

# Document Review for an Interstate Pipeline Nebraska

July 27, 2017

## Purpose

The purpose of this document is to summarize a document review for an interstate pipeline and federally listed threatened and endangered species, including plants, animals, fish, and invertebrates, as required for compliance with the National Environmental Policy Act (NEPA) and the Endangered Species Act of 1973, as amended (ESA) (16 United States Code (USC) 1531 et seq.). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. Adverse effects on a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 or 10 of the ESA. Additionally, any project that involves federal funding, any federal permit or approval, use of federal lands, or a federal program (federal nexus) must also evaluate whether the project would result in the destruction or adverse modification to federally designated critical habitat (16 USC 1536[2], [3]).

## Documents Reviewed

### 2014 Final Supplemental Environmental Impact Statement (EIS) and Record of Decision (ROD)

The Department of State assumed lead federal agency status for NEPA and ESA compliance. The Final Supplemental Environmental Impact Statement (FSEIS) generally satisfied NEPA requirements regarding the ESA. The FSEIS described the affected environment pertaining to federal threatened, endangered, proposed, or candidate species, in addition to species under consideration for listing. The FSEIS provided summaries of occurrence and life history of these species based on available literature, consultations and correspondence with federal and state agencies, agency-required site-specific surveys, public and agency websites, and review of state natural heritage data.

The FSEIS identified 14 federally protected, proposed, and candidate species potentially occurring along the proposed project route. Of the 14 species, 10 potentially occur in Nebraska. One mammal species, the gray wolf (*Canis lupis*), was eliminated from further analysis because no populations of gray wolves are in South Dakota or Nebraska and the species is no longer listed in Montana. The Eskimo curlew (*Numenius borealis*) was eliminated from further FSEIS analysis because this species has not been found in any of the states along the pipeline route since 1963 and in Nebraska since 1926. Two species, the Topeka shiner (*Notropis topeka*) and blowout penstemon (*Penstemon haydenii*), would not be affected by the project because the project route is outside the range of these species (note: the pipeline was

rerouted further east than the original alignment to avoid habitat for the blowout penstemon and other protected species). The project route occurs within the ranges of three species: the northern long-eared bat (*Myotis septentrionalis*), American burying beetle (*Nicrophorus americanus*), and western prairie fringed orchid (*Platanthera praeclara*); and these species are discussed in more detail below. The FSEIS made a preliminary finding of may affect, not likely to adversely affect, all other protected species reviewed in the document. However, a recent search of the project area on the Information for Planning and Consultation (IPaC) website (<https://ecos.fws.gov/ipac/project/7SLPTRY4ZRFSPN2EQ6PUVQNNEA/resources#endangered-species>) found one additional threatened species, the red knot (*Calidris canutus rufa*), potentially occurring along the route in York County, Nebraska (USFWS 2017).

### **Northern Long-Eared Bat - Threatened**

The northern long eared bat was a species proposed for listing at the time of preparation of the FSEIS, but has since been listed as a threatened species in 2015 (80 Federal Register (FR) 17973-18033). In Nebraska, northern long-eared bats have been observed at two quarries located in east-central Nebraska, but no survey data exist for either of these sites (USFWS 2013). The bats are also known to summer in the northwestern parts of Nebraska, specifically Pine Ridge in Sheridan County (only males have been documented), and a reproducing population has been documented north of Valentine in Cherry County (USFWS 2013). During an acoustic survey conducted during the summer of 2012, the species was common in Cass County (east-central Nebraska), but was uncommon or absent from extreme southeastern Nebraska (USFWS 2013).

### ***Avoidance and Conservation Measures***

The FSEIS disclosed that the northern long-eared bat may be impacted by proposed project construction or operations. Summer or winter roosts may occur in the proposed project area. Bats flying over the pipeline route are expected to avoid the ground-based construction and operation activities. The project would include using the horizontal directional drill (HDD) method to cross major and sensitive rivers, thereby avoiding most riparian vegetation used by the northern long-eared bat. In addition, the USFWS has determined that critical habitat for the northern long-eared bat is not determinable at this time, so no impacts on critical habitat for the northern long-eared bat would occur (USFWS 2013).

