



## **MVP Southgate Amendment Project**

Docket No. CP25-XX-000

### **Resource Report 3 – Fish, Wildlife, and Vegetation**

November 2018 (Docket No. CP19-14-000)

Amended February 2025

## MVP Southgate Amendment Project Resource Report 3 – Fish, Wildlife, And Vegetation

<b>Resource Report 3 Filing Requirements</b>	
<b>Information</b>	<b>Location in Resource Report</b>
<b>Minimum Filing Requirements</b>	
1. Classify the fishery type of each surface waterbody that would be crossed, including fisheries of special concern. (§ 380.12(e)(1)) This includes commercial and sport fisheries as well as coldwater and warmwater fishery designations and associated significant habitat.	Section 3.2
2. Describe terrestrial and wetland wildlife and habitats that would be affected by the project. (§ 380.12(e)(2)) Describe typical species with commercial, recreational or aesthetic value.	Sections 3.3 and 3.4
3. Describe the major vegetative cover types that would be crossed and provide the acreage of each vegetative cover type that would be affected by construction. (§ 380.12(e)(3)) <ul style="list-style-type: none"> <li>• Include unique species or individuals and species of special concern.</li> <li>• Include nearshore habitats of concern.</li> </ul>	Section 3.4 and Table 3.4-1
4. Describe the effects of construction and operation procedures on the fishery resources and proposed mitigation measures. (§ 380.12(e)(4)) Be sure to include offshore effects, as needed.	Section 3.2.4
5. Evaluate the potential for short-term, long-term, and permanent impact on the wildlife resources and state-listed endangered or threatened species caused by construction and operation of the project and proposed mitigation measures. (§ 380.12(e)(4))	Sections 3.3.4
6. Identify all federally listed or proposed endangered or threatened species that potentially occur in the vicinity of the project and discuss the results of the consultations with other agencies. Include survey reports as specified in (§ 380.12(e)(5)). See § 380.13(b) for consultation requirements. Any surveys required through § 380.13(b)(5)(l) must have been conducted and the results included in the application.	Section 3.5
7. Identify all federally listed essential fish habitat (EFH) that potentially occurs in the vicinity of the project and the results of abbreviated consultations with NMFS, and any resulting EFH assessment. (§ 380.12(e)(6))	Section 3.2.2.1
8. Describe any significant biological resources that would be affected. Describe impact and any mitigation proposed to avoid or minimize that impact. (§ 380.12(e)(4&7)) For offshore species be sure to include effects of sedimentation, changes to substrate, effects of blasting, etc. This information is needed on a mile-by-mile basis and will require completion of geophysical and other surveys before filing.	Sections 3.2.3, 3.2.4, 3.3.2, 3.3.4, 3.4.3, 3.4.5, and 3.5
<b>Additional Information Often Missing and Resulting in Data Requests</b>	
9. Provide copies of correspondence from federal and state fish and wildlife agencies along with responses to their recommendations to avoid or limit impact on wildlife, fisheries, and vegetation.	Resource Report 1 - Appendix 1-I
10. Provide a list of significant wildlife habitats crossed by the project. Specify locations by milepost, and include length and width of crossing at each significant wildlife habitat.	Section 3.3.2 and Table 3.3-1

<b>Resource Report 3 Filing Requirements</b>	
<b>Information</b>	<b>Location in Resource Report</b>
11. Provide a description of project-specific measures that would be implemented during construction and operation of the project to avoid or minimize impacts on migratory birds. Include comments from the U.S. Fish and Wildlife Service on the proposed measures.	Section 3.3.4
12. For aquatic and marine species, be sure to include effects of sedimentation, changes to substrate, effects of blasting, etc. This information may be needed on a location-specific (i.e., milepost) basis and may require geophysical and other surveys. Results of such surveys and analyses should be included in the application.	Section 3.2.4

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## **RESOURCE REPORT 3 FISH, WILDLIFE, AND VEGETATION**

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## LIST OF ACRONYMS AND ABBREVIATIONS

ACJV	Atlantic Coast Joint Venture
Amendment Project	MVP Southgate Amendment Project
ATWS	additional temporary workspace
Audubon	National Audubon Society
BA	Biological Assessment
BCC	Birds of Conservation Concern
BCR	Bird Conservation Region
BGEPA	Bald and Golden Eagle Protection Act of 1940
CWH	coldwater habitat
DNH	Division of Natural Heritage
E&SC	Erosion and Sediment Control
ECA	Ecological Core Area
EFH	essential fish habitat
ESA	Endangered Species Act of 1973
FEIS	Final Environmental Impact Statement
FERC or Commission	Federal Energy Regulatory Commission
Forest Action Plan	North Carolina Forest Action Plan
GBIF	Global Biodiversity Information Facility
HDD	horizontal directional drill
HUCs	hydrologic unit codes
IBA	Important Bird Area
IPaC	Information for Planning and Consultation
MBSC	Migratory Bird Species of Concern
MBTA	Migratory Bird Treaty Act
Mountain Valley	Mountain Valley Pipeline, LLC
MP	milepost
NCDEQ	North Carolina Department of Environmental Quality
NCFS	North Carolina Forest Service
NCNHP	North Carolina Natural Heritage Program
NCWRC	North Carolina Wildlife Resources Commission
NLCD	National Land Cover Database
NMFS	National Marine Fisheries Service
Original Certificated Project Plan	MVP Southgate Project, as approved on June 18, 2020 <i>Upland Erosion Control, Revegetation, and Maintenance Plan</i>
Procedures	<i>Wetland and Waterbody Construction and Mitigation Procedures</i>
SGCN	Species of Greatest Conservation Need
U.S.	United States
USFWS	U.S. Fish and Wildlife Service
VaNLA	Virginia Natural Landscape Assessment
VDCR	Virginia Department of Conservation and Recreation
VDGIF	Virginia Department of Game and Inland Fisheries
VDWR	Virginia Department of Wildlife Resources
WWH	warmwater habitat

## RESOURCE REPORT 3

### FISH, WILDLIFE AND VEGETATION

#### 3.1 INTRODUCTION

On June 18, 2020, in Docket No. CP19-14-000, the Federal Energy Regulatory Commission (“FERC” or “Commission”) issued a Certificate of Public Convenience and Necessity pursuant to Section 7(c) of the Natural Gas Act to Mountain Valley Pipeline, LLC (“Mountain Valley”) authorizing Mountain Valley to construct and operate the MVP Southgate Project (or “Original Certificated Project”). A Final Environmental Impact Statement (“FEIS”) was issued by FERC on February 14, 2020.

In December 2023, Mountain Valley submitted an update on the status of the Original Certificated Project, indicating that it had entered into precedent agreements for a redesigned pipeline route. Mountain Valley is currently seeking to amend the MVP Southgate Project (“Amendment Project”) by truncating the Original Certificated Project to approximately 31.3 miles, incorporating certain route deviations, increasing the diameter of the pipeline, removing the Lambert Compressor Station, and modifying the proposed interconnects. The Amendment Project facilities will be located in Pittsylvania County, Virginia, and Rockingham County, North Carolina. See Resource Report 1 for additional information on the Original Certificated Project and Amendment Project.

##### 3.1.1 Environmental Resource Report Organization

Resource Report 3 includes descriptions and supporting information regarding fisheries resources, wildlife habitat, existing vegetation resources, and federally protected and state-protected species that may be affected by the Amendment Project and is prepared and organized according to the FERC (2017) *Guidance Manual for Environmental Report Preparation*. The factual information presented in Resource Report 3 largely has not changed from the FEIS issued for the Original Certificated Project on February 14, 2020, particularly as to state-protected species. Any changes to the factual information in the FEIS are noted below.

#### 3.2 FISHERIES RESOURCES

Fisheries resources are broadly defined as fishes and aquatic invertebrates, including mollusks. Fisheries resources are typically found within perennial waterbodies; however, depending on their proximity and flow characteristics, intermittent or ephemeral streams may be used by fisheries resources when water is present. Mountain Valley coordinated with the United States (“U.S.”) Fish and Wildlife Service (“USFWS”), Virginia Department of Wildlife Resources (“VDWR”), Virginia Department of Conservation and Recreation (“VDCR”)-Division of Natural Heritage (“DNH”), North Carolina Natural Heritage Program (“NCNHP”), and North Carolina Wildlife Resources Commission (“NCWRC”) to identify fisheries resources.

##### 3.2.1 Fisheries Habitat Classification

A fishery is generically defined as a system in which the aquatic biota, aquatic habitat, and human users of these renewable resources interact and influence the system’s performance (Lackey 2005). Surface water areas provide suitable habitat for aquatic life and are categorized according to water temperature (warmwater or coldwater), salinity (freshwater, marine, or estuarine), fish harvest (commercial or

recreational), upstream areas for spawning marine fishes (anadromous species), and migration routes from freshwater to marine waters for reproduction (catadromous species). FERC defines significant fisheries resources as waterbodies that either (1) provide important habitat for foraging, rearing, or spawning; (2) represent important commercial or recreational fishing areas; or (3) support large populations of commercially or recreationally valuable fish species or fish species that are protected at the federal, state, or local level.

The fisheries habitat classifications and resources described in the FEIS are the same as those crossed by the Amendment Project. Refer to Resource Report 2, Section 2.3 for additional information regarding the waterbodies crossed by the Amendment Project. Proposed waterbody crossings, including access roads and construction workspaces, are depicted on the Amendment Project alignment sheets and U.S. Geological Survey topographic map excerpts provided in Resource Report 1, Appendix 1-A.

All surface waters crossed by the Amendment Project are designated as freshwater habitats. Freshwater systems have low salinity (less than 0.5 parts per thousand) and contain fisheries that are typically classified as either warmwater habitat (“WWH”) or coldwater habitat (“CWH”), which are described in Section 4.6.5 of the FEIS. Like the Original Certificated Project described in the FEIS, all surface waters crossed by or in relevant proximity to the Amendment Project are considered WWH; therefore, no CWH waterbodies are crossed or affected by the Amendment Project.

### **3.2.2 Existing Fisheries Resources**

Resource Report 2, Appendix 2-A lists the waterbodies crossed by Amendment Project facilities and associated access roads and includes the state water quality and designated usage classifications.

The U.S. is divided and subdivided into successively smaller hydrologic unit codes (“HUCs”), as defined in Section 4.3.2 of the FEIS. Table 2.3-1 (see Resource Report 2) identifies these major regions and their respective sub-basins by 8-digit HUCs and watershed by 10-digit HUCs. As all waters crossed are considered WWH and the waters drain to the Atlantic Ocean, the aquatic fauna is relatively consistent across the Amendment Project area. The representative list of general aquatic species that may occur within the Amendment Project area has not changed from that presented in Table 4.6-3 of the FEIS.

While prior agency consultations identified several salamander and crayfish species with the potential to occur near portions of the Original Certificated Project, initial agency coordination for the Amendment Project did not identify any frog, salamander, or crayfish species with the potential to occur along the amended route.

#### **3.2.2.1 Essential Fish Habitat**

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act set forth a new mandate for the National Marine Fisheries Service (“NMFS”), regional fishery management councils, and other federal agencies to identify and protect important marine and anadromous fish habitats. This mandate is addressed through the establishment of “essential fish habitat” (“EFH”) for federally managed species. The Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265 as amended through October 11, 1996) defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.”



Like the Original Certificated Project described in the FEIS, the Amendment Project does not cross or occur in relevant proximity to any waterbodies managed by NMFS, including any areas identified as EFH (NMFS 2024).

### 3.2.2.2 State Fisheries

Virginia and North Carolina developed individual guidelines and regulatory systems for evaluating, classifying, and monitoring surface waters. As part of these classifications, Virginia and North Carolina have designated high-quality habitat waterbodies with potential to provide suitable habitat for protected species. The classifications pertaining to the potential presence of fisheries of special concern or associated habitat are fully described within the FEIS for the Original Certificated Project and would apply to waterbodies crossed by or in relevant proximity to the Amendment Project.

#### Virginia

##### Tier Designation

The Virginia Department of Environmental Quality (“VADEQ”) recognizes and classifies exceptional state waters, which warrant protection to maintain high water quality for the benefit of future generations. The state establishes a tiered, anti-degradation policy and implementation procedure to maintain and protect existing water quality in Virginia waters. The higher the tier designation (I-III), the greater the protections for the waterbody. Tier I and Tier II Waters are not considered special protection waters. Waters designated as Tier III are known as “outstanding national resource waters” by the U.S. Environmental Protection Agency and “exceptional state waters” in Virginia (VADEQ 2024). These waterbodies must meet at least one of the following criteria: (1) occur in a location of outstanding scenic beauty, (2) possess exceptional aquatic communities, or (3) have superior recreational opportunities.

No Tier III Waters are crossed by the Amendment Project; therefore, no impacts to exceptional aquatic communities will occur as a result of the construction or operation of the Amendment Project in Virginia (VADEQ 2024).

##### Trout Waters

The VDWR (formerly named the Virginia Department of Game and Inland Fisheries [“VDGIF”])<sup>1</sup> identifies a classification system for potential trout waters based on aesthetics, productivity, resident fish population, and waterbody structure (VDGIF 2019a). As explained in VADEQ’s water quality regulations at 9 VAC25-260-370, waterbodies with classifications of i through iv are indicative of wild trout habitat, and classifications of v through viii indicate coldwater habitat not suitable for wild trout but adequate for year-round hold-over of stocked trout are crossed by the Amendment Project; therefore, no impacts are expected to classified trout waters (VDWR 2024a).

#### North Carolina

##### Outstanding Resource Waters

Per 15A North Carolina Administrative Code 02B .0101 (Surface Water and Wetland Standards), to be classified as Outstanding Resource Water, a waterbody must exhibit one or more of the following values or uses to demonstrate it is of exceptional state or national recreational or ecological significance: (1) there are outstanding fish (or commercially important aquatic species) habitat and fisheries; (2) there is an

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<sup>1</sup> VDGIF became the VDWR, effective July 1, 2020.

unusually high level of water-based recreation or the potential for such recreation; (3) the waters have already received special designation such as a North Carolina or National Wild and Scenic River, Native or Special Native Trout Waters, or National Wildlife Refuge, which do not provide any water quality protection; (4) the waters represent an important component of a state or national park or forest; or (5) the waters are of special ecological or scientific significance such as habitat for rare or endangered species or as areas for research and education. No surface waters crossed by the Amendment Project are classified as Outstanding Resource Waters; therefore, no impacts are anticipated to these waterbodies (North Carolina Department of Environmental Quality [“NCDEQ”] 2024).

#### Trout Waters

North Carolina utilizes supplemental classifications for surface waters with potential to harbor trout populations. Per the North Carolina Surface Water and Wetland Standards, trout waters are freshwaters protected for natural trout propagation and survival of stocked trout. No surface waters classified as trout waters or NCWRC Designated Public Mountain Trout Waters are crossed by or in relevant proximity to the Amendment Project in North Carolina; therefore, no impacts are anticipated to these fisheries (NCDEQ 2024a; NCWRC 2024a).

#### **3.2.2.3 Commercial Fisheries**

Commercial fishing is allowed in both Virginia and North Carolina, as both states are bordered by estuarine and marine environments. The Virginia Marine Resources Commission and the North Carolina Division of Marine Fisheries are the respective state agencies commissioned to manage and regulate marine resources. In both states, commercial fishing activities are primarily restricted to marine, estuarine, and diadromous species habitats.

The Amendment Project will not cross or occur in relevant proximity to waterbodies that support commercial fisheries and will have no impact on commercial fishing in Virginia or North Carolina.

#### **3.2.2.4 Recreational Fisheries**

Recreational fishing in all environments (marine, estuarine, and freshwater) provides economic and conservation benefits to Virginia and North Carolina. In 2022, retail sales associated with recreational fishing totaled approximately \$2.6 billion in Virginia and \$3.2 billion in North Carolina (USFWS 2023a). The Amendment Project also avoids crossing trout waterbodies or coldwater fisheries and likewise will have no direct effect on recreational fisheries in the region. Any impacts on recreational fisheries associated with the construction of the Amendment Project are expected to be minor and temporary. No permanent impacts are anticipated on recreational fisheries from the Amendment Project.

#### **3.2.3 Fisheries of Special Concern**

Waterbodies with fisheries of special concern include those that have fisheries with important recreational value, support coldwater fisheries, are included in special state fishery management regulations, or provide potential habitat for federally or state-listed threatened or endangered species. Waterbodies that have significant economic value because of fish stocking programs, commercial fisheries, EFH, or tribal harvest are also considered a fishery of special concern. As previously described, there are no trout waterbodies, EFH, CWH fisheries, or commercial fisheries located in the Amendment Project area. Therefore, fisheries of special concern in the Amendment Project area would largely be based on the potential presence of

threatened or endangered species (see Section 3.5 for a discussion of threatened or endangered species). Species that occur in relevant proximity to the Amendment Project might experience sedimentation-related impacts from upland construction activities. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS for the forthcoming Biological Assessment (“BA”) that is being developed for the Amendment Project.

During initial coordination, agencies provided information on streams that potentially support federally or state-listed threatened, endangered, or candidate species and their habitat (see Resource Report 1, Appendix 1-I). Species identified during agency coordination include fishes and mussels. Table 3.5-1 (see Tables Section) lists these species and their regulatory status. Fisheries of special concern crossed by the Amendment Project are listed in Table 3.2-1 (see Tables Section). Potential effects on fisheries resources, including fisheries of special concern, are discussed in Sections 3.2.4 and the subsections on aquatic species in Section 3.5.

