representative) must take. NiSource will be responsible for coordinating between the agencies to assure that proper process is followed. When NiSource submits an application to FERC it must also file for all other Federal authorizations (e.g., USACE permit application), which initiates a certain timeframe and sequence of events between the agencies and FERC. NiSource will be responsible to assure that the involved agencies have all of the documentation needed to adequately review the request and issue its authorization or permit in full coordination with FERC and in accordance with established timeframes. The preconstruction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work, located in the vicinity of the proposed activity, or utilize the designated critical habitat as well as any other information required for 7 c filing. As a result of formal or informal consultation with the Service, the FERC may add species-specific regional endangered species conditions to its authorization.

The following steps would guide how NiSource's projects would be evaluated by FERC to comply with Endangered Species Act for Covered Activities under the MSHCP. However, no further consultation with the Service would be required for the MSHCP species provided the proposal meets all the criteria outlined in the ROD and BO issued by the Service:

Prior to undertaking any covered activity, NiSource will provide project specific information:

- Identify whether species are present in the project area and what listed, proposed, and candidate species (MSHCP and non-MSHCP) or designated or proposed critical habitats may be in the action area;
- Identify species specific avoidance, minimization and mitigation measures that have been approved by the Service as part of MSHCP and BO.
- Identify species that are outside the MSHCP and BO;
- NiSource will identify any applicable reasonable and prudent measures and terms and conditions from the biological opinion for the MSHCP that would be implemented during project construction, restoration and operation.

- NiSource will make a determination if the Covered Activity would affect any non-MSHCP species or designated critical habitat.
- When the Service's IPaC system is available, NiSource will use this internet-based tool to specify a project location and activity, and receive resource information about the project site. IPaC will provide data on the biological resources within the project location (i.e., the MSHCP species as well as other species not addressed in the MSHCP) and the AMMs and environmental construction standards to implement in the project area.
- If IPaC is not available, NiSource will continue its current tracking, monitoring, and reporting methods until such time as the IPaC system (or something similar) is functional.
- To expedite ESA section 7 consultation process for all MSHCP species (including species that are likely to be adversely affected) no additional consultation would be necessary provided NiSource provides adequate documentation that the activity is conducted with all appropriate AMMs and is in accord with MSHCP and BO requirements as identified the ROD issued by the Service.
- For all non-MSHCP species, a tiered approach to consultation would be required, per the instructions in the BO, MSHCP and the supplemental EA. Therefore, additional consultation may be necessary. *Level 1 Consultation:* No additional consultation would be necessary if the FERC determines that there will be no effect on the species. *Level 2 Consultation:* Projects that may affect, but are not likely to adversely affect non-MSHCP species or designated critical habitat require written concurrence from the Service as part of informal consultation. *Level 3 Consultation:* Projects that would adversely affect a species or its habitat require that NiSource provide survey information and documentation of initial consultation with the Service.

Based on the above information FERC would review to ensure if the proposal contains all AMMs outlined in the Service's ROD and BO for MSHCP species and Non-MSHCP species, and make a determination if section 7(c) ESA consultation is necessary in compliance with ESA. The FERC typically requests Service's concurrence on its biological assessment and effects determinations before authorizing construction, however, no further consultation with the Service would be required for the MSHCP species if the proposal met all criteria outlined in the

ROD and the BO. For the Non-MSHCP species, a tiered consultation would be required, per the instructions in the BO and the supplemental EA.

1.6.4 U.S. Army Corps of Engineers

For projects under the authority of the USACE, the analysis contained in this EIS will provide information for future site-specific project review and USACE permitting. The USACE will conduct site-specific analyses when NiSource proposes projects within the MSHCP Covered Lands footprint involving activities that fall under USACE jurisdiction. As a cooperating agency, the USACE will utilize the EIS analysis and the Service's BO to expedite its compliance with the ESA on future NiSource project reviews. USACE reviews would consider the site-specific action in light of the AMMs and other MSHCP terms that are in effect for the project area.

As previously discussed in this Chapter, the USACE is authorized to issue permits for discharges of dredged or fill material into waters of the U.S. pursuant to Section 404 of the Clean Water Act (CWA) (33 USC § 1344; 33 CFR 320-332). Other activities are also regulated under other permit authorities of the USACE, including permitting (or authorizing) the placement of certain structures or work in or affecting navigable waters of the U.S. pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC § 403; 33 CFR 320-332).

Many of NiSource's activities under the MSHCP require permits from the USACE, particularly those activities impacting streams and wetlands. New Jersey has been delegated Section 404 authority under the CWA, thus permits must be obtained from the NJ Department of Environmental Protection (NJDEP). No other states within the NiSource covered lands have been delegated Section 404 authority. In general there are two types of USACE permits: individual permits, including standard permits and letters of permission, and general permits, including Nationwide permits, regional general permits and programmatic general permits. The following includes descriptions of the various permit authorizations, including the methods by which NiSource and the USACE will ensure compliance with the MSHCP, ITP, and Section 7 consultation documentation (i.e., BO and no effect and not likely to adversely affect concurrence letters).

1.6.4.1 Individual Permits

Individual permits may be issued for activities that result in more than minimal adverse effect on the aquatic environment and do not otherwise qualify for a general permit. Letters of Permission are issued for minor, non-controversial projects through an abbreviated processing procedure which includes coordination with federal and state resource agencies, and a public interest evaluation, but without the publishing of an individual public notice. Activities that do not qualify for authorization under Letters of Permission may qualify for authorization by Standard Permit. Standard permits require a public notice with a 15 to 30-day comment period. The USACE considers comments received, completes a public interest review and 404(b)(1) Guidelines analysis as appropriate, and makes a decision to issue, issue with conditions, or deny. Permit decisions are based on probable impacts, including cumulative impacts, of the proposed activity on the public interest (33 CFR 320.4). A permit is granted if the proposed project is not contrary to the public interest and meets other legal requirements.

1.6.4.2 General Permits

General permits are issued nationwide or regionally for a category or categories of activities that are similar in nature and cause only minimal individual and cumulative adverse effects on the aquatic environment. General permits are issued for a period of five years and include terms and conditions that may require preconstruction notification to the USACE. Preconstruction notification to the USACE may be required under a number of circumstances including if threatened or endangered species or its critical habitat might be affected by the activity or is in the vicinity of the project. The applicant may not begin the activity until notified by the USACE that the activity meets the terms and conditions of the permit, including the requirements of the Endangered Species Act and any other applicable statutes. There are currently 50 Nationwide Permits (published on February 19, 2012 and expire on March 18, 2017) with 31 general conditions. Regional permits vary by location within the MSHCP Covered Lands.

1.6.4.3 Guidelines for USACE Permits for Covered Activities under the MSHCP

Application requirements vary by permit type. Individual Permit applications are reviewed on a case-by-case basis by the USACE for potential effects to threatened or endangered species.

Permit applicants should provide information to the USACE that addresses whether the proposed project may affect federally listed endangered or threatened species or critical habitat. For authorization under nationwide, regional, or programmatic general permits, prospective permittees must submit a pre-construction notification to the USACE (even if pre-construction notification is not otherwise required) if any listed species or designated critical habitat might be affected or is in the vicinity of the project. The preconstruction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat, as well as any other information required by the general permit. As a result of formal or informal consultation with the Service, the USACE may add species-specific regional endangered species conditions to general permit verifications or individual permits. Under all permit types and authorization, permittees may not begin work until notified by the USACE that the requirements of the Endangered Species Act (and any other applicable statutes) have been satisfied and the activity is authorized.

The following procedures will guide how NiSource addresses ESA issues as part of applying for USACE individual permits or providing preconstruction notification for general permits:

- NiSource's Natural Resource Permitting Group (NRP) will gather further site-specific information related to the covered activity's potential impacts on listed species and identify appropriate AMMs. NiSource will also include any reasonable and prudent measures and terms and conditions from the BO for the MSHCP. NiSource will also determine if the activity may affect a non-MSHCP listed species or designated critical habitat, in which case programmatic consultation may be required.
 - If the Service's IPaC system is available, NiSource will use this internet-based tool to specify a project location and activity, and receive resource information about the project site. IPaC will provide data on the biological resources within the project location (i.e., the MSHCP species as well as other species not addressed in the MSHCP) and the AMMs and environmental construction standards to implement in the project area.

- If IPaC is not available, NiSource will continue its current tracking, monitoring, and reporting methods until such time as the IPaC system (or something similar) is functional.
- NiSource will prepare and submit an application package or preconstruction notification documenting all of the information noted above to the USACE to address ESA issues that may occur as a result of their proposed activities in waters of the U.S. . The application package will include their recommended determination of effect for each species and any critical habitat with reference to whether the activity is covered under the Service's BO and not likely to adversely affect concurrence letters.
- The USACE will review the information packet provided by NiSource and determine if they concur with NiSource's recommended effect determinations for listed species or critical habitat. For all MSHCP species (including species that are likely to be adversely affected), no additional consultation with the Service is necessary if USACE determines NiSource has provided adequate documentation that the activity is conducted with all appropriate AMMs and is therefore in compliance with the ESA.
- For all non-MSHCP species, additional consultation may be necessary. No additional consultation is needed if the USACE determines that there will be no effect to the species. Projects that may affect, but are not likely to adversely affect non-MSHCP species or designated critical habitat require written concurrence from the Service through informal Level 2 consultation. Upon making such a determination, the USACE will contact the local Service field office to initiate Level 2 of the programmatic consultation for the MSHCP.

1.6.5 U.S. Forest Service

It is the Service's and the USFS intent that NiSource's receipt of an ITP, its compliance with the MSHCP, and the associated Biological Opinion for the ITP, will satisfy USFS's statutory and regulatory obligations under ESA Section 7 for all future Covered Activities authorized by the USFS on national forest lands within the NiSource Covered Lands. No additional consultation with the Service or further avoidance, minimization, and/or mitigation measures for Covered Species will be required.

The USFS will conduct site-specific analysis as projects within the Covered Lands footprint are proposed on national forest lands. It will be able to consider and incorporate relevant portions of this EIS as it conducts its own regulatory and NEPA reviews. And it will be able to rely on the MSHCP and BO to determine which AMMs or other conditions apply when authorizing those projects. The intent of the Service and the USFS is to provide a mechanism to streamline the project review and concurrence process.

1.6.5.1 Existing Special Use Permit – not Expired

NiSource, through its operating companies, is in receipt of special use permits for operation and maintenance of its existing transmission lines and facilities from specific National Forests in Regions 8 and 9. These active operations and maintenance activities have been permitted after completion of a NEPA analysis (per Forest Service Handbook (FSH) 1909.15). These special use permits are typically authorized for 20-30 years before they need to be renewed. Permit monitoring occurs according to requirements outlined in the permit and project file.

Per direction in FSH 1909.15(18) and (18.1), decision makers must be alert for new information and changed circumstances that might affect decisions for ongoing projects, such as these special use permits, to determine if the projects' environmental analysis and documentation must be corrected, supplemented, or revised.

The responsible official would review the information in the ROD and its associated BO to determine its importance relative to the original decision and permit. Consideration would be given to whether or not the new information or changed circumstances are within the scope and range of effects considered in the original analysis.

The interdisciplinary review would be documented in the special use permit file. This documentation is often referred to as a Supplemental Information Report (SIR) and would conclude with the responsible official's determination of whether or not a correction, supplement, or revision of the original NEPA decision is needed, and if not, the reasons why.

If, after an interdisciplinary review and consideration of new information within the context of the special use permit, the responsible official determines that a correction, supplement, or revision

to an environmental document is not necessary, implementation of the special use permit would continue.

A SIR is not a NEPA document and therefore is not used to fulfill the requirements for a revised or supplemental EA or EIS. A SIR will not repair deficiencies in the original environmental analysis or documentation, nor will it change a decision. If the responsible official determines that a correction, supplement, or revision to an existing environmental document is necessary, he/she will follow the relevant direction in FSH 1909.15(18.2 - 18.4).

1.6.5.2 NiSource Proposal to Renew a Special Use Permit

Special use permits are authorized for a specific period of time. Upon a permit's expiration, the permittee may approach the Forest Service to renew the permit. In such a case, the responsible official would review the proposal to ensure it contains all avoidance and minimization measures outlined in the ROD and BO for MSHCP species and non-MSHCP species.

Once the proposal is accepted, the responsible official would follow FSH 1909.15 to analyze and document the environmental consequences of the proposed action. Once the appropriate analysis and public involvement is concluded, the responsible official would make their decision on the proposal to renew the project.