### **American Burying Beetle - Threatened**

American burying beetles occur at high concentrations in two Nebraska regions. In southern Nebraska, the beetles occur in loess canyons; and in the north, a large population occurs in the Nebraska Department of Environmental Quality-identified Sand Hills Region, centered around Rock and Brown Counties. However, the beetles also occur in other locations in Nebraska. The pipeline was rerouted further east than the original alignment to avoid and minimize impacts on habitat for the American burying beetle and other protected species.

From 2008 to 2012, reconnaissance surveys of habitat suitability for the American burying beetle along the proposed pipeline route in South Dakota and Nebraska were conducted, and the habitat was rated based on the Nebraska habitat readings system that reflects the potential for American burying beetle

occurrence based on general habitat characteristics (Hoback 2010). Based on 2012 presence/absence sampling, approximately 50 miles of the reroute in Nebraska would affect habitat occupied by low numbers of American burying beetles. These surveys were conducted at 54 sites in northern Keya Paha, Holt, Antelope, and Boyd Counties (Hoback 2012). During the August 2012 survey, American burying beetles were found in Holt and Keya Paha Counties. No American burying beetles were captured in Boyd or Antelope County.

The proposed project would temporarily impact approximately 967 acres and permanently impact approximately 172 acres of beetle habitat in Nebraska. Direct impacts on American burying beetles could occur as a result of proposed project construction during vegetation clearing, site grading, and trench excavation, which could result in temporary habitat loss, potential alteration of suitable habitat to unsuitable habitat, temporary habitat fragmentation where the pipeline is not already located next to other utilities, and potential mortality to eggs, larvae, and adults through construction vehicle traffic and exposure during excavation. In addition, artificial lighting has the potential to disrupt American burying beetle feeding behavior and increase mortality through predation.

### ***Avoidance and Conservation Measures***

Most normal construction would take place during daylight hours, and construction areas would use artificial lighting infrequently. Activities that could potentially require artificial lighting include critical pipeline tie-ins, HDD crossings, and certain work required after sunset due to weather, safety, or other requirements. HDD crossings may require 24-hour operation until the crossing is completed. The pipeline has committed to 17 conservation measures including timing, implementing spatial and construction constraints, implementing trapping and relocating activities, and funding for studies and monitoring (see Appendix A for a comprehensive list of conservation measures by species).

### **Western Prairie Fringed Orchid - Threatened**

In Nebraska, the western prairie fringed orchid occurs in Keya Paha, Rock, Holt, Antelope, and Boone Counties (Nebraska Game and Parks Commission (NGPC) 2013a; NGPC, pers. comm. 2013b). In May and June 2012, surveys were conducted along the proposed route in suitable habitat in Holt, Antelope, and Boone Counties in Nebraska. One western prairie fringed orchid was located in 2009 at a wetland in the previously proposed project right-of-way (ROW). Two plants were located at the same site in 2011. No western prairie fringed orchids were detected during surveys along the proposed project route in Nebraska in 2012, although suitable habitat was present in several areas. Some areas of potentially suitable habitat were not surveyed due to access denial.

Pipeline construction could potentially disturb western prairie fringed orchids when vegetation is cleared and graded. Construction of permanent ancillary facilities could displace plant communities for the lifetime of the proposed project. Revegetation of the proposed pipeline ROW could introduce or expand invasive species, especially leafy spurge (*Euphorbia esula*), Kentucky bluegrass (*Poa pretensis*), and Canada thistle (*Cirsium canadensis*), into the proposed project area, potentially contributing to the decline of western prairie fringed orchid. Weed and vegetation monitoring plans would be implemented to prevent the spread of invasive species as a consequence of proposed project

construction and operation (see Appendix G of the FSEIS). The species could be impacted through disturbance to its habitat. Western prairie fringed orchid may also be impacted by alterations to the hydrology of subirrigated wetland habitat areas along the Platte River resulting from depletions to the Platte River system. Operation of the proposed project would not be expected to result in impacts on the western prairie fringed orchid.