### **3.2.4 Construction and Operation Impacts and Conservation Measures**

#### **3.2.4.1 Pipeline**

Potential short-term impacts on fisheries and other aquatic resources associated with pipeline construction activities may be caused by temporary increases in sedimentation and turbidity, alteration or removal of aquatic habitat cover and vegetation on adjacent banks, direct contact by construction equipment with food resources in the form of relatively immobile prey, introduction of pollutants, or entrainment of fish. No long-term effects on dissolved oxygen, pH, benthic invertebrates, or fish communities are expected to occur due to the construction or operation of the Amendment Project. Certain general potential impacts and associated conservation measures to minimize impacts on fisheries and other aquatic resources within waterbodies crossed or affected by the Amendment Project are identified in the FEIS.

Restoration, bank stabilization, and revegetation efforts, which are defined in the FERC (2013a; 2013b) *Upland Erosion Control, Revegetation, and Maintenance Plan* (“Plan”) and *Wetland and Waterbody Construction and Mitigation Procedures* (“Procedures”), will minimize the potential for erosion from the surrounding landscape. Adherence to the FERC Plan and Procedures and the project-specific Erosion and Sediment Control (“E&SC”) plan will maximize the potential for regrowth of riparian vegetation, thereby minimizing the potential for long-term impacts associated with lack of shade and cover.

Waterbodies crossed by the Amendment Project pipeline in areas of shallow bedrock are listed in Table 2.3-10 (see Resource Report 2). Blasting during trench excavation across or in proximity to waterbodies may be required and can result in impacts to fisheries as described in the FEIS. Mountain Valley will avoid or minimize blasting in or near waterbodies to the extent practicable by using other means of rock removal where bedrock is encountered within trench depth. If blasting is necessary, Mountain Valley will follow the measures outlined in its General Blasting Plan.

In coordination with USFWS, Mountain Valley is analyzing potential impacts and associated conservation measures to minimize impacts on fisheries and other aquatic resources within waterbodies crossed or otherwise affected by the Amendment Project. For federally listed species, the results of this analysis will be incorporated into the BA that is being developed for the Amendment Project and will be provided to FERC in a supplemental filing in Q1/Q2 2025.

### 3.2.4.2 Aboveground Facilities and Access Roads

None of the aboveground facilities or contractor yards associated with the Amendment Project are within riparian zones known to harbor sensitive aquatic species. Likewise, no waterbody resources will be directly affected by the construction or operation of the aboveground facilities. Construction activities associated with aboveground facilities will adhere to both the FERC Plan and Procedures and the project-specific E&SC plan, as applicable.

To the extent practicable, the Amendment Project will use existing access roads (with existing waterbody crossings), as was described in the FEIS. If installation of a new or an improved existing waterbody crossing is required, the crossing will be completed in accordance with the FERC Plan and Procedures as well as applicable state standards and approvals.

Mountain Valley is currently analyzing potential impacts and associated conservation measures for fisheries or aquatic resources within waterbodies crossed or otherwise affected by the construction or operation of Amendment Project aboveground facilities. For federally listed species, the results of this analysis will be incorporated into the BA that is being developed for the Amendment Project and will be provided to FERC in a supplemental filing in Q1/Q2 2025.

### 3.2.4.3 Waterbody Construction Methods

As a voluntary minimization measure, Mountain Valley will generally reduce the typical 100-foot workspace to 75 feet at waterbody crossing locations. General construction methods at waterbody crossings have not changed from those described in the FEIS as they are applicable to the Amendment Project, although the crossing methods selected for certain waterbodies may have been revised from what was identified in the FEIS. Mountain Valley is currently conducting a site-specific evaluation of crossing methods for each feature. As required by the Clean Water Act Section 404 regulations, Mountain Valley will implement whichever crossing method represents the least environmentally damaging practicable alternative for each crossing. Mountain Valley anticipates providing this information in a supplemental filing in Q1 2025.

Like the Original Certificated Project described in the FEIS, waterbodies along the Amendment Project are planned to be crossed by utilizing dry crossing methods or trenchless methods. Construction methods for waterbodies and the general potential impacts from those crossing have not changed from the FEIS. Though aquatic resources in waterbodies crossed or otherwise affected by the Amendment Project may experience sedimentation-related impacts from upland construction activities, avoidance of direct instream impacts to streambed and riparian areas can be achieved by the implementation of trenchless construction methods, including conventional bore or horizontal directional drill (“HDD”) as described in the FEIS. Mountain Valley is currently proposing to employ the HDD method to complete two crossings at the Sandy River and Dan River. Mountain Valley will also coordinate with regulatory agencies regarding proposed crossing methods.

Mountain Valley will follow FERC’s Procedures and its project-specific E&SC plan to limit aquatic resource impacts during and following construction. Additionally, Mountain Valley is currently analyzing potential impacts and associated conservation measures to minimize impacts on fisheries and other aquatic resources within waterbodies crossed or otherwise affected by the Amendment Project. For federally listed species, the results of this analysis will be incorporated into the BA that is being developed for the Amendment Project and will be provided to FERC in a supplemental filing in Q1/Q2 2025.

#### 3.2.4.4 Hydrostatic Testing

Like the Original Certificated Project described in the FEIS, Mountain Valley proposes to use water withdrawn from the Dan River for hydrostatic testing of the proposed Amendment Project facilities, as listed in Table 2.3-7 (see Resource Report 2). If necessary, additional potential sources for hydrostatic test water may include municipal, groundwater supply wells, and/or approved surface waters. The withdrawal, testing, and discharge methods have not changed from those described in the FEIS. A detailed description of the hydrostatic test process and mitigation measures is provided in Section 2.3.2 of Resource Report 2.

Aquatic habitat and species may be affected by in-water work that results in direct impacts and in turbidity and downstream sedimentation in streams that contain suitable habitat. Impacts also may result from crushing, entrainment, or impingement during water withdrawals. Mountain Valley is currently analyzing potential impacts and associated conservation measures to minimize impacts on fisheries and other aquatic resources within waterbodies crossed or otherwise affected by the Amendment Project. For federally listed species, the results of this analysis will be incorporated into the BA that is being developed for the Amendment Project and will be provided to FERC in a supplemental filing in Q1/Q2 2025.

#### 3.2.4.5 Vegetation Clearing

Removal of trees and other riparian vegetation from the edges of waterbodies at crossing locations 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 can negatively influence habitat quality and reduce availability of habitat for certain fish and other aquatic species. Like the Original Certificated Project, and as described in the FEIS, Mountain Valley minimized impacts resulting from tree clearing by routing the pipeline adjacent to existing cleared right-of-way and previously developed corridors to the extent practicable and will restrict clearing to only what is necessary to safely construct and operate the pipeline.

Vegetation cleared between the waterbody and the additional temporary workspaces (“ATWS”) will be limited. ATWS will be located at least 50 feet away from the water’s edge to the extent practicable. Where safety and/or constructability necessitates ATWS to be closer, Mountain Valley will request an alternative measure to the FERC Procedures as listed in Resource Report 2, Appendix 2-E. Implementation of the FERC Plan and Procedures will minimize short- and long-term water quality impacts to the waterbodies within the Amendment Project area.

Once construction is complete, streambeds and banks will be restored to preconstruction conditions to the extent practicable. General proposed restoration, bank stabilization, and revegetation efforts to be implemented on the Amendment Project have not changed from those described in the FEIS.

Implementation of the FERC Procedures during construction will minimize the short-term impacts on fisheries resources and the aquatic habitats upon which these fisheries resources depend for survival. Operation and routine maintenance of the pipeline right-of-way and aboveground facilities will be restricted to clearing and mowing vegetation within the permanent right-of-way.

Aquatic resources within waterbodies crossed or otherwise affected by the Amendment Project may experience sedimentation-related impacts from upland construction and clearing activities. Mountain Valley is currently analyzing potential impacts and associated conservation measures to minimize impacts on such resources. For federally listed species, the results of this analysis will be incorporated into the

BA that is being developed for the Amendment Project and will be provided to FERC in a supplemental filing in Q1/Q2 2025.

#### **3.2.4.6 Spill Prevention and Control**

The potential for accidental releases of fuels, lubricants, and coolants could adversely affect aquatic species and contaminate public water supplies that rely on surface water intakes located downstream of waterbody crossings. To reduce impacts to waterbodies from the potential release of fuels, lubricants, and coolants, Mountain Valley will implement the minimization measures described in the FEIS.

Mountain Valley will also implement its project-specific Spill Prevention, Control and Countermeasure Plan and its Unanticipated Discovery of Contamination Plan, which have been revised for the Amendment Project. These plans will be implemented before and during construction (see Resource Report 1, Appendix 1-G).

#### **3.2.4.7 Aquatic Non-Native/Invasive Species**

Aquatic non-native/invasive species can enter waterways when moving equipment or personnel between waterbodies during the construction, operation, and maintenance of the pipeline. Mountain Valley previously developed an Exotic and Invasive Species Control Plan for the Original Certificated Project. This plan has been updated and revised based on supplemental field surveys conducted for the Amendment Project in 2024 (see Resource Report 1, Appendix 1-G). Mountain Valley will continue coordination with applicable regulatory agencies regarding aquatic surveys and the implementation of appropriate measures to prevent the spread of invasive species.

### **3.3 WILDLIFE**

This section describes the wildlife resources potentially affected by the construction and operation of the Amendment Project. Wildlife and habitat types typically found in the Amendment Project area and methods used to avoid and minimize impacts on these resources are described below.

#### **3.3.1 Existing Resources**

The composition, structure, and distribution of the plant community in an area are referred to as the vegetative cover, which is described in the FEIS. The wildlife species that occur in the Piedmont Region are representative of the vegetation community structure and composition of the terrestrial and wetland habitats. This section describes major wildlife habitat types and wildlife species associated with vegetative cover types present in the Amendment Project environmental survey corridor (see Section 3.4.2 for descriptions of plant communities present in the Amendment Project area).

Dominant wildlife habitat types were identified along the pipeline route and at aboveground facilities based on field surveys and a review of available resource material. These habitat types support a diversity of wildlife with species potentially found within the Amendment Project area and have not changed from the FEIS. Potential wildlife species in each habitat type were determined by accessing information provided by the state agencies (VDWR 2024b and NCWRC 2024b), knowledge of common wildlife species provided by biologists familiar with the Amendment Project area, and species observed during field surveys completed for both the Original Certificated and Amendment projects. The representative list of general



wildlife species that may occur within the Amendment Project area has not changed from that presented in Table 4.6-1 of the FEIS.

### 3.3.2 Significant or Sensitive Wildlife Habitat

Based on database searches and agency consultation, no Amendment Project facilities are located within or are expected to affect USFWS National Wildlife Refuges or other federally protected lands (see Agency Consultations [Resource Report 1, Appendix 1-I] and USFWS 2024a). The Amendment Project facilities avoid impacts to federally significant and sensitive wildlife habitat to the extent practicable. The pipeline route intersects one private conservation area and one state-designated sensitive habitat. Table 3.3-1 (see Tables Section) lists the private and state-managed conservation lands that are within one mile of the Amendment Project as identified using the information provided by the consulting agencies. The private and state-managed lands that intersect with the construction area of the Amendment Project are generally located along the edge of an existing maintained Transcontinental Gas Pipe Line Company, LLC pipeline right-of-way that is parallel to the Amendment Project.

### 3.3.3 Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

Like the Original Certificated Project described in the FEIS, the Amendment Project was reviewed for potential impacts to migratory birds protected under the Migratory Bird Treaty Act (“MBTA”), as described below.

#### 3.3.3.1 Migratory Bird Species of Concern

In coordination with USFWS and state agencies, Mountain Valley developed a list of project-specific Migratory Bird Species of Concern (“MBSC”) that may be affected by the Amendment Project. Like the Original Certificated Project described in the FEIS, the Amendment Project is located within the Piedmont Bird Conservation Region (“BCR”) 29. Each BCR maintains a specific list of Birds of Conservation Concern (“BCC”) that includes migratory and non-migratory birds that are of conservation concern and considered species that, without additional conservation measures, may become candidates for listing under the Endangered Species Act (“ESA”) of 1973 (USFWS 2021a). BCR 29 lists 14 BCC specific to the Piedmont region (USFWS 2021a).

Additional resources were used to identify other sensitive bird species that may be affected by the Amendment Project, resulting in a list of 24 unique species known to either winter, migrate, or nest in the region (Table 3.3-2). These resources included the USFWS Information for Planning and Consultation database (“IPaC”), bald eagle online planning tools for Virginia and North Carolina, the Atlantic Coast Joint Venture (“ACJV”), state online databases, and coordination with state agencies (which is ongoing).

On August 6, 2024, Mountain Valley obtained an official IPaC resource list, which was used to screen for species of conservation concern associated with populations near the Amendment Project (USFWS 2024b; see Resource Report 1, Appendix 1-I). The IPaC resource list identified 12 BCC with the potential to occur in the Amendment Project area, all of which are identified as BCC in BCR 29. In addition, the IPaC resource list also identified the bald eagle, which is not a BCC in this area but warrants attention due to the Bald and Golden Eagle Protection Act of 1940 (“BGEPA”). The black-billed cuckoo (*Coccyzus erythrophthalmus*) and the king rail (*Rallus elegans*) are the two BCC listed in BCR 29 that are not also identified on the IPaC resource list as potentially present for the Amendment Project.

The VDCR Natural Heritage Inventory and the VDWR Virginia Fish and Wildlife Information Service were accessed on June 2 and August 15, 2024, respectively, to identify avian species with conservation concerns with the potential to occur near the Amendment Project (see Resource Report 1, Appendix 1-I; VDWR 2024b). No avian species were identified that were not already represented via another resource (e.g., IPaC; BCR 29).

A NCNHP database query was completed on June 26, 2024, to identify birds with conservation concerns in North Carolina with the potential to occur near the Amendment Project (NCNHP 2024a). No avian species were identified within a mile of the Amendment Project. On August 8, 2024, Mountain Valley submitted a letter to the NCNHP requesting any information regarding the potential for sensitive or protected resources that may occur within the Amendment Project area (see Resource Report 1, Appendix 1-I). No avian species have been identified in the data provided by NCNHP to date. Consultation with the NCWRC is ongoing.

Additional sources, including the Virginia Breeding Bird Atlas and the Birds of North Carolina website, were queried to evaluate species that may nest near the Amendment Project (Carolina Bird Club 2024; VDWR 2024c). The eBird (2024) online mapping tool was also accessed to identify species records near the Amendment Project during their respective nesting seasons. Of the 24 sensitive bird species initially identified through this supplemental search, 12 MBSC were identified with potential to nest in proximity to the Amendment Project area (see Table 3.3-2); the other 12 are not known to nest in the region or have no known nesting records near the Amendment Project area.

The bald eagle is not classified as a BCC in this area but nevertheless is included as a project-specific MBSC due to the protections afforded the species under BGEPA. The Center for Conservation Biology (2024) Virginia Eagles Nest Locator Tool was used to identify known locations of bald eagle nests and concentration areas. The NCNHP online database was reviewed to identify known locations of bald eagle nests. Like the Original Certificated Project described in the FEIS, no bald eagle nests, buffers, or concentration areas were identified within 0.5 mile of the Amendment Project. Mountain Valley previously completed bald eagle and colonial rookery surveys for the Original Certificated Project in February 2020 (ESI 2020b). No nests were observed along the Original Certificated Project workspace areas. Mountain Valley remains committed to avoiding impacts to bald eagles; therefore, a bald eagle nest survey will be conducted prior to construction to identify any active nests within 0.5 mile of Amendment Project workspace areas. If any bald eagle nests are discovered during the preconstruction nest surveys, Mountain Valley will follow the measures described in the FEIS and coordinate with the appropriate federal and state agencies.

### **3.3.3.2 Migratory Bird Habitat**

This section describes suitable nesting habitat of project-specific MBSC (see Table 3.3-3 for project-specific MBSC preferred nesting habitat and primary nesting season) and discusses the implications of modifications to migratory bird habitat along the Amendment Project route. Habitat impacts are evaluated by comparing the amount of each land cover type present along the Amendment Project route before and after construction and following recovery of temporarily disturbed areas. Table 3.4-1 summarizes the amount of each land cover type that is expected to be affected by the Amendment Project (see Tables Section).



Impacts to project-specific MBSC may occur from the clearing and modification of suitable habitat. The project-specific MBSC most commonly use the following National Land Cover Database (“NLCD”) land covers as preferred nesting habitat: Deciduous Forest; Emergent Herbaceous Wetlands; Evergreen Forest; Grassland/Herbaceous; Mixed Forest; Open Water; Pasture/Hay; Shrub/Scrub; and Woody Wetlands (Jin et al. 2013 and Homer 2015). Of the approximate 575.83 acres within the Amendment Project footprint, approximately 153.32 acres of potential migratory bird nesting habitat (i.e., the land covers listed above) are within the Amendment Project’s permanent right-of-way and will be maintained as non-forested land cover in perpetuity. Approximately 217.95 acres will be converted from forested land cover to non-forested land cover during construction; 129.75 acres will be allowed to revegetate over time, resulting in 88.20 acres of forest within the permanent right-of-way that will be maintained as non-forested land cover in perpetuity. Migratory bird habitat within the temporary right-of-way associated with construction activities is expected to return to preconstruction conditions (e.g., Pasture/Hay land cover will return to Pasture/Hay following construction). Implementing restorative measures outlined in the FERC Plan and Procedures will expedite the recovery of vegetation. Like the Original Certificated Project described in the FEIS, Mountain Valley has attempted to minimize impacts to migratory bird habitat by collocating the Amendment Project route with existing rights-of-way or previously disturbed habitat for approximately 64 percent of the proposed route and reducing the width of the construction right-of-way to 75 feet where the pipeline would cross waterbodies or wetlands.

Like the Original Certificated Project as described in the FEIS, the Amendment Project will traverse the Virginia Piedmont Forest Block Complex Important Bird Area (“IBA”) from approximate milepost (“MP”) 23.0 to MP 26.3, as identified through a review of the Audubon IBA mapping database (Audubon 2024).