As with any project under review, the effects to federally listed species present in or near the affected area on the National Forest would be considered. However, consultation with the FWS would be streamlined, following separate procedures based on whether the federally listed species are addressed in the MSHCP (MSHCP species) or not (non-MSHCP species). The Forest Service typically requests FWS concurrence of their biological assessment findings and determinations before the responsible official makes their decision; however no further consultation with the FWS would be required for the MSHCP species if the proposal met all criteria outlined in the ROD and BO². For the non-MSHCP species, a tiered consultation would be required, per the instructions in the BO.

² The responsible official would document this compliance in the project record.

If the responsible official proposes to select a project alternative that varies from the criteria listed in the ROD and BO, then additional consultation with FWS would be required. Examples of when this may occur are (1) an AMM in the ROD or BO cannot be used because it would adversely affect a resource, and (2) a Forest Plan Standard or Guideline offers more protection to a species or resource than an AMM.

1.6.5.3 NiSource Project Proposal Requiring a New Special Use Permit

Once the proposal is accepted, the responsible official would follow FSH 1909.15 to analyze and document the environmental consequences of the proposed action. Once the appropriate analysis and public involvement is concluded, the responsible official would make their decision on the proposal to renew the project.

As with any project under review, the effects to federally listed species present in or near the affected area on the National Forest would be considered. However, consultation with the FWS would be streamlined, following separate procedures based on whether the federally listed species are addressed in the MSHCP (MSHCP species) or not (non-MSHCP species). The Forest Service typically requests FWS concurrence of their biological assessment findings and determinations before the responsible official makes their decision; however no further consultation with the FWS would be required for the MSHCP species if the proposal met all criteria outlined in the ROD and BO³. For the non-MSHCP species, a tiered consultation would be required, per the instructions in the BO.

If the responsible official proposes to select a project alternative that varies from the criteria listed in the ROD and BO, then additional consultation with FWS would be required. Examples of when this may occur are (1) an AMM in the ROD or BO cannot be used because it would adversely affect a resource, and (2) a Forest Plan Standard or Guideline offers more protection to a species or resource than an AMM.

³ The responsible official would document this compliance in the project record.

1.6.6 National Park Service

It is the Service's and the NPS's intent that NiSource's receipt of an ITP, its compliance with the MSHCP, and the associated biological opinion for the ITP, will satisfy NPS's statutory and regulatory obligations under ESA Section 7 for all future covered activities authorized by the NPS on national park service lands within the NiSource Covered Land. No additional consultation with the Service or further avoidance, minimization, and/or mitigation measures for Covered Species will be required.

The NPS will conduct site-specific analysis as projects within the Covered Lands footprint are proposed on NPS lands. It will be able to consider and incorporate relevant portions of this EIS as it conducts its own regulatory and NEPA reviews. And it will be able to rely on the MSHCP and BO to determine which AMMs or other conditions apply when authorizing those projects. The intent of the Service and the NPS is to provide a mechanism to streamline the project review and concurrence process.

Lands under National Park Service (NPS) management are managed individually under the enabling legislation established for that particular property. As presented in the U.S. Department of the Interior's (USDI) NPS Management Policies (NPS 2006a), "A right-of-way is a special park use allowing a utility to pass over, under, or through NPS property. It may be issued only pursuant to specific statutory authority, and generally only if there is no practicable alternative to such use of NPS lands." Before a written application is submitted to the NPS, potential applicants for a right-of-way permit should meet with the NPS to discuss the proposed project. Once an application for a right-of-way is submitted, a compliance analysis must be conducted according to NEPA, NHPA, and other statutory compliance requirements as appropriate. As such, NiSource covered activities will have to comply with all authorized uses as determined by each individual NPS property crossed by the NCL area. NPS regulations pertaining to the issuance of rights-of-way are found in 36 CFR Part 14 and NPS Reference Manual 53: Special Park Uses.

1.6.7 National Wildlife Refuge System

It is the Service's intent that NiSource's receipt of an ITP, its compliance with the MSHCP, and the associated Biological Opinion for the ITP, will satisfy the Service's statutory and regulatory

obligations under ESA Section 7 for all future covered activities authorized by the Service on Service land within the Covered Land. No additional consultation with the Service or further avoidance, minimization, and/or mitigation measures for Covered Species will be required.

The Service will conduct site-specific analysis as projects within the Covered Lands footprint are proposed on Service lands. It will be able to consider and incorporate relevant portions of this EIS as it conducts its own regulatory and NEPA reviews. And it will be able to rely on the MSHCP and BO to determine which AMMs or other conditions apply when authorizing those projects. The intent of the Service is to provide a mechanism to streamline the project review and concurrence process.

1.7 Public/Stakeholder Participation

Scoping is a crucial step in the early planning stage of an environmental document. The objectives of scoping are to identify significant issues and to translate these into the purpose for the action, the needs for the action, the action or actions to be taken, alternatives to be considered in detail, alternatives not to be considered in detail, and impacts to be addressed. Scoping is used to design an EIS, and if effective, should reduce paperwork, delays, and costs; and improve the effectiveness of the NEPA process. Scoping is a public participation process that begins with the publication in the Federal Register of the Notice of Intent (NOI) to prepare an EIS (FR, Vol. 72, No. 196, pp. 57953 – 57956).

1.7.1 NEPA Public Outreach

1.7.1.1 EIS Notice of Intent (NOI)

On October 11, 2007, the Service published an NOI in the Federal Register to solicit participation of responsible federal, state, and local agencies, Tribes, and the public in determining the scope of this EIS. Publication and distribution of the NOI initiated the process of public scoping for this EIS. Copies of the NOI can be found in **Appendix A**.

1.7.1.2 EIS Scoping

As noted, scoping refers to the process used to determine the focus and content of an EIS. Scoping solicits input and comments from the public and stakeholders on the potential topics to

be addressed in an EIS, the range of project alternatives, and possible mitigation measures. Scoping is also helpful in establishing methods of assessment and in selecting the environmental effects to be considered in detail. The Service consulted with state and federal agencies, and Tribes. Tools used in scoping this EIS included informal stakeholder and agency consultations, numerous public scoping meetings, and publication of the NOI.

The scoping period began with publication of the NOI, and extended to December 8, 2007. On October 18, 2007, a public scoping/*Dear Interested Party* letter was sent to over 1,300 known interested parties including agencies, organizations, and the public. In addition, the public scoping letter was sent to federally recognized Native American Tribes in each of Louisiana, Maine, Massachusetts, Mississippi, and New York. The letter provided information on the project and the EIS, and included the dates of the 13 scoping meetings with the times and locations of the scoping meetings provided on a separate enclosed "*Venues for Open Houses*" document. Notification was given that written comments would be received until December 8, 2007, through either U.S. Postal Mail, facsimile or the Service website.

For those people requiring further information, the names, e-mail addresses, and telephone numbers of two key Service representatives, along with a 1-800 number, were also provided.

Thirteen public scoping meetings were held during the scoping period between 5 and 15 November 2007. The meetings were held in the cities of Portsmouth, New Hampshire; Lafayette, Louisiana; Binghamton, New York; Lexington, Kentucky; Jackson, Mississippi; Philadelphia, Pennsylvania; Columbus, Ohio; Nashville, Tennessee; Charleston, West Virginia; Washington, D.C.; Cleveland, Ohio; Richmond, Virginia; and Pittsburgh, Pennsylvania. The Scoping Report, including specific time and location information for the scoping meetings can be found in Appendix A; Scoping Report appendices are available at

<http://www.fws.gov/midwest/endangered/permits/hcp/nisource/scopingreport.html>

The scoping meetings provided an opportunity for the attendees to learn about the Proposed Action and comment on environmental issues of concern and the alternatives that should be discussed in the EIS. Scoping comments and letters are also described in Appendix A.

The Scoping Report includes the following information related to the scoping process and development of the draft EIS:

- Background information on the regulatory framework relative to the issuance of an ITP to NiSource or any of its interstate natural gas transmission subsidiaries;
- Definition, and Purpose and Need for the Proposed Action;
- Description of the preliminary alternatives, including the no-action alternative;
- Summary of the scoping process and comments received; and
- Summary of impact areas and issues to be addressed in the EIS.

We received 43 written responses during the scoping period: 25 from federal, state, and local agencies and 18 comments from the public or non-governmental organizations. The comments and input obtained during the scoping process were considered in developing this EIS. In some cases, specific issues were raised with respect to individual species or locations. In other cases, more generic issues or questions were raised with respect to the overall scope of the MSHCP or the ITP. Where appropriate, input from the scoping process is discussed in the relevant section of the EIS.

Chapter 2 of the EIS details the process used to respond to comments received during scoping and to develop alternatives to the Proposed Action that are analyzed in subsequent chapters of the EIS.

1.7.1.3 Draft EIS Public Review

In accordance with NEPA, this EIS was circulated for public review and comment. The public review period was initiated with the publication of the Notice of Availability (NOA) in the FR on July 13, 2011, (FR 76, No. 134, 41288-41293) and the public comment period was extended for an additional 90 days (FR 76, No. 199, 63950). The comment period closed on December 13, 2011, culminating a 150-day public review period.

A variety of comments were received on the DEIS which are available at <http://www.fws.gov/midwest/endangered/permits/hcp/nisource/index.html>. Written responses to public comments are appended to this document.

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Chapter 2 Description of Alternatives

This chapter presents the alternative formulation and evaluation process, and describes and compares two “Action” alternatives and one “No Action” alternative with respect to the applicant’s request for an Incidental Take Permit from the Service.

2.1 Formulation and Evaluation of Alternatives

The Service and Cooperating Agencies considered a range of options and alternatives during development of this EIS (See Section 2.3). Alternative development focused primarily on identifying actions that would achieve the proposed action’s purpose and need, with an emphasis on those that could be practicably implemented. In developing alternatives, the Service and Cooperating Agencies also considered, among other factors, the scope of potential impacts to MSHCP Species and compliance with ESA; public input/scoping comments; and the impacts on NiSource’s safety and delivery obligations. The process by which alternatives were considered is presented below, along with a full description of the alternatives carried forward for further analysis.

2.1.1 Elements Common to all Alternatives, including the No Action Alternative

2.1.1.1 NiSource Covered Activities

Regardless of the alternative selected, NiSource will continue to implement its Columbia Gas ECS (2008), Columbia Gulf ECS (2008), and Virginia ECS (2008) businesses per requirements from regulatory agencies both federal and state. NiSource’s Environmental Construction Standards (ECS) set the requirements, both Federal and state, that must be followed in order to undertake pipeline and other facility construction, operation, and maintenance activities, including ROW maintenance and monitoring, (NiSource 2010a). NiSource plans to use a trained Environmental Inspector who will be responsible for implementing and assuring compliance with all project specific Environmental Management and Construction Plans (EM&CPs).

In its MSHCP, NiSource estimates the annual average disturbance from both general O&M and construction activities to be 19,409 acres. Of this total, NiSource estimates that 18,505 acres

would involve existing ROW and existing compressor station lands (i.e. previously disturbed lands); most of which would result from routine vegetation management. New construction, including establishment of new ROW and new storage fields, is estimated to account for 904 acres annually.

In Table 2.1 of their MSHCP, NiSource divides the 19,409 acres of impacts into four categories of activities: ROW maintenance, other O&M, Medium Capital Expansion Projects, and Large Capital Expansion Projects. NiSource defines Medium Capital Expansion Projects as 1) the construction of a new pipeline up to 50-miles in length, 2) the drilling of up to 30 wells within existing storage fields, and 3) the addition of up to four compressor stations. NiSource defines Large Capital Expansion Projects as construction of new pipelines between 50 and 200 miles in length. Of these four categories, annualized impacts of 19,409 acres were broken down as follows: a total 16,667 acres for ROW maintenance, 1,102 acres for other O&M activities, 670 acres for Medium Capital Expansion projects, and 970 acres (on average) for Large Capital Expansion projects.

2.1.1.2 Compliance with ESA

In addition to NEPA requirements, ESA requirements were also considered in the formulation of alternatives. The issuance criteria for ESA Incidental Take Permits described in Chapter 1 provided guidance for developing alternatives. A foremost purpose of this EIS is to address the potential impacts of issuance of the ITP on federally listed species and related resources. Of particular importance are the permit issuance criteria, which require that 1) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 2) adequate funding and procedures to deal with unforeseen circumstances will be provided; and 3) the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild (16 USC 668; 50 CFR 17.22).

The third factor is essentially the determination of "jeopardy" as defined in the Service's ESA Section 7 regulations (50 CFR Part 402.02). Service regulations define the term "jeopardize the continued existence of" as "to engage in an action that reasonably would 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." Any alternative that did not meet these criteria were not given consideration. In other words, with the

exception of the no action alternative, we focused on those alternatives that would allow the Service to issue a permit consistent with its own permit issuance criteria.