### ***Avoidance and Conservation Measures***

Pipeline and power providers have committed to implementation of conservation measures for the western prairie fringed orchid where suitable habitat is present. Habitat suitability surveys will be conducted by a qualified person approved by the USFWS. Conservation measures to protect any orchids identified during surveys may include rerouting around or reducing the ROW to avoid orchids, transplanting individual plants, salvaging seed sources, establishing a habitat conservation trust, and complying with orchid revegetation and monitoring requirements identified in the Biological Assessment (BA). A full list of conservation measures for the western prairie fringed orchid is provided in Appendix A.

### **Bald and Golden Eagles**

Bald eagles (*Haliaeetus leucocephalus*) occur throughout the proposed project area. Four active bald eagle nests were documented during raptor nest surveys for the previously proposed project during April 2009 – two in Montana and two in Nebraska. Five active bald eagle nests were documented during raptor nest surveys during April 2010. Twelve bald eagle winter roost sites were identified during surveys during February 2009, including six at proposed river crossings in Nebraska (Platte River, Loup River, Cedar River, Dry Creek, Niobrara River, and Keya Paha River) (note: the two eagle nests and six winter roost sites in Nebraska were along the previously proposed route, not the currently proposed project route). Surveys for the Nebraska reroute, which has changed from the route evaluated in the Final EIS, have been conducted, but the results were not provided in the FSEIS.

Temporal restrictions and buffer zones should be applied to active bald eagle nests within and near the project corridor to avoid potential take and violation of the Bald and Golden Eagle Protection Act (BGEPA). The FSEIS presented a table (Table 4.6-3) of the general spatial buffer restrictions and nesting seasons for raptors potentially present in the project area. The spatial buffer for bald eagles presented in this table is 0.5 to 1.0 mile from January 1 through August 31.

### ***Avoidance and Conservation Measures***

The pipeline project includes developing and implementing a conservation plan, in consultation with the USFWS, consistent with the Migratory Bird Treaty Act (MBTA), BGEPA, and Executive Order (EO) 13186, by providing avoidance and mitigation measures for migratory birds and bald and golden eagles and their habitats within the states where the proposed project would be constructed, operated, and maintained. Additional measures to reduce impacts on bald eagles include conducting aerial nest/roost survey within 1 mile of the project ROW, maintaining a no disturbance buffer of at least 600 feet around active nests during the nesting season (January 1 through August 15), and consulting with the USFWS

under the BGEPA regarding required buffers and construction activities within 600 feet of active winter roosts. A full list of conservation measures for bald and golden eagles is provided in Appendix A.

### **Recreational Fisheries**

This section discusses the review of the FSEIS for the likely impacts on fisheries used for recreational purposes. According to the FSEIS, the proposed route would cross rivers and streams, including perennial streams that support recreational or commercial fisheries. More than half of the project crossings of these streams would occur in Nebraska, where 31 crossings (of 27 different perennial streams with known or potential habitat for fish of recreational or commercial value) would occur. The HDD method would be used to cross the Keya Paha, Niobrara, Elkhorn, Loup, and Platte Rivers, while the other crossings would use open-cut methods.

The FSEIS identifies 23 recreational/commercially important fish (Table 3.7-1) in Nebraska, as well as their spawning periods. Perennial river crossings are classified according to their support of coldwater or warmwater fisheries. According to the FSEIS, most potential impacts on fishery resources would occur during construction and would be temporary or short term. Potential impacts from construction of stream crossings include siltation, sedimentation, bank erosion, sediment deposition, short-term delays in fish movements, and transport and spread of aquatic invasive animals and plants. These impacts would be mitigated by the measures described in Appendix G.

Waterbodies with recreationally and/or commercially valuable fish species would be crossed using site-specific waterbody crossing plans designed to reduce impacts on these important resources. As described in Section 4.3, Water Resources of the FSEIS, impacts on recreational use on these waterbodies due to construction would generally be temporary. These impacts could include temporary alterations in water volume, as well as alteration of the streambed and bank structure, habitat reduction or alteration, increased sediment, riparian vegetation loss, introduction of nonnative vegetation, and reduction of the population of recreational fish species.

Most streams would be crossed using one of several open-cut (trenching) methods. Most stream crossings would be completed in less than two days, grading and disturbance to waterbody banks would be minimized, and crossings would be timed to avoid sensitive spawning periods, such that resulting streambed disturbance and sediment impacts would be temporary and minimized. Most large rivers would be crossed using HDD methods, which would install the pipeline well below the active river bed. As a result, direct disturbance to the river bed, fish, aquatic animals and plants, and riverbanks would be avoided.