In total, the Virginia Piedmont Forest Block Complex IBA contains over five million acres of land. Approximately 40 percent (approximately 2,028,513 acres) of the land within the entire IBA is classified as forested land cover. The review indicates approximately 15,567 acres of forest (i.e., Deciduous, Mixed, and Evergreen Forest) are in the individual block of the Virginia Piedmont Forest Block Complex IBA crossed by the Amendment Project. Approximately 45.5 acres of forest will be cleared within the Virginia Piedmont Forest Block Complex IBA, 27.5 acres of which will return to forested conditions over time. The Amendment Project is expected to result in the permanent conversion of approximately 18 acres of forest cover to non-forested cover within this block. Amendment Project implementation would result in less than a 0.1 percent decrease in available forest cover within the block crossed by the Amendment Project. Like the Original Certificated Project described in the FEIS, the decrease in forest cover within the Virginia Piedmont Forest Block Complex IBA resulting from the Amendment Project is unlikely to result in measurable negative effects to migratory birds and their habitat at the population and regional scales.

### **3.3.3.3 Proposed Conservation Measures**

Activities associated with Amendment Project implementation have the potential to result in direct and indirect effects to migratory birds. The nesting periods of the project-specific MBSC were preliminarily identified using the NatureServe Explorer (2024) database and will be confirmed with USFWS. Absent implementation of conservation measures, construction activities occurring during the nesting season of these species could impact migratory birds. Potential effects caused by Amendment Project construction have not changed from the FEIS. Mountain Valley will implement conservation measures to avoid direct effects to migratory birds. The conservation measures will be based on those described in USFWS’s Nationwide Conservation Measures, USFWS National Bald Eagle Management Guidelines, VDWR Bald

Eagle Guidelines for Landowners, and the FERC Plan and Procedures and will build on those from the FEIS if needed.

Mountain Valley will also minimize loss or degradation of migratory bird habitat resulting from the construction of the Amendment Project. Of the 575.83 acres impacted during the construction of the Amendment Project, approximately 85 percent (487.63 acres) is expected to return to preconstruction conditions (see Table 3.4-1 for the vegetation impact table). Although a total of 88.20 acres of forested areas (woodlands and wetlands) in the operational footprint will be permanently converted to non-forested land cover, forested areas outside the operational footprint and other land cover types both within and outside the operational footprint will be allowed to return to preconstruction conditions.

Like the Original Certificated Route, Mountain Valley has minimized removing and fragmenting forested habitats by collocating the route to the extent practicable; 64 percent (approximately 20 miles) of the Amendment Project route is collocated with existing right-of-way or previously disturbed lands. Construction methods and strategies for minimizing impacts to migratory bird habitat have not changed from those described in the FEIS.

During the operation of the pipeline, in order to minimize impact to nesting migratory bird species, routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the USFWS in accordance with the FERC Plan.

### **3.3.4 Wildlife Impacts and Conservation Methods**

Temporary wildlife impacts are those associated with disturbance activities during Amendment Project construction, whereas permanent impacts are associated with the conversion of forested habitats to scrub-shrub or herbaceous habitats as a result of recurring maintenance of the permanent right-of-way. Indirect, short-term impacts to wildlife associated with construction noise and increased human activity are expected to be temporary and could result in abandoned or delayed reproductive efforts, displacement from the Amendment Project area, or complete avoidance of active work areas. Direct mortality to less-mobile species of small wildlife could occur during clearing and grading operations. Specifically, wildlife could be crushed while on the surface or, in the case of subterranean species, while underground when tunnels or burrows are collapsed due to heavy equipment directly aboveground. Excavated trenches left open during Project construction risk wildlife accidentally becoming trapped or possibly experiencing bodily injury after falling into the trench. Mountain Valley will install escape ramps within the open trenches to allow wildlife to exit and not become trapped. Escape ramps will be installed at intervals of no more than one mile to allow for adjustments due to environmental features such as wetlands, waterbodies, and road crossings.

Effects on non-forested habitat impacted during construction will be temporary and are described in the FEIS. By implementing the FERC Plan and Procedures, herbaceous habitat is expected to return to preconstruction conditions. Forested habitats, both upland and wetland, will be impacted to a greater degree due to the long-term conversion of these wooded habitats to earlier successional stage, grassland/scrub-shrub in the permanent, maintained right-of-way, as described in the FEIS. Tree removal associated with

Amendment Project construction will permanently reduce available nesting, roosting, and denning sites for woodland wildlife species.

The construction areas represent a small portion of the available nesting habitat within the vicinity. NLCD was used to evaluate the amount of available forested habitat within 0.6 mile of the Amendment Project. This distance was used to reflect a buffer at which noise impacts are unlikely to disrupt migratory bird nesting behavior (Dooling and Popper 2016; Goodship and Furness 2022). Approximately 27,462.7 acres of forest are available within 0.6 mile of the Amendment Project. Construction of the Amendment Project will clear approximately 209.27 acres of forest, 126.76 acres of which will return to forested conditions over time. Permanent modifications to the landscape as a result of the Amendment Project will result in approximately 0.5 percent decrease in available forest within 0.6 mile of the Amendment Project. This decrease is unlikely to result in population-level impacts to any of the project-specific MBSC that use forested habitat, as concluded in the FEIS.

Continuous tracts of forest will be fragmented and sharp edges created at the interface of intact forest. The permanent right-of-way will require interior forest wildlife species to relocate to other interior forest areas. New corridors traversing forested tracts may inhibit movement of forest interior species, which are more reluctant to cross large openings due to the increased risk of predation (Bennett 2003). Generally, interior forest is defined as the area within a forested tract greater than 300 feet from the forest edge. In Virginia, approximately 3.4 percent (6.52 acres) of the forest impacted by the construction of the pipeline right-of-way is considered interior forest, and approximately 3.5 percent (2.77 acres) of the forest impacted for the continued operation and maintenance of the pipeline facilities is considered interior forest. In North Carolina, approximately 14.1 percent (3.45 acres) of the forest impacted by the construction of the pipeline right-of-way is considered interior forest, and approximately 4.0 percent (0.33 acres) of the forest impacted by the continued operation and maintenance of the pipeline facilities is considered interior forest. Table 3.4-2 (see Tables Section) shows a breakdown of all interior and forest edge impacts based on the definition above. Though the right-of-way impacted for the continued operation and maintenance of the pipeline facilities will result in the permanent conversion of interior forest, the right-of-way impacted for the construction of the pipeline will fully regenerate to edge habitat, as described in the FEIS.

Forested areas are further defined in Virginia by the VDCR's Virginia Natural Landscape Assessment ("VaNLA") (VDCR-DNH 2024a). The VaNLA is a landscape-scale geospatial analysis used to identify, prioritize, and link natural lands within Virginia. Large patches of natural land with a minimum of 100 acres of interior cover and associated habitat fragments providing connectivity between large patches are collectively referred to as Ecological Core Areas ("ECA"). Each ECA is ranked based on its ecological integrity, with scores classified into five categories: C1–Outstanding; C2–Very High; C3–High; C4–Moderate; and C5–General. The Amendment Project has been routed to avoid unnecessary impacts to high-quality forested areas and has consequently avoided all outstanding (C1), very high (C2), and high (C3) forest rankings. The route bisects only one delineated ECA area; other forest impacts in Virginia will be along the edges of ECA areas in the Moderate or General category. The Amendment Project route crosses approximately 22 acres of Moderate (C4) and 41.2 acres of General (C5) ranked areas for the construction of the pipeline facilities, and of this acreage, approximately 7.5 and 13.3 acres of C4 and C5 areas, respectively, will be maintained for the continued operation and maintenance of the pipeline facilities. Impacts to these ECAs are not likely to significantly diminish the availability of forest interior within the landscape.

Approximately 60 percent of North Carolina, or 18.6 million acres, is forested (North Carolina Forest Service [“NCFS”] 2024). Within the Piedmont Region of North Carolina, approximately 51 percent of lands are forested, and nearly all land suitable for timber production is privately held (NCFS 2024). The NCFS evaluated the forested areas of the state in the North Carolina Forest Action Plan (“Forest Action Plan”) to analyze the past, current, and projected conditions of forest resources. The Forest Action Plan mapped the forested areas using several categories, one of which addresses wildlife habitat, Conserving Working Forest Lands. The Conserving Working Forest Lands include forested areas that have high values for connectivity with other forests, water quality protection for existing high-quality waters, habitat for wildlife, and strong timber markets (NCFS 2024). The Forest Action Plan identifies over five million acres of land considered as Conserving Working Forest Lands in the Piedmont Region (NCFS 2020), of which the Amendment Project route crosses approximately 28.24 acres for the construction of the pipeline facilities and approximately 10.8 acres for the continued operation and maintenance of the pipeline facilities.

The Forest Action Plan discusses the general conditions of the state’s forest resources and identifies goals for forestry management throughout the state. According to the Forest Action Plan, urbanization is increasing while forestland is decreasing, particularly in the Piedmont, where forestland is most vulnerable to encroachment (NCFS 2020). The Amendment Project avoids urban centers, traveling east of Eden and Reidsville in Rockingham County. To minimize impacts from loss of forest cover and forest fragmentation, the Amendment Project is intentionally collocated with existing utility corridors and other disturbed lands, as described in Resource Report 1, Section 1.3.1. The construction right-of-way width is also reduced to 75 feet wide at stream and wetland crossings, where feasible to do so. While the NCFS does not have regulatory authority in the areas solely identified within the Forest Action Plan as Conserving Working Forest Lands, Mountain Valley will continue to evaluate the potential impact to forested areas identified as Conserving Working Forest Lands.

Two minor deviations from the Original Certificate Project route, as recommended by the NCWRC in 2018, were incorporated into the Amendment Project route to reduce fragmentation and impacts to waterbodies (see Section 10.6 of Resource Report 10).

The permanent, maintained right-of-way will provide a travel corridor for many wildlife species, such as bats or birds of prey, and may provide food, shelter, and breeding habitat for species that prefer open herbaceous or scrub-shrub early successional habitats to forested habitats. Maintained utility rights-of-way are often heavily used by many locally important game species, such as white-tailed deer and American black bears. Along with implementing restoration measures contained in the FERC Plan and Procedures, Mountain Valley is committed to using native species within the seed mixes defined in the FEIS and project-specific E&SC plan. Furthermore, shrub-like vegetation will be permitted to grow between the maintained right-of-way and the naturally regenerating forest sections of temporary workspaces to provide a gradual transition from the sharp edge of the pipeline corridor to forested areas. The permanent easement will predominantly be maintained with mechanized clearing. Mountain Valley will avoid the use of herbicides and pesticides to maintain any portion of the Amendment Project right-of-way or aboveground facilities unless requested by a landowner or land-management agency or needed to spot treat exotic/invasive species or pest species that threaten the integrity of stabilizing revegetation when fall mowing is unsuitable to treat the pest species.

## 3.4 VEGETATION

This section describes the vegetation resources potentially affected by the construction and operation of the Amendment Project. Included are the descriptions of various plant communities found in the Amendment Project area and methods that will be used to minimize impacts on these vegetation resources.

### 3.4.1 Ecoregion

The vegetation communities within the Amendment Project area are described from a regional perspective using Omernik's Level III Ecoregions, maintained by the U.S. Environmental Protection Agency and defined in the FEIS (Omernik 2012). The Amendment Project is located entirely within the Piedmont Region, as described in the FEIS.

### 3.4.2 Existing Vegetation

Vegetation cover types along the Amendment Project route were determined by a review of aerial photography, existing land use classifications, and field surveys completed in 2024. Descriptions of existing representative vegetation cover types along the Amendment Project route are based on the natural community classification system described in the 2023 NLCD and are consistent with those described in the FEIS for the Original Certificated Route.

The definitions, descriptions, and potential impacts of these vegetation cover types along the Amendment Project route have not changed from those described in the FEIS. The acreages of vegetation cover types that will be impacted by all facilities during the construction and operation of the Amendment Project are listed in Table 3.4-1.

### 3.4.3 Unique, Sensitive, or Protected Vegetation

This section summarizes unique, sensitive, and protected vegetation crossed by the Amendment Project. In June and July 2024, Mountain Valley reinitiated engagement with the federal and state resource agencies initially contacted in 2018 for the Original Certificated Project to determine if any federally or state-listed threatened and endangered plant species or designated communities occur along the pipeline route. Agencies contacted by Mountain Valley include the USFWS, NCWRC, NCNHP, VDWR, and the VDCR-DNH. Coordination with the agencies is ongoing; copies of all agency correspondence to date are located in Resource Report 1, Appendix 1-I.

#### Virginia

Based on feedback from the USFWS Virginia Field Office, no federally listed plant species or special plant communities are expected to be present within the Amendment Project area (USFWS 2024b; Agency Consultations [see Resource Report 1, Appendix 1-I]). Consultation with VDCR-DNH indicated that there are no State Natural Area Preserves under its jurisdiction in the Amendment Project vicinity. Like the Original Certificated Project described in the FEIS, no impacts are anticipated on sensitive vegetation within the Amendment Project area.

Initial consultation with VDCR-DNH in June 2024 preliminarily indicated two state-listed endangered plant species with the potential to occur in the Amendment Project area: Virginia quillwort (*Isoetes virginica*)



and small whorled pogonia (*Isotria medeoloides*).<sup>2</sup> Rare plant surveys were completed for the Original Certificated Project in 2019, and no target rare plant species were observed, including Virginia quillwort or small whorled pogonia (ESI 2019a). The FEIS determined that the development of the Original Certificated Project would not be likely to impact any rare plants listed on the Rare Vascular Plant List. Environmental field surveys in 2024 did not identify the individual populations or suitable habitat for either of the plants identified by the VDCR-DNH.

In August 2024, VDCR-DNH concurred with the rare plant survey report completed for the Original Certificated Project (ESI 2019a) in Virginia and further stated that the agency had no further comments on those resources. VDCR-DNH determined the Amendment Project would not affect any documented state-listed plants.

### 3.4.3.1 North Carolina

Coordination with the USFWS Raleigh Field Office did not identify any known special plant communities or the potential presence of federally listed plant species within the Amendment Project area in North Carolina (USFWS 2024b). Based on feedback received from NCNHP for the Amendment Project, there are no records of state-listed rare plant species in the Amendment Project area (Agency Consultations [see Resource Report 1, Appendix 1-I]).

Natural areas are defined by the NCNHP to be of special biodiversity significance. The NCNHP identified one state-designated natural area with potential for sensitive and/or protected species (i.e., freshwater mussels) in the Amendment Project area, the Dan River Aquatic Habitat (see Table 3.4-3, Tables Section). No rare plant species are within the portion of the Dan River Aquatic Habitat crossed by the Amendment Project or otherwise in proximity to the Amendment Project (North Carolina Division of Water Quality 2006). Mountain Valley evaluated the area and determined that the Dan River Aquatic Habitat would be avoided by the Amendment Project by crossing the Dan River via HDD and no direct impacts are anticipated to the natural area.

### 3.4.4 Non-Native/Invasive Plant Species

An invasive species is typically not native to an ecosystem and causes or is likely to cause harm to the economy, environment, or human health, as described in the FEIS.

The Amendment Project utilized the VDCR-DNH Virginia Invasive Plant Species List and the North Carolina Invasive Plant Council List to identify potential invasive plant species that may occur within the Amendment Project area (Virginia Invasive Species Advisory Committee 2018 and North Carolina Invasive Plant Council 2023). Based on wetland and habitat assessment field surveys conducted in the summer and fall of 2024, invasive species are prevalent throughout the survey corridor. A comprehensive list of the potentially invasive species, including notes of observations, is located in the Exotic and Invasive Species Control Plan that has been revised for the Amendment Project (see Appendix 1-G).

Construction-related disturbances to the existing vegetation and subsequent bare ground increase the potential for the occurrence of non-native, invasive plant species. These species are usually concentrated in areas of prior or recurring disturbance, such as roadsides, existing utility right-of-way, residential use

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<sup>2</sup> Small whorled pogonia is also a federally listed as a threatened species under the ESA. Based on the best scientific and commercial information available, USFWS indicated that the species is not expected to occur in the Amendment Project area (USFWS 2024b).

areas, and agricultural areas. Despite efforts to prevent or minimize the spread of non-native, invasive vegetation, it is possible the construction, operation, and maintenance activities associated with the Amendment Project will increase the prevalence or introduction of harmful vegetation along the route. To reduce this risk, the Amendment Project will implement measures in the FERC Plan and Procedures and as described in the FEIS. The prevention and control of non-native invasive species is further discussed in the Exotic and Invasive Species Control Plan (see Appendix 1-G).

### **3.4.5 Construction Impacts and Conservation Measures**

This section summarizes Project construction and operation impacts on vegetation. Like the Original Certificated Project described in the FEIS, clearing for the pipeline will consist of a 100-foot-wide area within the construction right-of-way except at wetland and waterbody crossings, where clearing will be reduced to 75 feet in accordance with the FERC Procedures. Once the pipeline is installed, a 50-foot-wide permanent right-of-way will remain. The acreages of vegetation cover types that will be impacted by all facilities during the construction and operation of the Amendment Project are listed in Table 3.4-1. Following construction, vegetation within the 50-foot permanent right-of-way (with the exception of the area between the HDD entry and exits) will be maintained in the same manner described in the FEIS. Additionally, acreages for the full 50-foot permanent right-of-way have been provided in the tables below to account for the entirety of Mountain Valley's easement; however, wetland areas will be maintained in accordance with the FERC Procedures. Construction of the pipeline and aboveground facilities will include short-term, long-term, and permanent impacts on the existing vegetation cover types described in the FEIS. To the extent possible, the pipeline has been aligned parallel to existing utility rights-of-way and other linear features and utilizes existing roads to minimize clearing impacts as described in the FEIS.