2.1.2 Purpose & Need and Compliance with NEPA

As described in Chapter 1, issuance of an ITP is a federal action requiring compliance with NEPA. NEPA implementing regulations require lead agencies to develop and assess a range of alternatives that meet the Purpose of and Need for the Proposed Action. In this case the Purpose of the Proposed Action is to comply with the ESA by providing protection and conservation of certain listed species while enabling NiSource to conduct legally authorized activities associated with (1) general O&M; (2) safety-related repairs, replacements, and maintenance; and (3) construction and expansion (includes abandonment and replacement).

The Need for the Proposed Action is based on the fact that take of a listed species incidental to otherwise lawful activities can be authorized under Section 10(a)(1)(B) of the ESA with preparation of an HCP and issuance of an ITP. In addition, there are several overarching goals that are closely linked to the Purpose of and Need for the Proposed Action as detailed in Section 1.4. These include:

- Certainty of consistent and meaningful ESA compliance resulting in efficient consultation and NEPA compliance for cooperating agencies regarding endangered species;
- Foster Efficient Use of public and private Time and Money;
- Assure the Conservation and Recovery of MSHCP Species related to activities associated with natural gas transmission; and
- Develop and Coordinate Mitigation Opportunities for listed species

In developing alternatives, the Service and Cooperating Agencies were cognizant of NiSource's desire to provide certainty to its ESA obligations. Though a laudable goal, this facet of the applicant's proposed action did not constrain our consideration of feasible alternatives. Further, NEPA and DOI policy and regulations state that the alternatives selected for detailed analysis should be reasonable and implementable, should be given equal treatment, and should provide

clear choices for the decision-makers and the public. These regulations also require lead agencies to:

- Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated;
- Devote substantial treatment to each alternative considered in detail, including the proposed action, so that reviewers may evaluate their comparative merits;
- Include reasonable alternatives not within the jurisdiction of the lead agency;
- Include the alternative of no action;
- Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference; and
- Include appropriate mitigation measures not already included in the proposed action or alternatives.

2.1.3 Public Input

Public input was solicited through scoping meetings and public notices (Federal Register NOI and NOA) as further detailed in Chapter 1, the appended Scoping Report and the appended Response to Public Comments (**Appendix A**). A range of input and alternatives were identified by landowners, resource agencies, and other stakeholders during the public scoping period and the public comment period on the draft EIS. Alternatives or suggestions that were deemed to be within the scope of this analysis are categorized as follows:

- Alternatives to the proposed **Permit Duration**
- Alternatives to the proposed **Covered Species**
- Alternatives to the proposed **Covered Land**
- Alternatives to the proposed **Covered Activities**
- Alternatives to the proposed **Implementation Strategies**

2.1.4 Impacts on NiSource's Transmission/Storage & Safety Obligations

As described in Chapter 1, NiSource's primary INGT operations fall under the authority of the Federal Energy Regulatory Commission (FERC) and the Natural Gas Act, as well as U.S. Department of Transportation (DOT) and the Pipeline Safety Act (PSA).

NiSource transports/stores natural gas for its customer/market(s) under a federal mandate issued by FERC. That mandate comes in the form of a Certificate of Public Convenience and Necessity (Certificate). A Certificate affords NiSource certain rights, which among other things, allows them to site, construct, and operate its facilities, within limitations. With those same rights however come various legally binding obligations, including the obligation to provide the certificated level of natural gas transmission and or storage capacity to the specified customer/market(s). Also, once the facilities are placed in service, NiSource's operations must comply with safety requirements subject to the PSA.

Any alternative that does not allow NiSource to meet its transmission/storage obligations in a safe manner would have a negative impact on the customer/market(s) that rely on NiSource's services, and would subject NiSource to potential legal liability. Therefore, alternatives that did not conflict with NiSource's federally mandated transmission/storage and safety obligations were given consideration over those that did.

2.1.5 Feasibility of AMMs and Service Guidance

ESA permit issuance criteria require that the applicant (NiSource), through development of an HCP, will, to the maximum extent practicable, minimize and mitigate the impact of taking a species covered by an ITP. Issuance criteria require the Service to examine and predict the efficacy of the applicants' proposed minimization and mitigation measures. It is important to understand that in doing so, the Service is focused solely on measures to be undertaken to reduce the likelihood and extent of the impact of take resulting from the project as proposed, as well as appropriate compensatory measures. The Service interprets this section to mean that the impacts of the proposed project including the HCP that weren't *eliminated* as a result of informal negotiation process, must be minimized to the maximum extent practicable, and those remaining impacts that can't be further minimized, must be mitigated to the maximum extent practicable. These standards are based in a *biological determination* of the impacts of the

project as proposed, what would further minimize those impacts, and then what would biologically mitigate, or compensate for those remaining impacts. Alternatives that achieved compliance with those factors were given preference over those that did not.

2.2 Alternatives Considered But Eliminated From Consideration

Alternative topics that were assessed and dismissed from further consideration are discussed below.

2.2.1 Alternatives with Varying Processes or Scope

It should be noted that for the purpose of NEPA, the Service and Cooperating Agencies dismissed three alternatives that would have altered the process or scope of requested incidental take coverage. These include 1) the breadth of the species to be included (i.e., MSHCP species), 2) the breadth of the Covered Lands, and 3) the inclusion of storage fields (i.e., storage field counties). We acknowledge that these alternatives are viable and the Service retains authority to condition a permit to limit or expand the scope of species, breadth of Covered Lands, or inclusion and exclusion of certain areas. However, evaluating these permutations in this NEPA document would not produce a meaningful comparison of environmental consequences. That is because of the unique nature of the proposal, which hybridizes an ESA Section 10 permitting process with a Section 7 consultation process, and a NEPA process. Thus, these alternatives are essentially procedural in application, as under any of the above cited alternatives, all of the environmental consequences will ultimately be similar.

The list of species incorporated into NiSource's MSHCP is at the discretion of NiSource. However, the Service can only issue an ITP for those species under its jurisdiction. Receipt of an ITP would not release NiSource from any obligations related to state-specific species regulations or requirements. Also, NiSource's activities that have the potential to impact federally listed species not covered by or included in the MSHCP and ITP are still subject to the requirements of the ESA, and conservation of these species must be accomplished in some manner to remain in compliance with ESA.

2.2.2 Covered Activities Alternative

Public input was received regarding the proposed extent of Covered Activities. Specifically, one commenter suggested that other than small-scale maintenance activities, activities that include “new construction, expansion, or major maintenance should be excluded from the ITP”. The commenter further suggested that these excluded activities undergo a more “traditional ESA review”. The Service assumes that a reference to “traditional ESA review” refers to ESA compliance under Section 7, which is how NiSource presently complies with ESA.

As described in Chapter 1, Section 10 of the ESA allows for issuance of an ITP when an appropriate HCP has been developed. Limiting the range of activities would conflict with the action’s intended purpose of enabling NiSource to conduct activities associated with (1) general O&M; (2) safety-related repairs, replacements, and maintenance; and (3) construction and expansion (includes abandonment and replacement).

If it is determined that the MSHCP is insufficient at identifying and addressing impacts associated with the proposed incidental take, an ITP would not be issued. Similarly, if Covered Activities are not able to meet issuance criteria, they will not be included in an ITP, or further restrictions will be mandated by the Service. However, limiting the range of activities in the MSHCP would not meet the applicant’s ITP request, which would have resulted in NiSource withdrawing their ITP application.. For this reason, during negotiations on development of the MSHCP, the Service agreed that there is no benefit to the species from limiting the range of activities in the MSHCP, and thus the applicant’s request would be fully considered in terms of the Covered Activities.

2.2.3 Implementation Strategies Alternative

Comments were received which addressed specific implementation protocols. Most of those comments related to construction, or more specifically, best management practices (BMPs) associated with construction activities. Some comments received were determined to restrict flexibility, and were unsubstantiated in practice, and thus dismissed. For example, one commenter suggested that the Service require NiSource to use Horizontal Directional Drilling (HDD) at all stream and/or river crossings to avoid or minimize impacts to aquatic species. While the Service recognizes the HDD technology as an important option to avoid and minimize

impacts to aquatic species, it is also true that HDD methodology is not appropriate or feasible in all situations. Both geologic and geographic constraints can prevent successful completion of an HDD, and may actually result in grave negative environmental consequences in the event of an uncontrolled migration of drilling mud rising to the surface and escaping in to an aquatic ecosystem. Given the scope of activities proposed for coverage under the ITP, the Service believes that flexibility to implement the most environmentally sound practice for the circumstances at hand is appropriate. The Service concurs with the Applicant that utilizing a range of methodologies may be more appropriate given the numerous circumstances expected to occur over a 14-state operating territory. The Service asserts that an appropriate MSHCP will adequately address minimization and mitigation, while also allowing for a level of flexibility so that NiSource may utilize the most environmentally appropriate methodology for specific site conditions, as well as allow for flexibility to integrate new technologies as they are developed.

2.2.4 Reduced Take Alternative

An alternative was suggested that would reduce the requested level of take in the Proposed Action (See also Section 2.2.6). NiSource developed the MSHCP in collaboration with the Service, and estimated take levels using reasonable worst case scenarios. In doing so, NiSource is required, by both the ESA and Service regulations, to minimize and mitigate the impact of take to the maximum extent practicable. The process of negotiating AMMs with NiSource therefore has resulted in an MSHCP that avoids and minimizes take to the maximum extent practicable. What take remains after minimization measures will be mitigated to fully offset any impacts from the taking.

2.2.5 All AMMs Mandatory Alternative

Instead of allowing for the non-mandatory AMM implementation as is currently proposed for some species with the Proposed Action, this alternative would require that all available AMMs be mandatory and implemented all of the time, perhaps resulting in a reduced level of take for some species. During initial analysis as to the merits of this alternative, discussions were held with NiSource as to the feasibility of implementing all AMMs as mandatory during pipeline operation, maintenance, and construction. NiSource has indicated (See MSHCP Chapter 5) that during the development of the MSHCP, a suite of potential AMMs was identified that cannot be reasonably implemented in every instance, but, when feasible, might provide some additional

conservation benefits. These were identified as “non-mandatory AMMs” for purposes of the MSHCP, and were not included in the calculation of take. The reasons cited by NiSource why these AMMs cannot be implemented for all proposed projects include: location, technical or engineering feasibility, potential adverse impacts to other trust resources, project timelines, customer needs, and/or AMM effectiveness. To this end, the Service felt that requiring implementation of non-mandatory AMMs for all projects all of the time would not be reasonable, and at times, not in the best interest of species conservation. As a result, this alternative was dismissed from further analysis.

2.2.6 Alternative Approach to Mitigation

An alternative was considered that would require a different approach to mitigation, whether in the form of other means to accomplish mitigation, alternative locations, amounts, quality, purposes, etc. While the Service felt that it was prudent to consider alternative forms of mitigation than that proposed by NiSource, the fundamental question arose as to whether NiSource’s approach is reasonable and adequate, and would it meet the requirement that mitigation must fully compensate for the impact of take. NiSource’s proposed mitigation relies on situation-specific factors that will be determined based on species and site-specific conditions relative to future project planning and implementation. Due to the scope and timeframe associated with the MSHCP, we believe that NiSource’s approach to mitigation, including the funding commitments and third-party oversight, is both reasonable and adequate for the purposes of the MSHCP. This alternative was, therefore, dismissed from further analysis.

2.3 Alternatives Carried Forward for Detailed Analysis

2.3.1 Alternative 1 – No Action Alternative

NEPA requires that an EIS alternatives analysis include consideration of a No Action or “Status Quo” Alternative. Under the No Action Alternative, issuance of an ITP and approval of the NiSource MSHCP would not occur. However, all of the Covered Activities within the MSHCP would continue to be implemented by NiSource (see Section 2.1.1 “Covered Activities” above). NiSource compliance with the ESA would continue “status quo” through informal and formal

Section 7(a)(2) ESA consultations through the Cooperating Agencies with the Service on a project-by-project or annual basis.

