



ROVER PIPELINE

An ENERGY TRANSFER Company

ROVER PIPELINE LLC

Rover Pipeline Project

***RESOURCE REPORT 3
Fisheries, Vegetation, and Wildlife***

FERC Docket No. CP15-____-000

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LIST OF ACRONYMS

BCR	Bird Conservation Region
°C	degrees Celsius
CFR	Code of Federal Regulations
CGT	Columbia Gas Transmission
cm	Centimeter
CMNH	Cleveland Museum of Natural History
EFH	essential fish habitat
ESA	Endangered Species Act
°F	degrees Fahrenheit
FERC or Commission	Federal Energy Regulatory Commission
HDD	horizontal directional drill
hp	Horsepower
km	kilometer
MBTA	Migratory Bird Treaty Act
MDNR	Michigan Department of Natural Resources
mm	Millimeter
MNFI	Michigan Natural Features Inventory
MOU	Memorandum of Understanding
MP	Milepost
NABCI	North American Bird Conservation Initiative
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
OEPC	Department of Interior, Office of Environmental Policy and Compliance, Philadelphia, Pennsylvania
PDCNR	Pennsylvania Department of Conservation and Natural Resources
PFBC	Pennsylvania Fish and Boat Commission
PGC	Pennsylvania Game Commission
PNDI	Pennsylvania Natural Diversity Inventory
Rover Plan	<i>Rover Upland Erosion Control, Revegetation, and Maintenance Plan</i>
Rover Procedures	Rover Waterbody and Wetland Construction and Mitigation Procedures
Project	Rover Pipeline Project
Rover	Rover Pipeline LLC
U.S.	United States
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USFWS-Columbus	USFWS Columbus Ecological Services Field Office
USFWS-Elkins	USFWS West Virginia Ecological Services Field Office
USGS	United States Geological Survey
WVDNR	West Virginia Department of Natural Resources



RESOURCE REPORT 3 -- FISHERIES, WILDLIFE, AND VEGETATION	
Filing Requirement	Location in Environmental Report
<ul style="list-style-type: none"> Describe commercial and recreational warmwater, coldwater, and saltwater fisheries in the affected area and associated significant habitats such as spawning or rearing areas and estuaries. (§ 380.12 (e) (1)) 	Section 3.1, Table 3A-1 in Appendix 3A
<ul style="list-style-type: none"> Describe terrestrial habitats, including wetlands, typical wildlife habitats, and rare, unique, or otherwise significant habitats that might be affected by the proposed action. Describe typical species that have commercial, recreational, or aesthetic value. (§ 380.12 (e) (2)) 	Sections 3.2 and 3.3, Tables 3A-2, 3A-3, and 3A-5 in Appendix 3A
<ul style="list-style-type: none"> Describe and provide the affected acreage of vegetation cover types that would be affected, including unique ecosystems or communities such as remnant prairie or old-growth forest, or significant individual plants, such as old-growth specimen trees. (§ 380.12 (e) (3)) 	Section 3.2.3
<ul style="list-style-type: none"> Describe the impact of construction and operation on aquatic and terrestrial species and their habitats, including the possibility of a major alteration to ecosystems or biodiversity, and any potential impact on state listed endangered or threatened species. Describe the impact of maintenance, clearing and treatment of the project area on fish, wildlife, and vegetation. Surveys may be required to determine specific areas of significant habitats or communities of species of special concern to state or local agencies. (§ 380.12 (e) (4)) 	Sections 3.1.3, 3.2.3, and 3.3.2
<ul style="list-style-type: none"> Identify all federally listed or proposed endangered or threatened species and critical habitat that potentially occur in the vicinity of the project. Discuss the results of the consultation requirements listed in Sec. 380.13(b) at least through Sec. 380.13(b)(5)(i) and include any written correspondence that resulted from the consultation. The initial application must include the results of any required surveys unless seasonal considerations make this impractical. If species surveys are impractical, there must be field surveys to determine the presence of suitable habitat unless the entire project area is suitable habitat. (§ 380.12 (e) (5)) 	Section 3.4; Tables 3A-6 through 3A-15 in Appendix 3A
<ul style="list-style-type: none"> Identify all federally listed essential fish habitat (EFH) that potentially occurs in the vicinity of the project. Provide information on all EFH, as identified by the pertinent Federal fishery management plans that may be adversely affected by the project and the results of abbreviated consultations with NMFS, and any resulting EFH assessments. (§ 380.12 (e) (6)) 	Section 3.1 and Resource Report 1, Volume IIB, Attachment 1D
<ul style="list-style-type: none"> Describe site-specific mitigation measures to minimize impacts on fisheries, wildlife, and vegetation. (§ 380.12 (e) (7)) 	Sections 3.1.3, 3.2.3, and 3.3.2
<ul style="list-style-type: none"> Include copies of correspondence not provided pursuant to paragraph (e)(5) of this section, containing recommendations from appropriate Federal and state fish and wildlife agencies to avoid or limit impact on wildlife, fisheries, and vegetation, and the applicant’s response to the recommendations. (§ 380.12 (e) (8)) 	Resource Report 1 Volume IIB, Attachment 1D



3.0 FISHERIES, VEGETATION, AND WILDLIFE

Rover Pipeline LLC (Rover) is seeking authorization from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act to construct, own, and operate the proposed Rover Pipeline Project (Project). The Rover Pipeline Project is a new natural gas pipeline system that will consist of approximately 711.2 miles of Supply Laterals and Mainlines, 10 compressor stations, and associated meter stations and other aboveground facilities that will be located in parts of West Virginia, Pennsylvania, Ohio, and Michigan. The Project will include approximately 509.1 miles of proposed right-of-way, extending from the vicinity of New Milton, Doddridge County, West Virginia to the vicinity of Howell, Livingston County, Michigan.

The Project will consist of the following components and facilities:

- Supply Laterals:
 - eight supply laterals consisting of approximately 199.7 miles of 24-, 30-, 36-, and 42-inch-diameter pipeline in West Virginia, Pennsylvania, and Ohio,
 - two parallel supply laterals, each consisting of approximately 18.8 miles (for a total of approximately 37.6 miles) of 42-inch-diameter pipeline (Supply Connector Lateral Line A and Line B) in Ohio,
 - approximately 72,645 horsepower (hp) at six new compressor stations to be located in Doddridge and Marshall counties, West Virginia; Washington County, Pennsylvania; and Noble, Monroe, and Harrison counties, Ohio, and
 - two new delivery, 11 new receipt, and two bidirectional meter stations on the Supply Laterals.

- Mainlines A and B:
 - approximately 190.6 miles of 42-inch-diameter pipeline (Mainline A) in Ohio,
 - approximately 183.3 miles of parallel 42-inch-diameter pipeline (Mainline B) in Ohio,
 - approximately 114,945 hp at three new compressor stations to be located in Carroll, Wayne, and Crawford counties, Ohio, and
 - two new delivery meter stations in Defiance County, Ohio.

- Market Segment:
 - approximately 100.0 miles of 42-inch diameter pipeline in Ohio and Michigan,
 - approximately 25,830 hp at one new compressor station to be located in Defiance County, Ohio, and
 - two new delivery meter stations in Washtenaw and Livingston counties, Michigan.

Resource Report 3 details the existing fisheries, wildlife, wildlife habitat, and vegetation resources present at the Project site, potential impacts to those resources from construction and operation of the Project and proposed methods to minimize or mitigate possible impacts. Consultations with the U.S. Fish and Wildlife Service (USFWS), West Virginia Department of Natural Resources (WVDNR), Pennsylvania

Department of Conservation and Natural Resources (PDCNR), Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), Ohio Department of Natural Resources (ODNR), and the Michigan Department of Natural Resources (MDNR) were conducted to determine the presence of any federally listed or state listed threatened, endangered or candidate species, and/or significant or critical wildlife habitat along the Project route (see Volume IIB, Attachment 1D for agency correspondence).

3.1 FISHERY RESOURCES

Fisheries are surface water areas that provide habitat for fishes and are typically characterized according to water temperature (warmwater or coldwater), salinity (freshwater, marine, or estuarine), types of fishing uses (commercial or recreational), and utilization by open water marine fishes that require freshwater upstream areas to spawn (anadromous species) or freshwater species that migrate to marine waters for reproduction (catadromous species). Spawning areas are also used to classify fish habitat.

The Project is not located near any marine environments or saltwater bodies and therefore, will not affect any anadromous or catadromous species or any marine or estuarine habitats. Furthermore, an assessment of the Project area using the National Marine Fisheries Service's (NMFS) Essential Fish Habitat (EFH) Online Mapper was conducted and no essential fish habitat, as defined by the NMFS, was identified within the Project area. A copy of the NMFS EFH Online Mapper report is included in Volume IIB, Attachment 1D.

Significant fisheries resources are defined by the FERC as waterbodies that (1) provide important habitat for foraging, rearing, or spawning of fish species; (2) represent important commercial or recreational fishing areas; or (3) support large populations of commercially or recreationally valuable fish species or species listed for protection at the federal, state, or local level. Section 2.2 of Resource Report 2 contains a detailed characterization of the waterbodies crossed or affected by the Project as listed on Table 2A-4 in Appendix 2A of Resource Report 2.

3.1.1 Fisheries Classification

Watersheds or "hydrologic units" in the U.S. are delineated by the U.S. Geological Survey (USGS) using a national standard hierarchical system based on surface hydrologic features. The Project facilities are located within 13 watersheds as defined by the USGS at the 8-digit Hydrologic Unit Code, or subbasin level. Resource Report 2 provides a discussion of watersheds crossed by the Project (Section 2.2.1) and state water quality standards (Section 2.2.2.3). Fishery classifications for waterbodies crossed by the Project pipelines are listed in Table 2A-4 in Appendix 2A of Resource Report 2.

Freshwater systems, such as those in the Project area, have low salinity and contain either warmwater or coldwater fish habitat. The dominant species of fish occupying the waterbody as well as the maximum water temperatures play an intricate part in determining the fishery classification. Coldwater fisheries support fish that: prefer clear, cold waters; are not tolerant of extreme temperature changes; and cannot survive for long periods with temperatures above 68 degrees Fahrenheit (°F). Warmwater fisheries support fish able to tolerate water temperatures above 80°F.



