



Forest Service  
U.S. DEPARTMENT OF AGRICULTURE



Southern Region | Jefferson National Forest | R8-MB 166 | April 2023

# Mountain Valley Pipeline and Equitrans Expansion Project

## Final Supplemental Environmental Impact Statement



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**Mountain Valley Pipeline and Equitrans Expansion Project  
Final Supplemental Environmental Impact Statement**

**Jefferson National Forest; Monroe County, West Virginia; Giles and  
Montgomery Counties, Virginia**

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**Cooperating Agency** Department of Interior Bureau of Land  
Management

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**Abstract:** The Mountain Valley Pipeline (MVP) and Equitrans Expansion Project (EEP) Final Supplemental Environmental Impact Statement (FSEIS) supplements the June 2017 Federal Energy Regulatory Commission (FERC) Final Environmental Impact Statement (FEIS) and the United States Department of Agriculture (USDA) Forest Service 2020 Final Supplemental Environmental Impact Statement (FSEIS). The Forest Service, as the lead agency, and the Bureau of Land Management (BLM), as a Federal cooperating agency, have decisions to be made based on a review of the 2017 FEIS, the 2020 FSEIS, and this FSEIS.

The purpose for agency action is to respond to a proposal from Mountain Valley Pipeline, LLC, relating to the MVP and EEP. The proposal seeks approval to construct and operate a buried 42-inch natural gas pipeline across approximately 3.5 miles of the Jefferson National Forest (JNF) and 60 feet of land managed by the U.S. Army Corps of Engineers. To approve the proposal, a project-specific Forest Plan amendment is required. Additionally, the proposal requires a right-of-way (ROW) grant, in this case, from the BLM to cross the JNF. The Mineral Leasing Act of 1920 (30 U.S.C. § 181) (MLA) authorizes the Secretary of the Interior or appropriate agency head to issue pipeline ROWs across federal lands, including NFS lands, consistent with 30 U.S.C. § 185. A decision to issue a ROW grant/temporary use permit for a term of 30 years would include terms and conditions, which would include terms and conditions provided by the Forest Service. The BLM will not issue a ROW grant and permit until the Forest Service concurs (43 CFR § 2884.26).

This FSEIS responds to the January 25, 2022 United States Court of Appeals for the Fourth Circuit decision that vacated and remanded the Forest Service's January 11, 2021 decision approving the JNF's project-specific plan amendment. The Court also vacated the BLM's January 14, 2021 ROW decision and ROW grant/temporary use permit across National Forest System

(NFS) lands. The supplemental analysis addresses the issues identified by the Court and any relevant new information and changed circumstances. This FSEIS evaluates the no action and the proposed action alternatives.

This decision will not be subject to either the 36 CFR Part 218 Subparts A and B or 36 CFR Part 219 pre-decisional administrative review because the responsible official is the Under Secretary of Agriculture, Natural Resources and Environment (36 CFR § 218.13(b); 36 CFR § 219.51(b)).

Per §§ 1506.11(b)(2), a 30-day waiting period will begin when the Notice of Availability is published in the Federal Register. After the 30-day period ends, the Forest Service and the BLM can sign their agency-specific records of decision.

The Under Secretary for the U.S. Department of Agriculture, Natural Resources and Environment, has identified Alternative 2 – the Proposed Action as the preferred alternative.

## Summary

The United States Department of Agriculture Forest Service, and United States Bureau of Land Management (BLM) as a cooperating agency, prepared this final supplemental environmental impact statement (FSEIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations<sup>1</sup>, and in response to the United States Court of Appeals for the Fourth Circuit (Fourth Circuit or the Court) January 25, 2022 decision that vacated and remanded the Forest Service's January 11, 2021 decision approving the Jefferson National Forest (JNF) plan amendment and the BLM's January 14, 2021 right-of-way (ROW) decision and ROW grant. According to Title 40 of the Code of Federal Regulations (CFR) § 1502.9(c)(1), a supplemental environmental impact statement (SEIS) shall be prepared if: (i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) there are significant new circumstances or information relevant to concerns and bearing on the proposed action or its effects. This FSEIS supplements the June 2017 Federal Energy Regulatory Commission's (FERC) Mountain Valley Project and Equitrans Expansion Project Final Environmental Impact Statement (FERC FEIS) and the Forest Service 2020 Final Supplemental Environmental Impact Statement (2020 FSEIS).

## Background

The Mountain Valley Pipeline (MVP or Project) is a proposed 303.5-mile interstate natural gas pipeline that is proposed to cross about 3.5 miles<sup>2</sup> of the JNF, in Monroe County, West Virginia and Giles and Montgomery counties, Virginia. The Forest Service and BLM participated as cooperating agencies with the FERC in the preparation of the FERC FEIS. On June 29, 2017, the Notice of Availability for the FERC FEIS and the Forest Service Draft Record of Decision (ROD) for the Mountain Valley Project Land and Resource Management Plan Amendment was published in the *Federal Register* (FR).

On December 1, 2017, the Forest Service adopted the FERC FEIS, and a Record of Decision (ROD) was signed by the JNF Forest Supervisor (Forest Service 2017). The ROD amended the January 2004 Jefferson National Forest Revised Land and Resource Management Plan (Forest Plan) to modify certain Forest Plan standards that precluded the use of standard pipeline construction methods for the MVP.<sup>3</sup> The ROD included resource protection terms and conditions that would condition the Forest Service's concurrence for the Project.

Project implementation on National Forest System (NFS) lands began in March 2018 and continued until July 27, 2018<sup>4</sup> when the Fourth Circuit vacated and remanded the Forest Service's decision approving the Forest Plan amendment based on violations of the National Forest Management Act (NFMA) and NEPA. The Court also vacated and remanded BLM's Mineral

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<sup>1</sup> On April 20, 2022, the Council of Environmental Quality published its final rule amending certain provisions of its regulations for implementing the NEPA (see 87 FR 23453, pages 23453 to 23470) in the *Federal Register* (FR). The effective date for the revised regulations was May 20, 2022. Because this project was initiated in 2017, the Forest Service has elected to continue using the previous NEPA regulations, issued in 1978, as amended in 1986 and 2005.

<sup>2</sup> The proposed ROW on NFS lands in the Peters Mountain area is approximately from mileposts 196.2 to 197.8 and 198.3 to 198.4. On NFS lands in the Brush Mountain area it is approximately from mileposts 218.5 to 219.4 and 219.8 to 220.7.

<sup>3</sup> All references to the Forest Plan are to the 2004 JNF as amended. This is the most up-to-date Forest Plan.

<sup>4</sup> As of December 2021, approximately 271.9 miles of the 303.5 miles of pipe have been installed and backfilled. This includes all aboveground facilities (certified interconnects and three compressor stations). At this time, 169.3 miles of land along the pipeline ROW are in the final restoration phase and more than 50 percent of the right-of-way has been fully restored. No additional pipe installation has occurred since December 2021.



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Leasing Act (MLA) ROW decision for the portion through NFS lands based on a violation of the MLA.

In response to the July 2018 Fourth Circuit opinion, the Forest Service prepared a DSEIS in September 2020 and an FSEIS in December 2020. On January 11, 2021, the Forest Service issued a ROD, and on January 14, 2021, the BLM issued a ROD granting a 30-year pipeline ROW in the JNF. Both the Forest Service's and BLM's RODs were challenged, and on January 25, 2022, the Fourth Circuit again vacated and remanded both the Forest Service's and BLM's RODs. The Fourth Circuit found that 1) the Forest Service and BLM inadequately considered the actual sedimentation and erosion impacts of the pipeline; 2) the Forest Service and BLM prematurely authorized the use of the conventional bore method to construct stream crossings; and 3) the Forest Service failed to comply with the Forest Service's 2012 Planning Rule.

On March 28, 2022, Mountain Valley Pipeline, LLC (Mountain Valley) filed an amended MLA ROW application with the BLM, amending its prior application accepted as complete on May 1, 2020. On August 5, 2022, the BLM deemed Mountain Valley's amended application complete.

## **Purpose and Need**

The Forest Service's purpose and need for the proposed action is to respond to a proposal from Mountain Valley to construct and operate a buried 42-inch interstate natural gas pipeline that would cross NFS lands on the JNF along a proposed 3.5-mile corridor. A Forest Service decision is needed because the Project as proposed is inconsistent with several Forest Plan standards without a project-specific amendment to the JNF Forest Plan.

The BLM's purpose and need is to respond to Mountain Valley's amended MLA ROW application for the MVP project to construct and operate a natural gas pipeline across NFS lands consistent with the MLA, 30 United States Code (U.S.C.) § 185 and BLM's implementing regulations, 43 CFR Part 2880. Under the MLA, the BLM has responsibility for reviewing Mountain Valley's ROW application and issuing a decision on whether to approve, approve with modifications, or deny the application.

## **Proposed Action**

The Proposed Action for the SEIS includes the following interrelated components: identification of terms and conditions, to be provided by the Forest Service to the BLM to protect resources and the public interest consistent with the MLA; issuance of a ROW; construction, operation, and maintenance of a pipeline; and a project-specific amendment of the 2004 Forest Plan.

The Forest Service would provide construction and operation terms and conditions as needed for the actions listed below. The terms would be submitted to the BLM for inclusion in the ROW grant. Forest Service concurrence is needed for the temporary use during construction and for the BLM's issuance of the 30-year ROW.

The Proposed Action for BLM is the issuance of a ROW through the JNF to allow for the construction, operation, and maintenance of the MVP. The issuance of the ROW includes any terms and conditions (including stipulations) that are required for protection of resources and the public interest. In accordance with 43 CFR Part 2880, Mountain Valley is required to provide the BLM with a final plan of development (POD), which details and guides how the pipeline construction, operation, and maintenance would be conducted.

Eleven Forest Plan standards are proposed to be modified to allow the Project to be consistent with the Forest Plan, which would allow the BLM to grant a ROW. Standards include:

- FW-5 (revegetation)
- FW-8 (soil compaction in water saturated areas)
- FW-9 (soil effects from heavy equipment use)
- FW-13 (exposed soil)
- FW-14 (residual basal area within the channeled ephemeral zone)
- FW-184 (scenic integrity objectives).
- FW-248 (utility corridors)
- 4A-028 (Appalachian National Scenic Trail [ANST] and utility corridors)
- 6C-007 (tree clearing)
- 6C-026 (utility corridors in the old growth management area)
- 11-003 (exposed soil within the riparian corridor)

In addition to modifying the above standards, the Forest Service is proposing to add an MVP-Specific Standard to the Forest Plan. The proposed standard would incorporate certain elements of the POD into the Forest Plan.

## Key Issues

This FSEIS focuses only on key issues that are relevant to the decisions to be made by the Forest Service and the BLM that have not already been analyzed in the FERC FEIS or 2020 FSEIS.

Key issues that are the focus of this FSEIS analysis, including those identified by the Court, are: (1) consideration of sedimentation and erosion real-world data related to the Project; (2) compliance with the 2012 Planning Rule (36 CFR Part 219); and (3) review of the conventional bore method to construct stream crossings.

## Decision to be Made

The Forest Service responsible official will review the proposed action including the 2022 POD, alternatives, the terms and conditions, the environmental consequences that would be applicable to NFS lands, public comments, and the Project record that has been supplemented since 2017 in order to make the following decisions: (1) Whether to approve a project-specific Forest Plan amendment that would modify 11 standards and add one plan component, a standard, in the Forest Plan; (2) Should the Forest Service approve a Forest Plan amendment, determine what terms and conditions should be included with the Forest Service concurrence for the Project; (3) Whether to adopt all or portions of the FERC FEIS that is relevant to NFS lands in this FSEIS; and (4) Whether to concur with the grant of a ROW.

Consistent with the MLA, 30 U.S.C. § 185 and BLM's implementing regulations, 43 CFR Part 2880, the BLM will review Mountain Valley's ROW application, the FERC FEIS, 2020 FSEIS, and this FSEIS to determine whether to approve, approve with modifications, or deny the MLA ROW application and temporary use authorization through the NFS lands. Before issuing a decision on Mountain Valley's application, the BLM would need the Forest Service's written concurrence. The Forest Service may condition its concurrence for the BLM by including any

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terms and conditions that are deemed necessary to protect resources and otherwise protect the public interest consistent with 30 U.S.C. § 185(h); 43 CFR § 2885.11.

## **Alternatives**

### **Alternative 1 – No Action**

Under the No Action Alternative, the Forest Plan would not be amended, and no concurrence would be provided to the BLM for granting of a ROW across NFS lands for the construction and operation of the MVP. The current Forest Plan would continue to guide management of NFS lands in the Project area.

The Forest Service would require Mountain Valley to remove pipes and associated staging materials and restore the JNF project area to as close to the pre-project condition as practicable or possible.

### **Alternative 2 – The Proposed Action**

Under the proposed action, the Forest Service would amend the Forest Plan as necessary to allow for the MVP to cross the JNF and would concur in a decision by the BLM to grant a ROW and a temporary use permit (TUP) under the MLA. Changes to the Proposed Action since publication of the 2020 FSEIS include using a conventional bore method for crossing the four streams on NFS lands (the potential use of dry-ditch open trench methods is no longer under consideration). The ROW grant and TUP would incorporate relevant portions of the 2023 United States Fish and Wildlife Service (FWS) Biological Opinion (for example, portions related to species [e.g., listed bats] which have the potential to be affected by activities on NFS lands).

Consistent with the Forest Service’s plan amendment, the Forest Service would provide concurrence and the BLM would grant a ROW and a TUP under the MLA, 30 U.S.C. § 185, for the Project to cross the JNF. The MLA ROW would include terms and conditions, or stipulations, to protect resources and the public interest consistent with the MLA, 30 U.S.C. § 185(h). The construction and operation and maintenance actions that need terms and conditions include:

- Construction of a 42-inch pipeline across 3.5 miles of the JNF.
- The use of a 125-foot-wide temporary construction ROW for pipeline installation and trench spoil.<sup>5</sup> Once construction is complete, the MVP would retain a 50-foot-wide authorized ROW to operate the pipeline.
- Installation of surface pipeline markers to advise the public of pipeline presence and cathodic pipeline protection test stations that are required by Department of Transportation.

Implementation of the Proposed Action is contingent upon adhering to the Forest Service-approved POD and FERC’s general construction, restoration, and operational mitigation measures as outlined in FERC’s Upland Erosion Control Revegetation and Maintenance Plan (FERC 2013a), Wetland and Waterbody Construction and Mitigation Procedures (FERC 2013b), and other Federal and State regulatory agency requirements.

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<sup>5</sup> The temporary ROW at waterbody crossings and riparian buffer areas is 75 feet wide.



## Comparison of Alternatives

This section briefly compares the environmental consequences of the two alternatives based on the effects analyses presented in Chapter 3.

### Alternative 1 – No Action

#### Water Resources

Effects would be as described in the 2020 FSEIS: While the Project area would be restored to as close to the pre-project condition as practicable or possible and Erosion Control Devices (ECDs) would continue to be maintained and monitored, minor adverse short-term and long-term impacts on water resources would occur.

#### Threatened, Endangered, and Sensitive Species

Effects would be as described in the 2020 FSEIS: No detrimental effects to Threatened and Endangered species would occur as a result of the No Action Alternative beyond those which already occurred during the partial pipeline implementation. Long-term effects would be minor and beneficial as restoration activities would return the project area to as close to the pre-project condition as practicable or possible.

#### National Forest Management Act

The JNF Forest Plan would not be amended and there would be no effects.

### Alternative 2 – The Proposed Action

#### Water Resources

Short-term effects would be minor, which is consistent with the conclusions in the FERC FEIS and 2020 FSEIS. The use of a conventional bore method would reduce effects on the four streams on NFS lands. Effects on water resources would be minimized through implementation of measures in the POD, such as best management practices (BMPs) and the use of ECDs as modeled in Revised Universal Soil Loss Equation, Version 2 (RUSLE2). Long-term impacts would be associated with post-construction restoration and operation and would be minor in intensity, which is consistent with the conclusions in the FERC FEIS and 2020 FSEIS. The United States Geological Survey (USGS) data and other relevant information considered in this FSEIS do not indicate that the modeling used in the 2020 FSEIS is inconsistent with data about the actual impacts of the pipeline and its construction.

#### Threatened, Endangered, and Sensitive Species

A total of five Endangered Species Act (ESA) listed species, one species proposed for ESA-listing, and three Regional Forester Sensitive Species (RFSS) are analyzed in this FSEIS and could be affected by the MVP in the JNF. The Forest Service determined that the MVP may affect or is likely to adversely affect four species: candy darter, Roanoke logperch, Indiana bat, and northern long-eared bat. Formal consultation with the FWS determines appropriate mitigation measures for potential effects to Federally listed species. The Forest Service determined that the Project would have No Impact or would be unlikely to cause a Trend Toward Federal Listing or Loss of Viability for RFSS. Implementation of required conservation measures in the 2023 FWS BO and POD would help reduce project effects on Threatened, Endangered, and Sensitive (TES) species.

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## National Forest Management Act

The JNF Plan would be amended. One plan standard would be added, and 11 Forest Plan standards are proposed to be modified. They are analyzed in this FSEIS in Section 3.3.4 and discussed in Appendix A.

Utility Corridors (FW-248). Short- and long-term minor beneficial effects would occur to the local and regional economy from increased employment and demand for services during construction and an increased tax base.

Soil and Riparian (FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003). Minor adverse effects would occur from vegetation removal, erosion and sedimentation, soil compaction, soil porosity, runoff potential, soil fertility, revegetation potential, and soil carbon budget.

Old Growth Management Area (6C-007 and 6C-026). The Project would result in the clearing of about 5.2 acres of old growth within areas designated as 6C. Although this is an adverse impact to old growth ecosystems, it is not a substantial adverse impact due to the limited extent of the impact (about 5.2 out of 30,200 acres of old growth acres forest-wide).

Appalachian National Scenic Trail (4A-028). Temporary, minor adverse effects to trail users would occur from noise, dust, and visual intrusions from crossing the pipeline underneath the ANST via a 600-foot-long bore. The long-term effects would be minor due to an approximate 300-foot buffer on either side of the trail and vegetative screening of the bore holes. There are about 30,700 acres of the JNF allocated to Management Prescription 4A (Appalachian National Scenic Trail); approximately 2.5 acres of the ROW are within 4A, which is less than 0.01% of all 4A acres on the JNF.

Scenery Integrity Objectives (FW-184). The Project would result in degradation of scenic quality inconsistent with the JNF Forest Plan Scenic Integrity Objectives (SIOs). Although this is an adverse effect to scenery, it is not a substantial adverse effect due to the limited extent of the Project crossing the JNF (2017 FERC FEIS p. 4-347), because SIOs should be met within five years, the Project's proposed mitigation measures that would apply to temporary workspace, and the temporary and authorized ROW that are found in the updated POD (Section 7.9).

MVP-Specific Standard. To minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction, restoration, operational, and maintenance phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan).

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## Acronyms and Abbreviations

<b>Acronym or Abbreviation</b>	<b>Description</b>
ANST	Appalachian National Scenic Trail
BA	Biological Assessment
BASI	Best Available Scientific Information
BLM	Bureau of Land Management
BMP	Best Management Practice
BE	Biological Evaluation
BO	Biological Opinion
Certificate	Order Issuing Certificates and Granting Abandonment Authority
CEQ	White House Council on Environmental Quality
CFR	Code of Federal Regulations
CFS	Compost Filter Sock
DOT	Department of Transportation
DSEIS	Draft Supplemental Environmental Impact Statement
ECD	Erosion Control Device
EA	Environmental Assessment
EIS	Environmental Impact Statement
ERFO	Emergency Relief for Federally Owned Roads Program
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
FERC Plan	FERC’s Upland Erosion Control Revegetation and Maintenance Plan
FERC Procedures	FERC’s Wetland and Waterbody Construction and Mitigation Procedures
FNU	Formazin Nephelometric Units
Forest Plan	2004 Jefferson National Forest Revised Land and Resource Management Plan
Forest Service	USDA Forest Service
Fourth Circuit	United States Court of Appeals for the Fourth Circuit
FR	Federal Register
FSEIS	Final Supplemental Environmental Impact Statement
FW	Forest-wide
FWS	United States Fish and Wildlife Service
GWJ	George Washington and Jefferson (National Forests)
HUC	Hydrologic Unit Code
JNF	Jefferson National Forest
LOD	Limit of Disturbance
MLA	Mineral Leasing Act
Mountain Valley	Mountain Valley Pipeline, LLC
MP	Milepost
MVP	Mountain Valley Pipeline
NEPA	National Environmental Policy Act

<b>Acronym or Abbreviation</b>	<b>Description</b>
NFMA	National Forest Management Act
NFS	National Forest System
NGA	Natural Gas Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NRCS	Natural Resources Conservation Service
NTU	Nephelometric Turbidity Units
PA	Programmatic Agreement
Planning Rule	Forest Service's 2012 Planning Rule
POD	Plan of Development
RFSS	Regional Forester Sensitive Species
ROD	Record of Decision
ROW	Right-of-way
RUSLE	Revised Universal Soil Loss Equation
RUSLE2	Revised Universal Soil Loss Equation, Version 2
SBA	Supplement to the Biological Assessment
SBE	Supplemental Biological Evaluation
SEIS	Supplemental Environmental Impact Statement
SIO	Scenic Integrity Objective
SSC	Suspended Sediment Concentration
TES	Threatened, Endangered, or Sensitive
The Court	United States Court of Appeals for the Fourth Circuit
TS	Timber Sale
TUP	Temporary Use Permit
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
U.S.C.	United States Code
VDWR	Virginia Department of Wildlife Resources
VDEQ	Virginia Department of Environmental Quality
WVDEP	West Virginia Department of Environmental Protection

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# 1 Purpose of and Need for Action

## 1.1 Introduction

The United States Department of Agriculture (USDA) Forest Service and the United States (U.S.) Bureau of Land Management (BLM) as a cooperating agency prepared this final supplemental environmental impact statement (FSEIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations<sup>6</sup>, and in response to the United States Court of Appeals for the Fourth Circuit's (Fourth Circuit or the Court) January 25, 2022 decision that vacated and remanded the Forest Service's January 11, 2021 decision approving the Jefferson National Forest's (JNF's) plan amendment and the BLM's January 14, 2021 right-of-way (ROW) decision and ROW grant. According to Title 40 of the Code of Federal Regulations (CFR) § 1502.9(c)(1), a supplemental environmental impact statement (SEIS) shall be prepared if: (i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) there are significant new circumstances or information relevant to concerns and bearing on the proposed action or its effects. This FSEIS supplements the June 2017 Federal Energy Regulatory Commission's (FERC) Mountain Valley Project and Equitrans Expansion Project Final Environmental Impact Statement (FERC FEIS; FERC 2017a) and the Forest Service 2020 Final Supplemental Environmental Impact Statement (2020 FSEIS; Forest Service 2020a).

## 1.2 Background

The Mountain Valley Pipeline (MVP or Project) is a proposed 303.5-mile interstate natural gas pipeline that is proposed to cross about 3.5 miles<sup>7</sup> of the JNF, in Monroe County, West Virginia and Giles and Montgomery counties, Virginia (Figure 1). The Forest Service and BLM participated as cooperating agencies with the FERC in the preparation of the FERC FEIS. On June 29, 2017, the Notice of Availability for the FERC FEIS and the Forest Service Draft Record of Decision for the Mountain Valley Project Land and Resource Management Plan Amendment was published in the *Federal Register* (FR). The Forest Service Draft Record of Decision was subject to the 36 CFR Part 218 administrative review process, and the Forest Service received and processed multiple objections.

Under the Mineral Leasing Act (30 United States Code [U.S.C.] § 185 et seq.) (MLA) and implementing regulations, the BLM is the Federal agency responsible for issuing ROW grants for natural gas pipelines where the surface of the Federal lands involved is administered by the Secretary of the Interior or two or more Federal agencies. MVP crosses Federal lands administered by the Forest Service and the U.S. Army Corps of Engineers (USACE). The BLM is, therefore, responsible for considering the issuance of a ROW grant for the MVP for pipeline construction and operation across the lands administered by the Forest Service and the USACE<sup>8</sup>

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<sup>6</sup> On April 20, 2022, the Council of Environmental Quality published its final rule amending certain provisions of its regulations for implementing the NEPA (see 87 FR 23453, pages 23453 to 23470) in the *Federal Register* (FR). The effective date for the revised regulations was May 20, 2022. Because this project was initiated in 2017, the Forest Service has elected to continue using the previous NEPA regulations, 1978, as amended in 1986 and 2005.

<sup>7</sup> The proposed ROW on National Forest System (NFS) lands in the Peters Mountain area is approximately from mileposts 196.2 to 197.8 and 198.3 to 198.4. On NFS lands in the Brush Mountain area it is approximately from mileposts 218.5 to 219.4 and 219.8 to 220.7.

<sup>8</sup> The BLM's 2017 decision to authorize a ROW across the USACE land was not vacated by the United States Court of Appeals for the Fourth Circuit and remains in place.

after consultation with the agencies. BLM's implementing regulations require the concurrence of Federal agencies administering these lands prior to BLM's issuance of ROWs or permits through the Federal lands involved. In 2017, the BLM received written concurrence for the Project from both Federal agencies and on December 20, 2017, issued a Record of Decision (ROD) approving the MLA ROW grant to construct, operate, and maintain the MVP across Federal lands (BLM 2017). The BLM ROD included a temporary use authorization to allow the proponent to use and occupy the land necessary to construct the pipeline.

On December 1, 2017, the Forest Service adopted the FERC FEIS and a ROD was signed by the JNF Forest Supervisor (Forest Service 2017). The ROD amended the January 2004 Jefferson National Forest Revised Land and Resource Management Plan (Forest Plan) to modify certain Forest Plan standards that precluded the use of standard pipeline construction methods for the MVP. The ROD included resource protection terms and conditions that would condition the Forest Service's concurrence for the Project, should BLM decide to grant a ROW.

Project implementation on NFS lands began in March 2018 and continued until July 27, 2018<sup>9</sup> when the Court vacated and remanded the Forest Service's decision approving the Forest Plan amendment based on violations of the National Forest Management Act (NFMA) and NEPA. The Court also vacated and remanded BLM's MLA ROW decision for the portion through NFS lands based on a violation of the MLA.

The Court found the 2017 Forest Service ROD violated NEPA because the agency was arbitrary and capricious in adopting the sedimentation analysis in the FERC FEIS. The Court found the Forest Service failed to properly conduct an independent review of the FERC FEIS and ensure that the agency's concerns regarding the sedimentation analysis were satisfied as required under 40 CFR § 1506.3(c).

In the 2018 Ruling, the Court also found that the Forest Service, in amending Forest Plan standards with the 2017 ROD, did not comply with its regulations for implementing NFMA, because the agency failed to properly identify which of the Forest Service's 2012 Planning Rule (Planning Rule) requirements were directly related to the amended standards as required under 36 CFR § 219.13(b)(5). The Court found that BLM's decision approving the MLA ROW across the JNF failed to comply with the MLA (30 U.S.C. § 185(p)) because the BLM did not analyze and determine whether the proposed route utilized ROWs in common (i.e., colocation with other existing ROWs) to the extent practical. However, the Court did not vacate the ROW across USACE lands, and that ROW grant remains in place. The Court also upheld the BLM's adoption of and reliance on FERC's FEIS as satisfying the requirements of NEPA.

In response to the July 2018 Fourth Circuit opinion, the Forest Service prepared a Draft SEIS in September 2020 and a Final SEIS in December 2020. On January 11, 2021, the Forest Service issued a ROD, signed by the United States Department of Agriculture (USDA) Undersecretary for Natural Resources and the Environment, amending the Jefferson Forest Plan by modifying 11 plan standards to accommodate the pipeline. On January 14, 2021, the BLM issued a ROD granting a 30-year pipeline ROW in the JNF. Both the Forest Service's and BLM's RODs were challenged and on January 25, 2022, the Fourth Circuit again vacated and remanded both the Forest Service's and BLM's RODs. The Fourth Circuit found that 1) the Forest Service and BLM inadequately considered the actual sedimentation and erosion impacts of the pipeline; 2) the

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<sup>9</sup> As of December 2021, approximately 271.9 miles of the 303.5 miles of pipe has been installed and backfilled and 169.3 miles of land along the pipeline ROW is in final restoration.

Forest Service and BLM prematurely authorized the use of the conventional bore method to construct stream crossings; and 3) the Forest Service failed to comply with the Planning Rule.

On August 13, 2021, FERC published an Environmental Assessment (EA) analyzing Mountain Valley Pipeline, LLC's (Mountain Valley's) request to change the crossing method of specific waterbodies and wetlands from open-cut dry crossings to trenchless (i.e., conventional bore, guided conventional bore, or DirectPipe<sup>®</sup>) methods. The EA addressed 120 crossings in 12 counties in Virginia and West Virginia. On April 8, 2022, after consideration of public comments received on the EA, the FERC issued an order amending MVP's certificate to allow the use of trenchless (e.g., conventional bore) waterbody and wetland crossings at 120 locations along the MVP route. The FERC EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval<sup>10</sup> for conventional bore stream crossings on the JNF (FERC 2020b).

On February 3, 2022, the Fourth Circuit vacated the 2020 U.S. Fish and Wildlife (FWS) Biological Opinion (BO) that covered the entire 303.5-mile-long pipeline, including NFS lands. Specifically, the Fourth Circuit found that the FWS did not "adequately analyze the environmental context for the Roanoke logperch and candy darter" while assessing project impacts. FWS was directed to evaluate the environmental baseline which is the existing condition of the listed fish species or its critical habitat in the action area as well as the cumulative effects of future State or private activities that are reasonably certain to occur within the action area. While the Fourth Circuit did not specifically address claims concerning the Indiana bat in its decision, the Court recommended that the FWS further explain why it anticipates no effects to the Indiana bat from clearing more than 1,000 acres of suitable but unoccupied summer bat habitat. On February 28, 2023, the FWS issued a new BO to address additional data and to ensure use of the best scientific and commercial data available.

On March 28, 2022, Mountain Valley filed an amended MLA ROW application with the BLM, amending its prior application accepted as complete on May 1, 2020 (MVP 2022c). On August 5, 2022, the BLM deemed Mountain Valley's amended application complete (43 CFR § 2884.11). Information on the background and history of the MVP project is available [on the project website](#).

On June 24, 2022, Mountain Valley filed a motion requesting a four-year extension to the FERC Order Issuing Certificates and Granting Abandonment Authority (Certificate) for the MVP project. On August 23, 2022, the FERC granted the request and extended that deadline to October 13, 2026 (FERC 2022). The Certificate for the MVP project was originally issued by the FERC on October 13, 2017 and had been extended by two years in an October 9, 2020 FERC order. The October 13, 2026 deadline for the current four-year extension is to complete construction of the Project and place the Project facilities into service (FERC 2020a).

The FERC is responsible for authorizing interstate natural gas transmission facilities, as specified in Section 311(e)(1) of the Energy Policy Act of 2005 and the Natural Gas Act (NGA). Pursuant to the Energy Policy Act of 2005 Section 313(b)(1), the FERC is the lead federal agency for the coordination of all applicable federal authorizations (FERC 2017 pp. 1-11 to 1-12).

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<sup>10</sup> On October 27, 2020, Mountain Valley filed a request to change the crossing technique for NFS streams from an open-cut dry ditch method to conventional bores to reduce potential sedimentation impacts in the JNF. The FERC approved the request to modify the proposed crossing method for streams on NFS lands but did not authorize construction; construction remains contingent on other outstanding federal authorizations.



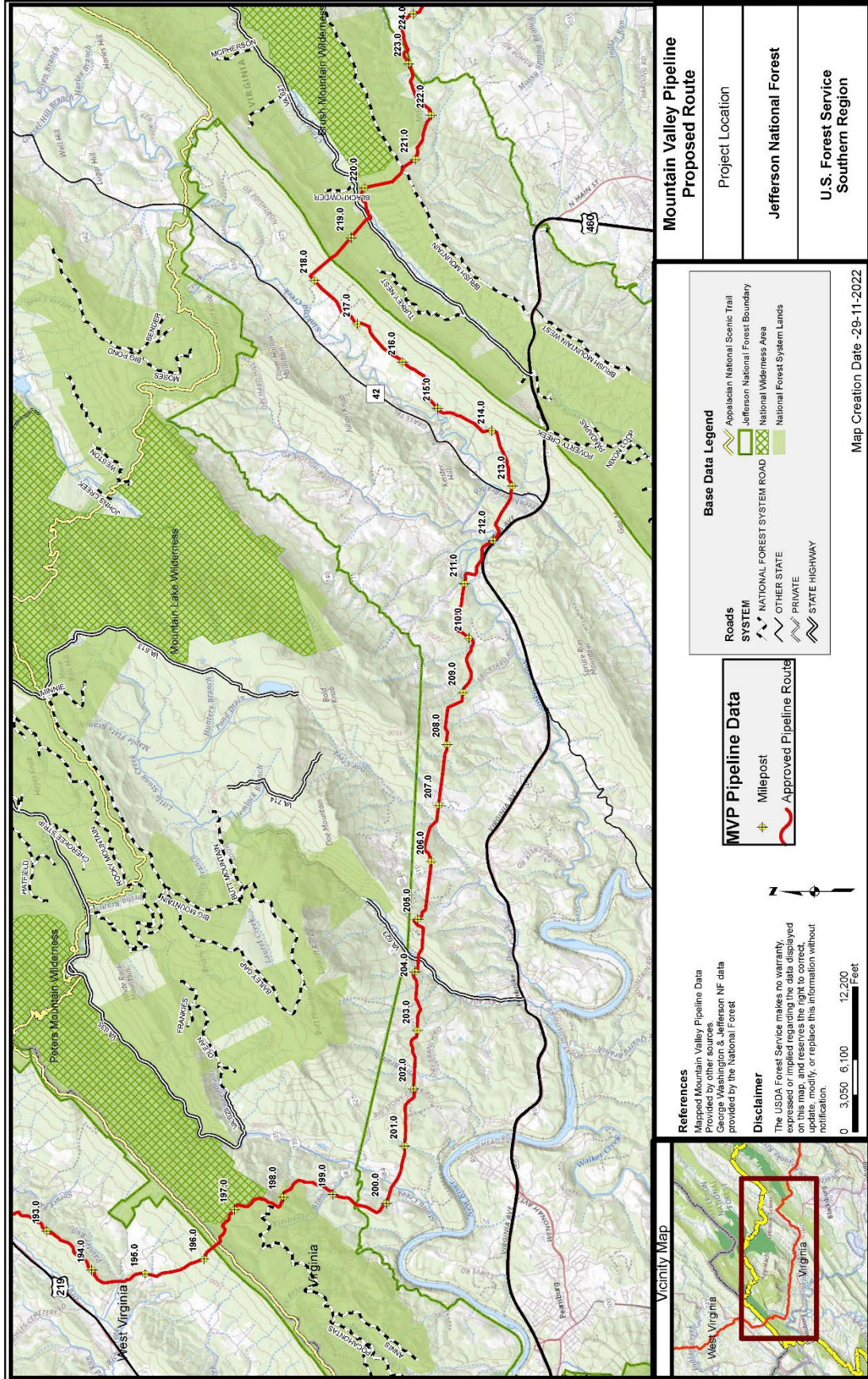


Figure 1. Project Location on the Jefferson National Forest

Jefferson National Forest

## 1.3 Purpose and Need for Action

The overall purpose of the MVP project is described in the FERC FEIS and is generally to transport natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States. Specific description of the purpose of the MVP project is found in the FERC FEIS, pages 1 to 8. Despite the remand of the 2017 and 2021 Forest Service RODs and the BLM's corresponding MLA ROW decisions, the Project purpose articulated in the FERC FEIS remains unchanged.

The Forest Service's purpose and need for the proposed action is to respond to a proposal from Mountain Valley to construct and operate a buried 42-inch interstate natural gas pipeline that would cross NFS lands on the JNF along a proposed 3.5-mile corridor within the approximately 712,500-acre JNF. A Forest Service decision is needed because the Project as proposed is inconsistent with several Forest Plan standards without a project-specific amendment to the JNF Forest Plan. Relatedly, there is a need to determine what terms and conditions, or stipulations, should be provided to the BLM to protect resources and the public interest consistent with the MLA, 30 U.S.C. 185(h). Consistent with the Forest Service's plan amendment, the BLM would grant a ROW and a temporary use permit (TUP) under the MLA, 30 U.S.C. § 185, for the Project to cross the JNF.

A supplemental analysis and new decision from the Forest Service are needed because the Fourth Circuit vacated both the 2017 and 2021 Forest Service RODs. In its opinion published on January 25, 2022, the Court identified NFMA and NEPA issues. To resolve the Court's issues, there is a need, at a minimum, to consider information about actual sedimentation and erosion impacts, consider FERC's 2021 EA of the use of trenchless boring for crossing streams, and comply with the Forest Service 2012 Planning Rule soil and riparian resources requirements at 36 CFR § 219.8. Additionally, there is a need to consider new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts since the development of the 2020 FSEIS and the Forest Service ROD that was signed in January 2021.

The BLM's purpose and need is to respond to Mountain Valley's revised MLA ROW application for the MVP project to construct and operate a natural gas pipeline across NFS lands consistent with the MLA, 30 U.S.C. § 185 and BLM's implementing regulations, 43 CFR Part 2880. Under the MLA, the BLM has responsibility for reviewing Mountain Valley's ROW application and issuing a decision on whether to approve, approve with modifications, or deny the application. The BLM's review of the ROW application will focus, in part, on the Forest Service supplemental analysis for NFS lands. A decision to approve the application would require the Forest Service's concurrence, and the ROW would include terms provided by the Forest Service to protect resources and the public interest.

## 1.4 Proposed Action

The Proposed Action includes the following interrelated components:

- Terms and conditions, or stipulations, provided by the Forest Service to the BLM to protect resources and the public interest consistent with the MLA, 30 U.S.C. § 185(h).
- Amendment of the Forest Plan.
- Issuance of a ROW Grant / TUP by the BLM.
- Construction, operation, and maintenance of a 42-inch natural gas pipeline.

### **1.4.1 Project-Specific Forest Plan Amendment**

Eleven Forest Plan standards on the JNF are proposed to be modified to allow the Project to be consistent with the Forest Plan, which would allow the BLM to grant a ROW. Standards include: FW-248 (utility corridors); FW-5 (revegetation); FW-8 (soil compaction in water saturated areas); FW-9 (soil effects from heavy equipment use); FW-13 (exposed soil); FW-14 (residual basal area within the channeled ephemeral zone); 11-003 (exposed soil within the riparian corridor); 6C-007 (tree clearing); 6C-026 (utility corridors in the old growth management area); 4A-028 (Appalachian National Scenic Trail [ANST] and utility corridors); and FW-184 (scenic integrity objectives).

In addition, the Forest Service proposes to incorporate portions of the 2022 plan of development (POD) as a Forest Plan standard specific to the MVP temporary and authorized ROW.

The Forest Service's Planning Rule at 36 CFR § 219.13(b)(2) requires responsible officials to provide notice of which substantive requirements of 36 CFR §§ 219.8 through 219.11 are likely to be directly related to the amendment. Whether a Planning Rule provision is directly related to an amendment is determined by any one of the following: the purpose for the amendment, a beneficial effect of the amendment, a substantial adverse effect of the amendment, or a substantial lessening of plan protections by the amendment (36 CFR § 219.13(b)(5)).

Based on those criteria, the substantive Planning Rule provisions that are directly related to the modified standards are: § 219.8(a)(1) – ecosystem integrity; § 219.8(a)(2)(ii) – soils and soil productivity; § 219.8(a)(2)(iii) – water quality; § 219.8(a)(2)(iv) – water resources in the plan area, including lakes, streams, and wetlands; ground water; public water supplies; sole source aquifers; source water protection areas; and other sources of drinking water (including guidance to prevent or mitigate detrimental changes in quantity, quality, and availability) (hereafter referred to as “Water resources”); § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies; § 219.9(a)(1) – Ecosystem integrity; § 219.9(a)(2) – ecosystem diversity; § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character; § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas; and § 219.11(c) – timber harvest for purposes other than timber production.

### **1.4.2 BLM Issuance of a ROW and Temporary Use Permit**

The Proposed Action for BLM is the issuance of a ROW through the JNF to allow for the construction, operation, and maintenance of the MVP. The issuance of the ROW includes any terms and conditions (including stipulations) (43 CFR § 2885.11) that are required for protection of resources and the public interest. In accordance with 43 CFR Part 2880, Mountain Valley is required to provide the BLM with a final POD which details and guides how the pipeline construction, operation, and maintenance would be conducted. An updated POD was provided by MVP in June 2022.

The BLM is required to obtain the concurrence of the Forest Service before the BLM may issue the ROW grant across NFS lands. The BLM decision for the ROW grant across Federal lands would be documented in a ROD issued by the BLM. Additionally, if the BLM decides to issue a ROW, the BLM would issue a TUP in association with the ROW authorizing the use of temporary workspace outside of the authorized ROW that is needed for ancillary construction



needs on the JNF during the construction phase and other activities associated with implementation. This TUP authorization on NFS lands also requires Forest Service concurrence.

The environmental effects of a ROW or TUP depend upon how the ROW will be used. In this instance, the TUP and ROW effects would be the effects caused by the construction, operation, and maintenance of a pipeline and the implementation of stipulations.

### 1.4.3 Construction, Operation, and Maintenance of a Pipeline

In response to the purpose and need, the Forest Service would provide terms and conditions for construction, operation, and maintenance actions listed below. The terms would be submitted to the BLM for inclusion in the ROW grant. Forest Service concurrence would be needed for the temporary use during construction and for the BLM's issuance of the 30-year ROW grant.

Actions that need terms and Forest Service concurrence include:

- The use of a 125-foot-wide temporary construction ROW (54 acres) for pipeline installation and trench spoil<sup>11</sup>. Once construction is complete, the MVP would retain an approximately 50-foot-wide<sup>12</sup> authorized ROW (22 acres) to operate the pipeline.
- Construction of a 42-inch diameter pipeline across 3.5 miles of the JNF.
- Installation of surface pipeline markers to advise the public of pipeline presence and cathodic pipeline protection test stations<sup>13</sup> that are required by Department of Transportation (DOT).

The pipeline would be designed, constructed, operated, and maintained in accordance with DOT regulations under 49 CFR Part 192 and other applicable Federal and State requirements. Mountain Valley would comply with siting and maintenance requirements under 18 CFR § 380.15 and other applicable Federal and State regulations and implement various forms of mitigations as defined in 40 CFR § 1508.20. Mountain Valley would implement FERC's general construction, restoration, and operational mitigation measures as outlined in FERC's Upland Erosion Control Revegetation and Maintenance Plan (FERC Plan) (FERC 2013a) and Wetland and Waterbody Construction and Mitigation Procedures (FERC Procedures) (FERC 2013b). Construction plans include FERC-approved modifications to FERC Procedures and more details can be found in Section 2.4.1.1 of the 2017 FERC FEIS (FERC 2017a).

An integral part of the proposed action is the POD, which guides pipeline construction, operation, and maintenance and provides details from the applicant/proponent regarding the Project it is applying for on Federal lands (30 USC § 185(h)(2)). The POD was developed with and reviewed by Forest Service and BLM resource specialists. The POD was updated in June 2022 and describes the Project, its location, and dimensions from the initial construction phase through post-construction operations and maintenance. The POD includes resource mitigation for reducing or eliminating effects to resources. It also describes any temporary or short-term use

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<sup>11</sup> A TUP authorizes use of the temporary construction ROW. The temporary ROW at waterbody crossings and riparian buffer areas is 75 feet wide.

<sup>12</sup> The width of the authorized ROW is 50 feet (including the ground occupied by the pipeline).

<sup>13</sup> Cathodic protection test stations provide an aboveground access point that allows technicians to monitor the cathodic protection system, which protects the metal pipe from corrosion. A cathodic protection test station consists of electrical cables housed in an approximately 4-inch diameter plastic conduit that extends 3 to 4 feet above the ground. Locations are identified in Appendix A-1 of the POD. The DOT requires test stations to be located approximately every mile, on both sides of water body crossings, on both sides of a paved roadway, and on both sides of a metallic crossing (for example, crossing another pipeline).

areas needed in conjunction with a ROW. All disturbances must be within the boundary of the approved ROW/TUP.

If the BLM approves the MLA ROW for the Project, the POD is incorporated into the ROW grant. Any requests made by the company for activities on NFS lands not included in the final POD must be requested through the variance process outlined in the POD, Appendix N. Any significant, proposed change, including a change outside of the approved ROW grant or construction modification determined to be a substantial deviation, from the Forest Service, would require an amendment to the ROW grant that must be authorized by the BLM consistent with 43 CFR 2887.10. If accepted, the variance (or amended ROW grant) becomes an amendment to the POD. The amendment must be approved prior to the activity taking place (POD Appendix N).

As required by the MLA (30 U.S.C. § 185(w)), the BLM must notify Congress of its intention to grant the ROW together with detailed findings regarding the BLM's proposed terms and conditions it will impose in the ROW grant. At that time, a Final POD must be submitted by Mountain Valley before BLM can issue the grant. Upon Project approval, the POD is considered finalized, and any requests made by the company for activities on NFS lands not included in the final POD or that fall outside of the ROW must be requested to the FERC as a variance, with concurrence from the Forest Service and/or BLM. If accepted, the variance becomes an amendment to the POD. The amendment must be approved prior to the activity taking place (POD Appendix N).

Prior to issuing a ROD to grant a ROW, the BLM is required to submit a notice to Congress with detailed findings regarding the BLM's proposed terms and conditions it will impose in the ROW grant. At that time, a Final POD must be submitted by Mountain Valley before BLM can move forward with issuing the grant.

The updated (June 2022) POD can be found by viewing documents posted [on the project website](#).

#### **1.4.3.1 Additional Information on the Proposed Action**

See Section 2.2.2 for additional details on the proposed action alternative, including the existing and proposed modification of the Forest Plan standards.

## **1.5 Decision Framework**

For the Forest Service, the responsible official is the Under Secretary, U.S. Department of Agriculture, Natural Resources and Environment. For the BLM, the responsible official is the Eastern States State Director.