FERC is responsible for authorizing the siting, construction, and operation of NiSource natural gas pipelines and natural gas storage field facilities pursuant to Sections 3 and 7 of the Natural Gas Act of 1938 (NGA), as amended. Most existing interstate natural gas companies, including NiSource, hold Blanket Certificates from the FERC that allow them to operate and construct facilities if they meet certain environmental standards and project cost limitations (see CFR 18, sections 157.203 and 157.205)(see FERC website at <http://www.ferc.gov/industries/gas/industry/blank-cert.asp> for a description of its Blanket Certificate Program). For projects with the potential for significant impacts, NiSource must file an application with FERC for a Case-specific Certificate under Section 7(c) of the NGA. Under both scenarios, consultation with agencies is required for land use authorizations and environmental permitting because other agencies have their own authorizations/permit requirements, with some requiring a separate NEPA analysis. Virtually all applications to the FERC for interstate natural gas projects require some level of coordination with one or more federal agencies to satisfy the FERC's requirements for environmental review, including ESA (see Chapter 1 section 1.5 Regulatory Overview).

Under Section 7(a)(2) of the ESA, federal agencies (e.g., the Cooperating Agencies) are required to consult with the Service to ensure that any proposed federal action (e.g., authorize/permit/fund/carry out) is not likely to jeopardize the continued existence of any threatened or endangered species, or adversely modify critical habitat designated for those species. Where adverse impacts to listed resources are unlikely, section 7 is completed through informal consultation. Where adverse impacts to listed resources are likely, formal consultation is required. The formal Section 7 process culminates with the Service's issuance of its BO, which transmits the opinion of the Service as to whether the proposed action is likely jeopardize the continued existence of any threatened or endangered species or adversely modify critical habitat. The BO is accompanied by an Incidental Take Statement (ITS), which exempts the federal agency and their permittee (e.g., NiSource) from the take prohibitions, provided they comply with the Reasonable and Prudent Measures (RPMs) in the BO and Terms and Conditions in the ITS. Federal agencies may designate a "non-federal representative" for purposes of informal ESA consultation with the Service (i.e., where adverse impacts to listed resources are not likely). However, non-federal representatives may not be used for formal

consultation. Regardless of the process (informal or formal), the ultimate responsibility for compliance with Section 7 of the ESA always remains with the federal action agency.

Under this alternative, NiSource would continue to be subject to full liability under Section 9 of the ESA, as any future species take would only be authorized through formal project-by-project ESA consultation with the federal action agency (primarily FERC) and the Service. The RPMs that NiSource would follow as part of the ESA Section 7 process described above would be similar to the avoidance and minimization measures in the Section 10 MSHCP process. Adverse impacts to threatened and endangered species should be similar under both Section 7 and Section 10 (MSHCP) processes. However, under Section 7 of the ESA, mitigation is not a requirement when impacts associated with species take occur. NiSource project goals relative to providing increased certainty for ESA compliance, enhancing conservation and recovery of species through coordinating mitigation projects, and increasing efficient use of time and money, would not be met under the No Action Alternative.

2.3.2 Alternative 2 – Issuance of a 50-year ITP and Approval of the NiSource MSHCP (Proposed Action)

NiSource seeks to address the full range of its ongoing activities as well as identify and manage species and their habitat impacts system-wide. The Service agreed that a multi-species habitat conservation plan developed under Section 10(a)(1)(B) of the ESA could provide the benefits of increased species conservation and increased efficiency in ESA compliance for both NiSource and the regulatory agencies. NiSource has developed an MSHCP that covers a wide array of natural gas pipeline activities over a broad geographic region. The goal of the MSHCP is to develop a mechanism that:

- Identifies conservation measures and BMPs to avoid and minimize impacts on species identified in NiSource's MSHCP;
- Identifies mitigation needs and provides a mechanism to accomplish this mitigation commensurate with the impact of the taking; and
- Implements conservation actions in a manner that allows benefits to accrue across species ranges and across Covered Lands for 50 years.

NiSource's MSHCP outreach effort began in late 2006 and has included involvement from federal, state, and private organizations. NiSource specifically involved a range of federal agencies early in the process. Beyond the Service, outreach targeted the USACE, FERC, NPS, and the USFS, all of which signed on as formal cooperators in the NEPA process. Briefings also occurred with the PHMSA and Tennessee Valley Authority (TVA). In addition to federal agencies, NiSource's MSHCP outreach efforts extended to state agencies in each of the 14 states covered by the project area. Outreach included in-person meetings to brief staff on the project, and to provide documents that addressed the specifics of the MSHCP itself.

NiSource also outreached to a number of Non-Governmental Organizations (NGOs), including The Conservation Fund (TCF), the Environmental Defense Fund (EDF), and Defenders of Wildlife (DOW). They also formed an advisory team to review aspects of MSHCP development. Advisory team members included members from both the private sector and state government. Finally, NiSource secured species-specific specialists to obtain information on the Covered Species and to provide detailed recommendations.

Alternative 2 involves issuance of an ITP for a 50-year term, approval of the NiSource MSHCP, associated IA, and acceptance by the Cooperating Agencies and the Service that ITP issuance and MSHCP compliance fulfill their obligations under Section 7 of the ESA. At this time, NiSource is requesting incidental take coverage for 10 of the 42 species analyzed in the MSHCP (see **Table 2.3-1**). No take of the remaining 32 species is anticipated. For these species, there will either be no effect or the impacts will not rise to the level of take, in large part due to NiSource's commitment in the MSHCP to implement avoidance measures for these species. Impacts to the 42 species analyzed in the MSHCP, along with other listed, proposed or candidate species within the Covered Land, are analyzed in this EIS and in the Service's BO. This alternative would authorize implementation of NiSource's MSHCP over a 50 year timeframe.

2.3.2.1 Permit Duration

Regulations issued by the Service provide that the duration of an incidental take permit must be sufficient to provide adequate assurances to the permittee to commit funding necessary for the activities authorized by the permit, including conservation activities and land use restrictions (50

C.F.R. § 17.22). Further, the Service's Five-Point Policy for Habitat Conservation Plans (HCPs) directs the Service to consider the following factors when determining the length of incidental take permits:

- The duration of the applicant's proposed activities;
- The possible positive and negative effects on Covered Species associated with the proposed duration, including the extent to which the conservation plan will enhance the habitat of listed species and increase the long-term survivability of such species;
- The extent of information underlying the HCP;
- The length of time necessary to implement and achieve the benefits of the operating conservation program;
- The extent to which the program incorporates adaptive management strategies.

65 Fed. Reg. 35242, 35355-56 (June 1, 2000); see also 50 C.F.R. 17.32(b)(4) (referencing the first two considerations). Based on these criteria, as described below, NiSource requested a 50-year permit term. At the end of the permit term, provided the permit functions as intended, NiSource may seek a renewal of its permit for a specified duration.

The Service's Five-Point Policy recognizes that, if the permittee's action or the implementation of the conservation measures continually occur over a long period of time, the permit would need to encompass that time period *Id.* at 35256. The project life of interstate natural gas pipeline facilities is usually between 50 and 100 years. NiSource's proposed Covered Activities include ongoing operation and maintenance and new construction for the life of its facilities, which will likely extend beyond the requested permit duration. In the absence of an incidental take permit, NiSource will undertake the Covered Activities utilizing the ESA Section 7 consultation process annually on a project-by-project basis, with requests to Field Offices operating on state boundaries as its basis for ESA compliance.

The Service believes, that in this instance, the proposed action of issuing an incidental take permit and implementing the MSHCP will allow for a landscape-level approach to mitigation and species conservation. The use of this type of system-wide conservation plan with agreed upon avoidance and minimization measures, in combination with a structured mitigation planning

process using a green infrastructure network design and decision support principles, provides the coherent consideration not practicable through annual use of project specific requests to offices operating on state boundaries. Through Section 7 consultation processes, the focus is on avoidance and minimization; the Service has not required mitigation in its biological opinions. Thus, the Service believes operating under an ITP will provide long-term conservation benefits to the listed species, compared to the current Section 7 consultation approach that lacks a required mitigation component. Also, operating under an ITP allows for certainty with regard to take limits over time. Under project-by-project Section 7 consultations, there would be no certainty of take limits.

NiSource has committed to mitigate for all anticipated impacts resulting from operation and maintenance Covered Activities over the 50-year life of the permit within the first seven years of MSHCP implementation. This commitment does not apply to a shorter-term permit. The longer duration allows enough time to implement these aspects of the MSHCP and for the listed species to experience the benefits of this early mitigation which is expected to maximize the MSHCP's contribution to the recovery of the MSHCP species.

The Service's Five-Point Policy recognizes that the gathering of new information through the monitoring program requires an appropriate period of time for meaningful interpretation of new information into changes in management, which could necessitate a permit with a longer duration. It also states that longer permits may be necessary to ensure long-term active commitments to the HCP and typically include up-front contingency planning for changed circumstances to allow appropriate changes in the conservation measures. *Id.* Both of these aspects are contained within the NiSource MSHCP.

The 50-year permit duration allows NiSource to implement longer-term conservation strategies at the landscape level and provides the Service with the certainty of long-term commitment to conservation measures and the capability to gauge success of those measures over a sufficient time period.

The Service believes a 50-year permit duration is sufficient time for the adaptive management component of the MSHCP to function, which involves continuous improvement of the conservation and mitigation measures based upon the analysis of information, improved

modeling, and adoption of new technologies that become available over-time. The MSHCP also identifies a variety of circumstances that could change, and appropriate measures to be implemented in the event changed circumstances occur. NiSource has the obligation to maintain the MSHCP as a living document by annually requesting from state and federal sources new information regarding the MSHCP species and any newly listed species that may be affected by the Covered Activities. The Service will annually review the implementation of the MSHCP to ensure that its operating conservation program is working as intended.

2.3.2.2 Covered Lands

The applicant's work is concentrated along its existing pipeline network and thus the proposed area to be covered by the ITP and associated MSHCP includes a one-mile wide corridor centered upon a majority of NiSource's existing INGT system in 14 states (Louisiana, Mississippi, Tennessee, Kentucky, Virginia, West Virginia, North Carolina, Indiana, Ohio, Pennsylvania, New York, New Jersey, Delaware and Maryland) for approximately 15,562 miles (Figures 1.1-1 – 1.1-4). In addition to the designated one-mile corridor, the ITP and associated MSHCP would also cover 12 counties in Ohio, Pennsylvania, Maryland, and West Virginia collectively, where NiSource operates some of its underground natural gas storage fields. These counties include Hocking, Fairfield, Ashland, Knox, and Richland counties in Ohio; Bedford County, Pennsylvania; Allegany County, Maryland; and Kanawha, Jackson, Preston, Marshall, and Wetzel counties in West Virginia. The original (October 2007) scoping material did not include discussion of including these 12 counties as part of the Covered Land (see below). In total, the ITP and MSHCP would cover an area of approximately 9.8 million acres. The work of NiSource will be throughout its gas transmission system which physically occupies a small fraction of the Covered Lands. The applicant states that as it conducts its business it needs flexibility to avoid newly constructed obstacles to some of its activities such as providing increased transmission capacity and thus requests planning flexibility within ½ mile of either side of its existing pipeline. Only NiSource activities specific to onshore facilities are addressed in this EIS. The vast majority of the Covered Land footprint was drawn at or near the high-tide line along coastal reaches. The MSHCP states that the only exceptions below the high-tide line include a few inland reaches of the James River in Virginia, and some waters in Louisiana.

It should be noted that the final Covered Land footprint described above has evolved since the initiation of the MSHCP process in 2007. Early in their process, NiSource was considering a Covered Land footprint that included three additional states associated with the Granite State Gas Transmission Corporation, a subsidiary of NiSource at the time. Following formal NEPA scoping, but prior to submittal of the MSHCP to the Service, NiSource sold the Granite State Gas Transmission Corporation. Given this, the Covered Land footprint was changed to include those 14 remaining states as discussed above.

Around that same time, NiSource decided to include twelve counties in Ohio, Pennsylvania, Maryland, and West Virginia to its proposed Covered Land footprint. NiSource decided on this change to account for future storage field expansion activities. Due to the highly-sensitive (U.S. Department of Homeland Security) and proprietary nature of natural gas storage field locations and boundaries, NiSource withheld the exact location of its storage fields. To maintain flexibility in locating future facilities, and to account for the sensitive nature of potential natural gas facility locations, NiSource elected to conservatively include entire counties as part of the Covered Land footprint.

Lastly, through conversations with the Service, NiSource agreed to restrict or completely avoid implementing Covered Activities in certain portions of the one-mile wide corridor where such activities could potentially impact two sensitive species, the cheat mountain salamander (*Plethodon nettingi*) and the Louisiana black bear (*Ursus americanus luteolus*) (NiSource MSHCP, Ch. 2.3).

2.3.2.3 Take and MSHCP Species

The ITP would authorize take of ten federally-listed species (see **Table 2.3-1**) as a result of NiSource Covered Activities (hereafter referred to as “take species”). In addition, the MSHCP analyzes impacts to 32 other species (hereafter referred to as “MSHCP Species”). Of these 32 MSHCP species, a no effect determination was made by the Service for 23 of the 32 species, and impacts to the remaining 9 species are not expected to rise to the level of take, as a result of NiSource agreeing to implement comprehensive species avoidance measures.