Fisheries within the Project area in West Virginia and Michigan are classified as freshwater warmwater fisheries. Fisheries within the Project area in Pennsylvania and Ohio are classified as freshwater warmwater and coldwater fisheries. Table 3A-1 in Appendix 3A lists typical warmwater and coldwater fish species that may occur in the Project area.

3.1.2 Fisheries of Special Concern

Surface waters are included in special state fishery management regulations if they have important recreational value, support coldwater fisheries, or provide habitat for federally or state listed threatened or endangered species. All four states have programs that stock trout in certain waterbodies for public fishing opportunities periodically throughout the year. These surface waters may no longer support wild trout populations but may still be managed by the WVDNR, PFBC, ODNR or MDNR for trout stocking.

Rover has consulted with federal and state agencies about the potential for federally or state listed threatened, endangered, or candidate species and their habitat to occur in surface waters crossed by the Project pipelines, and about fishery resources that could be considered fisheries of special concern. In addition to consulting with federal and state agencies, Rover also reviewed applicable state legislation and regulations designating specific waterbodies as coldwater fisheries or fisheries of concern. These regulations for water quality standards and designated uses include:

- West Virginia: Title 47 Code of State Rule Series 2 of the West Virginia regulations (47 CRS 2) – *Requirements Governing Water Quality Standards*. Under 47 CRS 2 waterbodies in the state are categorized by designated use.
- Pennsylvania: Title 25, Pennsylvania Code, Chapter 93 (Water Quality Standards). All waters within Pennsylvania have been classified according to present condition and use.
- Ohio: Ohio Administrative Code Chapter 3745-1 (Water Quality Standards) (OAC 3745-1). Each waterbody in the state is assigned one or more designated uses, including designations for aquatic life habitat and a water use.
- Michigan: Part 4 Rules of Part 31, Water Resources Protection, of Act 451 of 1994. Specify water quality standards which shall be met in all waters of the state. The rules require that all designated uses of the receiving water be protected.

Resource Report 2, Table 2A-5 in Appendix 2A provides a complete list of the fishery classifications of each waterbody crossed by the Project pipelines and Table 2A-7 in Appendix 2A provides a complete list of the sensitive waterbodies crossed by the Project.

3.1.2.1 West Virginia

The Majorsville Lateral crosses Wheeling Creek in Marshall County, West Virginia. Sections of Wheeling Creek are stocked with trout periodically throughout the year by the WVDNR. In 2015, the WVDNR will stock numerous Designated Trout Streams between January 5 and February 6 (WVDNR 2015). However, the section of Wheeling Creek crossed by the Majorsville Lateral at milepost (MP) 2.55 is designated as warmwater by the WVDNR and is not directly stocked with trout (WVDNR,



2013). Appendix A of 47 CRS 2 lists the Designated Trout Waters within West Virginia. The Sherwood, Columbia Gas Transmission (CGT), Majorsville, and Burgettstown Laterals do not cross any designated trout waters in West Virginia.

3.1.2.2 Pennsylvania

The PFBC has established lists of surface waters that are known to support natural trout populations. These lists include “Class A Wild Trout Streams,” “Stream Sections That Support Natural Reproduction of Trout,” and “Wilderness Trout Streams” (PFBC, 2014). The Burgettstown Lateral does not cross any PFBC designated “Class Wild Trout Streams”

The PFBC stocks trout in designated waterbodies called “Approved Trout Waters”, which are streams, lakes, ponds, and reservoirs that contain segments that are open to the public for fishing and are stocked with trout (PFBC, 2014). Trout reproduction is not known to take place in these waters. Kings Creek (Burgettstown Lateral MP 6.4) is a PFBC designated coldwater fishery, and Aunt Clara Fork (Burgettstown Lateral MP 8.9) is a PFBC designated warmwater fishery. Both are designated as Approved Trout Waters for trout stocking and will be crossed in Washington County using an open-cut pipeline installation method. Two unnamed perennial tributaries of Kings Creek (Burgettstown Lateral MPs 6.7 and 7.5) and one unnamed perennial tributary of Aunt Clara Creek (Burgettstown Lateral MP 8.9) will also be crossed using an open-cut pipeline installation method. However, all in-stream work may only occur between June 16 and February 28 (Smith, 2015) (see Volume IIB, Attachment 1D).

3.1.2.3 Ohio

In Ohio, existing designated uses are based on the 1978 water quality standards, results of a biological field assessment performed by the Ohio Environmental Protection Agency (OEPA), or results of a biological field assessment performed by others. The ODNR recommends that impacts on designated Coldwater Habitats and Exceptional Warmwater Habitats be avoided. Coldwater Habitats are separated into two types: Coldwater Habitat, inland trout streams and Coldwater Habitat, native fauna. Coldwater Habitat, inland trout streams are described as “waters which support trout stocking and management under the auspices of ODNR, Division of Wildlife, excluding lake run stocking programs, lake or reservoir stocking programs, experimental or trial stocking programs, and put and take programs on waters without, or without the potential restoration of, natural coldwater attributes of temperature and flow” (OAC 3745-1). Coldwater Habitat, native fauna is described as “waters capable of supporting populations of native coldwater fish and associated vertebrate and invertebrate organisms and plants on an annual basis” (OAC 3745-1). Exceptional Warmwater Habitat is described as “waters capable of supporting and maintaining an exceptional or unusual community of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the seventy-fifth percentile of the identified reference sites on a statewide basis” (OAC 3745-1).

Twenty-four designated Coldwater Habitat, native fauna streams and one designated Exceptional Warmwater Habitat stream (Captina Creek in Belmont County at Clarington Lateral MP 6.2), are crossed by the Project in Ohio. In-stream work within Coldwater Habitat, native fauna designated streams may



only take place between July 1 and April 14 (Surrena, 2015) (see Volume IIB, Attachment 1D). This in-stream work restriction also applies to streams identified to contain threatened or endangered species. The Project does not cross any ODNR designated Coldwater Habitats, inland trout streams, stocked trout waters, or designated Percid Streams or Salmonid Streams (see Volume IIA, Table 2A-7 Sensitive Surface Waters Crossed by the Rover Pipeline Project).

3.1.2.4 Michigan

The MDNR has established a list and a map of the designated inland trout and salmon streams and lakes (MDNR, 2014, FO-210). In addition to designating these waterbodies as trout and salmon streams and lakes, they have been further classified based on the fishing season dates, the types of bait allowed, and the minimum size requirements. The Market Segment does not cross any MDNR-designated trout streams or lakes or salmon lakes.

3.1.3 Fishery Effects and Mitigation

This section describes potential effects and mitigation that will be implemented to minimize effects to fisheries of concern that could potentially occur in the Project area. Most waterbodies will be crossed using open-cut construction methods, including dry open-cut construction techniques such as dam and pump or flume. Major or sensitive waterbodies will be crossed using a horizontal directional drill (HDD). A description of each waterbody crossing technique is provided in Section 1.6.1.3 of Resource Report 1.

Installation of the pipeline within surface waters, including Aunt Clara and King's Creek and several of their perennial tributaries in Pennsylvania and 24 designated coldwater, native fauna streams in Ohio, will be completed in accordance with the Rover *Wetland and Waterbody Construction and Mitigation Procedures* (Rover Procedures), which specifies time windows for construction, appropriate additional temporary workspace setbacks, spoil setbacks, equipment bridges, erosion and sedimentation control requirements, and restoration requirements. In Ohio, the installation of the pipeline across Captina Creek, an ODNR designated Exceptional Warmwater Habitat, will be completed using an HDD. All in-stream work within coldwater fisheries will be completed between June 1 through September 30, with the exception of King Creek and its perennial tributaries in Pennsylvania, which will be completed between June 16 and February 28. All in-stream work, except in Ohio, within coolwater and warmwater fisheries will take place between June 1 and November 30, with the exception of Aunt Clara Fork and its perennial tributary in Pennsylvania which will take place between June 16 and February 28. In Ohio, all in-stream work within ODNR designated Warmwater and Coldwater Habitats and streams known to contain threatened or endangered species will take place between July 1 and April 14. With the implementation of the Rover Procedures, no long-term, permanent effects on warmwater fisheries, coldwater fisheries, or fisheries of concern are anticipated.

3.1.3.1 Pipelines

The open-cut crossing method (or wet-ditch method) will be utilized for most minor waterbody crossings (e.g., less than 10 feet wide), wider waterbodies where a dry-ditch method is not required, and any



streams that are dry or display no perceptible flow at the time of crossing. Waterbodies with crossing widths greater than 10 feet or that have the potential to support fisheries will be crossed using a dry, open-cut crossing technique unless site specific conditions prohibit use of this installation procedure. Construction impacts on fishery resources may include: (1) direct contact by construction equipment; (2) increased sedimentation, water turbidity, or streambed scour immediately downstream of the construction work area; (3) alteration or removal of aquatic habitat cover; (4) introduction of pollutants; or (5) impingement or entrainment of fish and other biota associated with the use of water pumps at dam-and-pump crossings or for hydrostatic test water withdrawal.

Increased sedimentation and turbidity from in-stream construction across waterbodies could potentially adversely affect fishery resources. However, these types of effects will be minimized by installation and maintenance of sediment erosion controls throughout construction and until revegetation is successful, thus limiting these effects to the construction phase. Total suspended solid concentrations may increase during construction, but would decrease soon after as the disturbed stream sediments settle.

Removal of trees and other bank vegetation from the edges of waterbodies at the pipeline crossing location may reduce shading of the waterbody, diminish escape cover, and result in locally elevated water temperatures. Elevated water temperatures can, in turn, lead to reductions in levels of dissolved oxygen. This could reduce availability of habitat for certain fish species. To minimize potential effects associated with loss of riparian shade and vegetation cover, clearing of trees and other vegetation will be restricted to only what is necessary to safely construct and operate the pipeline. Once construction is complete, streambeds and banks will be restored in accordance with the Rover Procedures, and post construction maintenance (or mowing) will be limited to when necessary to facilitate periodic corrosion/leak surveys or to protect the integrity of the pipeline coating.