### **1.5.1 Forest Service**

The FERC, as the lead Federal agency for interstate proposals under the NGA, prepared the 2017 FERC FEIS to assess the environmental effects that were predicted to occur from constructing, operating, and maintaining the MVP and issued its decision in the Certificate on October 13, 2017 (FERC 2017d). The Forest Service was a cooperating agency under NEPA to the 2017 FERC FEIS. For this FSEIS and its issues specific to NFS land, the role of the Forest Service has changed to the lead agency. Although the Forest Service's role is now lead agency, the Fourth Circuit affirmed the Forest Service's limited role in the broader MVP project stating "the Forest Service was tasked with determining whether to amend its Forest Plan, and whether to join in the

BLM's decision to grant a right of way. It was *not* tasked with approving the Project as a whole – nor could it under the Natural Gas Act.”<sup>14</sup>

Given the purpose and need, the Forest Service responsible official will review the proposed action including the 2022 POD, alternatives, the terms and conditions, the environmental consequences that would be applicable to NFS lands, public comments, and the Project record that has been supplemented since 2017 in order to make the following decisions: (1) Whether to approve a Forest Plan amendment that would modify 11 standards and add one standard in the Forest Plan; (2) Should the Forest Service approve a Forest Plan amendment, determine what terms and conditions should be included with the Forest Service concurrence for the Project; (3) Whether to adopt all or portions of the FERC FEIS that is relevant to NFS lands in this FSEIS; and (4) Whether to concur with the grant of a ROW.

## 1.5.2 Bureau of Land Management

Consistent with the MLA, 30 U.S.C. § 185 and BLM's implementing regulations, 43 CFR Part 2880, the BLM will review Mountain Valley's ROW application, the FERC FEIS, 2020 FSEIS, and this FSEIS to determine whether to approve, approve with modifications, or deny the MLA ROW application and temporary use authorization through the NFS lands. As a cooperating agency, the BLM intends to rely on and adopt this FSEIS for its decision, as long as the analysis provides sufficient evidence to support the decision. Before issuing a decision on Mountain Valley's application, the BLM would need the Forest Service's written concurrence. The Forest Service may condition its concurrence for the BLM by including any terms and conditions that are deemed necessary to protect resources and otherwise protect the public interest consistent with 30 U.S.C. § 185(h); 43 CFR § 2885.11. As noted earlier, the BLM and Forest Service will be issuing separate RODs.

## 1.6 Public Involvement

The 2017 FERC FEIS, Section 1.4 (pp. 1-27 to 1-38) and 2020 FSEIS (pp. 24 to 26) document the public involvement that occurred from April 2015 through the 2020 FSEIS comment period that ended on November 9, 2020 and are incorporated by reference. In summary, thousands of comments were received during public involvement periods that span the FERC Environmental Impact Statement (EIS) and Forest Service SEIS processes. The topics that generated the most interest and concerns during the FERC EIS process included water quality and aquatic resources, socioeconomics, public health and safety, and geology and soils. Topics commonly raised in comments on the 2020 DSEIS included water quality, aquatic species, soils, public health and safety, and the Forest Plan amendment process.

The Notice of Intent (NOI) for this project was published in the FR on November 17, 2022 (87 FR 68996). The NOI announces the onset of the NEPA process for this project.

Scoping, a requirement for an EIS (40 CFR § 1501.7 (1978, as amended in 1986 and 2005); 36 CFR § 220.4(c)(1)), was completed and summarized in the FERC FEIS (Section ES-1.4).

White House Council on Environmental Quality (CEQ) regulations do not require scoping for an SEIS (40 CFR § 1502.9(d)(3)). Written comments relevant to NFS lands were addressed in the FERC FEIS, particularly in Section 3.4 (Route Alternatives) and Section 4.0 (Environmental Analysis). Accordingly, as identified in the Forest Service 2022 NOI, scoping will not be repeated, and this FSEIS will focus on the topics identified by the Court and any changed

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<sup>14</sup> *Sierra Club Inc., et al. v. United States Forest Serv.*, 897 F.3d 582, 600 (4th Cir. 2018) (emphasis in original).

circumstances or new information. Additional opportunities for public comment will be provided when the draft SEIS is available.

Additionally, the Forest Service 2022 NOI served as the public notice of the proposed MLA application required by the BLM's MLA implementing regulations at 43 CFR § 2884.20(a).

On December 23, 2022, the Notice of Availability for the Draft SEIS was published in the FR (87 FR 78961). The publication of the Notice of Availability initiated a 45-day comment period that was scheduled to end on February 6, 2023. In response to public comments, the Forest Service extended the comment period two weeks until February 21, 2023 (88 FR 8843). Approximately 364 comment letters, 9,100 form letters, and 53,781 signatures submitted via petitions were received during the 60-day comment period. Timely comments were given full consideration and were analyzed for substantive content (40 CFR §§ 1503.3 and 1503.4). Content from analysis of comments yielded 225 statements which summarized the concerns expressed through public comment. These concern statements and agency responses can be found in Appendix F of this FSEIS. The responses to comments are a part of this FSEIS.

Literature and references submitted with public comments were reviewed for consideration. Where new information was found, it was assessed and, in some cases, resulted in changes to this FSEIS. Changes between the DSEIS and this FSEIS are disclosed in Section 1.7.

The support and opposition to the MVP project remains a constant since the 2017 FERC FEIS. This is not a changed condition or new information which requires supplementation in the Forest Service's 2020 FSEIS.

## **1.7 Changes Between the DSEIS and FSEIS**

A number of changes, corrections, and clarifications from the DSEIS were made based on public comments and internal reviews. The most notable changes are summarized below. Minor edits and corrections are not included in this list.

- Clarification included revising the ROW width from 53.5 feet to approximately 50.0 feet (throughout FSEIS)
- Clarifications regarding the affected acres of old growth forest in the temporary versus authorized ROW (throughout FSEIS)
- Addition of a new Forest Plan component as part of the Proposed Action (throughout FSEIS). Alternative 2 in the DSEIS proposed the entire POD and its appendices in all eleven modified standards. In this FSEIS, an MVP-specific Forest Plan standard has been added to incorporate only specific POD appendices that address the directly related substantive requirements (36 CFR § 219.13(5)) and the modified standards only exempt the Project and do not include the POD. The MVP-specific Forest Plan standard is proposed because the 2012 Planning Rule requires additional plan component(s) if a directly related substantive requirement is not meeting the Planning Rule within the scope and scale of the amendment. Although the Forest Service believes the directly related substantive requirements are adequately applied by the Forest Plan, as amended, the addition of the MVP-specific standard ensures the directly related substantive requirements are applied per direction of the 2012 Planning Rule. In addition, the Forest Service recognizes the importance of the POD for managing environmental impacts and wants to highlight this importance through the addition of a standard solely focusing on

the POD. This addition responds to public comments received on the DSEIS to add plan components as part of the proposed amendment. The specific appendices included were the appendices which specifically addressed the directly related substantive requirements in which the measures in the appendices could minimize impacts to the resource in question. The inclusion of only specific POD appendices and not the entire POD responds to public comments received on the DSEIS that inclusion of the entire POD was vaguely referenced (throughout FSEIS).

- Additional information about comments and literature provided through public comment (Section 1.6)
- Disclosure of changes made to the DSEIS in response to comments (Section 1.7)
- Improved organization and articulation of amendments, plan components, substantive requirements, and the Planning Rule (Sections 2.2.2.1 and 3.3.4 and Appendix A)
- Information about the 2023 FWS BO (Sections 2.2.2.2 and 3.3.3)
- Consideration of alternatives recommended in public comments on the DSEIS (Section 2.3)
- Addition of carbon sequestration analysis (Section 3.2.1)
- Additional information about the review of data and information related to water resources (Section 3.3.2)
- Information about new ESA species designations (Section 3.3.3)
- Expanded discussion of potential cumulative effects (Section 3.4)
- The DSEIS erroneously disclosed that the MVP project corridor would cross 0.5 acres of land with an assigned Very High SIO. This was due to GIS mapping errors, and there are no areas of Very High SIO within the MVP construction zone or right-of-way (Section 3.3.4 and Appendix A)
- In the DSEIS substantive requirement 219.8(a)(1) – Ecosystem integrity was identified as directly related through the purpose of modifying standards 6C-007 and 6C-026. This was a typographical error and should have been 219.9(a)(1) (Section 3.3.4 and Appendix A)
- Improved organization of Chapter 4
- Revised Appendix B – USGS Water Quality Monitoring Stations
- Addition of Appendix E – Statistical Analysis of USGS In-Stream Water Quality Data
- Addition of Appendix F – Agency Response to Comments
- Addition of Appendix G – Agency Correspondence



## 1.8 Changes Between the 2020 FSEIS and 2022 DSEIS

The Forest Service and the BLM reviewed the 2020 FSEIS and comments received on the 2020 DSEIS to identify any changed circumstances or new information that should be analyzed in this 2023 FSEIS. The majority of the analyses within the 2020 FSEIS are still applicable and relevant, however, there are some portions of the analyses that warrant supplementation because of changed circumstances or new information, and are analyzed in this FSEIS, including:

- The ROW on NFS lands continues to be monitored and ECDs maintained as needed.
- There has been continued regrowth of early successional vegetation within the MVP ROW on Peters Mountain.
- There have been changes to past, present, and reasonably foreseeable future projects within the watersheds that comprise the cumulative effects analysis spatial boundary.
- Beginning in 2021, MVP conducted sediment monitoring in two watersheds off NFS lands per the terms and conditions of the 2020 FWS BO.
- The FERC issued the Mountain Valley Pipeline Amendment Project EA (2021 FERC Boring EA) in August 2021 assessing effects of conventional boring for waterbody crossings.
- The Fourth Circuit remanded the Forest Service and BLM RODs on January 25, 2022.
- The FWS revised the list and status of several Federally listed species. FWS issued a new BO on February 28, 2023.
  - Endangered Species Act (ESA) Changes:
    - Critical Habitat for the candy darter (*Etheostoma osburni*) was designated on April 7, 2021 and became effective on May 7, 2021 (86 FR 17956).
    - The Atlantic pigtoe (*Fusconaia masoni*) was listed as Threatened under the ESA and Critical Habitat was designated on December 16, 2021.
    - On November 29, 2022, the FWS reclassified the northern long-eared bat (*Myotis septentrionalis*) from Threatened to Endangered under the ESA.
    - On September 13, 2022, the FWS proposed to list the tricolored bat (*Perimyotis subflavus*) as Endangered, and a decision is expected September 2023.
    - Running buffalo clover (*Trifolium stoloniferum*) was delisted from the ESA on August 6, 2021.
  - The Forest Service is in the process of revising the list of Region 8 Regional Forester Sensitive Species (RFSS).
    - Draft Updated RFSS Changes:
      - Four species are proposed to be added: Tennessee dace (*Chrosomus tennesseensis*), American bumble bee (*Bombus pensylvanicus*), little brown bat (*Myotis lucifugus*), and American ginseng (*Panax quinquefolius*).

- Ten species are proposed to be removed: Sickie darter (*Percina williamsi*), Appalachia bellytooth (*Gastrodonta fonticula*), highland slitmouth (*Stenotrema altispira*), crossed dome (*Ventridens decussatus*), Rafinesque’s big-eared bat (*Corynorhinus rafinesquii*), brown supercoil (*Paravitrea septadens*), delicate vertigo (*Vertigo bollesiana*), cupped vertigo (*Vertigo clappi*), Allegheny cave amphipod (*Stygobromus allegheniensis*), and Avernus cave beetle (*Pseudanophthalmus avernus*).
- In October 2022, the Forest Service and BLM conducted a site visit on NFS lands, including a review of all NFS stream crossings to verify existing conditions and Transcon monitoring report findings.

## 1.9 Scope of Analysis

The scope of analysis refers to the proposed action, alternatives to the proposed action, and potential effects that the Forest Service will consider in this FSEIS. This FSEIS supplements the analysis in the FERC 2017 FEIS and the Forest Service 2020 FSEIS. The scope of analysis for this FSEIS seeks to address the deficiencies identified in the Fourth Circuit’s January 2022 decision and new circumstances and relevant information since December 2020 (i.e., the date of the Forest Service FSEIS) until present identified by the Forest Service or the BLM that are relevant to the environmental concerns, decision framework, and have a bearing on the proposed action or its effects, including those identified in Section 1.8 above.

This FSEIS is developed in response to the changed condition of the vacatur of the decisions and other new circumstances and relevant information (40 CFR § 1502.9(1)(ii)). In January 2022, the Fourth Circuit found the Forest Service’s January 2021 ROD to be in violation of NEPA and NFMA. This FSEIS responds to the Court-identified deficiencies which were:

- The Forest Service failed to account for real-world data suggesting increased sedimentation along the pipeline route. The Court remanded the Forest Service “to consider the [U.S. Geological Survey] USGS data and any other relevant information indicating that the modeling used in the EIS may not be consistent with data about the actual impacts of the Pipeline and its construction.”
- The Forest Service improperly applied the Planning Rule (36 CFR Part 219) in the Forest Plan amendment. Specifically, the Court found the Forest Service did not “properly apply the 2012 Planning Rule’s soil and riparian resources requirements to the Pipeline amendments” (36 CFR § 219.8).
- The Forest Service improperly evaluated and approved the use of the conventional bore method for the four streams on the JNF. The Court’s remand states, “the Forest Service and the BLM improperly approved the use of the conventional bore method for the four streams in the [JNF] without first considering FERC’s analysis.”

This FSEIS also contains an independent agency review of new circumstances and relevant information, including the 2022 Supplement to the Biological Assessment (SBA), the February 27, 2023 FWS letter<sup>15</sup>, and the February 28, 2023 FWS BO (MVP 2022b, FWS 2023a, FWS 2023b).

<sup>15</sup> On February 27, 2023, the FWS responded to the January 26, 2023 letter from FERC providing updated determinations of effects for proposed and listed species and proposed and designated critical habitat under the ESA.

As stated in the Decision Framework (Section 1.5), the scope of the Forest Service’s decision is limited to determining whether to amend the JNF Forest Plan, determine what terms and conditions should be included with the Forest Service concurrence for the Project, whether to concur with the grant of a ROW, and whether to adopt all or portions of the 2017 FERC FEIS that is relevant to NFS lands in this FSEIS. The BLM’s decision is limited to whether, based on the existing record, to grant a ROW to MVP on the JNF and what terms and conditions should be associated with the ROW if granted. The FERC, and not the Forest Service or BLM has authority to review and approve the Project consistent with the Natural Gas Act (15 U.S.C. § 717 *et seq.*). Thus, the scope of analysis is similarly narrow and limited to the proposed Forest Plan amendment and those effects emanating from the JNF related to the January 2022 Court-identified deficiencies, changed circumstances, or new information. Actions outside of NFS lands are beyond the jurisdiction of the Forest Service and are covered in the 2017 FERC FEIS. Actions outside of Federally administered lands subject to the MLA are not within the jurisdiction of the BLM and are covered in the 2017 FERC FEIS.

## **1.10 Issues**

This FSEIS focuses only on key issues that are relevant to the decisions to be made by the Forest Service and the BLM that have not already been analyzed in the 2017 FERC FEIS or 2020 FSEIS.

Key issues that are the focus of this FSEIS analysis, including those identified by the Court, are: (1) consideration of sedimentation and erosion real-world data related to the Project; (2) compliance with the 2012 Planning Rule (36 CFR Part 219); and (3) analysis of the conventional bore method to construct stream crossings. The following sections disclose how the Agencies will determine whether each Issue has been adequately addressed in this FSEIS.

### **1.10.1 Issue 1: Erosion and Sedimentation Data**

The Court ruled that the Forest Service violated NEPA by failing to consider real-world data and information about actual erosion and sedimentation impacts.<sup>16</sup>

This FSEIS contains an independent review of information about actual erosion and sedimentation impacts. See Section 3.3.2 for this review.

### **1.10.2 Issue 2: Forest Plan Amendment – Purpose and Effect and Consistency with the Planning Rule and the NFMA**

The Court ruled that the Forest Service did not “properly apply the 2012 Planning Rule’s soil and riparian resources requirements to the Pipeline amendments.”

This FSEIS provides a qualitative description of the purpose of the amendment within a scope and scale context, a qualitative and quantitative effects analysis of the plan components’ relation to substantive requirements, and a qualitative disclosure of consistency with the Planning Rule (NFMA). See Section 3.3.4 and Appendix A for this analysis.

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<sup>16</sup> Specifically, the Court remanded the Forest Service to “consider the USGS data and other relevant information indicating that the modeling used in the EIS may not be consistent with data about the actual impacts of the Pipeline and its construction.” Wild Virginia v. United States Forest Serv., 24 F.4th 915, 920 (4th Cir. 2022).

### **1.10.3 Issue 3: Conventional Boring Stream Crossing Method**

The Court ruled that “the Forest Service and the BLM improperly approved the use of the conventional bore method for the four streams in the [JNF] without first considering FERC’s analysis.”

This FSEIS includes an independent agency review of the 2021 FERC Boring EA analysis regarding conventional boring stream crossing methods and its applicability to stream crossings on the JNF. See Appendix C for a summary of this review.

## **1.11 Other Related Efforts**

NEPA directs “to the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with...other environmental review laws and executive orders” 40 CFR § 1502.25(a).

The FERC remains the lead agency for consultation with the FWS on the entire pipeline. Mountain Valley would have to comply with applicable provisions of the reasonable and prudent measures and terms and conditions in the 2023 FWS BO (FWS 2023a). The 2023 FWS BO noted at the end of its Opinion that the petitioners in the Fourth Circuit FWS litigation related to MVP submitted materials to the FWS, including new materials that had not previously been submitted. These materials came too late to be considered during consultation and addressed in BO. As a result, FERC and the other action agencies including the Forest Service were requested by FWS to assess whether the materials contain any new information that might prevent them from relying on this BO to meet their obligations under Section 7 of the ESA. On March 29, 2023, FERC submitted a letter to FWS responding to the 2023 BO. FERC concluded that the new materials do not contain any new information that would change FERC’s effects determinations regarding proposed and listed species and proposed and designated critical habitat, which were included in its January 26, 2023 letter to FWS. FERC also concluded that the information in the comments from outside parties does not affect the findings or methodologies supporting the Biological Assessment. Consequently, FERC concluded that reinitiation of Section 7 consultation is not warranted.

The Forest Service has conducted its own independent review of the materials submitted to the FWS and determined that they do not contain new information that might prevent the Forest Service from relying on the BO as part of its NEPA analysis. The Forest Service has also reviewed the materials in the context of species on JNF lands or those with the potential to be indirectly affected off JNF lands. The Forest Service has concluded that the materials submitted do not change the effects analysis in this SEIS for threatened and endangered species.

The FERC remains the lead agency for compliance with Section 106 of the National Historic Preservation Act (NHPA). FERC and the other cooperating Federal agencies, including the Forest Service and the BLM, together with tribal governments, executed a single Programmatic Agreement (PA) with the West Virginia and Virginia State Historical Preservation Offices, which reflects the obligations for compliance with the NHPA (FERC 2017b). Under the PA, FERC has responsibility to ensure that the stipulations in the PA are followed and that any required cultural resource treatment plans for sites on NFS lands have been completed. The Forest Service and BLM will continue to fulfill their obligations as directed by the PA – see Section 4.2.

## **1.12 Adoption, Tiering, and Incorporation by Reference**

This FSEIS tiers to the 2017 FERC FEIS and the 2020 FSEIS and incorporates by reference the associated project records. In addition, this FSEIS tiers to the FEIS supporting the 2004 JNF Forest Plan and incorporates by reference the Forest Plan. Finally, this FSEIS incorporates by reference the 2021 FERC Boring EA regarding the use of conventional boring methods for stream crossings and incorporates by reference the 2022 POD as part of the Proposed Action in this FSEIS (40 CFR § 1502.21).

## 2 Alternatives, Including the Proposed Action

### 2.1 Introduction

This chapter describes and compares the alternatives considered for the Forest Service and BLM decisions related to MVP.

The alternatives presented in this FSEIS reflect the narrow scope and decision space the Forest Service and BLM have in context of the broader FERC decision.

### 2.2 Alternatives Considered in Detail

The Forest Service includes the No Action Alternative as required by the NEPA regulations and the Proposed Action alternative developed to respond to the purpose and need for the Project.

#### 2.2.1 Alternative 1 – No Action

The No Action Alternative is unchanged from the 2020 FSEIS (p. 33). In summary, under the No Action Alternative, the Forest Plan would not be amended, and no concurrence would be provided to the BLM for granting of a ROW across NFS lands for the construction and operation of the MVP. The current Forest Plan would continue to guide management of NFS lands in the Project area.

The Forest Service would require Mountain Valley to remove pipes<sup>17</sup> and associated staging materials and restore the JNF project area to as close to the pre-project condition as practicable or possible.

#### 2.2.2 Alternative 2 – The Proposed Action

As described in detail in the 2020 FSEIS (pp. 33 to 45), under the proposed action, the Forest Service would amend the Forest Plan as necessary to allow for the MVP to cross the JNF and concur in a decision by the BLM to grant a ROW and a TUP under the MLA. Changes to the Proposed Action since publication of the 2020 FSEIS include using a conventional bore method for crossing the four streams on NFS lands (the potential use of dry-ditch open trench methods is no longer under consideration). The ROW grant and TUP would incorporate relevant portions of the 2023 FWS BO (for example, portions related to species [e.g., listed bats] which have the potential to be affected by activities on NFS lands) (FWS 2023a).

Consistent with the Forest Service's plan amendment, the Forest Service would provide concurrence and the BLM would grant a ROW and a TUP under the MLA, 30 U.S.C. § 185, for the Project to cross the JNF. The MLA ROW would include terms and conditions, or stipulations, to protect resources and the public interest consistent with the MLA, 30 U.S.C. § 185(h). The construction and operation and maintenance actions that would be addressed in these terms and conditions include:

- Construction of a 42-inch pipeline across 3.5 miles of the JNF.
- The use of a 125-foot-wide temporary construction ROW for pipeline installation and trench spoil. Once construction is complete, the MVP would retain a 50-foot-wide authorized ROW to operate the pipeline.
- Installation of surface pipeline markers to advise the public of pipeline presence and cathodic pipeline protection test stations that are required by DOT.

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<sup>17</sup> All pipes on NFS lands are currently stored aboveground on wood cribbing; no pipes have been buried on NFS lands.  
Jefferson National Forest

Implementation of the Proposed Action is contingent upon adhering to the Forest Service-approved POD and FERC’s general construction, restoration, and operational mitigation measures as outlined in the FERC Plan (FERC 2013a), FERC Procedures (FERC 2013b), and other Federal and State regulatory agency requirements.

Table 1 displays the acres and miles of NFS lands that would be required for the construction, operation, and maintenance of the MVP.

**Table 1. NFS Lands Required for MVP Construction, Operation, and Maintenance**

<b>Area</b>	<b>Units Impacted*</b>
NFS lands crossed	3.5 miles
125-foot-wide temporary construction ROW	54 acres <sup>1</sup>
50-foot-wide <sup>2</sup> authorized ROW	22 acres

\* Rounded to the nearest tenth of a mile (source: MVP 2022a) or nearest whole acre

<sup>1</sup> Includes authorized ROW acreage

<sup>2</sup> The width of the authorized ROW is 50 feet (including the ground occupied by the pipeline)

Upon termination of the grant of the ROW and TUP, all facilities on Federal lands would be decommissioned in accordance with an abandonment plan that would be reviewed and approved by the BLM, Forest Service, and FERC. At that time, additional NEPA review may be necessary. Any aboveground pipeline facilities or markers would be completely removed, and the associated location would be restored to as close to the pre-project condition as practicable or possible. The underground pipe would be purged of gas, cleaned, isolated from interconnections with other pipelines, sealed, and left in place.

### 2.2.2.1 Forest Plan Amendment

The MVP project as proposed would be inconsistent with 11 standards in the Forest Plan. The Forest Service proposes a project-specific amendment to modify the 11 standards to meet the requirement that the MVP project is consistent with the Forest Plan. The proposed amendment would exempt the MVP project from complying with the 11 modified standards and would apply to the 54 acres of the construction zone (i.e., temporary construction ROW) and ultimately the 22 acres of the ROW grant.

The Forest Service also proposes to add a Forest Plan component, specifically a project-specific standard that would formalize affirmative requirements and restrictions on the implementation of MVP.

Standards denoted with an “FW” are Forest-wide standards. Standards that begin with a numeral (e.g., 11-003) apply to a specific management prescription or area as identified in the Forest Plan. For example, “11-003” is a Plan standard that applies to Management Prescription 11 (Riparian Corridors). The following standards are proposed to be modified:

**FW-5 (revegetation)** - On all soils dedicated to growing vegetation, the organic layers, topsoil and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years (JNF Forest Plan, p. 2-7).

FW-5 would be modified to the following: On all soils dedicated to growing vegetation, the organic layers, topsoil and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years, *with the exception of the MVP construction zone and right-of-way.*

**FW-8** (soil compaction in water saturated areas) - To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit. Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling (JNF Forest Plan, p. 2-7).

FW-8 would be modified to the following: To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit, *with the exception of the MVP construction zone and right-of-way*. Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling.

**FW-9** (soil effects from heavy equipment use) - Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5% or less (JNF Forest Plan, p. 2-7).

FW-9 would be modified to the following: Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5% or less, *with the exception of the MVP construction zone and right-of-way*.

**FW-13** (exposed soil) - Management activities expose no more than 10% mineral soil in the channeled ephemeral zone (JNF Forest Plan, p. 2-8).

FW-13 would be modified to the following: Management activities expose no more than 10% mineral soil in the channeled ephemeral zone *with the exception of the MVP construction zone and right-of-way*.

**FW-14** (residual basal area within the channeled ephemeral zone) - In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian dependent resources (JNF Forest Plan, p. 2-8).

FW-14 would be modified to the following: In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian-dependent resources, *with the exception of the MVP construction zone and right-of-way*.

**FW-184** (scenic integrity objectives) - The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses). Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO (JNF Forest Plan, p. 2-48).

FW-184 would be modified to the following: The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses), *with the exception of the MVP construction zone and right-of-way*. Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO.

**FW-248** (utility corridors) - Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Prescription 5B or 5C (JNF Forest Plan, P. 2-60).

FW-248 would be modified to the following: Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Prescription Area 5B or 5C, *with the exception of the MVP construction zone and right-of-way*.



**4A-028** (Appalachian National Scenic Trail [ANST] and utility corridors) - Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project (JNF Forest Plan, p. 3-23).

4A-028 would be modified to the following: Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist, *with the exception of the MVP construction zone and right-of-way*. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.

**6C-007** (tree clearing in the old growth management area) - Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation (JNF Forest Plan, pp. 3- 82 to 3-83).

6C-007 would be modified to the following: Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation, *with the exception of the MVP construction zone and right-of-way*.

**6C-026** (utility corridors in the old growth management area) - These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses are allowed to continue (JNF Forest Plan, p. 3-84).

6C-026 would be modified to the following: These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites, *with the exception of the MVP construction zone and right-of-way*. Existing uses are allowed to continue.

**11-003** (exposed soil within the riparian corridor) - Management activities expose no more than 10% mineral soil within the Project area riparian corridor (JNF Forest Plan, p. 3-182).

11-003 would be modified to the following: Management activities expose no more than 10% mineral soil within the Project area riparian corridor, *with the exception of the MVP construction zone and right-of-way*.

In addition to modifying the above standards, the Forest Service is proposing to add a Forest Plan component, specifically a project-specific standard that would require adherence and implementation of specific POD appendices during the construction and restoration phases of the Project. A Forest Plan standard is a mandatory constraint on project and activity decision making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (36 CFR § 219.7(e)(1)(iii)). Although the Forest Service believes the directly related substantive requirements are adequately applied by the Forest Plan, as amended, the addition of the MVP-specific standard ensures the directly related substantive requirements are applied per direction of the 2012 Planning Rule. In addition, the Forest Service recognizes the importance of the POD for managing environmental impacts and wants to highlight this importance through the addition of a standard solely focusing on the POD. The Forest Service proposes to incorporate portions of the POD as a Forest Plan standard specific to the MVP construction zone and ROW with the following standard:

**MVP-Specific Standard** – To ensure the directly related substantive requirements are applied and minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction and restoration phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan).

### 2.2.2.2 Mitigation and Compliance Monitoring

The 2022 POD contains mitigation, detailed project design features, best management practices (BMPs), and compliance monitoring requirements that are an integral part of the Proposed Action regarding the construction, operation, and maintenance of the MVP project on Federal lands.

As described in the 2020 FSEIS (pp. 43 to 44), the conventional bore stream crossing method would follow the procedures and engineering drawings in the Water Crossing Plans (POD Appendix K) and measures in the stream crossing method variance request (MVP 2020a) to minimize adverse effects. More information on stream crossings is presented in Chapter 3.

The ROW grant and TUP would incorporate reasonably prudent measures, terms and conditions, and monitoring and compliance reporting requirements that apply to actions on NFS lands. Appendix V (Plant and Wildlife Conservation Measures Plan) in the 2022 POD contains conservation measures and BMPs for plants and wildlife. The measures in Appendix V are summarized below.

- Design temporary workspace to avoid streams, wetlands, and other sensitive wildlife habitat.
- Implement the Project-specific Erosion and Sediment Control Plan (see POD Appendices C-1 to C-3).
- Maintain surface and ground water quality using appropriate erosion control practices and best management practices.
- Comply with the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (May 2013).
- Install erosion control measures prior to earth disturbance activities.
- Develop and implement a Project-specific Spill Prevention, Control, and Countermeasure Plan (see POD Appendix D).
- Commit to tree-clearing activity outside of June-July to minimize impacts to non-volant, juvenile bats.
- Provide information to individuals involved in project construction on how to avoid and minimize potential effects to Threatened and Endangered species.

Per Section 6.4.3 of the POD, the Forest Service would designate an Authorized Officer to oversee the Project within the JNF. The Authorized Officer is responsible for administering and enforcing stipulations and mitigation measures during Project construction, operation, and maintenance.

Mountain Valley will continue to fund third-party compliance environmental inspectors/monitors for pipeline construction, access road upgrades, and aboveground facility construction. These monitors will report directly to the Forest Service, BLM, and FERC. Their role and responsibility is to ensure compliance with all terms, conditions, and stipulations of the ROW Grant, FERC's Certificate, and other permits, approvals and regulatory requirements as described in Table 1.5-1 of the 2017 FERC FEIS. The

environmental inspectors/monitors shall follow the Environmental Compliance Management Plan included in the POD (Attachment A, Appendix N). Mountain Valley will also be responsible for funding third-party monitoring of the reclamation and stabilization of the pipeline over the long term. Included in this requirement, among other things, is the yearly monitoring of the ROW for invasive plants and, if necessary, treating as outlined in the Exotic and Invasive Species Control Plan and Herbicide Use Plan included in POD Appendices S and T of the POD, respectively (Attachment A).

The Forest Service will continue to monitor implementation of the mitigation measures on NFS lands to assure that the terms and conditions of the ROW grant issued by BLM are carried out (40 C.F.R. § 1505.3) and that impacts from construction and operation of the pipeline on federal lands are minimized to the extent possible. As during initial construction activities, compliance monitors will be present on a full-time basis to inspect construction procedures and mitigation measures and provide regular feedback on compliance issues to the Forest Service, FERC, and the BLM. Objectives of the compliance monitoring program are to facilitate the timely resolution of compliance issues in the field; provide continuous information to the Forest Service and FERC regarding noncompliance issues and their resolution; and review, process, and track construction-related variance requests

The Forest Service has the broad authority as outlined in Appendix N to issue a stop work order as outlined in the BLM Right-of-Way Grant. Forest Service will also for the Project on NFS lands in the event of serious non-compliance that could reasonably be expected to result in a risk of death or harm to persons or repeated violations of environmental requirements that have a detrimental effect to sensitive resources (ROW Grant and POD, Appendix N – Environmental Compliance Management Plan)(see also 43 CFR § 2886.11).

In addition, the 2023 FWS BO contains reasonable and prudent measures, terms and conditions, and monitoring and reporting requirements that Mountain Valley is required to undertake (FWS 2023a, pp. 285 to 293).

### **2.2.2.3 Permits, Approvals, and Regulatory Requirements**

As disclosed in the 2020 FSEIS, Section 1.5 of the 2017 FERC FEIS contains a description of the permits, approvals, and regulatory requirements that must be met or obtained by Mountain Valley. The Certificate (FERC 2017d) also contains detailed language about required permits, licenses, and agency approvals associated with construction, operation, and maintenance of the Project. For example, the FWS issued Project requirements as part of the 2023 Biological Opinion, Virginia and West Virginia would issue State permits related to stormwater discharges and the Clean Water Act, the USACE would issue permits for impacts to jurisdictional waters, and the FERC would continue coordinating Section 106 NHPA compliance requirements.

## **2.3 Alternatives Considered but Dismissed from Detailed Analysis**

In response to comments, the Forest Service evaluated new alternatives for the Project. These alternatives were considered but dismissed from detailed analysis.

**Programmatic Amendment to the Forest Plan** – This alternative would add Plan components (standards and guidelines) within the vicinity of the MVP project that would apply to all future projects in perpetuity, unless another future project-specific amendment provided exemptions or a revision occurs. This alternative was considered but dismissed from detailed analysis because of the expected minor long-term impacts from MVP and overall, there were no direct additional benefits to resources from a programmatic amendment.

**Amending Forest Plan to Include Certain Plan of Development (POD) Appendices as a Forest Plan Guideline** – This alternative was considered but dismissed from detailed analysis because the agency recognized the importance of the provisions for soils, water quality, riparian areas, and the ANST. Lowering these provisions from a standard to a guideline does not reflect the importance of ensuring the substantive requirements related to these resources are met.

**Use of Compensatory Mitigation** – This alternative would require the proponent to provide compensatory mitigation to fund restoration projects or parcel acquisition outside of the ROW. This alternative was dismissed from detailed analysis because specific opportunities identified for compensatory mitigation were either unavailable, too speculative, and/or lacked a clear nexus to the impacted NFS lands and resources.

Although not specific to the JNF and not part of the 2021 Revised Historic Property Treatment Plan, the MVP voluntarily entered into a three-party agreement in August of 2020 to mitigate potential adverse effects on the ANST, a compensatory mitigation action (FERC 2021). The voluntary agreement that was revised in 2021 states MVP will provide up to \$19.5 million to the ATC for actions that would benefit the ANST trail users and local trail-dependent business (MVP 2021).

## 2.4 Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in Table 2 is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. Effects from implementing the modified Forest Plan standards (see Section 3.4.4) would be the same as the effects from implementing the Proposed Action.

**Table 2. Comparison of Alternatives**

	<b>Alternative 1 – No Action</b>	<b>Alternative 2 – Proposed Action</b>
Water Resources	Effects would be as described in the 2017 FERC FEIS, the 2020 FSEIS, and the 2023 FSEIS: While the Project area would be restored to as close to the pre-project condition as practicable or possible, and Erosion Control Devices (ECDs) would continue to be maintained and monitored, minor adverse short-term and long-term impacts on water resources would occur.	Short-term effects would be minor, which is consistent with the conclusions in the 2017 FERC FEIS, the 2020 FSEIS, and 2023 FSEIS. The use of a conventional bore method would reduce effects on the four streams on NFS lands. Effects on water resources would be minimized through implementation of measures in the POD, such as BMPs and the use of ECDs as modeled in Revised Universal Soil Loss Equation, Version 2 (RUSLE2). Long-term impacts would be associated with post-construction restoration and operation and would be minor in intensity, which is consistent with the conclusions in the 2017 FERC FEIS, the 2020 FSEIS, and the 2023 FSEIS. The USGS data and other relevant information considered in this FSEIS do not indicate that the modeling used in the 2020 FSEIS is inconsistent with data about the actual impacts of the pipeline and its construction.

**Table 2 (continued). Comparison of Alternatives**

	<b>Alternative 1 – No Action</b>	<b>Alternative 2 – Proposed Action</b>
Threatened, Endangered, and Sensitive Species	Effects would be as described in the 2020 FSEIS and 2023 FSEIS: No detrimental effects to Threatened and Endangered species would occur as a result of the No Action Alternative beyond those which already occurred during the partial pipeline implementation. Long-term effects would be minor and beneficial as restoration activities would return the Project area to as close to the pre-project condition as practicable or possible.	A total of five ESA-listed species, one species proposed for ESA-listing, and three RFSS are analyzed in this FSEIS and could be affected by the MVP in the JNF. The Forest Service determined that the MVP may affect or is likely to adversely affect four species: candy darter, Roanoke logperch, Indiana bat, and northern long-eared bat. Formal consultation with the FWS would determine appropriate mitigation measures for potential effects to Federally listed species. The Forest Service determined that the Project would have No Impact or would be unlikely to cause a Trend Toward Federal Listing or Loss of Viability for RFSS. Implementation of required conservation measures in the POD would help reduce Project effects on Threatened, Endangered, and Sensitive species.

**Table 2 (continued). Comparison of Alternatives**

	<b>Alternative 1 – No Action</b>	<b>Alternative 2 – Proposed Action</b>
National Forest Management Act	As disclosed in the 2020 FSEIS and 2023 FSEIS, there would be no effects.	<p><u>Utility Corridors.</u> Short- and long-term minor beneficial effect to the local and regional economy from increased employment and demand for services during construction and an increased tax base.</p> <p><u>Soil and Riparian.</u> Minor adverse effects of vegetation removal, erosion and sedimentation, soil compaction, soil porosity, runoff potential, soil fertility, revegetation potential, and soil carbon budget.</p> <p><u>Old Growth Management Area.</u> The Project would result in the clearing of about 5.2 acres of old growth within areas designated as 6C. Although this is an adverse impact to old growth ecosystems, it is not a substantial adverse impact due to the limited extent of the impact (about 2 out of 30,200 acres of old growth acres forest-wide).</p> <p><u>Appalachian National Scenic Trail.</u> Temporary minor adverse effects to trail users would occur from noise, dust, and visual intrusions from crossing the pipeline underneath the ANST via a 600-foot-long bore. The long-term effects would be minor due to an approximate 300-foot buffer on either side of the trail and vegetative screening of the bore holes. There are about 30,700 acres of the JNF allocated to Management Prescription 4A (Appalachian National Scenic Trail); approximately 2.5 acres of the ROW are within 4A, which is less than 0.01% of all 4A acres on the JNF.</p> <p><u>Scenery Integrity Objectives.</u> The Project would result in degradation of scenic quality inconsistent with the JNF Forest Plan SIOs. Although this is an adverse effect to scenery, it is not a substantial adverse effect due to the limited extent of the Project crossing the JNF (FERC FEIS p. 4-347), because SIOs should be met within five years, the Project’s proposed mitigation measures that would apply to temporary workspace, and the temporary and authorized ROW that are found in the updated POD (Section 7.9).</p> <p><u>MVP-Specific Standard.</u> The addition of this standard would result in increased protection levels for soils, water, riparian areas, the ANST, and scenery resources.</p>

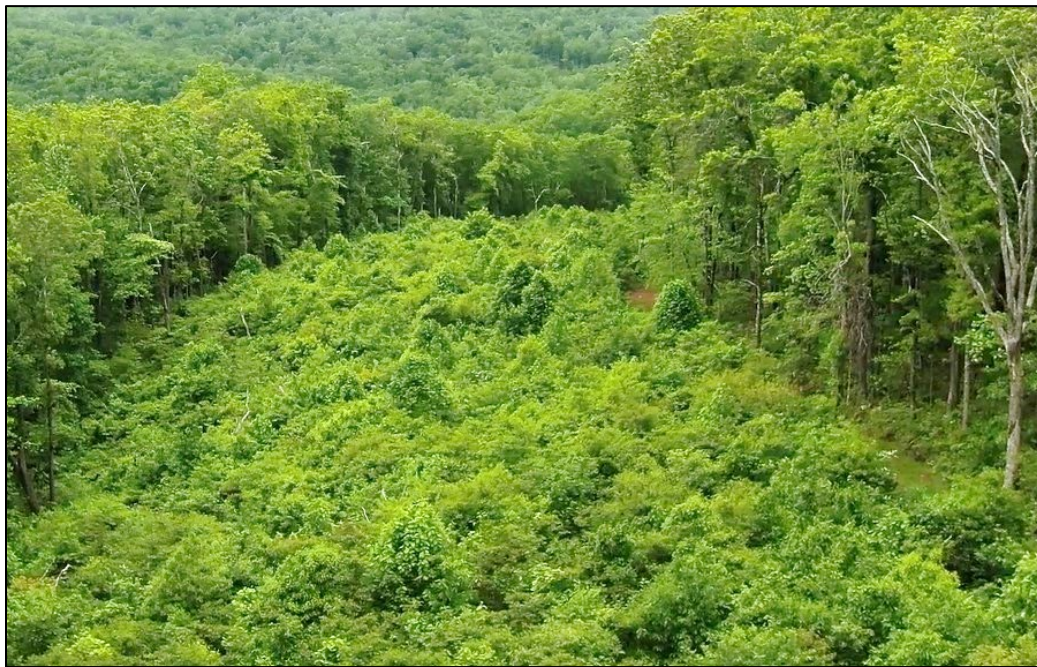
## 3 Affected Environment and Environmental Consequences

### 3.1 Introduction

This chapter combines the affected environment and environmental consequences discussions required by the NEPA implementing regulations (40 CFR §§ 1500-1508). The analysis is limited to providing the background information necessary for understanding how the FSEIS alternatives may affect the resource compared to that which is disclosed in the 2017 FERC FEIS and 2020 FSEIS.

This FSEIS supplements the information provided in the 2017 FERC FEIS and 2020 FSEIS to reflect current conditions and focuses on the potential effects that could occur from implementation of this Proposed Action and the No Action Alternative.

As described in Section 1.2, construction on NFS lands has been partially implemented. Portions of the ROW on NFS lands were cleared of trees between March and April 2018. On Sinking Creek and Brush Mountain NFS lands, the trees were felled and removed, and the ROW has been graded. On Peters Mountain, the trees were felled but not removed from the ROW (approximately 26.2 acres). Natural regeneration (regrowth) of early successional vegetation is occurring on the Peters Mountain portion of the ROW (Figure 2). Grading activities on Sinking Creek and Brush Mountain include the stockpiling of topsoil. The ROW on Sinking Creek and Brush Mountain has been reseeded and maintained with herbaceous cover. No trenching has occurred on NFS lands. ECDs have been installed along the ROW on NFS lands where rough grading and timber removal has occurred.

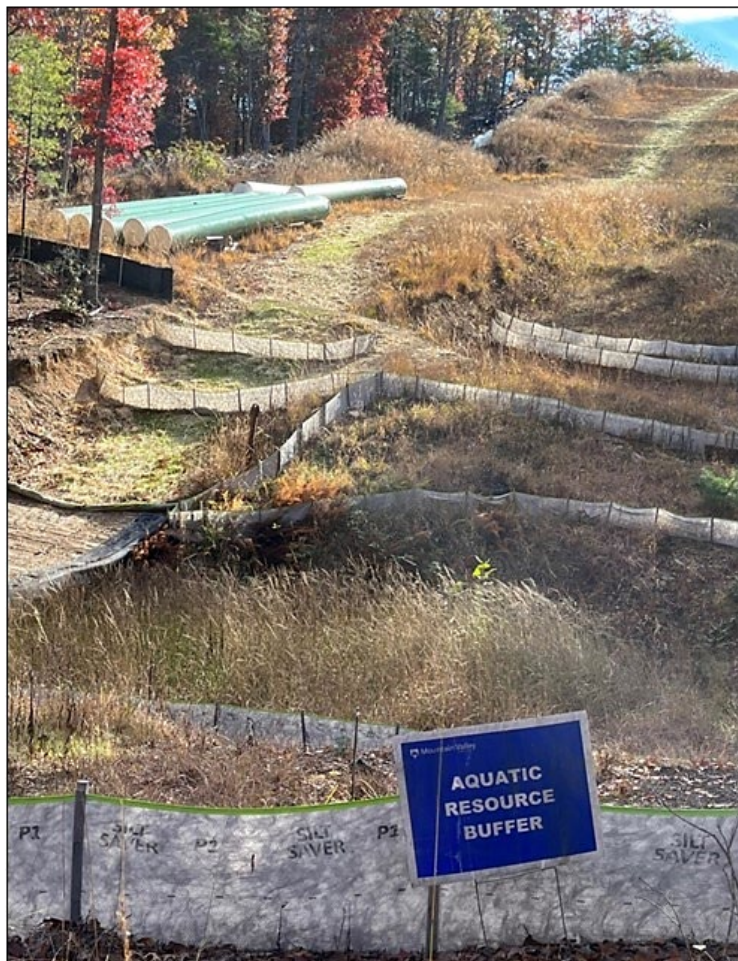


**Figure 2. Continued Vegetation Regrowth on Peters Mountain (June 2022).**

Since 2018, stabilization efforts implemented on the ROW include stockpiling topsoil and stabilizing disturbed areas of the ROW with organic materials and temporary vegetation to decrease erosion and sedimentation. In 2018, annual grasses and native perennial forbs/grasses were planted. In 2019, the areas were reseeded with a mix that included annual grasses, two or more native perennial grasses, and



partridge pea (a perennial forb). In 2019 and 2022, hydroseeding was applied to ensure continued herbaceous cover along the ROW on Brush Mountain and Sinking Creek Mountain. Sections of pipe have been delivered to the ROW and are being stored and anchored aboveground. Wooden cribbing used to support the sections of pipe on Brush Mountain is repaired/maintained as needed. Figure 3 displays a representative segment of ROW on NFS lands.



**Figure 3. Representative Photo of ROW and ECDs on Brush Mountain (October 2022).**

ROW conditions, including ECDs, are monitored multiple days per week. Review of monitoring reports and on-site Forest Service review continue to show that the ROW on NFS lands is stable and ECDs are functioning as intended (Transcon 2018-2022). Enhanced ECDs were incorporated where appropriate as part of the monitoring program. Since construction commenced in 2018, enhanced measures have been implemented in response to high precipitation events and other site-specific conditions identified during monitoring. These include the following:

- Hydraulically applied or pelletized mulch/tackifier was used, upgraded from a less protective stabilization measure.
- Site-specific seed mix was spread to help stabilize the ROW in a temporary state.
- Waterbar end treatments were upgraded from single compost filter sock (CFS) to triple stack CFS and increased length of CFS for better filtration of runoff.
- Standard silt fence was upgraded to Priority 1 belted silt retention fence.