Table 2.3-1: Species Evaluated in the NiSource MSHCP

Species Common/Scientific Name	Federal Status	Determination
Mammals		
Gray bappededat <i>Myotis grisescens</i>	Endangered	Avoid take through AMMs/BMPs
Indiana bat <i>Myotis sodalist</i>	Endangered	Take Species
Louisiana black bear <i>Ursus americanus luteolus</i>	Threatened	Avoid take through AMMs/BMPs
Virginia big-eared bat <i>Plecotus townsendii</i>	Endangered	Avoid take through AMMs/BMPs
Delmarva fox squirrel <i>Sciurus niger cinereus</i>	Endangered	No take anticipated
West Indian manatee <i>Trichechus manatus</i>	Endangered	No take anticipated
Birds		
Interior least tern <i>Sterna antillarum</i>	Endangered	Avoid take through AMMs/BMPs
Reptiles		
Bog turtle <i>Glyptemys muhlenbergii</i>	Threatened	Take Species
Amphibians		
Cheat mountain salamander <i>Plethodon netting</i>	Threatened	Avoid take through AMMs/BMPs
Shenandoah salamander <i>Plethodon Shenandoah</i>	Threatened	No take anticipated
Fish		
Maryland darter <i>Etheostoma sellare</i>	Endangered	No take anticipated
Blackside dace <i>Phoxinus cumberlandensis</i>	Threatened	No take anticipated
Cumberland darter <i>Etheostoma susanae</i>	Candidate	No take anticipated
Gulf sturgeon <i>Acipenser oxyrinchus desotoi</i>	Threatened	No take anticipated
Scioto madtom <i>Noturus trautmani</i>	Endangered	No take anticipated
Slackwater darter <i>Etheostoma boschungii</i>	Threatened	No take anticipated
Crustaceans		
Madison cave isopod <i>Antrolana lira</i>	Threatened	Take Species
Nashville crayfish <i>Orconectes shoupi</i>	Endangered	Take Species
Mollusks		
Birdwing pearl mussel <i>Lemiox rimosus</i>	Endangered	Avoid take through AMMs/BMPs

Species Common/Scientific Name	Federal Status	Determination
Clubshell <i>Pleurobema clava</i>	Endangered	Take Species
Cracking pearlymussel <i>Hemistena lata</i>	Endangered	Avoid take through AMMs/BMPs
Cumberland bean pearlymussel <i>Villosa trabalis</i>	Endangered (XN)	No take anticipated
Cumberland monkeyface pearlymussel <i>Quadrula intermedia</i>	Endangered	Avoid take through AMMs/BMPs
Dromedary pearlymussel <i>Dromus dromas</i>	Endangered (XN)	No take anticipated
Fanshell <i>Cyprogenia stegaria</i>	Endangered	Take Species
James spiny mussel <i>Pleurobema collina</i>	Endangered	Take Species
Louisiana pearlshell <i>Margaritifera hembeli</i>	Endangered	No take anticipated
Northern riffleshell <i>Epioblasma torulosa rangiana</i>	Endangered	Take Species
Oyster mussel <i>Epioblasma capsaeformis</i>	Endangered	Avoid take through AMMs/BMPs
Pale liliput pearlymussel <i>Toxolasma cylindrellus</i>	Threatened	No take anticipated
Purple cat's paw pearlymussel <i>Epioblasma obliquata</i>	Endangered	No take anticipated
Sheepnose <i>Plethobasus cyphus</i>	Endangered	Take Species
Tan riffleshell <i>Epioblasma florentina walker</i>	Endangered	No take anticipated
White cat's paw pearlymussel <i>Epioblasma obliquata perobliqua</i>	Endangered	No take anticipated
White wartyback pearlymussel <i>Plethobasus cicatriococus</i>	Endangered	No take anticipated
Insects		
American burying beetle <i>Nicophorus americanus</i>	Endangered	Take Species
Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	No take anticipated
Mitchell's satyr butterfly <i>Neonympha mitchellii mitchellii</i>	Endangered	No take anticipated
Puritan tiger beetle <i>Cicindela puritan</i>	Threatened	No take anticipated
Plants		
Braun's rock cress <i>Arabis perstellata</i>	Endangered	No take anticipated
Mead's milkweed <i>Asclepias meadii</i>	Threatened	No take anticipated
Pitcher's thistle <i>Cirsium pitcher</i>	Threatened	No take anticipated
(XN) = Experimental, nonessential Source: NiSource 2010a; Chapter 4		

The 42 species analyzed in the MSHCP differs from the original list of 76 species that was identified during the 2007 NEPA scoping period. NiSource provides its rationale for this reduction from 76 species to 42 species in Chapter 4 of its MSHCP. However, the Service is required to evaluate potential impacts to all federally listed species found within the Covered Land in our Section 7 consultation on this ITP. These “non-MSHCP” federally-listed species (hereafter “Non-MSHCP Species”) -- an additional 46 based on current listing status -- are evaluated in this EIS and further evaluated for jeopardy in the associated BO.

2.3.2.4 Migratory Bird Conservation Measures

Consistent with Executive Order 13186 (66 FR 3853, January 17, 2001) on the protection of migratory birds, the Service recommends the following conservation measures to avoid and minimize impacts to migratory birds from Covered Activities. These include:

- conduct pre-activity bird surveys, where appropriate;
- complete activities outside of the primary nesting season (early April through mid-July), wherever practicable;
- implement temporal and spatial avoidance measures and species-specific buffers for active nests (non-raptors);
- mowing, grubbing, or scraping of suitable nesting habitat outside of the nesting season;
- time activities to begin in areas of greater biological importance if construction begins prior to the nesting season;
- direct activities to begin in areas of least biological importance (if construction begins during the nesting season);
- defer activities within nesting areas until young have fledged from nests (non-raptors); and
- conduct vegetation clearing outside the bird nesting season, where appropriate.

2.3.2.5 Covered Activities

NiSource is seeking an ITP for its INGT activities specific to (1) operation and maintenance (O&M); (2) safety-related repairs, replacements, and maintenance; and (3) construction and expansion. These activities will occur under all alternatives including the No Action alternative.

For the purpose of this Section, both Items 2 and 3 will be combined into one discussion topic, “Construction”, as the underlying construction activities for these two items are identical.

Operation and Maintenance Activities

General O&M includes a variety of activities that include the physical operation and the required maintenance, monitoring, and inspection of the facilities. Natural gas flows through the NiSource system from producers to market areas and/or storage on a continual basis. Once facilities are installed and commissioned, O&M activities are routinely performed to keep NiSource’s transportation and storage services operating. O&M activities also include vegetation management along ROWs and facility sites. Vegetation management includes mowing, tree-clearing and side trimming, and use of herbicides. For a complete description of NiSource O&M Activities see Appendix B.

New Construction Activities

Construction activities include construction on natural gas facilities such as pipelines, storage wells, compressor stations, access roads, and related ancillary facilities. Construction may take place in order to fabricate new, replace or upgrade existing, abandon existing, and/or internally inspect existing facilities. Construction includes activities such as mechanical land clearing and grading, installation of erosion and sediment control devices, trenching, well drilling, hydrostatic testing, and ROW stabilization and restoration. For a complete description of NiSource Construction Activities see Appendix B.

2.3.2.6 NiSource Conservation Strategy/Program

NiSource has stated that the goals of its Conservation Strategy of the MSHCP are threefold (NiSource 2010a; Chapter 5, page 1):

- Protect MSHCP species and their habitats through the implementation of an environmental compliance program that meets or exceeds federal, state, and local regulations and requirements;
- Enhance the conservation of MSHCP species through the application of rigorous planning, adaptive management, and sound scientific principles; and

- Maximize conservation benefits to MSHCP species and the ecosystems that support them.

NiSource intends to implement these goals through a mix of existing environmental practices, as well as new measures developed in negotiation with the Service.

2.3.2.7 NiSource Environmental Practices

NiSource follows standard practices to help avoid and minimize environmental impacts. NiSource states that its pre-construction planning and project implementation must comply with the following:

NiSource has in place three Environmental Construction Standards (ECS) documents for Columbia Gas, Columbia Gulf, and for projects within the State of Virginia, respectively (Appendix B of the NiSource MSHCP). These collective ECS provide company-wide requirements for construction, operation, and maintenance activities, including in environmentally sensitive-areas. NiSource states (NiSource 2010b) that these ECS were specifically developed to comply with FERC Plans and Procedures. The ECS provide standards for O&M and construction activities including, but not limited to, right-of-way width; clearing; grading; access roads; residential areas; trenching; backfilling; final grading, restoration, and stabilization; noise impact mitigation; hydrostatic testing; stream crossings; wetland crossings; spill prevention, containment, and control; maintenance; environmental inspections; environmental training; contractor's environmental compliance specialist; environmental construction management; and emergency construction.

NiSource has indicated that their Environmental, Health, and Safety Department, Natural Resources Permitting Group, utilize an internally produced Environmental Awareness Handbook to train NiSource personnel. NiSource intends to conduct compliance training specific to the MSHCP prior to implementation of the ITP, with training materials subject to review and approval by the Service.

2.3.2.8 Species Avoidance and Minimization Measures

The MSHCP states adverse effects of Covered Activities on all species included in the MSHCP will be avoided and/or minimized.

The MSHCP analyzed anticipated impacts to species using reasonable worst-case scenarios. NiSource contends that this approach has resulted in a greater requested take authorization than what will actually occur when Covered Activities are initiated. NiSource contends that in the majority of situations it will be able to avoid most take. Where take cannot be avoided, NiSource will minimize such take to the maximum extent practicable.

Chapter 6 and Appendix F of the MSHCP (also Appendix E of the EIS) provide a detailed discussion of proposed species-specific AMMs for MSHCP Species. Most of the AMMs are required to be implemented 100-percent of the time, though several are considered and labeled “non-mandatory” when NiSource determined it was impractical or not possible to implement in all cases. According to the MSHCP, NiSource’s non-mandatory AMMs, not associated with water body crossings, will be applied as often as possible based on a case-by-case review of location, feasibility, effectiveness, impacts to other resources, and timing considerations.

In Section 5.2.1 of the MSHCP NiSource has established the following specifications for AMMs (other than waterbody crossings):

- In accordance with its current practice and corporate policy, NiSource will use a Project Environmental Information Form (PEIF) and Environmental Management & Construction Plan (EM&CP) – EZ form to gather data related to the potential project impacts.
- NiSource will follow all mandatory AMMs including potentially modifying the project activity and/or relocating the project footprint to avoid effects on listed species. NiSource will implement non-mandatory avoidance measures wherever practical. All relocations made to specifically avoid impacts on a MSHCP Species will be documented and reported.
- Each covered activity’s potential to impact MSHCP Species will be evaluated and a clearance package prepared, through the development of an EM&CP with appropriate AMMs as identified in Chapter 6 and Appendix F of the MSHCP. Mandatory AMMs will be identified and included in the EM&CP. Non-mandatory AMMs will be selected and incorporated into the project where possible and feasible.

- The clearance package will contain reply forms that will be used to evaluate and track the implementation of AMMs and impacts to MSHCP Species for a particular project. The information gathered during the project implementation phase will be used to determine actual project impacts on MSHCP Species and help determine required mitigation.

Given the potential impacts to a number of MSHCP Species due to crossing water bodies, Section 5.2.1.1 of the MSHCP provides specific details regarding the process to be utilized when determining appropriate water body crossing techniques. NiSource utilizes five basic methods for waterbody crossings including two open-cut methods (dry-ditch and wet ditch), horizontal bore, HDD, and spanning. Depending upon the species present, a crossing method may be considered as a mandatory AMM or as a decision to be made on a site-specific basis. For those cases where it is situation-dependent, NiSource will complete a site-specific review of each individual crossing based on an engineering evaluation, an environmental evaluation, an economic evaluation, and any additional Federal state or local regulations that apply to determine which type of crossing will be selected.

Details regarding the suite of species-specific AMMs are provided in the species analyses included in Appendix E. **Table 2.3-2** provides an overview of AMMs found in the MSHCP. However, not every measure listed is appropriate for every species. The extent to which a particular measure will be implemented will vary temporally, spatially, and among species (e.g. time-of-year-restrictions). Chapter 6 of the MSHCP contains specific AMMs for each species.