Accidental spills of hydrocarbon based products (e.g., oil, diesel, or hydraulic fluids) within the Project construction workspace could affect fisheries in adjacent streams, if present. The effects would depend on the type and quantity of the spill, and the dispersal and attenuation characteristics of the waterbody. To reduce the potential for surface water contamination, Rover will implement its *Spill Prevention and Response Procedures*, which include best management practices to minimize the potential for accidental releases and measures that will be implemented to clean up any releases (see Appendix 1B in Resource Report 1).

Where the dam-and-pump crossing technique is used, pump intake hoses will be screened appropriately to prevent the entrainment of fish and minimize the potential for impingement. Fish passage during dam-and-pump crossings will be temporarily restricted during the installation of the pipeline, which typically takes 24 to 48 hours to complete. Where waterbodies are used for hydrostatic test water withdrawals, withdrawal intake hoses will be fitted with intake screen devices to prevent the entrainment of fingerlings and small fish during water withdrawal.



3.1.3.2 Aboveground Facilities

To date, no perennial waterbodies or fishery resources have been identified at the aboveground facility sites. Site-specific station plot plans of the compressor station facilities are included in Volume III, Attachment 1A, as *Critical Energy Infrastructure Information*.

3.2 VEGETATION

This section describes the vegetation resources that will be affected by the construction and operation of the Project. The existing vegetative communities identified within the Project area, descriptions of any protected, sensitive or unique vegetation and the methods Rover will employ to avoid or minimize effects on these vegetative resources are discussed in this section.

Correspondence with federal and state resource agencies pertaining to the vegetative resources within the Project area are included in Volume IIB, Attachment 1D.

3.2.1 Existing Vegetation Resources

The Project facilities or located in or traverse several vegetative communities which include upland forests, open uplands and palustrine forested, scrub-shrub, and emergent wetlands. The local vegetative communities identified within the Project facilities were consistent with those endemic to the local area. A list, by state and community, of the dominant plant species identified during the biological surveys conducted in 2014 is provided in Table 3A-2 in Appendix 3A. Table 3A-3 in Appendix 3A provides the acreage of each vegetative community type potentially affected by the Project components within each state.

Section 8.1 of Resource Report 8 provides a description of the land use types identified within the Project area and Table 8A-1 in Appendix 8A of Resource Report 8 contains the amount of each land use crossed by the construction and operation of the Project. Section 2.3.1 of Resource Report 2 provides a description of the wetland types and the dominant plant species identified within them, and Table 2.3-1 of Resource Report 2 summarizes the amount of each wetland type affected by the Project. The Wetland Delineation Report is included in Volume IIB, Attachment 2A, and provides information on each wetland identified within the Project area.

No unique, sensitive, or protected vegetation communities have been identified to date. See Section 3.4 for a discussion on federally and state listed endangered and threatened plant species known to potentially occur with the Project area.

3.2.2 Non-Native Invasive Vegetative Species

Invasive plants are species that can threaten native ecosystems by growing quickly and displacing native plants. Most commonly they are exotic species that have been introduced from another part of the U.S., another region, or another continent, although native species that exhibit rapid growth and spread are



sometimes considered invasive. The Federal Noxious Weed Act of 1974 gave the U.S. Department of Agriculture (USDA) the authority to identify and declare specific species of plants “Noxious Weeds”. Table 3A-4 provides a list of the invasive plant species identified by the USDA, WVDNR, ODNR, PDCNR and the MDNR to potentially occur within the Project area.

Approximately 57 percent of the Project pipelines are located in agricultural land that is cultivated for row crops, with the largest majority of the croplands found along Mainlines A and B in Ohio, and the Market Segment in Michigan. As such, these lands are under regular management. In accordance with Rover’s *Agricultural Impact Mitigation Plans* for Ohio and Michigan, Rover will provide for weed control at aboveground facility sites in a manner in agricultural areas that prevents the spread of weeds into adjacent land. That may include the use of pesticides in accordance with state regulations. Should Rover fail to control weeds after being given written notice and a 45-day opportunity to respond, Rover will be responsible for reimbursing all reasonable costs for weed control incurred by owners of land adjacent to surface facilities when the land accommodating the pipeline surface facility is determined to be the weed source.

Approximately 36.5 percent of the Project pipelines cross through forested areas that are mostly found along the Supply Laterals. Many of these forested areas have been disturbed by past land use practices, such as agriculture and mining, and the majority of the forested areas are secondary growth with a well-developed understory in most areas. In accordance with the Rover’s *Upland Erosion Control, Revegetation, and Maintenance Plan* (Rover Plan) and the Rover Procedures, Rover will conduct post-construction monitoring of the construction work areas to assess the success of restoration and revegetation. Revegetation will not be considered successful until the density and cover of non-nuisance vegetation is similar to adjacent undisturbed lands based on visual survey. As part of ongoing consultations with federal and state agencies as part of the permitting process, Rover will consult with agencies regarding any additional specific measures that may be recommended to prevent or control the spread of invasive species.

3.2.3 Vegetation Effects and Mitigation

Construction of the Project will affect approximately 5,302.21 acres of agricultural land, 3,010.38 acres of forest, and 896.11 acres of open land (see Table 8A-2 in Resource Report 8). Rover will implement the Rover Plan and the Rover Procedures during construction when performing vegetation clearing, installation and maintenance of erosion controls, cleanup and restoration, seeding, and post-construction monitoring (see Resource Report 1, Appendix 1B). Section 2.3 of Resource Report 2 addresses wetland impacts and mitigation measures, including compensation for unavoidable impacts on wetlands.

Routine maintenance of the permanent right-of-way is required to allow continued access for routine pipeline patrols, emergency repairs, and visibility during aerial patrols. In upland areas, maintenance involves mowing the entire 50-foot (for a single pipeline) or 60-foot (for dual pipelines) permanent right-of-way every three years to remove of woody vegetation, except in wetlands and in riparian areas. Routine vegetation management within wetland areas and a 25-foot riparian strip adjacent to a waterbody’s mean high water mark is limited to a 10-foot-wide area centered on the pipeline. Any trees



greater than 15 feet in height and within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way during maintenance activities.

3.3 WILDLIFE

This section describes the major wildlife habitat types in the Project area and the wildlife species associated with those habitats. A list of the representative wildlife species known to occur in the area surrounding the Project is provided in Table 3A-5 in Appendix 3A. Copies of relevant federal and state agency correspondence, including consultation letters, electronic mail, and meeting notes are included in Volume IIB, Attachment 1D.

No significant or sensitive wildlife habitats have been identified to date other than those associated with federally or state listed special status species (see Section 3.4).

3.3.1 Existing Wildlife Habitat Types

Environmental field surveys and available resource materials are being used to identify the different wildlife habitats located along the Project right-of-way. The habitat types identified include upland forest, open uplands, forested wetlands, scrub-shrub wetlands, emergent wetlands, and urban habitats. The dominant vegetative species identified within these habitats in the Project area are provided in Table 3A-2 in Appendix 3A

3.3.1.1 Upland Forest

Upland forests are located throughout the Project area, but are predominantly within the southern portion of the Project. Hickories, conifers and other fruiting trees provide an abundance of forage for a variety of mammalian species, including the white-tailed deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*) and red squirrel (*Tamiasciurus hudsonicus*). Other mammals that utilize the upland forest habitat for a variety of reasons include the raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*) and eastern cottontail (*Sylvilagus floridanus*). Small mammals that inhabit the upland forest provide prey for raptors that hunt within the forest canopy.

A variety of songbirds, including migrants and resident species, utilize the upland forest habitat. Many migrants feed on the numerous insects occurring within the forest canopy. Breeding birds use a range of different nest sites, with some species nesting on the forest floor, some in the understory vegetation, and some in the tree canopy. Characteristic resident bird species in upland forests include red-bellied woodpecker (*Melanerpes carolinus*) and wild turkey (*Meleagris gallopavo*). Typical migratory species might include the great crested flycatcher (*Myiarcus crinatus*) and the wood thrush (*Hylocichla mustellia*).



3.3.1.2 Open Uplands

The early successional habitat types in the Project area include successional scrub-shrub areas, fields, and disturbed and/or maintained areas such as existing utility rights-of-way or other open space areas. Open uplands occur often throughout the Project area.

Early successional and grassland habitats are utilized by many wildlife species. Eastern cottontail utilize shrubby, overgrown open habitats and avian species such as eastern meadowlark (*Sturnella magna*), killdeer (*Charadrius vociferus*), and song sparrow (*Melospiza melodia*) utilize early successional and grassy areas for nesting.

Edge habitats, the areas where forests meet open uplands, are utilized by species such as white-tailed deer, wild turkey, coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), and eastern cottontail. The forest edge is also used by a variety of avian species including blue-winged warbler (*Vermivora cyanoptera*), field sparrow (*Spizella pusilla*), eastern towhee (*Pipilo erythrophthalmus*), and prairie warbler (*Dendroica discolor*). Red-tailed hawks (*Buteo jamaicensis*), American kestrels (*Falco sparverius*) and sharp-shinned hawks (*Accipiter striatus*) utilize the right-of-way corridors and edge habitats to hunt.

3.3.1.3 Forested Wetlands

Forested wetlands have a diverse assemblage of plant species and provide important food, shelter, migratory and overwintering areas, and breeding areas. Typical aquatic and wetland wildlife in forest and shrub swamps located within the Project area include white-tailed deer, raccoon, mink (*Neovison vison*), beaver (*Castor canadensis*), wood duck (*Aix sponsa*), great blue heron (*Ardea herodias*), prothonotary warbler (*Protonotaria citrea*), swamp sparrow (*Melospiza georgiana*) and northern watersnake (*Nerodia sipedon*).