The construction workspaces will be cleared of vegetation prior to construction to provide safe working conditions. The construction workspace, pipeline centerline, and ATWS will be identified and staked by the civil survey crew prior to the start of clearing operations. Like the Original Certificated Project described in the FEIS, timber will be cut into usable lengths and stacked adjacent to the right-of-way in accordance with landowner preferences. Non-merchantable brush and slash will be burned, stacked, or chipped. Any burning will be performed in compliance with applicable law and with conservation measures developed in coordination with the USFWS for purposes of the forthcoming BA. All stumps will be disposed of to the satisfaction of the property owner and/or the environmental inspector. When feasible, vegetation will be cut to ground level only, leaving the root systems intact. Temporary and permanent erosion control measures from the FERC Plan and Procedures are described in the FEIS and will be installed in accordance with applicable regulatory approvals.

During operation, vegetation maintenance of the permanent right-of-way is required to allow continued access for routine pipeline patrols, maintaining access in the event of emergency repairs, and visibility of aerial patrols. Proposed vegetation maintenance of the permanent right-of-way has not changed from the FEIS. After construction, Mountain Valley would maintain the 50-foot-wide permanent right-of-way as described in the FEIS and in accordance with the FERC Plan and Procedures. Other than the possible need to control noxious or invasive species, maintenance of vegetation is not expected to be required in agricultural or grazing areas.

The timeframe for revegetation of areas disturbed by Amendment Project construction will depend on factors such as site topography, aspect, soil texture, and microclimate. Agricultural lands will be stabilized immediately after construction activities and allowed to return to preconstruction use within one growing

season, as agricultural areas typically see annual turnover and disturbance. Unless specifically requested otherwise by landowners, all areas not in active farming (i.e., cultivated crops, including silviculture) will be seeded in accordance with the FEIS. Herbaceous uplands are expected to be successfully vegetated within one or two growing seasons, and scrub-shrub lands consisting of grasses, other forbs, legumes, and saplings are expected to be successfully vegetated within two to six growing seasons. Upland forests within the permanent right-of-way will be permanently converted to either herbaceous or scrub-shrub land types. Shrubs and trees within the temporary workspaces will be allowed to revegetate; however, it may take decades for these areas to resemble preconstruction conditions.

Like the Original Certificated Project described in the FEIS and in accordance with the FERC Plan, Mountain Valley will monitor all areas disturbed by the construction of the Amendment Project to determine the post-construction revegetation success for a minimum of two growing seasons following construction or until revegetation is successful.

As concluded in the FEIS, impacts on vegetation, including forested areas, would be adequately reduced to less than significant levels. In addition, impacts on forested and non-forested vegetation types, as well as the introduction or spread of noxious weeds or invasive plant species, will be mitigated through adherence to the measures outlined in the FERC Plan and Procedures and other conservation measures described in the FEIS.

### **3.5 ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES**

The ESA provides for the listing, conservation, and recovery of endangered and threatened species of plants and wildlife. The USFWS is mandated to monitor and protect all federally listed freshwater and terrestrial species, whereas the NMFS is responsible for marine and anadromous species. The definitions of federally listed endangered and federally listed threatened species are provided in the FEIS. The ESA also provides protection for “critical habitat,” which is defined in the FEIS.

Virginia and North Carolina also have enacted endangered species protection laws. State-specific statutes and regulations are as follows.

The Virginia Endangered Species Act (Va. Code 29.1-563 to 29.1-570) states that, on behalf of the Virginia Board of Wildlife Resources, the VDWR is responsible for implementing regulations regarding state-listed threatened or endangered fish and wildlife in Virginia. State-listed species are provided protection under Va. Code 29.1-564 and VDWR Regulation 4 Virginia Administrative Code (“VAC”) 15-20-130. The law authorizes the Virginia Board of Wildlife Resources and the VDWR to adopt the federal list of endangered and threatened species, to declare by regulation that species listed as endangered or threatened by the federal government are also listed as such in Virginia, and to prohibit by regulation the taking, transportation, processing, sale, or offer for sale of those species. Implementing regulations pursuant to this authority (4 VAC 15-20-140) define “take” and other terms similarly to the definitions of those terms under the federal ESA.

The Virginia Endangered Plant and Insect Species Act (Va. Code 3.2-1000 to 3.2-1011) provides similar protections for state-listed plant and insect species. The Virginia Board of Agriculture and Consumer Services promulgates the state’s list of threatened and endangered plant and insect species at 2 VAC 5-320-10. State law generally prohibits the “take” of state-listed plant and insect species, but this prohibition does not apply to persons on their own land.



The North Carolina Endangered Species Act (North Carolina General Statutes Article 25, 113-331 to 113-337) states that the NCWRC is the regulatory authority over state-listed endangered or threatened species or species of special concern. The statute authorizes the NCWRC to adopt the federal list of endangered and threatened species and develop a list of state “protected species.” North Carolina state-protected species are separated into three separate categories: Endangered, Threatened, and Special Concern. The definitions are as follows:

**Endangered:** Any native or once-native species of wild animal whose continued existence as a viable component of the State’s fauna is determined by the NCWRC to be in jeopardy or any wild animal determined to be an “endangered species” pursuant to the ESA.

**Threatened:** Any native or once-native species of wild animal that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range or one that is designated as a threatened species pursuant to the ESA.

**Special Concern:** Any species of wild animal native or once native to North Carolina that is determined by the NCWRC to require monitoring but that may be taken under regulations adopted under the provisions of Article 25.

### 3.5.1 Federally Protected Species

#### 3.5.1.1 Federally Endangered and Federally Threatened Species

Based on initial coordination with the USFWS, including a search of the IPaC database and a review of spatial data provided by state natural heritage programs, four federally endangered or federally threatened species were identified with potential to occur in relevant proximity to portions of the Amendment Project area: northern long-eared bat (*Myotis septentrionalis*), Roanoke logperch (*Percina rex*),<sup>3</sup> Atlantic pigtoe (*Fusconaia masoni*), and James spinymussel (*Parvaspina collina*). The USFWS also has designated critical habitat for Atlantic pigtoe in relevant proximity to portions of the Amendment Project area.

Three additional species with potential to occur in relevant proximity to portions of the Amendment Project area have been proposed for listing by USFWS. On September 14, 2022, the USFWS proposed listing tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. On July 26, 2023, the USFWS proposed listing green floater (*Lasmigona subviridis*) as a federally threatened species with proposed critical habitat. On December 12, 2024, the USFWS proposed listing the monarch butterfly (*Danaus plexippus*) as a federally threatened species with proposed critical habitat.

The USFWS has not proposed or designated critical habitat for James spinymussel, Roanoke logperch, northern long-eared bat, or tricolored bat. The Amendment Project will cross the Dan River in North Carolina, areas that support known populations of the federally proposed threatened green floater, federally threatened Atlantic pigtoe, and federally endangered James spinymussel. A review of federal and state databases and coordination with USFWS and NCWRC (Agency Consultations [see Resource Report 1, Appendix 1-I]) identified final critical habitat for the federally threatened Atlantic pigtoe and proposed critical habitat for the green floater in the Dan River at the Amendment Project area (USFWS 2018, 2023, 2024c). The federally endangered, threatened, and proposed species with potential to occur in relevant

<sup>3</sup> The USFWS proposed delisting Roanoke logperch from the ESA on April 2, 2024, but it has not yet issued a final delisting decision. 89 Fed. Reg. 22649 (Apr. 2, 2024).

proximity to the Amendment Project area are described below and will be evaluated in detail in the forthcoming BA.

### **3.5.1.2 NMFS-Regulated Marine Species**

The NMFS indicated that no federally listed or proposed threatened or endangered species under NMFS jurisdiction and no proposed or designated for such species are known to exist in relevant proximity to the Amendment Project area. In addition, no waterbodies crossed by or in the vicinity of the Amendment Project area contain or have the potential to support species managed by the NMFS under other federal laws (NMFS 2024). As a result, protected marine and anadromous species are not discussed further.

### **3.5.1.3 USFWS-Regulated Aquatic Species**

According to the IPaC database, three federally listed aquatic species (James spiny mussel, Atlantic pigtoe, and Roanoke logperch) and one aquatic species proposed for listing (green floater) could potentially occur in relevant proximity to portions of the Amendment Project area. The USFWS has not approved a presence/probable absence survey methodology for Roanoke logperch, but mussel survey protocols have been approved. Mountain Valley completed mussel surveys in Virginia and North Carolina for the Original Certificated Project, and all surveys were negative for state or federally listed mussels (ESI 2019b).

#### **James Spiny mussel**

James spiny mussel is a federally endangered freshwater mussel species and is described in the FEIS. James spiny mussel is known to occur in the Dan River system within the Roanoke River drainage (USFWS 2024d). As noted above, the USFWS has not proposed or designated critical habitat for the species. Based on initial coordination with the USFWS, as well as a review of the IPaC database, James spiny mussel has not been identified as potentially present within waterbodies crossed by the Amendment Project in Virginia or in relevant proximity to the Amendment Project area in Virginia (see Resource Report 1, Appendix 1-I). In North Carolina, the USFWS, IPaC database, and NCWRC indicated that James spiny mussel may occur in relevant proximity to the Amendment Project area near the Dan River crossing. Mountain Valley is proposing to use the HDD method at this crossing to avoid direct instream impacts to listed aquatic species. Nevertheless, any James spiny mussel that occur in relevant proximity to the Project potentially might experience sedimentation-related impacts from upland construction activities. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS for the forthcoming BA that is being developed for the Amendment Project. In addition, and in coordination with USFWS, Mountain Valley will complete habitat suitability assessments in order to identify areas of potential suitable habitat for James spiny mussel. After conferring with the USFWS, Mountain Valley may complete mussel surveys in areas of suitable habitat, if warranted; however, coordination regarding protected species is ongoing. Upon completion of any surveys, a report documenting the results of the surveys and providing recommendations for impact avoidance and minimization, if necessary, will be submitted to the USFWS and filed with FERC as part of the ESA Section 7 consultation process.

#### **Atlantic Pigtoe**

Atlantic pigtoe is a federally threatened freshwater mussel species and is described in the FEIS. Based on initial coordination with the USFWS, as well as a review of the IPaC database and related materials, Atlantic pigtoe may occur in relevant proximity to portions of the Amendment Project area in Virginia and North Carolina (USFWS 2024c; see Resource Report 1, Appendix 1-I; NCWRC 2018a). Critical habitat for Atlantic pigtoe likely occurs in relevant proximity to the Amendment Project area in the vicinity of the Dan

River crossing (USFWS 2024c; see Resource Report 1, Appendix 1-I). Mountain Valley is proposing to use the HDD method at this crossing to avoid direct instream impacts on listed species and critical habitat. Nevertheless, any Atlantic pigtoe that occur in relevant proximity to the Project, as well as critical habitat for the species, potentially might experience sedimentation-related impacts from upland construction activities. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS for the forthcoming BA that is being developed for the Amendment Project. In coordination with USFWS, Mountain Valley will complete habitat suitability assessments in order to identify areas of potential suitable habitat for Atlantic pigtoe. After conferring with the USFWS, Mountain Valley may complete mussel surveys in areas of suitable habitat if warranted; however, coordination regarding protected species is ongoing. Upon completion of any surveys, a report documenting the results of the surveys and providing recommendations for impact avoidance and minimization, if necessary, will be submitted to the USFWS and filed with FERC as part of the ESA Section 7 consultation process.

### **Green Floater**

Green floater is a small freshwater mussel species that is proposed federally threatened and described in the FEIS. Based on initial coordination with the USFWS, as well as a review of the IPaC database, green floater may occur in relevant proximity to portions the Amendment Project area in Virginia and North Carolina. Proposed critical habitat for green floater likely occurs in relevant proximity to the Amendment Project in the vicinity of the Dan River crossing (USFWS 2023b; 2024c; see Resource Report 1, Appendix 1-I). Mountain Valley is proposing to use the HDD method at this crossing to avoid direct instream impacts to the species and its proposed critical habitat. Nevertheless, any green floater that occur in relevant proximity to the Project as well as proposed critical habitat for the species potentially might experience sedimentation-related impacts from upland construction activities. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS for the forthcoming BA that is being developed for the Amendment Project. In coordination with USFWS, Mountain Valley will complete habitat suitability assessments in order to identify areas of potential suitable habitat for green floater. After conferring with the USFWS, Mountain Valley may complete mussel surveys in areas of suitable habitat, if warranted; however, coordination regarding protected species is ongoing. Upon completion of any surveys, a report documenting the results of any surveys and providing recommendations for impact avoidance and minimization, if necessary, will be submitted to the USFWS and filed with FERC.

### **Roanoke Logperch**

Roanoke logperch is a large, federally endangered freshwater darter species and is described in the FEIS. Based on initial coordination with the USFWS, as well as a review of the IPaC database, Roanoke logperch may occur in relevant proximity to portions of the Amendment Project area in the Roanoke River basin in Virginia and North Carolina. While agency coordination is ongoing, preliminary review indicates 13 perennial streams in relevant proximity to the Amendment Project area have the potential to support populations of Roanoke logperch, including Cherrystone Creek, White Oak Creek, the Sandy River, Trotter's Creek, an unnamed tributary to White Oak Creek, and several unnamed tributaries in Virginia and the Dan River, Cascade Creek, and Dry Creek in North Carolina. In April 2024, the USFWS proposed delisting Roanoke logperch as recovered under the ESA, but a final delisting decision has not been issued yet. The USFWS has not proposed or designated critical habitat for the species.

During informal ESA Section 7 consultation for the Original Certificated Project and as documented in the FEIS, the USFWS and the VDWR (formally known as VDGIF) advised Mountain Valley that Roanoke

logperch surveys in Virginia would not be required (VDGIF 2019b). The NCWRC likewise advised Mountain Valley that no targeted fish surveys were necessary (NCWRC 2018b). Mountain Valley is developing a BA for the Amendment Project to submit to FERC as a supplemental filing. As part of the BA, because the USFWS has not endorsed a reliable non-lethal presence/probable absence survey protocol for the species, Mountain Valley plans to assume presence of Roanoke logperch within suitable habitat identified in relevant proximity to the Amendment Project area and will complete habitat assessment surveys in order to identify areas of suitable habitat. Mountain Valley is currently proposing to use HDD to cross the Dan River to avoid direct instream impacts to the species at the crossing. Nevertheless, any Roanoke logperch that occur in other streams in relevant proximity to the Amendment Project area where instream construction is required could be impacted. In addition, irrespective of stream crossing method, Roanoke logperch that occur in relevant proximity to the Amendment Project area potentially might experience sedimentation-related impacts from upland construction activities. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS, VDWR, and NCWRC for the forthcoming BA that is being developed for the Amendment Project.

#### **3.5.1.4 Mammal Species**

According to the IPaC database, and based on initial coordination with the USFWS, the federally listed the northern long-eared bat and the federally proposed tricolored bat could potentially occur in relevant proximity to portions of the Amendment Project area (Table 3.5-1, Tables Section). For purposes of its forthcoming BA, which will be submitted to FERC as a supplemental filing, Mountain Valley plans to assume presence of the northern long-eared bat and tricolored bat within suitable habitat identified in relevant proximity to the Amendment Project area in line with the IPaC database's identification of the species' respective potential occurrence. This approach also would be consistent with the results of mist-net and acoustic surveys Mountain Valley completed within the Originally Certificated Project area as described in the FEIS (ESI 2018).

##### **Northern Long-eared Bat**

Northern long-eared bat has the potential to occur within the Amendment Project area and is described in the FEIS. Based on a review of the IPaC database, the northern long-eared bat may occur in relevant proximity to portions of the Amendment Project area in North Carolina. The IPaC database did not indicate potential presence of the northern long-eared bat in relevant proximity to portions of the Amendment Project area in Virginia.

Many bat species, including the northern long-eared bat, hibernate in underground voids, including natural caves and constructed mines. If these areas are used by hibernating bats, they become known as hibernacula. As such, it is important to identify any hibernacula by locating potential entrances (portals) to caves or mines in areas crossed by the Amendment Project.

Mountain Valley previously conducted a desktop evaluation in 2020 to identify locations of potential bat hibernacula occurrence within 3 miles of the Original Certificated Project route (WEST 2020a). Approximately 14.5 square miles of terrain with characteristics conducive to support features that could serve as bat hibernacula were identified along the Original Certificated Project. Pedestrian surveys were then conducted within 0.5 mile of the Original Certificated Project right-of-way where land access could be obtained. No features with potential to serve as bat hibernacula were identified during these surveys (WEST 2020b). Mountain Valley also conducted searches for bat portals (entrances to hibernacula) in the

vicinity of the Original Certificated Project area between June 2018 and August 2019 (TRC 2019). Mountain Valley was granted access by landowners to approximately 92 percent of the Original Certificated Project route in North Carolina (where the IPaC database indicates potential for northern long-eared bat occurrence in proximity to portions of the project). No potential hibernacula were documented during these portal surveys. Desktop surveys of areas where access permission was not granted found no potentially suitable hibernacula habitat. Mountain Valley is coordinating with USFWS regarding the potential need for additional hibernacula and/or portal surveys for the Amendment Project and will complete those surveys if warranted for purposes of the upcoming Section 7 consultation process.

Mountain Valley also continues to coordinate with USFWS regarding bat habitat suitability assessments for the Amendment Project. The goal of such assessments is to assess habitat suitability for the northern long-eared bat in order to identify and evaluate potential impacts to the species as a result of the construction of the Amendment Project. Once completed, habitat suitability assessments will be submitted to the USFWS and filed with FERC as part of the ESA Section 7 consultation process.

Northern long-eared bats may experience effects during construction, operation, and maintenance of the Amendment Project in areas of suitable habitat. Potential effects include, but are not limited to:

**Hibernacula:** physical and environmental impacts to structural components of hibernacula (if any occur in relevant proximity to the Project) and hibernating bats.