Impacts on fisheries used for recreational purposes as a result of a breach of the proposed pipeline would not be likely. The project proponent has agreed to develop site-specific contingency plans to address unintended releases of drilling fluids that include preventive measures and a spill response plan.

Aside from a release that affects recreational activities, impacts of operation of the proposed project on recreation would be minimal. Section 4.13, Potential Releases of the FSEIS discusses the potential impacts on recreational activities due to potential releases as it relates to species and land use overall.

The evaluation of impact severity on land use in Table 4.13-5 of the FSEIS is also applicable to recreation: large releases are less likely, but would include a broader and more severe set of potential effects. As described in the Construction Mitigation and Reclamation Plan (see Appendix G), compensation for damages associated with disruptions to recreational use, activities, and revenue would be negotiated with affected landowners.

### **Reptiles and Amphibians**

The FSEIS provides an impact overview in the overall category of “Reptiles and Amphibians,” providing a list of potential impact types as follows: Hindered Movements, Disturbance-Construction Maintenance, and Human Intrusions. All of these types of disturbance would occur during construction and would generally be confined to the construction corridor. Long-term effects are not discussed, although some indirect effects would also be long-term. Effects would include attracting reptiles and amphibians to the corridor due to warmth generated by the pipeline and habitat and other indirect impacts that would occur due to soil compaction and changes in vegetation cover and structure over the pipeline. These changes would be confined to the maintained ROW.

More specific impacts on reptiles and amphibians include direct mortality and loss of young and habitat. Amphibian burrows would likely be destroyed during construction if they occurred within the construction ROW. If timing of the open-trench excavation coincides with migration of reptiles (snakes) and amphibians to their hibernation and breeding sites, large numbers of amphibians could become trapped within the open trench. Trapped amphibians that may not be noticed by construction crews would likely not survive if they became trapped. Displacement of amphibians from disturbance areas would be short term, as amphibians would be expected to return and recolonize the ROW after construction, although compacted areas such as temporary work spaces may become less suitable habitat. Erosion-control blankets—especially those supported by fine, non-biodegradable, monofilament meshes—could entangle and entrap snakes, frogs, salamanders, and other reptiles and amphibians. Ripping for construction through rock outcrops, which may provide hibernacula (winter hibernation locations) for reptiles and amphibians, could destroy all or portions of these habitats within the ROW.

Indirect impacts may occur, such as soil compaction and reduction in vegetation cover/height, that may make habitat less suitable for several years after construction (Lauzon et al. 2002). Amphibians may be attracted by the warmth generated by the pipeline, especially during fall, winter, and spring months. This could increase some amphibian mortality by triggering early emergence in burrowing amphibians when prey are scarce and cold air temperatures cause emergent adult mortality. Elevated temperatures could also increase metabolic rates such that overwintering burrowing amphibians starve prior to emergence, and the increased temperatures could also cause drying of soils, causing burrowing amphibians to desiccate. Changes in vegetation cover and structure over the maintained ROW could inhibit movements of amphibians. Reduction in riparian shrubs and trees could reduce riparian habitat function in local areas as a movement corridor for amphibians. Differences in vegetation cover between the ROW and the surrounding landscape could act as a barrier for amphibians, while acting as a

movement corridor for predators. Communication towers at pump stations may provide vantage perches and artificial nesting habitat for raptors, ravens, or crows, which may prey on amphibians.

The project route does not occur within any habitat for the state threatened western massasauga; however, interconnected power lines could cross areas with suitable habitat. The Nebraska Power Review Board found that the project is unlikely to adversely impact this species. If a massasauga is encountered during construction of power lines, it will not be handled or destroyed unless it poses an eminent threat to human life.

### ***Mitigation***

Reclamation efforts should mitigate many of the potential long-term and direct effects discussed above. However, all reclamation materials, sediment- and erosion-control blankets, bales, and other materials should use only biodegradable mesh. Direct effects could also be mitigated—for example, for burrowing species or species in migration—through timing restrictions in sensitive areas or training construction operators to identify the animals and relocate them. Appendix G contains a list of construction, mitigation, and reclamation methods; including consulting with appropriate agencies to establish measures to avoid or mitigate wildlife migration concerns. However, nothing in the appendix specifically addresses reptiles and amphibians. The project proponent should consult with agencies to mitigate reptile and amphibian seasonal and migration concerns as well as big game and other wildlife.