3.3.1.4 Scrub-shrub Wetlands

Scrub-shrub wetland habitats are typically not as structurally diverse as forested wetlands. They contain vegetation that is characteristically low and compact. Under normal conditions the vegetative structure is usually caused by surface water inundation for extended periods of time. Scrub-shrub wetlands can also be maintained by periodic maintenance (such as along existing rights-of-way) that removes larger trees. The plant species that make up scrub-shrub wetlands can offer excellent nesting sites for birds. Representative species found in scrub-shrub wetlands include red-winged blackbird (*Agelaius phoeniceus*), swamp sparrow, great egret (*Ardea alba*), American bullfrog (*Rana catesbeiana*) and the northern green frog (*Rana clamitans*).



3.3.1.5 Emergent Wetlands

The emergent wetlands identified along the Project right-of-way include wet pastures and emergent marshes that contain a variety of grasses, sedges and rushes. Representative species of birds associated with emergent wetlands include red-winged blackbird, great blue heron, great egret and mallard (*Anas platyrhynchos*). American mink, raccoon, and beaver are common mammal species that utilize emergent wetland habitats. The grasses and forbs are browsed by white-tail deer. Amphibians and reptiles such as American bullfrog, common snapping turtle (*Chelydra serpentina*), and northern water snake are also common in these areas.

3.3.1.6 Urban

Urban environments are utilized by wildlife species that are tolerant of human development and activity. European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), rock pigeons (*Columba livia*), mourning doves (*Zenaidura macroura*), and northern mockingbirds (*Mimus polyglottos*) have flourished in urban environments. Some light urban environments occur in areas adjacent to the Project right-of-way.

3.3.2 Potential Effects and Mitigation

Temporary wildlife effects are those associated with disturbance to habitats during construction, while permanent effects are those associated with conversion of forested habitats to scrub-shrub and emergent habitats resulting from periodic maintenance of the permanent right-of-way. Indirect wildlife effects associated with construction noise and increased activity should be temporary and could include abandoned reproductive efforts, displacement, and avoidance of work areas. Direct mortality to small mammals, reptiles, and amphibians that are less mobile could occur during clearing and grading operations.

Construction activities within wildlife habitats may temporarily affect wildlife utilizing the area. Rover will implement the Rover Plan and the Rover Procedures to minimize effects on wildlife during construction. The alteration and conversion of habitat will displace some species, especially those which prefer forested habitat. Existing nest sites and burrows along stream banks could also be disturbed. A small overall reduction in carrying capacity for forest dwelling species is expected, with species relocating to adjacent forested areas located outside of the Project work areas.

In accordance with the Rover Plan, vegetative maintenance will occur no more than once every three years, and will not be scheduled between April 15 and August 1 to minimize effects to ground nesting birds. Regionally, maintained utility rights-of-way can provide early successional habitats for several important game species, including white-tailed deer and wild turkey. The permanent right-of-way may also function as travel corridors for some generalist species and provide edge habitat along large forested areas and forage, cover and breeding habitat for those species that utilize open habitats.



Rover will implement the Rover Plan and Procedures to minimize temporary and permanent effects on wildlife and to promote the rapid stabilization and revegetation of the disturbed areas. Following construction, stabilization, and establishment of vegetative cover, temporarily disturbed areas will be left to revegetate via natural succession. Trees will be removed from within the permanent right-of-way, which will be maintained as emergent and scrub-shrub habitats by mowing and periodic tree removal. Temporary workspaces will be allowed to revegetate via natural succession. The construction and operation of Project is not expected to adversely affect the distribution or regional population of wildlife species given the amount and distribution of similar habitat types available in the areas surrounding the Project.

3.4 THREATENED, ENDANGERED, AND CANDIDATE SPECIES

The Endangered Species Act (ESA) of 1973 (16 U.S. Code A-1535-1543, P.L. 93-205) protects fish, wildlife, plants, and invertebrates that are federally listed as threatened and endangered, as well as species-specific critical habitat. A federally listed endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A federally listed threatened species is likely to become endangered in the foreseeable future throughout all or a significant portion of its range. “Critical habitat” is defined as specific areas both within and outside the geographic area occupied by a species on which are found those physical and biological features essential to its conservation.

Rover consulted with applicable federal and state resource agencies to determine if any federally or state listed threatened and endangered species, species of concern, or designated critical habitats occur within the Project area. Agencies contacted by Rover included: WVDNR, ODNR, PDCNR, PFBC, PGC, MDNR, USFWS Region 5 (State College, Pennsylvania and Elkins, West Virginia offices), and USFWS Region 3 (Columbus, Ohio and East Lansing, Michigan offices). Baseline environmental surveys to identify potential protected species habitat were completed in 2014 in association with the Waters of the U.S delineation. The wetland delineation report is included with Volume IIB, Attachment 2A. Species-specific surveys will be conducted in 2015 and survey reports will be submitted to FERC and federal and state agencies as they are completed.

3.4.1 Federally Listed Species

Table 3.4.1 provides a list by state of the federally listed species that may occur in the counties crossed by the Project pipelines. Tables 3A-6 through 3A-9 in Appendix 3A identify the counties in which the species may occur in West Virginia, Pennsylvania, Ohio, and Michigan, respectively.

See Section 3.4.3 for surveys planned for 2015 for federally listed species. Copies of correspondence received to date is provided in Volume IIB, Attachment 1D.



TABLE 3.4-1
Summary of Federally Listed Species that May Occur in the Project Area

Common Name, Scientific Name	Federally Listed ¹	Potentially Occurring In:			
		WV	PA	OH	MI
Plants					
prairie white-fringed orchid, <i>Platanthera leucophaea</i>	T			X	X
Mammals					
Indiana bat, <i>Myotis sodalis</i>	E	X	X	X	X
northern long-eared bat, <i>Myotis septentrionalis</i>	PE	X	X	X	X
Reptiles and Amphibians					
eastern massasauga, <i>Sistrurus catenatus</i>	C			X	X
copperbelly water snake, <i>Nerodia erythrogaster neglecta</i>	T			X	
eastern hellbender, <i>Cryptobranchus alleganiensis</i>	PC			X	
Mussels					
clubshell, <i>Pleurobema clava</i>	E	X		X	
fanshell, <i>Cyprogenia stegaria</i>	E	X			
snuffbox, <i>Epioblasma triquetra</i>	E	X	X		X
northern riffleshell, <i>Epioblasma torulosa rangiana</i>	E			X	
pink mucket pearlymussel, <i>Lampsilis abrupta</i>	E	X	X		
rayed bean, <i>Villosa fabalis</i>	E			X	X
sheepnose, <i>Plethobasus cyphus</i>	E	X			
white catspaw, <i>Epioblasma obliquata perobliqua</i>	E			X	
Insects					
Mitchell's satyr, <i>Neonympha mitchellii mitchellii</i>	E				X
Poweshiek skipperling, <i>Oarisma poweshiek</i>	PE				X
Total	16	7	4	10	8
¹ E – Endangered; T = Threatened; C – Candidate. ; PE – Proposed Endangered; PT – Proposed Threatened; PC – Proposed Candidate Source: USFWS Information, Planning, and Conservation System (IPaC) and USFWS Region 3 and Region 5 county lists accessed on line at: http://ecos.fws.gov/ipac/ , http://www.fws.gov/midwest/ , and http://www.fws.gov/northeast/ .					

In response to a request for comments on the Project, the USFWS West Virginia Ecological Services Field Office (USFWS-Elkins) commented that the Project does not fall within 10 miles of a priority 1 or 2 known Indiana bat hibernaculum, 5 miles of a known priority 3 or 4 hibernaculum, 2.5 miles of a known maternity roost, or 5 miles of a capture site where no roosts were located (USFWS, 2014a). However, if 17 or more acres of potential Indiana bat summer roosting habitat will be removed, there are two recommended options for avoiding impacts to the Indiana bat. Option 1 assumes the Indiana bat is present. This option requires a habitat evaluation for an area within ¼ mile on each side of the proposed right-of-way for the entire length of the project to determine sufficient avoidance and minimization measures to avoid an incidental take. Option 2 involves determining the presence or absence of the species through habitat surveys for summer foraging and roosting habitats, acoustic surveys (May 15 to August 15), or mist net surveys (June 1 to August 15). Tree removal may occur only between November

and March 31 when Indiana bats are hibernating. In addition, the USFWS-Elkins recommended surveys for caves and mine portals extending 0.6 mile (1 kilometer [km]) on each side of the pipeline corridor.

In response to a request for comments on the Project, the USFWS Columbus Ecological Services Field Office, (USFWS-Columbus) provided the following comments (USFWS-Columbus, 2014b):

- Avoid and minimize water quality impacts, and revegetate with native plant species to prevent non-native, invasive plant establishment in high quality.
- Save trees in habitats used by the Indiana bat or the northern long-eared bat wherever possible.
- Within Tuscarawas, Carroll, Jefferson, Harrison, Belmont, Monroe, and Noble counties, Ohio, conduct any necessary tree clearing only between October 1 through March 31 to avoid a direct take of individuals that may result if trees are cleared during the summer roosting season.
- Within Stark, Wayne, Ashland, Crawford, Seneca, Hancock, Wood, Henry, Defiance, and Fulton counties, Ohio conduct surveys to determine presence or probable absence.
- Conduct surveys in Wooster Township in appropriate habitat for the eastern prairie fringed orchid in late June through early July – Mainlines A and B MPs 68.8 to 71.1.
- Conduct surveys in Wooster Township in appropriate habitat for the eastern massasauga using approved eastern massasauga surveyors – Mainlines A and B MPs 68.8 to 71.1.
- Examine Project work areas for the eastern hellbender before any in-water work at Captina Creek (Clarington Lateral MP 6.2). If suitable habitat is found, surveys must be completed by biologists approved and permitted by the state.

The other two USFWS field offices in Pennsylvania and Michigan have not responded to date. However, the Department of Interior, Office of Environmental Policy and Compliance (OEPC), in Philadelphia (OEPC) commented on the Project on behalf of Region 3 (Ohio and Michigan field offices) and Region 5 (West Virginia and Pennsylvania field offices (USFWS, 2014e). Their comments are summarized below.