- Erosion control blankets were installed in flow path and at the outfall end treatments of waterbars (in areas with erosive soils).
- Temporary slope drainpipes were installed to convey waterbar discharge across fill slopes where the ROW is benched, among other enhancements.
- Rock lined channels were utilized for control of runoff.
- Additional sumps were installed to aid sediment retention.
- Temporary slope breakers were adjusted to better control stormwater runoff.

## 3.2 Resources Not Brought Forward for Detailed Analysis

The Forest Service and the BLM reviewed the 2017 FERC FEIS, 2020 FSEIS, comments received on the 2020 DSEIS, 2021 FERC Boring EA, and the list of changes in Section 1.8 of this FSEIS to identify if there are new circumstances or information relevant to concerns and bearing on the Proposed Action or its effects (40 CFR § 1502.9(d)(1)(ii)). For the resources listed below, the analyses in the 2017 FERC FEIS and 2020 FSEIS are still applicable and relevant, and the terms and conditions incorporated into the 2017 FERC FEIS analyses remain adequate. Each section below contains an analysis of the 2021 FERC Boring EA as it relates to each resource. Citations for more detailed analysis are provided in each section.

### 3.2.1 Air Quality, Climate, and Noise

Air quality, climate, and noise were analyzed in the 2017 FERC FEIS (Section 4.13.2.7; p. 4-514; Table 4.11.1-5; pp. 4-532, 4-539, and 4-551) and 2020 FSEIS (pp. 68 to 69). In summary, the 2020 FSEIS found that, with mitigation (2017 FERC FEIS, Sec. 4.11.1.2, 2020 FSEIS, pp. 68-69), the operation and end-use combustion emissions resulting from the Project would be the same as described in the 2017 FERC FEIS (p. 4-514); that neither the emissions from the Project nor the general information related to projected climate change impacts differ substantially from the analysis in the 2017 FERC FEIS; and that noise effects on NFS lands under either alternative in this FSEIS would be similar, or less than, those described in the 2017 FERC FEIS. Mitigation to reduce noise effects is found in the 2017 FERC FEIS in Section 4.11.2 and 4.11.2.3 and the 2020 FSEIS (p. 69). The Forest Service examined the net change in carbon sequestration from maintaining the 22-acre authorized ROW in a mix of shrub and herbaceous cover. Estimates of carbon stocks in the felled trees were estimated based on a review of Forest Service General Technical Report NRS-202 (Standard Estimates of Forest Ecosystem Carbon for Forest Types of the United States; Hoover et. al 2021), published November 2021. The Report provides estimates of carbon stocks by forest community type and tree age, which were identified through review of the 2016 tree survey report for the MVP on NFS lands (ESI 2016). Prior to tree clearing, the authorized ROW was estimated to have contained 2,131 tons of total non-soil carbon, including 1,611 tons of live tree carbon. The authorized ROW is 50 feet wide (40 feet of which would be planted in shrub species and 10 feet in herbaceous cover), estimated to contain 30 tons of live plant carbon. The 2017 FERC FEIS addressed change in carbon sequestration due to clearance of trees (2017 FERC FEIS, Section 4.13.2.7) and this discussion of net change in carbon sequestration in the JNF was included in the 2017 FERC FEIS estimations.

The 2021 FERC Boring EA (pp. 67 to 88) analyzed the effects of conventional boring stream crossings on air quality, climate, and noise. In summary, the FERC found that conventional bore methods would lead to a temporary and short-term increase in construction emissions and construction noise. The Forest Service performed an independent agency review of the 2021 FERC Boring EA and determined that its effects analysis is consistent with effects anticipated on NFS lands because the nature and type of stream crossings on NFS lands would be similar to those analyzed in the 2021 FERC Boring EA for the MVP as a whole. Noise effects on NFS lands would be less than those elsewhere along the pipeline route because

there are fewer sensitive noise receptors (e.g., residences, schools, hospitals, churches) on NFS lands than on private lands (including residential areas as discussed on p. 55 of the 2021 FERC Boring EA). Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.2 Public Health and Safety**

Effects on public health and safety within the Project area would be similar to those analyzed in the 2017 FERC FEIS (Section 4.12; pp. 4-567, 4-568, and 4-571 to 4-574) and the 2020 FSEIS (pp. 69 to 70). Because the MVP has been partially constructed on NFS lands, the potential effects on public health and safety under either alternative would be similar to those described in the 2017 FERC FEIS but would occur over a shorter period of time and in fewer locations. The 2017 FERC FEIS and 2020 FSEIS analyses remain accurate and the effects of implementing the No Action Alternative and Proposed Action in this FSEIS are consistent with those described in the 2017 FERC FEIS. As described in the 2017 FERC FEIS (p. 4-566), the installation of cathodic test stations and line markers, entirely contained within the operational ROW as required by the DOT, would help prevent encroachment and excavation-related damage to pipelines after construction is complete. Wood cribbing holding pipeline segments has been monitored and repaired as needed. Mitigation includes following DOT's Minimum Federal Safety Standards in 49 CFR 192, having PHISMA oversight, applying the 2022 POD Appendix F: Landslide Mitigation Plan, and by having compliance monitors who would be present on a full-time basis during construction to inspect procedures and report on the adequacy of mitigation measures (2017 FERC FEIS, Section 4.12).

The 2021 FERC Boring EA (p. 89) concluded that effects on public health and safety from the use of conventional bore stream crossing methods would not differ from the originally proposed dry-ditch open cut crossing method. The Forest Service agrees with this conclusion because the MVP must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192 and other applicable Federal and State regulations. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.3 Heritage Resources**

Effects on heritage resources were analyzed in the 2017 FERC FEIS (pp. 4-468 to 469) and the 2020 FSEIS (p. 70). The 2020 FSEIS concluded that "all responsibilities under NHPA Section 106 for the involved regulatory agencies" were addressed in a PA and associated Treatment Plan for the mitigation of adverse effects to site 44GS0241. The 2020 FSEIS's assessment remains accurate as to the effects of the Proposed Action and No Action Alternative, and no further analysis is required.

The 2021 FERC Boring EA (pp. 57 to 67) analyzed the effects of conventional boring stream crossing methods on heritage resources, concluding that no changes to the PA are required and that Mountain Valley would adhere to its Discovery Plan for unanticipated discoveries (2022 POD, Appendix O). The Forest Service has determined that effects associated with conventional boring to cross streams on NFS lands would be the same as for dry-ditch open cut methods because both methods would be subject to the PA and its associated requirements for mitigating adverse effects. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.4 Mineral Resources**

Effects on mineral resources were analyzed in the 2017 FERC FEIS (pp. 4-65 to 4-66) and the 2020 FSEIS (pp. 70 to 71). The analysis concluded that the MVP would not affect future oil and gas exploration or production. This assessment remains accurate as to the effects of the Proposed Action and No Action Alternative, and no further analysis is required.

The 2021 FERC Boring EA (p. 22) concluded that the effects of conventional bore stream crossing methods on mineral resources would be the same as for dry-ditch open cut methods and that no further analysis was needed. The Forest Service has determined that this conclusion is accurate for NFS lands because there are no reasonably foreseeable future oil and gas wells within the MVP ROW. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.5 Socioeconomics**

Effects on socioeconomics and environmental justice were analyzed in the 2017 FERC FEIS (p. 4-280) and 2020 FSEIS (p. 71). In summary, there would be fewer socioeconomic benefits under the No Action Alternative because restoration would not require as many employees as construction (Proposed Action). The 2017 FERC FEIS also found that no census tracts or blocks that would be crossed have minority populations exceeding 50%, and effects on low-income communities would be minimized through short-term employment, spending, and generation of tax revenues that would stimulate the local economy. Mountain Valley identified in their application an increased demand for natural gas, as new environmental regulations result in coal-fired generation plants being converted or replaced by natural gas-fired generation plants (MVP 2022c). This assessment remains accurate as to the effects of the Proposed Action and No Action Alternative, and no further analysis is required.

The 2021 FERC Boring EA (p. 22, p. 57) concluded that the effects of conventional bore stream crossing methods on socioeconomics and environmental justice would be the same as for dry-ditch open cut methods and that no further analysis was needed. The Forest Service determined that this conclusion is accurate for NFS lands because there would be no measurable difference in employment, taxes, or other indicators. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.6 Scenery**

Since publication of the 2020 FSEIS, Giles County has implemented a Virginia Tourism Corporation Grant to promote the New River as a water trail. (The New River is not located on NFS lands.) Attracting visitors to enjoy recreating on the New River is an economic driver for the County. As a result, additional assessment of potential impacts of views from developed boat ramps and points along the New River was conducted to determine if the MVP on NFS lands may be visible from the New River corridor. Using Google Earth Pro© viewshed and ground view simulation features, the Forest Service assessed whether the MVP on NFS lands is visible from the New River. The digital elevation model calculated the pipeline corridor might be seen by a user on the New River at several locations. However, the model assumes the viewshed is not affected by forests or other vegetation that screen views; it assumes a bare earth land cover. This viewshed assessment found that a small portion of the MVP on NFS lands on Peters Mountain with a Moderate SIO may be visible from the New River. Within a Moderate SIO, projects may be noticeable to the casual viewer but should not begin to dominate the characteristic landscape. If visible to viewers, the inferior aspect of the viewer (below the Project) and the angle of the corridor's orientation to the viewer which allows retention trees on the near side of the corridor to partially screen it from view, will result in a diminished appearance of the Project. Other similar appearing utilities on Peters Mountain contribute to the existing landscape character. Therefore, the Project may be visible, but if noticeable to the casual observer recreating on the river, it would not begin to dominate the landscape character. The Project will meet the Moderate SIO as viewed from potentially visible areas along the New River water trail. The conclusions in the 2020 FSEIS remain accurate, and no further assessment is needed.

The 2021 FERC Boring EA (p. 55) concluded that impacts on scenery would be similar to those discussed in the 2017 FERC FEIS. The Forest Service determined that there would be fewer short-term effects on

NFS lands because conventional boring methods would result in less surface disturbance. Long-term effects would be similar to those associated with a dry-ditch open cut crossing because the Project area would be restored to as close to the pre-project condition as practicable or possible. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

Mitigation measures designed to reduce impacts, such as feathering the edges of the ROW, are found in the 2017 FERC FEIS, Section 4.8.2.5 and POD Appendix H (Restoration Plan).

### **3.2.7 Vegetation**

Since publication of the 2020 FSEIS, the Forest Service silviculturist has identified tree of heaven (*Ailanthus altissima*) and princess tree (*Paulownia tomentosa*) growing within the ROW on Peters Mountain. These non-native species and those disclosed in the 2020 FSEIS have previously been and would continue to be removed as described in the POD Appendix S, Exotic and Invasive Species Control Plan. The effects of these removal methods would be consistent with those described in the 2017 FERC FEIS and 2020 FSEIS, as would the effects of the No Action Alternative. As such, a supplemental analysis is not needed. Mitigation that minimizes impacts to vegetation is addressed in the 2017 FERC FEIS, p. 4-187, the 2020 FSEIS Section 3.3.7, and POD appendices H, I, S, T, and V.

The 2021 FERC Boring EA (pp. 43 to 44) concluded that conventional bore stream crossing methods would result in fewer impacts on vegetation because there would be less surface disturbance. The Forest Service determined that this conclusion is consistent with effects on NFS lands because vegetation has already been cleared and conventional boring would avoid impacts to vegetation between the boring pits. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.8 Silviculture**

Since publication of the 2020 FSEIS, tree regrowth has continued within the ROW on Peters Mountain (milepost [MP] 196.2 -198.6). The regenerating forest vegetation on Peters Mountain will have to be cleared for a second time under the Proposed Action (approximately 26.2 acres). (As described in the 2020 FSEIS, the original trees cleared from the ROW on Peters Mountain were left in place due to the stop work order.) As was done in 2018, the second round of tree clearing, primarily non-native species (e.g., princess tree and tree of heaven) would be conducted in accordance with the POD Appendix I, Timber Removal Plan, which includes mitigation measures to minimize impacts. The 2017 FERC FEIS analyzed the Proposed Action including tree felling. The effects of additional tree clearing are expected to remain within the scope and scale of those described in the 2017 FERC FEIS and 2020 FSEIS and would have minor beneficial effect of removing non-native species. In summary, implementation of the Proposed Action would result in minor effects within the Limit of Disturbance (LOD) and a reduced benefit because the felled trees left on Peters Mountain are no longer merchantable. Under the No Action Alternative, regeneration and restoration would occur on both the temporary and authorized ROWs, resulting in a minor long-term benefit to silviculture.

In 2016, potentially affected forests within and adjacent to the LOD were inventoried in accordance with Forest Service protocol. The inventory methodology was reviewed and approved by the Forest Service prior to field work and the Forest Service silviculturist reviewed and ultimately approved the inventory results. Trees were cleared in 2018.

The 2021 FERC Boring EA (p. 19) discloses that trees have already been cut along the entire 303.5-mile pipeline. None of the four stream crossings on NFS lands are in areas where trees would need to be cut; therefore, there are no adverse effects associated with conventional bore stream crossings. Boring under

the ANST on Peters Mountain would require a second round of tree clearing as described above. The effects of this tree clearing are consistent with those described in the 2017 FERC FEIS and 2020 FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings. However, the regrowth of non-native species, princess tree and tree of heaven, would be an adverse effect if left in place.

### **3.2.9 Terrestrial Wildlife**

Effects on terrestrial wildlife were analyzed in the 2017 FERC FEIS (p. 4-210 to 4-211) and the 2020 FSEIS (p. 73). In summary, effects under the No Action Alternative include benefits associated with restoration of the temporary ROW to its pre-project condition, while effects under the Proposed Action include completion of construction and the long-term conversion of the authorized ROW from forest to herbaceous cover and the natural regeneration of temporary workspace from mature forest to an early successional condition. Effects on Threatened, Endangered, and Sensitive (TES) species are disclosed in Section 3.3.3. See Section 4.5.3 in the 2017 FERC FEIS and POD Appendix V for mitigation that would be implemented to reduce impacts.

The 2021 FERC Boring EA (pp. 45 to 48) concluded that the effects of conventional bore crossing methods would be similar to those disclosed in the 2017 FERC FEIS because work would be confined to previously authorized workspaces. The Forest Service determined that effects on NFS lands would be consistent with the FERC's analysis for the same reason. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.10 Aquatic Species**

Effects on aquatic species were analyzed in the 2017 FERC FEIS (pp. 4-139 and 4-220 to 4-223) and the 2020 FSEIS (pp. 73 to 74). In summary, the use of conventional boring and approved permitted ECDs and BMPs would limit potential release of sediment from the ROW to the riparian zone and/or stream channel. This conclusion is consistent with the 2021 FERC Boring EA (pp. 41 to 45) which found that conventional boring (compared to the dry-ditch open cut method) would avoid direct impacts associated with working directly within the aquatic resource, would result in reduced in-stream sedimentation, and would allow for uninterrupted existing streamflow and undisturbed wetland soils and scrub-shrub and herbaceous vegetation. Under the No Action Alternative, the pipeline would not cross streams so there would be no adverse effects. Under the No Action Alternative, aquatic species may experience minor adverse effects in the short term associated with the pipeline removal and restoration efforts and minor beneficial effects in the short and long term as revegetation occurs. See Section 3.3.2 "Water Resources" and Section 3.3.3 "Threatened and Endangered Species" for additional analysis on aquatic species and their habitat. See Section 4.6.2 in the 2017 FERC FEIS, page 4-147 in the FERC Boring EA, and POD Appendices C-1 and C-2 for mitigation that would be implemented to reduce impacts.

### **3.2.11 Soils**

Effects on soils were analyzed in the 2017 FERC FEIS (pp. 4-87 to 4-88) and the 2020 FSEIS (pp. 81 to 89). In summary, under the No Action Alternative, adverse effects on soil resources would be minor and would occur during the restoration period. Under the Proposed Action, there would be minor to moderate adverse effects associated with construction and minor long-term effects associated with post-construction restoration and operation. Since publication of the 2020 FSEIS, there have been no changes to soil resource conditions. Continued monitoring and maintenance of ECDs does not demonstrate a changed condition of the resource. In conclusion, the 2017 FERC FEIS and 2020 FSEIS disclose the soil resource and anticipated effects; a supplemental analysis is not needed. The installation of cathodic test stations and line markers, entirely contained within the operational ROW as required by the DOT, would have no adverse effect on soils because they would not require soil removal or result in bare earth cover.

The 2021 FERC Boring EA (pp. 22 to 26, p. 42) found that effects on soils from conventional boring would generally be similar to those described in the 2017 FERC FEIS and would allow for undisturbed wetland soils. Effects would be minimized by adherence to the POD (Appendices C-1 and C-2), including Erosion and Sediment Control Plans to enhance stockpile stability and protect environmental resources downstream of bore pits and stockpiles. The Forest Service determined that effects on soils on NFS lands would be less than those associated with dry-ditch open cut crossings because conventional boring would result in less overall area of soil disturbance (including avoiding soils in stream channels) and would use Reinforced Filtration Devices (e.g., Priority 1 Silt Fence, Triple Stacked CFS, or Super Silt Fence) as specified in the 2020 Variance Request (MVP 2020a) to minimize the potential for sediment movement. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.12 Geology**

Effects on geology were analyzed in the 2017 FERC FEIS (pp. 4-45 to 4-46) and the 2020 FSEIS (pp. 74 to 78). In summary, restoration under the No Action Alternative would result in negligible adverse effects on geology because there would be no trenching, stream crossings, or other in-ground activities. Under the Proposed Action, the POD incorporated additional industry BMPs as requested by the FERC to minimize the risk of landslides during boring. These conclusions remain accurate, and no further assessment is needed.

The 2021 FERC Boring EA (pp. 22 to 26) analyzed effects of conventional boring on geological resources and concluded that effects would be minimized by using appropriate conventional bore tooling and technology. The Forest Service determined that the 2021 FERC Boring EA analysis is consistent with conclusions in the 2020 FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

Mitigation and monitoring designed to reduce impacts is found in the 2017 FERC FEIS and includes the 2011 Hazard Mitigation Plan, the enhanced BMPs and drains requested by WVDEP for slopes greater than 3:1 (Section 4.1.2.4, 4.1.2.8 and pp. 4-45, 4-53 to 4-55), POD Appendix F (Landslide Mitigation Plan), Appendix J (General Blasting Plan) and Appendix L (Karst Mitigation Plan).

### **3.2.13 Land Use**

Effects on land use on NFS lands were analyzed in the 2017 FERC FEIS (p. 4-325) and the 2020 FSEIS (p. 79). In summary, effects of the Proposed Action and No Action Alternative would be consistent with those disclosed in those analyses. Operation of the MVP would not impact potential future timber operations and would not isolate currently manageable timber tracts. Effects of the Forest Plan amendment are discussed in Section 3.3.4 of this FSEIS.

The 2021 FERC Boring EA (pp. 54 to 55) found that there may be impacts on residential areas from some conventional bore stream crossings for the pipeline as a whole. The Forest Service determined that there would be negligible impacts on land use on NFS lands because there are fewer sensitive receptors near the proposed crossings on NFS lands. Effects of the Forest Plan amendment are discussed in Section 3.3.4 of this FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

### **3.2.14 Recreation and Special Uses**

Effects on recreation and special uses were analyzed in the 2017 FERC FEIS (pp. 4-311 to 4-315) and the 2020 FSEIS (pp. 79 to 80). In summary, partial implementation of the Project on NFS lands has not resulted in changes to recreation or special interest areas, there would be minor and temporary effects on



recreation users from boring under the ANST, and there would be no adverse effects on recreational fishing from conventional bore stream crossings. The effects of the No Action Alternative would be consistent with those disclosed in the 2017 FERC FEIS and 2020 FSEIS. The establishment of the New River Water Trail as discussed in Section 3.2.6 is not directly related to the Project on NFS lands.

The 2021 FERC Boring EA (p. 55) analyzed effects on recreation from conventional bore stream crossings and concluded that “with the exception of the possible exclusion of recreation in the immediate vicinity of construction, no impacts on waterbodies used as recreational resources is expected.” The Forest Service determined that this analysis is consistent with findings in the 2020 FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

Mitigation, such as boring underneath the ANST and retaining a 300-foot forested buffer on each side of the trail, is found in the 2020 FSEIS, Section 3.3.13. While not specific to the JNF portion of the ANST, in 2020 a voluntary three-party agreement between Mountain Valley, the Appalachian Trail Conservancy and The Conservation Fund was signed. The updated (2021) three-party agreement will provide up to \$19.5 million to benefit the ANST, trail users, and local communities. The agreement is part of the package of compensatory mitigation for potential adverse impacts on the ANST from the MVP project (FERC Docket Accession #20210126-3000) (MVP 2021).

### **3.2.15 Transportation**

Effects on transportation were analyzed in the 2017 FERC FEIS (pp. 4-389 to 4-390) and the 2020 FSEIS (Section 3.3.14, pp. 80 to 81). In summary, utilization of private roads to access the ROW on NFS lands would significantly reduce (mitigate) any conflict that potentially would have existed with other uses along NFS roads. In the 2020 MVP proposal, the use of NFS roads was removed from the proposed action and as a result no impacts on NFS transportation would occur. Effects on transportation would be the same under the No Action Alternative because NFS roads would not be utilized.

The 2021 FERC Boring EA (p. 55) found that there would be increased construction-related traffic on local roads during construction. This is consistent with conclusions in the 2017 FERC FEIS and the 2020 FSEIS. The Forest Service determined that conventional bore stream crossing methods would not affect transportation on NFS roads as all access would be via private roads. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects from stream crossings.

## **3.3 Resources Analyzed in Detail**

### **3.3.1 Analyzing Effects**

Following each resource description is a discussion of the potential effects (environmental consequences) on the resource associated with implementation of each alternative. Direct, indirect, and cumulative effects are disclosed. Effects are quantified, where possible, although qualitative discussions are also included. Mitigation measures are also described, if relevant. Where third-party information is discussed in the analysis, such as MVP’s sediment monitoring program, the Forest Service conducted an independent agency review to determine that the information was accurate, reliable, and relevant.

Environmental consequences or effects means changes to the human environment from the Proposed Action or alternatives that are reasonably foreseeable. The human environment is the natural and physical environment and the relationship of present and future generations of Americans with that environment. Direct environmental effects are caused by the action and occur at the same time and place. Indirect effects are those that are caused by the action and are later in time or farther removed in distance (40 CFR § 1508.1).



Potential adverse environmental effects that cannot be avoided are disclosed. Some adverse effects can be reduced or mitigated by limiting their extent or duration.

Short-term uses, and their effects, are those that would occur during the anticipated two-year-long construction period or restoration period. Long-term uses, and their effects, are those that would occur during the 30-year term of the ROW grant/TUP.

Unless stated otherwise for a particular resource or use, the effects analysis utilizes the following effect intensity definitions:

- Negligible – Effect that is at or near the lowest level of detection.
- Minor – Effect that is detectable, but localized, small, and of little consequence to a resource.
- Moderate – Effect that is readily detectable, localized, and has consequences to a resource.
- Significant – Effect that is obvious and causes substantial consequences to a resource.

### **3.3.2 Water Resources**

#### **3.3.2.1 Affected Environment**

Existing conditions for water resources (i.e., hydrology) were discussed and analyzed in the FERC FEIS (pp. 4-102 to 4-103, p. 4-114, pp. 4-135 to 4-136) and the 2020 FSEIS (pp. 89 to 102, p. 157) which are incorporated by reference. In summary, the section of the MVP that would be located on NFS lands crosses the Valley and Ridge Regional Aquifer system which has dominant lithology consisting of sandstone, shale, limestone, and dolomite and well yields of less than 120 gallons per minute. No springs or swallets (seeps) were identified within 500 feet of the MVP pipeline route crossing the JNF. No mine pools were identified within the vicinity of the Project and no sites with potential groundwater contamination are along the pipeline route across the JNF. There are no public groundwater supplies or source water protection areas for groundwater resources crossed by the MVP within the JNF boundaries. No hydrostatic test water would be obtained from sources within the JNF (MVP 2022a).

Since publication of the 2020 FSEIS, the following new information or changed circumstances have occurred:

- The Fourth Circuit remanded the Forest Service “to consider USGS data and other relevant information indicating that the modeling used in the EIS may not be consistent with data about the actual impacts of the Pipeline and its construction.”
- MVP initiated a sediment monitoring program per the 2020 FWS BO Monitoring Plan.
- The ROW on NFS lands continues to be monitored and ECDs maintained as needed.

#### **3.3.2.2 Environmental Consequences**

##### ***Methodology***

The Project hydrology specialists have formed professional judgments on probable effects. Professional judgments are based on an independent agency review of real-world information and data that includes USGS in-stream water quality monitoring station data, MVP sediment monitoring data, Virginia Department of Environmental Quality (VDEQ) ROW monitoring and related reports, and Transcon ROW monitoring reports. The Forest Service also contacted specialists including those at the USGS to confirm an understanding of the paired-station water quality sample design and objectives of the monitoring program (personal communication with USGS Virginia and West Virginia Science Center, October 2022). The Forest Service and BLM conducted another independent agency review of the 2020 *Hydrologic*

*Analysis* (Geosyntec Consultants 2020a, 2020b), MVP monitoring reports, the draft 2015-2019 George Washington and Jefferson National Forests (GWJ) Monitoring Evaluation Report (Forest Service 2020b), and previously received public comments regarding water resources.

The Forest Service and BLM conducted a site visit in October 2022 to review each stream crossing on NFS lands and the Roanoke River in Lafayette, Virginia. The Forest Service and BLM also completed an independent agency review of MVP's Sediment Monitoring Analysis (Appendix L of the 2022 SBA); the 2017 FERC FEIS; the *Hydrologic Analysis for the JNF* (Geosyntec Consultants 2020b); approved erosion and sediment control plans (POD Appendices C-1 through C-3); and scientific literature. The Forest Service also reviewed data and information described in public comments on the 2020 DSEIS and 2022 DSEIS.

### ***Spatial and Temporal Boundaries***

The spatial boundary for this analysis is the same as described in the 2020 FSEIS and includes the 3.5-mile ROW in the JNF and nine 12-digit Hydrologic Unit Code (HUC) subwatersheds within or draining to NFS lands (Table 3 and Figure 4). This boundary was chosen for consistency with the spatial boundary in the *Hydrologic Analysis*<sup>18</sup>. The LOD includes a 125-foot-wide temporary construction ROW and a 50-foot-wide authorized ROW. The short-term temporal boundary for this analysis is the construction period, or two years. The long-term temporal boundary for this analysis is 30 years.

**Table 3. HUC-12 Subwatersheds Within or Draining to NFS lands**

<b>HUC-12</b>	<b>Subwatershed Name</b>
020802011001	Trout Creek - Craig Creek
020802011003	Broad Run - Craig Creek
030101010201	Dry Run - North Fork Roanoke River
050500020302	Upper Sinking Creek
050500020303	Lower Sinking Creek
050500020304	Little Stony Creek - New River
050500020305	Stony Creek
050500020601	Brush Creek - Rich Creek
050500020602	Clendennin Creek - Bluestone Lake

<sup>18</sup> This FSEIS references the Hydrologic Analysis of Sedimentation for the Jefferson National Forest, Virginia and West Virginia ("Hydrologic Analysis for the JNF"; Geosyntec Consultants 2020b) which is specific to the 3.5 miles of the proposed ROW on NFS lands. As described in the 2020 FSEIS (pp. 49 to 50), the *Hydrologic Analysis* was submitted to Federal agencies – including the Forest Service – with jurisdiction for review. Corresponding revisions were incorporated into the updated analysis, which was then reviewed and approved by the Forest Service.

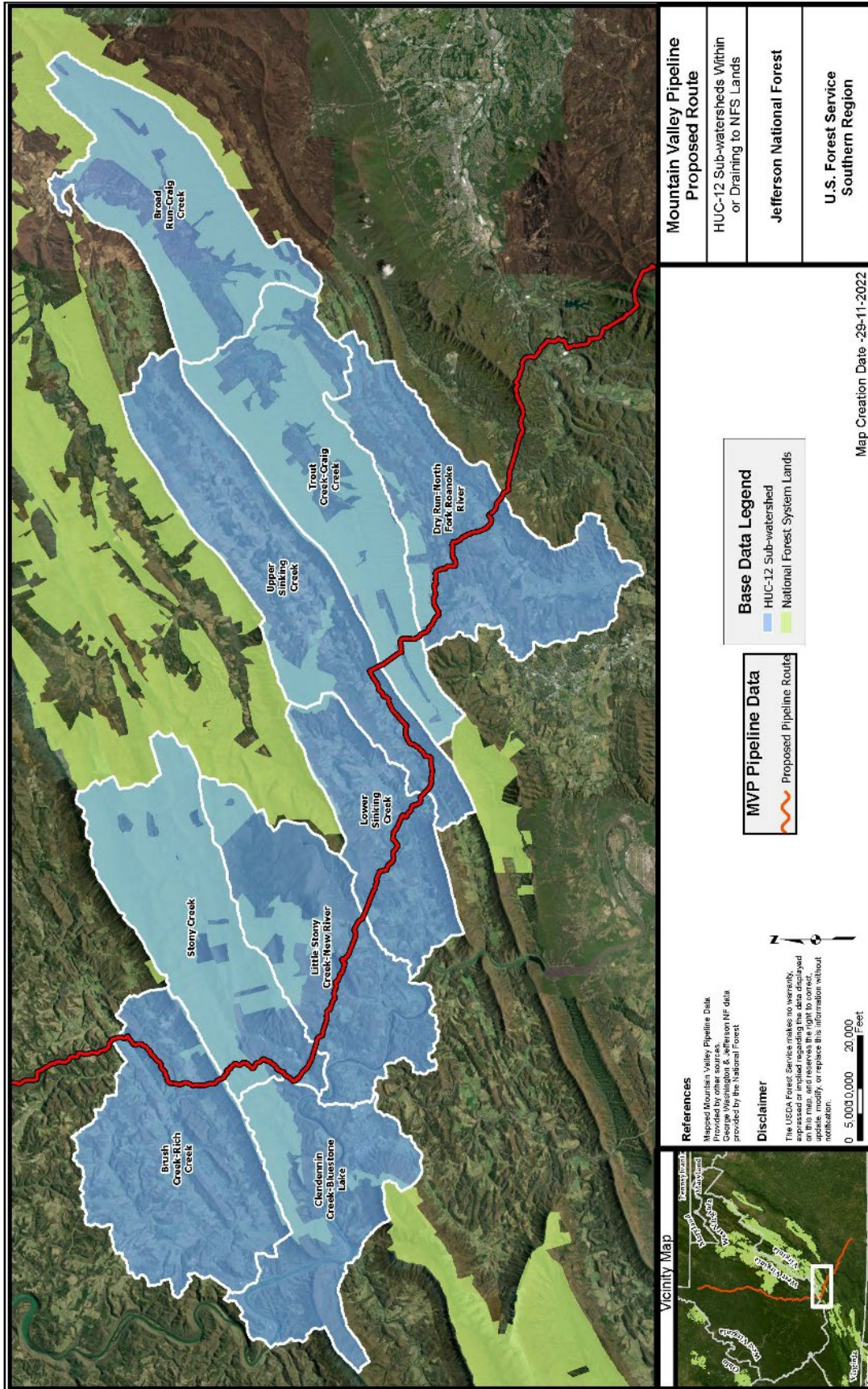


Figure 4. HUC-12 Subwatersheds Comprising Geographic Scope of Analysis for Direct and Indirect Effects on Water Resources

**Alternative 1 – No Action**

Under the No Action Alternative, no permit would be issued for the construction, operation, and maintenance of the MVP within the JNF. The current Forest Plan would continue to guide management of the Project area. The MVP would have to utilize other lands for the pipeline to satisfy demand for natural gas and energy, or end users would have to seek alternate energy from other sources such as other natural gas transporters, fossil fuels, or renewable energy (FERC 2017a). The portions of the Project area on JNF land would be restored to as close to the pre-project condition as practicable or possible.

As described in the 2020 FSEIS, some resource effects described in the 2017 FERC FEIS have already occurred since the Project has been partially constructed. Specifically, timber felling, grading, and soil stockpiling activities have occurred within all or portions of the ROW on NFS lands, and stockpiled soil has been revegetated. Effects associated with active restoration would occur over the short term. Restoration activities would include replacing topsoil to its original location within the ROW and revegetating the authorized ROW with herbaceous cover. The pipe (currently stored aboveground) would be removed, and the forest would be allowed to regenerate in the construction zone. The effects associated with restoration<sup>19</sup> would be reduced sedimentation loads as compared to those during construction. There would be minor adverse effects in the short term associated with spreading topsoil and minor beneficial effects in the short and long term as revegetation occurred. Long-term water resource effects would be minor and are associated with restoring the Project area to as close to the pre-project condition as practicable or possible.

In conclusion, with continued implementation and monitoring of ECDs, adverse effects on water resources under the No Action Alternative would be minor and would occur over the short term. Given consideration of these factors, effects under the No Action Alternative would be consistent with those analyzed in the 2017 FERC FEIS, 2020 FSEIS, and associated studies including the *Hydrologic Analysis*.

**Alternative 2 – Proposed Action**

The 2020 FSEIS analysis of effects on water resources is incorporated by reference. In summary, the 2020 FSEIS (pp. 95 to 102) found that effects on water resources from implementation of the Proposed Action would occur over the short and long term. Short-term impacts would be associated with construction and would be minor. Construction activities are not likely to significantly affect groundwater resources because the majority of construction would involve shallow excavations. The Project would prevent or adequately minimize accidental spills and leaks of hazardous materials into groundwater resources during construction and operation by adhering to its spill prevention, control, and countermeasure plan in the POD. To reduce effects on waterbodies, the POD identifies measures to minimize effects, such as BMPs and ECDs. Long-term impacts would be associated with post-construction restoration and operation and maintenance and would be minor because disturbed areas would be revegetated, reducing the potential for sedimentation in surface water features.

This analysis reflects our independent agency review and consideration of the following relevant<sup>20</sup> information to address the issues raised in the Fourth Circuit's remand:

- USGS in-stream water quality monitoring data
- MVP in-stream water quality monitoring data

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<sup>19</sup> The restoration process is described in detail in the POD Appendix H and includes ROW stabilization and restoration, re-seeding, noxious and invasive weed control, revegetation, and road reclamation.

<sup>20</sup> Relevant information was considered to be the best available scientific information (BASI). Forest Service planning regulations at 36 CFR § 219.3 state that the responsible official shall use the best available scientific information to inform the planning process. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. "However, there is little direction on what constitutes BASI and how managers should discern between science sources. While definitions of BASI vary across management agencies and within academia, most include criteria emphasizing accuracy, reliability, and relevancy" (Esch et al. 2018).

- VDEQ in-stream water quality monitoring data and inspection reports
- Transcon ROW site monitoring reports on the JNF

This analysis considers modeling and monitoring activities as they relate to erosion and sediment effects on surface water. In the context of this analysis, modeling refers to the Revised Universal Soil Loss Equation (RUSLE) model used to estimate annual erosion of soils within a watershed and RUSLE, Version 2 (RUSLE2) used to estimate site-specific annual erosion of soils due to project activities on the JNF. RUSLE2 was incorporated into the JNF-specific *Hydrologic Analysis* (Geosyntec Consultants 2020b). Monitoring, in contrast, is the USGS in-stream water quality monitoring program which began in 2017, MVP's in-stream water quality monitoring program, VDEQ's site inspection program established through VDEQ's permitting process for the pipeline since 2018, and Transcon's site monitoring of the ROW within the JNF since 2018.

There are inherent limitations associated with comparing modeling outputs against monitoring data, and, specifically for the MVP, comparing annual soil loss predictions of the RUSLE2 model with in-stream water quality monitoring data and information. According to USDA (2008), "RUSLE2 is not designed to be evaluated or calibrated by inputting historical data to compute erosion values that are compared to values measured at a particular site." RUSLE2 is based on field experiments spanning several decades and representing over 10,000 plot-years of measured runoff and soil-loss data collected by USDA to measure gross soil loss based on various slopes, soil properties, vegetative cover, management practices, and other factors such as climatic data. USDA (2008) further indicates that "fitting RUSLE2 to data from a specific research study or measurements made at a specific field site often does not improve RUSLE2 estimates and in fact may degrade the quality of estimates." Finally, USDA (2008) states, "[t]he most important part of RUSLE2's validation is whether RUSLE2 leads to the desired erosion control decision, not how well RUSLE2 estimates compare to measured data."

"The purpose of RUSLE2 is to guide and assist erosion-control planning" (USDA 2008). The RUSLE2 modeling work (Geosyntec Consultants 2020b) produced estimates of annual sediment loads at several stream segment locations during two separate points in time: pre-pipeline construction and during pipeline construction. The modeling results were used to identify whether ECDs, in the approved erosion and sediment control plans, would be effective at minimizing downstream surface water sedimentation that may occur during rainfall events. The model results are valuable for comparing annual estimated sediment loads under various land management scenarios but do not predict in-stream sediment or turbidity concentrations caused by specific rainfall events. The RUSLE2 modeling analysis for the JNF was not intended to be representative of direct in-stream measurements; it was used as a conservative planning and analytical tool to identify areas with increased potential for erosion and sedimentation and address possible problems with enhanced site-specific ECDs. As described above, the RUSLE2 modeling analysis informed whether the placement and type of ECDs were effective at minimizing sedimentation. The monitored effectiveness of the ECDs can be observed via site inspections.

The RUSLE2 modeling estimated that state-approved ECDs would be effective at minimizing sedimentation in waterways. This effectiveness of ECDs was determined by an independent third-party review of the four monitoring sources bulleted above. RUSLE2 estimated sedimentation at the catchment scale. A catchment is the unique drainage area of a stream segment in the USGS National Hydrography Dataset Plus V2. The median size of the individual catchments is 332 acres, and the average size is 533 acres. Catchment-scale results were presented by Geosyntec (2020b) and aggregated into larger HUC-12 watersheds as well. At each HUC-12 watershed outlet, the model estimated that baseline sediment yields would vary from 0.15 to 0.43 tons/ac/yr, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is



completed, sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. Comprehensive analysis of the modeling results and real-world data indicates that the ECDs that were installed and maintained are effective at managing sediment yields.

Pipeline construction has several stages and the entire LOD associated with the Project at a certain location is not exposed all at one time. As construction activities progress, temporary and permanent stabilization measures are implemented on an ongoing basis to minimize the extent of disturbed areas.

### **USGS In-Stream Water Quality Monitoring Stations**

The Forest Service reviewed the USGS in-stream water quality monitoring stations. While the USGS data cannot identify specific sources of turbidity, they are a useful tool for understanding the relationship between precipitation, increased stream flows, and turbidity.

In 2017, the USGS, in cooperation with VDEQ, installed 12 paired in-stream water quality monitoring stations in Virginia to measure water quality near MVP stream crossings. Per USGS, “The purpose of the monitoring effort is to collect baseline water-quality data and, if the pipeline construction is approved, to monitor water quality in these streams before, during, and after pipeline construction” (USGS 2017). The stations were set up in pairs at six stream crossings: one station was installed upstream of the pipeline crossing and the other downstream (see Appendix B for the location of each USGS station). Each station measures several water quality attributes including turbidity<sup>21</sup> every 15 minutes. The USGS monitoring stations were in place before land clearing began along the pipeline ROW. The sampling points of these stations capture real-time water quality data both upstream and downstream of each of the monitored crossings. Mountain Valley provided its own analysis of the USGS monitoring data (MVP 2022e), concluding that the USGS data could not be used to corroborate the RUSLE2 modeling. The following analysis in this FSEIS demonstrates the Forest Service’s independent agency review of the USGS data.

Although the USGS in-stream monitoring station drainage areas do not include NFS lands, the USGS data are relevant to this FSEIS because four of the 12 stations are in HUC-12 watersheds which were included in the *Hydrologic Analysis* model and form the geographic boundary for this analysis. In addition, three paired locations are situated in Valley and Ridge physiography (a USEPA Level III Ecoregion) and thus characterized by bedrock geology, hillslope morphology, and soils similar to those along the proposed pipeline corridor in the JNF.

At each pair of USGS stations, the difference between the drainage area of the upstream station and the drainage area of the downstream station is referred to as the incremental drainage area. Figures in Appendix B show the incremental drainage area between the upstream and downstream stations. At each of the six stream crossings monitored by paired USGS stations, there are various land uses within the incremental drainage area. These include forested land cover, agricultural lands including cropland and livestock pasture, residential and commercial development, paved and gravel roadways, a railroad, and the pipeline corridor and associated laydown areas (there are no NFS lands in the incremental drainage areas; see Appendix B). Each of these land uses, including the MVP (which has been constructed and is being maintained with ECDs approved by permitting agencies and designed to minimize turbidity and sedimentation), is a potential source of sediment that can contribute to in-stream turbidity. As a result, the USGS data do not specify how much turbidity is directly attributable to an individual source.

The following graph displays turbidity readings at the two Little Stony Creek stations during Hurricane Michael October 11-13, 2018. The graphs, which cover a period of approximately four days, illustrate how quickly turbidity can spike and recede in response to precipitation events.

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<sup>21</sup> Turbidity is the degree to which light is scattered by particles suspended in a liquid.

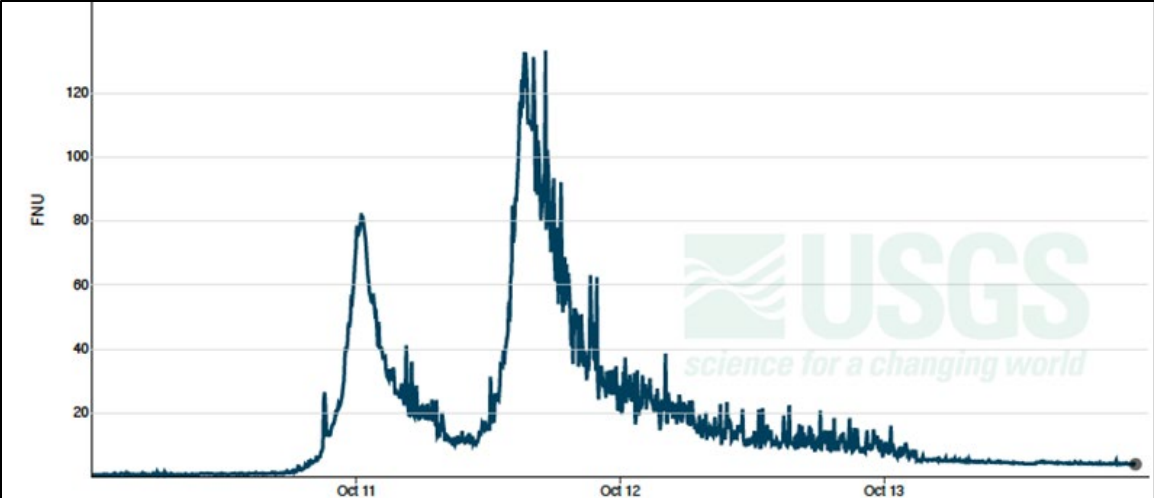


Figure 5. Little Stony Creek Upstream (03171597) Turbidity – Hurricane Michael October 11-13, 2018.

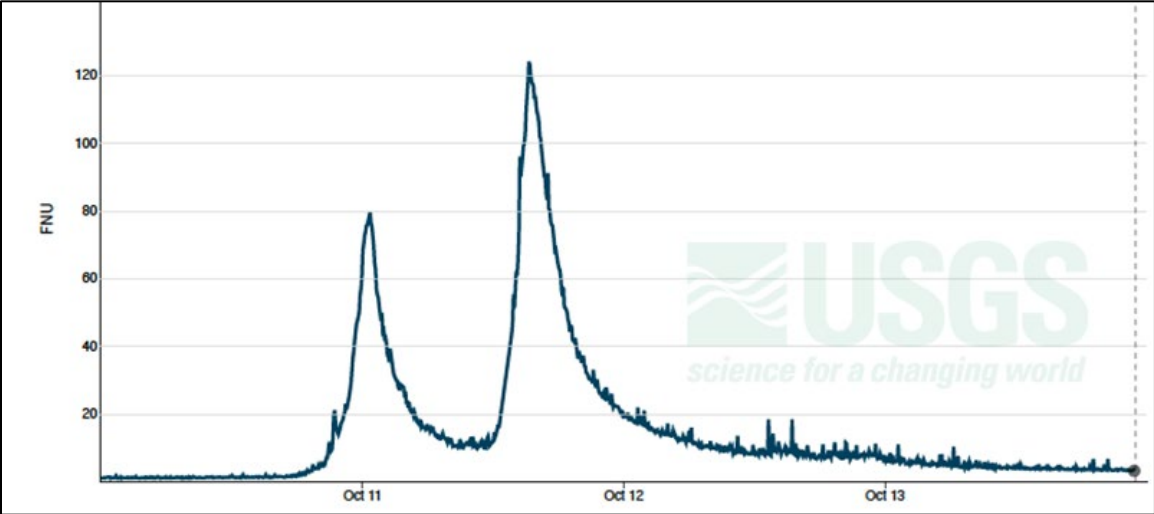
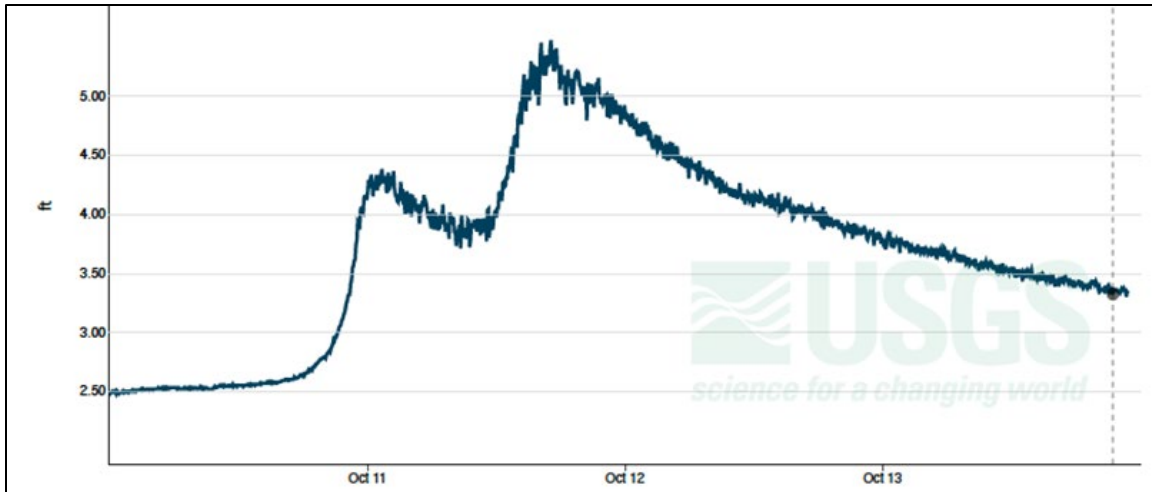


Figure 6. Little Stony Creek Downstream (0317159760) Turbidity – Hurricane Michael October 11-13, 2018.