**Fall Swarming and Spring Staging Habitat:** after emerging from hibernation, northern long-eared bats are thought to participate in spring staging, where bats remain near the hibernacula for a short time (i.e., 2 to 3 days) before migrating to summer maternity areas. A similar process, although longer, occurs in autumn with large numbers of bats roosting in nearby forested habitat. Amendment Project construction could impact individuals during spring staging and fall swarming in two primary ways. First, the removal of occupied wooded habitat associated with Amendment Project construction has potential for both injury and mortality. Second, individuals may be forced to expend additional energy to locate replacement roosts due to any removal of roosting habitat near known hibernacula.

**Summer Habitat:** some trees along the edges of the Amendment Project Area are likely to be damaged during clearing activities, potentially increasing the number of roost sites. Most damaged trees will survive but will be more prone to insect infestations and diseases that result in senescence, which in turn produces potential roosts for northern long-eared bats. Over time, some damaged trees will die and, with significant solar exposure along the forest edge, provide high-quality roosts.

In areas of suitable habitat, potential for harm is primarily attributed to the felling of occupied roost trees, which could injure or kill both non-volant pups and adult bats. However, Mountain Valley will adhere to time-of-year restrictions (April 1 to November 14 in North Carolina) for tree felling in areas of areas of suitable habitat to avoid and/or minimize potential impacts to the species. Noise, light, dust, and vibrations produced during construction activities can also disturb bats day roosting adjacent to the right-of-way, which could cause them to temporarily relocate away from the noise source. Additionally, any pregnant females that lose preferred roosting/foraging areas would have to expend additional energy to search for alternative roosts, which could result in reduced reproductive success for some females.



**Migration:** Spring migration of northern long-eared bats likely occurs from mid-March to mid-May, and fall migration occurs from mid-August to mid-October (USFWS 2022). Many bat species, including northern long-eared bats, select edge habitat for foraging and travel corridors (USFWS 2022). Where the Amendment Project right-of-way occurs within forested land cover, new edge habitat is created that can be used by migrating bats as a travel corridor for movement and as foraging habitat during migration. Some trees along the right-of-way edges are likely to be damaged or killed during clearing activities, which in turn create new roost sites and potentially locally abundant prey resources from insect infestation. Additionally, to the extent that the Amendment Project right-of-way increases the diversity of land cover, new or increased insect abundance could improve northern long-eared bat migration foraging habitat. Maintaining the Amendment Project corridor in an herbaceous vegetative state would provide suitable foraging and traveling habitat for northern long-eared bats.

The loss of forest alters the composition of the northern long-eared bat migration habitat by reducing total forested areas, but it does not alter the functionality of the northern long-eared bat migration habitat. Changes to baseline conditions in northern long-eared bat migration habitat could result from light and noise pollution and water quality degradation resulting from construction activity; however, these small changes to baseline habitat conditions do not affect the functionality of the northern long-eared bat migration habitat in the Amendment Project area.

In areas of suitable habitat, Mountain Valley will adhere to time-of-year restrictions (April 1 to November 14 in North Carolina) for tree felling along the Amendment Project to avoid and/or minimize potential impacts to the species. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS for the forthcoming BA that is being developed for the Amendment Project and is committed to working with the agencies to determine additional appropriate avoidance and minimization strategies, if warranted, to minimize impacts to this species. The BA will be provided to FERC in a supplemental filing in Q1/Q2 2025.

### **Tricolored Bat**

Tricolored bat is small with a wingspan of 8 to 10 inches and weighs between 0.2 and 0.3 ounces. Its coat is yellowish-brown, varying in three areas: dark at the base, yellowish-brown in the middle, and dark at the tips. It has a pinkish face and ears and a black wing membrane. It is easily identified by its pink-colored skin on its radius bone. During the summer months, this bat utilizes forested landscapes, often around open woods or standing water, where they hunt for flying insects. During the active season, tricolored bats primarily roost in tree foliage while also utilizing caves, rock crevices, and other karst features (Barbour and Davis 1969). Hibernation sites include caves, mines, or cave-like tunnels (North Carolina Bat Working Group 2013; USFWS 2024e).

On September 14, 2022, the USFWS published a proposed rule to list the tricolored bat as an endangered species. A Species Status Assessment for the tricolored bat was published in December 2021 (USFWS 2021b). This assessment uses the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species.

Across its range, tricolored bat winter abundance and the number of extant winter colonies have declined since the onset of white-nose syndrome by 52 percent and 29 percent, respectively (USFWS 2021b). At

the time of its proposed listing decision for the species, the USFWS acknowledged that white-nose syndrome reduction must be the primary measure to arrest and reverse the decline of tricolored bat. The USFWS identified other factors that affect the species, including wind energy-related mortality, habitat loss and degradation, and climate change. If listed as proposed, Section 9(a)(1) of the ESA would prohibit unauthorized take of tricolored bat throughout the species' range.

Based on a review of the IPaC database, the tricolored bat may occur in relevant proximity to portions of the Amendment Project area in North Carolina and Virginia. A discussion of previous assessments and surveys for potential bat hibernacula, which applies equally to this species, is presented in the previous section. Mountain Valley is coordinating with USFWS regarding the potential need for additional hibernacula and/or portal surveys for the Amendment Project. Mountain Valley also continues to coordinate with USFWS regarding bat habitat suitability assessments for the Amendment Project. The goal of such assessments is to assess habitat suitability for the tricolored bat in order to identify and evaluate potential impacts to the species as a result of the construction of the Amendment Project. Once completed, habitat suitability assessments will be submitted to the USFWS and filed with FERC as part of the ESA Section 7 consultation process.

Tricolored bat may be subjected to effects during construction, operation, and maintenance of the Amendment Project. Potential effects include those listed above for the northern long-eared bat. In areas of suitable habitat, Mountain Valley will adhere to time-of-year restrictions (April 1 to November 14 in Virginia and the portion of North Carolina in which the Amendment Project is located) for tree felling in along the Amendment Project to avoid and/or minimize potential impacts to the species. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS for the forthcoming BA that is being developed for the Amendment Project and is committed to working with the agencies to determine additional appropriate avoidance and minimization strategies, if warranted, to minimize impacts to this species. The BA will be provided to FERC in a supplemental filing in Q1/Q2 2025.

### **3.5.1.5 Insect Species**

#### **Monarch Butterfly**

The monarch butterfly has easily identifiable orange and black markings and is present throughout North America as well as South and Central America. Monarch butterflies are a member of the milkweed butterfly group. Monarch butterflies lay single eggs on a variety of milkweed (*Asclepias*) species found throughout the monarch's range, and the caterpillars feed exclusively on these plants. After several molts, a fully grown caterpillar usually leaves its milkweed plant to pupate elsewhere as a pale green, golden-spotted chrysalis. After 10 to 14 days, the chrysalis becomes transparent, and the metamorphosed adult butterfly emerges. In eastern North America, monarchs travel north from Mexico in the spring. Monarchs breed along the migration route, undergoing two to three successive generations as they migrate north (Flockhart et al. 2013). The number of generations of monarchs produced in a given year can vary between three and five and is dependent upon environmental conditions (Brower 1996). In the fall, monarchs return to their overwintering grounds. Migratory individuals in eastern North America predominantly fly south or southwest to mountainous overwintering grounds in central Mexico.

On December 12, 2024, the USFWS published a proposed rule to list the monarch butterfly as a threatened species with proposed critical habitat (confined to locations in California) with proposed protective regulations under section 4(d) (USFWS 2024f). A Species Status Assessment for the monarch butterfly

was published in September 2020 (USFWS 2020). This assessment uses the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species.

Given the presence of nectaring plants and milkweed within the Amendment Project area, monarch butterflies potentially occur within or in relevant proximity to portions of the Amendment Project area. Monarch butterflies typically arrive in North Carolina and Virginia in late April during their spring migration. These populations typically undergo two to three generations before departing in October to return to their overwintering grounds in Mexico (LeGrand and Howard 2024).

Any monarch butterflies that occur in relevant proximity to the Amendment Project area may be impacted by the construction, operation, and maintenance of the Amendment Project. Mountain Valley is analyzing the potential for such impacts in coordination with the USFWS and will address them if warranted in a future submission.

### **3.5.1.6 Plant Species**

According to the IPaC database, and based on initial coordination with the USFWS, no federally listed plant species are expected to occur in relevant proximity to the Amendment Project area.

## **3.5.2 State-Protected Species**

During initial coordination with the VDWR and NCWRC and based on a review of spatial data provided by state natural heritage programs, several state-protected species preliminarily were identified as having potential to occur in relevant proximity to the Amendment Project area.<sup>4</sup> The state-protected species identified for the Amendment Project are listed in Table 3.5-1 (see Tables Section) and discussed in more detail below.

### **3.5.2.1 Virginia**

#### **Virginia Rare Species**

Virginia considers species with state rankings of Critically Imperiled and Imperiled (S1 and S2) as state rare species. Species considered rare by Virginia do not have a legal status and are not afforded state protections. No state rare species were identified in relevant proximity to the Amendment Project area.

#### **Virginia Species of Greatest Conservation Need**

Virginia has a Wildlife Action Plan (VDWR 2015) that identifies Species of Greatest Conservation Need (“SGCN”), which includes low and declining populations that are indicative of the diversity and health of wildlife of the state. SGCN are categorized by a tier ranking system ranging from Tier I (greatest concern) to Tier IV (moderate concern). In Virginia, species classified as SGCN do not have any legal status and are not afforded state protections.

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<sup>4</sup> Virginia agencies preliminarily indicated that small whorled pogonia potentially is relevant to the Amendment Project. The state’s initial identification of this species, which also is a federally threatened species, is contrary to the best scientific and commercial information available, as set forth in the USFWS’s IPaC database. Nevertheless, Mountain Valley includes discussion of small whorled pogonia in this State-Protected Species section to be as comprehensive as possible in this submission.



## Virginia State-Threatened and State-Endangered Species

Based on initial consultation with the VDWR and VDCR-DNH, six state-endangered or state-threatened species were identified as potentially occurring within relevant proximity to the Amendment Project area in Virginia, including one mammal species, two aquatic species, one snail, and two plant species:

- Tricolored bat
- Roanoke logperch
- Orangefin madtom (*Noturus gilberti*)
- Spirit supercoil (*Paravitrea hera*)
- Virginia quillwort (*Isoetes virginica*)
- Small whorled pogonia (*Isotria medeoloides*)

The following sections describe the six Virginia endangered or threatened species preliminarily identified as having potential to occur in relevant proximity to portions of the Amendment Project area.

### Aquatic Species

The Roanoke logperch is listed as state endangered in Virginia. The green floater and Atlantic pigtoe are both listed as state-threatened in Virginia. See Section 3.5.1.3 and the FEIS for further information about these species.

### Mammal Species

The tricolored bat is listed as state-endangered in Virginia. See Section 3.5.1.4 for a detailed description of the tricolored bat.

### Plant Species

#### Virginia Quillwort

The Virginia quillwort is found in Virginia and North Carolina. There are only five known occurrences of this species, one of which is in Pittsylvania County (Brunton et al. 1996, Weakley et al. 2023). It was historically considered to be a geographic isolate of the Piedmont quillwort (*Isoetes piedmontana*) but was re-defined by Brunton et al. as its own species in 1996. This species is found in various wetland habitats in the southeastern Mountains and Piedmont, including woodland streams, ponds, and upland depression wetlands. Piedmont and Mountain habitats have deep alluvial substrates with clay or sandy clay textures. Plant communities surrounding Virginia quillwort occurrences include oak-hickory forests, upland depression swamp forests, and mixed moisture hardpan forests.

Initial consultation with VDCR-DNH preliminarily identified that Virginia quillwort may have the potential to occur in relevant proximity to the Amendment Project area. Mountain Valley completed rare plant surveys for the Original Certificated Project in 2019, and no target rare plant species, including Virginia quillwort, were observed (ESI 2019a). In August 2024, VDCR-DNH determined the Amendment Project would not affect any state-listed plants (see Section 3.4.3).

### Small Whorled Pogonia

The small whorled pogonia is a member of the orchid family and is described in the FEIS. Initial consultation with VDCR-DNH preliminarily identified that small whorled pogonia may have the potential to occur in relevant proximity to the Amendment Project area. Mountain Valley completed rare plant surveys for the Original Certificated Project in 2019, and no target rare plant species, including small whorled pogonia, were observed (ESI 2019a). In August 2024, VDCR-DNH determined the Amendment Project would not affect any state-listed plants (see Section 3.4.3).

## **3.5.2.2 North Carolina**

### **Aquatic Species**

Roanoke logperch, green floater, Atlantic pigtoe, James spinymussel, and yellow lampmussel are all state listed as endangered in North Carolina and are further described in the FEIS. The species that are also federally listed will be addressed in detail in the forthcoming BA for the Amendment Project. As discussed in Section 3.5.1.3, qualified biologists completed species-specific surveys for federal and state-listed mussel species for the Original Certificated Project (ESI 2019b; ESI 2020a). No evidence of state- or federally listed mussels was observed in either state. Fish surveys within waterbodies crossed in Virginia were not required for the Original Certificated Project, as documented in the FEIS. Additionally, the NCWRC advised Mountain Valley that no targeted fish surveys would be necessary (NCWRC 2018b). As discussed above, Mountain Valley is currently proposing to use HDD to cross the Dan River to avoid direct instream impacts to aquatic species that may occur there. Coordination with the USFWS, VDWR, and NCWRC is ongoing.

### **North Carolina State-Endangered and State-Threatened Species**

Based on initial consultation with the NCNHP and NCWRC, seven state-protected threatened and endangered species were identified to potentially occur in relevant proximity to the Amendment Project area. The North Carolina listed species that could potentially occur within areas crossed by or in relevant proximity to the Amendment Project area are all aquatic (two fish species of and five mussel species): bigeye jumprock (*Moxostoma ariommum*), Roanoke logperch, Atlantic pigtoe, green floater, James spinymussel, notched rainbow (*Villosa constricta*), and yellow lampmussel. The riverweed darter (*Etheostoma podostemone*) is listed by NCNHP as significantly rare (NCNHP 2022). To date, neither the NCNHP nor NCWRC has recommended surveys for any state-identified species; however, consultation is ongoing.

The following sections also describe the North Carolina state-listed endangered and threatened species that were preliminarily identified as having potential to occur in relevant proximity to the Amendment Project area and have not already been discussed above. Consultation with the NCNHP and NCWRC is ongoing regarding the potential for impacts, habitat suitability assessments or other surveys, and avoidance and minimization strategies, if warranted.

### Bigeye jumprock

Bigeye jumprock is a species of ray-finned fish. It generally reaches a maximum length of about 5.5 inches, with equal body widths and heights. When viewed from above, it has a U-shaped head, which is wider than it is deep. Adults are sharply bicolored with a dorsal greenish cast and faintly iridescent lateral stripes.

Fins are pale or dusky with white leading edges. Bigeye jumprock is found in the Upper Roanoke River system, and observations are mostly limited to rapids (Robins and Raney 1956).

#### Notched rainbow

The Notched rainbow is a small and short mussel with surfaces that are nearly smooth or marked with irregular concentric growth lines. Shell color is yellowish green with bluish nacre. Females' shells are pointed slightly more than midway from the base, whereas males' shells are typically pointed less than halfway from the base. It is found in sandy substrates in good current and occurs between the Rappahannock River Basin in Virginia to the Cooper-Santee River Basin in South Carolina (Bogan and Aldermann 2004).

#### **Mammal Species**

No state-listed mammal species were identified by NCNHP and NCWRC as potentially occurring in relevant proximity to the Amendment Project area. As discussed above in Section 3.5.1.4, Mountain Valley plans to assume presence of the northern long-eared bat and tricolored bat in suitable habitat in relevant proximity to the Amendment Project area in North Carolina.

#### **Plant Species**

No state-listed plant species were identified by NCNHP and NCWRC as potentially occurring in relevant proximity to the Amendment Project area.

### **3.5.3 Impacts and Conservation Measures**

The Amendment Project is actively engaged with federal and state natural resource agencies to determine the likelihood that threatened and endangered species are present in relevant proximity to the Amendment Project area and identify appropriate conservation measures for any such species identified. Detailed reports containing the methods, results, and conclusions of field surveys for each species, if completed, will be submitted to the agencies for review and filed with the FERC as part of the ESA Section 7 consultation process (for federally listed species). Mountain Valley is developing a BA to submit to FERC as a supplemental filing. Mountain Valley will continue coordination with the agencies to determine measures to avoid and minimize anticipated impacts to federal and state threatened and endangered species.