- On June 20, 2014, President Obama signed a Presidential Memorandum creating a federal strategy to promote the health of honey bees and other pollinators. USFWS recommends revegetation of disturbed areas with native, nectar-producing plant species, and milkweed endemic to the area.
- Seven of the federally listed species along the proposed route are within the range of the Project and may be affected by construction and operation of the Project, including the Indiana bat (*Myotis sodalis*), snuffbox mussel (*Epioblasma triquetra*), clubshell mussel (*Pleurobema clava*), fanshell mussel (*Cyprogenia stegaria*), sheepnose mussel (*Plethobasus cyphus*), pink mucket pearly mussel (*Lampsilis abrupta*), rayed bean mussel (*Villosa fabalis*), Mitchell’s satyr butterfly (*Neonympha mitchelli mitchelli*), and Poweshiek skipperling (*Oarisma poweshiek*).
- The Project is also within the range of northern long-eared bat (*Myotis septentrionalis*), a species that is currently proposed for listing as federally endangered. The final listing decision for the northern long-eared bat will occur no later than April 2, 2015.
- Other species of concern include the eastern prairie fringed orchid (*Platanthera leucophaea*), a federally threatened species eastern massasauga rattlesnake (*Sistrurus catenatus*), a federal



candidate species, eastern hellbender (*Cryptobranchus a. alleganiensis*), an Ohio endangered species, and bald eagles (*Haliaeetus leucocephalus*).

- The Project has the potential to affect migratory birds through habitat destruction or alteration.

Given the magnitude of the Project and the potential for impacts on the Indiana bat (see Section 3.4.1.3), the OEPC concluded that the Project is “likely to adversely affect” Indiana bats, and that formal consultation under Section 7 of the ESA will be required. Rover has drafted a Biological Evaluation (see Appendix 3B) to address federally protected species, including planned species-specific surveys to be conducted in 2015, potential effects of the Project on these species, and proposed measures to mitigate for these impacts. The draft Biological Evaluation will be provided to the USFWS and FERC in February 2015. Migratory birds are addressed in Section 3.5 below.

3.4.1.1 Plants

Prairie White-fringed Orchid (*Platanthera leucophaea*)

The prairie white-fringed orchid is a federally listed threatened orchid that can grow up to three feet in height. Its flowers are clustered on a single stalk and are white in color that bloom late June to early July for a period of 7 to 10 days. It prefers moist prairies with alkaline soils, but it is also sometimes found in peaty lake shores and somewhat open bogs. It is listed as potentially occurring in Wayne County, Ohio and Livingston, and Washtenaw counties in Michigan.

3.4.1.2 Mammals

Indiana Bat (*Myotis sodalis*)

The Indiana bat was listed as endangered under the Endangered Species Preservation Act of 1966 (a precursor to the ESA) on 11 March 1967 (32 Code of Federal Regulations [CFR] FR 4001) as a result of a sharp population decline. It is a medium-sized member of the genus *Myotis*, generally distinguished by pelage coloration, presence of a keeled calcar, and short, sparse hairs on the toes (Schwartz and Schwartz, 2001). Pelage ranges in color from light brown to nearly black with ventral fur typically slightly lighter in color than dorsal fur. The tragus is blunt and measures less than the total length of the ear. The average weight of an Indiana bat is 7.1 grams for males and 7.4 to 7.5 grams for females (Thomson, 1982). Right forearm length ranges from 36 to 40.4 millimeter (mm) and total length from 70.8 to 90.6 mm (Whitaker and Hamilton, 1998).

The range for the Indiana bat spans much of the eastern half of the U.S., including West Virginia, Pennsylvania, Ohio, and Michigan. Indiana bats exhibit an annual cycle that includes winter hibernation, spring staging, spring migration, summer birth of young, fall migration, and fall swarming and mating and require specific habitat conditions during these periods. Hibernation habitat consists of caves or mine shafts that provide a narrow range of climatic conditions. Occupied hibernacula have stable temperatures typically below 10 degrees Celsius (°C), above freezing, and generally from 3 to 7.2°C (Tuttle and Kennedy, 1999). Relative humidity for occupied hibernacula is typically between 70 and 100 percent



(Hall, 1962; Humphrey, 1978; LaVal et. al., 1976; Tuttle and Kennedy, 1999). Preferred hibernacula also have noticeable airflow (Henshaw, 1965).

Summer maternity habitat was originally thought to consist of mature trees in riparian or floodplain forest adjacent to small to medium-sized streams (Cope et. al., 1974; Humphrey et. al., 1977). However, recent studies have revealed that upland forest provides important maternity, roosting, and foraging habitat (Gardner et. al., 1991). Maternity roosts are often found under exfoliating bark or in crevices of trees with exposure to direct sunlight. Average diameter at breast height of roost trees ranges from 23 centimeters (cm) (9 inches) to 58.4 cm (23 inches) (Callahan et. al., 1997; Gardner et. al., 1991). Snags (standing dead trees) are most commonly used, but some maternity colonies have been found in live trees. The use of snags by Indiana bats may be influenced by bark characteristics. Because virtually all maternity roosts are found under exfoliating bark, the characteristics of a tree species as a snag may be more important than a species on which the bark is present (Rommé et. al., 1995). The ability of a tree to produce plates of exfoliating bark probably influences Indiana bat use (Callahan et. al., 1997; Rommé et al. 1995). However, Indiana bat maternity roosts have been found in trees which typically do not exhibit these characteristics, such as a pine snag, a pitch pine snag, and an eastern hemlock representing one of the first descriptions of Indiana bat maternity habitat in the southern U.S. (Britzke et. al., 2003).

Snags providing suitable habitat for roosting Indiana bats are an ephemeral resource. Maternity colonies often use numerous (10 to 20) roost trees, including one to three primary roosts which are used by many adult females and young, and alternate roost trees which support fewer individuals and are used intermittently (Callahan et. al., 1997). Females are philopatric and often use the same roosts in successive summers if the trees remain standing and retain exfoliating bark (Callahan et. al., 1997; Gumbert et. al., 2002; Gardner et. al., 1991; Kurta and Murray, 2002). If the primary roost tree is destroyed, surviving members of the maternity colony may move to one of the alternate roosts. A maternity colony may use several roosts up to 3.7 km (2.3 miles) apart (Kurta and Murray, 2002). Adult male Indiana bats roost separately from the females and often use several different roost trees in an area from night to night (Gardner et. al., 1991; Rommé et. al., 1995). Forest providing optimal conditions for Indiana bat summer habitat typically has overstory canopy cover of 60 to 80 percent and five or more suitable roost trees per acre (Rommé et. al., 1995).

Known and potential habitat for Indiana bats occurs along the entire Project pipeline alignment. Potential summer habitat includes areas along the Rover pipelines in Tyler, Doddridge, Hancock, and Marshall Counties in West Virginia; Lenawee and Washtenaw Counties in Michigan; Washington County in Pennsylvania; and Stark, Wayne, Ashland, Richland, Crawford, Seneca, Hancock, Wood, Henry, Defiance, Fulton, Tuscarawas, Carroll, Harrison, Jefferson, Belmont, Noble, and Monroe Counties in Ohio (USFWS, 2014e). Known summer use areas are crossed in Tyler, and Marshall Counties in West Virginia, and in the vicinity of one or more confirmed records of Indiana bats in Ohio. Within areas where Indiana bat presence has already been confirmed, OEPC commented that any additional surveys would not constitute presence/absence surveys and that Rover should coordinate further to discuss potential minimization and avoidance measures or other options.



Northern Long-eared Bat (*Myotis septentrionalis*)

The northern long-eared bat is currently proposed as endangered, with formal listing as endangered expected in April 2015. It is a medium-sized member of the genus *Myotis*, generally distinguished by its long ears (average 17 mm) and a pointed, symmetrical tragus (Nagorsen and Brigham, 1993; Whitaker and Mumford, 2009). Pelage ranges from medium to dark brown on the dorsal surface and from tawny to pale-brown on the ventral surfaces. Ears and wing membranes are dark brown, but not black (Nagorsen and Brigham, 1993; Whitaker and Mumford, 2009). The average weight of an adult northern long-eared bat ranges from 5-8 grams, with females generally larger than males (Caceres and Pybus, 1997). Total body length ranges from 77-95 mm and forearm lengths range from 34-38 mm (Barbour and Davis, 1969; Caceres and Barclay, 2000).

The range of the northern long-eared bat spans much of eastern and north central U.S. and all of the Canadian provinces west to eastern British Columbia and southern Yukon Territory (Nagorsen and Brigham, 1993). The species is patchily distributed through a majority of its range and was historically less common in the western and southern portions of the range (Amelon and Burhans, 2006). The eastern population includes the states of Connecticut, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, and West Virginia. During the summer maternity season, northern long-eared bats are consistently captured via mist nets and detected acoustically and historically were most abundant in the eastern portion of its range (Caceres and Barclay, 2000). Large numbers of northern long-eared bats have been documented in hibernacula in the eastern population (USFWS, 2013). The Midwest population includes the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. Throughout the Midwest, the northern long-eared bat is considered common and is frequently encountered during summer mist net surveys throughout the region. However, the species is encountered infrequently and in small numbers in hibernacula throughout most of the Midwest (USFWS, 2013).

Northern long-eared bats exhibit an annual cycle that includes winter hibernation, spring staging, spring migration, summer birth of young, fall migration, and fall swarming and mating. Hibernacula are generally large caves or mines with large passages and entrances (Raesly and Gates, 1987), cool, stable temperatures between 0-9°C (Brack, 2007; Caceres and Pybus, 1997; Raesly and Gates, 1987) with high humidity and no air currents (Caceres and Pybus, 1997; Fitch and Shump, 1979; Raesly and Gates, 1987; van Zyll de Jong, 1985). Northern long-eared bats are often overlooked during hibernacula counts due to their propensity for roosting singly or in small groups in crevices and cracks in cave or mine walls with only the nose and ears exposed (Barbour and Davis, 1969; Caceres and Pybus, 1997; Caire et al., 1979; Griffin, 1940; van Zyll de Jong, 1985; Whitaker and Mumford, 2009).