### **2012 BA, 2012 BA Errata, and 2013 Biological Opinion (Appendix H of FSEIS)**

The 2012 BA addressed 13 federally protected or candidate species that were identified by the Department, the USFWS, and state wildlife agencies as potentially occurring in the proposed project area. On August 28, 2012, the Department submitted a list of federally protected and candidate species and federally designated critical habitat to the USFWS for the proposed project area. Preliminary impact determinations were based on: 1) correspondence with the USFWS, Bureau of Land Management, and state wildlife agencies; 2) habitat requirements and the known distribution of these species within the proposed project area; and 3) habitat analyses and field surveys that were conducted for these species from 2008 through 2012. Potential impacts associated with electrical infrastructure required for the proposed project were based on the 2008 through 2012 biological surveys where available. The proposed project would also include several connected actions including: (1) the Bakken Marketlink Project; (2) the Big Bend to Witten 230-kV Transmission Line; and (3) Electrical Distribution Lines and Substations.

The 2012 BA evaluated two mammals, six birds, two fish, one invertebrate, and two plants. After review of these 13 species, the Department indicated the proposed project would likely adversely affect one species, would not likely adversely affect eight species with implementation of proposed conservation measures, and would have no effect on four species. Four federally protected or candidate species initially identified as potentially occurring within the proposed project area were evaluated during consultation, but were eliminated from detailed analysis based on further review of the location of the proposed project relative to known species distributions, habitat important to the species, or additional information provided by federal or state agencies. These four species were the gray wolf (*Canis lupus*),

Eskimo curlew (*Numenius borealis*), Topeka shiner (*Notropis topeka*), and blowout penstemon (*Penstemon haydenii*). The USFWS acknowledged the “no effects” determinations made by the Department for these four species (USFWS 2013).

The USFWS concurred with the determinations made by the Department in the 2012 BA that the proposed project may affect, but is not likely to adversely affect, the endangered black-footed ferret, interior least tern, whooping crane, and pallid sturgeon; and the threatened piping plover and western prairie fringed orchid (USFWS 2013). These determinations were based on the adequacy of the conservation measures (see Appendix A). The USFWS further concurred with the Department’s determination that the proposed project, along with the effects of interrelated and interdependent actions, may affect, and is likely to adversely affect, the American burying beetle (USFWS 2013).

## **Regulatory Setting**

### **National Environmental Policy Act**

Congress enacted NEPA in December 1969, and President Nixon signed it into law on January 1, 1970 (22 Code of Federal Regulations (CFR) 161, as amended; 42 United States Code (USC) 4321 et seq.; EO 11514; 34 FR 4247, as amended by EO 11991; 42 FR 26927; 22 USC 2658, as amended). NEPA requires agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Two major purposes of the environmental review process are better informed decisions and citizen involvement, both of which should lead to implementation of NEPA’s policies. Every action involving federal agency discretion to choose among one or more alternative means of accomplishing a particular goal requires NEPA compliance. Common federal actions requiring NEPA include projects requiring federal funding, permitting, design assistance, or other authority. NEPA’s implementing regulations, issued by the Council on Environmental Quality (CEQ) in 1978, provide direction to agencies for completing the NEPA process. The CEQ regulations also required each agency to develop their own agency-specific implementing procedures.

### **Endangered Species Act**

Federally threatened and endangered species are protected under the ESA. Significant adverse effects on a federally listed species or its habitat require consultation with the USFWS under Section 7 or 10 of the ESA. No regulations require consultations for effects on candidate species; however, if a species were to become listed during project planning or construction, consultation with the USFWS would be required.

### **Bald and Golden Eagle Protection Act**

On August 8, 2007, the bald eagle was removed from the list of threatened and endangered species protected under the ESA (72 FR 37346). Although the bald eagle is no longer protected under the ESA, bald eagles will continue to be protected by two other major federal laws – the MBTA and the BGEPA. In addition, state governments can enact state laws that afford more protection than federal laws to conserve wildlife species.