**Figure 7. Little Stony Creek Gage Height – Hurricane Michael October 11-13, 2018.**

In January and February of 2023, the Forest Service conducted further independent agency statistical analyses of the USGS data to examine potential trends and differences in turbidity between upstream and downstream stations (See Appendix F). Specifically, statistical analyses were completed on in-stream turbidity data at three river crossings (see Table 4) to determine if there were significant differences in the upstream – downstream peak turbidity levels between the pre- and post-construction periods. The paired in-stream water quality monitoring stations for Little Stony Creek and Sinking Creek were considered relevant because they are within the HUC-12 subwatersheds that form the geographic scope of this analysis. In addition, an examination of the USEPA Level III Ecoregions shows that the Little Stony Creek, Roanoke River, and Sinking Creek stations are situated in Valley and Ridge physiography and thus characterized by bedrock geology, hillslope morphology, and soils similar to those along the proposed pipeline corridor in the JNF. The Roanoke River paired stations were also identified in the Fourth Circuit’s opinion. The Blackwater River and Bottom Creek paired stations were analyzed in response to public comments received on the DSEIS. The Forest Service also considered an analysis of single (non-paired) USGS stations, but these stations are not intended to assess the effects of pipeline construction or other actions in incremental drainage areas.

The continuous turbidity data collected by USGS was aggregated into individual events that exceeded 50 Formazin Nephelometric Units (FNU)<sup>22</sup>. This threshold was chosen because it is the basis for State water quality standards for turbidity in neighboring West Virginia and North Carolina (Virginia does not set a quantitative water quality threshold for turbidity). The upstream and downstream stations were paired, and for each storm event, the peak turbidity was selected for the paired analysis. Events with missing data at either the upstream or downstream station were discarded from the analysis. At Little Stony Creek and Sinking Creek, the number of post-construction precipitation events with turbidity greater than 50 FNU (11 and 13 events, respectively; see Table 5) was an insufficient sample size for regression analysis (Appendix E).

For the Roanoke River, the analysis used a regression approach for detecting significant differences in an upstream – downstream relationship after a change in land management (Grabow et al. 1998). This methodology is appropriate for watersheds where there is an upstream station (measuring the control watershed) and a downstream station (measuring the treatment watershed).

<sup>22</sup> FNU (Formazin Nephelometric Units) and NTU (Nephelometric Turbidity Units) are the Environmental Protection Agency-designated units of turbidimetric measurement. Both measure scattered light at 90 degrees from the incident light beam, but the FNU is measured with an infrared light source according to the International Organization for Standardization 7027 method whereas the NTU is measured with a white light according to EPA method 180.1.



**Table 4. USGS In-Stream Water Quality Monitoring Stations Used in Statistical Analyses.**

<b>River</b>	<b>USGS Station – Upstream</b>	<b>USGS Station – Downstream</b>	<b>Monitoring Start</b>	<b>Construction Start*</b>
Blackwater River	Blackwater River Above Maple Branch near Redwood – 0205696042	Blackwater River Below Maple Branch near Redwood – 0205696095	August 2017	October 2018
Bottom Creek Crossing 1	Bottom Creek Above Tributary near Bent Mountain – 0205373035	Bottom Creek Along Route 612 near Bent Mountain – 0205373075	August 2017	September 2021
Bottom Creek Crossing 2	Bottom Creek Above Confluence near Bent Mountain – 0205373228	Bottom Creek Below Poor Mtn Rd Near Bent Mountain – 0205373422	August 2017	August 2021
Little Stony Creek	Little Stony Creek Above Archer Trail Near Pembroke – 03171597	Little Stony Creek Below Archer Trail near Pembroke – 0317159760	August 2017	September 2021
Roanoke River	Roanoke River Along Route 626 at Lafayette – 0205450393	Roanoke River Above Route 11 at Lafayette – 0205450495	August 2017	July 2019
Sinking Creek	Sinking Creek Along Route 604 Near Newport – 0317154954	Sinking Creek at Covered Bridge Lane Near Newport – 0317155123	August 2017	June 2021

\*Date when construction in the vicinity of the crossing began

The null hypothesis is that there is no statistically significant difference between the upstream and downstream stations. The comparison of peak event upstream – downstream turbidity for the pre- and post-construction periods at the paired Roanoke River stations identified no significant differences at the 95% confidence level ( $\alpha = 0.05$ ), indicating that in-stream turbidity measured during storm events did not increase following the beginning of construction. The comparison of peak event upstream-downstream turbidity for the pre- and post-construction periods at Bottom Creek 2 indicated a statistically significant ( $\alpha = 0.05$ ) decrease in downstream turbidity post-construction. At the Blackwater River and Bottom Creek 1, there was an insufficient sample size for regression analysis (see Appendix E).

In conclusion, the RUSLE2 modeling results are not meant to be validated by USGS or other monitoring data (MVP 2022b, Appendix L; Appendix E). However, examination of the USGS data can provide insight into potential changes in in-stream turbidity. As described above, there was an insufficient sample size for regression analysis for four streams. Bottom Creek 2 and the Roanoke River had sufficient sample sizes and were analyzed; the results show a statistically significant decrease in in-stream turbidity at Bottom Creek 2 and no statistically significant increase in in-stream turbidity at the Roanoke River following the beginning of construction.

**Table 5. Number of Runoff Events with Turbidity Greater Than 50 FNU.**

<b>River</b>	<b>Pre-Construction - Number of Events Greater Than 50 FNU</b>	<b>Post-Construction - Number of Events Greater Than 50 FNU</b>
Blackwater River	16	97
Bottom Creek Crossing 1	17	7
Bottom Creek Crossing 2	86	27
Little Stony Creek	43	11
Roanoke River	32	61
Sinking Creek	55	13

### **MVP In-Stream Water Quality Monitoring Stations**

In accordance with the 2020 FWS BO Monitoring Plan, MVP conducted sediment monitoring within multiple off-NFS watersheds along the pipeline route beginning in 2021. The purpose of this monitoring is to ensure compliance with the BO's required limits on sediment in watersheds with suitable habitat for the Federally listed Roanoke logperch and candy darter. A detailed summary of the monitoring program is provided as Appendix L to the 2022 SBA (MVP 2022b).

Per the terms of the 2020 FWS BO, MVP installed in-stream water quality monitoring stations off NFS lands in 21 FWS-identified Mixing Zones. Of these, six Mixing Zones have "commissioned"<sup>23</sup> stations and are included in the monitoring program reporting because pipeline construction had occurred nearby. The other stations were not included because of a variety of reasons, including unavailable land access, the FWS BO Mixing Zone monitoring requirement was discontinued due to ROW restoration, or an impoundment was installed (MVP 2022b). Some non-commissioned stations are collecting data, but no construction has occurred near them and, therefore, no analysis of pre- or post-construction is possible.

The commissioned station data are relevant to this FSEIS because some commissioned stations were installed in watersheds that were part of the *Hydrologic Analysis* model and because the Monitoring Plan was informed by the *Hydrologic Analysis* model and therefore satisfies the Fourth Circuit's remand to consider real-world data as it may relate to the *Hydrologic Analysis*.

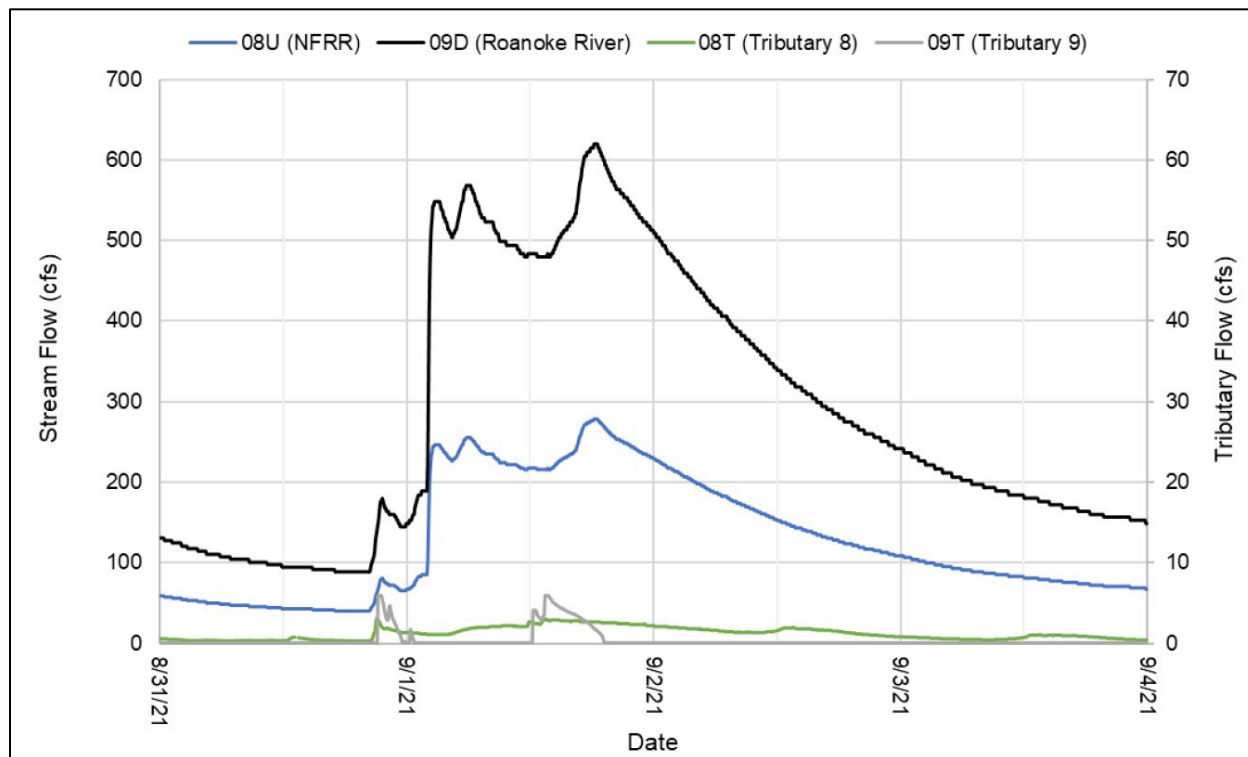
In the subject watersheds, monitoring stations were installed on tributaries where pipeline construction was planned, as well as on streams identified in the 2020 FWS BO as suitable habitat for the Roanoke logperch or candy darter. By comparing the suspended sediment concentrations (SSC) in tributaries where construction occurred with the SSC in upstream and downstream species streams, the FWS could infer if the pipeline was contributing to elevated SSCs downstream. Although non-pipeline land uses could also be contributing to elevated SSCs within the tributaries, the FWS Monitoring Plan conservatively assumed all measured SSC contributions at the tributary monitoring stations were attributable to the MVP. Under the Monitoring Plan, when thresholds were exceeded<sup>24</sup>, Mountain Valley undertook response actions as outlined in Appendix F of the 2020 BO to determine the cause of elevated SSCs and perform appropriate remedies if necessary. These response actions included site investigations to examine the sediment monitoring equipment and look for evidence of offsite sedimentation from the pipeline corridor or other land uses. After the February 3, 2022 BO

<sup>23</sup> Commissioned stations were installed, operational, and collecting data subject to Monitoring Plan requirements.

<sup>24</sup> Exceedances reported by Mountain Valley in the Suspended Sediment Monitoring Analysis (MVP 2022b) were caused by equipment malfunction, equipment detachment, and/or equipment recalibration issues.

vacatur, Mountain Valley voluntarily continued the Monitoring Plan. The results of the Monitoring Plan are discussed in the analyses below and presented in detail in Appendix L of the 2022 SBA (MVP 2022b).

Mountain Valley installed monitoring stations before resuming construction in each Roanoke logperch monitored watershed. Low flows and low turbidity were measured within the monitored tributaries where construction occurred except during high precipitation events. Figure 8 displays how flow spiked in response to Tropical Storm Ida in one of the monitored streams.



**Figure 8. Flow Hydrograph for Monitored Sediment Mixing Zone during Hurricane Ida, September 2021.**

The maximum turbidity in each tributary before and after the Fourth Circuit’s February 3, 2022 vacatur was below the tributary Take Risk Concentration<sup>25</sup> that would require implementation of the BO’s Rapid Response Protocol actions. This confirms that turbidity never exceeded the Take Risk Concentrations.

In candy darter monitored watersheds, project construction activities had not yet resumed when the Fourth Circuit vacated the 2020 FWS BO in February 2022. However, the candy darter monitoring stations were brought online upon installation in 2021, have remained operational, and have been continuously collecting data since installation. Although not officially commissioned for the Monitoring Plan (due to the vacatur), Mountain Valley conducted field inspections and remote analysis of potential exceedances measured by the stations. During named storms (Tropical Storm Fred, Hurricane Ida, and Hurricane Ian), the monitoring data show that the maximum tributary SSCs were similar to or lower than the maximum SSCs in the corresponding downstream species streams (MVP 2022b). The maximum calculated SSC differences in the species streams were all below the FWS’s thresholds for the named storms reviewed. None of the elevated calculated SSC differences in the species streams exceeded the FWS Take Risk Concentration (MVP 2022b).

<sup>25</sup> The Take Risk Concentration in a tributary to a Stream of Interest (i.e., species stream) is the concentration of Project-related sediment in the tributary to potentially cause a 20 mg/L increase in the Stream of Interest (as indicated in Table 2 of Appendix F to the 2020 BO). For the commissioned stations, these Take Risk Concentrations range from 622 mg/L on Bradshaw Creek to 5,212 mg/L on Indian Run.

The Forest Service conducted an independent agency review of the MVP sediment monitoring program and determined that the sediment monitoring data suggest that the Project has not exceeded Mixing Zone Impact Areas thresholds in the FWS-identified species streams.

In conclusion, the RUSLE2 modeling results are not meant to be validated by the MVP sediment monitoring data. However, examination of the MVP sediment monitoring data show that pipeline construction in the monitored watersheds did not cause sedimentation levels to exceed the FWS-identified Take Risk Concentrations for Federally listed aquatic species, which were informed by the model.

### **VDEQ In-Stream Water Quality Monitoring and Inspection Reports**

VDEQ conducts in-stream water quality monitoring for multiple purposes, including to meet the needs of State regulatory and water quality management programs (VDEQ 2022). For the MVP project, VDEQ partnered with USGS and Virginia Commonwealth University to conduct water quality monitoring at the six stream crossings described above under “USGS In-Stream Water Quality Monitoring Stations.” The purpose of this monitoring is to determine the effects of any physical and chemical changes on aquatic life (VDEQ 2017). As part of its MVP monitoring program, VDEQ also uses the USGS data to direct inspection resources as appropriate, such as in response to potential pollution events. In-stream water quality monitoring began in 2017 and inspections began in 2018.

The VDEQ monitoring program and associated inspections are relevant to this FSEIS because they utilize the USGS data collected in watersheds that were included in the Hydrologic Analysis model and include on-site pipeline ROW inspections.

In 2021, the VDEQ analyzed the notices of violations contained in its December 2018 complaint, which related mostly to erosion control and stormwater management. The analysis looked at the entirety of the pipeline route in Virginia off NFS lands. The agency found that the vast majority did not result in any environmental harm<sup>26</sup> (VDEQ 2021).

In a November 19, 2021 memo to the State Water Control Board, VDEQ addressed several topics commonly raised in public comments regarding the MVP and water quality (VDEQ 2021). As part of VDEQ’s monitoring protocol, and in response to public concerns, agency staff conducted further inspections and outreach. Its corresponding reports to the Board included photographic documentation of temporary stabilization, documentation of stream restoration after completion of stream crossing construction, and ongoing construction activities. VDEQ reports on page 10 of its memo that there have been no widespread impacts, no evidence of a fish kill, or citizen monitoring-identified violations of water quality standards.

The 2021 VDEQ memo further states on page 10 that ongoing USGS total suspended solids data do not reflect any pipeline construction related events (VDEQ 2021). The 2021 VDEQ memo also does not agree with assertions from the public that there are ongoing, significant regular violations of erosion and sediment controls or water quality standards. These conclusions are based on a consistent, almost daily field presence of both VDEQ inspectors (including a pipeline team with three erosion and sediment control inspectors) and VDEQ’s third party compliance inspectors (VDEQ 2021).

VDEQ’s inspection reports also document field investigations of actual Project conditions off NFS lands. For example, pipeline ROW inspections were conducted in response to elevated turbidity readings on July 15-16,

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<sup>26</sup> “A number were paperwork violations, such as failing to keep a daily log of project activities related to environmental permit compliance and corrective measures implementation. In summary, approximately 180 violations were failure to repair a control structure within 24 hours, approximately 58 violations related to inadequate temporary stabilization, approximately 65 violations related to inadequate stabilization of stockpiles and approximately 42 related to sediment moving off the right of way. Of the citations related to sediment moving off the right of way, about 20 resulted in a discharge of sediment into state waters. In every instance where MVP was given landowner permission to access off site properties, the sediment release to streams was remediated” (VDEQ 2021).

2019 at the paired USGS stations on the Roanoke River near Lafayette in Montgomery County. This timeframe corresponded with a high precipitation event: at Pipe Yard 006 on July 15, there was a total of 3.6 inches of water observed in the rain gauge. Local weather station data from Weather Underground (station KVAELLIS5), located in Lafayette, showed a short-duration, high-intensity precipitation event occurring on July 15 lasting from approximately 5:09 pm to 8:09 pm with a total accumulation for the event at 2.15 inches. During the inspection, all inspected MVP ECDs near the river crossing were found to be installed correctly and functioning as designed. In addition, no areas of sediment runoff outside the ROW were observed (VDEQ 2019). This suggests that other land uses in the watershed contributed to the elevated turbidity levels in the Roanoke River.

Although VDEQ does not inspect the ROW on NFS lands, the Forest Service performed an independent agency review of VDEQ pipeline inspection reports covering non-NFS lands in Craig, Giles, and Montgomery counties, Virginia. These counties were chosen because their topography and land use / land cover are most similar to the JNF. A total of 135 inspection reports from January 2021 through August 2022 were available on the VDEQ website (VDEQ 2022). In summary, the review found that, in 125 of 135 inspection reports, erosion “controls were installed and implemented in accordance with the approved [Erosion and Sediment Control Plan (ESCP)] and stormwater management plans.” In 113 of 135 inspection reports, erosion “control measures were properly maintained in effective operating condition in accordance with good engineering practices and, where applicable, manufacturer specifications.” Where improper maintenance or ineffective operation conditions of erosion controls were identified, they were classified by VDEQ as Routine Maintenance (requiring corrective actions within 72 hours from notification) or Ineffective Controls (requiring corrective actions within 24 hours from notification). Waterbar maintenance, inlet protection maintenance, waterbars not of adequate length, sumps requiring maintenance, and CFS requiring repair were typical deficiencies noted in these inspection reports (VDEQ 2021-2022).

Finally, there were two reports of offsite sediment deposition observed out of 135 inspection reports. In one of these reports, sediment removal was observed at one non-NFS stream crossing, possibly due to sumps requiring maintenance. In the other report, sediment at one non-NFS forested location had escaped the LOD by approximately 15-20 feet (VDEQ instructed MVP to retrieve the sediment and restabilize the disturbed area) and access road stone was observed in a non-NFS stream (VDEQ instructed MVP to remove the sediment/stone per FERC approval and landowner approval; VDEQ 2021-2022).

A third-party contractor for VDEQ (MBP) also inspects the MVP ROW off NFS lands. While the MBP inspection reports are not publicly available, the Forest Service obtained a spreadsheet summary of 2022 MBP inspection results from VDEQ. The Forest Service reviewed attachments provided by commenters and the VDEQ spreadsheet summary for results pertaining to Spread G, which is contains the counties most topographically like the JNF. Within Spread G, which is also where MVP proposes to cross the JNF, there are approximately 1,300 action item records from 2018 through June 2022, including 36 categorized as a stream impact and nine as a wetland impact. All action items have been marked as “completed” (i.e., action item was addressed) which is consistent with the DSEIS analysis that MVP has addressed items identified by inspectors.

The Forest Service’s independent review included VDEQ pipeline inspections conducted immediately following named storms in 2021 and 2022. These included three within one week of Hurricane Ida in September 2021. Two inspections were conducted in Craig and Giles counties off NFS lands on September 8, 2021, four days after the storm passed. Both inspections found that erosion and sediment controls were installed and implemented in accordance with the approved erosion and sediment control plan and stormwater management plans. At one location, the storm event resulted in torn silt fence, rill erosion, and stabilization concerns within the ROW, resulting in a recommended corrective action to maintain all controls per the approved erosion and sediment control plan and stormwater management plans. No offsite sediment deposition was observed. In response to agency inspection results and as part of its standard monitoring procedures, Mountain Valley performed necessary maintenance actions. On September 10, 2021, an inspection was conducted elsewhere off

NFS lands in Craig and Montgomery counties, finding that controls at three stream crossings were in place and functioning properly.

The VDEQ monitoring and inspection program is not intended to evaluate the effectiveness of the RUSLE2 modeling, but it provides relevant information about the performance of the ECDs in Virginia and insight into real-world pipeline inspections and maintenance. In this role, the monitoring and inspection program reveals that the pipeline is regularly inspected, ECDs are maintained and repaired as needed, and the vast majority of inspection reports did not identify any environmental harm.

### **Transcon ROW Monitoring**

Transcon, a third-party contractor reporting to the Forest Service, has been monitoring the MVP ROW on the JNF since 2018. Transcon's monitoring reports are real-world data relevant to this FSEIS because they provide a record of ECD performance on NFS lands within watersheds that were included in the *Hydrologic Analysis* model.

The 2020 FSEIS stated, "Transcon's reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained" (2020 FSEIS, p. 84). Since publication of the 2020 FSEIS, Transcon has continued pipeline ROW monitoring multiple times per week. Transcon's 2021 and 2022 monitoring reports show that ECDs on the JNF continue to be effective (Transcon 2018-2022). For example, a review of the 2021-2022 reports does not identify any instances of sediment leaving the pipeline ROW on NFS lands, including the reports immediately following Tropical Storm Fred, Hurricane Ida, and Hurricane Ian, which show pipeline ROW ECDs functioning as intended and no observation of offsite sedimentation. Transcon monitoring is not intended to quantitatively evaluate the effectiveness of the RUSLE2 modeling, but they provide relevant professional observations, supported by photographic documentation, about the performance of the ECDs on NFS lands, corroborating the accuracy of RUSLE2's conclusion that site-specific ECDs would be effective in minimizing sediment runoff.

### **Conclusion**

This analysis demonstrates that the available relevant data, including the Forest Service and BLM's consideration of monitoring information from USGS data, MVP, VDEQ, and Transcon, are all consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment yield from the pipeline ROW, and that observations of elevated sediment levels within the watershed may result from multiple land uses. With continued implementation and monitoring of ECDs, short-term adverse effects on water resources would be minor to moderate. Over the long term, adverse effects are anticipated to be minor because the POD and Project Design requirements would minimize construction-related effects to soils, such as trench excavation, backfilling, contouring, and the movement of construction equipment. See POD appendices C-1, -C2, C-3, L, and W.

This analysis also demonstrates the Forest Service and BLM's consideration of USGS data and other relevant information related to the modeling used in the 2020 FSEIS and the actual impacts of the pipeline and its construction. Relevant data and information indicate that construction activities associated with the pipeline are potential contributors to turbidity and sediment in local streams along with other land uses in the watersheds that may produce sediment during rainfall events. Because RUSLE2 is not designed to be validated with in-stream water quality monitoring data, it is not possible to conclusively determine if the USGS data and other relevant information are consistent with the modeling. However, examination of both quantitative data (i.e., USGS and MVP monitoring data) and inspection and monitoring reports (i.e., VDEQ and Transcon) that visually examine the ROW (including in direct response to potential sediment-delivering events) do not suggest that actual data are inconsistent with the modeling used in the 2020 FSEIS.

### 3.3.2.3 Effects of Forest Plan Amendment on Hydrology

There are 11 project-specific Forest Plan standards that would be modified and one plan component, a standard, that would be added in the proposed action. Six modified standards are related to hydrology: FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003. The Proposed Action includes mitigation to reduce erosion, sedimentation, runoff, and runoff velocity to reduce the adverse effects of the modified standards.

The POD Restoration Plan would minimize adverse effects on soil compaction by requiring Mountain Valley to rip compacted soils to a depth of at least 6 to 8 inches if those compacted soils are identified within areas targeted for restoration (POD Appendix H). With application of this measure, adverse effects on soil compaction would be short-term and minor, and the proposed action would comply with FW-8 as modified Adherence to FW-9, as modified, would result in short-term, minor adverse effects on hydrology. The POD requires tracking to occur perpendicular to the slope, which would create soil indentations that are aligned on the contour. FW-13 and 11-003, as modified would result in short-term, minor adverse effects on hydrology. Amendments to FW-9, FW-13, and 11-003 were analyzed in the *Hydrological Analysis*; therefore, the effects associated with adopting these modified standards as the same as the effects associated with implementing the Proposed Action. As discussed in the analysis of the Proposed Action above, adoption of these modified standards and the new standard would result in minor, short-term adverse effects on hydrology.

### 3.3.3 Threatened, Endangered, and Sensitive Species

The 2020 FSEIS (pp. 86 to 87) describes in detail the Endangered Species Act (ESA) Section 7(a)(2) process that was initiated in 2017. Formal consultation with the FWS has been conducted by the FERC, which is the lead Federal agency for the entire 303.5-mile-long MVP project. An updated SBA was prepared in December 2022 (MVP 2022b) in response to the Fourth Circuit's February 3, 2022 vacatur of the 2020 FWS BO and to address changes in the listing status of species and their habitat. To address the vacatur including those species that were determined likely to be adversely affected by the Project, the FWS issued a new BO and Incidental Take Statement for the MVP project on February 28, 2023 (FWS 2023a)<sup>27</sup>. The new BO supersedes the vacated 2020 BO.

Appendix D provides a table of the Federally listed species and RFSS addressed in previous documents and this FSEIS.

#### 3.3.3.1 Affected Environment

##### ***Aquatic Species***

Since publication of the 2020 FSEIS, the pipeline remains partially constructed on NFS lands and nearby watersheds were analyzed for direct, indirect, and cumulative effects. Monitoring and maintenance of ECDs is ongoing. Construction off NFS lands resumed in early 2021 but stopped in 2022 upon receipt of the Fourth Circuit's opinion and associated stop-work order from the FERC.

Special status species lists have changed since the 2020 FSEIS. Specifically, Critical Habitat for the candy darter was designated on May 7, 2021 and includes a segment of Stony Creek downstream of NFS lands. The Atlantic pigtoe (*Fusconaia masoni*) was listed as Threatened under the ESA and Critical Habitat was designated on December 16, 2021, including in Craig Creek, downstream of NFS lands. In addition, the longsolid (*Fusconaia subrotunda*) and the round hickorynut (*Obovaria subrotunda*) were listed as Threatened under the ESA and Critical Habitat was designated on March 9, 2023. These two species and their designated Critical Habitat do not occur within the Action Area and therefore, are not discussed further in this document. Finally, one aquatic species, the Tennessee dace (*Chrosomus tennesseensis*), is proposed to be added and two species are proposed to

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<sup>27</sup> For the broader 303.5-mile-long project, the FERC remains the lead consulting agency which is why the BO will address the MVP as a whole.

be removed (Sickle darter (*Percina williamsi*) and Allegheny County cave amphipod (*Stygobromus allegheniensis*)) from the Draft Updated Region 8 list of RFSS.

Since publication of the 2020 FSEIS, the following changed conditions with potential to affect Federally listed aquatic species have occurred: issuance of the 2021 FERC Boring EA regarding conventional boring; MVP sediment monitoring per the 2020 FWS BO; the Fourth Circuit's February 3, 2022 opinion on the 2020 FWS BO; 2023 FWS BO; and changes to the status of Federally listed species and designated critical habitat. This analysis considers each of these changed conditions as they relate to activities on NFS lands that may affect Federally listed aquatic species. Aquatic species for which there are no changed conditions or effects determinations (i.e., clubshell mussel [*Pleurobema clava*], snuffbox mussel [*Epioblasma triquetra*], yellow lance [*Elliptio lanceolata*], and James spiny mussel [*Pleurobema collina*]) are addressed in the 2017 FERC FEIS and 2020 FSEIS and supplemental analysis is not needed. Additionally, the 2023 FWS letter concurs with the effects determinations of these four aquatic species. These changes are addressed in the environmental consequences section below.

### **Terrestrial and Plant Species**

As described above for aquatic species, since publication of the 2020 FSEIS, the pipeline remains partially constructed on NFS lands, monitoring and maintenance of ECDs is ongoing, and construction off NFS lands resumed in early 2021 but stopped in 2022 upon receipt of the Fourth Circuit's opinion and associated stop-work order from the FERC. In addition, there has been early successional tree and plant regrowth within the temporary construction ROW on Peters Mountain.

Terrestrial species for which there are no changed conditions or effects determinations (i.e., gray bat [*Myotis grisescens*], Virginia big-eared bat [*Corynorhinus townsendii virginianus*], rusty patched bumble bee [*Bombus affinis*], smooth coneflower [*Echinacea laevigata*], small whorled pogonia [*Isotria medeoloides*], and shale barren rock cress [*Arabis serotina*]) are addressed in the 2017 FERC FEIS and 2020 FSEIS and supplemental analysis is not needed. Additionally, the 2023 FWS letter concurs with the effects determinations of these six terrestrial species.

As described in the 2020 FSEIS, four exotic invasive species were observed scattered throughout the ROW: multiflora rose (*Rosa multiflora*), Japanese honeysuckle (*Lonicera japonica*), garlic mustard (*Alliaria petiolata*), and mile-a-minute vine (*Persicaria perfoliata*) (Transcon 2018-2020). Since 2020, the invasive species tree-of-heaven (*Ailanthus altissima*) and princess tree (*Paulownia tomentosa*) have been observed growing within the temporary construction ROW on Peters Mountain.

Special status species lists have changed since the 2020 FSEIS:

- On November 29, 2022, the FWS reclassified the northern long-eared bat (*Myotis septentrionalis*) from Threatened to Endangered under the ESA.
- On September 13, 2022, the FWS proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered, and a decision is expected September 2023.
- Due to recovery of the species, running buffalo clover (*Trifolium stoloniferum*) was delisted on August 6, 2021.
- Changes to the Draft Updated Region 8 RFSS list:
  - Addition of four species: Tennessee dace, American bumble bee, little brown bat, and American Ginseng.



- Removal of ten species: Sickie darter, Rafinesque's big-eared bat, Appalachia bellytooth, brown supercoil, highland slitmouth, crossed dome, delicate vertigo, cupped vertigo, Alleghany County cave amphipod, and Avernus cave beetle (Draft Updated RFSS List (June 1, 2022)).

### 3.3.3.2 Environmental Consequences

#### **Methodology**

The Project biologists have formed professional judgments on probable effects. Professional judgments are based on field visits and site-specific information including species surveys; the 2017 FERC FEIS; independent agency review in 2022 of the *Hydrologic Analysis for the JNF* (Geosyntec Consultants 2020b) and the *Hydrologic Analysis for Aquatic Species* (Geosyntec Consultants 2020a); the 2017 Biological Assessment (BA) and 2020 and 2022 SBAs (FERC 2017c, MVP 2020b, MVP 2022b); the 2017, 2020, and 2023 FWS BOs (FWS 2017, 2020, 2023a); the 2017, 2020, and 2022 Biological Evaluations (BEs) (MVP 2017; Copperhead 2020; Copperhead 2022); the POD and appendices (MVP 2022a); and data and information described in public comments on the DSEIS.

#### **Alternative 1 – No Action**

##### **Aquatic Species**

As described in the 2020 FSEIS (p. 105), the greatest potential for the No Action Alternative to affect TES aquatic species within and downstream of the JNF is through erosion and sedimentation from the partially implemented MVP. Review of 2021 and 2022 Transcon weekly and monthly monitoring reports shows that areas within the JNF continue to be stable and erosion and sedimentation controls are functioning as intended. Under the No Action Alternative, the JNF project area would be revegetated and minor, short-term adverse effects to aquatic TES species would occur from use of equipment and vehicles during restoration activities (2022 POD Appendix H: Restoration Plan). Long-term effects would be minor and beneficial as restoration activities would return the Project area to as close to the pre-project condition as practicable or possible. This is consistent with the conclusions in the 2017 FERC FEIS and 2020 FSEIS.

Erosion and sedimentation issues continue to occur along Pocahontas Road; however, contributing factors likely include the pre-existing condition of the roadway and an independent timber sale (TS) that was completed in 2022. The JNF is near completion of a separate action to improve the road surface, address in-stream road crossings, and reduce sedimentation associated with Pocahontas Road.

##### **Terrestrial and Plant Species**

The greatest potential for the No Action Alternative to affect TES terrestrial wildlife and plant species within the JNF is through habitat loss from the partially implemented MVP. Direct effects have already occurred during partial construction of the pipeline and were analyzed in the 2017 FERC FEIS and 2020 FSEIS (p. 89). Indirect effects associated with habitat loss would occur over the long term because revegetation and restoration of the affected JNF lands under the No Action Alternative would be augmented through planting grasses, herbaceous cover, and woody vegetation. Because the pre-project condition was forest, this area would be regenerating trees, whether planted or volunteer species, for decades, in successional habitat stages. Under the No Action Alternative, the JNF project area would be revegetated and restored and minor, short-term adverse effects to terrestrial TES would occur from use of equipment and vehicles during restoration activities. This is consistent with the conclusions in both documents.

#### **Alternative 2 – Proposed Action**

##### **Aquatic Species – Federally Listed**

Conclusions in the 2021 FERC Boring EA regarding conventional bore methods for stream crossings are consistent with those disclosed in the 2020 FSEIS; conventional boring would result in fewer adverse effects on

soils, water quality, and aquatic species compared to the originally proposed dry-ditch open cut method. After an independent agency review, the Forest Service determined that the analysis of conventional boring disclosed in the 2020 FSEIS (pp. 111 to 112) remains applicable and is discussed in further detail in Section 3.4.3. The 2022 SBA analyzed the effects of climate change on aquatic TES species and the Forest Service conducted its own independent agency review, determining that the effects disclosed (e.g., changes in water quality and temperature) in the SBA could be applicable to species on the JNF.

Per Monitoring Plan requirements in the 2020 FWS BO, MVP has conducted suspended sediment monitoring to ensure that incidental take limits for the Roanoke logperch and candy darter are not exceeded. Monitoring has occurred in multiple watersheds as directed by the FWS, but none of the commissioned<sup>28</sup> monitoring stations are located on NFS lands. In these watersheds, monitoring stations were installed on tributaries where pipeline construction was planned, as well as on species streams of interest (see Section 3.3.2). This allowed MVP and the FWS to determine if the SSC in tributaries near pipeline construction exceeded SSC in the larger streams that might house TES species. Under the Monitoring Plan, when thresholds were exceeded, the Project team was notified, and response actions were undertaken as outlined in Appendix F of the 2020 BO. After the vacatur, Mountain Valley voluntarily continued the Monitoring Plan. The results of the Monitoring Plan are discussed in the analyses below and presented in detail Appendix L of the 2022 SBA.

The analysis in this FSEIS acknowledges the Fourth Court's February 3, 2022 vacatur and the new FWS BO issued in February 28, 2023 that contains mitigation measures to reduce potential effects to Threatened and Endangered species. These mitigation measures are mandatory nondiscretionary items that Mountain Valley must implement. The Forest Service will require implementation of all mandatory measures from the 2023 FWS BO applicable to species and habitat on NFS land as a condition of approving the Plan amendment and concurring with the ROW grant. Therefore, the Project, and all activities on NFS lands, would be compliant with the ESA.

### Aquatic Species Action Area

The Action Area remains the same as described in the 2020 FSEIS (pp. 105 to 106): The upstream extent of the Action Area for aquatic species is defined as “the most upstream point at which measurable sediment attributed to the Project may enter a National Hydrography Dataset stream segment via sediment from direct impacts where the Project crosses the stream or sediment from upland workspaces delivered via overland flow to streams” (2020 FSEIS). The downstream extent is the point at which “the stream becomes impounded to an extent that water velocity slows and sediment settles out or the downstream point at which the Project's estimated maximum increase in delivered sediment concentration to the stream is attenuated to the point where an increase in measurable sediment concentration (for example, total suspended solids or suspended sediment concentration) from the Project could not be discerned from background sediment concentrations (i.e., the concentration attenuation threshold)” (2020 FSEIS).pub

### Candy Darter (*Etheostoma osburni*)

The candy darter is a small, freshwater fish found in small to large streams and rivers in the Gauley and greater New River watersheds in Virginia and West Virginia. A habitat specialist, this species prefers fast flowing segments with coarse substrate (FWS 2018a). Since publication of the 2020 FSEIS, this species has been listed as Endangered under the ESA and Critical Habitat has been designated. In consideration of the entire 303.5-mile-long project, the 2023 FWS BO concurs with a determination of **May Affect, Likely to Adversely Affect** for this species, but finds it is not likely to jeopardize the continued existence of the candy darter (FWS 2023b).

<sup>28</sup> Commissioned stations were installed, operational, and collecting data subject to Monitoring Plan requirements.

Analysis of effects to the candy darter and its critical habitat as a result of the Project is based on the best available information, including species and habitat occurrence and newly available monitoring data collected by Mountain Valley that measures the Project's contribution of sediment to streams that were subject to the 2020 BO's monitoring requirement.

No direct effects are anticipated for the candy darter on NFS lands since the four streams (unnamed tributaries of Craig Creek) crossed by the MVP on Brush Mountain and Sinking Creek Mountain are not known to harbor the candy darter (FWS 2023a; MVP 2022b). The JNF MVP crossings are not in the candy darter watershed and the anticipated effects remain consistent with those disclosed in the 2017 FERC SEIS and 2020 SEIS.

The 2020 FWS BO required sediment monitoring to assess the effects of pipeline activity on the candy darter. Project construction activities had not yet resumed in the candy darter sediment monitoring watersheds when the Fourth Circuit vacated the 2020 FWS BO. The candy darter monitoring stations were brought online upon installation, have remained operational, and have been continuously collecting data since installation. Although not officially commissioned for the Monitoring Plan (due to the vacatur), Mountain Valley conducted field inspections and remote analysis of potential exceedances measured by the stations. As discussed in more detail in Section 3.3.2.2, the monitoring data show that the maximum tributary SSCs during named storms were similar to or lower than the maximum SSCs at the upstream and downstream stations in the corresponding species streams for the same storms. This suggests that sources of SSCs in the tributaries, which include the pipeline along with other uses, have a similar or lower effect on water quality as sources in the upstream and downstream species streams, which do not include the pipeline. The maximum calculated SSC Differences in the species streams were all below the FWS's 3-hour 40 mg/L threshold for the named storms reviewed. None of the elevated calculated SSC Differences in the species streams exceeded the FWS Take Risk Concentration<sup>29</sup>. The 2023 FWS BO determined that impacts from the MVP pipeline crossings of Kimballton Branch and Stony Creek, which are outside NFS lands, are not likely to jeopardize the continued existence of the candy darter. A thorough independent review of the MVP data was performed by Forest Service biologists and hydrologists. The Forest Service anticipates no indirect or cumulative effects from the MVP ROW on NFS lands on the candy darter.

As summarized in Section 2.2.2.2, the Project would implement measures to avoid, minimize, and mitigate potential effects on the candy darter.

#### Candy Darter Critical Habitat

Candy darter critical habitat in the JNF is part of the Middle New Unit in Bland and Giles Counties. In Giles County, this includes approximately 19.3 stream miles of Stony Creek from the confluence with White Rock Branch, downstream to the confluence of the New River (10 stream miles occur within the JNF) (86 FR 17956). No candy darter critical habitat occurs in the NFS waterbodies crossed by the MVP as the unnamed tributaries to Craig Creek or Craig Creek are not in candy darter critical habitat. Therefore, MVP on the JNF will have no direct effect on candy darter critical habitat.

Kimballton Branch at the pipeline crossing location is not known to support candy darter. This crossing is located approximately 900 meters upstream from its confluence with Stony Creek and occurs within the JNF Proclamation Boundary, but not on NFS lands. The JNF Proclamation Boundary includes both NFS lands and private lands. The Forest Service only manages NFS lands. The 2022 SBA determined that no direct instream impacts to critical habitat is anticipated due to the use of the conventional bore method at the Stony Creek crossing outside of and downstream from the JNF (MVP 2022b). The 2023 FWS BO determined that impacts

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<sup>29</sup> The Take Risk Concentration in a tributary to a Stream of Interest is the concentration of Project-related sediment that must occur in the tributary to potentially cause a 20 mg/L increase in the Stream of Interest as indicated in Table 2 of Appendix F to the 2020 BO.

from these two pipeline crossings are not likely to jeopardize the continued existence of the candy darter and are not likely to destroy or adversely modify designated critical habitat (FWS 2023a).

The FWS evaluated potential indirect sedimentation effects to Stony Creek from the MVP Kimballton Branch crossing and ROW runoff via Kimballton Branch which does not support candy darter populations. The 2017 FERC FEIS considered indirect sedimentation effects resulting from the use of Pocahontas Road and Mystery Ridge roads via Kimballton Branch as well. Because these access roads would no longer be utilized for the Project, indirect effects to the critical habitat are expected to be less than those considered in the 2017 FERC FEIS. The portion of Mystery Ridge Road that is partially collocated with the pipeline LOD and the crossing of Mystery Ridge Road by the pipeline were considered in the 2017 FERC FEIS and the *Hydrologic Analysis for Aquatic Species* (Geosyntec Consultant 2020b). Indirect effects from MVP ROW on NFS lands are not anticipated to Stony Creek as the closest location is approximately 0.5 mile from MVP ROW on NFS lands. Therefore, no indirect effects from the NFS lands crossings are anticipated on candy darter critical habitat.

#### Roanoke Logperch (*Percina rex*)

This species typically occurs in warm, medium to large streams and rivers in riffles, runs, and pools, preferring the areas with sandy gravel to boulder type substrates. Throughout its life, logperch will use most habitat in the river and except in winter, is intolerant to moderately to heavily silted substrate. Threats include sedimentation, industrial development, and flood control projects (FWS 2023a). No Critical Habitat has been designated for the Roanoke logperch.

Roanoke logperch are known to occur downstream of the MVP waterbody crossings within the North Fork Roanoke River; however, the occurrences are outside of the Project area and are beyond the extent of increased sedimentation modeled for the waterbody crossings within the JNF. The 2023 FWS BO and 2023 FWS letter agree with the determination of **May Affect, Likely to Adversely Affect** the species for the MVP as a whole, but finds it is not likely to jeopardize the continued existence of the Roanoke logperch. No suitable habitat occurs in the JNF and no effects from Project activities on the JNF are expected.

As required by the 2020 BO and Monitoring Plan, Mountain Valley installed monitoring stations before resuming construction in each Roanoke logperch monitored watershed. In general, low flows and low turbidity were measured within the monitored tributaries where construction occurred. The Monitoring Plan conservatively assumed all measured turbidity/sediment contributions at the tributary monitoring stations were attributable to the Project. The maximum turbidity in each tributary before the Fourth Circuit's February 3, 2022 vacatur was below the tributary FWS's Take Risk Concentration that would require implementation of the BO's Rapid Response Protocol actions.

Post-vacatur, Mountain Valley voluntarily continued implementation of the Monitoring Plan. Observations during the post-vacatur period, when construction was inactive, were generally consistent with observations in the pre-vacatur period during active construction; they were below the FWS's Take Risk Concentration that would have required implementation of the BO's Rapid Response Protocol actions had the Project been under active construction.

#### Atlantic Pigtoe (*Fusconaia masoni*)

This species, a freshwater unionid mussel, is typically found in swift, clean, and well-oxygenated streams, larger in size (e.g., large creek to medium-sized river) with gravel and sand substrates (Terwilliger 1991). Atlantic pigtoe is one of the Atlantic Slope unionids that prefers to inhabit the upper parts of rivers, usually above the geological boundary, typically denoted by rapids or a waterfall, between an upland region and a plain (i.e., fall line). Consultation with FWS in 2020 resulted in a No Effect determination. In December 2021, this species was listed as Threatened under the ESA and Critical Habitat was designated.

The 2022 SBA proposed retaining the 2020 determination of **No Effect** because the 2021 listing and Critical Habitat designation did not provide new information about the species or its occurrences near the Project area (MVP 2022b). The 2023 FWS letter concurs with this determination.

As described in the 2020 FSEIS (pp. 98 to 99), populations of this species were not identified at any of the Project stream crossings, and the closest known population (according to the Virginia Department of Wildlife Resources [VDWR] Wildlife Environmental Review Map Service database) occurs in Craig Creek downstream of the confluence with Johns Creek approximately 30.2 miles downstream of the Project area. According to the *Hydrologic Analysis for the JNF* (Geosyntec Consultants 2020b), increased sedimentation rates above 1% over baseline scenario are not expected to occur outside of the Trout Creek-Craig Creek Subwatershed. According to the VDWR Wildlife Environmental Review Map Service database, more than 20 mussel survey events occurred in the Trout Creek-Craig Creek Subwatershed (including past records upstream and downstream of the Project crossing and mussel surveys associated with the Project); however, no Atlantic pigtoe have been collected in that subwatershed (VDWR 2022a).