Table 2.3-2: Species Avoidance & Minimization Measures (AMMs)

Habitat and Occupation Surveys
Determine habitat suitability for the species, or assume potential presence
Survey to determine presence/absence within identified suitable habitat
Measures to Avoid and Minimize Impacts to Species
Bait the species away from the project area
Trap and relocate species away from the project area
Species education for operators, employees, and contractors
Avoid activities involving long-term noise disturbance >75db within specified distance
Strict control of "bear attractants" such as use of "bear-proof" waste disposal containers
Designated critical habitat within ROW maintained to NGTS ECS env. sensitive area standards

Remove buildings during winter months, or after a survey year round
Prepare an Environmental Management & Construction Plan
Prepare an Environmental Management & Construction Plan for all species
Stream Bed Construction Methods
Consider HDD or other trenchless methods for installation or replacement across habitat
Install pipelines to a minimum depth at least 10 feet past the high water line in riparian areas
Do not install In-Channel repairs within occupied habitat
Work from a lay barge or temporary work bridge rather than operate heavy equipment in-stream
Remove equipment bridges as soon as practicable
Inspect for and correct bank destabilization associated with the pipeline within occupied habitat
Ensure that work within streams does not result in impacts to adjacent habitats or karst features
Avoid channelizing streams
Cross perennial streams only during specified periods
Stream Bank Conservation
Do not construct culverts or stone access roads across water body/riparian occupied habitat
Use sufficient fluming to minimize flow disruption in stream habitat
Ensure that upland work does not result in impacts to adjacent water habitats
Timing Restrictions
Comply with timing restrictions to minimize impact
Avoid construction activities after sunset in occupied habitat
Pipeline Abandonment
Pipeline abandonment specifications
Contaminants
Site staging areas location restrictions
Ensure that all imported fill material is free from contaminants
Use enhanced and redundant spill control for storage well activities in occupied habitat
Avoid use of fertilizers within a specified distance of occupied habitat
Avoid use of herbicides within a specified distance of occupied habitat
Follow standard policies and procedures for herbicide use in proximity to occupied habitat
Refuel equipment, check for leaks each day, and control contaminants as per the ECS
Use tanks rather than waste pits to store waste fluids
Withdrawal and Discharge of Water
Avoid discharging hydrostatic test water from new pipe directly into occupied habitat
Avoid drawing hydrostatic test water directly from occupied habitat
Discharge hydrostatic test water down gradient or >300 feet upland from occupied habitat
Use best available water withdrawal/discharge impact avoidance techniques (e.g., settling basins, sediment fencing)
Avoid discharging hydrostatic testing water from existing pipe directly into occupied habitat
Travel and Access Roads
Avoid driving across identified habitat
Route new access roads a specified distance from occupied habitats
With landowner consent, block access roads and ROWs leading to occupied habitat
Exotic Species
Thoroughly clean all equipment prior to use to avoid inadvertent introduction of exotics
Vegetation Management

Avoid stepping on hummocks and tussocks
Avoid pulling woody vegetation out by the roots in identified habitat
Comply with restrictions on mowing
Avoid dragging vegetation through occupied habitat
Avoid burning brush piles within a specified distance of occupied habitat
Re-vegetate disturbed habitat in accordance with the ECS
Leave piles of woody debris along edge of ROW if clearing vegetation
Avoid additional clearing of trees
No woody vegetation or spoil disposal within occupied habitat
Retain snags, dead/dying trees, and trees with exfoliating bark
Maintain a diversity of open, herbaceous habitat
Routing Criteria and Construction
Avoid constructing bell holes and trenches in habitat areas
Route new projects to avoid occupied or potential habitats
Soil and Geology Impacts
Employ silt fences around construction/soil disturbance areas within occupied habitat
Blasting within a specified area of occupied habitat must ensure karst integrity is maintained.
No HDD within the potential habitat zone
Clearly mark karst feature buffers until ground disturbing activities are completed
Use an inverted filter to bridge karst when filling new sinkholes
Trenches to be backfilled using native material
Minimize alteration of existing grade and hydrology of existing surface karst features

2.3.2.9 Incidental Take Requested

Take” is defined by the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction).

NiSource is requesting incidental take for 10 species. Detailed take calculations for each of the take species is provided in Section 6.2 of the MSHCP under “Calculation of Incidental Take”.

Due to the ongoing nature of NiSource’s pipeline maintenance and construction activities, the exact locations where future activities may occur is not known. However, these activities are routine, have been consistently implemented over many years, and evaluated by the Service many times over many years. Therefore, we are comfortable knowing the types and intensity of impacts to listed species without having detailed site-level information where impacts may occur. The species take analyses is based on the combined experience of NiSource personnel and Service biologists knowledgeable of the Covered Activities and potentially affected species.

Projections of the amount of incidental take included modeling and using reasonable worst case assumptions. The modeling was developed by the Service with input from NiSource. The type and amount of take requested (individuals and/or habitat) is summarized in **Table 2.3-3**.

Table 2.3-3: Summary of Incidental Take Requested Over the 50-Year Permit Duration

Species	Summary of Take Requested
Indiana bat	Incidental take is requested for 69,151 acres of summer and/or spring staging/fall swarming habitat that could support up to 2,637 Indiana bat individuals.
Bog turtle	Incidental take is requested for impacts to turtles and habitat at 25 sites
Madison Cave isopod	Incidental take is requested for two populations within 2,764.5 acres of Madison Cave isopod habitat
Clubshell mussel	Incidental take is requested for up to 166 acres of clubshell mussel habitat
Northern riffleshell mussel	Incidental take is requested for up to 165.3 acres of northern riffleshell mussel habitat
Fanshell mussel	Incidental take is requested for 283.2 acres of fanshell mussel habitat
James spiny mussel	Incidental take is requested for up to 12.8 acres of James spiny mussel habitat
Sheepnose mussel	Incidental take is requested for up to 250.4 acres of sheepnose mussel habitat
Nashville crayfish	Incidental take is requested for up to 4.0 acres of Nashville crayfish habitat
American burying beetle	Incidental take is requested for 4 American burying beetle individuals

2.3.2.10 Compensatory Mitigation

Mitigation is required when take is unavoidable. Species-specific mitigation measures, including the type and amount of mitigation, and the criteria for determining suitability, eligibility, and success, are detailed in Chapter 6 of the MSHCP. As described in Chapter 6 of the MSHCP, mitigation will occur throughout the duration of the permit. Mitigation will occur as take occurs, except for mitigation associated with future NiSource operations and maintenance activities. Mitigation for future NiSource operations and maintenance activities will be implemented within the first seven years after receiving the ITP. As take is known or predicted by preconstruction analysis, funds will be allocated to conduct mitigation projects. Mitigation projects will be developed and implemented consistent with the mitigation criteria identified for each species. Chapter 5 of the MSHCP outlines the criteria or methodology that must be utilized to compensate for take of species (NiSource 2010a).

- Mitigation must be completed within states crossed by the Covered Land area.
- NiSource will complete all mitigation for O&M related impacts within the first seven years of implementing the MSHCP.
- NiSource must provide specific funding assurances to guarantee implementation of mitigation activities and the MSHCP (MSHCP Chapter 8).
- Mitigation must fully compensate for the impact of the take and satisfy the mitigation criteria in Chapter 6 of the MSHCP.
- Mitigation must be initiated within two years after the take occurs, unless the Service agrees that a longer initiation period is advantageous in garnering the conservation benefit for the species.
- NiSource will ensure that any mitigation that occurs on lands owned by a third party will be consistent and compatible with those land use rights left to the existing landowner.
- It is likely that multiple activities will occur in the same location over the life of the MSHCP and ITP. Compensatory mitigation will be required for the first time a Covered Activity involving take is conducted in a specific geographic location. This take will be fully compensated for; thus once compensatory mitigation is provided for a specific location, additional mitigation will not be required for Covered Activities occurring within the footprint of the previously affected area. However, each time the Covered Activity is conducted within the footprint, the area will be fully restored.
- NiSource will maintain and annually provide to the Service a report describing the amount of mitigation performed, by species, along with any “credits” remaining. The report will contain details regarding mitigation projects that compensate for take for more than one species at the same time.

The following table (**Table 2.3-4**) summarizes NiSource’s planned compensatory mitigation associated with the requested level of take for each of the 10 listed species described earlier.

Table 2.3-4: Summary of Mitigation over the 50-Year Permit Duration

Species	Summary of Mitigation Proposed
Indiana bat	<p><u>Total Maximum Mitigation</u></p> <p>Protect, restore and manage 252 acres of spring staging/fall swarming habitat associated with 2 Indiana bat hibernacula.</p> <p>Protect, restore, and manage 10,708 acres of suitable Indiana bat summer habitat (maternity).</p> <p>Sum = 10,960 Acres over 50 years or 219 acres/year</p>
Bog turtle	<p><u>Construction (Ground-Disturbance) Activities and Non-ground-Disturbing O&M at 20 Sites</u></p> <p>For each site impacted by looping (estimate of 10), new construction (estimate of five) and/or conventional replacement methods (open trench) (estimate of five) (and all non-ground-disturbing O&M impacts), NiSource can either protect and restore a bog turtle site or protect an existing site with optimal bog turtle habitat.</p> <p><u>Non-ground-Disturbing O&M Activities at Five Additional Sites</u></p> <p>The mitigation for take associated with O&M activities at sites that also involve ground-disturbing activities is addressed above. Mitigation for take associated with O&M activities at sites that do not involve ground-disturbing activities is either: (1) habitat restoration/enhancement and long-term management agreement (life of the permit) within wetland that crosses ROW, or (2) off-site protection and restoration (same mitigation as described above).</p>
Madison Cave Isopod	<p>NiSource is anticipating take of individuals of two populations (Lime Kiln Cave and one unknown population). As mitigation for this, NiSource shall protect two key parcels (containing surface karst features) and restore surface karst features (if needed). Key parcels are defined as a parcel of land with either an important natural feature (cave or spring) and its immediate recharge area, or an average of five surface karst features and a 300-foot buffer around each feature.</p>
Clubshell Mussel	<p>Riparian and/or streambed restoration, enhancement, and protection in occupied and unoccupied (for possible relocation) habitat (750 ac maximum).</p>
Northern Riffleshell Mussel	<p>Riparian and/or streambed restoration, enhancement, and protection in occupied and unoccupied (for possible relocation) habitat (884 ac maximum). Propagate, augment, expand, re-introduce into suitable habitat.</p>

Species	Summary of Mitigation Proposed
Fanshell Mussel	Riparian and/or streambed restoration, enhancement, and protection in occupied and unoccupied (for possible relocation) habitat (956 ac maximum).
James Spiny mussel	Riparian and/or streambed restoration, enhancement, and protection in occupied and unoccupied (for possible relocation) habitat (77 ac maximum).
Sheepnose Mussel	Riparian and/or streambed restoration, enhancement, and protection in occupied and unoccupied (for possible relocation) habitat (973 ac maximum).
Nashville crayfish	Restore and/or protect riparian habitat (0.4 ac for aggregate take, 4 ac for new construction take)
American burying beetle	One-time payment to fund propagation, monitoring, and survey programs.

NiSource has established two methods for implementing mitigation under these guidelines. The first would be NiSource-initiated mitigation, and the second would be the funding of mitigation proposals by NiSource with the assistance of a NiSource-chaired technical advisory committee (Mitigation Panel).

NiSource Initiated Mitigation

NiSource has the option of initiating mitigation efforts before, during, or up to two years after undertaking Covered Activities for which there will be take; thus allowing for flexibility to pursue mitigation opportunities as they arise. Before pursuing any specific mitigation efforts, NiSource will consult with the Service to determine how much compensation credit the particular mitigation project would provide. If the mitigation project would more than compensate for impacts to a given Take Species, NiSource would receive a mitigation “credit” toward future impacts to that species. If the mitigation effort does not fully compensate for previous impacts to a given Take Species, NiSource would either pursue additional mitigation efforts or would utilize the NiSource Mitigation Fund.

NiSource Mitigation Fund

In addition to the NiSource-initiated mitigation approach, NiSource will establish a fund (MSHCP Fund) administered by the National Fish and Wildlife Foundation (NFWF). Monies will be

disbursed from the MSHCP Fund at NiSource's request, following discussion with the Service, to ensure consistency with the mitigation requirements of Chapter 6 of the MSHCP. NFWF is a private, nonprofit, tax-exempt organization chartered by Congress in 1984 that sustains, restores, and enhances the Nation's fish, wildlife, plants, and habitats through leadership conservation investments with public and private partners.