### 3.6 REFERENCES

- Atlantic Coast Joint Venture. 2014. The Piedmont Bird Conservation Region (BCR 29) Implementation Plan. Southern Appalachian Bird Conservancy, Sevierville, Tennessee. Available at: <https://acjv.org/documents/piedmont-2014.pdf>. Accessed August 2024.
- Barbour, R.A. and W.H. Davis. 1969. Bats of America. University Press of Kentucky, Lexington, Kentucky. 286 pp.
- Bennett, A.F. 2003. Linkages in the Landscape: The Role of Corridors and Connectivity in Wildlife Conservation. IUCN, Gland, Switzerland and Cambridge, UK.
- Bogan, A.E., and J. Aldermann. 2004. Workbook and Key to the Freshwater Bivalves of South Carolina. Revised Second Edition.
- Brower, L.P. 1997. Monarch Butterfly Orientation: Missing Pieces of a Magnificent Puzzle. *Journal of Experimental Biology* 199, no. 1 (1996): 93–103.
- Brunton, D.F., D.M. Britton, and T.F. Wieboldt. 1996. Taxonomy, identity, and status of *Isoetes virginica* (Isoetaceae). *Castanea* 61:145-160.
- Carolina Bird Club. 2024. Birds of North Carolina: their Distribution and Abundance. Available at: <http://ncbirds.carolinabirdclub.org/accounts.php>. Accessed August 2024.
- Center for Conservation Biology. 2024. Online Mapping Portal for Virginia Bald Eagle Nest Locator. Available at: <https://cbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/>. Accessed August 2024.
- Dooling, R.J. and Popper, A.N. 2016. Technical Guidance for Assessment and Mitigation of the Effects of Highway and Road Construction Noise on Birds. Prepared for California Department of Transportation, Division of Environmental Analysis. Available at: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/noise-effects-on-birds-jun-2016-all-y.pdfpdf>. Accessed June 2024.
- eBird. 2024. eBird: An online database of bird distribution and abundance [web application]. Available at: <https://ebird.org>. Accessed August 2024.
- ESI. 2018. Report: Bat Surveys for the MVP Southgate Project in Alamance and Rockingham Counties, North Carolina and Pittsylvania County, Virginia. Submitted to U.S. Fish and Wildlife Service, Raleigh and Virginia Field Offices, North Carolina Wildlife Resource commission, and Virginia Department of Game and Inland Fisheries. October 19, 2018.
- ESI. 2019a. Habitat Assessments and Surveys for Rare Plants along the Mountain Valley Pipeline (MVP) Southgate Project in Virginia. Submitted to U.S. Fish and Wildlife Service, Virginia Field Office, and Virginia Department of Conservation and Recreation – Division of Natural Heritage. September 19, 2019.

- ESI. 2019b. Freshwater Mussel (Unionidae) Surveys Along the Proposed MVP Southgate Project in Virginia. Submitted to U.S. Fish and Wildlife Service, Virginia Field Office, and Virginia Department of Game and Inland Fisheries. May 16, 2019.
- ESI. 2020a. Revised Final Report, Freshwater Mussel (Unionidae) and Carolina Ladle Crayfish Surveys Along the Proposed MVP Southgate Project in North Carolina. Submitted to U.S. Fish and Wildlife Service, Raleigh Field Office, and North Carolina Wildlife Resource Commission. March 24, 2020.
- ESI. 202b. Aerial Field Surveys for Bald Eagle Nests and Colonial Waterbird Rookeries Along the Proposed MVP Southgate Project in Pittsylvania County, Virginia and Rockingham and Alamance Counties, North Carolina. Submitted to U.S. Fish and Wildlife Service, Raleigh and Virginia Field Offices, North Carolina Wildlife Resource commission, and Virginia Department of Game and Inland Fisheries. August 2, 2020.
- Federal Energy Regulatory Commission. 2013a. Upland Erosion Control, Revegetation, and Maintenance Plan. May 2013.
- Federal Energy Regulatory Commission. 2013b. Wetland and Waterbody Construction and Mitigation Procedures. May 2013.
- Federal Energy Regulatory Commission. 2017. Guidance Manual for Environmental Report Preparation. February 2017.
- Flockhart, D., Tyler, T., Wassenaar, L.I., Martin, T.G., Hobson, K.A., Wunder, M.B., and Norris, D.R. 2013. Tracking Multi-Generational Colonization of the Breeding Grounds by Monarch Butterflies in Eastern North America. *Proceedings of the Royal Society B: Biological Sciences* 280, no. 1768 (October 7, 2013): 20131087. <https://doi.org/10.1098/rspb.2013.1087>. Accessed December 2024.
- Global Biodiversity Information Facility. 2024. Database Search. Available at: <https://www.gbif.org/>. Accessed August 2024.
- Goodship, N.M., and Furness, R.W. Disturbance Distances Review: An Updated Literature Review of Disturbance Distances of Selected Bird Species. NatureScot Research Report 1283. Available at: <https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance>. Accessed June 2024.
- Homer, C.G., Dewitz, J.A., Yang, L., Jin, S., Danielson, P., Xian, G., Coulston, J., Herold, N.D., Wickham, J.D., and Megown, K., 2015, Completion of the 2011 National Land Cover Database for the conterminous United States Representing a decade of land cover change information. *Photogrammetric Engineering and Remote Sensing*, v. 81, no. 5, pp. 345-354 . Available at: <https://www.mrlc.gov/nlcd2011.php>. Accessed on August 2024.
- Jin, S., Yang, L., Danielson, P., Homer, C., Fry, J., and Xian, G. 2013. A comprehensive change detection method for updating the National Land Cover Database to circa 2011. *Remote Sensing of Environment*. 132: 159 – 175.

- Lackey, R.T. 2005. Fisheries: History, Science, and Management. *Water Encyclopedia: Surface and Agricultural Water* 3:121-129.
- LeGrand, H., Haire J., Swick, N., and Howard, T. 2024. *Birds of North Carolina: their Distribution and Abundance*. Raleigh: North Carolina Biodiversity Project and North Carolina State Parks. Available at: <http://ncbirds.carolinabirdclub.org>. Accessed August 2024.
- LeGrand, H., and Howard, T. 2024. *Butterflies of North Carolina: their Distribution and Abundance*. 31st Approximation [Internet]. Raleigh (NC): North Carolina Biodiversity Project and North Carolina State Parks. Available at: <https://auth1.dpr.ncparks.gov/nbnc/a/accounts.php>. Accessed December 2024.
- National Audubon Society. 2024. Important Bird Areas. Available at: <https://www.audubon.org/important-bird-areas>. Accessed August 2024.
- National Marine Fisheries Service. 2024. Essential Fish Habitat Mapper. Available at: <https://www.habitat.noaa.gov/protection/efh/habitatmapper.html>. Accessed August 2024.
- NatureServe Explorer. 2024. Habitat. Available at: <https://explorer.natureserve.org/>. Access August 2024.
- NC Orthoimagery Program. 2022. 2022 Vintage Aerial Imagery and 6" Orthoimagery. NC OneMap. Available at: <https://www.nconemap.gov/pages/imagery>.
- North Carolina Bat Working Group. 2013. Tri-colored Bat Species Profile. Available at: <http://www.ncbwg.org/tri-colored-bat-perimyotis-subflavus/>. Accessed July 2024.
- North Carolina Division of Environmental Quality. 2024. High Quality Waters & Outstanding Resource Waters. Available at: <https://www.deq.nc.gov/about/divisions/energy-mineral-land-resources/hqw-ow/>. Accessed November 2024.
- North Carolina Division of Water Quality. 2006. Roanoke River Basinwide Water Quality Plan. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?dbid=0&id=2711963>. Accessed November 2024.
- North Carolina Forest Service. 2020. North Carolina Forest Action Plan. Available at: <https://www.ncforestactionplan.com/>. Accessed August 2024.
- North Carolina Forest Service. 2024. North Carolina's Forest Resources Assessment. Available at: <https://www.ncforestservice.gov/>. Accessed August 2024.
- North Carolina Invasive Plant Council. 2023. NC Invasive Plants List, November 2023. Available at: [www.nc-ipc.weebly.com](http://www.nc-ipc.weebly.com). Accessed on August 2024.
- North Carolina Natural Heritage Program. 2022. List of Rare Animal Species of North Carolina. North Carolina Department of Natural and Cultural Resources. Available at: <https://www.ncnhp.org/documents/2022-rare-animal-list-full-report/open>. Accessed October 2024.



- North Carolina Natural Heritage Program. 2024a. Species/Community Search Results (Report NCNHDE-26510). Available at: <https://www.ncnhp.org/data/speciescommunity-search>. Accessed June 2024.
- North Carolina Natural Heritage Program. 2024b. Data download. Available at: <https://ncnhde.natureserve.org/content/data-download>. Accessed August 2024.
- North Carolina Wildlife Resources Commission. 2015. North Carolina Wildlife Action Plan. 2020 Addendum 1. Raleigh, North Carolina. Available at: <https://www.ncwildlife.org/media/3838/download?attachment>. Accessed October 2024.
- North Carolina Wildlife Resources Commission. 2018a. Public Comments RE: Endangered and Threatened Wildlife and Plants; Threatened Species Status with Section 4(d) Rule and Critical Habitat Designation for Atlantic Pigtoe, Docket No. FWS-R4-ES-2018-0046; 4500030113. December 10, 2018.
- North Carolina Wildlife Resources Commission. 2018b. Comments on proposed route and species surveys for MVP Southgate Project, Rockingham and Alamance counties. Letter from Vann Stancil, Research Coordinator for Habitat Conservation Division to Megan Stahl, Permitting Coordinator for MVP Southgate. August 10, 2018.
- North Carolina Wildlife Resources Commission. 2021. Protected Wildlife Species of North Carolina. Available at <https://www.ncwildlife.org/protected-wildlife-species-north-carolina/open>. Accessed November 2024.
- North Carolina Wildlife Resources Commission. 2024a. North Carolina Fishing Areas & Trout Waters. Available at <https://www.ncpaws.org/ncwrcmaps/fishingareas>. Accessed November 2024.
- Omernik, J., & Griffith, G. 2012. Ecoregions of the United States-Level III. Available at: <https://www.epa.gov/eco-research/ecoregions>. Accessed August 2024.
- Robins, C.R., and E.C. Raney. 1956. Studies of the Catostomid Fishes of the Genus Moxostoma, with Descriptions of Two New Species, Cornell University, Agricultural Experiment Station, Ithica, NY.
- TRC. 2019. MVP Southgate Project Bat Portal Assessments. Letter to John Ellis of U.S. Fish and Wildlife Service, Raleigh Field Office from Heather Patti, TRC. October 9, 2019.
- U.S. Fish and Wildlife Service. 2018. Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule and Critical Habitat Designation for Atlantic Pigtoe. Available at: <https://www.gpo.gov/fdsys/pkg/FR-2018-10-11/pdf/2018-21798.pdf>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report, Version 2.1. Available at: <https://www.fws.gov/sites/default/files/documents/Monarch-Butterfly-SSA-Report-September-2020.pdf>. Accessed December 2024.
- U.S. Fish and Wildlife Service. 2021a. Birds of Conservation Concern 2021. U.S. Fish and Wildlife Service, Migratory Birds Program, Washington, DC. April 2021. Available at:

- <https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2021b. Species Status Assessment Report for the Tricolored Bat (*Perimyotis subflavus*). Version 1.1. December 2021. Hadley, MA. Available at: <https://downloads.regulations.gov/FWS-R5-ES-2021-0163-0004/content.pdf>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2022. Species Status Assessment Report for the Northern long-eared bat (*Myotis septentrionalis*) Version 1.2. Available at: <https://ecos.fws.gov/ServCat/DownloadFile/225001>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2023a. 2022 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. September 2023. Available at: <https://www.fws.gov/media/2022-national-survey-fishing-hunting-and-wildlife-associated-recreation>. Accessed June 2024.
- U.S. Fish and Wildlife Service. 2023b. Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for Green Floater and Designation of Critical Habitat. Available at [https://www.fws.gov/sites/default/files/federal\\_register\\_document/2023-15143.pdf](https://www.fws.gov/sites/default/files/federal_register_document/2023-15143.pdf). Accessed August 2024.
- U.S. Fish and Wildlife Service. 2024a. National Wildlife Refuge System Map. Available at: <https://www.fws.gov/media/map-national-wildlife-refuge-system>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2024b. Information for Planning and Consultation Online System. Project Code 2025-0003471 (Raleigh Ecological Services Field Office) and Project Code 2025-0003478 (Virginia Ecological Services Field Office). Available at <https://ecos.fws.gov/ipac/>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2024c. Active Critical Habitat Report. Available at: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>. Accessed July 2024.
- U.S. Fish and Wildlife Service. 2024d. James spiny mussel (*Parvaspina collina*) Available at: <https://www.fws.gov/species/james-river-spiny-mussel-pleurobema-collina>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2024e. Tri-colored bat (*Perimyotis subflavus*). Available at: <https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus>. Accessed August 2024.
- U.S. Fish and Wildlife Service. 2024f. Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for Monarch Butterfly and Designation of Critical Habitat. Available at <https://www.fws.gov/media/threatened-species-status-section-4d-rule-monarch-butterfly-and-designation-critical-habitat>. Accessed December 2024.
- Virginia Department of Environmental Quality. 2024. Exceptional State Waters (Tier III). Available at: <https://www.deq.virginia.gov/our-programs/water/water-quality/standards/exceptional-state-waters-tier-iii>. Accessed August 2024.



- Virginia Department of Conservation and Recreation, Division of Natural Heritage. 2024a. Virginia Natural Landscape Assessment. Available at: <https://www.dcr.virginia.gov/natural-heritage/nhdeinfo>. Accessed August 2024.
- Virginia Department of Conservation and Recreation, Division of Natural Heritage. 2024b. Natural Heritage Data Explorer. Available at: <https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>. Accessed August 2024.
- Virginia Department of Game and Inland Fisheries. 2019a. Virginia Wild Trout Management Plan 2019-2028. Prepared by Stephen J. Reeser. Available at: <https://dwr.virginia.gov/wp-content/uploads/media/Virginia-Wild-Trout-Management-Plan-2019-2028.pdf>. Accessed June 2024.
- Virginia Department of Game and Inland Fisheries. 2019b. Email communication from Ernst Aschenbach, Environmental Services Biologist for the VDGIF to Megan Stahl, Environmental Manager for Equitrans Midstream, sent March 11, 2019.
- Virginia Department of Wildlife Resources. 2015. Virginia's 2015 Wildlife Action Plan. Available at: <http://www.bewildvirginia.org/wildlife-action-plan/>. Accessed August 2024.
- Virginia Department of Wildlife Resources. 2023. Virginia Threatened and Endangered Faunal Species. Available at: <https://dwr.virginia.gov/wp-content/uploads/media/virginia-threatened-endangered-species.pdf>. Accessed August 2024.
- Virginia Department of Wildlife Resources. 2024a. Trout Fishing Guide – Trout Waters. Available at: <https://dwr.virginia.gov/fishing/trout/>. Accessed November 2024.
- Virginia Department of Wildlife Resources. 2024b. Virginia Fish and Wildlife Information Service (VaFWIS). Available at: <https://services.dwr.virginia.gov/fwis>. Accessed August 2024.
- Virginia Department of Wildlife Resources. 2024c. Virginia Breeding Bird Atlas 2 Block Explorer. Available at: <https://dwr.virginia.gov/wildlife/virginia-breeding-bird-atlas/>. Accessed August 2024.
- Virginia Geographic Information Network. 2023. 2023 Vintage Aerial Imagery and 1-Foot Orthoimagery. Virginia Base Mapping Program. Available at: <https://vgin.vdem.virginia.gov/pages/orthoimagery>. Accessed August 2024.
- Virginia Invasive Species Advisory Committee. 2018. Virginia Invasive Species Management Plan. Virginia Department of Conservation and Recreation. Natural Heritage Technical Document 18-09. Richmond, VA. 33 pages, plus appendices.
- Weakley, A.S., and Southeastern Flora Team. 2023. Flora of the southeastern United States. Edition of April 14, 2023. University of North Carolina Herbarium, North Carolina Botanical Garden, University of North Carolina, Chapel Hill. 2105 pp.
- WEST. 2020a. Desktop Review: Evaluation of the Location of Potential Bat Hibernacula at Mountain Valley Pipeline Southgate. Western EcoSystems Technology, Inc., Cheyenne, WY.

WEST. 2020b. Potential Bat Hibernacula Survey at MVP Southgate. Western EcoSystems Technology, Inc., Cheyenne, WY.

# **MVP Southgate Amendment Project**

**Docket No. CP25-XX-000**

**Resource Report 3**

**Tables Section**

**Table 3.2-1**

**Fisheries of Special Concern in Relevant Proximity to the Amendment Project Area a/**

<b>State / County</b>	<b>MP</b>	<b>Waterbody ID</b>	<b>Stream Name</b>	<b>Proposed Crossing Method</b>	<b>Source of Concern <u>b/</u></b>	<b>Restricted In-stream Construction Window <u>c/</u></b>
<b>Virginia</b>						
Pittsylvania	2.0	S-A008	Cherrystone Creek	TBD	Potential for Roanoke logperch	
Pittsylvania	5.3	S-A020	Banister River	TBD	Potential freshwater mussel stream	
Pittsylvania	5.4	S-A021/ S-A022	White Oak Creek <u>d/</u>	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
Pittsylvania	7.3	S-A026	Tributary to White Oak Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
Pittsylvania	8.9	S-A029	Tributary to White Oak Creek	TBD	Potential freshwater mussel stream	
Pittsylvania	12.2	S-A044	Tributary to Sandy Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
Pittsylvania	13.1	S-A045	Sandy Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
Pittsylvania	13.8	S-A046	Tributary to Sandy Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
Pittsylvania	14.7	S-A049	Tributary to Sandy Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
Pittsylvania	16.1	S-A051	Tributary to Silver Creek	TBD	Potential freshwater mussel stream	
Pittsylvania	18.1	S-A063	Sandy River	HDD	Potential freshwater mussel stream	NA
Pittsylvania	21.1	S-B044	Tributary to Trayner Branch	TBD	Potential freshwater mussel stream	
Pittsylvania	21.4	S-B043	Trayner Branch	TBD	Potential freshwater mussel stream	
Pittsylvania	23.6	S-B029	Trotters Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	
<b>North Carolina</b>						
Rockingham	28.0	S-B036	Tributary to Cascade Creek	TBD	Potential freshwater mussel stream	
Rockingham	28.2	S-B034	Cascade Creek	TBD	Potential Occurrence of Protected Fish Species (per Agency guidance)	
Rockingham	28.2	S-B035	Dry Creek	TBD	Potential for Roanoke logperch; Potential freshwater mussel stream	

**Table 3.2-1**

**Fisheries of Special Concern in Relevant Proximity to the Amendment Project Area a/**

<b>State / County</b>	<b>MP</b>	<b>Waterbody ID</b>	<b>Stream Name</b>	<b>Proposed Crossing Method</b>	<b>Source of Concern <u>b/</u></b>	<b>Restricted In-stream Construction Window <u>c/</u></b>
Rockingham	30.8	S-B005	Dan River	HDD	Potential for Roanoke logperch; Potential Occurrence of Protected Mussel Species and Critical Habitat (per Agency guidance)	NA

Note: MP listed for access roads is the nearest pipeline MP.