#### Atlantic Pigtoe Critical Habitat

At the conclusion of the 2020 reinitiated consultation, at which time FWS had proposed listing the Atlantic pigtoe as Threatened with a 4(d) rule and proposed designating Critical Habitat for the species, the FWS made a determination of **No Effect** on proposed Critical Habitat because the species does not occur “at or downstream of the MVP pipeline crossing of Craig Creek or any other MVP pipeline stream crossings, or in the Action Area (which includes upland sedimentation effects)” (MVP 2022b). The 2023 FWS letter concurs with this determination. The December 2021 final listing decision for the Atlantic pigtoe does not provide new information about the species or any occurrences in relevant proximity to the Project or its Action Area. Similarly, the final Critical Habitat designation is identical to FWS’s proposal for the units in closest proximity to the Project, and no Critical Habitat occurs within the Project’s Action Area. Indirect effects on Critical Habitat are anticipated to be negligible because the pipeline will cross Craig Creek and its tributaries using a guided conventional bore crossing method to avoid or minimize impacts to streams.

#### **Aquatic Species - RFSS**

Under NFMA, the Forest Service is required to determine whether any RFSS are near the Proposed Action on NFS lands and to determine potential effects on those species. A Supplemental Biological Evaluation (SBE) was prepared in December 2022 to re-evaluate the RFSS with potential to be found on the JNF (MVP 2022d).

Since publication of the 2020 FSEIS, the Tennessee dace has been added to the Draft Updated Region RFSS list. The Tennessee dace does not occur in watersheds affected by the Project and therefore is not included in the 2022 SBE or this FSEIS for further analysis. As a result, the analysis of effects on aquatic RFSS remains unchanged from that disclosed in the 2020 FSEIS (pp. 96 to 99).

#### **Terrestrial Species – Federally Listed**

The effects analyses for Federally listed terrestrial species addressed in the 2020 FSEIS are unchanged. Species addressed here are those whose listing status has since changed or were specifically addressed in the Fourth Circuit’s February 3, 2022 decision regarding the FWS 2020 BO.

#### Terrestrial Species Action Area

The Action Area is the same as described in the 2020 FSEIS and covers up to 350 feet for dust effects, up to 1,200 feet for light effects, up to two miles for noise effects, and the geographic scope of the *Hydrologic Analysis for the JNF* (Geosyntec Consultants 2020b) for water quality effects (FWS 2020).

Indiana bat (*Myotis sodalis*)

Indiana bats are a nocturnal, medium-sized, brown-colored insectivorous bats ranging in size from 2.9 to 3.8 inches and weigh about as much as a nickel (< 0.3 ounces) (FWS 2022). The geographic range of Indiana bats includes much of the eastern, southeastern, and north central United States, including all of West Virginia and the western half of Virginia. Indiana bats migrate seasonally between caves or abandoned mines (hibernacula) in the winter and their summer range where they roost in dead, dying, or live trees with cracks, crevices, or exfoliating bark. There is no Critical Habitat for this species near the JNF.

The 2023 FWS BO and 2023 FWS letter include an effects determination of **May Affect, Likely to Adversely Affect** for the Indiana bat for the MVP as a whole. However, no effects are anticipated on the JNF. Indiana bats were not captured during 2015 and 2016 mist-net surveys, but it is assumed the species occupies potentially suitable summer habitat, spring staging/fall swarming habitat, and winter hibernacula in the Action Area where presence/probable absence surveys were not conducted. Additional mist-net surveys have not been required since trees were removed within the LOD in 2018. On page 20 of the 2023 FWS BO, FWS confirmed that the areas where trees were cleared for the Project continue to be unsuitable for bat species and will be for years to come. Based on coordination with VDWR, no new capture or roost records have been reported with the Action Area (MVP 2022b). Some Indiana bat individuals would possibly be impacted during construction and operation and maintenance of the Project. As summarized in Section 2.2.2.2, the Project would require implementation of measures to avoid, minimize, and mitigate adverse effects on the Indiana bat.

Northern long-eared bat (*Myotis septentrionalis*)

Northern long-eared bats are medium-sized bats characterized by their long ears relative to other bats in the genus (MVP 2022b). They weigh about as much as a nickel (0.17 to 0.28 ounces) at maturity with average body lengths of about 3.0 to 3.7 inches. Females average slightly larger than males. The geographic range includes southeastern Canada, much of the central, eastern, and northeastern United States, including all of Virginia and West Virginia. Northern long-eared bats hibernate in caves or abandoned mines in winter and roost underneath bark or in cavities or crevices of both live and dead trees in the summer during their reproductive season.

The 2023 FWS BO and 2023 FWS letter include an effects determination of **May Affect, Likely to Adversely Affect** for the northern long-eared bat for the MVP as a whole. Results of summer mist-net and harp trap surveys conducted in 2015 confirmed presence of northern long-eared bats within the LOD. Additional mist-net surveys have not been required by FWS since trees were removed in 2018 and the LOD is no longer considered bat habitat. The Action Area for northern long-eared bat is the same as described above for the Indiana bat (MVP 2022b). Individuals present during spring staging and autumn swarming may be impacted during project development. As summarized in Section 2.2.2.2, the Project would require implementation of measures to avoid, minimize, and mitigate adverse effects on the northern long-eared bat.

Tricolored bat (*Perimyotis subflavus*)

On September 13, 2022, the FWS proposed listing the tricolored bat as Endangered. A final decision on the Endangered listing is expected in September 2023. Tricolored bats are geographically located from southeastern Canada south to Honduras and west through Oklahoma (Silvis et al. 2016). They typically leave their hibernacula from mid-April to early May and arrive at their maternity colonies shortly thereafter (Whitaker 1998, Silvis et al. 2016). Parturition occurs around late May to early July to one or two pups, with juveniles volant after about a month (Whitaker 1998). Fall migration may be in mid-August with bats entering their hibernacula between late September to mid-October (Fraser et al. 2012, Silvas et al. 2016). Similar to other Eastern U. S. bats, mating occurs in the fall and sperm is stored until after spring emergence.

Tricolored bats typically roost in dead or live foliage in the summer (Veilleux et al. 2003, Perry and Thill 2007) and hibernate in caves, culverts, rock crevices, and mines (FWS 2023d). They have also been documented using bridges, decks, and buildings, as well as artificial roost structures such as rocket boxes and bat houses in the summer (Cervone et al. 2016, Whitaker 1998). While habitat availability is not a limiting factor for the species (Silvas et al. 2016), Perry and Thill (2007) found that tricolored bats prefer mature hardwood forests that contain abundant midstory hardwoods.

Perry and Thill (2007) also found that tricolored bat roosts were primarily in unharvested greenbelts which contained abundant midstory hardwoods. Silvas et al. (2016) suggest that while habitat availability is not a limiting factor for the species, tree felling activities and habitat manipulation should be limited during the active maternity season. Along with the Indiana and northern long-eared bats, tricolored bats have been heavily impacted by white-nose syndrome, a fungal disease harming and killing bats during hibernation.

The 2023 FWS letter agrees with the determination of **Is Not Likely to Jeopardize** the tricolored bat for the MVP as a whole. Bat surveys were conducted in 2015 and 2016, but no tricolored bats were captured within the JNF ROW. Forested areas of the JNF outside of the LOD provide potential summer habitat for tricolored bats. Additional mist-net surveys may not be required by FWS since trees were removed in 2018 and the LOD is no longer considered bat habitat. No suitable cave openings or portals were observed along the proposed alignment on the JNF. There are no known winter hibernacula within 0.25 mile along the proposed alignment. The closest known hibernaculum is approximately 3 miles from the ROW crossing JNF lands (VDWR 2022b). Additionally, no blasting will occur on the JNF, therefore, no effects to hibernacula would occur that have not been covered by other BMPs and conservation measures (i.e., noise, hydrology, and karst features).

### **Terrestrial Species – RFSS**

The list of terrestrial RFSS considered in the 2022 SBE is different from that in the 2020 SBE, 2017 BE, and 2017 FERC FEIS because the Region 8 RFSS list is being updated and the Draft Updated Region 8 RFSS was considered in the 2022 SBE. As of June 1, 2022, two additional terrestrial RFSS are being assessed for their potential to be affected by the Project: the American bumble bee and the little brown bat. Preliminary determinations for these species are provided in this FSEIS. All other RFSS determinations made in the 2020 SBE remain the same.

#### American Bumble Bee (*Bombus pensylvanicus*)

In September 2021, the FWS found that the American bumble bee may be warranted for listing and initiated a status review (*Federal Register*/ Vol. 86, No. 186). Historical distribution ranged across most of North America, but distribution has declined to and is now more common from Florida, west to Colorado, Texas, and New Mexico (Rourke 2022). Found in open farmlands, this insect is a food generalist and will gather pollen and nectar from the plant genera *Vicia*, *Trifolium*, *Solidago*, and *Hypericum*, among others (NatureServe 2022).

A **no Impact** determination is made for the American bumble bee. This species has not been documented in the JNF; however, tree removal of the regrowth on Peters Mounty may create potential American bumble bee habitat and could be beneficial for the species. Revegetation of the ROW would follow a two-step process as recommended by the Forest Service: 1) stabilization of soils immediately following tree removal and construction activities with appropriate seed mixes and techniques, and 2) revegetation of the ROW corridor as needed with native seed mixes recommended in consultation with the Forest Service.

#### Little Brown Bat (*Myotis lucifugus*)

The little brown bat is currently under review for listing under the ESA. Little brown bats can be found throughout most of the United States and Canada, although it is generally absent from the southern Great Plains region (NatureServe 2022).

Little brown bats have been documented using human dwellings such as barns, sheds, attics, and buildings for roosting in the summers (Davis et al. 1965, Humphrey and Cope 1976, Fenton and Barclay 1980, Kalcounis and Hecker 1995), as well as artificial roost structures such as artificial bark (i.e., BrandenBark®) and bat boxes (Gumbert et al. 2013, Webber and Willis 2018, Besler and Broders 2019, Waldron and Burke 2021). However, they are also known to use trees, natural crevices, and rock crevices (Johnson et al. 2019).

During the summer months, female little brown bats have been documented to primarily use hot, dark, and poorly ventilated buildings for maternity day roosts, while adult male bats roost either individually or in small groups in rock crevices, tree hollows, loose tree bark, or small openings in buildings separate from the maternity roost (Humphrey and Cope 1976). It is assumed that prior to construction of man-made structures, little brown bats used hollow trees and rock crevices as maternity roosts; however, other published documentation of natural roosts used by little brown bats is uncommon (Barclay and Cash 1985). Foraging habitat includes margins and edges of waterbodies and overtop of waterbodies (Fenton and Barclay 1980).

Winter hibernacula for little brown bats includes caves and abandoned mines with high humidity levels and temperatures above freezing. Little brown bats will often form clusters of both sexes during hibernation (Fenton and Barclay 1980).

**A May Impact Individuals – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability** determination is made for the little brown bat. Summer habitat for little brown bats is present within the JNF in the form of trees. However, the removal of trees from the LOD has already occurred. There are no known winter hibernacula within the Project area on the JNF; however, there are three known hibernacula in Giles County. The closest hibernaculum to the JNF sections of the MVP is approximately 3 miles northwest of the Project (VDWR 2022b). Indirect effects from blasting are not expected to detrimentally impact little brown bats in the vicinity of the Project area. Additionally, no blasting will occur on the JNF, therefore, no effects to hibernacula would occur that have not been covered by other BMPs and conservation measures (i.e., noise, hydrology, and karst features).

### Conclusion

To minimize or avoid adverse effects on terrestrial habitat that support RFSS, the POD includes Environmental Protection Measures in Appendix V: Plant and Wildlife Conservation Measures Plan. Other measures that would contribute to minimizing effects to RFSS are included in the FERC Plan and Procedures, the POD Appendix C: Erosion and Sediment Control Plan, and Appendix D: Spill Prevention, Control, and Countermeasure Plan. The SBE determined that MVP would not cause a trend toward Federal listing or loss of viability for any of these terrestrial species.

### **Plant Species – Federally Listed**

There have been no changed conditions other than the delisting of running buffalo clover affecting Federally listed plant species, therefore, the analysis and effects determinations are unchanged from the 2020 FSEIS (pp. 121 to 123).

### **Plant Species – RFSS**

The list of RFSS plants considered in the 2022 SBE is different from that in the 2020 SBE because the Region 8 RFSS list is being updated and the list contains American ginseng (*Panax quinquefolius*). Therefore, American ginseng is included in this FSEIS. The analysis and effects determinations for the other RFSS plant species are unchanged from the 2020 FSEIS.



American Ginseng (*Panax quinquefolius*)

American ginseng is an herbaceous perennial with greenish-white flowers and red, berry-like fruits. It is native to the eastern US and Canada, and as far west as the Dakotas (NRCS 2003). This plant occurs primarily in rich, moist woods under a closed canopy of hardwood or mixed forests. According to NatureServe, the largest threat to this species is digging of its roots for commercial sale (NatureServe 2022). The root is valued as a medicinal herb and harvest of the plant is regulated by the VDAC (VDAC 2022). As a result of commercial demand and illegal digging, most states have strictly regulated or prohibited collection of this species (NRCS 2003).

**A May Impact Individuals – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability** determination is made for American ginseng. This species was found at three locations during plant surveys on alternative pipeline routes on JNF land that are no longer part of the proposed route (MVP 2017). Although suitable habitat is present within the Project area, tree removal within the LOD has already occurred; therefore, the LOD is no longer under a closed canopy of mature trees or shaded that would provide habitat for the species. Potential effects from the introduction of invasive species have been covered by other mitigation measures.

Conclusion

To minimize or avoid adverse effects on vegetation habitat that support RFSS, the POD includes Appendix V: Plant and Wildlife Conservation Measures Plan (e.g., use existing roads to the pipeline before constructing new access roads, implement a project-specific erosion and sediment control plan, use Forest Service approved seed mixes for all restoration efforts) and Appendix S: Exotic and Invasive Species Control Plan (reseed all disturbed areas promptly after final grading, require equipment cleaning stations to ensure equipment is free of debris or excess soil to minimize potential for spread of weeds or soil-borne pests). The 2022 SBE determined that MVP would not cause a trend toward Federal listing or loss of viability for any plant species.

### Summary of Species Determinations

Table 6 provides a summary of the TES species effects determinations referenced in this FSEIS.

**Table 6. Summary of Threatened, Endangered, and Sensitive Species Effects Determinations**

Status	Group	Species Name	Common Name	Effects Determination
Federally Endangered	Fish	<i>Etheostoma osburni</i>	Candy darter	May Affect, Likely to Adversely Affect; May Affect, Not Likely to Destroy or Adversely Modify Critical Habitat
Federally Endangered	Fish	<i>Percina rex</i>	Roanoke logperch	May Affect, Likely to Adversely Affect
Federally Threatened	Mussel	<i>Fusconaia masoni</i>	Atlantic pigtoe	No Effect; No Effect to Critical Habitat
Federally Endangered	Mammal	<i>Myotis septentrionalis</i>	Northern long-eared bat	May Affect, Likely to Adversely Affect
Federally Endangered	Mammal	<i>Myotis sodalis</i>	Indiana bat	May Affect, Likely to Adversely Affect
Federally Proposed Endangered	Mammal	<i>Perimyotis subflavus</i>	Tricolored bat	May Impact Individuals – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability
RFSS	Mammal	<i>Myotis lucifugus</i>	Little brown bat	May Impact Individuals – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability
RFSS	Insect	<i>Bombus pennsylvanicus</i>	American bumble bee	No Impact
RFSS	Vascular Plant	<i>Panax quinquefolius</i>	American ginseng	May Impact Individuals – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability

### 3.3.3.3 Effects of Forest Plan Amendment on Aquatic and Terrestrial Species

There are 11 Forest Plan standards that would be amended and one plan component, a standard, that would be added under the proposed action. These amended standards are required to make the construction, operation, and maintenance of the MVP through the JNF a conforming use under the Forest Plan. Direct and indirect effects on fisheries and aquatic species from adoption of the amended standards and new standard would be limited to the construction and operation/maintenance of the MVP. For terrestrial species, amended standards that facilitate tree removal may directly negatively affect Indiana bats and northern long-eared bats. These amended standards include Standard FW-14 (exposed soil and residual basal area within the channeled ephemeral zone) and Standards 6C-007 and 6C-026 (tree clearing and utility corridors in the old growth management area). A summary of potential effects to fisheries, aquatic species, and terrestrial species from the amended standards and new standard is provided in Table 7.

**Table 7. Effects of Proposed Forest Plan Amendment on Aquatic and Terrestrial Species**

<b>JNF Forest Plan Standards (Modifications in Italics)</b>	<b>Effects on Fisheries and Aquatic Species</b>	<b>Effects on Terrestrial Species</b>
<b>Utility Corridors</b>		
Standard FW 248: Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Prescription Area 5B or 5C. <i>However, this requirement does not apply to the MVP construction zone and right-of-way.</i>	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.
<b>Soils and Riparian</b>		
Standard FW-5: On all soils dedicated to growing vegetation, the organic layers, topsoil, and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years, <i>with the exception of the MVP construction zone and right-of-way.</i>	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.
Standard FW-8: To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit, <i>with the exception of the MVP construction zone and right-of-way.</i> Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling.	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.
Standard FW-9: Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5 percent or less, <i>with the exception of the MVP construction zone and right-of-way.</i>	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.
Standard FW-13: Management activities expose no more than 10% mineral soil in the channeled ephemeral zone, <i>with the exception of the MVP construction zone and right-of-way.</i>	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD. POD Appendix H details waterbody construction mitigation, as well upland erosion control, revegetation, and maintenance, and topsoil and spoil treatment.	Soil exposure mitigated in FSEIS. Already addressed in this FSEIS and POD.

**Table 7 (continued). Effects of Proposed Forest Plan Amendment on Aquatic and Terrestrial Species**

<b>JNF Forest Plan Standards (Modifications in Italics)</b>	<b>Effects on Fisheries and Aquatic Species</b>	<b>Effects on Terrestrial Species</b>
Standard FW-14: In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian-dependent resources, <i>with the exception of the MVP construction zone and right-of-way.</i>	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD. POD Appendix H details waterbody construction mitigation, as well upland erosion control, revegetation, and maintenance, and topsoil and spoil treatment.	Soil exposure mitigated in FSEIS. Already addressed in this FSEIS and POD. The effects of implementing mitigation measures and design requirements would be consistent with the wildlife, TES species analysis in the 2017 FERC FEIS and would not result in any additional effects beyond those disclosed in the 2017 FERC FEIS.
Standard 11-003: Management activities expose no more than 10% mineral soil within the Project area riparian corridor, <i>with the exception of the MVP construction zone and right-of-way.</i>	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD. POD Appendix H details waterbody construction mitigation, as well upland erosion control, revegetation, and maintenance, and topsoil and spoil treatment.	Soil exposure mitigated in FSEIS. Already addressed in this FSEIS and POD.
<b>Old Growth Management Area</b>		
Standard 6C-007: Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation, <i>with the exception of the MVP construction zone and right-of-way.</i>	Does not change analysis and conclusions of the this this FSEIS, SBA, or SBE, which address these issues.	Has increased edge habitat on Brush Mountain that has promoted some plant and animal species. Has increased fragmentation which could have adverse effects on interior forest species. However, this amendment does not change analysis and conclusions of this FSEIS, SBA, or SBE, which address these issues.
Standard 6C-026: These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites, <i>with the exception of the MVP right-of-way.</i> Existing uses are allowed to continue.	Does not change analysis and conclusions of this FSEIS, SBA, or SBE, which address these issues.	Has increased edge habitat on Brush Mountain that has promoted some plant and animal species. Has increased fragmentation which could have adverse effects on interior forest species. However, this amendment does not change analysis and conclusions of the FSEIS, SBA, or SBE, which address these issues.

**Table 7 (continued). Effects of Proposed Forest Plan Amendment on Aquatic and Terrestrial Species**

<b>JNF Forest Plan Standards (Modifications in Italics)</b>	<b>Effects on Fisheries and Aquatic Species</b>	<b>Effects on Terrestrial Species</b>
<b>Appalachian National Scenic Trail</b>		
Standard 4A-028: Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist, <i>with the exception of the MVP construction zone and right-of-way</i> . Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.	No effect on fisheries and aquatic species.	No effect on terrestrial species.
<b>Scenic Integrity Objectives</b>		
Standard FW-184: The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses), <i>with the exception of the MVP construction zone and right-of-way</i> . Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO.	No effect on fisheries and aquatic species.	No effect on terrestrial species.
<b>MVP-Specific Standard</b>		
To minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction and restoration phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan).	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.	Does not change conditions apart from those required to construct and maintain pipeline which are already addressed in this FSEIS and POD.

### 3.3.4 National Forest Management Act

Plan amendments are guided by Federal regulations at 36 CFR § 219 (NFMA implementing regulations, 2012 Planning Rule, or Planning Rule). The plan amendment process consists of three primary steps:

1. Determine which plan components must be modified to allow the Project to be consistent with the amended plan (36 CFR § 219.13(a)).
2. Determine which of the substantive requirement(s) within §§ 219.8 through 219.11 are directly related to the proposed amendment based on the purpose for and the effects of the amendment (36 CFR § 219.13(b)(5)).
3. Apply those directly related substantive requirements to the amended plan within the scope and scale of the proposed amendment (36 CFR § 219.13(b)(5))<sup>30</sup>

#### 3.3.4.1 Step 1: Determine Standards to be Modified

After reviewing the Forest Plan, the responsible official determined the MVP project as proposed would be inconsistent with 11 standards in the Forest Plan. The Forest Service proposes a project-specific amendment to modify the 11 standards to meet the requirement that the MVP project is consistent with the Forest Plan. The proposed amendment would exempt the MVP project from complying with the 11 modified standards, which would apply to the 54 acres of the construction zone (i.e., temporary construction ROW) and ultimately the 22 acres of the ROW grant. Standards denoted with an “FW” are Forest-wide standards. Standards that begin with a

<sup>30</sup> For further discussion of scope and scale, please see Appendix A.

numeral (e.g., 11-003) apply to a specific management prescription or area as identified in the Forest Plan. For example, “11-003” is a Plan standard that applies to Management Prescription 11 (Riparian Corridors). The 11 standards that would be modified include:

- FW-5 (revegetation)
- FW-8 (soil compaction in water saturated areas)
- FW-9 (soil effects from heavy equipment use)
- FW-13 (exposed soil)
- FW-14 (residual basal area within the channeled ephemeral zone)
- FW-184 (scenic integrity objectives)
- FW-248 (utility corridors)
- 4A-028 (Appalachian National Scenic Trail [ANST] and utility corridors)
- 6C-007 (tree clearing in the old growth management area)
- 6C-026 (utility corridors in the old growth management area)
- 11-003 (exposed soil within the riparian corridor)

In addition to modifying the above standards, the Forest Service is proposing to add a Forest Plan component, specifically a project-specific standard that would require adherence and implementation of specific POD appendices during the construction and restoration phases of the Project. A Forest Plan standard is a mandatory constraint on project and activity decision making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (36 CFR § 219.7(e)(1)(iii)). The Forest Service proposes to incorporate portions of the POD as a Forest Plan standard specific to the MVP construction zone and ROW with the following standard:

- **MVP-Specific Standard** – To minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction and restoration phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan).

### 3.3.4.2 Step 2: Determining Directly Related Substantive Requirements

The purpose of Step 2 is to identify which 2012 Planning Rule requirement(s) within 36 CFR §§ 219.8 through 219.11 are directly related to the amendment. Whether a substantive requirement is directly related to an amendment is determined by either the purpose or effects of the amendment (36 CFR § 219.13(b)(5)(i)). When basing the determination on adverse effects, a substantive requirement is directly related if the adverse effects are substantial or when the amendment would substantially lessen plan protections of a specific resource (36 CFR § 219.13(b)(5)(ii)(A)). Therefore, a substantive requirement is directly related to an amendment through one of the following: the purpose of the amendment, a beneficial effect of the amendment, a substantial adverse effect of the amendment, or a substantial lessening of plan protections by the amendment (36 CFR § 219.13(b)(5)).

The scope of this proposed project-specific amendment is defined as the 11 modified plan standards and the addition of an MVP project-specific Plan component, a standard. The scale for the proposed project-specific amendment varies by resource as described in Step 3.

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The determination of the directly related substantive requirements is grouped by related resources.

### **Soil and Riparian**

Six Forest Plan standards associated with soil productivity and riparian habitat are proposed to be modified in this amendment (FW-5, FW-8, FW-9, FW-13, FW-14 and 11-003). These six standards cannot be met utilizing standard industry pipeline construction methods like those proposed with the MVP. FW-5 requires that at least 85% of the organic layers, topsoil, and root mat be left in place over an activity area. FW-8 limits the use of heavy equipment on plastic soils when the water table is within 12 inches of the surface or when soil moisture exceeds the plastic limit. FW-13 requires management activities to expose no more than 10% mineral soils in the channeled ephemeral zone. FW-14 limits basal area removal up to a minimum of 50 square feet per acre in channeled ephemeral zones. Standard 11-003 limits management activities from exposing more than 10% mineral soils within the Project area riparian corridor. It is not practical to modify the MVP construction methods in a manner that would achieve consistency with these six standards. Therefore, the Forest Service proposes to amend these six standards for the MVP.

**Purpose** - The purpose of modifying standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 is to allow MVP to exceed one of the 56 standards for riparian area protection in Management Prescription 11, and five of the 30 Forest-wide standards for water, soil, and channeled ephemeral (riparian) zone protection. To ensure the amended plan continues to maintain or restore these resources, specific POD appendices are incorporated through the MVP-specific standard. The modification of these six standards is directly related to: § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources, § 219.8(a)(3)(i) – ecological integrity of riparian areas, and §219.11(c) – timber harvesting for purposes other than timber production.

**Effects** - The effect of the modification of the six soils and riparian standards includes minor adverse effects of vegetation removal, erosion and sedimentation, soil compaction, soil porosity, runoff potential, soil fertility, revegetation potential, and soil carbon budget (FERC FEIS, Sec. 4.2.2.5, p. 4-88). The POD would ensure impacts to soils, water, and riparian resources are minimized. However, even with the POD measures, the reduction of soil and riparian protection measures constitutes an adverse impact, but effects would not be expected to be substantial. The greatest impacts to soils, riparian, and water resources would be during the construction and restoration period.

As stated previously, sedimentation modeling estimated that ECDs would be effective at minimizing sedimentation in waterways. The model estimated that baseline sediment yields would vary from 0.15 to 0.43 tons/ac/yr at each HUC-12 watershed outlet, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is completed, sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. As described in detail in Section 3.3.2 of this FSEIS, the available relevant data, including the Forest Service and BLM's consideration of information from USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspection reports, and Transcon monitoring reports on the JNF, are all consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment runoff, and that observations of elevated sediment levels within the watershed may result from multiple land uses. As a result, the modified standards would not hinder the Forest Plan's ability to maintain or restore soils, water, and riparian resources.

Further, mitigation measures designed to minimize soil and riparian effects are incorporated into the POD (2017 FERC FEIS, Sec. 4.2.3, p. 4-88; Sec. 5.1.2, p. 5-3; Sec. 4.3.2.2., p. 137; Sec. 4.4.2.6, p. 4-187; Sec. 4.6.2.2). Specifically, an Erosion and Sediment Control Plan (POD, Appendix C1 and C2), Restoration Plan (POD, Appendix H), and Winter Construction Plan (POD, Appendix M) would ensure effects to soils, riparian, and water resources are minimized and are designed to expedite vegetative recovery, such as planting trees and shrubs in the riparian corridor. Continuous monitoring indicates mitigation measures and design criteria are effective at minimizing impacts to soils, riparian, and water resources.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. In summary, the FERC found that “conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation” (FERC 2021 p. 92). The FERC’s conclusion is consistent with the Forest Service’s independent agency analysis and demonstrates that the four JNF stream crossings would not hinder the amended Forest Plan’s ability to maintain or restore soil, water, or riparian resources.

As stated above, most impacts occur during the construction and restoration phases of the Project, which would be considered minor and temporary adverse effects. In the long-term, after restoration has occurred and the Project is in the operation and maintenance phase, sedimentation is expected to be minor (0.001 tons/ac/yr to 0.002 tons/ac/yr over baseline) due to maintenance and operation activities of the pipeline.

Because there would be no substantial environmental effects from the proposed modification of these standards, the proposed amendment is not directly related to any substantive requirements based on adverse or beneficial effects.

Standards FW-5, FW-8, FW-9, FW-13, and FW-14 would continue to apply to the remaining 723,300 acres of the JNF, and Standard 11-003 would continue to apply to the remaining 73,600 acres in Management Prescription 11 on the JNF. As stated above, real-world water quality data and information show the ECDs are effective at minimizing sediment runoff and therefore the modified standards would not hinder the Forest Plan’s ability to maintain or restore soil and riparian resources. The modified six standards would only apply to the 54-acre construction zone during construction activities and 22-acre authorized ROW, which would not constitute a substantial lessening of plan protections. Therefore, the proposed amendment is not directly related to any substantive requirement based on substantial lessening of plan protections.

In conclusion, the proposed modification of the six standards related to soil and water (FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003) are directly related to substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources, § 219.8(a)(3)(i) – ecological integrity of riparian areas, and § 219.11(c) – timber harvesting for purposes other than timber production. These six substantive requirements are directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through beneficial effects, substantial adverse effects, or substantial lessening of plan protections.



### **Scenery Integrity Objectives**

Forest Plan standard FW-184 requires all new projects to meet specific scenery conditions as outlined in the Forest SIOs Maps. The MVP proposed action (50-foot-wide authorized ROW) would cross two areas on NFS lands assigned as High SIO (12.4 acres), four areas with a Moderate SIO (32.0 acres), and one area with a Low SIO (4.2 acres) (2017 FERC FEIS, pp. 4-295 to 4-296). Scenery analysis in the 2017 FERC FEIS (pp. 4-334 to 4-347 and Appendix S) indicates the standard pipeline construction methods would not meet High and Moderate SIOs. High SIO areas should appear unaltered to the casual observer, while Moderate SIO areas may appear slightly altered but should borrow from elements of form, line, color, texture, and scale found in the characteristic landscape. The clearing of the ROW would highlight the linear nature of the pipeline and would not be consistent with the natural form, lines, and scales in the adjacent landscape. This alteration of the landscape would be obvious to the casual observer and the landscape would appear altered. It is not practical to modify the MVP construction methods and achieve consistency with High and Moderate SIOs due to the linear nature of pipelines and the need to remove the vegetation along the corridor, which creates an unnatural form on the landscape. Therefore, the Forest Service proposes to amend FW-184 for the MVP project.

**Purpose** - The purpose of modifying standard FW-184 is to allow MVP to exceed one of the 20 Forest-wide standards for scenery. Therefore, the modification of the FW-184 is directly related to § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character – due to the purpose of the amendment.

**Effects** - The effect of the modification of the FW-184 standard would be the net degradation of scenic quality inconsistent with the Forest Plan SIOs. Although this is an adverse impact to scenery, it is not a substantial adverse impact due to the limited extent to the scenery resource of the Project crossing the JNF (2017 FERC FEIS p. 4-347), and the implementation of POD measures. The POD would require the Project crossing of the ANST to retain vegetative cover for about 300 feet on either side of the ANST, thus mitigating foreground visual impacts to ANST users. Additionally, the topography acts as a natural barrier to reduce potential visual impacts to the south of the ANST. Background and middle ground visual impacts would occur for the long-term within the ROW (22 acres) remaining in an early successional vegetative condition; however, on NFS lands the ROW would be managed in an early successional condition for only 10 feet rather than the entire 50-foot ROW, and planting would be used to minimize the temporal impact to the scenic character. This would substantially reduce the visibility of the pipeline, especially in the background and middle ground. Vegetative growth would allow the corridor to meet the assigned SIO within five years following construction (2017 FERC FEIS p. 4-338). Therefore, no substantive requirements are directly related due to substantial adverse effect or beneficial effects.

Modifying standard FW-184 through the proposed amendment would not cause a substantial lessening of plan protections. As stated above, the POD requires the pipeline to go under the trail, and a forest buffer of about 300 feet on either side of the ANST would remain. In addition the POD requires managing the ROW in herbaceous cover for only 10 feet rather than the full 50 feet, which would minimize impacts to scenic character. Standard FW-184 would continue to apply across the Forest with 283,000 acres in a high SIO with the MVP project only affecting 12.4 acres in High SIO, and 242,000 forest-wide acres in a Moderate SIO with the MVP project only affecting 32.0 acres in Moderate SIO. Because exempting the MVP project from standard FW-184 would not constitute a substantial lessening of plan protections, the proposed modified standard is not directly related to any substantive requirements based on substantial lessening of plan protections.

In conclusion, the proposed modification of FW-184 is directly related to substantive requirement § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character. This substantive requirement is only directly related to the proposed amendment through the purpose of the

amendment. None of the substantive requirements are directly related through beneficial effects, substantial adverse effects, or substantial lessening of plan protections.

### **Utility Corridors**

Forest Plan standard FW-248 directs that if a new utility corridor is created outside an existing corridor, the new route would be reallocated as Management Prescription 5C, a designated utility corridor. For the MVP project, the utility corridor would not be in a designated Management Prescription 5C, and the corridor would be managed under the current Management Prescriptions of: 4A-Appalachian National Scenic Trail Corridor; 4J-Urban/Suburban Interface; 6C-Old Growth Forest; and 8A1-Mix of Successional Habitats and 11-Riparian Corridors. The use of designated utility corridors is intended to reduce fragmentation and minimize visual effects by encouraging collocation of any future utility corridors. Many public comments on the FERC Draft EIS expressed concern that a 500-foot-wide utility corridor designation could affect adjacent landowners by attracting future development. After consideration of public comments and further review of the proposed designation of the MVP corridor to Management Prescription 5C, the Forest Service determined that collocation of future utilities (which is the purpose of the designation) is too speculative and may not be logistically feasible or environmentally preferable. In addition, not designating a corridor would be responsive to adjacent landowner concerns that were raised to FERC during the public involvement process. Therefore, the proposed management area designation was dropped from the 2017 FERC FEIS and a project-specific Forest Plan amendment to modify this standard was proposed. The 2017 FERC FEIS and the 2020 FSEIS assessed the placement and sustainable management of the MVP corridor across the JNF, including the collocation with existing utilities. The proposed amendment would not preclude future collocation of utilities in the MVP corridor or any other utility corridor nor a future allocation change of the MVP corridor to Management Prescription 5C and would not designate MVP corridor as a utility corridor at this time.

**Purpose** – The purpose of amending standard FW-248 is to allow MVP to be exempt from one standard for managing for future utility corridors. Therefore, due to its purpose, the proposed modification of standard FW-248 is directly related to the substantive requirements § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.

**Effects** – There are no direct environmental effects of not designating the MVP corridor as Management Prescription 5C. In addition, there are no indirect or cumulative effects of not changing the land allocation because it is too speculative to assume a future utility line would be collocated within the MVP corridor even if it were designated a Management Prescription 5C, such collocation may not be logistically feasible or environmentally preferable, and there are no reasonably foreseeable future utility corridors proposed or known that will be located in the vicinity of MVP on the JNF. Because there would be no environmental effects of the proposed modification of FW-248, the proposed amendment is not directly related to any substantive requirement based on beneficial or adverse effects. Since there would be no effects of not designating the corridor to Management Prescription 5C, the lessening of plan protections consideration is not applicable.

The proposed modification of standard FW-248 is directly related to a single substantive requirement, § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors. This direct relation is based on only the purpose of the amendment. No substantive requirements are directly related to the modification of standard FW-248 based on effects.

### **Appalachian National Scenic Trail**

Forest Plan standard 4A-028 requires the Forest Service to locate new public utilities and ROWs along the ANST in areas where major effects already exist. The 2017 FERC FEIS evaluated pipeline routes crossing the Jefferson National Forest

ANST along existing ROWs and at an existing road crossing (State Route 635). However, concerns associated with the alternative routes included: longer routes; greater effects to old growth, inventoried roadless areas, wetlands, and other recreational effects; and increased risks from landslide prone areas (2017 FERC FEIS Appendix AA). This proposed amendment would allow for a pipeline route to cross the ANST at a location where no other major effects already exist.

**Purpose** - The purpose of modifying standard 4A-028 is to allow MVP to exceed one out of 30 Forest Plan standards for the ANST corridor. Therefore, the modification of the 4A-028 standard is directly related by the purpose of the amendment to § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors, § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

**Effects** - The effect of the modification of the 4A-028 standard would be the allowance of a new utility corridor to cross under the ANST at a location other than where major effects already exist. As disclosed in the following paragraph, although this is an adverse impact to ANST, it is not a substantial adverse impact due to the construction method proposed for crossing the trail, and because effects would be limited to the approximately 10-week construction period.

The POD requires the pipeline cross the ANST by boring under the trail, with an approximate 300-foot forested buffer on either side of the trail and no need for vegetation removal within approximately 300 feet of the trail. Minor temporary adverse effects to trail users may occur from noise, dust, and visual intrusions from crossing underneath the ANST via the 600-foot-long bore. These impacts would be limited only to the time when boring is occurring (anticipated to be 10 weeks) (2017 FERC FEIS, p. 3-52) (POD, Sec. 1.3). Multiple measures are required to minimize impacts on recreational users on the ANST and the ANST itself. For example, Appendix E and Section 7.5.2 of the POD include measures to avoid placing equipment near the ANST, avoid conducting trenching near the ANST, and mitigation to control fugitive dust. Additionally, because there is a 70- to 90-foot elevation difference between the bore holes and the ANST, topography acts as a natural barrier to reduce potential visual impacts to the south of the ANST. Because there would be no long-term noise effects and the approximately 300-foot vegetative buffer on either side of the trail would screen the Project, the modified standard is only needed for approximately 10 weeks of construction; operation of the ROW is expected to meet the unmodified standard 4A-028 direction. Therefore, no substantive requirements are directly related due to beneficial effects or substantial adverse effects.

Modifying standard 4A-028 would not cause a substantial lessening of plan protections. As stated above, the POD requires the pipeline to cross under the trail with an approximate 300-foot-wide forested buffer on either side. The POD requires multiple measures to minimize noise, visual, and recreational impacts. The impacts to ANST users would be limited for the anticipated 10-week construction period. Standard 4A-028 would continue to apply to the remaining 63,300 acres of the ANST corridor on the JNF and 29 other standards in Management Prescription 4A would be unaffected by the proposed amendment. Because allowing the pipeline to go under the ANST would not constitute a substantial lessening of plan protections, the proposed amendment is not directly related to any substantive requirement based on substantial lessening of plan protections.

In conclusion, the proposed modification of standard 4A-028 is directly related to substantive requirements § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas. These three

substantive requirements are only directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through beneficial effects, substantial adverse effects, or substantial lessening of plan protections.

### **Old Growth Management Area**

Two out of 85 Forest Plan standards associated with old growth management are proposed to be modified in this amendment (6C-007 and 6C-026). These two standards apply to NFS lands allocated to Management Prescription 6C: Old-Growth Forest Communities Associated with Disturbance. Standard 6C-007 would not allow clearing of trees where the MVP corridor and areas designated under Management Prescription 6C coincide. Standard 6C-026 states areas designated as 6C are not suitable for designation for a new utility corridor. These two standards would preclude the construction and designation of the MVP project if not modified. Originally, the ROW corridor was proposed in the FERC Draft EIS to be reallocated to Management Prescription 5C-Utility Corridor, but that part of the proposal was reconsidered in the 2017 FERC FEIS (see Utility Corridor in section 3.3.4.2 above). Therefore, the Forest Service proposes to modify these two standards for the construction and operation of the MVP on NFS lands.

**Purpose** - The purpose of modifying standards 6C-007 and 6C-026 is to exempt MVP from two of the 85 (total number of standards for Management Prescriptions 6A, 6B, and 6C) Forest Plan standards for old growth protection. Therefore, the modification of these two old growth standards is directly related to 219.9(a)(1) – ecosystem integrity and § 219.9(a)(2) – ecosystem diversity due to the purpose of the amendment. Since Standard 6C-007 restricts timber harvesting, this standard is also directly related to § 219.11(c) – timber harvesting for purposes other than timber production. In addition, since Standard 6C-026 restrict designation of utility corridors within Management Prescription 6C, this standard is also directly related to 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.

**Effects** - The proposed modification of these two old growth standards would result in the clearing of about 5.2 acres of old growth within areas designated as 6C (2017 FERC FEIS, Sec. 5.1.8, p. 5-9). Although this is an adverse impact to old growth ecosystems, it is not a substantial adverse impact due to the limited extent of the impact (about 5.2 of 30,200 old growth acres forest-wide). Because there would be no substantial environmental effects from the proposed modification of these standards, the proposed modifications are not directly related to any substantive requirement based on substantial adverse effects or beneficial effects.

Modifying two out of 85 old growth standards would not cause a substantial lessening of plan protections. Nor would it preclude the amended Forest Plan from maintaining or restoring old growth resources. In 2016, MVP prepared a tree survey of the Project area on the JNF determine the dominant species of trees present, tree age (based on tree core samples), estimated trees per acre, as well as the height and basal area of measured trees.<sup>31</sup> The Forest Service conducted a timber cruise in 2017 to determine the location, volumes, age, and species compositions of the timber within the Project area. As stated above, only 5.2 acres would be adversely impacted due to tree removal. Old growth is not a static resource; forest communities are constantly evolving and the location and extent of old growth will continue to change over the life of the Forest Plan and this proposed Project. Forest Service FS Veg data estimates there are currently 2,337 acres of JNF forest stands with a stand age indicative of old growth. In 10 years, the number rises to 3,013 acres, and in 20 years there would be 3,399 acres. This analysis indicates that old growth in the vicinity of the Project should increase over time, which indicates that the Forest Plan, as amended, contains components to maintain and restore. The FY 2015-2019 Monitoring Evaluation Report for the GWJ indicates old growth on the JNF exceeds JNF Forest Plan objectives

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<sup>31</sup> MVP 2016. Tree Surveys Within the Jefferson National Forest for the Mountain Valley Pipeline Project in Monroe County, West Virginia and Giles, and Montgomery Counties, Virginia. April 2016.

(Forest Service 2020b). “The total percentage of the [JNF] that exceeds the age criteria for old growth determination has doubled from 7% to 15%. (Forest Service 2020b).”

After construction is completed, deep-rooted trees will be allowed to regrow within 25 feet of the pipeline centerline, minimizing fragmentation and associated effects on Peters Mountain. Revegetation will be monitored annually for 5 years and monitored at least once every 5 years after that time period. For these reasons, current and modified plan components are sufficient to maintain and restore old growth habitats across the JNF.

Standards 6C-007 and 6C-026 would continue to apply to the remaining 30,200 acres in Management Prescription 6C on the JNF. Because removal of these 5.2 acres would not constitute a substantial lessening of plan protections, the proposed amendment is not directly related to any substantive requirements based on substantial lessening of plan protections.

In conclusion, the proposed modification of the two old growth standards (6C-007 and 6C-026) is directly related to 219.9(a)(1) – ecosystem integrity, § 219.9(a)(2) – ecosystem diversity, § 219.11(c) – timber harvesting for purposes other than timber production. These three substantive requirements are only directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through substantial adverse effects, beneficial effects, or substantial lessening of plan protections.

### ***MVP-Specific Plan Standard***

A project-specific plan component (MVP-specific plan standard) would be added to ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule for 219.8(a)(1) – ecosystem integrity, 219.8(a)(2)(ii) – soils and soil productivity, 219.8(a)(2)(iii) – water quality, 219.8(a)(2)(iv) – water resources, 219.8(a)(3)(i) – ecological integrity of riparian areas, 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas. In addition, the MVP-specific plan standard would minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources. This new forest plan standard would require adherence and implementation of specific POD appendices during the construction and restoration phases of the Project.

**Purpose** – As stated above, the purpose of this additional standard is to ensure the proposed amendment is consistent with the 2012 Planning Rule and to address environmental impacts to soils, water, riparian areas, the ANST, and scenery resources. Therefore, the addition of the MVP specific plan standard is directly related through purpose to: § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character; and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

**Effects** – The addition of this standard would result in an additional assurance that impacts to soils, water, riparian areas, the ANST, and scenery resources are minimized. Although implementation of the MVP project would result in adverse effects (albeit not substantial), the inclusion of the MVP-specific standard would result in no change to environmental impacts because the POD would still be required per the terms and conditions of the ROW grant regardless of the standard. Since the inclusion of the standard would result in no adverse effects, a determination of substantial adverse effects and substantial lessening of plan protections are not applicable.

Mitigation measures designed to minimize soil and riparian effects are incorporated into the POD (2017 FERC FEIS, Sec. 4.2.3, p. 4-88; Sec. 5.1.2, p. 5-3; Sec. 4.3.2.2., p. 137; Sec. 4.4.2.6, p. 4-187; Sec.

4.6.2.2). Specifically, an Erosion and Sediment Control Plan (POD, Appendix C1 and C2), Restoration Plan (POD, Appendix H), and Winter Construction Plan (POD, Appendix M) would ensure effects to soils, riparian, and water resources are minimized and are designed to expedite vegetative recovery, such as planting trees and shrubs in the riparian corridor. Continuous monitoring indicates mitigation measures and design criteria are effective at minimizing impacts to soils, riparian, and water resources.

The POD requires the pipeline to go under the ANST and a forest buffer of about 300 feet on either side of the trail would remain. In addition the POD requires managing the ROW in herbaceous cover for only 10 feet rather than the full 50 feet, which would minimize impacts to scenic character. In addition, the POD Appendix H, Restoration Plan, requires vegetation to be planted and SIOs met within five years after completion of the construction phase of the Project. This would minimize long-term impacts of the Project on scenic character.

Although the implementation of the MVP project would still result in adverse environmental effects, even with the addition of the MVP-specific plan standard, the addition of the standard produces a beneficial regulatory effect to the soils, water, riparian areas, the ANST, and scenery resources. Therefore, the addition of the standard is directly related based on beneficial effects to substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

In conclusion, the proposed addition of the MVP-specific plan standard is directly related to § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character; and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas. These seven substantive requirements are directly related to the proposed amendment through the purpose of the amendment and beneficial effects. None of the substantive requirements are directly related through substantial adverse effects or substantial lessening of plan protections.

### ***Additional Effect***

One additional effect of the proposed amendment not tied to the proposed modification of any particular standard is the short- and long-term beneficial impact to the local and regional economy (F2017 ERC FEIS, Sec. 5.1.9, p. 5-11). Therefore, the proposed amendment is directly related by beneficial effects to § 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies. This beneficial effect is the same as the effect of the Proposed Action.