From approximately mid-May through mid-August, northern long-eared bats occupy summer habitat. Reproductively active females form maternity colonies consisting of 30-60 individuals (Foster and Kurta, 1999; Lacki and Schwienjohann, 2001; Menzel et. al., 2002; Perry and Thill, 2007; Sasse and Perkins, 1996) and give birth to a single pup each year (Barbour and Davis, 1969). Parturition typically occurs in late May or early June (Caire et. al., 1979; Easterla, 1968; Whitaker and Mumford, 2009) and tend to be synchronous within the colony, with most of the births occurring around the same time



(Krochmal and Sparks, 2007). Northern long-eared bats appear to be somewhat opportunistic in roost selection and have been documented roosting under bark and in cavities or crevices of both live and dead trees (Sasse and Perkins, 1996; Foster and Kurta, 1999; Owen et. al., 2002; Perry and Thill, 2007), as well as anthropogenic structures (Amelon and Burhans, 2006; Barbour and Davis, 1969; Cope and Humphrey, 1972; Mumford and Cope, 1964; Timpone et. al., 2010; Whitaker and Mumford, 2009). Northern long-eared bats exhibit a high degree of roost-switching, typically every 2-3 days (Foster and Kurta, 1999; Owen et. al., 2002; Timpone et al., 2010). Suitable summer habitat not only includes roosting habitat but also foraging habitat. Most foraging occurs from 1 to 3 meters off the ground, between the understory and canopy (Nagorsen and Brigham, 1993), with a preference for forested hillsides and ridges over riparian areas (Brack and Whitaker, 2001; LaVal et al., 1977), though foraging has been documented along roads and over water and forest clearings (van Zyll de Jong, 1985). Mean travel distances from occupied roosts to foraging areas range from 0.6 to 1.7 km (0.37 to 1.1 miles), with a range of 0.07 to 4.8 km (0.04 to 3.0 miles) (Sasse and Perkins, 1996; Timpone et al., 2010).

Similar to the Indiana bat, the northern long-eared bat potentially occurs along entire Rover pipeline route. The OEPC commented that summer surveys conducted to determine presence or probable absence of Indiana bats would also determine presence or probable absence of northern long-eared bats.

3.4.1.3 Reptiles and Amphibians

Eastern Massasauga (*Sistrurus catenatus*)

The eastern massasauga, a federal candidate species, is a small venomous rattlesnake that can grow to approximately two feet in length, is gray or light brown-colored, and has large, chocolate-colored blotches on its back. Its preferred habitat consists of marshes and low areas near bodies of freshwater. These wetland habitats can be occupied from early fall to late spring (typically from late September or October into June). In early spring, some massasauga move into adjacent well-drained uplands to forage in shrubby fields and grasslands. The eastern massasauga's diet consists mainly of mice and other small rodents.

The eastern massasauga is listed as potentially occurring, or has been reported, in Crawford, Richland and Wayne counties, Ohio, and in all counties in Michigan. USFWS-Columbus noted the potential occurrence of eastern massasauga in Wooster Township, Wayne County, Ohio (USFWS-Columbus 2014b). The Michigan Natural Features Inventory (MNFI) Rare Species Review noted that the eastern massasauga is known to occur in the Portage Lake Fen. The Market Segment crosses the Portage Lake Fen near Market Segment MP 83.0, and Mill Pond and areas near Mill Pond between Market Segment MPs 84.5 to 87.0.

The OEPC noted that while candidate species are not afforded protection under the ESA, there are prohibitions against "take" and jeopardizing the species if the species is listed. The final rule as to the possible listing of this species is expected in September 2015.

Copperbelly Water Snake (*Nerodia erythrogaster neglecta*)

The copperbelly water snake is a federally listed threatened small non-venomous snake that can grow up to four feet in length. This bright, orangish-red bellied, black snake inhabits shallow wetlands surrounded by forested uplands. The copperbelly water snake's diet consists mainly of frogs and tadpoles. The copperbelly water snake is listed as potentially occurring in Defiance County, Ohio.

Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*)

The eastern hellbender is an Ohio listed endangered species and is currently being evaluated for federal candidate species status. This large (13-24 inches long), completely aquatic salamander is flattened dorso-ventrally and has fleshy folds of skin on its sides. It is usually brown in color, but may also be green, red, or yellow. It has gill slits, but adults do not have external gills. This salamander inhabits medium to large, rocky streams that are not excessively silty and have an abundance of crayfish. Breeding takes place during the month of September. Females lay their eggs in nests that the males have created under rocks or logs. The eggs are fertilized externally by the male and take approximately two months to hatch. The larvae are born with gills but go through a metamorphosis around the age of 1.5-2 years old in which they lose their gills (Lipps, 2012).

The eastern hellbender was once present through much of the Ohio River watershed in Ohio. However, recent surveys have revealed an almost 80 percent decline in eastern hellbender abundance since the 1980's. Today, only one stream (Captina Creek) exhibits evidence of recent reproduction (USFWS, 2014b). The Clarington Lateral crosses Captina Creek at MP 6.1 in Belmont County, Ohio. Captina Creek will be crossed using an HDD.

OEPC recommended minimizing indirect stream impacts and examining stream crossings and the surrounding area for suitable hellbender habitat (multiple large flat rocks generally over 42 inches along the longest axis). If suitable habitat is present, surveys for hellbenders should be completed by state-permitted biologists. Rover will coordinate with USFWS-Columbus and ODNR regarding best management practices to be employed in other locations where the eastern hellbender may be present.

3.4.1.4 *Mussels*

Clubshell Mussel (*Pleurobema clava*)

The clubshell is a federally listed endangered, small to medium-sized mussel that can grow up to approximately three inches in size. It has a wedge shaped shell that is yellow to brown in color with green rays. This mussel inhabits areas with loose sand and gravel within small to medium rivers and feeds on microscopic organisms and plant material that it filters from the water column. The clubshell is listed as potentially occurring in Doddridge and Tyler counties, West Virginia and Defiance and Hancock counties, Ohio.

The OEPC commented that the Project is within 0.25 mile of Meathouse Fork, Middle Island Creek, and the Ohio River in Doddridge and Tyler counties, West Virginia, which provide habitat for the clubshell. The Sherwood Lateral crosses Middle Island Creek two times at Sherwood Lateral MPs 13.2 and 23.9,



and the Ohio River at Sherwood Lateral MP 34.4 in Tyler County. Rover will cross all three waterbodies using an HDD. Meathouse Creek is approximately 1.6 miles west of the Sherwood Lateral between approximate MPs 0.0 and 1.0.

Fanshell Mussel (*Cyprogenia stegaria*)

The fanshell is a federally listed endangered freshwater mussel that has a roundish shell and is light green to yellow with green rays in color. It inhabits the bottoms of rivers and streams that have substrates consisting of sand, gravel, cobble, or mixed materials. Within large rivers, the fanshell lives in the sediment beneath the waterbottom. It feeds on microscopic organisms by filtering them out of the water column. The fanshell is listed as potentially occurring in Tyler and Wetzel counties, West Virginia in the Ohio River.

The OEPC commented that the Project is within 0.25 mile of Meathouse Fork, Middle Island Creek, and the Ohio River in Doddridge and Tyler counties, West Virginia, which provide habitat for the fanshell. The Sherwood Lateral crosses Middle Island Creek two times at Sherwood Lateral MPs 13.2 and 23.9, and the Ohio River at Sherwood Lateral MP 34.4 in Tyler County. Rover will cross all three waterbodies using an HDD. Rover will cross all three waterbodies using an HDD. Meathouse Creek is approximately 1.6 miles west of the Sherwood Lateral between approximate MPs 0.0 and 1.0.

Snuffbox Mussel (*Epioblasma triquetra*)

The snuffbox is a federally listed endangered species. Depending on the sex, it has either a triangular (females) or oblong (males) shaped shell that is either yellow, green, or brown in color with green accent marks. It can grow up to 2.8 inches in size, with the females being slightly smaller than the males. The snuffbox inhabits areas of swift current within small to medium-sized creeks containing sand, gravel, or cobble substrates where it feeds on microscopic organisms and plant material that it filters out of the water column.

The snuffbox is listed as potentially occurring in Doddridge, Marshall, Tyler, and Wetzel counties, West Virginia; Washington County, Pennsylvania; and Livingston, and Washtenaw counties, Michigan. The WVDNR recommended mussel surveys in Wheeling Creek (Majorsville Lateral MP 2.6 in Marshall County), Middle Island Creek (Sherwood Lateral MPs 13.2 and 23.9), and Sancho Creek (Sherwood Lateral MP 18.3 in Tyler County) (WVDNR, 2014). Rover will conduct surveys in Wheeling and Sancho Creeks that are proposed for an open cut crossing. Both Middle Island Creek crossings will be installed using an HDD. The MNFI review noted that the snuffbox has been recorded in the Portage River, which is crossed by the Market Segment at MP 84.7. The Portage River will be crossed using an HDD.

The OEPC commented that the Project is within 0.25 mile of Meathouse Fork, Middle Island Creek, and the Ohio River in Doddridge and Tyler counties, West Virginia, which provide habitat for the snuffbox. The Sherwood Lateral crosses Middle Island Creek two times at Sherwood Lateral MPs 13.2 and 23.9, and the Ohio River at Sherwood Lateral MP 34.4 in Tyler County. Rover will cross all three waterbodies using an HDD. Meathouse Creek is approximately 1.6 miles west of the Sherwood Lateral between approximate MPs 0.0 and 1.0. This species is also known to occur in the Huron River in Michigan. The



Huron River is approximately 2.5 miles east of Market Segment MP 79.0 in Washtenaw County, Michigan.

Northern Riffleshell (*Epioblasma torulosa rangiana*)

The northern riffleshell is a federally listed endangered freshwater mussel that can grow up to two inches in diameter. The shells of the males and females are both greenish-yellow to olive green in color, but the males have a square shaped shell while the females have an oval shape. The mussel inhabits areas of firmly packed sand or gravel within large streams and small rivers. The northern riffleshell feeds on microscopic organisms and plant material that it filters from the water column. It has been listed as potentially occurring in Defiance County, Ohio.