The BGEPA prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export, or import of any bald or golden eagle, alive or dead, including any part, nest, or egg (16 USC 668(a); 50 CFR 22). “Take” is defined as “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” a bald or golden eagle. The term “disturb” under the BGEPA is defined (72 FR 31332) as “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.”

### **Migratory Bird Treaty Act**

Migratory birds, as well as their eggs and nests, are protected under the MBTA. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal (USFWS 2003). The regulatory definition of a take means to “pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12).

Under the MBTA, the USFWS may issue nest depredation permits, which allow a permittee to remove an active nest. The USFWS, however, issues few permits and only under specific circumstances, usually related to human health and safety. Obtaining a nest depredation permit is unlikely and involves a process that may take a significant amount of time.

### **Nebraska Species Regulations**

In Nebraska, threatened and endangered species are protected under the Nebraska Nongame and Endangered Species Conservation Act (Nebraska Rev. Stat. § 37-801 through 37-811). The lead agency in charge of implementing this law is the NGPC. In addition, Nebraska has special laws that protect all birds except game birds, English sparrows, European starlings, and pigeons other than Antwerp or homing pigeons (§ 37-237.01). It is unlawful to hunt, have in possession, take, or needlessly destroy the nests or eggs of any protected birds (§ 37.540).

## **Conclusions**

The FSEIS generally provides detailed descriptions of the proposed project and thoroughly evaluates potential impacts on federally protected species, including species protected under the ESA, MBTA, and BGEPA. Mitigation and other conservation measures are presented for protected species that generally provide effective mitigation.

### **Migratory Birds**

The FSEIS acknowledges direct and indirect impacts and incorporates some conservation measures (e.g., perch deterrents) to minimize bird collisions, electrocution, and raptor and corvid predation on migratory birds’ eggs and young from interconnected powerline components of the project, but it does not provide definitive mitigation to avoid and minimize take of migratory birds during construction. Many pipeline projects implement temporal restrictions or clearance surveys prior to construction and

the FSEIS requires some of these measures in South Dakota and specific counties in Montana; however, none are required for Nebraska. The FSEIS presents measures to reduce impacts on native grasslands and wildlife, including developing and implementing a migratory bird conservation plan consistent with the MBTA, BGEPA, and EO 13196. This plan will be developed in consultation with the USFWS.

### **Bald Eagles**

The FSEIS presents measures to reduce impacts on bald eagles, including developing and implementing a migratory bird conservation plan consistent with the BGEPA. This plan will be developed in consultation with the USFWS. The project proponent will conduct aerial nest/roost surveys within 1 mile of the project ROW, but if an active nest or roost is located, spatial buffers can be as small as 600 feet from the active nest/roost site from January 1 through August 15. This conflicts with the spatial buffers in the FSEIS that recommend buffers 0.5 to 1.0 mile from January 1 through August 31.

### **Recreational Fisheries**

The FSEIS identifies 23 recreational/commercially important fish (Table 3.7-1) in Nebraska, as well as their spawning periods. Perennial river crossings are classified according to their support of coldwater or warmwater fisheries. According to the FSEIS, most potential impacts on fishery resources would occur during construction and would be temporary or short term.

Appendix G contains a list of construction, mitigation, and reclamation methods. Descriptions of each method are included, but there is nothing that links the method to each specific crossing that is identified in Appendix D (which is a list of all waterways crossed in each state). In addition, neither the table of the waterways crossed (Appendix D) nor the analysis in the FSEIS identify the species of recreational or sensitive fish species present in the project area. Ideally, waters that provide habitat for important recreational or sensitive fisheries would be identified and the type of crossing method disclosed.

### **Reptiles and Amphibians**

Impacts on reptiles and amphibians include direct mortality and loss of young and habitat. Amphibian burrows would likely be destroyed during construction if they occurred within the construction ROW. If the timing of the open-trench excavation coincides with migration of reptiles (snakes) and amphibians to their hibernation and breeding sites, large numbers of amphibians could become trapped within the open trench. Construction through rock outcrops could destroy local hibernaculum, and reclamation and sediment-control measures that use nonbiodegradable monofilament meshes could entangle and entrap snakes, frogs, salamanders, and other reptiles and amphibians.

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