### ***Directly Related Substantive Requirements***

Based on the criteria and analyses described above, the substantive requirements that are directly related include:

- 219.8(a)(1) – Ecosystem integrity due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, 11-003, and the addition of the MVP-specific standard.
- 219.8(a)(2)(ii) – Soils and soil productivity due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, 11-003 and the addition of the MVP-specific standard.
- 219.8(a)(2)(iii) – Water quality due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, 11-003 and the addition of the MVP-specific standard.

- 219.8(a)(2)(iv) – Water resources due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, 11-003 and the addition of the MVP-specific standard.
- 219.8(a)(3)(i) – Ecological integrity of riparian areas due to the modification of standards FW-5, FW-8, FW-13, FW-14, 11-003 and the addition of the MVP-specific standard.
- 219.8(b)(3) – Multiple uses that contribute to local, regional, and national economies due to the amendment itself. Not tied to the proposed modification of any particular standard.
- 219.9(a)(1) – Ecosystem integrity due to the modification of standards 6C-007 and 6C-026.
- 219.9(a)(2) – Ecosystem diversity due to the modification of standards 6C-007 and 6C-026.
- 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors due to the modification of standards FW-248, 4A-028, and 6C-026.
- 219.10(b)(1)(i) – Sustainable recreation, including recreation setting, opportunities, access; and scenic character due to the modification of standards FW-184, 4A-028 and the addition of the MVP-specific standard.
- 219.10(b)(1)(vi) – Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas due to the modification of standard 4A-028 and the addition of the MVP-specific standard.
- 219.11(c) – Timber harvest for purposes other than timber production due to the modification of standards FW-14 and 6C-007.

**Table 8. Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

Forest Plan Standard to Be Modified	Directly Related			Required Protection Measures in the POD
	Purpose	Effect	Substantive Requirement	
Standard FW-5: On all soils dedicated to growing vegetation, the organic layers, topsoil, and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years (JNF Forest Plan, p. 2-7).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>
Standard FW-8: To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit. Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling (JNF Forest Plan, p. 2-7).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C2, Erosion and Sediment Control Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>



**Table 8 (continued). Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

Forest Plan Standard to Be Modified	Directly	Related	<i>Substantive Requirement</i>	Required Protection Measures in the POD
	<i>Purpose</i>	<i>Effect</i>		
Standard FW-9: Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5% or less (JNF Forest Plan, p. 2-7).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table 8 (continued). Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

Forest Plan Standard to Be Modified	Directly Related		Substantive Requirement	Required Protection Measures in the POD
	Purpose	Effect		
Standard FW-13: Management activities expose no more than 10% mineral soil in the channeled ephemeral zone (JNF Forest Plan, p. 2-8).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• POD Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>
Standard FW-14: In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian dependent resources (JNF LRP, p. 2-8).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• § 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• § 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table 8 (continued). Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

<b>Forest Plan Standard to Be Modified</b>	<b>Directly Related</b>			<b>Required Protection Measures in the POD</b>
	<i>Purpose</i>	<i>Effect</i>	<i>Substantive Requirement</i>	
Standard FW-184: The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses). Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO (JNF Forest Plan, p. 2-48).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix H, Restoration Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>
Standard FW-248: Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Prescription Area 5B or 5C (JNF Forest Plan, p. 2-60).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>

**Table 8 (continued). Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

Forest Plan Standard to Be Modified	Directly Related			Required Protection Measures in the POD
	<i>Purpose</i>	<i>Effect</i>	<i>Substantive Requirement</i>	
Standard 4A-028: Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project (JNF Forest Plan, p. 3-23).	Yes	No	<ul style="list-style-type: none"> <li>• §219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors</li> <li>• § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> <li>• § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix E, ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table 8 (continued). Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

Forest Plan Standard to Be Modified	Directly	Related	<i>Substantive Requirement</i>	Required Protection Measures in the POD
<i>Purpose</i>	<i>Effect</i>			
Standard 6C-007: Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation (JNF Forest Plan, pp. 3-82 to 3-83).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.9(a)(1) – ecosystem integrity</li> <li>• § 219.9(a)(2) – ecosystem diversity</li> <li>• § 219.11(c) – timber harvesting for purposes other than timber production</li> <li>• 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.</li> </ul>	• N/A
Standard 6C-026: These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses are allowed to continue (JNF Forest Plan, p. 3-84)	Yes	No	<ul style="list-style-type: none"> <li>• § 219.9(a)(1) – ecosystem integrity</li> <li>• § 219.9(a)(2) – ecosystem diversity</li> <li>• 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.</li> </ul>	• N/A
Standard 11-003: Management activities expose no more than 10% mineral soil within the Project area riparian corridor (JNF Forest Plan, p. 3-182).	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• § 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix M – Winter Construction Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table 8 (continued). Summary of Plan Amendment Step 2 – Determining Directly Related Substantive Requirements.**

<b>Forest Plan Standard to Be Added</b>	<b>Directly</b>	<b>Related</b>	<b>Required Protection Measures in the POD</b>
	<i>Purpose</i>	<i>Effect</i>	<i>Substantive Requirement</i>
<p><b>MVP-Specific Standard</b> – To minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction and restoration phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan)</p>	Yes	Yes	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• § 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> <li>• § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas</li> </ul>

\*Note: Substantive requirement 219.8(b)(3) – Multiple uses that contribute to local, regional, and national economies is directly related due to beneficial effects of the Project as a whole and is not directly related to a specific modified Forest Plan standard.

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### 3.3.4.3 Step 3: Applying the Directly Related Substantive Requirements

The purpose of Step 3 is to take the directly related substantive requirements (identified above in Step 2) and apply them within the scope and scale of the proposed amendment. In applying those requirements, the Forest Service must ensure that the Forest Plan, as amended, contains plan components that meet the 2012 Planning Rule substantive requirements across the planning unit within the scope and scale of the proposed amendment. A plan amendment is not expected to bear the burden of a plan revision and bring the entire plan into consistency with the 2012 Planning Rule. Rather the plan amendment shall only apply the directly related substantive requirements, and only in a manner commensurate with the scope and scale of the amendment.

Based on the Step 2 analysis, the JNF Forest Plan, as amended, must contain plan components that maintain or restore ecosystem integrity and diversity of plant and animal communities (36 CFR § 219.8 and § 219.9), provide for multiple uses (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11). Each of these substantive requirements contains direction regarding their application to the plan. For some substantive requirements like ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), the plan's components must strive to "maintain or restore" while for other substantive requirements like timber management, the plan must include components to guide.

When applying directly related substantive requirements, the scope of the Project-specific Forest Plan amendment is the addition of one Forest Plan standard and the modification of:

- 3 out of 10 forest-wide water and soil quality standards
- 2 out of 20 forest-wide channeled ephemeral zone standards
- 1 of 56 riparian prescription area standards
- 2 of 27 old-growth standards for Management Prescription 6C
- 1 of 8 forest-wide standards for Rights-of-Way
- 1 of 30 standards for Management Prescription 4A
- 1 of 20 forest-wide standards for scenery

Therefore, the proposed amendment leaves unchanged 7 forest-wide water and soil quality standards, 18 forest-wide channeled ephemeral zone standards, and 55 riparian prescription area standards. Through actions which require adherence to State standards and practices, actions which avoid or mitigate erosion, and practices which require restoration, these unmodified standards would continue to maintain or restore aquatic or terrestrial ecological integrity, soils and soil productivity, water quality, water resources, riparian areas, and ecosystem diversity.

As examples of unmodified components whose required actions would maintain or restore ecological integrity, the sample of Forest Plan components below (and their requirements) would remain as designed, and in place throughout the entire JNF including the MVP ROW. Not all components are listed; other unmodified components may similarly maintain or restore ecological integrity.

- FW-1: Resource management activities that may affect soil and/or water quality follow Virginia, West Virginia, and Kentucky Best Management Practices, State Erosion Control Handbooks, and standards in this Forest Plan.
- FW-6: Locate and design management activities to avoid, minimize, or mitigate potential erosion.
- FW-10: Management activities that cause bare mineral soil on slopes greater than 5% will have erosion control planned and implemented.



- FW-23: Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.
- FW-111: Use advanced harvesting methods on sustained slopes 45 percent or greater to avoid adverse impacts to the soil and water resources. Use advanced harvest systems on sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone.
- FW-118: No heavy equipment is used for site preparation on sustained slopes over 35 percent or sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone.
- FW-128: When necessary, landings will be ripped to a depth of 6-8 inches to break up compaction, and to ensure soil productivity and the successful reestablishment of vegetation.
- FW-130: When removing felled trees from areas of hydric soils, use methods that avoid rutting or displacing soil (i.e., use of low ground pressure skidders).
- FW-150: Only mowing, chopping, or shearing treatments are used on sustained slopes over 15 percent. No heavy equipment is used for mechanical fuels treatments on sustained slopes over 35 percent. Mechanical fuels treatments are prohibited on sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone.
- 11-001: Any human caused disturbances or modifications that may concentrate runoff, erode the soil, or transport sediment to the channel or water body are rehabilitated or mitigated to reduce or eliminate impacts. Channel stability of streams is protected during management activities.
- 11-010: Existing permanent wildlife openings may be maintained within the riparian corridor. However, permanent wildlife openings identified as causing environmental degradation through concentrated runoff, soil erosion, sediment transport to the channel or water body are mitigated or closed and restored. New permanent wildlife openings within the riparian corridor are permitted where needed to provide habitat for riparian species, or threatened, endangered, sensitive, and locally rare species.
- 11-030: Construction of firelines with heavy mechanized equipment (e.g. bulldozers) in riparian corridors is prohibited. Hand lines, wet lines, or black lines are used to create firelines within the riparian corridor to minimize soil disturbance. Water diversions are used to keep sediment out of streams. Firelines are not constructed in stream channels, but streams may be used as firelines.
- 11-034: Proposed recreation facilities will be located outside of the riparian corridor or 100-year floodplain (Executive Order 11988) and wetlands (Executive Order 11990) unless no practicable alternative location exists. Where future facilities cannot be located out of the 100-year floodplain, structural mitigation and best management practices will be used. Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.

Below, the additional unmodified Plan components and standards would continue to guide the plan area's contribution to social economic sustainability, continue to consider appropriate

placement and management of infrastructure, continue to provide for scenic character, or continue to provide for protection of other designated areas.

- 2 forest-wide old-growth standards
- 28 standards for Management Prescription 6A (old-growth forest communities not associated with disturbance)
- 30 standards for Management Prescription 6B (old-growth forest communities dependent of fire)
- 25 Management Prescription 6C standards
- numerous components including forest-wide goals, objectives, and 19 additional Forest-wide standards for scenery

The following analysis of the application of the directly related substantive requirements considers the extent of the proposed amendment (scope) and area of the Forest affected by the proposed amendment (scale), evaluated the desired future conditions contained in the JNF Plan, and utilized best available science data such as monitoring reports and other scientific information. The direction required by each substantive requirement is included in the analysis below.

**§ 219.8(a)(1) – Ecosystem integrity and § 219.8(a)(2)(ii) – Soils and soil productivity**

Substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(2)(ii) – soils and soil productivity are directly related to the proposed amendment through the purpose of modifying standards FW-5, FW-8, FW-9, FW-13, and 11-003 and the addition of the MVP-specific standard. The overarching goal of the substantive requirements found in § 219.8 is for the plan to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement for ecosystem integrity is to include plan components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. The substantive requirement specific for soils and soil productivity is to include plan components to maintain or restore soils and soil productivity including guidance to reduce soil erosion and sedimentation. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19)), and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

**Scope**

The scope of the amendment for these substantive requirements are the modification of 3 out of 10 forest-wide water and soil quality standards, 2 out of 20 forest-wide channeled ephemeral zone standards, and 1 of 56 riparian prescription area standards as they are applied to the MVP construction zone and ROW. In addition, the scope of the amendment would include the addition of a forest plan standard. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

### **Scale**

The scale of the Project-specific amendment for this resource is the construction zone (54 acres) during the construction and restoration phases, which is less than 99.99% of the 723,300-acre JNF. After construction the scale would be limited to the ROW (22 acres) for the life of the pipeline.

### **Application**

Exempting MVP from adhering to these soil standards would have an adverse impact to the soil resource. However, as discussed below, exempting MVP from the soil standards would not detract from the Plan's ability to provide for the ecological integrity of the forest-wide soil resource, and the mandates of the 2012 Planning Rule would be met. Nonetheless, to ensure impacts to the soil resource are minimized, pertinent portions of the POD have been included as a new MVP-specific standard. The required POD includes measures to minimize impacts to soil and soil productivity from the MVP project, and thus would minimize impacts to ecosystem integrity as it relates to the soil resource. The soil resource within the ROW would be maintained and restored to the level sufficient to accommodate the desired conditions for soil resources across the Project area. The POD requires regrading and recontouring of the ROW to approximate the original contours. The POD also requires the removal and storage of topsoil for later replacement during the regrading and recontouring phase of the Project. Topsoil would be supplemented to mitigate any lost nutrients and ensure adequate productivity for revegetation. Over the long term, with implementation of restoration measures in Appendix H of the POD, soil productivity would be maintained and restored in the Project area. Although, at the Project level, soils would be compacted and loss of porosity would occur, soils would be of sufficient structure and composition after revegetation to maintain desired soil processes of soil stability and production of desired vegetation for the ROW. Thus, soils, soil productivity, and ecological integrity as it relates to the soil resource would be sufficiently maintained and restored within the Project area.

As stated previously, sedimentation modeling estimated that required ECDs, per the POD, would be effective at minimizing soil loss and associated sedimentation in waterways. The model estimated that baseline sediment yields (soil loss) would vary from 0.15 to 0.43 tons/ac/yr at each HUC-12 watershed outlet, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is completed sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. This modeling informed the selection of appropriate ECDs to minimize sediment yield from the proposed Project. As described in detail in Section 3.3.2 of this FSEIS, the available relevant data, including the Forest Service and BLM's consideration of information from USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspection reports, and Transcon monitoring reports on the JNF, are all consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment runoff, and that observations of elevated sediment levels within the watershed may result from multiple land uses. As a result, soils and soil productivity would be maintained under the amended Forest Plan.

Multiple unmodified Forest-wide Plan components to maintain or restore soils and soil productivity (e.g., FW-1, FW-6, FW-10, FW-22, FW-23, FW-111, FW-118, FW-128, FW-130,

FW-150, and FW-176) would remain in place throughout the entire JNF, including the MVP ROW. Additionally, multiple unmodified standards for Management Prescription 11 to maintain or restore soils and soil productivity (e.g., 11-001, 11-010, 11-030, 11-034, and 11-052) would remain in place throughout all of Management Prescription 11, including the MVP ROW. In addition, the original requirements of FW-5, FW-8, FW-9, and FW-13 continue to apply to 99.99% of the JNF, and the original requirements of 11-003 continue to apply to 99.99% of Management Prescription 11. As such, the scope and scale of the proposed amendment is negligible in context of the forest-wide (FW-5, FW-8, FW-9, and FW-13) or Management Prescription 11 (11-003) soil resource. Considering the scale of the plan amendment, the unmodified plan components maintain or restore soil resources, and the measures imposed on the MVP project during construction, Forest Plan direction for the JNF, including the Project-specific amendment, is sufficient to maintain the soil resource.

The Forest Plan's desired condition for soils forest-wide is articulated in Goal 4 (Forest Plan, p. 2-6) which states: “[m]anage soils to maintain or improve their productivity.” The proposed amendment would not affect the current forest-wide trend of maintaining or improving movement towards this desired condition, nor the management of soil resources across the forest. As previously mentioned, the sediment delivery (soil loss) to streams would be minimal from the MVP project during construction and would be negligible after construction. Therefore, the proposed exemption of the MVP project from the related soils standards would minimally affect the current forest-wide trend or management of the soil resource and the ecosystem integrity across the forest as it relates to the soil resource.

The Forest Plan's desired condition for soils within Management Prescription 11 is articulated in the desired condition statement (Forest Plan, p. 3-179) which states: “soils of riparian corridors have an organic layer (including litter, duff, and/or humus) of sufficient depth and composition to maintain the natural infiltration capacity, moisture regime, and productivity of the soil (recognizing that floods may periodically sweep some areas within the floodplain of soil and vegetation). Exposed mineral soil and soil compaction from human activity may be present but are dispersed and do not impair the productivity and fertility of the soil. Any human-caused disturbances or modifications that cause environmental degradation through concentrated runoff, soil erosion, or sediment transport to the channel or water body are promptly rehabilitated or mitigated to reduce or eliminate impacts.” The proposed amendment would not affect movement towards this desired condition because the pipeline construction zone would be planted with riparian vegetation; tree and shrub vegetation would be allowed to grow back within the ROW except within a 10 foot strip over the pipeline; the 10 foot strip would be managed for grass/forbs and would allow for natural infiltration levels and moisture regimes; productivity levels would be sufficient to attain desired composition, structure and function; and topsoil treatment as articulated in the Restoration Plan (POD, Appendix H) would ensure potential soil productivity losses are minimized.

The overall trend for soils and soil productivity since the establishment of the JNF (1936) is a vast improvement for the resource. The soil resources in the JNF have experienced dramatic changes over the last 87 years. Historically, land management in the southern Appalachians (as elsewhere) was not subject to requirements designed to protect or minimize damage to soil and riparian resources. As a result, mining, timbering, and clearing of land for agriculture caused extensive and widespread damage during the 1800s and early 1900s. The resulting flooding, fires, and erosion meant “the landscape was close to complete deforestation”, according to the National Forests Foundation. As described by William E. Shands of the Pinchot Institute for Conservation Studies in his publication “The Lands Nobody Wanted: The Legacy of the Eastern

National Forests” (1991), “At the time they were acquired by the federal government, most of the lands that are now the eastern national forests could hardly have been called "forest." For the most part they were cutover forestland or worn-out and abandoned farmland. Thus, forest rehabilitation has been and continues to be a theme of management of the national forests of the East.” Shands describes soils as negatively affected by this era of forest mismanagement. “Soil was degraded by years of abuse. Of the southern Appalachians, a federal forester wrote in 1917, *"It is very probable that the productive capacity of forest soils throughout most of this region have been greatly decreased by repeated fires, so that the present forest growth is poorer in composition and quality than it once was."* And ... farming further impoverished thousands of acres of land later acquired for national forests” (Shands 1991).

The FY 2015-2019 Monitoring Evaluation Report for GWJ (Forest Service 2020b) does not indicate problems with the protection of soils resources on the JNF within the context of ongoing activities. In addition, the Transcon monitoring reports for the MVP provides an additional mechanism for the Forest Service to determine effects on soils resources. The reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained. The proposed MVP project would be consistent with acreages and associated impacts of historic activities on the JNF despite the need for an amendment.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule. Furthermore, the additional plan component (a standard) provides additional assurance that soil resources and ecological integrity as it relates to the soil resource would be minimized. In addition, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining soil resources forest-wide. The substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(2)(ii) – soils and soil productivity would be sufficiently applied within the scope and scale of the Project-specific amendment to maintain or restore ecosystem integrity as it relates to the soil resource and soils/soil productivity across the planning unit (i.e., the plan area or applicable Management Prescription) because of:

- the limited scale of the proposed modification to the soil standards (54 acres, which is less than 99.99% of the 723,300-acre JNF),
- the limited soil loss and displacement from the construction, operation, and maintenance of the pipeline due to implementation of the POD appendices C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), and H (Restoration Plan),
- the ability for the soil in the impacted area (54-acre construction zone) to maintain the desired ecological conditions after restoration,
- the limited scope of the proposed amendment to soil standards (3 out of 10 forest-wide water and soil quality standards, 2 out of 20 forest-wide channeled ephemeral zone standards, and 1 of 56 riparian prescription area standards), and continued application of the unmodified standards across the plan area, including the MVP ROW, and other soil standards across the rest of the Forest,
- the fact that the proposed amendment does not affect the trend towards attaining forest-wide or Management Prescription 11 desired conditions for the soils resource,

- the fact that Forest Plan monitoring and Transcon monitoring show the existing JNF Forest Plan has been adequate to protect the soil resource in context of ongoing activities, and the proposed MVP project's effects are consistent with historic levels of disturbance on the JNF.

**§ 219.8(a)(1) – Ecosystem integrity, § 219.8(a)(2)(iii) – Water quality, and § 219.8(a)(2)(iv) – Water resources**

Substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(iii) – water quality, and § 219.8(a)(2)(iv) – water resources are directly related to the proposed amendment through the purpose of modifying standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 and the addition of the MVP-specific plan standard. The overarching goal of the substantive requirements found in § 219.8 is to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement for ecosystem integrity is to include plan components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. The substantive requirements specific for water quality and water resources are to include plan components to maintain or restore water quality and water resources including guidance to prevent or mitigate detrimental changes in water quantity, quality, and availability. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19) and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

**Scope**

The scope of the Project-specific amendment for the water quality and water resource substantive requirements is the modification of 3 out of 10 forest-wide water and soil quality standards (FW-5, FW-8, FW-9), 2 out of 20 forest-wide channeled ephemeral zone standards (FW-13, FW-14), and 1 of 56 riparian prescription area standards (11-003) as they are applied to the MVP construction zone and ROW. In addition, the scope of the amendment would include the addition of a forest plan standard. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

**Scale**

The scale of the amendment is the nine affected HUC-12 watersheds out of 88 HUC-12 watersheds containing JNF lands. Eight of the affected HUC-12 watersheds include the pipeline corridor and one is downstream. These nine affected HUC-12 watersheds contain 61,826 acres of NFS lands or about 8.5% of the JNF. There are about 811 stream miles within these nine HUC-12 watersheds, of which about 155 miles of stream would experience increased sedimentation from the MVP project (Geosyntec Consultants 2020b).

**Application**

Exempting MVP from adhering to these standards would have an adverse impact to the water resource. However, as discussed below, exempting MVP from these standards would not detract from the Plan's ability to provide for the ecological integrity of the forest-wide water resource and the mandates of the 2012 Planning Rule would be met. Nonetheless, to ensure impacts to the

water resource are minimized, pertinent portions of the POD have been included in the MVP-specific plan standard. The required POD includes measures to minimize impacts to water quality and water resources from the MVP project, and thus would minimize impacts to ecosystem integrity as it relates to the water resource. Appendices C-1 (West Virginia Erosion and Sedimentation Control Plan), C-2 (Virginia Erosion and Sedimentation Control Plan), and H (Restoration Plan) all contain numerous measures that must be applied to minimize impacts to water resources. For example, temporary stream crossings consisting of bridges of timber mats or clean rock fill and flume(s), must be installed to cross minor or intermediate streams. Sediment basins and sumps, perimeter dikes, sediment barriers, and other measures intended to trap sediment must be constructed as a first step and shall be made functional before upslope land disturbance occurs.

As stated previously, sedimentation modeling estimated that required ECDs would be effective at minimizing sedimentation in waterways. The model estimated that baseline sediment yields would vary from 0.15 to 0.43 tons/ac/yr at each HUC-12 watershed outlet, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is completed sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. This modeling informed the selection of appropriate ECDs to minimize sediment yield from the proposed Project. As described in detail in Section 3.3.2 of the FSEIS, the available relevant data, including the Forest Service and BLM's consideration of information from USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspection reports, and Transcon monitoring reports on the JNF, are all consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment runoff, and that any observations of elevated sediment levels within the watershed may result from multiple land uses. As a result, ecosystem integrity as it relates to water resources, water quality, and water resources would be maintained under the amended Forest Plan.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. In summary, the FERC found that "conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation" (FERC 2021 p. 92). The FERC's conclusion is consistent with the Forest Service's independent agency analysis and demonstrates that the four JNF stream crossings would not hinder the amended Forest Plan's ability to maintain or restore water quality or water resources.

The Forest Plan includes numerous components including forest-wide goals, objectives, and standards for water and soils that are not subject to modification as part of this proposed amendment (JNF Forest Plan, Chapter 2, pp. 2-5 to 2-9). For example, although this project

would amend three forest-wide soil and water standards (FW-5, FW-8, and FW-9) and two Forest-wide riparian standards (FW-13 and FW-14), seven additional Forest-wide water and soil quality standards and 17 Forest-wide channeled ephemeral (riparian) zone standards remain unchanged by the proposed amendment that would continue to protect water quality and water resources throughout the plan area. In addition, specific water and soils standards associated with individual management prescriptions are provided in many of the individual prescriptions; and standards FW-5, FW-8, FW-9, FW-13, and FW-14 would continue to apply to the remaining 723,300 acres of the JNF, and standard 11-003 would continue to apply to the remaining 73,600 acres in Management Prescription 11 on the JNF. As described in detail in the following paragraph, the modified standards would not hinder the Forest Plan's ability to maintain or restore water quality and water resources because real-world water quality data and information show the ECDs are effective at minimizing sediment runoff. After construction and restoration, operation of the 22-acre authorized ROW impacts are expected to be minimal. Therefore, it is only during the construction and restoration phases that impacts to water quality and water resources would be of concern.

The FY 2015-2019 Monitoring Evaluation Report for the GWJ (Forest Service 2020b) includes long-term macroinvertebrate monitoring, which is an indicator of water quality and aquatic habitat conditions. Results of the macroinvertebrate monitoring indicate forest protection measures are adequate for protection of water resources and aquatic habitats on the JNF within the context of ongoing activities on NFS. The proposed MVP project would be consistent with historic activities on the JNF (acreages and associated impacts) that resulted in current macroinvertebrate health. Based on the macroinvertebrate monitoring there was no change recommended for management of water resources in the FY 2015-2019 Monitoring and Evaluation Report. This recommendation indicates forest-wide protections are adequate for maintaining or restoring the desired conditions for the water resources on the JNF.

The Forest Plan's desired condition for water quality and water resources forest-wide is articulated in Goals 1, 2, and 3 (Forest Plan, pp. 2-5 to 2-6) which states:

*GOAL 1: Manage watersheds to maintain or restore resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support beneficial water uses. Instream flows (or lake levels) provide the amounts necessary to: 1) maintain the capacity of the channels to transport water and sediment; 2) protect aquatic organisms; 3) sustain or restore riparian habitats and communities; and 4) provide for recreation, scenic, aesthetic, and research purposes.*

*GOAL 2: Manage and restore riparian ecosystems, wetlands and aquatic systems to protect and maintain their soil, water, vegetation, fish, wildlife, and other resources. Channeled ephemeral streams maintain their ability to filter sediment from upslope disturbances while achieving the goals of the adjacent management prescription area.*

*GOAL 3: Aquatic habitat conditions are suitable to maintain aquatic species native to the planning area, and to support desirable levels of selected species (e.g., species with special habitat needs, species commonly fished, or species of special interest).*

Although there would be adverse effects to water quality and water resources due to increased sedimentation from the Project, it would be minimized through the added MVP-specific plan standard that requires implementation of the POD. Impacts to the water resource are expected to be minor, and not to the degree to change ecological functions or ability of the system to support beneficial uses (Goal 1). Water quantity and instream flow levels would not be affected by the



proposed amendment. In addition, because the sedimentation levels would be minor, aquatic habitat conditions would remain suitable to maintain desired aquatic species across the planning area (Goal 3).

As stated previously in the soils and soil productivity section, the proposed amendment would not affect movement towards the desired condition of maintaining the sediment filtration function within the MVP corridor because the pipeline corridor would be planted with riparian vegetation; tree and shrub vegetation would be allowed to grow back within the corridor except within a 10 foot strip over the pipeline; the 10 foot strip would be managed for grass/forbs and would allow for natural infiltration levels and moisture regimes; and soil productivity levels would be sufficient to attain desired composition, structure, and function (Goal 2). This maintenance of the affected area to filter sediment after restoration is completed, provides for the application of the substantive requirements for water quality and water resources because sediment delivery is the primary concern to these resources if the Project is allowed to be implemented.

The Forest Plan's desired condition for water quality and water resources within Management Prescription 11 is articulated in the desired condition statement (Forest Plan, p. 3-181) which states: “[w]ater quality remains within a range that ensures survival, growth, reproduction, and migration of aquatic and riparian wildlife species; and contributes to the biological, physical, and chemical integrity of aquatic ecosystems. Water quality meets or exceeds State and Federal standards. Water quality (e.g.: water temperature, sediment level, dissolved oxygen, and pH) will be improved where necessary to benefit aquatic communities.”

Similar to Goal 3, sedimentation levels from the Project are expected to be so minor that it would remain within the range that water quality would not affect the life cycles of aquatic species or riparian wildlife across the planning unit. This is supported by the fact that macroinvertebrate monitoring indicates existing Forest Plan direction is adequate for protection of water resources and aquatic habitats on the JNF within the context of ongoing activities. Water temperature, dissolved oxygen, and pH are not expected to change due to this Project to the level that it would affect life cycles of aquatic species or riparian wildlife.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule. Furthermore, the additional MVP-specific plan standard ensures impacts to water quality, water resources, and ecological integrity as it relates to the water resources would be minimized. In addition, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the water resources. The substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(iii) – water quality, and § 219.8(a)(2)(iv) – water resources would be sufficiently applied within the scope and scale of the Project-specific amendment, and the MVP-specific standard that requires implementation of the POD would ensure ecosystem integrity as it is related to water resources, water quality, and water resources are maintained across the planning unit because of:

- the limited scope of the proposed amendment (3 out of 10 forest-wide water and soil quality standards, 2 out of 20 forest-wide channeled ephemeral zone standards, and 1 of 56 riparian prescription area standards) and the limited area the proposed modification to standards associated with water quality and water resources would be applied to (54-acre construction zone),

- the limited scale of the proposed amendment and the fact that only nine HUC-12 watersheds would be affected by the MVP project out of 88 HUC-12 watersheds forest-wide,
- the limited sediment delivery from the construction, operation, and maintenance of the pipeline due to implementation of the POD appendices C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), and H (Restoration Plan), and the fact that sediment delivery would substantially decrease one year after construction,
- the fact that within the nine affected HUC-12 watersheds, only 160 of the 811 stream miles would experience increased sedimentation from the MVP project (Geosyntec 2020b),
- the ability for water quality in the impacted area (54-acre construction zone) over the approximately two-year construction period to maintain the desired ecological conditions in the existing unmodified JNF Plan,
- the fact that operation of the ROW is expected to meet the Forest Plan direction for ‘maintaining or restoring’,
- the continued application of the unmodified standards across the plan area, including the MVP ROW, and other standards across the rest of the Forest,
- the fact that Forest Plan monitoring and Transcon monitoring show the existing JNF Forest Plan has components to protect water quality, and
- the fact that ongoing macroinvertebrate monitoring resulted in a recommendation of no change for management of water resources on the JNF.

**§ 219.8(a)(1) – Ecosystem integrity and § 219.8(a)(3)(i) – Ecological integrity of riparian areas**

Substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(3)(i) – ecological integrity of riparian areas are directly related to the proposed amendment through the purpose of amending standards FW-13, FW-14, and 11-003 and the addition of the MVP-specific plan standard. The overarching goal of the substantive requirements found in § 219.8 is to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement for ecosystem integrity is to include plan components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. The substantive requirement specific to riparian areas is to include plan components to maintain or restore the ecological integrity of riparian areas in the plan area. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19) and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

### **Scope**

The scope of the Project-specific amendment for the riparian areas is the modification of 2 out of 20 forest-wide channeled ephemeral zone standards (FW-13, FW-14) and 1 of 56 riparian prescription area standards (11-003) as they are applied to the MVP construction zone and ROW. In addition, the scope of the amendment would include the addition of a forest plan standard. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

### **Scale**

The scale of the amendment in the context of the substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(3)(i) is 0.15 acre out of 73,600 acres of Management Prescription 11 across the JNF, which is less than 0.01% of the forest.

### **Application**

Exempting MVP from adhering to these three standards would have an adverse impact to the riparian resource. However, as discussed below, exempting MVP from these standards would not detract from the Plan’s ability to provide for the ecological integrity of the forest-wide riparian resource and the mandates of the 2012 Planning Rule would be met. Nonetheless, to ensure impacts to the riparian resource are minimized, pertinent portions of the POD have been included in the modified language for the three standards. The required POD includes measures to minimize impacts to riparian areas from the MVP project (e.g., reducing temporary construction ROW at waterbody crossings from 125 feet to 75 feet including within riparian buffers), and thus would minimize impacts to ecosystem integrity as it relates to the riparian resource. Appendices C-1 (West Virginia Erosion and Sedimentation Control Plan), C-2 (Virginia Erosion and Sedimentation Control Plan), and H (Restoration Plan) all contain numerous measures that must be applied to minimize impacts to riparian resources.

Mountain Valley reduced the width of the construction ROW from 125 feet to 75 feet at all waterbody crossings including their riparian buffers. Approximately 0.15 acre of riparian buffer at the four stream crossings was affected from construction activities. The POD requires establishes a 10-foot width over the pipeline to be managed in the long-term in a grass-forb state (0.02 acre), rather than the 50-foot ROW width.

The POD requires the planting of riparian seed mixes for at least 25 feet perpendicular to each side of the channel or farther if existing riparian buffer was greater than 25 feet. The field-verified riparian buffers measured 3.6 feet to 26 feet average width that was removed from the pipeline construction zone. Therefore, approximately 0.19 more acres of riparian vegetation would be planted compared to the original condition.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. In summary, the FERC found that “conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation” (FERC 2021 p. 92).

The FERC's conclusion is consistent with the Forest Service's independent agency analysis and demonstrates that the four JNF stream crossings would not hinder the amended Forest Plan's ability to maintain or restore riparian areas.

There are 55 riparian area standards for Management Prescription 11 that are not subject to modification as part of this proposed amendment; those standards continue to apply throughout Management Prescription 11, including in the Project area. Numerous Forest-wide standards relevant to the maintenance or restoration of riparian areas are also unaffected by the proposed amendment. Forest-wide, there are about 73,600 acres of riparian areas (i.e., lands designated as Management Prescription 11). Short- and long-term impacts would affect only 0.15 and 0.02 acres of riparian areas, respectively, of those 73,600 acres. After revegetation, approximately 0.19 more acres of riparian vegetation would be planted. Within these areas, restoration would include planting of riparian seed mixes to maintain and restore the riparian resource.

As described in detail in Section 3.3.2, real-world water quality data and information show the ECDs are effective at minimizing sediment runoff. For these reasons, the modified standards would not hinder the Forest Plan's ability to maintain or restore the ecological integrity of riparian areas. After construction and restoration, operation of the ROW is expected to not be of concern to the riparian resource. Despite the Project-specific amendment, riparian areas would be maintained and restored to the level sufficient to accommodate the Forest Plan desired conditions for riparian resources in Management Prescription 11 and within the Project area.

The Forest Plan's desired condition for riparian resources forest-wide is articulated in Goal 2 (Forest Plan, p. 2-6) which states:

*GOAL 2: Manage and restore riparian ecosystems, wetlands and aquatic systems to protect and maintain their soil, water, vegetation, fish, wildlife, and other resources. Channeled ephemeral streams maintain their ability to filter sediment from upslope disturbances while achieving the goals of the adjacent management prescription area.*

The Forest Plan's desired condition for riparian resources within Management Prescription 11 is articulated in the desired condition statement (Forest Plan, p. 3-181) which provides greater details of the forest-wide Goal 2 statement. Key conditions within the Management Prescription 11 desired condition statement include:

- *Riparian corridors reflect the physical structure, biological components, and ecological processes that sustain aquatic, riparian, and associated upland functions and values. The preferred management for riparian corridors is one that maintains, or moves toward, the restoration of processes that regulate the environmental and ecological components of riparian areas.*
- *Riparian corridors are managed to emphasize the maintenance, restoration, and enhancement of habitat for species that depend on riparian resources for at least a part of their life-cycle.*

The proposed amendment would not affect most of the riparian areas across the forest nor would it affect management of most riparian areas. Although there would be an adverse impact through removal of riparian vegetation, it would be limited to 0.15 acre and would not be significant enough to affect forest-wide trends towards desired conditions. Additionally, as previously mentioned, riparian seed mixes as well as trees and shrubs would be planted 25 feet from each side of the stream channel within the construction area. This would assist in decreasing the total acreage of riparian vegetation converted from the MVP project implementation and thereby

would not impede the Forest Plan's movement towards the desired condition after vegetation establishment and more riparian vegetation could be restored from the original condition.

The Forest Plan also clearly continues the long-term trend of maintenance and restoration of riparian resources. As stated in the Forest Plan Appendix A, "This Forest Plans [sic] meets or exceeds State Best Management Practices" for riparian corridor management. Forestry BMPs are strongly correlated with benefits to riparian and aquatic species. For example, the USGS in 2017 published a research paper examining literature regarding potential contributions of sediment reducing BMPs to conservation of riparian and aquatic wildlife. The authors conclude, "Overall, BMPs developed for protection of water quality should benefit a variety of riparian and aquatic species that are sensitive to changes in water quality or forest structure." The Virginia Department of Forestry, the state agency that develops forestry BMPs for water quality in Virginia agrees: "BMPs are proven methods to lessen the potential damage from land-disturbing activities." Given that the existing Forest Plan meets or exceeds state BMPs, and because prior land management was not subject to these recommendations and requirements (resulting in a highly degraded baseline condition from which resources are being restored), riparian resources are being maintained and restored forest-wide under the 2004 Forest Plan.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule. Furthermore, the additional MVP-specific plan standard ensures impacts to riparian resources and ecological integrity as it relates to the riparian resources would be minimized. In addition, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the riparian resources. The substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(3)(i) – ecological integrity of riparian areas would be sufficiently applied within the scope and scale of the Project-specific amendment, and the MVP-specific standard that requires implementation of the POD would ensure the ecological integrity of riparian areas across the Project area are maintained or restored because of:

- the limited scale of the proposed amendment and associated limited impact to riparian vegetation, which would be about 0.15 acre during construction and 0.02 acre after vegetation is established,
- the fact that vegetation within the pipeline ROW will be required to regrow except for a 10-foot-wide area over the pipeline and restoration of riparian vegetation due to implementation of the POD Appendix H (Restoration Plan),
- the fact that real-world data and information including Forest Plan monitoring, USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspections, and Transcon monitoring show the existing JNF Forest Plan has been adequate to protect water resources and by extension riparian areas in context of ongoing activities and the proposed MVP project is consistent with historic activities on the JNF,
- the limited scope of the proposed amendment and the continued application of the unmodified Forest-wide standards and 55 other riparian standards in the Project area and across the remaining 73,600 acres of riparian areas across the Forest, and
- movement towards the desired condition at a forest-wide scale is not expected to be impacted by the amendment.

**§ 219.8(b)(3) – Multiple uses that contribute to local, regional, and national economies**

Substantive requirement § 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies is directly related to the proposed amendment based on the beneficial effects of the proposed action. The overarching goal of the substantive requirements found in § 219.8 is to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to local and regional contribution to the economy is to include plan components to guide the plan area's contribution to social economic sustainability.

**Scope**

The scope of the Project-specific amendment for the economic substantive requirement is the modification of 11 Forest Plan standards as they are applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

**Scale**

The scale of the amendment is the contribution the MVP project has to the local, regional, and national economies.

**Application**

The Forest Plan includes goals, objectives, desired conditions, and standards to ensure the JNF contributes to social and economic sustainability. The Forest Plan includes plan components addressing timber, recreation, range, mineral, infrastructure, access, land uses, and special uses. All these contribute to the social and economic sustainability of the area influenced by the JNF, as summarized in the 2017 FERC FEIS, pages 5 to 11. Therefore, the amended Forest Plan would further meet the overarching goal of the substantive requirements related to §219.8, and no additional plan components are needed to guide the plan area's contribution to social economic sustainability.

**§ 219.9(a)(1) – Ecosystem integrity and § 219.9(a)(2) – Ecosystem diversity**

Substantive requirements § 219.9(a)(1) – ecosystem integrity and § 219.9(a)(2) – ecosystem diversity are directly related to the proposed amendment through the purpose of amending standards 6C-007 and 6C-026. The overarching goal of the substantive requirements found in § 219.9 is to provide for the ecological conditions to both maintain the integrity and diversity of plant and animal communities and support the persistence of most native species in the plan area. The substantive requirements specific to ecosystem integrity and diversity are to include plan components to maintain or restore the integrity and diversity of ecosystems and habitat types throughout the plan area. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19), and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

### **Scope**

The scope of the amendment is the modification of the two Management Prescription 6C old growth standards out of 27 standards, as they are applied to the MVP construction zone and ROW. There are two forest-wide old growth standards, 28 Management Prescription 6A (old-growth forest communities not associated with disturbance) standards, and 30 Management Prescription 6B (old-growth forest communities dependent of fire) standards which would remain unmodified. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

### **Scale**

The scale of the Project-specific amendment is the permanent loss of 5.2 acres of old growth of the approximately 30,200 acres of old growth across the JNF, or about 0.07% of the total old growth on the JNF.

### **Application**

Only two Management Prescription 6C standards (6C-007 and 6C-026) would be modified by the proposed project-specific amendment; the other 25 standards would not be modified and would remain in place. The limited scope and scale of the modification is one reason why the amended Forest Plan direction, which includes an old growth management strategy (Appendix B of the Forest Plan) would continue to meet the overarching goal of the substantive requirements related to § 219.9. The old growth management strategy would not be affected by the proposed plan amendment.

The FY 2015-2019 Monitoring Evaluation Report for the GWJ (Forest Service 2020b) indicates old growth on the JNF exceeds JNF Forest Plan objectives (Forest Plan Objective 13.01). The only recommendations from the monitoring report regarding old growth management were a review of the old growth survey process and exploring options and methodologies for analyzing impacts to old growth from mechanical treatments. Current plan components along with the two modified standards are sufficient to maintain and restore old growth habitats across the JNF.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule and no additional provisions are needed to ensure the Forest Plan's consistency with the 2012 Rule. Furthermore, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the old growth resources. Substantive requirements § 219.9(a)(1) – ecosystem integrity and § 219.9(a)(2) – ecosystem diversity would be sufficiently applied within the scope and scale of the Project-specific amendment, and no additional plan components are needed to ensure ecosystems and habitat types are maintained or restored throughout the plan area because:

- the limited area the proposed modification of the two old growth standards would be applied to (about 2 acres),
- the continued application of 25 unmodified standards in Management Prescription 6C, including the MVP ROW, and 58 other old growth standards in Management Prescriptions 6A and 6B across the remaining 30,200 acres of old growth, and
- the fact that monitoring data indicates current old growth habitat exceeds JNF Forest Plan objectives even after the removal of the old growth associated with the MVP project.

**§ 219.10(a)(3) – *Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors***

Substantive requirement § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors is directly related to the proposed amendment through the purpose of modifying standards FW-248, 4A-028, and 6C-026. The overarching goal of the substantive requirements found in § 219.10 is to provide for ecosystem services and multiple uses within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to utility corridors is consideration of appropriate placement and sustainable management of infrastructure, including utility corridors.

**Scope**

The scope of the Project-specific amendment is the modification of the FW-248, 4A-028, and 6C-026 standards as it is applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

**Scale**

During construction, the scale of the amendment is the 54-acre construction zone and, after construction, the 22-acre authorized ROW. These acreages correlate to 0.007% of the total JNF during construction and 0.003% of the total JNF during operation.

**Application**

The Forest Plan includes components including forest-wide goals, objectives, and standards for lands and special uses, which include utility corridors and ROWs. In addition, current Management Prescriptions of: 4A-Appalachian National Scenic Trail Corridor; 4J-Urban/Suburban Interface; 6C-Old Growth Forest; and 8A1-Mix of Successional Habitats and 11-Riparian Corridors would continue to apply to the MVP corridor. The amended Forest Plan direction provides sufficient direction for future placement of infrastructure, including utility corridors.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule and no additional provisions are needed to ensure the Forest Plan's consistency with the 2012 Rule. Furthermore, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the riparian resources. The substantive requirement § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors would be sufficiently applied within the scope and scale of the Project-specific amendment, and no additional plan components are needed to ensure appropriate placement and sustainable management of infrastructure, including utility corridors because:

- the limited footprint of the proposed MVP project accounts for about 0.007% of the entire plan area during construction, and
- Forest Plan direction for utility corridors and ROWs would continue to apply across the Forest along with other Forest Plan direction, which do not foreclose future placement of infrastructure.



**§ 219.10(b)(1)(i) – Sustainable recreation, including recreation setting, opportunities, access; and scenic character**

Substantive requirement § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character is directly related to the proposed amendment through the purpose of modifying standards FW-184 and 4A-028 and the addition of the MVP-specific plan standard. The overarching goal of the substantive requirements found in § 219.10 is to provide for ecosystem services and multiple uses within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to scenery is to include plan components to provide for sustainable scenic character.

**Scope**

The scope of the Project-specific amendment is the modification of the FW-184 standard as it is applied to the MVP construction zone and ROW. In addition, the scope of this amendment includes the addition of a forest plan standard. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

**Scale**

The scale of the amendment encompasses areas of High SIO (12.4 acres), Moderate SIO (32.0 acres), and Low SIO (4.2 acres), approximately 43% of the 54-acre construction zone or approximately 0.003% of the 723,300-acre JNF.

**Application**

Exempting MVP from adhering to these two standards would have an adverse impact to the scenery resource. However, as discussed below, exempting MVP from these standards would not detract from the Plan’s ability to provide for sustainable recreation and the scenery resource and the mandates of the 2012 Planning Rule would be met. Nonetheless, to ensure impacts to the scenery resource are minimized, an MVP-specific plan standard would be added that requires pertinent portions of the POD to be implemented. The POD requires reducing the appearance of the ROW from 50 feet wide to 10 feet wide on the JNF through the restoration and revegetation plan contained in Appendix H of the POD. Application of this POD element in the ROW grant on the JNF would substantially reduce the visibility of the ROW on the JNF, especially when viewed in the far middle-ground and background distance zones and at an angle. The POD requires along the edge the linear corridor shrubs, small trees, and shallow rooted trees be planted and maintained along a slightly undulating line to break up the straight edge effect of the utility corridor. This POD provision should allow the MVP project to obtain consistency with the applicable SIO within five years of construction. The visual impact assessment in the 2017 FERC FEIS (pp. 4-336 to 4-347) users of the ANST would not see the pipeline at the location where the pipeline crosses underneath the trail due to the vegetative buffer the POD requires. In addition, users of the ANST at Angels Rest could notice the pipeline corridor on Peters Mountain (Moderate SIO) from about 6 miles, but after revegetation occurs, the MVP corridor would be visually subordinate and would meet the assigned SIO due to the small scale of the Project relative to the panorama view from Angels Rest. Users of the ANST to the west of Sinking Creek Mountain would see the MVP corridor “notch” as it crests the ridgetop of Sinking Creek Mountain (Moderate SIO), particularly from Kelly’s Knob. However, the “notch” from this view would be backlit by Brush Mountain rather than sky, which would reduce the visual impact. After revegetation occurs, the view from Sinking Creek Mountain would be noticeable but would not dominate the landscape character and would meet the assigned SIO. As a result, it is only during construction and the five-year period immediately following construction that the

scenery resource would be of concern. After vegetation is established for five years, the area is expected to be consistent with the assigned SIO.