Pink Mucket Pearly mussel (*Lampsilis abrupta*)

The pink mucket pearly mussel is a federally listed endangered species. The male has an oval shaped shell and the female has a spherical shell. Each sex can grow up to 4.25 inches in size. It inhabits a variety of substrates within free flowing streams and rivers with well oxygenated, clean water. This mussel's diet consists of microscopic organisms and plant material which it filters out of the water column. The pink mucket is listed as potentially occurring in the Ohio River in Tyler and Wetzel counties, West Virginia and Washington County, Pennsylvania.

The OEPC commented that the Project is within 0.25 mile of Meathouse Fork, Middle Island Creek, and the Ohio River in Doddridge and Tyler counties, West Virginia, which provide habitat for the pink mucket pearly mussel. The Sherwood Lateral crosses Middle Island Creek two times at Sherwood Lateral MPs 13.2 and 23.9, and the Ohio River at Sherwood Lateral MP 34.4 in Tyler County. Rover will cross all three waterbodies using an HDD. Meathouse Creek is approximately 1.6 miles west of the Sherwood Lateral between approximate MPs 0.0 and 1.0.

Rayed Bean Mussel (*Villosa fabalis*)

The rayed bean is a federally listed endangered species. This small mussel can grow to approximately 1.5 inches in size. Its shell ranges in color from yellowish-green to brown and may contain numerous dark green wavy lines. This mussel inhabits areas with loose gravel or sand substrates within smaller creeks, is sometimes found in large rivers and glacial lakes, and is often found near roots of aquatic vegetation.

The rayed bean is listed as potentially occurring in Defiance, Fulton and Hancock counties, Ohio and in Lenawee County, Michigan. The WVDNR recommended mussel surveys in Middle Island Creek (Sherwood Lateral MP 13.2 and 23.7) and Sancho Creek (Sherwood Lateral MP 18.3) (WVDNR, 2014). The MNFI did not identify any specific locations or concerns for the rayed bean (MNFI, 2014).

The OEPC commented that the Project is within 0.25 mile of Meathouse Fork, Middle Island Creek, and the Ohio River in Doddridge and Tyler counties, West Virginia, which provide habitat for the rayed bean. The Sherwood Lateral crosses Middle Island Creek two times at Sherwood Lateral MPs 13.2 and 23.9, and the Ohio River at Sherwood Lateral MP 34.4 in Tyler County. Rover will cross all three waterbodies



using an HDD. Meathouse Creek is approximately 1.6 miles west of the Sherwood Lateral between approximate MPs 0.0 and 1.0.

The species has also been documented in the Huron River and the River Raisin in Michigan. This species is also known to occur in the Huron River in Michigan. The Huron River is approximately 2.5 miles east of Market Segment MP 79.0 in Washtenaw County, Michigan. The Market Segment crosses the River Raisin at Market Segment MP 62.4 in Washtenaw County. The River Raisin will be crossed using an HDD.

Sheepnose Mussel (*Plethobasus cyphus*)

The sheepnose is a federally listed endangered, medium sized mussel that can grow to approximately five inches in size. Its shell is round in shape, slightly inflated, and ranges from light yellow to a yellowish-brown in color. This mussel inhabits areas with moderate to swift currents within large rivers and streams with a variety of substrates. The sheepnose feeds on microscopic organisms and plant material that it filters from the water column. The sheepnose is listed as potentially occurring in the Ohio River in Tyler and Wetzel counties, West Virginia.

The OEPC commented that the Project is within 0.25 mile of Meathouse Fork, Middle Island Creek, and the Ohio River in Doddridge and Tyler counties, West Virginia, which provide habitat for the sheepnose. The Sherwood Lateral crosses Middle Island Creek two times at Sherwood Lateral MPs 13.2 and 23.9, and the Ohio River at Sherwood Lateral MP 34.4 in Tyler County. Rover will cross all three waterbodies using an HDD. Meathouse Creek is approximately 1.6 miles west of the Sherwood Lateral between approximate MPs 0.0 and 1.0.

White Catspaw Mussel (*Epioblasma obliquata perobliqua*)

The white catspaw is a federally listed endangered freshwater mussel that can grow up to approximately two inches in diameter. The shells of the males and females are both yellowish-brown to brown in color; however, the males have an oblong shaped shell and the females have a rectangular shape. It inhabits the shallow waters of smaller-sized rivers and streams that contain swift current. The white catspaw is listed as potentially occurring in Defiance County, Ohio.

3.4.1.5 Insects

Mitchell's Satyr (*Neonympha mitchellii mitchellii*)

The Mitchell's satyr is a federally listed endangered, medium-sized butterfly that has a wingspan of approximately two inches. It is chocolate brown in color with a row of four to five yellow-ringed black eyespots on both its forewing and hindwing. Little is known about the butterfly's habitat but it is thought to be restricted to calcareous wetlands. The Mitchell's satyr is listed as potentially occurring in Washtenaw County, Michigan. The MNFI did not identify any specific locations for this species along the Market Segment (MNFI, 2014).



Poweshiek Skipperling (*Oarisma Poweshiek*)

The Poweshiek skipperling is a small butterfly proposed for listing as federally endangered. It has dark brown upper surfaces with a yellowish area on its forewing. It inhabits wet meadows, open fens and prairie with high quality tall grasses. The Poweshiek skipperling is listed as potentially occurring in Lenawee and Livingston counties, Michigan. The MNFI did not identify any specific locations for this species along the Market Segment (MNFI, 2014).

3.4.2 State Listed Species

In addition to federal law, Pennsylvania, Ohio, and Michigan have passed laws¹ to protect state listed endangered and threatened species. West Virginia currently has no legislation pertaining to state threatened and endangered species. However, its freshwater mussels are considered protected by resource agencies in the state.

The overall goal of the state endangered species laws is to conserve, protect, restore and enhance any endangered or threatened species and their essential habitat, as well as those species listed as protected under the ESA. Table 3.4-2 summarizes the number of state listed species that may occur in the counties crossed by the Project pipelines. Tables 3A-10 through 3A-12 in Appendix 3A identify the counties in which each species may occur in Pennsylvania, Ohio, and Michigan, respectively. See Section 3.4.3 for surveys planned for 2015 for federally listed species. Copies of correspondence received to date is provided in Volume IIB, Attachment 1D.

Species	WV	PA	OH	MI
Plants	-	16	124	59
Birds	-	-	9	10
Mammals	-	1	1	2
Reptiles & Amphibians	-	-	6	4
Mussels	-	4	25	5
Fish	-	-	13	8
Insects	-	-	12	6
Total	0	21	190	94
Note: West Virginia does not list threatened or endangered species. Source: WVDNR, PGC, PDNR, PFBC, ODNR, MDNR				

West Virginia

West Virginia currently does not have legislation pertaining to threatened, endangered or sensitive species or sensitive habitats. However, all freshwater mussels are considered protected within the state by

¹ Pennsylvania Resources and Conservation Act of 1982, Pub. L. 597, No. 170 (32 P.S. 5301-5314); 34 Pa.C.S.A. § 2167; 2924; 925; 32 P.S. §§ 5301 – 14; Ohio Revised Code. Title XV. § 1518.01 - 1518.99; 1531.25, 1531.99; and Michigan Compiled Laws Annotated § 324.6501 – 07.



resource agencies. The WVDNR has determined that several water crossings require surveys, unless an HDD is utilized to avoid impacts, to identify the presence of freshwater mussels. These water crossings include the Ohio River (Sherwood Lateral MP 34.4, Majorsville Lateral MP 12.0, and Burgettstown Lateral MP 15.5), North Fork Kings Creek (Burgettstown Lateral MP 11.2), Wheeling Creek (Majorsville Lateral MP 2.6), Middle Island Creek (Sherwood Lateral MPs 13.2 and 23.9), and Sancho Creek (Sherwood Lateral MPs 18.3, 18.8, and 19.0, and 19.4), and Buckeye Creek (not crossed) (WVDNR, 2014). If the pipeline facilities are to be installed via open cut in these waterbodies, the WVDNR requires mussel surveys to be performed by a qualified biologist between March 1 and October 1 in accordance with the West Virginia Mussel Survey Protocol, March 2014 version. Mussel surveys will be conducted in 2015 during the prescribed survey season. A report of the survey findings will be provided to the FERC, along with any proposed mitigation measures, in a supplemental report to be filed at a later date.

Pennsylvania

Based on the Large Project PNDI review completed by the PDCNR, PFBC and PGC, stalked bulrush (*Scirpus pedicellatus*), a state listed endangered species, heartleaf meehania (*Meehanian cordata*), a state proposed threatened species, and snow trillium (*Trillium nivale*), a state listed rare species were identified to potentially occur within the Project area (see Table 3A-13 in Appendix 3A). The PDCNR requests a survey be conducted to determine the presence or absence of these species within the portion of the Burgettstown Lateral located within Pennsylvania. The surveys will be conducted by a qualified biologist in accordance with the PADCNR Botanical Survey Protocols in 2015. All required freshwater mussel surveys will be conducted by a PFBC qualified mussel surveyor during the prescribed survey timeframe in 2015. Reports of the survey findings will be provided to the FERC, along with any proposed mitigation measures, in a supplemental report or reports to be filed at a later date in 2015.

Ohio

A Natural Heritage Database review conducted by the ODNR identified 40 federally and state listed species that may occur within the Project area in Ohio. Table 3A-14 in Appendix 3A identifies these species, their preferred habitats and the locations within the Project area that they may potentially occur. The ODNR requires that all sensitive species and sensitive habitat surveys be conducted by a qualified or approved biologist, when applicable, during the prescribed survey timeframe. All freshwater mussel surveys will be conducted by a professional malacologist in 2015 between March 1 and October 1 in accordance with the ODNR's Mussel Survey Protocol. All salamander habitat suitability surveys will be carried out by an ODNR "approved herpetologist". If work is to be performed in an in-water work restricted location, it will be done so outside of the restricted timeframe.

Rover plans to complete all of the applicable sensitive species surveys in 2015 and to adhere to the designated in-water work restriction periods when applicable. Reports of the survey findings will be provided to the FERC, along with any proposed mitigation measures, in a supplemental report or reports to be submitted upon their completion in 2015.