Sources: Agency Consultations (see Resource Report 1, Appendix 1-1)

a/ Federal and state agency coordination is ongoing to confirm which waterbodies are considered fisheries of special concern based on the potential presence of listed species, including fish and mussels. Therefore, this table will be updated to incorporate new information when it is received.

b/ Sources of concern include the initial coordination with USFWS and North Carolina agencies to identify waterbodies with potential for occurrence of protected aquatic species. On August 8, 2024, VDCR concurred with the methodology for the mussel surveys completed for the Original Certificate Project and had no further comments on that resource.

c/ Mountain Valley is continuing to coordinate with the agencies to determine applicable avoidance and strategies (e.g., relocation surveys, time-of-year restrictions, etc.) to eliminate or reduce potential impacts to fisheries.

d/ White Oak Creek is crossed in two locations: one location by the pipeline alignment and a second location by an access road.

NA = Not Applicable

TBD = to be determined

**Table 3.3-1**

**Significant or Sensitive Wildlife Habitats within 1 mile of the Amendment Project**

<b>County, State</b>	<b>Approx. MP</b>	<b>Name of Area</b>	<b>Land Ownership/ Management</b>	<b>Construction Impact (acres)</b>	<b>Operation Impact (acres)</b>	<b>Habitat Types Affected</b>	<b>Comments</b>
Pittsylvania, VA	0	Transco Road Net Conservation Site	VDCR	0.0	0.0	NA	Easement directly adjacent to route. Direct impacts have been avoided.
Pittsylvania, VA	0 – 3.1	White Oak Mountain Wildlife Management Area	VDWR	0.0	0.0	NA	Area is located 0.96 mile southeast of additional temporary workspace. No impacts anticipated.
Pittsylvania, VA	1.9 – 2.1	MVP Southgate Net VA-SB01CA Conservation Site	VDCR	3.0	1.1	Forested	Conservation site with B4 ranking (moderate significance) associated with tricolored bat. Anticipate compliance with recommended time-of-year restrictions.
Pittsylvania, VA	3.2 – 3.8	Blue Ridge Land Conservancy Easement	Blue Ridge Land Conservancy	0.0	0.0	NA	Area is located 0.75 mile northwest of temporary access road. No impacts anticipated.
Pittsylvania, VA	14.4 – 15.3	VA Conservation Easement (PIT-VOF-3215)	VA Outdoors Foundation	0.0	0.0	NA	The Amendment Project proposes to utilize an existing access road on the edge of the easement. No impacts anticipated.
Pittsylvania, VA Rockingham, NC	26.4 – 31.3	ROA/Dan River Aquatic Habitat	Public Waters	0.0	0.0	Riverine	Area is located within 1 mile of the Amendment Project. No impacts anticipated.
Rockingham, NC	28.6 – 29.9	NC Natural Areas: Fitzgerald Woodland	Private	0.0	0.0	NA	Area is located 0.55 mile northwest of permanent access road. No impacts anticipated.
Rockingham, NC	29.9	NC Natural Areas: Wide Mouth Creek Conglomerate Exposure	Private	0.0	0.0	NA	Area is located 0.85 mile southeast of ATWS 1240A. No impacts anticipated.
Rockingham, NC	30.8	ROA/Dan River Aquatic Habitat	Public Waters	0.0	0.0	Riverine	The Dan River has been ranked as exceptional for containing high-quality examples of globally ranked species and habitats. The Dan River is proposed to be crossed utilizing HDD and therefore, no direct instream impacts are anticipated.



**Table 3.3-1**

**Significant or Sensitive Wildlife Habitats within 1 mile of the Amendment Project**

County, State	Approx. MP	Name of Area	Land Ownership/ Management	Construction Impact (acres)	Operation Impact (acres)	Habitat Types Affected	Comments
Note: Identified through consultation with VDCR-DNH and NCNHP (see Resource Report 1, Appendix 1-K) Sources: NCFS 2020; NCNHP 2024a; 2024b and VDCR-DNH 2024b. NA = Not Applicable							

Table 3.3-2

Amendment Project Migratory Bird Species of Concern

Common Name	Scientific Name	Source <sup>a/</sup>	Amendment Project County	GBIF Occurrence <sup>b/</sup>		MBSC <sup>c/</sup>	Rationale
				Within 0-5 miles	Within 5-10 miles		
American black duck	<i>Anas rubripes</i>	ACJV	Rockingham	2	45	No	No records of nesting near the Amendment Project.
American woodcock	<i>Scolopax minor</i>	ACJV	Pittsylvania and Rockingham	43	7	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
bald eagle	<i>Haliaeetus leucocephalus</i>	IPaC; BGEPA	Pittsylvania, Rockingham	28	63	Yes	No documented nests or concentration areas near the Amendment Project. Included due to the protections afforded the species under BGEPA
black rail	<i>Laterallus jamaicensis</i>	ACJV	none	0	0	No	No records of species near the Amendment Project.
black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	BCR 29	Pittsylvania, Rockingham	0	0	No	No records of species near the Amendment Project.
brown-headed nuthatch	<i>Sitta pusilla</i>	ACJV	Pittsylvania, Rockingham	315	260	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
cerulean warbler	<i>Setophaga cerulea</i>	IPaC; BCR 29;	N/A	0	0	No	Species nests farther to the west in mountainous regions. No records of species near the Amendment Project.
chimney swift	<i>Chaetura pelagica</i>	IPaC; BCR 29, ACJV	Pittsylvania and Rockingham	860	5061	No	Species nests primarily in chimneys. No impact anticipated.
chuck-will's-widow	<i>Antrostomus carolinensis</i>	IPaC, BCR 29;	Pittsylvania, Rockingham	83	4	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
eastern whip-poor-will	<i>Antrostomus vociferus</i>	IPaC; BCR 29; ACJV	Pittsylvania, Rockingham	25	5	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.

Table 3.3-2

Amendment Project Migratory Bird Species of Concern

Common Name	Scientific Name	Source <sup>a/</sup>	Amendment Project County	GBIF Occurrence <sup>b/</sup>		MBSC <sup>c/</sup>	Rationale
				Within 0-5 miles	Within 5-10 miles		
field sparrow	<i>Spizella pusilla</i>	ACJV	Pittsylvania and Rockingham	1050	327	No	Despite known documented records near the Amendment Project, construction of the Amendment Project will result in an increase in suitable land cover types for nesting.
grasshopper sparrow	<i>Ammodrammus savannarum</i>	IPaC; BCR 29, ACJV;	Pittsylvania and Rockingham	124	90	Yes	Conservation status in NC and known documented records near the Amendment Project warrant species inclusion.
Kentucky warbler	<i>Geothlypis formosa</i>	IPaC; BCR 29; ACJV	Rockingham	6	6	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
king rail	<i>Rallus elegens</i>	BCR 29; ACJV;	none	0	0	No	No records of species near the Amendment Project.
northern bobwhite	<i>Colinus virginiana</i>	ACJV	Rockingham	118	28	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
prairie warbler	<i>Setophaga discolor</i>	IPaC; BCR 29; ACJV	Pittsylvania; Rockingham	334	100	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
prothonotary warbler	<i>Protonotaria citrea</i>	IPaC; BCR 29; ACJV (Moderate)	Rockingham	4	95	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.
red-cockaded woodpecker	<i>Picoides borealis</i>	ACJV	none	0	0	No	Species does not occur near Amendment Project.
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	IPaC; BCR 29; ACJV (Moderate)	Pittsylvania, Rockingham	95	65	Yes	Conservation status and known documented records near the Amendment Project warrant species inclusion.

**Table 3.3-2**

**Amendment Project Migratory Bird Species of Concern**

Common Name	Scientific Name	Source <sup>a/</sup>	Amendment Project County	GBIF Occurrence <sup>b/</sup>		MBSC <sup>c/</sup>	Rationale
				Within 0-5 miles	Within 5-10 miles		
ruffed grouse	<i>Bonasa umbellus</i>	ACJV	none	0	0	No	Species nests farther to the west in mountainous regions. No records of species near the Amendment Project.
rusty blackbird	<i>Euphagus carolinus</i>	IPaC; BCR 29; ACJV	Rockingham	122	168	No	Species does not nest and is non-breeding in this region.
short-eared owl	<i>Asio flammeus</i>	BCR 29, ACJV (Moderate)	none	0	0	No	Species does not nest and is non-breeding in region.
upland sandpiper	<i>Bartramia longicauda</i>	ACJV	none	0	0	No	No known records near the Amendment Project.
wood thrush	<i>Hylocichla mustelina</i>	IPaC; BCR 29; ACJV	Rockingham	178	99	<b>Yes</b>	Conservation status and known documented records near the Amendment Project warrant species inclusion.

Sources: ACJV 2014; eBird 2024; GBIF 2024; LeGrand et al. 2024; USFWS 2024b; Virginia Breeding Bird Atlas 2024. State agency data requests did not return positive results for any bird species along the Amendment Project area.

<sup>a/</sup> IPaC = Official list from USFWS IPaC. Note that no species is included as a project-specific MBSC based solely on official IPaC results;

BCR 29 = Included as 2021 BCC for BCR 29 (Piedmont);

ACJV = Considered a “Highest” or “High” priority species in ACJV’s 2014 Piedmont BCR 29 Implementation Plan. Three species (i.e., prothonotary warbler, red-headed woodpecker, and short-eared owl) with “Moderate” priority status were included due to their inclusion as a BCC in other BCRs and the IPaC results.

<sup>b/</sup> Global Biodiversity Information Facility (“GBIF”) database was accessed on November 14, 2024. GBIF is an international network and data infrastructure that draws from many commonly accepted data sources such as eBird, Great Backyard Bird Count, iNaturalist, and other publicly sourced datasets.

<sup>c/</sup> MBSC = migratory bird species of concern (project-specific)

**Table 3.3-2**

**Preferred Nesting Habitat and Primary Nesting Season of Project-Specific Migratory Bird Species of Concern**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Preferred Nesting Habitat</b>	<b>Primary Nesting Season</b>
American woodcock	<i>Scolopax minor</i>	Habitat consists of young forests and abandoned farmland mixed with forested land. Generally considered an edge species.	Apr. 1 to Aug. 31
bald eagle	<i>Haliaeetus leucocephalus</i>	Nests in trees among forests adjacent to large water bodies.	Jan. 1 to Aug. 31
brown-headed nuthatch	<i>Sitta pusilla</i>	Mature and open longleaf pine stands; at least locally common in open loblolly, shortleaf, and pond pine stands, less so in Virginia pine. In the Piedmont, birds favor thinned or more open pine stands, such as in residential areas, golf courses, margins of lakes and ponds, and edges.	Apr. 15 to Aug. 15
chuck-will's-widow	<i>Antrostomus carolinensis</i>	Deciduous forest, pine-oak association, live-oak groves, and edges of clearings. Ground nesting habit in dry-mesic forests.	Mar. 1 to Jul. 1
eastern whip-poor-will	<i>Antrostomus vociferus</i>	Forests and woodlands; no nest built, eggs laid on flat ground.	May 1 to Aug. 15
grasshopper sparrow	<i>Ammodrammus savannarum</i>	Fallow fields, pastures, hayfields, grasslands, and other areas dominated by graminoid vegetation.	May 15 to Aug. 15
Kentucky warbler	<i>Geothlypis formosa</i>	Prefers deep shaded woods with dense, humid thickets, bottomlands near creeks and rivers, ravines in upland deciduous woods, and edges of swamps; nests on ground or within a few inches of it.	May 1 to Aug. 15
northern bobwhite	<i>Colinus virginianus</i>	Fallow fields, pastures, hayfields, grasslands, and other areas dominated by graminoid vegetation.	Apr. 15 to Aug. 31
prairie warbler	<i>Setophaga discolor</i>	Shrubby pastures, low pines; nest usually in a tree (such as pine, cedar, sweet-gum, oak), 1–45 feet above the ground.	May 1 to Jul. 31
prothonotary warbler	<i>Protonotaria citrea</i>	Wooded swamps, wetlands, river bottom hardwoods; Nest site usually 5–10 feet up (sometimes 3–30 feet up), above standing water in hole in a tree or stump.	May 15 to Jul. 31
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Groves, farm country, orchards, shade trees in towns, large scattered trees; nests in tree cavities.	May 10 to Sep. 10
wood thrush	<i>Hylocichla mustelina</i>	Mainly deciduous woodlands; nest placed in vertical fork of tree (usually deciduous) or saddled on horizontal branch, usually about 10-15 feet above the ground, sometimes lower, but rarely as high as 50 feet.	May 1 to Aug. 31

Source: NatureServe Explorer (2024)

Table 3.4-1

Vegetation Acreage Affected by Construction and Operation of the Amendment Project

Facility County, State	Agricultural <u>a/</u>		Forested / Woodland <u>b/</u>						Open Uplands <u>c/</u>		Wetlands <u>d/</u>				Total <u>e/</u>	
	Construction <u>f/</u>	Operation <u>g/</u>	Deciduous		Evergreen		Mixed		Herbaceous / Scrub Shrub Upland		Herbaceous / Scrub Shrub Wetland		Forested Wetland		Construction	Operation
			Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation		
<b>H-650 Pipeline Right-of-way <u>h/</u></b>	<b>33.14</b>	<b>16.62</b>	<b>48.03</b>	<b>25.68</b>	<b>38.73</b>	<b>19.82</b>	<b>90.33</b>	<b>46.95</b>	<b>100.42</b>	<b>52.58</b>	<b>8.90</b>	<b>5.52</b>	<b>8.20</b>	<b>5.69</b>	<b>327.75</b>	<b>172.86</b>
Pittsylvania, VA	30.46	15.14	45.28	24.01	31.20	15.96	83.73	43.44	82.26	42.86	7.02	4.30	5.27	3.72	285.21	149.43
Rockingham, NC	2.68	1.48	2.75	1.67	7.53	3.86	6.61	3.51	18.16	9.72	1.87	1.22	2.93	1.97	42.53	23.44
<b>Additional Temporary Workspace <u>i/</u></b>	<b>18.85</b>	<b>0.00</b>	<b>11.54</b>	<b>0.00</b>	<b>12.57</b>	<b>0.00</b>	<b>31.39</b>	<b>0.00</b>	<b>50.48</b>	<b>0.00</b>	<b>0.39</b>	<b>0.00</b>	<b>0.25</b>	<b>0.00</b>	<b>125.47</b>	<b>0.00</b>
Pittsylvania, VA	7.49	0.00	10.02	0.00	9.40	0.00	29.07	0.00	34.80	0.00	0.00	0.00	0.19	0.00	90.97	0.00
Rockingham, NC	11.36	0.00	1.52	0.00	3.16	0.00	2.33	0.00	15.68	0.00	0.39	0.00	0.06	0.00	34.50	0.00
<b>Cathodic Protection Groundbeds</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>	<b>0.04</b>	<b>1.11</b>	<b>1.11</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.15</b>	<b>1.15</b>
Pittsylvania, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	1.11	1.11	0.00	0.00	0.00	0.00	1.15	1.15
Rockingham, NC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Permanent Aboveground Facilities</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.54</b>	<b>0.54</b>	<b>1.47</b>	<b>1.47</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.01</b>	<b>2.01</b>
Pittsylvania, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.54	0.04	0.04	0.00	0.00	0.00	0.00	0.58	0.58
<i>Lambert Interconnect / MLV 1</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.54</i>	<i>0.54</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.54</i>	<i>0.54</i>
<i>MLVs 2 and 3</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.04</i>	<i>0.04</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.04</i>	<i>0.04</i>
Rockingham, NC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	1.43	0.00	0.00	0.00	0.00	1.43	1.43
<i>LN 3600 Interconnect</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.28</i>	<i>0.28</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.28</i>	<i>0.28</i>
<i>Dan River Interconnect #1 / MLV 4</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.68</i>	<i>0.68</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.68</i>	<i>0.68</i>
<i>Dan River Interconnect #2</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.47</i>	<i>0.47</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.47</i>	<i>0.47</i>
<b>Contractor Yards</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.91</b>	<b>0.00</b>	<b>9.71</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>10.62</b>	<b>0.00</b>



Table 3.4-1

Vegetation Acreage Affected by Construction and Operation of the Amendment Project

Facility County, State	Agricultural <sup>a/</sup>		Forested / Woodland <sup>b/</sup>						Open Uplands <sup>c/</sup>		Wetlands <sup>d/</sup>				Total <sup>e/</sup>	
	Construction <sup>f/</sup>	Operation <sup>g/</sup>	Deciduous		Evergreen		Mixed		Herbaceous / Scrub Shrub Upland		Herbaceous / Scrub Shrub Wetland		Forested Wetland		Construction	Operation
			Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation		
Pittsylvania, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	9.71	0.00	0.00	0.00	0.00	0.00	9.90	0.00
Rockingham, NC	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00
<b>Temporary and Permanent Access Roads</b>	<b>6.75</b>	<b>0.00</b>	<b>0.59</b>	<b>0.01</b>	<b>1.87</b>	<b>0.00</b>	<b>3.14</b>	<b>0.01</b>	<b>18.62</b>	<b>2.93</b>	<b>0.29</b>	<b>0.01</b>	<b>0.23</b>	<b>0.00</b>	<b>31.50</b>	<b>2.96</b>
Pittsylvania, VA	5.67	0.00	0.32	0.01	1.84	0.00	3.07	0.01	11.45	0.02	0.23	0.00	0.23	0	22.81	0.04
Rockingham, NC	1.08	0.00	0.27	0.00	0.03	0.00	0.07	0.00	7.17	2.91	0.07	0.01	0.00	0	8.68	2.92
<b>Amendment Project Total</b>	<b>58.74</b>	<b>16.62</b>	<b>60.17</b>	<b>25.69</b>	<b>53.16</b>	<b>19.82</b>	<b>126.40</b>	<b>47.59</b>	<b>181.80</b>	<b>58.09</b>	<b>9.58</b>	<b>5.53</b>	<b>8.68</b>	<b>5.69</b>	<b>498.50</b>	<b>178.99</b>

Source: NC Orthoimagery Program (2022) and Virginia Geographic Information Network (2023).