The Forest Plan includes numerous components including forest-wide goals, objectives, and 19 additional Forest-wide standards for scenery would not be subject to modification from this proposed amendment (JNF Forest Plan, pp. 2-47 to 2-48), including a forest-wide assignment of SIOs by management prescriptions. The amended Forest Plan direction along with the MVP-specific standard that requires the application of the revegetation plan would provide for sustainable scenic character for the JNF.

The Forest Plan's desired condition for the scenery resource forest-wide is articulated in Goals 25 and 26 (Forest Plan, p. 2-47 to 2-48) which states:

*GOAL 25: Protect and enhance the scenic and aesthetic values of the National Forest lands in the Southern Appalachians.*

*GOAL 26: Provide a variety of Landscape Character themes with the predominant themes being Natural Appearing and Natural Evolving including variations of these themes. Maintain smaller enclaves of Pastoral/Agricultural, Historic/Cultural, Rural/Forested, and Urban landscape character themes.*

As stated above, only 12.4 acres of High SIO and 32.0 acres of Moderate SIO would not meet the assigned SIO standard; however, it would be short-term (limited to the construction and initial restoration phases) and the area would meet the assigned SIO within 5 years of construction. This would be minor compared in context of moving towards the forest-wide desired conditions protecting and enhancing scenic and aesthetic values across the plan unit or providing a variety of landscape character themes. Forest-wide the JNF would remain predominately natural appearing and natural evolving. In addition, the main plan component for managing for sustainable scenic character, the assigned SIO map for the JNF, would remain in place and unaffected by the proposed amendment.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule. Furthermore, the additional MVP-specific plan standard ensures impacts to scenic character would be minimized. In addition, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the scenery resources. The substantive requirement § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character would be sufficiently applied within the scope and scale of the Project-specific amendment, and the POD provisions would provide for sustainable scenic character because of:

- the POD provisions in Appendix H (Restoration Plan) would reduce the appearance of the ROW from 50 feet wide to 10 feet wide on the JNF (for context, many forest trail corridors are this wide),
- the limited scope of the proposed amendment and the fact that the modification to FW-184 would only apply to one out of 20 Forest-wide scenery standards in the Forest Plan and would only be needed during construction and for approximately five years after construction,
- the fact that forest-wide, the scenery resources would continue towards meeting the desired conditions,

- the limited area the proposed modification to scenic standards would be applied to (12.4 acres of High SIO and 32.0 acres of Moderate SIO), and
- the application of scenery standards would continue across the remaining plan area.

**§ 219.10(b)(1)(vi) – *Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas***

Substantive requirement § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas is directly related to the proposed amendment through the purpose of modifying standard 4A-028 and the addition of the MVP-specific plan standard. The overarching goal of the substantive requirements found in § 219.10 is to provide for ecosystem services and multiples uses within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to other designated areas is to include plan components to provide for protection of other designated areas, such as the ANST.

**Scope**

The scope of the Project-specific amendment is the modification of the 4A-028 standard as applied to the MVP construction zone and ROW. In addition, the scope of the amendment would include the addition of a standard as a new Forest Plan component. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

**Scale**

The scale of the amendment is the one crossing of the pipeline under the ANST, which is about 2.5 acres of the ROW within 4A or 0.008% of the 30,700 acres of the JNF allocated to Management Prescription 4A.

**Application**

Exempting MVP from adhering to the 4A-028 standard would have an adverse impact to the ANST designated area. However, as discussed below, exempting MVP from this standard would not detract from the Plan's ability to provide for appropriate management of the ANST designated area and the mandates of the 2012 Planning Rule would be met. Nonetheless, to ensure impacts to the ANST designated area are minimized, a Forest Plan component, a MVP-specific plan standard, has been added that requires pertinent portions of the POD to be implemented. The POD (Appendix E, Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail) contains measures to avoid and minimize impacts on the ANST, including avoiding trenching near the ANST and staging equipment away from the ANST. Direct impacts to users of the ANST would be limited to the noise and dust from the boring operations and would only occur during the approximately 10-week construction period. Visual impacts would be minor because of the 300-foot buffer on either side of the trail and because the topography acts as a natural barrier to reduce potential visual impacts to the south of the ANST.

Only one Management Prescription 4A standard (4A-028) is proposed to be modified in this project-specific amendment; the other 29 Management Prescription 4A standards would not be modified and would remain in place. In addition, the implementation of the POD as required by the MVP-specific standard, during the construction and restoration phases of this project, would minimize impacts to the ANST corridor.

The ANST is approximately 2,190 miles long, running from Georgia to Maine; there is no reasonable alternative that avoids crossing the ANST. The MVP project would cross the ANST once near MP 196.3 through a 600-foot-long bore underneath the trail, effectively mitigating impacts within Management Prescription 4A for the reasons outlined below. After construction, operation of the ROW is expected to meet the Forest Plan direction for ‘maintaining or restoring’. Therefore, it is only during the approximately 10-week-long construction phase that this project-specific amendment would be in place.

The Forest Plan includes 29 other standards for recreation, including the ANST, in Management Prescription 4A, which are not subject to a modification from this proposed amendment. In addition, the Forest Plan includes specific recreational standards associated with other management prescriptions; these would not be subject to a modification, either. Management direction for Management Prescription 4A would continue to apply and continue to provide for protection of other designated areas, such as the ANST.

The Forest Plan’s desired condition for ANST corridor (Management Prescription 4A) is articulated in the desired condition statement (Forest Plan, p. 3-19 to 3-21). Key conditions related to the MVP project proposal within the Management Prescription 4A desired condition statement include:

- *Views from the Appalachian Trail are predominantly forested, sporadically intermixed with meadows, old fields, pastoral valleys, and cultural landscapes.*
- *The prescription area has a minimum width of 100 feet on either side of the Appalachian Trail footpath for protection from social, aural, and other impacts, but this minimum width should be considered only when the foreground zone does not extend beyond 100 feet on either side of the Appalachian Trail footpath.*
- *Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate.*

As stated in the application of § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character the views from the Appalachian Trail would remain predominately natural appearing and natural evolving. The POD requirement of boring under the ANST and providing a 300-foot buffer on either side of the trail would allow the Project to still meet the desired conditions articulated in the Forest Plan. The POD requires vegetation to be planted in a manner that breaks up the linear, straight, parallel edges on the construction corridor to minimize long-term visual impacts and to blend the pipeline corridor into the landscape. The visual impact analysis conducted in the 2017 FERC FEIS indicates that the vegetative buffer would be sufficient to block the views of the MVP corridor from users of the ANST where the pipeline crosses underneath the trail (2017 FERC FEIS, p. 4-337). The pipeline corridor would remain unseen within the foreground of the trail and the pipeline itself in the middle ground and background would be visually subordinate in the landscape five years after construction. Users of the ANST at Angels Rest could notice the pipeline corridor on Peters Mountain (Moderate SIO) from about 6 miles, but after revegetation occurs, the MVP corridor would be visually subordinate and would meet the assigned SIO due to the small scale of the Project relative to the panorama view from Angels Rest. The MVP project should be consistent with the Management Prescription 4A desired condition five years after construction.

The substantive requirement § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas would be sufficiently applied within the scope and scale of the Project-specific amendment, and the implementation of the POD through the MVP-specific standard would provide for protection of other designated areas, specifically the ANST because of:

- the fact that the POD Appendix H (Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail) would require the pipeline to go under the ANST with approximately 300 feet on either side of the trail to mitigate visual impacts,
- the limited impact to the single crossing of the pipeline,
- the fact that the topography along the ANST acts as a natural barrier to reduce potential visual impacts to the south. Appendix E of the POD also includes measures to avoid placing equipment and conducting trenching near the ANST,
- direct impacts to users of the ANST would be limited to the noise and dust from the boring operations only during the approximately 10-week construction period,
- the modification to 4A-028 would only affect one out of 30 Management Prescription 4A standards, and
- the desired condition for Management Prescription 4A should be met within five years after construction due to the required POD provisions.

### **§ 219.11(c) – Timber harvesting for purposes other than timber production**

Substantive requirement § 219.11(c) – timber harvesting for purposes other than timber production is directly related to the proposed amendment through the purpose of modifying standard FW-14 and 6C-007. The overarching goal of the substantive requirements found in § 219.11 is to provide for timber management within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to timber harvesting for purposes other than timber production states that the plan may include plan components to allow for timber harvest for purposes other than timber production throughout the plan area or portions of the plan area, as a tool to assist in achieving or maintaining one or more applicable desired conditions or objectives of the plan in order to protect other multiple-use values and for salvage, sanitation, or public health or safety.

#### **Scope**

The scope of the Project-specific amendment is modification of the two standards (FW-14 and 6C-007) as applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

#### **Scale**

The scale of the amendment to modify FW-14 is the vegetation removal in the channeled ephemeral zones within the 54-acre construction zone, and for modification of 6C-007 the scale is vegetation removal within the 5.2 acres of the construction zone in Management Prescription 6C.

#### **Application**

The Forest Plan recognizes timber harvesting for purposes other than timber production but does not explicitly include Forest Plan components such as goals, objectives, or standards as forest-wide direction. Some management prescriptions also recognize timber harvest for purposes other

than timber production. However, the substantive requirement for timber harvesting for purposes other than timber production is optional (because the requirement is described as “may include”), and the overarching goal of providing for timber management direction is clearly provided for in the Forest Plan. No additional components need to be added to the Forest Plan to provide for timber management.

### 3.4 Cumulative Effects

This analysis supplements the 2017 FERC FEIS and 2020 FSEIS cumulative effects analysis. It has been updated as needed to reflect new activities or a change in status of actions disclosed in the 2020 FSEIS. Consistent with the 2017 FERC FEIS and 2020 FSEIS, the geographic scale of analysis is the HUC-10 watersheds that overlap the MVP route on NFS lands.

There are three 10-digit HUC watersheds that overlap the 3.5-mile-long portion of the MVP that crosses NFS lands. These HUC-10 watersheds, including all lands regardless of ownership, are the spatial boundary for evaluating cumulative effects relative to actions on NFS lands (Figure 9). Table 9 displays these watersheds and their acreage. Combined, the acreage of the three HUC-10 watersheds comprising the cumulative effects analysis area represents 8.6% of the 31 HUC-10 watersheds crossed by the entire 303.5-mile-long MVP.

**Table 9. Cumulative Effects Analysis Area**

<b>HUC-10 Watershed</b>	<b>HUC-10 Code</b>	<b>Acres</b>
East River – New River	0505000206	107,883
Upper Craig Creek	0208020110	71,468
Sinking Creek – New River	0505000203	126,574
<b>Total</b>	-	<b>305,925</b>

HUC-10 watersheds were determined to still be appropriate for the cumulative effects analysis because they are the scale at which indirect and cumulative effects are reasonably expected to occur for the resources analyzed. However, resources such as water and aquatic also evaluated impacts at the HUC-12 level which is consistent with the hydrologic analysis for the JNF.

The 2020 FSEIS (USDA FS 2020, Sec. 1.1.1, 1.1.2) reviewed the Forest’s Schedule of Proposed Action reports, information gathered from Forest Service specialists, projects identified in the 2023 FWS BO and other FERC energy projects, and projects brought forward by the public. Information reviewed for this FSEIS includes the FERC MVP Amendment Project (boring analysis) and Forest Service project updates. Additional 2020 FSEIS projects that were outside but adjacent to the HUC-10 boundaries were considered for inclusion. The activities cited in the FERC boring analysis were reviewed as they included activity information from West Virginia and Virginia State and Federal agencies (FERC 2021).

The 2020 FSEIS (p. 127) disclosed those projects that were considered but dismissed because they did not cumulatively contribute measurable effects to soil productivity, erosion, and sedimentation; water quality; Threatened and Endangered species and their habitat; Forest Service RFSS; vegetation; and scenery.

Relevant past, present, and reasonably foreseeable projects on NFS and other lands listed in Table 10 have been updated as needed. Figure 10 displays the boundaries of past, present, and reasonably foreseeable projects addressed in this analysis for which mapping is available. A conclusion with rationale is included in this section.

Short-term uses, and their effects, are those that would occur during the anticipated two-year-long construction period or restoration period. Long-term uses, and their effects, are those that would occur during the 30-year term of the ROW grant/TUP. As mentioned previously, resource specialists reviewed activity information and based on their specific resource they may have added or deleted activities or adjusted the cumulative effects boundary.

The 2020 FSEIS disclosed the review of Forest Schedule of Proposed Action reports, information gathered from Forest Service specialists, and additional past projects identified in public comments on the FSEIS. Other sources of information reviewed during preparation of this FSEIS include updates on JNF projects and other non-Forest Service activities in the HUC-10 watersheds. The activities provided by the MVP in 2023 were reviewed again for relevancy because the information focuses on current private land actions in West Virginia.

### **3.4.1 Past, Present, and Reasonably Foreseeable Future Actions**

#### **3.4.1.1 Changes in Past, Present, and Reasonably Foreseeable Transportation Actions**

Table 10 summarizes changes in the transportation system actions as they relate to the MVP. As of 2022, emergency road repairs funded through the Emergency Relief for Federally Owned Roads Program (ERFO) will continue to occur within the GWJ in response to severe weather events.

Road work that was foreseeable in 2020 is now present and ongoing on 5.7 miles of Pocahontas Road (East River - New River Watershed). The JNF is currently improving the road surface, addressing in-stream road crossings, and reducing sedimentation associated with Pocahontas Road. The foreseeable work on Mystery Ridge Road is no longer planned and has been removed (October 19, 2022, personal communication with Thompson, Christensen, and Cote).

#### **3.4.1.2 Changes in Past, Present, and Reasonably Foreseeable Vegetation and Prescribed Fire Actions**

Table 10 summarizes vegetation (including restoration) actions that have been completed (now part of the existing condition), are present and ongoing, or reasonably foreseeable. Road actions are included in the overall project acres:

- Completed Projects – 679 acres completed by 2022: (1) The 317-acre White Rocks TS located in the Sinking Creek/New River watershed and about 8.5 miles north of the MVP (completed in 2018); (2) Barton Road TS (91 acres shelterwood harvest, 96 acres thinning completed in 2022); and (3) Salt Sulphur TS (57 acres of shelterwood harvest, 8 acres thinning completed in 2022); and, (4) Pocahontas Timber Sale (95 acres of shelterwood harvest).
- Present and Ongoing Projects – 262 acres: There are two present/on-going vegetation management project as of 2023 that is occurring within the temporal and spatial HUC-10 cumulative effects boundary for the MVP project:
  - Warren Road TS (152 acres total with 71 acres shelterwood harvest, 81 acres of thinning) is in progress with 5 acres of shelterwood harvest and 81 acres of thinning complete as of October 2022.
  - Pocahontas TS (110 total acres of shelterwood harvest) is in progress with 95 acres complete and one 15-acre unit remaining to be cut. Note: Until the Project is 100% complete, it is categorized as present and ongoing.

- Reasonably Foreseeable: There is one prescribed fire project (East Highlands) that overlaps with the cumulative effects temporal and spatial boundary.



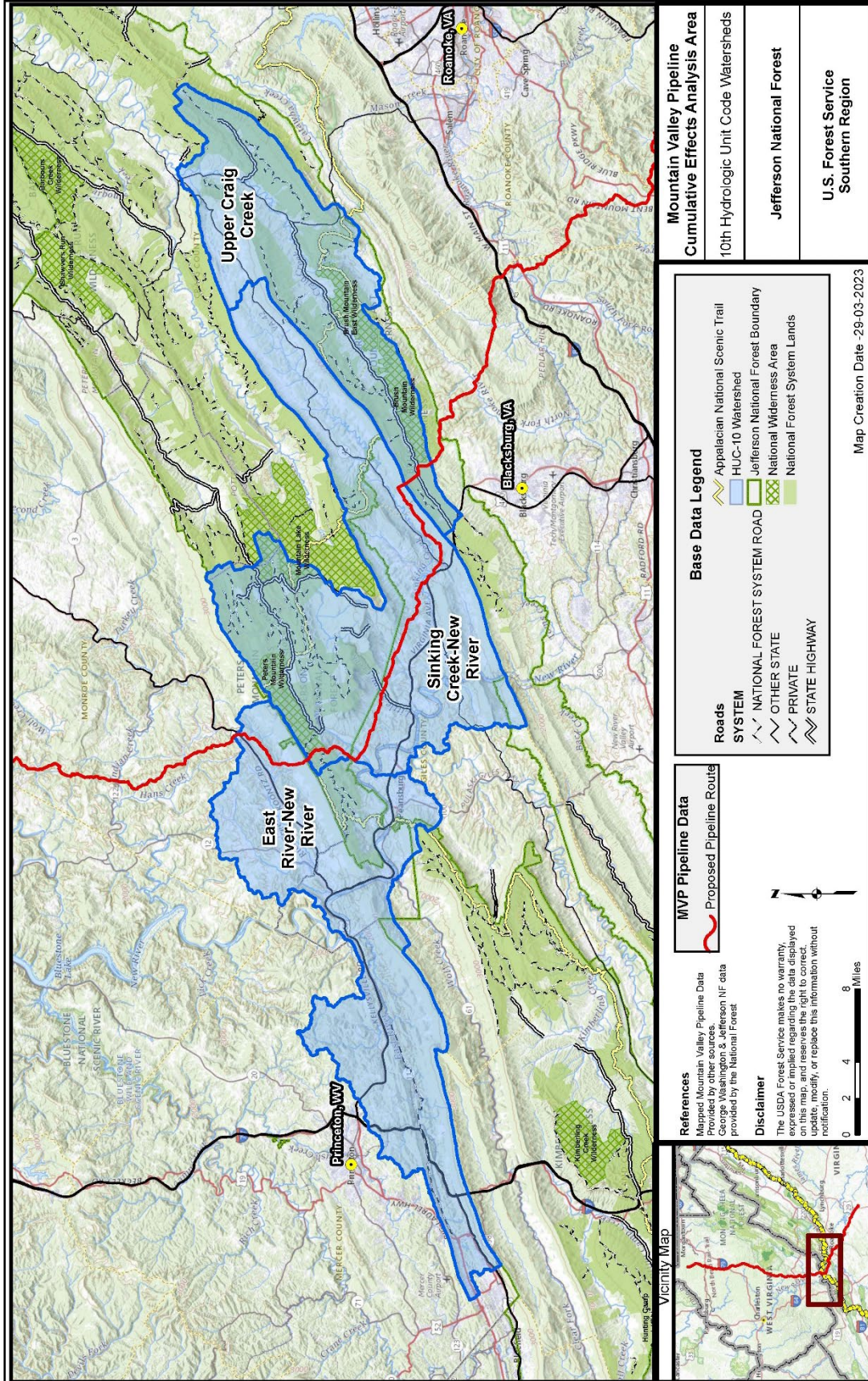


Figure 9. Cumulative Effects Analysis Area

Several projects were considered but eliminated from detailed analysis because they are located outside of the HUC-10 geographic scope of analysis:

- East Divide Insect and Disease Phase II (1,259 acres of commercial timber harvest in response to gypsy moth defoliation).
- Middle Tub (75 total acres of clearcut with reserves. Harvest has been conducted, but overall project status is present and ongoing until 100% complete).
- Tub Run East (91 total acres with 73 acres of clearcut with reserves complete and 18 acres of hardwood restoration/white pine conversion in progress/to be completed).
- White Pine Removal (1,476 acres of regeneration harvests and commercial thinning. Scoping letter sent to public in April 2022).

### 3.4.1.3 Other Past, Present, and Reasonably Foreseeable Actions

- General ROW maintenance continues within the 3.5-mile pipeline corridor (temporary and authorized ROW). In 2022 and 2023, stabilization efforts are present and ongoing. Pipe cribbing is being shored up or repaired as needed.
- The Celanese pipeline, which received a permit in 2014, is in place and operating. It preceded the MVP and is considered part of the existing condition/baseline. About 4,238 feet is on NFS land and it crosses over Peters Mountain to Celanese, approximately 5 miles from the MVP (see project record photos).
- As noted in Section 3.3.1, since publication of the 2020 FSEIS, Giles County implemented a Virginia Tourism Corporation Grant to promote the New River as a water trail. The MVP ROW may be visible from several places along the river, though the view from the river is partially screened by the raised railroad embankment and forested vegetation. The Forest Service conducted a site visit to several locations along the New River in February 2023 and confirmed forested vegetation screening. After restoration (Alternative 1) or construction (Alternative 2), the ROW would be revegetated, reducing its visual impact. For these reasons, cumulative impacts would be negligible.
- Actions that occur off NFS lands in West Virginia but within the HUC-10 watershed were added between the 2022 DSEIS and this FSEIS including (1) fifteen tree removal projects (i.e., logging) off NFS lands totaling 509 acres; (2) three Peterstown substations; (3) one Peterstown school – 2 acres; (4) state authorizations for three waterline extensions; and (5) a wastewater treatment plant. These actions are considered part of the broader trend of ongoing land uses on non-federal lands.
- Actions that occur off NFS lands in Virginia but within the HUC-10 watersheds were added between the 2022 DSEIS and this FSEIS including (1) six construction general permits for residential, commercial, and industrial projects, (2) five USACE Nationwide Permits, (3) two stormwater industrial general permits, (4) four Virginia Pollution Discharge Elimination System Individual Permits, and (5) one municipal wastewater treatment plant general permit.

Figure 10 displays the past, present, and reasonably foreseeable projects overlapping the cumulative effects analysis area. Because some future projects are still in the planning stages, their approximate boundary is shown.

Other actions brought forward during the 2022 DSEIS comment period were considered but dismissed:

- The GWJNF forest-wide programmatic fiber-optic telecommunication 2022 proposal. There is no current potential for colocation with the MVP pipeline as was suggested in 2022 DSEIS comments. The January 2022 scoping letter states, “The fiberoptic line would mainly co-locate in existing utility or Virginia Department of Transportation (VDOT), West Virginia Department of Highways (WVDOH) or Kentucky Transportation Cabinet (KTC) road right of ways.” [sic] This project is currently on hold. Additional NEPA would have to occur to confirm the location of individual lines that are proposed in the future and assess their impacts. For these reasons, it was considered speculative and dismissed.
- The rebuild of 28 utility line poles within the existing 69 kV line on the Clinch District is currently underway with an expected April 2023 decision. The action is limited to replacing existing poles in the current permit area and would use previously authorized methods and access. The impacts are not measurable. This project has been dismissed.
- Forest-wide vegetation control in open lands and ROWs: Removed because the Project has been on hold since 2022.
- Additional projects were considered but dismissed in Appendix E, Response to Comments, due to their location outside of the HUC-10 watersheds.

**Table 10. Past, Present, and Reasonably Foreseeable Actions<sup>32</sup>**

<b>Project Name</b>	<b>Proponent (if relevant)</b>	<b>Description</b>	<b>Nearest approx. milepost or facility</b>	<b>Approx. Distance &amp; Direction from the MVP</b>	<b>Status: (Past; Present &amp; Ongoing/ Reasonably Foreseeable</b>	<b>Change since 2020 FSEIS?</b>	<b>Comments</b>
ERFO road repairs	Forest	Road repairs on 15.5 miles of the GWJ.	Varies by project	Varies by project	Present & Ongoing	No	All counties within the GWJ.
Routine maintenance of road corridors and utility ROWs	Forest	59,000 acres of road corridors and 6,500 acres of existing gas and power line utility ROWs across the entire Forest	Varies by project	Varies by project	Present & Ongoing	Yes – changed to Ongoing	Highland, Bath, Augusta County East River - New River Watershed, North Fork Roanoke Watershed, Sinking Creek - New River Watershed, Upper Craig Creek Watershed, within watershed from FEIS.
Pocahontas Road	Forest	Repair of waterbars, culverts, and aquatic organism passage development	198.0	Less than 1 mile	Present & Ongoing	Yes – changed to Ongoing	The road has erosion and sedimentation issues because of failing waterbars and culverts.
White Rocks TS	Forest	317 acres of vegetation management including temporary roads	204.9	8.5 miles north of the MVP	Past	No, implementation was completed in 2018	The TS is approximately 8.5 miles north of the MVP and within the Sinking Creek/New River watershed
MVP Settlement TS	Forest	82 acres of tree clearing for pipeline activities	On MVP ROW	Occurring along the pipeline ROW	Past	Yes (this action has been implemented)	Clearing of the MVP ROW – status updated to “past”

<sup>32</sup> Road actions associated with vegetation projects are not included.  
Jefferson National Forest

**Table 10 (continued). Past, Present, and Reasonably Foreseeable Actions.**

<b>Project Name</b>	<b>Proponent (if relevant)</b>	<b>Description</b>	<b>Nearest approx. milepost or facility</b>	<b>Approx. Distance &amp; Direction from the MVP</b>	<b>Status: (Past; Present &amp; Ongoing/ Reasonably Foreseeable)</b>	<b>Change since 2020 FSEIS?</b>	<b>Comments</b>
Fork Mountain Vegetation Management Project	Forest	11,714 acres of veg treatments	191.5	5 miles east of the MVP	Present & Ongoing	No	Project is in the Sinking Creek / New River Watershed
Barton Road TS	Forest	187 acres of veg treatments including roads	191.5	8.5 miles east of the MVP	Past	Yes – project has been completed	Project is in the Sinking Creek / New River Watershed and was part of the Fork Mountain Vegetation Management EA – status updated to “past”, acres updated
Salt Sulphur TS	Forest	65 acres of veg treatments including roads	191.7	6 miles east of the MVP	Past	Yes – project has been completed	Project is in the Sinking Creek / New River Watershed – status updated to “past”, acres updated
Warren Road TS	Forest	152 acres of veg treatments including roads	191.5	8.5 miles east of the MVP	Present & Ongoing	Yes – project is now ongoing	Project is in the Sinking Creek / New River Watershed – status updated from foreseeable to present/ongoing – 50 acres completed as of 2022; project acres updated
Johnson Flats TS	Forest	176 acres of veg treatments including roads	191.5	8.5 miles east of the MVP	Reasonably Foreseeable - to be implemented in 2022/23	Yes – updated acres and timing	Project is in the Sinking Creek / New River Watershed – work anticipated to begin 2022/23, total acres updated
Kelly Flats Vegetation Management Project	Forest	898 acres of harvest and/or prescribed fire	191.5	5 miles east of the MVP	Past	No	Project is in the Sinking Creek / New River Watershed

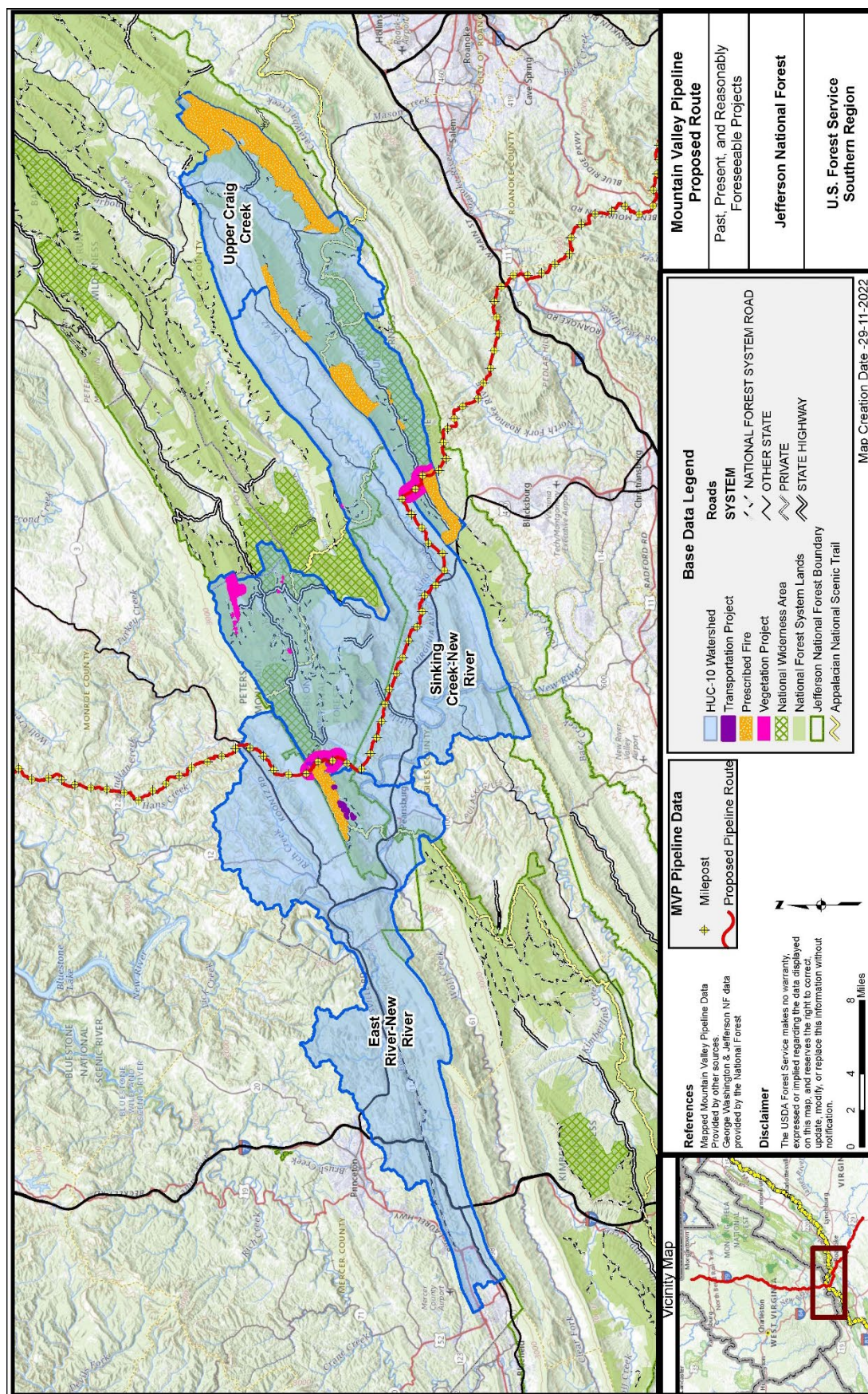


**Table 10 (continued). Past, Present, and Reasonably Foreseeable Actions.**

<b>Project Name</b>	<b>Proponent (if relevant)</b>	<b>Description</b>	<b>Nearest approx. milepost or facility</b>	<b>Approx. Distance &amp; Direction from the MVP</b>	<b>Status: (Past; Present &amp; Ongoing/ Reasonably Foreseeable</b>	<b>Change since 2020 FSEIS?</b>	<b>Comments</b>
Sarton Ridge Vegetation Management Project	Forest	Insecticide treatments to control the spread of the gypsy moth	220	Approx. 1 mile from MVP	Past	No	Project is in the Sinking Creek / New River Watershed, Upper Craig Creek Watershed
Eastern Divide Highlands Prescribed Fire	Forest	60,628 acres total with 15,000 planned annually on 3- to 5-year rotation basis	196.2 - 197.7 and 219.6 - 220.8	Intersects the MVP	Reasonably foreseeable with implementation starting in r 2023	Yes – updated project timing	East River/New River Watershed, North Fork Roanoke Watershed, Sinking Creek/New River Watershed, Upper Craig Creek Watershed – project has not yet been implemented
Pocahontas TS	Forest	110 acres shelterwood harvest	N/A	South of the MVP	Ongoing	Yes – project status updated	95 acres treated in 2022. Only the TS location was displayed in 2020 FSEIS; included in this table in 2022.
MVP ROW maintenance	Forest	Incidental maintenance of ECDs as needed	196.2 to 197.8, 198.3 to 198.4, 218.5 to 219.4, and 219.8 to 220.7	On the MVP ROW	Present & Ongoing	Yes, status updated to present/ongoing	Ongoing ECD maintenance/stabilization as needed

**Table 10 (continued). Past, Present, and Reasonably Foreseeable Actions.**

<b>Project Name</b>	<b>Proponent (if relevant)</b>	<b>Description</b>	<b>Nearest approx. milepost or facility</b>	<b>Approx. Distance &amp; Direction from the MVP</b>	<b>Status: (Past; Present &amp; Ongoing/ Reasonably Foreseeable</b>	<b>Change since 2020 FSEIS?</b>	<b>Comments</b>
Off NFS timber actions – 15 individual sales/509 acres	Private	Logging	X	X	Present	Added to HUC 10 actions	
Peterburg, WV City Infrastructure	Private	Infrastructure	X	X	Present	Added to HUC 10 actions	3 substations, 1 school, 3 waterline extensions, ad 1 wastewater treatment plant



Jefferson National Forest

Figure 10. Past, Present, and Reasonably Foreseeable Future Actions



### 3.4.2 Water Resources

Past, present, and reasonably foreseeable future actions in the analysis area are described in Section 4.13.1 of the 2017 FERC FEIS (pp. 4-581 to 4-600), which is incorporated by reference. In summary, those actions include oil and gas exploration and production, natural gas pipelines, and mining operations, as well as other non-mineral resource development actions. Since publication of the 2017 FERC FEIS, reasonably foreseeable road maintenance and vegetation management projects have been identified within the cumulative effects analysis area, including those added to this FSEIS (i.e., logging and construction activities off NFS lands).

Road maintenance and reconstruction would have a long-term benefit to hydrology by minimizing runoff, resulting in a benefit to watershed hydrology. This includes required maintenance and repair of non-NFS roads such as Rogers Road used to access the MVP ROW, as described in Sections 4.9.1.5 and 4.9.2.5 of the 2017 FERC FEIS. Vegetation management activities can result in short-term adverse effects from increased travel on roads and ground disturbance where harvesting or other management activities occur. These adverse effects are minor because vegetation management projects would comply with Forest standards and guidelines to minimize erosion, runoff, and sedimentation. The use of off-NFS public and private roads to access the ROW is described in Sections 4.9.1.5 and 4.9.2.5 of the 2017 FERC FEIS. Where needed, Mountain Valley would perform upgrades such as grading, widening, or stabilization of access roads. Following pipeline installation, Mountain Valley would restore improved roads to their pre-construction condition, unless otherwise directed by the landowner, county, or State agency. As a result, effects on water resources would be minor (FERC 2017, pp. 4-389 to 4-390).

The 2020 FSEIS cumulative effects analysis (pp. 142 to 160) is incorporated by reference. In summary, the 2020 FSEIS found that direct and indirect adverse effects under the No Action Alternative would be minor and short-term. When combined with the effects associated with road maintenance projects, approximately 831 acres of TS (Table 10) and actions off NFS lands, there would be minor adverse cumulative effects within the 305,925-acre analysis area. The Eastern Divide Highlands Prescribed Fire project would impact a much larger area (60,628 acres, or approximately 15,000 acres annually over 3 to 5 years). Prescribed fire is typically of low intensity/severity and is not expected to damage soils. As such, soil infiltration and hydrologic function are not expected to change significantly following prescribed fire. In-stream segments or other water features where this project overlaps with other projects, cumulative effects would be moderate in intensity. Effects would be minimized by adherence to Forest standards and guidelines. Overall, these effects would occur over both the short term (i.e., during restoration) and long term if any reasonably foreseeable projects (e.g., Eastern Divide Highlands Prescribed Fire project) extend beyond the restoration timeframe for the MVP ROW. After restoration is complete, the contribution of the No Action Alternative to cumulative effects on water resources would be minimal.

Cumulative effects under the Proposed Action are consistent with those disclosed in the 2020 FSEIS. In summary, they would be greater than those under the No Action Alternative. Effects from construction of the MVP would be minimized by the same ECDs that are in place for the No Action Alternative, but the Proposed Action includes additional surface disturbing actions (e.g., trenching, stream crossings) and there would be a greater potential for adverse effects. Combined with the road and vegetation projects listed in Table 10, cumulative effects on water resources would be moderate where multiple projects impact the same water feature. Where a water feature is impacted by only one project, cumulative effects would be minor. As under the No Action Alternative, these effects would occur over the short term (i.e., during restoration) and

long term if any reasonably foreseeable projects extend beyond the restoration timeframe for the MVP ROW.

### **3.4.3 Threatened, Endangered, and Sensitive Species**

#### **3.4.3.1 Aquatic Species**

Past, present, and reasonably foreseeable future actions in the analysis area are described in Section 4.13.1 of the 2017 FERC FEIS (pp. 4-581 to 4-600), which is incorporated by reference. In summary, those actions include oil and gas exploration and production, natural gas pipelines, and mining operations, as well as other non-mineral resource development actions. Since publication of the 2017 FERC FEIS, reasonably foreseeable road maintenance and vegetation management projects have been identified within the cumulative effects analysis area, including those added to this FSEIS (i.e., logging and construction activities off NFS lands). Road maintenance and reconstruction would have a long-term benefit to aquatic species by allowing the roads to more efficiently control runoff, resulting reduced sediment load and associated habitat degradation. This includes required maintenance and repair of non-NFS roads such as Rogers Road used to access the MVP ROW, as described in Sections 4.9.1.5 and 4.9.2.5 of the 2017 FERC FEIS. Vegetation management activities can result in short-term adverse effects on water quality and aquatic species habitat from increased travel on roads and ground disturbance where harvesting or other management activities occur.

The 2020 FSEIS found that restoration of the ROW under the No Action Alternative would result in short-term adverse contributions to cumulative effects of an intensity similar to that described in the analysis of direct and indirect effects. Effects on aquatic species would be short-term, minor and would be noticeable in habitat that is affected by multiple concurrent projects. Over the long-term, the No Action Alternative would contribute only minimally to cumulative effects considering the restoration of the Project area.

Under the Proposed Action, cumulative effects on aquatic species would be similar those described in the FERC FEIS and 2020 FSEIS. These effects are summarized below.

Cumulative effects on aquatic species could occur if other projects occur within the same segment of a waterbody and have similar construction timeframes as the proposed MVP or that could result in permanent or long-term effects on the same or similar habitat types. Implementation of the actions identified in Appendix W of the 2017 FERC FEIS, those in Table 10 of this FSEIS, and the MVP could result in cumulative effects on waterbodies and fisheries from sedimentation and turbidity, habitat alteration, streambank erosion, fuel and chemical spills, water depletions, entrainment or entrapment due to water withdrawals or construction crossing operations, and blasting if constructed on the same waterbody in a similar timeframe. Based on known project schedules, there would be some overlap in project implementation in the analysis area, but other project schedules would be staggered. Staggered implementation would minimize effects on aquatic resources by limiting the amount of disturbance at a given time. Transportation and TS projects in the analysis area would be designed to minimize effects on waterbodies, and thus on aquatic species, as much as possible.

Effects on waterbodies (and therefore aquatic species) would be minor, short-term and mostly limited to construction activities associated with construction of the MVP and other reasonably foreseeable actions, including road repairs and TSs, that would be conducted in accordance with BMPs and Forest standards. Due to adherence with BMPs and Forest standards to minimize impacts on aquatic resources, none of these effects would be cumulatively significant. The ensuing operation and maintenance of the proposed MVP would not contribute to cumulative

effects unless maintenance activities occur in or near streams at the same time/location as other actions (FERC 2017a, pp. 4-620 to 4-621). As a result, long-term cumulative effects would be minor at a watershed scale.

### **3.4.3.2 Terrestrial Species**

Past, present, and reasonably foreseeable future actions in the analysis area are described in Section 4.13.1 of the 2017 FERC FEIS (pp. 4-581 to 4-600), which is incorporated by reference, and in Table 10 of this FSEIS. The analysis of effects in the 2020 FSEIS remains accurate. In summary, implementation of the MVP and many of those actions (e.g., timber harvest) would result in long-term loss of habitat types important to wildlife, which is consistent with the analysis in the 2017 FERC FEIS and 2020 FSEIS. The actions listed in Table 10 would also contribute to cumulative effects on terrestrial species where habitat is fragmented or converted. While there have been changes to the list of Federally listed species and proposed changes to the RFSS, the cumulative effects on these newly listed species would not differ substantially from those analyzed in the 2020 FSEIS. Cumulative effects from TSs would be minor because the Proposed Action and reasonably foreseeable TSs account for approximately 831 acres of the 305,925-acre analysis area. In conjunction with implementation of either alternative, reasonably foreseeable road maintenance projects would contribute to minor cumulative effects because disturbance associated with equipment and vehicles may alter the movement or behavior of terrestrial species while work is occurring. For species sensitive to fragmentation, however, the adverse cumulative effects would be greater than just the acreage lost to herbaceous cover; these species would experience moderate cumulative effects within the analysis area because the reduced movement of individuals could affect local populations.

As disclosed in the 2020 FSEIS, under the No Action Alternative, restoration of the ROW would offset some of the long-term adverse cumulative effects associated with TSs and prescribed fire. However, short-term effects would be similar to those under the Proposed Action because the ROW would not fully revegetate within the next two years.

Cumulative effects on plant species are also consistent with those disclosed in the 2020 FSEIS: both alternatives would contribute to short-term adverse cumulative effects that would be minor due to the small portion of each HUC-10 watershed that would be impacted. The Proposed Action would result in similar short-term effects but would also contribute to the long-term conversion of habitat, especially in the 50-foot-wide authorized ROW. Long-term adverse effects from the ROW would be offset by long-term improvements in habitat from implementation of the Eastern Divide Highlands Prescribed Fire project. In combination with reasonably foreseeable vegetation management actions, long-term cumulative effects would be minor because of the small portion of the analysis area (approximately 831 acres of the 305,925-acre analysis area) that would be impacted and because surveys in the authorized ROW did not identify suitable habitat for Federally listed or RFSS plant species.

## **3.5 Short-term Uses and Long-term Productivity**

NEPA requires consideration of “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” (40 CFR § 1502.16). As declared by the Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

“Short-term” is defined as two years and anticipated to occur during construction (Proposed Action) or restoration (No Action Alternative) of the MVP. “Long-term” is defined as the 30-year term of the ROW grant/TUP. Surface-disturbing activities, including vegetation re-clearing, boring, and installing the pipeline, would result in the greatest potential for effects on long-term productivity. Adherence to Forest Plan guidance (as amended), BMPs and mitigation are intended to minimize the effect of short-term commitments and the effects of pipeline operation and maintenance over the long term.

Short-term use of the ROW for construction would result in the long-term loss of forested habitat within the authorized ROW and the fragmentation of this habitat type within the HUC-10 watersheds that the pipeline intersects. Overall, long-term productivity would be maintained within the authorized ROW by managing the vegetation in an open seral stage with species that attract pollinator insects.

### **3.6 Unavoidable Adverse Effects**

Section 102(C) of NEPA requires disclosure of any adverse environmental effects that cannot be avoided should the Proposed Action be implemented. Unavoidable adverse effects are those that remain following the implementation of mitigation measures or effects for which there are no mitigation measures.

Unavoidable adverse effects remain the same as disclosed in the 2020 FSEIS: construction of the MVP on NFS lands would temporarily increase air emissions, noise, erosion, and sedimentation in a localized area. Over the long-term, it would change the relative abundance of species within plant communities, the relative distribution of plant communities, and the relative occurrence of seral stages of those communities in the MVP ROW. Construction, operation, and maintenance would also introduce intrusions, which would affect the visual landscape on NFS lands.

### **3.7 Irreversible and Irretrievable Commitments of Resources**

Section 102(2)(C) of NEPA requires a discussion of any irreversible or irretrievable commitments of resources that are involved in the Proposed Action should it be implemented. Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as a loss of timber productivity or old growth in forested areas that are cleared and maintained as a powerline ROW or road.

For the construction, operation, and maintenance of the MVP on NFS lands, some of the resource commitments would be irreversible and irretrievable. The ROW on NFS lands would be cleared and graded as needed to accommodate pipeline construction. Although portions of the pipeline ROW would cross existing NFS roads and the land areas and their associated resources could be reclaimed at some point in the future, it is unlikely that they would be restored to original conditions and functionality across the entire ROW. Maintaining herbaceous cover on the authorized ROW would result in an irretrievable loss of forested wildlife habitat. The 5.2 acres of old growth that were cut to accommodate the ROW is irretrievable because of the length of time needed to re-establish this resource.

Raw materials needed for construction of the pipeline and associated facilities would include crushed stone and sand, water, diesel fuel, gasoline, and steel, for example. Construction would consume these materials, which would constitute an irreversible commitment. The construction,

operation, and maintenance of the pipeline would require the irreversible commitments of human resources that would not be available for other activities during the period of their commitment, but these commitments would not be irretrievable.

Finally, the implementation of the Proposed Action would require the commitment of financial resources for construction, operation, and maintenance on NFS lands. This commitment, however, would be consistent with the Project's purpose of and need for the Proposed Action as described in Chapter 1.

### **3.8 Incomplete or Unavailable Information**

An effort was made to obtain and use the best available science and information to evaluate and compare the effects of alternatives. NEPA implementing regulations (40 CFR § 1502.22) state that when “there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.” This was done where appropriate. The regulation goes on to say that if the incomplete information “is essential to a reasoned choice among alternatives” then considerations, such as the cost of obtaining it, apply. This FSEIS, in conjunction with the analyses presented in the 2017 FERC FEIS, 2020 FSEIS, and 2004 JNF Forest Plan FEIS, along with their planning records, provides the responsible official with the “essential” information needed to make a reasoned choice among alternatives.

## 4 Consultation and Coordination

FERC is the lead agency for the Project and they have led consultation and coordination efforts with Federal, State, and local agencies, tribes and other organization and individuals since the development of the 2017 FERC FEIS. The FS was an integral partner in responding to comments and proposals during the FERC-led process. The FS continued to provide opportunities to comment on the 2020 DSEIS and the 2022 DSEIS. The information provided below reflects interested and affected parties since the FERC scoping effort.

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Jefferson National Forest



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## 4.2 List of Document Recipients and Those Notified or Consulted

This list includes Federally recognized tribes, Federal, State, and local governments, and elected officials, who submitted comments or requested to be on the mailing list since the 2020 SEIS. The list presented below is refined and specific to the 2022 SEIS in comparison to the 2020 SEIS that used the entire 2017 FERC FEIS mailing list. Organizations and individuals are those that have continued to express interest since the 2020 SEIS.