Michigan

The Rare Species Review conducted by the MNFI identified one federally and six state listed threatened or endangered species and one state species of concern to potentially occur within the Project area. Table 3A-15 in Appendix 3A identifies these species, their preferred habitats and the locations within the Project area they have been identified to potentially occur.

Within the Project area, surveys to identify sensitive species or their critical habitat will be conducted on an as needed basis. All required freshwater mussel surveys will be conducted by a qualified biologist in 2015 during the prescribed survey timeframe. If sensitive species or their critical habitats or identified within the Project area mitigation measures will be taken to avoid potential effects on these species. Mitigation measures that may be employed include in-stream work restrictions during spawning periods, avoiding filling wetlands during hibernation periods (mid-October to late March) and relocating stranded freshwater mussels outside of the Project area.

Rover plans to complete all of the applicable sensitive species and freshwater mussel surveys in 2015 and to adhere to the designated in-water work restriction periods when applicable. Reports of the survey findings will be provided to the FERC, along with any proposed mitigation measures, in a supplemental report or reports to be submitted upon their completion in 2015.

3.4.3 Impacts and Mitigation

Surveys for listed species and their sensitive habitats surveys required by the USFWS and state resource agencies will be conducted by qualified or approved biologists, when applicable, during the prescribed survey timeframe. All required freshwater mussel surveys will be conducted by a professional malacologist or a biologist approved by the state in 2015 during the prescribed survey timeframe and in accordance with the state’s Mussel Survey Protocol. Reports of the survey findings will be provided to the FERC, along with any proposed mitigation, conservation or avoidance measures, in a supplemental report or reports to be filed upon their completion in 2015. Rover anticipates that all protected and sensitive species surveys will be completed by the 3rd quarter of 2015. Table 3.4-1 provides a listing of planned surveys.

TABLE 3.4-3 Summary of Status of Pending Surveys		
Species	Survey Timing¹	Reports Issued By
West Virginia		
Freshwater mussel surveys ²	May 1 to October 1	3 rd Quarter 2015
Indiana bat (<i>Myotis sodalists</i>) Northern long-eared bat (<i>Myotis septentrionalis</i>) Virginia Big-eared bat (<i>Corynorhinus townsendii virginianus</i>) Hibernation caves and mineshaft surveys	May 15 to August 15	3 rd Quarter 2015
Pennsylvania		
Freshwater mussel surveys ³	May 1 to October 1	3 rd Quarter 2015
Stalked bulrush, (<i>Scirpus pedicellatus</i>)	Late June – July 31	3 rd Quarter 2015
Heartleaf Meehanian (<i>Meehanian cordata</i>)	May 1 – July 31	3 rd Quarter 2015
Snow Trillium (<i>Trillium nivale</i>)	Late March - April	3 rd Quarter 2015

TABLE 3.4-3
Summary of Status of Pending Surveys

Species	Survey Timing¹	Reports Issued By
Ohio		
Freshwater Mussel Surveys ⁴	May 1 – October 1	3 rd Quarter 2015
Eastern massasauga (<i>Sistrurus catenatus</i>)	Spring and Summer 2015	3 rd Quarter 2015
Copperbelly water snake (<i>Nerodia erythrogaster neglecta</i>)	Spring and Summer 2015	3 rd Quarter 2015
Indiana bat (<i>Myotis sodalists</i>)	June 1 to August 15	3 rd Quarter 2015
Northern long-eared bat (<i>Myotis septentrionalis</i>)		
Eastern prairie fringed orchid (<i>Platanthera leucophaea</i>)	Late June – Early July	3 rd Quarter 2015
Michigan		
Freshwater Mussel Surveys ⁵	May 1 – October 1	3 rd Quarter 2015
Spotted turtle (<i>Clemmys guttata</i>)	Spring and Summer 2015	3 rd Quarter 2015

When applicable, Rover will adhere to all federal and state designated work restriction periods in locations identified to contain listed or protected species. Rover will also implement the Rover Plan and Procedures, and other construction and restoration plans included in Resource Report 1, Appendix 1B to avoid and minimize effects on listed species and their critical habitats potentially caused by the Project.

Rover is continuing consultations with the USFWS and state agencies to identify species of concern and appropriate minimization, conservation, and avoidance measures. Copies of USFWS and state agency correspondence are included in Volume IIB, Appendix 1D.

3.5 MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA), originally passed in 1918, implements the U.S. commitment to four bilateral treaties, or conventions, for the protection of a shared migratory bird resource, protecting more than 800 species of birds. The list of migratory bird species protected by the MBTA appears in Title 50, section 10.13, of the CFR (50 CFR 10.13). The MBTA states that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg of any such bird, unless authorized under a permit issued by the Secretary of the Interior. Take is defined in regulations as to: “pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.13). The USFWS delisted the bald eagle in 2007; however, bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.S. Code 668-668d).

Executive Order 13186 (January 2001) directs federal agencies to consider the effects of agency actions on migratory birds, with emphasis on bird species of concern. It also prohibits the take of any migratory bird without authorization from the USFWS. On March 30, 2011, the USFWS and the FERC entered into a Memorandum of Understanding (MOU) that focuses on avoiding or minimizing adverse effects on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the USFWS and FERC by identifying areas of cooperation. This voluntary MOU does not waive legal requirements under any other statutes (e.g., MBTA, Bald and Golden Eagle Protection Act, Endangered Species Act, Federal Power Act, and Natural Gas Act) and does not authorize the take of migratory birds.

The U.S. North American Bird Conservation Initiative (NABCI) Committee is a forum of government agencies, private organizations, and bird initiatives helping partners across the continent meet their common bird conservation objectives. The species listed as Birds of Conservation Concern by the NABCI are a subset of birds protected under the MBTA and include species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973. Bird Conservation Regions (BCR) are the smallest geographic scale endorsed by the NABCI and includes species that are protected under the MBTA (the recent list has been revised to also include non-MBTA-protected species) that represent the USFWS' highest conservation priorities (USFWS, 2008).

The Project is located within four BCRs regions: 13 (Lower Great Lakes/St. Lawrence Plain U.S. portion only), 22 (Eastern Tallgrass Prairie), 23 (Prairie Hardwood Transition), and 28 Appalachian Mountains). Table 3A-16 in Appendix 3A lists the Birds of Conservation Concern potentially occurring within each of the BCRs crossed by the Project.

3.5.1 Project Effects on Migratory Birds and Mitigation

Approximately 23 percent of the total lengths of the Supply Laterals and Mainlines will be parallel or adjacent to existing rights-of-way (e.g., pipelines, electric transmission lines, roadways, etc.). Construction of the Project pipelines in these areas will limit effects to vegetation by reducing land use change and tree clearing activities associated with the construction of the pipelines. As noted above, construction for installation of the new pipeline system across the 509.1 miles of land will affect approximately 5,302.21 acres of agricultural land 3,010.38 acres of forest, and 917.27 acres of open land (see Resource Report 8, Table 8A-2 in Appendix 8A).

Construction activities that occur during the bird nesting season (generally April 1- August 31) could result in direct and indirect effects on bird species. Examples of potential effects include habitat loss, disruption of foraging adults, and abandonment or destruction of active nests. The Project may have a short-term impact on migratory bird species that may nest in or near the construction areas. However, to minimize effects on migratory birds during the construction of the Project, the following measures have been incorporated into the pipeline design:

- The new pipelines will be installed adjacent to existing rights-of-way for 23 percent of their total length (see Resource Report 1, Table 1A-1 in appendix 1A).
- The construction right-of-way width and temporary land requirements for installation of the new pipelines will be limited and range between 150 feet in agricultural land and 75 feet in forested wetlands (see Resource Report 1, Section 1.4.1.1).
- Approximately 64 percent of the new pipeline system will be installed in non-forested areas (i.e., agricultural, open land, residential, industrial/commercial, and open water habitats), thereby minimizing impacts on forested habitat (see Resource Report 8, Table 8A-2 in Appendix 8A).



- Rover will use 17 HDDs that will cross under waterbodies and associated forested riparian habitats in conjunction with these crossings, further minimizing or eliminating impacts (e.g., fragmentation) to migratory birds that utilize riparian habitat (see Resource Report 2, Table 2A-5 in Appendix 2A).
- Rover has reduced the construction right-of-way to 95 and 75 feet in forested wetlands to minimize construction related impacts (see Resource Report 2, Section 2.3.4.2).
- Construction activities will be confined to the Project designated construction work areas and contractor yards. Contractor yards will be located in open and industrial/commercial land (see Resource Report 8, Table 8A-2 in Appendix 8A). These areas will be staked and marked prior to clearing and the markings will be maintained throughout construction.
- Rover will require all personnel working on the Project to attend environmental training sessions. This training will focus on implementation of best management practices contained in the Construction Mitigation Plans in Appendix 1B of Resource Report 1. This training will include instructions on construction work area limits, permit requirements, and other mitigation measures, including the importance of minimizing impacts to nesting migratory birds.
- The Project construction work areas will be stabilized to protect soil resources and aid in returning disturbed areas to migratory bird habitat.

In addition to these measures, Rover will conduct routine vegetation maintenance within the permanent easement at a frequency necessary to maintain the 10-foot corridor in an herbaceous state; however, mowing and clearing activities will not occur between April 15 and August 1 of any year to minimize effects to ground nesting birds. In wetlands, Rover will not conduct vegetation maintenance over the full width of the permanent right-of-way and will allow a riparian strip of at least 25 feet wide as measured from the waterbody's mean high water mark to permanently revegetate. However, to facilitate periodic pipeline corrosion/leak surveys in these areas, a corridor centered on the pipeline and up to 10 feet wide may be maintained in an herbaceous state. In addition, trees and shrubs that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the right-of-way. Project effects on migratory birds are expected to be short-term with limited long term effects following restoration of the construction work areas.

While construction of the new pipeline system will not result in population-level impacts on migratory bird species, Rover acknowledges that pipeline construction during the migratory bird breeding season could impact individual birds and/or nests. Rover is continuing its consultations with the USFWS and will provide documentation of its consultations with the USFWS, as it comes available, regarding pipeline-related impacts on migratory bird species and its project-specific conservation measures. Copies of the previous correspondence with the USFWS are included in Volume IIB, Appendix D.

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