The MSHCP Fund will contain two separate but related sub-accounts. The first, referred to as the "Reserve Account," will consist of an initial payment of \$100,000. The Reserve Fund will be maintained at this amount to finance any unanticipated obligations for mitigation, monitoring, adaptive management, or changed circumstances. It is possible that the \$100,000 will never be used during the life of the permit, but this will provide a pool for NiSource to draw upon if an unexpected situation develops or an underestimate becomes evident. . Additionally, every five years, NiSource is required to deposit a sum of money into the Fund to account for inflation, as reflected by the consumer price index. The goal shall be to maintain a balance of \$100,000 in 2013 dollars. Chapter 8 of the MSHCP identifies the process for drawing upon the Reserve Account.

The second sub-account, referred to as the "Mitigation Account," is intended to fund mitigation to compensate for the impact of the take species. Deposits into the Mitigation Account will vary from year to year, depending on anticipated take and the amount of mitigation required. Chapter 8 of the MSHCP identifies the various timeframes for deposits, depending on the type of covered activity being undertaken. It also obligates NiSource to make necessary and regular adjustments to ensure the Mitigation Account is fully funded.

The MSHCP Fund will be managed as a general account for all species and funds may be used as necessary for mitigation for any species as needed. NiSource is required to ensure, that there is adequate funding to compensate for all take of each species; mitigation must be completed within the established timeframes for each species. This information will be provided in the annual mitigation report described in Section 5.3.1 of the MSHCP.

If NiSource chooses not to directly undertake mitigation efforts, mitigation will be carried out with monies from the Mitigation Account of the MSHCP Fund. NiSource shall select the future mitigation projects from proposals solicited from third parties. Proposals will be solicited on a

rolling basis throughout the permit duration, consistent with NiSource's annual mitigation debt, if any. After evaluating proposals, NiSource will submit final written recommendations, including its reasoning and all supporting information to the Service, which will ultimately determine whether the proposed mitigation package is acceptable.

NiSource will convene a Mitigation Panel (Panel), which it will chair, to assist it in evaluating third-party mitigation proposals. The charter for the Panel describing its structure, membership, conflict of interest provisions, purpose, record-keeping and reporting is included in Appendix N of the MSHCP.

NiSource or the Panel may solicit proposals from various NGOs, states within the MSHCP area, tribes, federal agencies, academics, and others for projects to be funded by the Mitigation Fund. The proposals must conform to the mitigation requirements identified in Chapter 6 for the particular take species at issue. These proposals must also relate to the take species impacted by the MSHCP Covered Activities and must be conservation and science based.

2.3.2.11 Monitoring and Reporting

An MSHCP, per ESA Section 10 regulations, is required to monitor, report, and assess any species impacts due to take from implementation of Covered Activities. Moreover, the Service's 5-point policy outlines criteria that an MSHCP must follow. Namely, an HCP must evaluate compliance, determine if the biological goals and objectives outlined in the HCP are met, and provide information that will serve as a feedback loop for adaptive management.

The Service has determined that NiSource's monitoring methods will adequately document implementation of AMMs and mitigation measures, take of HCP Species, compliance with requirements of AMMs and mitigation, effectiveness of the conservation program, and implementation and effectiveness of adaptive management measures.

Adaptive management is defined by the Service in its June, 2000 addendum to its HCP Handbook (65 FR 35252) as "a method for examining alternative strategies for meeting measurable biological goals and objectives, and then if necessary, adjusting future conservation management actions according to what is learned." NiSource has identified uncertainty connected with AMMS and put in place methods to monitor these uncertainties. The monitoring

will document achievement of the conservation goals or direct implementation of alternative methods to achieve the identified goals.

Compliance Monitoring

NiSource indicates it will establish an MSHCP implementation team made up of members of NiSource's Natural Resource Permitting group and Corporate Environmental Services department. From this group, NiSource will designate an MSHCP coordinator who will be responsible for ensuring NiSource's overall compliance with the terms of the MSHCP, ITP, and IA.

Methods identified by NiSource for documenting the success of the AMM applications for routine projects include visual field survey of the affected area, review of completed restoration or revegetation growth in accordance with FERC Plans and Procedures (FERC 2003a and 2003b) (See Appendix C) for erosion control, revegetation, and river/stream crossings, or a biological survey. Species-specific specialists will be retained as needed based on NiSource identification of need and professionals possessing Service permits to handle endangered species to conduct pre-activity surveys as required for larger projects. This information, which will be maintained in a Geographic Information Systems (GIS) database, will be utilized to track species and habitat information during implementation and for compliance monitoring.

NiSource proposes to utilize the Service's Information, Planning, and Consultation System (IPaC), once available and operational, to support overall implementation of its MSHCP. The Service IPaC system will identify the most current biological information regarding species within and adjacent to NiSource's Covered Land footprint, and provide specific approved BMPs/AMMs that will be required for a specific activity in a specific area. NiSource will specify a project location and Covered Activity it wishes to implement, send this information to the IPaC system, and in IPaC will deliver specific information on required AMMs that apply to that activity in that location. The IPaC system will be designed to close the loop by providing tools that upload monitoring information and provide a report to ensure the MSHCP is implemented appropriately.

If the IPaC is not complete at the time of MSHCP implementation, NiSource utilize an internal system called ProjStat to inform and populate the required annual report (discussed below) until

IPAC is operational. ProjStat will maintain a running tally of species impacts and compensation over the life of the permit, information (overall and by activity type) on the number and percentage of Covered Activities for which AMMs were implemented (or not implemented in the case of non-mandatory AMMs), where MSHCP Species were identified and what AMMs were implemented at each worksite. This monitoring information will document whether NiSource, in practice, is meeting the requirements outlined in the MSHCP.

Effects and Effectiveness Monitoring

In addition to compliance monitoring, NiSource will document and examine the on-the-ground effects of those activities which require compensation. In particular, impacts that result in either temporary or permanent habitat loss will be reported, along with any direct take of species, to calculate compensation for that year's activities.

Effectiveness monitoring will be undertaken by those who have received funding for mitigation proposals by the Mitigation Fund or by the entity responsible for directly implementing a mitigation effort initiated by NiSource. Monitoring protocols as provided in Appendix L of the MSHCP will be followed and updated as required for the duration of the permit. NiSource maintains all responsibility for effectiveness monitoring and will report monitoring results to the Service. If monitoring reveals that any particular mitigation measures are not successful, additional measures, per the adaptive management strategy and changed circumstances strategy, will be implemented.

NiSource is responsible for evaluating the effectiveness of certain AMMs directly. Most AMMs are based on, or are the same as techniques NiSource has employed for many years. As such, the effectiveness of most AMMs is well established and will only need compliance monitoring. However, for those AMMs where there is some uncertainty associated with their effectiveness, or there is a risk to the species if the AMM is unsuccessful, the MSHCP (Chapter 7) outlines an adaptive management strategy that links effectiveness monitoring to adaptive management.

NiSource MSHCP responsibilities for integrating the monitoring and adaptive management include: (1) gathering monitoring data on the effectiveness of AMMs and mitigation and maintaining a database; (2) assessing results of AMM and mitigation monitoring to determine effects on the MSHCP Species; (3) if effects are not what was anticipated, implementing, in

coordination with the Service, the necessary changes to the conservation program to ensure minimization and mitigation consistent with what was required and anticipated; and (4) monitoring and evaluating the implementation and effectiveness of adaptive management strategies (NiSource 2010a; Chapter 7, Page 6).

2.3.2.12 Annual Reporting and Meetings

NiSource is required to submit an annual report that documents results of both its compliance and effectiveness monitoring. The report will include any mitigation or AMM effectiveness monitoring results conducted by entities responsible for implementing mitigation proposals as well as NiSource initiated efforts. The report will include, but is not limited to:

- Information and specifics regarding that past year's Covered Activities;
- Areas of disturbance;
- Take calculations for each species;
- Surveys conducted;
- AMMs that were implemented and rationale for those that were not;
- Assessment of AMM implementation success;
- Take calculations and compensatory mitigation calculations;
- Discussion of compliance with the previous year's compensation requirements;
- Summary of biological goal and objective status;
- Summary of those mitigation proposals that were approved; and
- An accounting of any credits NiSource had accrued from previous mitigation efforts.

With the annual reports as a guide, NiSource and the Service plan to hold meetings to review annual report(s) and address overall issues with MSHCP implementation, including potentials for streamlining, effectiveness of AMMs, consistency with effectiveness goals, and other issues as they arise. Meetings would include both key NiSource and Service staff (and other stakeholders as needed) and are proposed to occur on an as needed basis during year one, annually until the fifth year of implementation, and then at least every five years thereafter, unless the parties agree to meet on a more frequent basis. These meetings will provide a structured process for which to review AMMs, discuss adaptive management strategies, and, as

needed, modify conservation strategies for individual species in order to reach desired goals and outcomes for that species. In order to capture all relevant discussion regarding MSHCP implementation, NiSource will produce a summary report, which requires concurrence by the Service, of all issues addressed and specific conclusions or agreements made at the meeting. This summary report will provide another feedback mechanism for use and reference at the next scheduled meeting.

NiSource also plans to submit a Prior Notification Report to the Service annually to provide information on planned projects, both O&M and new construction, for the upcoming year. NiSource will identify Covered Activities that are anticipated to be conducted within an occupied site, with details regarding the planned Covered Activity and location, as well as anticipated take and the amount to be deposited in the mitigation fund.

2.3.2.13 Adaptive Management

The goal of the MSHCP is to achieve the biological goals and objectives for the Covered Species as outlined in Chapter 6 of the MSHCP; in attempting to achieve this there is often some uncertainty regarding how well certain strategies will achieve the intended results. The proposed adaptive management program contained in this MSHCP examines the effectiveness of mitigation strategies and AMMs employed in the implementation of the MSHCP. The adaptive management will be based primarily on results of monitoring and new information that becomes available regarding species, management techniques, and habitat conditions throughout the life of the permit. The goal of adaptive management is to identify needed change in response to acquired information, thus renewing the conservation program on a continual basis.

In order to develop bounds for what is acceptable for various AMMs, NiSource identifies in the MSHCP species-specific thresholds based on biologically relevant elements of the MSHCP that trigger adaptive management. In particular, the MSHCP outlines a range of species-specific adaptive management strategies that will be employed based on outcomes related to areas of uncertainty with species-specific AMMs (NiSource 2010a; Chapter 7).

An example of the proposed adaptive management program is that for the Nashville crayfish. NiSource states in its MSHCP that there is uncertainty associated with the mortality estimate for

moving Nashville crayfish outside of a stream crossing construction area. The hypothesis that has been developed relative to this topic is as follows: “*Nashville crayfish relocated outside of the construction area will not have more than 50 percent mortality within one month after relocation.*” Adaptive management will be employed to evaluate achievement of the estimated 50 percent survival rate of individuals relocated to the first three relocation areas outside of the construction area and if needed address any shortcomings. NiSource must mark, recapture, or otherwise determine the fate of relocated crayfish at three time periods (one week, one month, and six months) after relocation as compared to a control group of animals in similar habitat that have not been relocated. NiSource must also mark and recapture (or otherwise document impacts) a sample of the Nashville crayfish already inhabiting the relocation site to ensure efforts are not merely replacing one group with another. These studies will be performed for the first three relocation activities that NiSource conducts. The results will be used to appropriately adjust any compensatory mitigation requirements.

If it is discovered that the survival rate at any point prior to six months after relocation is below 50-percent, or if loss of Nashville crayfish previously inhabiting the relocation site is greater than 10-percent of reference site during the same period, then alternative adaptive management measures will be evaluated and implemented as necessary. Alternatives to evaluate if survival trigger is exceeded include the following:

- Relocate Nashville crayfish to suitable habitat in an unoccupied section of the project stream if available;
- Relocate Nashville crayfish to another Service approved stream having suitable habitat and within the range of the Nashville crayfish; and
- Relocate Nashville crayfish to artificial ponds with suitable habitat (or other Service approved temporary habitat) as a temporary measure until more data are available to support successful relocation into stream habitat within the species’ range (NiSource 2010a; Chapter 7, Page 10-11).

For a complete list of species-specific adaptive management strategies, refer to Chapter 7 of the MSHCP.

NiSource discusses the need to both identify and employ species-specific testable hypotheses as a cornerstone of adaptive management. The goal is to identify whether the monitoring completed on various species-specific AMMs and mitigation procedures actually demonstrates that the response of the MSHCP Species or its habitat is in line with expectations and model predictions, or whether there are unanticipated results.