Note: Pig launcher and receiver will be within other aboveground facility sites (i.e., the Lambert Interconnect and Dan River Interconnect #1); therefore, acreage calculations for the pig launcher and receiver are included with those facilities. Mainline valves (MLVs) 1 and 4 will be within other aboveground facility sites (i.e., the Lambert Interconnect and Dan River Interconnect #1); therefore, acreage calculations for MLVs 1 and 4 are included with those facilities.

<sup>a/</sup> Cultivated land (e.g., tobacco, soybeans, hay, corn).

<sup>b/</sup> Upland forest and wooded lands, including those being managed for forest products (i.e., silviculture).

<sup>c/</sup> Utility rights-of-way, grasslands, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land.

<sup>d/</sup> Palustrine emergent, palustrine scrub-shrub, and palustrine forested wetlands as identified in Resource Report 2. Includes data from field delineation where access is available and NWI where survey access is not available.

<sup>e/</sup> Sums of addends may not equal totals due to rounding.

<sup>f/</sup> Construction acres include the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by the operation of the Amendment Project (i.e., facility operation footprint and 50-foot-wide pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between HDD entry and exit points is not included in this acreage. A 3-foot-wide path between HDDs has been included.

<sup>g/</sup> Includes only the operation footprint of the Amendment Project facilities within the 50-foot-wide permanent pipeline right-of-way. No operational right-of-way is included in the area between the HDD entry and exit points.

<sup>h/</sup> Includes the 50-foot-wide permanent right-of-way (which incorporates a reduced 3-foot-wide area between HDD entry and exits) and temporary workspace areas. The full 50-foot-wide permanent right-of-way has been calculated through wetland areas but will be maintained in accordance with the FERC procedures, which will be reduced to 10 feet in emergent wetlands, in scrub-shrub wetlands, and within 25 feet of waterbodies and to 30 feet in forested wetlands.

<sup>i/</sup> Includes ATWS areas for the pipeline facility. ATWS areas to be used for the construction of aboveground facilities are included in the acreage calculations for the applicable aboveground facilities.

Table 3.4-2

Acreeage of Forest Interior and Forest Edge Affected by Construction and Operation of the Amendment Project

Facility County, State	Interior Forest <sup>a/</sup>								Forest Edge							
	Deciduous		Evergreen <sup>b/</sup>		Mixed		Forested Wetland		Deciduous		Evergreen <sup>b/</sup>		Mixed		Forested Wetland	
	Construction <sup>c/</sup>	Operation <sup>d/</sup>	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
<b>H-650 Pipeline Right-of-Way <sup>e/</sup></b>	<b>1.68</b>	<b>1.68</b>	<b>0.00</b>	<b>0.00</b>	<b>1.25</b>	<b>1.25</b>	<b>0.19</b>	<b>0.19</b>	<b>24.10</b>	<b>24.00</b>	<b>9.23</b>	<b>9.23</b>	<b>45.74</b>	<b>45.70</b>	<b>5.51</b>	<b>5.51</b>
Pittsylvania, VA	1.68	1.68	0.00	0.00	0.91	0.91	0.19	0.19	22.43	22.34	8.05	8.05	42.57	42.53	3.55	3.55
Rockingham, NC	0.00	0.00	0.00	0.00	0.33	0.33	0.00	0.00	1.67	1.67	1.19	1.19	3.17	3.17	1.96	1.96
<b>Additional Temporary Workspace <sup>f/</sup></b>	<b>2.25</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.65</b>	<b>0.00</b>	<b>0.10</b>	<b>0.00</b>	<b>31.56</b>	<b>0.00</b>	<b>13.41</b>	<b>0.00</b>	<b>73.13</b>	<b>0.00</b>	<b>2.68</b>	<b>0.00</b>
Pittsylvania, VA	2.25	0.00	0.00	0.00	1.18	0.00	0.10	0.00	28.95	0.00	10.67	0.00	68.17	0.00	1.67	0.00
Rockingham, NC	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	2.61	0.00	2.74	0.00	4.95	0.00	1.02	0.00
<b>Cathodic Protection Groundbeds</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Pittsylvania, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rockingham, NC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Permanent Aboveground Facilities</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.54</b>	<b>0.54</b>	<b>0.00</b>	<b>0.00</b>
Pittsylvania, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.54	0.00	0.00
<i>Lambert Interconnect / MLV 1</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.54</i>	<i>0.54</i>	<i>0.00</i>	<i>0.00</i>
<i>MLVs 2 and 3</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Rockingham, NC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>LN 3600 Interconnect</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Dan River Interconnect #1 / MLV 4</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Dan River Interconnect #2</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<b>Contractor Yards</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.91</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Pittsylvania, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00
Rockingham, NC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00
<b>Temporary and Permanent Access Roads</b>	<b>0.22</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.61</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.37</b>	<b>0.01</b>	<b>0.06</b>	<b>0.00</b>	<b>0.53</b>	<b>0.01</b>	<b>0.20</b>	<b>0.00</b>
Pittsylvania, VA	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03	0.00	0.07	0.00	0.00	0.00

Table 3.4-2

Acreage of Forest Interior and Forest Edge Affected by Construction and Operation of the Amendment Project

Facility County, State	Interior Forest <sup>a/</sup>								Forest Edge							
	Deciduous		Evergreen <sup>b/</sup>		Mixed		Forested Wetland		Deciduous		Evergreen <sup>b/</sup>		Mixed		Forested Wetland	
	Construction <sup>c/</sup>	Operation <sup>d/</sup>	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
Rockingham, NC	0.00	0.00	0.00	0.00	2.61	0.00	0.03	0.00	0.32	0.01	0.03	0.00	0.46	0.01	0.20	0.00
<b>Amendment Project Total <sup>g/</sup></b>	<b>4.14</b>	<b>1.68</b>	<b>0.00</b>	<b>0.00</b>	<b>5.51</b>	<b>1.25</b>	<b>0.32</b>	<b>0.19</b>	<b>56.03</b>	<b>24.01</b>	<b>22.70</b>	<b>9.23</b>	<b>120.85</b>	<b>46.26</b>	<b>8.40</b>	<b>5.51</b>

Source: NC Orthoimagery Program (2022) and Virginia Geographic Information Network (2023).

Note: Pig launcher and receiver will be within other aboveground facility sites (i.e., the Lambert Interconnect and Dan River Interconnect #1); therefore, acreage calculations for the pig launcher and receiver are included with those facilities. Mainline valves (MLVs) 1 and 4 will be within other aboveground facility sites (i.e., the Lambert Interconnect and Dan River Interconnect #1); therefore, acreage calculations for MLVs 1 and 4 are included with those facilities.

<sup>a/</sup> Interior forest is defined as the area within a forested tract greater than 300 feet from the forest edge.

<sup>b/</sup> Silviculture is excluded in this analysis, accounting for the approximate 30.46- and 10.59-acre reduction in construction and operation evergreen totals, respectively, compared to Table 3.4-1.

<sup>c/</sup> Construction acres include the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by the operation of the Amendment Project (i.e., facility operation footprint and 50-foot pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between HDD entry and exit points is not included in this acreage. A 3-foot-wide path between HDDs has been included.

<sup>d/</sup> Includes only the operation footprint of the Amendment Project facilities within the 50-foot-wide permanent pipeline right-of-way. No operational right-of-way is included in the area between the HDD entry and exit points.

<sup>e/</sup> Includes the 50-foot-wide permanent right-of-way (which incorporates a reduced 3-foot-wide area between HDD entry and exits) and temporary workspace areas. The full 50-foot-wide permanent right-of-way has been calculated through wetland areas but will be maintained in accordance with the FERC procedures, which will be reduced to 10 feet in emergent wetlands, in scrub-shrub wetlands, and within 25 feet of waterbodies and to 30 feet in forested wetlands.

<sup>f/</sup> Includes ATWS areas for the H-650 pipeline. ATWS areas to be used for the construction of aboveground facilities are included in the acreage calculations for the applicable aboveground facilities.

<sup>g/</sup> Sums may not equal the total of addends due to rounding.

**Table 3.4-3**

**Significant or Sensitive Vegetation Potentially Occurring within 1 mile of the Amendment Project**

Species/Community	County, State	Consulting Agency	Survey Status	Proposed Avoidance or Minimization
Virginia Quillwort	Pittsylvania, VA	VDCR	No new surveys were required for this species. VDCR-DNH concurred with the rare plant survey report completed for the Original Certificated Project (ESI 2019a) and determined the Amendment Project would not affect any documented state-listed plants.	NA <u>a</u> / – Confirmed through agency coordination that the Amendment Project will not affect any documented state-listed plants.
Small Whorled Pogonia	Pittsylvania, VA	VDCR	No new surveys were required for this species. VDCR-DNH concurred with the rare plant survey report completed for the Original Certificated Project (ESI 2019a) and determined the Amendment Project would not affect any documented state-listed plants.	NA <u>b</u> / – Confirmed through agency coordination that the Amendment Project will not affect any documented state-listed plants.
Cliff Stonecrop	Rockingham, NC	NCNHP	No survey required or planned.	NA <u>b</u> / – Occurrence and suitable habitat are outside of the Amendment Project area.
Carolina Birdfoot-trefoil	Rockingham, NC	NCNHP	No survey required or planned.	NA <u>b</u> / – Occurrence and suitable habitat are outside of the Amendment Project area.
American Barberry	Rockingham, NC	NCNHP	No survey required or planned.	NA <u>b</u> / – Occurrence and suitable habitat are outside of the Amendment Project area.
Smooth Coneflower	Rockingham, NC	NCNHP	No survey required or planned.	NA <u>b</u> / – Occurrence and suitable habitat are outside of the Amendment Project area.
Southeastern Bold Goldenrod	Rockingham, NC	NCNHP	No survey required or planned.	NA <u>b</u> / – Occurrence and suitable habitat are outside of the Amendment Project area.
Dry-Mesic Oak-Hickory Forest (Piedmont Subtype)	Rockingham, NC	NCNHP	NA	The Amendment Project has been collocated with existing easement and will follow FERC guidance to minimize forested impacts.
Mesic Mixed Hardwood Forest (Piedmont Subtype)	Rockingham, NC	NCNHP	NA	The Amendment Project has been collocated with existing easement and will follow FERC guidance to minimize forested impacts.
Upland Depression Swamp Forest	Rockingham, NC	NCNHP	NA	The Amendment Project has been collocated with existing easement and will follow FERC guidance to minimize forested impacts.
Xeric Hardpan Forest	Rockingham, NC	NCNHP	NA	The Amendment Project has been collocated with existing easement and will follow FERC guidance to minimize forested impacts.
Wide Mouth Creek Conglomerate Exposure	Rockingham, NC	NCNHP	NA	NA <u>a</u> / – Outside of Amendment Project area. No impact expected.
Rocky Branch Conglomerate Exposure	Rockingham, NC	NCNHP	NA	NA <u>a</u> / – Outside of Amendment Project area. No impact expected.

**Table 3.4-3**

**Significant or Sensitive Vegetation Potentially Occurring within 1 mile of the Amendment Project**

Species/Community	County, State	Consulting Agency	Survey Status	Proposed Avoidance or Minimization
Leaksville Loam Forests	Rockingham, NC	NCNHP	NA	NA <u>a/</u> – Outside of Amendment Project area. No impact expected.
ROA/Dan River Aquatic Habitat	Rockingham, NC	NCNHP	NA	Dan River will be crossed via HDD. No impact from instream construction activity expected.
Fitzgerald Woodland	Rockingham, NC	NCNHP	NA	NA <u>a/</u> - Outside of Amendment Project area. No impact expected.
Roundhouse Road Forest	Rockingham, NC	NCNHP	NA	NA <u>a/</u> – Outside of Amendment Project area. No impact expected.

Source: Agency consultation with VDCR and NCNHP (see Resource Report 1, Appendix 1-I); NCNHP 2024; VDCR 2024.

NA = Not Applicable

a/ Not Applicable due to categorical habitat type, rather than individual species.

b/ Not Applicable due to individual species, rather than categorical habitat type.

Table 3.5-1					
Federally and State-Listed Fish, Plant, and Wildlife Species with the Potential to Occur in Relevant Proximity to the Amendment Project Area					
Common Name	Scientific Name	Status			Survey Locations and Status
		Federal <u>a/</u>	VA <u>b/</u>	NC <u>c/</u>	
<b>Fish</b>					
Bigeye jumprock <u>f/</u>	<i>Moxostoma ariommum</i>	--	W(III)	T, SGCN	Further targeted surveys are not required.
Orangefin madtom <u>e/</u>	<i>Noturus gilberti</i>	SC	T	E, SGCN <u>d/</u>	
Riverweed darter <u>f/</u>	<i>Etheostoma podostemone</i>	-	--	SR	
Roanoke logperch	<i>Percina rex</i>	E, PD	E	E, SGCN	Presence of the Roanoke logperch will be assumed by the Amendment Project in areas of suitable habitat within Roanoke logperch streams.
<b>Mammals</b>					
Northern long-eared bat	<i>Myotis septentrionalis</i>	E	T	T, SGCN	Presence of bats will be assumed by the Amendment Project within respective range in areas of suitable habitat. No further surveys are required.
Tricolored bat	<i>Perimyotis subflavus</i>	PE	E	E, SGCN	
<b>Mussels</b>					
Atlantic pigtoe	<i>Fusconaia masoni</i>	T, CH	T	T, SGCN	Habitat assessments and mussel surveys in suitable habitat may occur prior to Amendment Project start, pending further agency consultation.
Green floater	<i>Lasmigona subviridis</i>	PT, PCH	T	E, SGCN	
James spiny mussel	<i>Parvaspina collina</i>	E	E	E, SGCN	
Notched rainbow <u>f/</u>	<i>Villosa constricta</i>	--	W(III)	T	
Yellow lampmussel <u>f/</u>	<i>Lampsilis cariosa</i>	SC	W(II)	E, SGCN	
<b>Plants</b>					
Virginia quillwort <u>e/</u>	<i>Isoetes virginica</i>	SC	E <u>d/</u>	SR	No new surveys were performed for this species. VDWR concurred that no new surveys will be required.
Small whorled pogonia <u>e/</u>	<i>Isotria medeoloides</i>	T	E <u>d/</u>	T	No individuals observed during 2018 or 2019 surveys. VDWR concurred that no further surveys are required.
Carolina birdfoot-trefoil <u>f/</u>	<i>Acmispon helleri</i>	--	--	T <u>d/</u>	No surveys were performed for this species as it was an occurrence outside of the Amendment Project area. NCNHP concurred that no surveys will be required.



<b>Table 3.5-1</b>					
<b>Federally and State-Listed Fish, Plant, and Wildlife Species with the Potential to Occur in Relevant Proximity to the Amendment Project Area</b>					
Common Name	Scientific Name	Status			Survey Locations and Status
		Federal <u>a/</u>	VA <u>b/</u>	NC <u>c/</u>	
American barberry <u>f/</u>	<i>Berberis canadensis</i>	--	--	SC <u>d/</u>	No surveys were performed for this species as it was an occurrence outside of the Amendment Project area. NCNHP concurred that no surveys will be required.
Smooth coneflower <u>f/</u>	<i>Echinacea laevigata</i>	T	T <u>d/</u>	T	No individuals observed during 2018 or 2019 surveys. Latest occurrence data from the USFWS and NCNHP show that this species occurs outside of the Amendment Project area. No new surveys will be required.
Southeastern bold goldenrod <u>f/</u>	<i>Oligoneuron jacksonii</i>	--	--	SR	No surveys were performed for this species as it was an occurrence outside of the Amendment Project area. NCNHP concurred that no surveys will be required.
Cliff stonecrop <u>f/</u>	<i>Sedum glacophyllum</i>	--	--	SR-P	No surveys were performed for this species as it was an occurrence outside of the Amendment Project area. NCNHP concurred that no surveys will be required.

Sources: NCWRC 2021; USFWS 2024b; VDWR 2023; see Resource Report 1, Appendix 1-I for agency consultations.

a/ Federal Status. E = Listed Endangered; T = Listed Threatened; CH = Designated Critical Habitat; PT = Proposed Threatened; PD = Proposed for Delisting; PCH = Proposed Critical Habitat; SC = Species of Concern, a list maintained by USFWS Virginia & Raleigh Field Offices,

b/ Virginia Status. E = Listed Endangered; T = Listed Threatened; R = Rare, including both Critically Imperiled and Imperiled state ranking; W (I) = Wildlife Action Plan, Tier I; W (II) = Wildlife Action Plan, Tier I; W (III) = Wildlife Action Plan, Tier III; W (IV) = Wildlife Action Plan, Tier IV

c/ North Carolina Status. E = Listed Endangered; T = Listed Threatened; SC = Species of Special Concern; SR = Significantly Rare; SGCN = Species of Greatest Conservation Need as listed in the Wildlife Action Plan

d/ Species not known to occur within the Amendment Project area (by state).

e/ Species was not listed on the USFWS IPaC; however, it is included here due to preliminary feedback provided by VDWR.

f/ Species was not listed on the USFWS IPaC; however, it is included here due to preliminary feedback provided by NCNHP.