NiSource has designed the adaptive management strategy in their MSHCP to keep their conservation program current and relevant. Annual reviews by the Service and updates to the MSHCP in response to monitoring and adaptive management will result in a living permit. As strategies are employed to address indications of effectiveness, the specific AMM, mitigation, or other conservation measure that is the focus of the adaptive management strategy will become part of the adaptive management program, subject to effectiveness monitoring as well. Where an AMM fails to provide the anticipated protection, the MSHCP, and if necessary, the ITP may be amended in accordance with Chapter 9 of the MSHCP. Similarly, if there is evidence that AMMs perform better than expected, the compensatory mitigation requirements may be reevaluated and reduced by the Service, if appropriate.

No Surprises Rule

By definition, adaptive management anticipates that there will be changes over time which will require modification to the conservation program and how it is implemented in order to continue to meet biological goals and objectives. The entire MSHCP, including the adaptive management strategy, is also subject to the federal “No Surprises Rule”, 63 FR 8859 (Feb. 23, 1998) (codified at 50 CFR §§ 17.3, 17.22(b), 17.32(b)). The “No Surprises Rule” provides assurances to Section 10 permit holders that, as long as the permittee is properly implementing the MSHCP, the IA, and the ITP, no additional commitment of land, water, or financial compensation will be required with respect to Covered Species (i.e., “take species”), and no restrictions on the use of land, water, or other natural resources will be imposed beyond those specified in the MSHCP without the consent of the permittee. The “No Surprises” Rule has two major components: changed circumstances and unforeseen circumstances. In response to this rule, NiSource has prepared its MSHCP to respond to a variety of circumstances and is requesting regulatory assurances for all MSHCP Species (see MSHCP Chapter 10). Changed circumstances reasonably anticipated and planned for in the MSHCP include; (1) Climate

Change; (2) Droughts; (3) Floods; (4) Fires; (5) Tornados; (6) Disease; (7) Invasive Species; 8) Species Range Expansion/Contraction; and 9) Species Listing/Delisting.

Changed circumstances are defined in the “No Surprises” Rule as “changes in circumstances affecting a species or geographic area covered by [an MSHCP] that can reasonably be anticipated by [plan] developers and the Service and that can be planned for (e.g., the listing of new species, or a fire or other natural catastrophic event in areas prone to such events).” (50 C.F.R. § 17.3). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances, and such measures were provided for in the MSHCP, the permittee will be required to implement such measures. (50 C.F.R. §§ 17.22(b)(5)(i), 17.32(b)(5)(i)). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances, and such measures were not provided for in the HCP, the Service will not require any additional measures beyond those provided for in the HCP, without the consent of the permittee, provided the HCP is being properly implemented. (50 C.F.R. §§ 17.22(b)(5)(ii), 17.32(b)(5)(ii)).

Unforeseen circumstances are defined 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 negotiation and development of the plan and that result in a substantial and adverse change in the status of the Covered Species. (50 C.F.R. § 17.3).

The Service bears the burden of demonstrating that unforeseen circumstances exist using the best available scientific and commercial data available while considering certain factors. (50 C.F.R. §§ 17.22(b)(5)(iii)(C) and 17.32(b)(5)(iii)(C)). In deciding whether unforeseen circumstances exist, the Service shall consider, but not be limited to, the following factors (50 C.F.R. §§ 17.22(b)(5)(iii)(C) and 17.32(b)(5)(iii)(C)):

1. The size of the current range of the affected species;
2. The percentage of the range adversely affected by the Covered Activities;
3. The percentage of the range that has been conserved by the MSHCP;
4. The ecological significance of that portion of the range affected by the MSHCP;

5. The level of knowledge about the affected species and the degree of specificity of the conservation program for that species under the MSHCP; and
6. Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the species in the wild.

In negotiating unforeseen circumstances, the Service will not require the commitment of 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 HCP without the consent of the permittee (50 C.F.R. §§ 17.22(b)(5)(iii)(A)). If additional conservation and mitigation measures are deemed necessary to respond to unforeseen circumstances, the Service may require additional measures of the permittee where the HCP is being properly implemented only if such measures are limited to modifications within conserved habitat areas, if any, or to the HCP's operating conservation program for the affected species, and maintain the original terms of the plan to the maximum extent possible. (50 C.F.R. §§ 17.22(b)(5)(iii)(B) and 17.32(b)(5)(iii)(B)). Additional conservation and mitigation measures will not involve the commitment of additional land, water or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the conservation plan without the consent of the permittee. Notwithstanding these assurances, nothing in the "No Surprises" Rule "will be construed to limit or constrain the [Service], any Federal agency, or a private entity, from taking additional actions, at its own expense, to protect or conserve a species included in a conservation plan." (50 C.F.R. §§ 17.22(b)(6) and 17.32(b)(6)).

In a letter dated November 19, 2012, to the Service's Midwest Regional Director Tom Melius, NiSource agreed to a one-time waiver of the No Surprises Assurances. NiSource envisions that through the five-year review meeting that will occur at year 25, NiSource and the Service – with the input of other stakeholders – will evaluate the MSHCP to ... "ensure that the implementation of the MSHCP is consistent with conservation needs of listed species". If needed, the MSHCP will be amended at that time to incorporate any additional commitments and/or needed restrictions.

2.3.2.14 Amendment Process

The MSHCP includes an amendment process that is consistent with the Service's permitting regulations and HCP handbook. The MSHCP (Chapter 9) describes three types of amendments that may be required over time: administrative, minor, and major. The Service is satisfied that appropriate mechanisms are in-place, including adaptive management and changed circumstances, to ensure the MSHCP remains protective of listed species over the 50-year duration of the ITP.

2.3.2.15 Permittee

NiSource is seeking an ITP for Covered Activities initiated by NiSource and its designated agents which include Columbia Gas Transmission, LLC, Columbia Gulf Transmission Company, Crossroads Pipeline Company, Central Kentucky Transmission Company, and NiSource Gas Transmission and Storage Company (referred collectively as "NiSource" throughout this EIS), as well as any master limited partnerships established by NiSource. The ITP, if granted, will not provide any ESA coverage for other individuals or entities, including landowners in the Covered Land. In addition, an ITP may be transferred in accordance with the Service's regulations, currently located at 50 CFR § 13.25.

2.3.3 Alternative 3 – Issuance of a 10-year ITP and Approval of the NiSource MSHCP

Alternative 3 considers issuance of a 10-year ITP and approval of the MSHCP. This Alternative involves the same issuance, approval, and acceptance actions detailed above in Alternative 2 except it considers a permit duration of 10-years, subject to renewal and amendments by NiSource.

Public input was received during scoping and the public review process with regard to the duration of the proposed ITP. Specifically, input was received suggesting that a 50-year ITP was too long. All of the associated comments suggested that the ITP term be shortened, but most did not include a suggestion for an alternative timeframe. One commenter did however recommend a 10-year permit term, and inter-agency discussions have raised the 10-year ITP timeframe as a potentially workable option based on prior MSHCP experience. To avoid evaluation of an unreasonable number of alternatives associated with different permit durations,

the decision was made to evaluate two alternative durations for the MSHCP and requested incidental take permit: a 50-year permit term and a 10-year permit term.

As earlier stated, the Service's Five-Point Policy for Habitat Conservation Plans (HCPs) directs the Service to consider the following factors when evaluating the proposed duration of an incidental take permit: the duration of the applicant's proposed activities; the possible positive and negative effects on Covered Species associated with the proposed duration, including the extent to which the conservation plan will enhance the habitat of listed species and increase the long-term survivability of such species; the extent of information underlying the HCP; the length of time necessary to implement and achieve the benefits of the operating conservation program; and the extent to which the program incorporates adaptive management strategies.

NiSource Covered Activities are on-going and expected to occur indefinitely into the future. Under Alternative 2, NiSource has committed to mitigate for all anticipated impacts resulting from operation and maintenance activities over a 50-year period within the first seven years of MSHCP implementation. Under this Alternative, NiSource would not mitigate all of their O&M impacts up-front, thus the conservation benefits to species would be significantly reduced to annual take during the permit duration.

NiSource has indicated that a 10-year permit duration will not ensure them that costs associated with the development of the MSHCP could be recovered. Streamlining benefits associated with ESA regulatory compliance for take species would not be realized over a sufficient period that the savings in implementation will be greater than the financial commitment to planning their MSHCP.

Issuing a 10-year ITP could allow for a formalized application review process to occur. The Service's permit regulations require that a renewal or amendment application be made available for public review and comment. An amendment or renewal request by NiSource could result in another 10-year term, or a longer permit term, since the nature of the request is the permit holder's prerogative. Similarly, the agency would need to evaluate the NEPA analysis completed to determine whether this EIS remained sufficient to analyze project impacts beyond the existing permit timeframe. This NEPA review would also be subject to public review concurrent with the permit renewal application. Under any Alternative, a public review process would occur in the event of an application to amend the permit, which is expected to occur.

2.4 Summary and Comparison of Alternatives Considered for Detailed Analysis

Table 2.4-1 provides an overview summary of each of the three alternatives by major feature, while **Table 2.4-2** provides a summary and comparison of the three alternatives considered for detailed analysis in Chapter 4.

Table 2.4-1: Alternative Comparison by Major Feature

Topic	No Action Alternative	Proposed Action	10-Year Duration Alternative
Permit Duration	No permit issued; NiSource would continue to operate status quo implementing their business without a comprehensive conservation plan for Threatened and Endangered Species.	50 years with possible renewal	10 years with possible renewal
Covered Lands	No constraints. Determined on a project by project basis	9.8 million acres	9.8 million acres
MSHCP Species	Listed species will be determined based on the action area of each project	See Table 2.3-1 for MSHCP Species; however additional listed species addressed as appropriate.	See Table 2.3-1 for MSHCP Species; however additional listed species addressed as appropriate.
Covered Activities	Same. See Appendix B.	Same. See Appendix B	Same. See Appendix B
Conservation Strategy	Determined independently for each project by each Field Office involved	Commitments to avoid, minimize, and mitigate for projected impacts, including take of MSHCP species; including all upfront O&M mitigation during the first 7 years of the permit allowing benefits to accrue to species for the remainder of the permit duration.	Commitments to avoid, minimize, and mitigate for projected impacts, including take of MSHCP species

Topic	No Action Alternative	Proposed Action	10-Year Duration Alternative
Monitoring and Reporting	Determined on a project by project basis	Compliance monitoring, effects and effectiveness monitoring, and annual reporting	Compliance monitoring, effects and effectiveness monitoring, and annual reporting
Adaptive Management	Determined on a project by project basis	Adaptive management program is based on results of monitoring and reporting; components of the conservation strategy may then be modified based on results of adaptive management.	Adaptive management program is based on results of monitoring and reporting Insufficient timeframe within which to gain and apply knowledge with subsequent monitoring to determine success.
No Surprises Rule	No Surprises not available through Section 7 consultation	Regulatory assurances for all MSHCP Species included for the following reasonably anticipated and planned changed circumstances: (1) Climate Change; (2) Droughts; (3) Floods; (4) Fires; (5) Tornados; (6) Disease; (7) Invasive Species; (8) Species Range Expansion/ Contraction; and (9) Species Listing/ Delisting.	Regulatory assurances for all MSHCP Species included for the following reasonably anticipated and planned changed circumstances: (1) Climate Change; (2) Droughts; (3) Floods; (4) Fires; (5) Tornados; (6) Disease; (7) Invasive Species; (8) Species Range Expansion/ Contraction; and (9) Species Listing/ Delisting.
Amendment Process	No MSHCP; nothing to amend	MSHCP, ITP, and IA can be amended via administrative, minor, or major amendment processes. NiSource would waive No Surprises Assurances at year 25.	MSHCP, ITP, and IA can be amended via administrative, minor, or major amendment processes.
Permittee	No permit issued	NiSource and its designated agents	NiSource and its designated agents

Table 2.4-2: Comparison of Alternatives Considered for Detailed Analysis

NiSource Goal	Streamline Future ESA and NEPA Compliance	Enhanced Conservation and Recovery of MSHCP Species	Develop and Coordinate Mitigation Opportunities	Foster Efficient Use of Time and Money
No Action Alternative	No opportunity	None	None	Advantages of efficiency and streamlining associated with Proposed Action would not be realized
Applicants Preferred Alternative	Yes	Yes, through conservation and mitigation programs, including upfront O&M mitigation for entire permit duration during first 7 years	Yes, through mitigation program using green infrastructure network.	Yes, through negating individual project reviews allowing reallocation of resources to other higher priority conservation activities for duration of the permit.
Reduced Duration Alternative	Yes, during the duration of the permit	Yes, through conservation and mitigation programs.	Yes through mitigation program during ten-year permit term using green infrastructure network.	Yes, negating individual project reviews allowing reallocation of resources to other higher priority conservation activities during ten-year permit term