### 4.2.1 Tribes

Absentee-Shawnee Tribe of Indians of Oklahoma  
Cherokee Nation  
Cherokee Nation of Oklahoma  
Eastern Band of Cherokee Indians  
Eastern Shawnee Tribe of Oklahoma  
Monacan Indian Nation  
Nansemond Indian Tribal Association  
Rappahannock Tribe  
United Keetoowah Band of Cherokee Indians in Oklahoma  
Wyandotte Nation  
Wyandotte Nation of Oklahoma

### 4.2.2 Federal Agencies, Representatives, and State and Local Governments

#### 4.2.2.1 Federal Agencies

Air Force (Civil Engineering)	Federal Highways Administration, Virginia
Animal and Health Protection Service	Federal Highways Administration, West Virginia
Attorney for the Monacan Nation	House Natural Resources Committee and House Agricultural Committee
Bureau of Land Management – SE States District Office	National Agriculture Library
BLM Eastern States State Director	National Oceanic Atmospheric Administration
Congressman Griffith, District 9 (VA)	National Park Service, ANST
Congressman Cline, District 6 (VA)	National Park Service, Blue Ridge Parkway
Congressman McKinley, District 1 (WV)	Senator David Sutterlein, District 19, Virginia
Congresswoman Miller, District 3 (WV)	Senator Joe Manchin, West Virginia
Congressman Mooney, District 2 (WV)	Senator John Edwards, District 21, Virginia
Congressman Morgan, District 9 (VA)	Senator Shelley Capito, West Virginia
Defense Department, Environment	Senator Steve Newman, District 23, Virginia
Delegate Austin, Botetourt (VA)	Senator Travis Hackworth, District 38, Virginia
Delegate March, Pulaski, Roanoke County (VA)	
Delegate Ballard, Giles County (VA)	
Department of Interior Solicitors Office	
Federal Energy Regulatory Commission	

Senator Mark Warren, Virginia  
 Senator Tim Kaine, Virginia  
 US Army Corps of Engineers  
 US Environmental Protection Agency,  
 Region 3  
 US Fish and Wildlife Service, Regional  
 Director Ecological Services  
 US Fish and Wildlife Service, VA  
 Ecological Services  
 US Forest Service, Southwestern Regional  
 Office

#### 4.2.2.2 State and Local Governments

Craig County  
 Giles County  
 Governor Youngkin, Virginia  
 Governor of Virginia, Natural and Historic  
 Resources  
 Governor of Virginia, Agriculture and  
 Forestry  
 Montgomery County  
 Roanoke County  
 VA Department of Conservation and  
 Recreation  
 VA Department of Environmental Quality  
 VA Department of Historic Resources  
 Virginia Department of Forestry  
 WV Division of Natural Resources

#### 4.2.2.3 Organizations

Alleghany Blue Ridge Alliance/Highlanders  
 for Responsible Development  
 Appalachian Mountain Advocates  
 Appalachian Mountain Club  
 Appalachian Trail  
 Conservancy/Organization  
 Appalachian Trail, National Director of  
 Conservation  
 Appalachian Voices  
 Blacksburg Public Library  
 Blue Ridge Environmental Defense League  
 Blue Ridge Land Conservancy  
 Cahas Mountain Rural Historic District

Cardno  
 Center for Biological Diversity  
 Chesapeake Climate Action Network  
 Earth Rise Indivisible  
 Friends of the Rivers of Virginia  
 Galileo LLC Project  
 GFWC Star Womans Club  
 Greater Newport Rural Historic District  
 Committee  
 Holistic Veterinary Consultants  
 Indian Creek Watershed Association  
 Indivisible Charlottesville  
 Natural Resource Defense Council  
 Mountain Valley Pipeline LLC  
 Mountain Valley Watch  
 National Parks Conservation Association  
 Nation Underserved  
 Open Space Institute  
 Partner for the National Trails Systems  
 PMCVA  
 Preserve Ben Mountain/BREDL  
 Preserve Craig  
 Preserve Monroe  
 Protect Our Water Heritage Rights  
 Coalition  
 Roanoke Appalachian Trail Club  
 Roanoke Public Library  
 S/V Sojourner LLC  
 Save Monroe  
 Science Policy Initiative - Direct Advocacy  
 Committee  
 Southern Environmental Law Center  
 Sierra Club and SC Environmental Law  
 Program  
 Sierra Club, Virginia Chapter  
 Soil Works, Inc.  
 SPI-DAC  
 The Nature Conservancy  
 The Wilderness Society  
 Transcon  
 Virginia EDU, Board of Directors  
 Virginia Forestry Association  
 Virginia Tech  
 Virginia Wilderness Committee  
 Wild Virginia

#### 4.2.3 Individuals

Notification of the availability of the FSEIS were also sent to approximately 3,355 individuals. The complete mailing list is available upon request.

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## **Appendix A – National Forest Management Act Analysis**

## Mountain Valley Pipeline Proposed Forest Plan Amendment

### Introduction

This section provides an overview of the process used to amend a forest plan for a specific project. It is followed by the three sections that walk the reader through the major steps of the amendment process as it applies to the Mountain Valley Pipeline project. The last section of this document provides a discussion of how the proposed amendment meets the 2012 Planning Rule requirements.

The Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976 (NFMA) requires National Forests to be managed under the land and resource management plan (land management plan or forest plan). The NFMA requires that proposed projects, such as the Mountain Valley Pipeline (MVP) project, to be consistent with a land management plan of the National Forest where the Project occurs (FSH 1909.12 - Chapter 20, Section 21.33). When a proposed project is not consistent with the standards contained within the applicable land management plan<sup>33</sup>, the Forest Service has the following options: 1) modify the proposed project to make it consistent with the applicable plan; 2) reject the proposal; 3) amend the plan so that the Project would be consistent with the plan as amended; or 4) amend the plan contemporaneously with the approval of the Project so the Project would be consistent with the plan as amended. The fourth option may be limited to apply only to the Project.

The MVP Project, as proposed, cannot adhere to several Forest Plan standards that are intended to protect soil, water, riparian, visual, old growth, and recreational resources. This appendix describes how the Forest Service proposes to amend the Forest Plan so that the MVP Project would be consistent with the amended Forest Plan (per option #4 in the preceding paragraph).

Land management plans are like municipal zoning plans, which take a geographical area, for example a city or county, and partition it into zones to promote various objectives such as economic development, traffic flow, etc. To achieve those objectives, the zoning plan provides codes which limit or promote certain activities within a zone. In a municipal zoning plan, alterations to zoning codes, often called variances or modifications, are allowed to provide exceptions to a code restriction for a developer or property owner.

Similar to partitioning a city under a municipal zoning plan, a land management plan partitions a national forest into areas called management areas or prescription areas. A land management plan defines the intentions through forest-wide goals, objectives, and desired conditions. Each management area and prescription area have an emphasis that is articulated in desired conditions and objectives, which are achieved through limiting or promoting certain activities through standards and guidelines. The 2012 Planning Rule (36 CFR Part 219) requires the following plan components: desired conditions, objectives, standards, guidelines, and suitability of lands. Like a municipal zoning plan, a land management plan allows for variances or modifications through the plan amendment process. *“Project specific amendments give a way to deal with exceptions. An exception is similar to a variance to a county zoning ordinance”* (77 FR 21239).

Land management plan revisions are comprehensive changes to a plan, whereas plan amendments are more limited changes to a plan to accommodate specific projects and/or activities, or to adapt to changing conditions. The U.S. Department of Agriculture issued a final rule that amended the 2012 Planning Rule in December 2016, which clarified the U.S. Department of Agriculture’s direction for amending land

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<sup>33</sup> For land management plans developed under the 1982 Planning Rule

management plans. The 2016 final rule stated that “[n]o individual amendment is required to do the work of a revision” (81 FR 90725). “The process requirements for plan amendments... are simpler than those for new plan development or plan revisions in order to... keep plans current and adapt to new information or changed conditions” (77 FR 21237).

A plan amendment is the adding, removing, or modification of one or more plan components or the changing of how or where one or more plan components apply to the plan area (36 CFR § 219.12(a)). As stated above, plan components include desired conditions, objectives, standards, guidelines, and suitability of uses. There are two types of plan amendments: programmatic amendments and project-specific amendments. Programmatic amendments are performed independently of any specific project or activity, although they may have been prompted by a specific proposal that is not consistent with a land management plan. Programmatic amendments result in a permanent change to the land management plan and apply to all future projects. On the other hand, project-specific amendments are applicable to only a single project, amending the land management plan solely for the life of the Project or activity. A project-specific amendment is crafted in conjunction with a project proposal and is approved within a project’s decision document.

“The point of a project-specific amendment is to allow a project that would otherwise not be consistent with the plan to be authorized” (77 FR 21239). The Forest Service is proposing a project-specific plan amendment for the Mountain Valley Pipeline and Equitrans Expansion project.

Plan amendments are guided by Federal regulations at 36 CFR § 219 (NFMA implementing regulations, 2012 Planning Rule, or Planning Rule). The plan amendment process consists of three primary steps:

- Determine which plan components must be modified to allow the Project to be consistent with the amended plan (36 CFR § 219.13(a)).
- Determine which of the substantive requirement(s) within §§ 219.8 through 219.11 are directly related to the proposed amendment based on the purpose for and the effects of the amendment (36 CFR § 219.13(b)(5)).
- Apply<sup>34</sup> those directly related substantive requirements to the amended plan within the scope and scale of the proposed amendment (36 CFR § 219.13(b)(5)).
  - The Responsible Official may determine that additional plan components are necessary for the proposed amendment to be consistent with the 2012 Planning Rule.

## Scope and Scale of the Amendment

The 2012 Planning Rule gives the responsible official the discretion, within the framework of the rule’s requirements, to tailor the scope and scale of an amendment to reflect the need to change the plan (81 FR 90725). The 2012 Planning Rule at 36 CFR § 219.13(a) states, “[t]he responsible official has the discretion to determine whether and how to amend the plan and to determine the scope and scale of any amendment,” and 36 CFR § 219.13(b)(5) states, “[d]etermine which specific substantive requirement(s) within §219.8 through §219.11 are directly related to the plan direction being added, modified, or removed by the amendment and apply such requirement(s) within the scope and scale of the amendment.”

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<sup>34</sup> The 2012 Planning Rule regulations do not explicitly state what is intended by “apply.” The Federal Register notice from December 16, 2016, demonstrates that “apply” can mean determine that the plan needs additional components in order to provide for the identified directly related substantive requirement.

The scope of an amendment is generally considered to be the extent of the changes to the land management plan. The scope of this proposed project-specific amendment is the modification of 11 Forest Plan standards for the MVP project for the duration of this project.

The scale of a project-specific amendment is generally considered to be the extent of the direct impacts to a resource related to a substantive requirement and varies for each resource. For example, for the MVP Project, as disclosed in the Step 3 analysis, the scale for old growth (§219.8(a)(1) and §219.9(a)(2)) is 5.2 acres, the scale for soils (§219.8(a)(2)(ii)) is the 54-acre construction zone, and the scale for riparian areas (§219.8(a)(3)(i)) is 0.15 acre.

## Applying the Directly Related Substantive Requirements

In December 2016, the Forest Service published an amendment to the 2012 Planning Rule (81 FR 90723) clarifying that the responsible official is not required to apply every substantive requirement (36 CFR §§ 219.8 through 219.11) to every acre of land within the planning unit. The clarity provided by the 2016 Planning Rule amendment indicates that any evaluation of effects of amending the plan needs to remain focused on the amendment itself – its purpose, scope, and scale. *“No individual amendment is required to do the work of a revision. While the 2012 rule sets forth a series of substantive requirements for land management plans within §§219.8 through 219.11, not every section or requirement within those sections will be directly related to the scope and scale of a given amendment. Although the Department recognizes that resources and uses are connected, the Department does not expect an individual plan amendment to do the work of a revision to bring an underlying plan into compliance with all the substantive requirements identified in §§219.8 through 219.11”* (81 FR 90725). Further, the Department recognized the difficulties of amending an older plan, such as the JNF Forest Plan, prepared under the 1982 regulations and meeting all the requirements of the 2012 Planning Rule. The Department stated in 2016 amendment preamble that *“[u]sing the 2012 rule to amend 1982 rule plans can be a challenge because there are fundamental structural and content differences between the two rules. Because of the underlying differences, 1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule.”* (81 FR 90724).

Appropriate application of the directly related substantive requirements, within the scope and scale of the amendment, makes certain that the amended land management plan has the components necessary to ensure that meeting those requirements within the plan area will not be compromised by any single project. If a directly related substantive requirement is not meeting the Planning Rule intent through existing land management plan direction due to the amendment, then additional plan components need to be included as part of the amendment in order to satisfy the substantive requirement in question.

This understanding further supports that the purpose of the amendment is not to ensure compliance of the entire land management plan with all the substantive requirements of the 2012 Planning Rule, but rather to apply only those substantive requirements that are directly related to the amendment and the area affected by the amendment.

## Purpose of the Amendment

The NFMA requires proposed projects, including proposals from non-Federal entities subject to permits or ROW grants, be consistent with the applicable Forest Plan (16 U.S.C. § 1604(i)). The January 2004 Jefferson National Forest Revised Land and Resource Management Plan (Forest Plan) states that, “[p]rojects are evaluated to determine if they are consistent with the management direction in the Revised Plan,” and that “[d]eviation from a standard requires a Forest Plan amendment” (JNF Forest Plan, p. 2-1).

The MVP Project, as proposed, cannot adhere to several Forest Plan standards that are intended to protect soil, water, riparian, visual, old growth, and recreational resources. Therefore, the purpose of the proposed amendment is to modify current plan standards to allow the Project to be consistent with the Forest Plan. In this case, only the MVP project would be exempted from these modified standards which would allow the Project to be consistent with the amended Forest Plan. All other standards within the Project area and across the planning unit would remain unmodified and applicable to all other activities.

The purpose of the amendment is not the same as the applicant's purpose of the Project, although they are related. The applicant's purpose of the Project, in general, is to transport natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States. Specific description of the purpose of the MVP project is found in the Federal Energy Regulatory Commission (FERC) Final Environmental Impact Statement (FEIS), page 1-8. Despite the remand of the Forest Service's 2017 and 2020 MVP Record of Decisions (RODs), the Project purpose articulated in the 2017 FERC FEIS has not changed.

After completing the analysis for the proposed Plan amendment of the identified 11 Forest Plan standards, the Responsible Official determined that in order to meet the 2012 Planning Rule mandate for 219.8(a)(1) – ecosystem integrity, 219.8(a)(2)(ii) – soils and soil productivity, 219.8(a)(2)(iii) – water quality, 219.8(a)(2)(iv) – water resources, 219.8(a)(3)(i) – ecological integrity of riparian areas, 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, an additional plan standard should be added to the Project amendment. This MVP-specific standard ensures the JNF Forest Plan, as amended, would continue to maintain or restore those identified directly related substantive requirements within the scope and scale of the MVP amendment.

## Step 1: Determine the Plan Components to be Modified

After reviewing the Forest Plan, the responsible official determined the MVP project as proposed would be inconsistent with 11 standards in the Forest Plan. The Forest Service proposes a project-specific amendment to modify the 11 standards to meet the requirement that the MVP project is consistent with the Forest Plan. The proposed amendment would exempt the MVP project from complying with the 11 modified standards, which would apply to the 54 acres of the construction zone (i.e., temporary construction ROW) and ultimately the 22 acres of the ROW grant. Standards denoted with an "FW" are Forest-wide standards. Standards that begin with a numeral (e.g., 11-003) apply to a specific management prescription or area as identified in the Forest Plan. For example, "11-003" is a Plan standard that applies to Management Prescription 11 (Riparian Corridors).

The following standards are proposed to be modified:

- **FW-5** (revegetation) - On all soils dedicated to growing vegetation, the organic layers, topsoil and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years (JNF Forest Plan, p. 2-7).

FW-5 would be modified to the following: On all soils dedicated to growing vegetation, the organic layers, topsoil and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years, *with the exception of the MVP construction zone and right-of-way.*

- **FW-8** (soil compaction in water saturated areas) - To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil



moisture exceeds the plastic limit. Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling (JNF Forest Plan, p. 2-7).

FW-8 would be modified to the following: To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit, *with the exception of the MVP construction zone and right-of-way*. Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling.

- **FW-9** (soil effects from heavy equipment use) - Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5% or less (JNF Forest Plan, p. 2-7).

FW-9 would be modified to the following: Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5% or less, *with the exception of the MVP construction zone and right-of-way*.

- **FW-13** (exposed soil) - Management activities expose no more than 10% mineral soil in the channeled ephemeral zone (JNF Forest Plan, p. 2-8).

FW-13 would be modified to the following: Management activities expose no more than 10% mineral soil in the channeled ephemeral zone *with the exception of the MVP construction zone and right-of-way*.

- **FW-14** (residual basal area within the channeled ephemeral zone) - In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian dependent resources (JNF Forest Plan, p. 2-8).

FW-14 would be modified to the following: In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian-dependent resources, *with the exception of the MVP construction zone and right-of-way*.

- **FW-184** (scenic integrity objectives) - The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses). Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO (JNF Forest Plan, p. 2-48).

FW-184 would be modified to the following: The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses), *with the exception of the MVP construction zone and right-of-way*. Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO.

- **FW-248** (utility corridors) - Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Prescription 5B or 5C. (JNF Forest Plan, p. 2-60).

FW-248 would be modified to the following: Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will

include an amendment to the Forest Plan designating them as Prescription Area 5B or 5C, *with the exception of the MVP construction zone and right-of-way*.

- **4A-028** (Appalachian National Scenic Trail [ANST] and utility corridors) - Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project (JNF Forest Plan, p. 3-23).

4A-028 would be modified to the following: Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist, *with the exception of the MVP construction zone and right-of-way*. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.

- **6C-007** (tree clearing in the old growth management area) - Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation (JNF Forest Plan, pp. 3- 82 to 3-83).

6C-007 would be modified to the following: Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation, *with the exception of the MVP construction zone and right-of-way*.

- **6C-026** (utility corridors in the old growth management area) - These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses are allowed to continue (JNF Forest Plan, p. 3-84).

6C-026 would be modified to the following: These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites, *with the exception of the MVP construction zone and right-of-way*. Existing uses are allowed to continue.

- **11-003** (exposed soil within the riparian corridor) - Management activities expose no more than 10% mineral soil within the Project area riparian corridor (JNF Forest Plan, p. 3-182).

11-003 would be modified to the following: Management activities expose no more than 10% mineral soil within the Project area riparian corridor, *with the exception of the MVP construction zone and right-of-way*.

## Step 2: Determine Directly Related Substantive Requirements

The purpose of Step 2 is to identify which 2012 Planning Rule substantive requirement(s) within 36 CFR §§ 219.8 through 219.11 are directly related to the amendment. Whether a substantive requirement is directly related to an amendment is determined by either the purpose or effects – beneficial or adverse - of the amendment (36 CFR § 219.13(b)(5)(i)). When basing the determination on adverse effects, a substantive requirement is directly related if the adverse effects are substantial or when the amendment would substantially lessen plan protections of a specific resource (36 CFR § 219.13(b)(5)(ii)(A)). Therefore, a substantive requirement is directly related to an amendment through one of the following: the

purpose of the amendment, a beneficial effect of the amendment, a substantial adverse effect of the amendment, or a substantial lessening of plan protections by the amendment (36 CFR § 219.13(b)(5)).

The scope of this proposed project-specific amendment is defined as the 11 plan standards that could not be met if the MVP project were implemented and the modification of those 11 plan standards. The scale for the proposed project-specific amendment varies by resource as described in Step 3.

The determination of the directly related substantive requirements is grouped by related resources.

## Soil and Riparian

Six Forest Plan standards associated with soil productivity and riparian habitat are proposed to be modified in this amendment (FW-5, FW-8, FW-9, FW-13, FW-14 and 11-003). These six standards cannot be met utilizing standard industry pipeline construction methods like those proposed with the MVP. FW-5 requires that at least 85% of the organic layers, topsoil, and root mat be left in place over an activity area. FW-8 limits the use of heavy equipment on plastic soils when the water table is within 12 inches of the surface or when soil moisture exceeds the plastic limit. FW-13 requires management activities to expose no more than 10% mineral soils in the channeled ephemeral zone. FW-14 limits basal area removal up to a minimum of 50 square feet per acre in channeled ephemeral zones. Standard 11-003 limits management activities from exposing more than 10% mineral soils within the Project area riparian corridor. It is not practical to modify the MVP construction methods in a manner that would achieve consistency with these six standards. Therefore, the Forest Service proposes to amend these six standards for the MVP.

**Purpose** - The purpose of modifying standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 is to allow MVP to exceed one of the 56 standards for riparian area protection in Management Prescription 11, and five of the 30 Forest-wide standards for water, soil, and channeled ephemeral (riparian) zone protection. The modification of these six standards is directly related to: § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; and §219.11(c) – timber harvesting for purposes other than timber production.

**Effects** - The effect of the modification of the six soils and riparian standards includes minor adverse effects of vegetation removal, erosion and sedimentation, soil compaction, soil porosity, runoff potential, soil fertility, revegetation potential, and soil carbon budget (F2017 ERC FEIS, Sec. 4.2.2.5, p. 4-88). The reduction of soil and riparian protection measures constitutes an adverse impact, but effects would not be expected to be substantial. The greatest impacts to soils, riparian, and water resources would be during the construction and restoration period.

As stated previously, sedimentation modeling estimated that ECDs would be effective at minimizing sedimentation in waterways. The model estimated that baseline sediment yields would vary from 0.15 to 0.43 tons/ac/yr at each HUC-12 watershed outlet, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is completed, sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. As described in detail in Section 3.3.2 of this FSEIS, the available relevant data, including the Forest Service and BLM's consideration of information from USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspection reports, and Transcon monitoring reports on the JNF, are all

consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment runoff, and that observations of elevated sediment levels within the watershed may result from multiple land uses. As a result, the amended standards would not hinder the Forest Plan's ability to maintain or restore soils, water, and riparian resources.

Further, mitigation measures designed to minimize soil and riparian effects are incorporated into the POD (2017 FERC FEIS, Sec. 4.2.3, p. 4-88; Sec. 5.1.2, p. 5-3; Sec. 4.3.2.2., p. 137; Sec. 4.4.2.6, p. 4-187; Sec. 4.6.2.2). Specifically, an Erosion and Sediment Control Plan (POD, Appendix C1 and C2), Restoration Plan (POD, Appendix H), and Winter Construction Plan (POD, Appendix M) would ensure effects to soils, riparian, and water resources are minimized and are designed to expedite vegetative recovery, such as planting trees and shrubs in the riparian corridor. Continuous monitoring indicates mitigation measures and design criteria are effective at minimizing impacts to soils, riparian, and water resources.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. In summary, the FERC found that "conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation" (FERC 2021 p. 92). The FERC's conclusion is consistent with the Forest Service's independent agency analysis and demonstrates that the four JNF stream crossings would not hinder the amended Forest Plan's ability to maintain or restore soil, water, or riparian resources.

As stated above, most impacts occur during the construction and restoration phases of Project, which would be considered minor and temporary adverse effects. In the long-term, after restoration has occurred and the Project is in the operation and maintenance phase, sedimentation is expected to be minor (0.001 tons/ac/yr to 0.002 tons/ac/yr over baseline) due to maintenance and operation activities of the pipeline.

Because there would be no substantial environmental effects from the proposed modification of these standards, the proposed amendment is not directly related to any substantive requirements based on adverse or beneficial effects.

Standards FW-5, FW-8, FW-9, FW-13, and FW-14 would continue to apply to the remaining 723,300 acres of the JNF, and Standard 11-003 would continue to apply to the remaining 73,600 acres in Management Prescription 11 on the JNF. As stated above, real-world water quality data and information show the ECDs are effective at minimizing sediment runoff and therefore the amended standards would not hinder the Forest Plan's ability to maintain or restore soil and riparian resources. The modified six standards would only apply to the 54-acre construction zone during construction activities and 22-acre authorized ROW, which would not constitute a substantial lessening of plan protections. Therefore, the proposed amendment is not directly related to any substantive requirement based on substantial lessening of plan protections.

In conclusion, the proposed modification of the six standards related to soil and water (FW-5, FW-8, FW-9, FW-13, FW-14 and 11-003) are directly related to substantive requirements § 219.8(a)(1) – ecosystem Jefferson National Forest

integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources, § 219.8(a)(3)(i) – ecological integrity of riparian areas, and § 219.11(c) – timber harvesting for purposes other than timber production. These six substantive requirements are directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through beneficial effects, substantial adverse effects, or substantial lessening of plan protections.

## Scenery Integrity Objectives

Forest Plan standard FW-184 requires all new projects to meet specific scenery conditions as outlined in the Forest SIOs maps. The MVP proposed action (50-foot-wide authorized ROW) would cross two areas on NFS lands assigned as High SIO (12.4 acres), four areas with a Moderate SIO (32.0 acres), and one area with a Low SIO (4.2 acres) (2017 FERC FEIS, pp. 4-295 to 4-296). Scenery analysis in the 2017 FERC FEIS (pp. 4-334 to 4-347 and Appendix S) indicates the standard pipeline construction methods would not meet High and Moderate SIOs. High SIO areas should appear unaltered to the casual observer, while Moderate SIO areas may appear slightly altered but should borrow from elements of form, line, color, texture, and scale found in the characteristic landscape. The clearing of the ROW would highlight the linear nature of the pipeline and would not be consistent with the natural form, lines, and scales in the adjacent landscape. This alteration of the landscape would be obvious to the casual observer and the landscape would appear altered. It is not practical to modify the MVP construction methods and achieve consistency with High and Moderate SIOs due to the linear nature of pipelines and the need to remove the vegetation along the corridor, which creates an unnatural form on the landscape. Therefore, the Forest Service proposes to amend FW-184 for the MVP project.

**Purpose** - The purpose of modifying standard FW-184 is to allow MVP to exceed one of the 20 Forest-wide standards for scenery. Therefore, the modification of the FW-184 is directly related to § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character – due to the purpose of the amendment.

**Effects** - The effect of the modification of the FW-184 standards would be the net degradation of scenic quality inconsistent with the Forest Plan SIOs. Although this is an adverse impact to scenery, it is not a substantial adverse impact due to the limited extent to the scenery resource of the Project crossing the JNF (2017 FERC FEIS p. 4-347), and the implementation of POD measures. The POD would require the Project crossing of the ANST to retain vegetative cover for about 300 feet on either side of the ANST, thus mitigating foreground visual impacts to ANST users. Additionally, the topography acts as a natural barrier to reduce potential visual impacts to the south of the ANST. Background and middle ground visual impacts would occur for the long-term within the ROW (22 acres) remaining in an early successional vegetative condition; however, on NFS lands the ROW would be managed in an early successional condition for only 10 feet rather than the entire 50-foot ROW and planting would be used to minimize the temporal impact to the scenic character. This would substantially reduce the visibility of the pipeline, especially in the background and middle ground. Vegetative growth would allow the corridor to meet the assigned SIO within five years following construction (2017 ERC FEIS p. 4-338). Therefore, no substantive requirements are directly related due to substantial adverse effects or beneficial effects.

Modifying standard FW-184 through the proposed amendment would not cause a substantial lessening of plan protections. As stated above, the POD requires the pipeline to go under the trail and a forest buffer of about 300 feet on either side of the ANST would remain. In addition the POD requires managing the ROW in herbaceous cover for only 10 feet rather than the full 50 feet, which would minimize impacts to scenic character. Standard FW-184 would continue to



apply across the Forest with 283,000 acres in a high SIO with the MVP project only affecting 12.4 acres in High SIO, and 242,000 forest-wide acres in a Moderate SIO with the MVP project only affecting 32.0 acres in Moderate SIO. Because exempting the MVP project from standard FW-184 would not constitute a substantial lessening of plan protections, in part due to the implementation of the POD, the proposed modified standard is not directly related to any substantive requirements based on substantial lessening of plan protections.

In conclusion, the proposed modification of FW-184 is directly related to substantive requirement § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access, and scenic character. This substantive requirement is only directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through beneficial effects, substantial adverse effects, or substantial lessening of plan protections.

## Utility Corridors

Forest Plan standard FW-248 directs that if a new utility corridor is created outside an existing corridor, the new route would be reallocated as Management Prescription 5C, a designated utility corridor. For the MVP project, the utility corridor would not be in a designated Management Prescription 5C, and the corridor would be managed under the current Management Prescriptions of: 4A-Appalachian National Scenic Trail Corridor; 4J-Urban/Suburban Interface; 6C-Old Growth Forest; and 8A1-Mix of Successional Habitats and 11-Riparian Corridors. The use of designated utility corridors is intended to reduce fragmentation and minimize visual effects by encouraging collocation of any future utility corridors. Many public comments on the FERC Draft EIS expressed concern that a 500-foot-wide utility corridor designation could affect adjacent landowners by attracting future development. After consideration of public comments and further review of the proposed designation of the MVP corridor to Management Prescription 5C, the Forest Service determined that collocation of future utilities (which is the purpose of the designation) is too speculative and may not be logistically feasible or environmentally preferable. In addition, not designating a corridor would be responsive to adjacent landowner concerns that were raised to FERC during the public involvement process. Therefore, the proposed management area designation was dropped from the 2017 FERC FEIS and a project-specific Forest Plan amendment to modify this standard was proposed. The 2017 FERC FEIS and the 2020 FSEIS assessed the placement and sustainable management of the MVP corridor across the JNF, including the collocation with existing utilities. The proposed amendment would not preclude future collocation of utilities in the MVP corridor or any other utility corridor nor a future allocation change of the MVP corridor to Management Prescription 5C and would not designate MVP corridor as a utility corridor at this time.

**Purpose** – The purpose of amending standard FW-248 is to allow MVP to be exempt from one standard for managing for future utility corridors. Therefore, due to its purpose, the proposed modification of standard FW-248 is directly related to the substantive requirements § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.

**Effects** – There are no direct environmental effects of not designating the MVP corridor as Management Prescription 5C. In addition, there are no indirect or cumulative effects of not changing the land allocation because it is too speculative to assume a future utility line would be collocated within the MVP corridor even if it were designated a Management Prescription 5C; such collocation may not be logistically feasible or environmentally preferable; and there are no reasonably foreseeable future utility corridors proposed or known that will be located in the vicinity of MVP on the JNF. Because there would be no environmental effects of the proposed modification of FW-248, the proposed amendment is not directly related to any substantive requirement based on beneficial or adverse effects. Since there would be no effects of not

designating the corridor to Management Prescription 5C, the lessening of plan protections consideration is not applicable.

The proposed modification of standard FW-248 is directly related to a single substantive requirement, § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors. This direct relation is based on only the purpose of the amendment. No substantive requirements are directly related to the modification of standard FW-248 based on effects.

## Appalachian National Scenic Trail

Forest Plan standard 4A-028 requires the Forest Service to locate new public utilities and ROWs along the ANST in areas where major effects already exist. The 2017 FERC FEIS evaluated pipeline routes crossing the ANST along existing ROWs and at an existing road crossing (State Route 635). However, concerns associated with the alternative routes included: longer routes; greater effects to old growth, inventoried roadless areas, wetlands, and other recreational effects; and increased risks from landslide prone areas (2017 FERC FEIS Appendix AA). This proposed amendment would allow for a pipeline route to cross the ANST at a location where no other major effects already exist.

**Purpose** - The purpose of modifying standard 4A-028 is to allow MVP to exceed one out of 30 Forest Plan standards for the ANST corridor. Therefore, the modification of the 4A-028 standard is directly related by the purpose of the amendment to § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors, § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

**Effects** - The effect of the modification of the 4A-028 standard would be the allowance of a new utility corridor to cross under the ANST at a location other than where major effects already exist. As disclosed in the following paragraph, although this is an adverse impact to ANST, it is not a substantial adverse impact due to the construction method proposed for crossing the trail, and because effects would be limited to the approximately 10-week construction period.

The POD requires the pipeline cross the ANST by boring under the trail, with an approximate 300-foot forested buffer on either side of the trail and no need for vegetation removal within approximately 300 feet of the trail. Minor temporary adverse effects to trail users may occur from noise, dust, and visual intrusions from crossing underneath the ANST via the 600-foot-long bore. These impacts would be limited only to the time when boring is occurring (anticipated to be 10 weeks) (2017 FERC FEIS, p. 3-52) (POD, Sec. 1.3). Multiple measures are required to minimize impacts on recreational users on the ANST and the ANST itself. For example, Appendix E and Section 7.5.2 of the POD include measures to avoid placing equipment near the ANST, avoid conducting trenching near the ANST, and mitigation to control fugitive dust. Additionally, because there is a 70- to 90-foot elevation difference between the bore holes and the ANST, topography acts as a natural barrier to reduce potential visual impacts to the south of the ANST. Because there would be no long-term noise effects and the approximately 300-foot vegetative buffer on either side of the trail would screen the Project, the modified standard is only needed for approximately 10 weeks of construction; operation of the ROW is expected to meet the unmodified standard 4A-028 direction. Therefore, no substantive requirements are directly related due to beneficial effects or substantial adverse effects.

Modifying standard 4A-028 would not cause a substantial lessening of plan protections. As stated above, the POD requires the pipeline to cross under the trail with an approximate 300-foot-wide forested buffer on either side. The POD requires multiple measures to minimize noise, visual, and recreational impacts. The impacts to ANST users would be limited for the anticipated 10-week construction period. Standard 4A-028 would continue to apply to the remaining 63,300 acres of the ANST corridor on the JNF and 29 other standards in Management Prescription 4A would be unaffected by the proposed amendment. Because allowing the pipeline to go under the ANST would not constitute a substantial lessening of plan protections, the proposed amendment is not directly related to any substantive requirement based on substantial lessening of plan protections.

In conclusion, the proposed modification of standard 4A-028 is directly related to substantive requirements § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors, § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas. These three substantive requirements are only directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through beneficial effects, substantial adverse effects, or substantial lessening of plan protections.

## Old Growth Management Area

Two out of 85 Forest Plan standards associated with old growth management are proposed to be modified in this amendment (6C-007 and 6C-026). These two standards apply to NFS lands allocated to Management Prescription 6C: Old-Growth Forest Communities Associated with Disturbance. Standard 6C-007 would not allow clearing of trees where the MVP corridor and areas designated under Management Prescription 6C coincide. Standard 6C-026 states areas designated as 6C are not suitable for designation for a new utility corridor. These two standards would preclude the construction and designation of the MVP project if not modified. Originally, the ROW corridor was proposed in the FERC Draft EIS to be reallocated to Management Prescription 5C-Utility Corridor, but that part of the proposal was reconsidered in the 2017 FERC FEIS (see Utility Corridor write-up above). Therefore, the Forest Service proposes to modify these two standards for the construction and operation of the MVP on NFS lands.

**Purpose** - The purpose of modifying standards 6C-007 and 6C-026 is to exempt MVP from two of the 85 (total number of standards for Management Prescriptions 6A, 6B, and 6C) Forest Plan standards for old growth protection. Therefore, the modification of these two old growth standards is directly related to 219.9(a)(1) – ecosystem integrity and § 219.9(a)(2) – ecosystem diversity due to the purpose of the amendment. Since Standard 6C-007 restricts timber harvesting, this standard is also directly related to § 219.11(c) – timber harvesting for purposes other than timber production. In addition, since Standard 6C-026 restrict designation of utility corridors within Management Prescription 6C, this standard is also directly related to 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.

**Effects** - The proposed modification of these two old growth standards would result in the clearing of about 5.2 acres of old growth within areas designated as 6C (2017 FERC FEIS, Sec. 5.1.8, p. 5-9). Although this is an adverse impact to old growth ecosystems, it is not a substantial adverse impact due to the limited extent of the impact (about 5.2 of 30,200 old growth acres forest-wide). Because there would be no substantial environmental effects from the proposed



modification of these standards, the proposed modifications are not directly related to any substantive requirement based on substantial adverse effects or beneficial effects.

Modifying two out of 85 old growth standards would not cause a substantial lessening of plan protections. Nor would it preclude the amended Forest Plan from maintaining or restoring old growth resources. In 2016, MVP prepared a tree survey of the Project area on the JNF determine the dominant species of trees present, tree age (based on tree core samples), estimated trees per acre, as well as the height and basal area of measured trees.<sup>35</sup> The Forest Service conducted a timber cruise in 2017 to determine the location, volumes, age, and species compositions of the timber within the Project area. As stated above, only 5.2 acres would be adversely impacted due to tree removal. Old growth is not a static resource; forest communities are constantly evolving and the location and extent of old growth will continue to change over the life of the Forest Plan and this proposed project. Forest Service FS Veg data estimates there are currently 2,337 acres of JNF forest stands with a stand age indicative of old growth. In 10 years, the number rises to 3,013 acres, and in 20 years there would be 3,399 acres. This analysis indicates that old growth in the vicinity of the Project should increase over time, which indicates that the Forest Plan, as amended, contains components to maintain and restore. The FY 2015-2019 Monitoring Evaluation Report for the GWJ indicates old growth on the JNF exceeds JNF Forest Plan objectives (Forest Service 2020b). “The total percentage of the [JNF] that exceeds the age criteria for old growth determination has doubled from 7% to 15%. (Forest Service 2020b).”

After construction is completed, deep-rooted trees will be allowed to regrow within 25 feet of the pipeline centerline, minimizing fragmentation and associated effects on Peters Mountain. Revegetation will be monitored annually for 5 years and monitored at least once every 5 years after that time period. For these reasons, current and amended plan components are sufficient to maintain and restore old growth habitats across the JNF.

Standards 6C-007 and 6C-026 would continue to apply to the remaining 30,200 acres in Management Prescription 6C on the JNF. Because removal of these 5.2 acres would not constitute a substantial lessening of plan protections, the proposed amendment is not directly related to any substantive requirements based on substantial lessening of plan protections.

In conclusion, the proposed modification of the two old growth standards (6C-007 and 6C-026) is directly related to 219.9(a)(1) – ecosystem integrity, § 219.9(a)(2) – ecosystem diversity, § 219.11(c) – timber harvesting for purposes other than timber production. These three substantive requirements are only directly related to the proposed amendment through the purpose of the amendment. None of the substantive requirements are directly related through substantial adverse effects, beneficial effects, or substantial lessening of plan protections.

## Additional Effect

One additional effect of the proposed amendment not tied to the proposed modification of any particular standard is the short- and long-term beneficial impact to the local and regional economy (2017 FERC FEIS, Sec. 5.1.9, p. 5-11). Therefore, the proposed amendment is directly related by beneficial effects to § 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies. This beneficial effect is the same as the effect of the Proposed Action.

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<sup>35</sup> MVP 2016. Tree Surveys Within the Jefferson National Forest for the Mountain Valley Pipeline Project in Monroe County, West Virginia and Giles, and Montgomery Counties, Virginia. April 2016.

## Directly Related Substantive Requirements

Based on the criteria and analyses described above, the substantive requirements that are directly related include:

- 219.8(a)(1) – Ecosystem integrity due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003.
- 219.8(a)(2)(ii) – Soils and soil productivity due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003.
- 219.8(a)(2)(iii) – Water quality due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003.
- 219.8(a)(2)(iv) – Water resources due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003.
- 219.8(a)(3)(i) – Ecological integrity of riparian areas due to the modification of standards FW-13, FW-14, and 11-003.
- 219.8(b)(3) – Multiple uses that contribute to local, regional, and national economies due to the amendment itself.
- 219.9(a)(1) – Ecosystem integrity due to the modification of standards 6C-007 and 6C-026.
- 219.9(a)(2) – Ecosystem diversity due to the modification of standards 6C-007 and 6C-026.
- 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors due to the modification of standards FW-248, 4A-028, and 6C-026.
- 219.10(b)(1)(i) – Sustainable recreation, including recreation setting, opportunities, access; and scenic character due to the modification of standards FW-184 and 4A-028.
- 219.10(b)(1)(vi) – Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas due to the modification of standard 4A-028.
- 219.11(c) – Timber harvest for purposes other than timber production due to the modification of standards FW-14, 6C-007.

### Step 3: Apply the Directly Related Substantive Requirement

The purpose of Step 3 is to take the directly related substantive requirements (identified above in Step 2) and apply them within the scope and scale of the proposed amendment. In applying those requirements, the Forest Service must ensure that the Forest Plan, as amended, contains plan components that meet the 2012 Planning Rule substantive requirements across the planning unit within the scope and scale of the proposed amendment. A plan amendment is not expected to bear the burden of a plan revision and bring the entire plan into consistency with the 2012 Planning Rule. Rather the plan amendment shall only apply

the directly related substantive requirements, and only in a manner commensurate with the scope and scale of the amendment<sup>36</sup>.

In applying the directly related substantive requirements to those components related through “purpose” or “beneficial effect,” the Responsible Official may determine that additional plan components are necessary to ensure compliance with the 2012 Planning Rule.<sup>37</sup> When a directly related substantive requirement is determined to be related by “adverse effect” in Step 2, the Responsible Official is required to either modify the proposal or review the amended plan to determine the need or benefit of additional plan components. If a plan component is added based on the Step 3 determination, the plan component must be analyzed for what substantive requirements it is directly related to, with the determination likely to be based upon “beneficial effect.”

Based on the Step 2 analysis, the JNF Forest Plan, as amended, must contain plan components that maintain or restore<sup>38</sup> ecosystem integrity and diversity of plant and animal communities (36 CFR § 219.8 and § 219.9), provide for multiple uses (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11). Each of these substantive requirements contains direction regarding their application to the plan. For some substantive requirements like ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), the plan’s components must strive to “maintain or restore,” while for other substantive requirements like timber management, the plan must include components to guide.

When applying directly related substantive requirements, the scope of the proposed Project-specific Forest Plan amendment is the addition of one Forest Plan standard and the modification of:

- 3 out of 10 forest-wide water and soil quality standards
- 2 out of 20 forest-wide channeled ephemeral zone standards
- 1 of 56 riparian prescription area standards
- 2 of 27 old-growth standards for Management Prescription 6C
- 1 of 8 forest-wide standards for Rights-of-Way
- 1 of 30 standards for Management Prescription 4A
- 1 of 20 forest-wide standards for scenery

Therefore, the proposed amendment leaves unchanged 7 forest-wide water and soil quality standards, 18 forest-wide channeled ephemeral zone standards, and 55 riparian prescription area standards. Through actions which require adherence to State standards and practices, actions which avoid or mitigate erosion, and practices which require restoration, these unmodified standards would continue to maintain or restore aquatic or terrestrial ecological integrity, soils and soil productivity, water quality, water resources, riparian areas, and ecosystem diversity.

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<sup>36</sup> This final rule ensures that the Forest Service can use the 2012 rule to amend 1982 rule plans without any individual amendment bearing the burden of bringing the underlying plan into compliance with all of the 2012 rule’s substantive requirements, even if unchanged direction in the 1982 rule plan fails to address, meet or is contrary to 2012 rule requirements (81 FR 90726).

<sup>37</sup> When a directly related substantive requirement is determined to be related by “substantial adverse effect” in Step 2, the Responsible Official is required to either modify the proposal to avoid the “substantial adverse effect determination” or verify if the existing plan provides sufficient plan components for the directly related substantive requirement. If the plan does not, the Responsible Official must add additional plan components to make certain the Planning Rule requirements are met.

<sup>38</sup> The Planning Rule defines restore as “[t]o renew by the process of restoration (see restoration).” It defines restoration as “[t]he process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystem sustainability, resilience, and health under current and future conditions” (36 CFR § 219.19).

As examples of unmodified components whose required actions would maintain or restore ecological integrity, the sample of Forest Plan components below (and their requirements) would remain as designed, and in place throughout the entire JNF including the MVP ROW. Not all components are listed; other unmodified components may similarly maintain or restore ecological integrity.

- FW-1: Resource management activities that may affect soil and/or water quality follow Virginia, West Virginia, and Kentucky Best Management Practices, State Erosion Control Handbooks, and standards in this Forest Plan.
- FW-6: Locate and design management activities to avoid, minimize, or mitigate potential erosion.
- FW-10: Management activities that cause bare mineral soil on slopes greater than 5% will have erosion control planned and implemented.
- FW-23: Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.
- FW-111: Use advanced harvesting methods on sustained slopes 45 percent or greater to avoid adverse impacts to the soil and water resources. Use advanced harvest systems on sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone.
- FW-118: No heavy equipment is used for site preparation on sustained slopes over 35 percent or sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone.
- FW-128: When necessary, landings will be ripped to a depth of 6-8 inches to break up compaction, and to ensure soil productivity and the successful reestablishment of vegetation.
- FW-130: When removing felled trees from areas of hydric soils, use methods that avoid rutting or displacing soil (i.e., use of low ground pressure skidders).
- FW-150: Only mowing, chopping, or shearing treatments are used on sustained slopes over 15 percent. No heavy equipment is used for mechanical fuels treatments on sustained slopes over 35 percent. Mechanical fuels treatments are prohibited on sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone.
- 11-001: Any human caused disturbances or modifications that may concentrate runoff, erode the soil, or transport sediment to the channel or water body are rehabilitated or mitigated to reduce or eliminate impacts. Channel stability of streams is protected during management activities.
- 11-010: Existing permanent wildlife openings may be maintained within the riparian corridor. However, permanent wildlife openings identified as causing environmental degradation through concentrated runoff, soil erosion, sediment transport to the channel or water body are mitigated or closed and restored. New permanent wildlife openings within the riparian corridor are permitted where needed to provide habitat for riparian species, or threatened, endangered, sensitive, and locally rare species.
- 11-030: Construction of firelines with heavy mechanized equipment (e.g. bulldozers) in riparian corridors is prohibited. Hand lines, wet lines, or black lines are used to create firelines within the riparian corridor to minimize soil disturbance. Water diversions are used to keep sediment out of streams. Firelines are not constructed in stream channels, but streams may be used as firelines.
- 11-034: Proposed recreation facilities will be located outside of the riparian corridor or 100-year floodplain (Executive Order 11988) and wetlands (Executive Order 11990) unless no practicable alternative location exists. Where future facilities cannot be located out of the 100-year floodplain, structural mitigation and best management practices will be used. Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are

causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.

Below, the additional unmodified Plan components and standards would continue to guide the plan area's contribution to social economic sustainability, continue to consider appropriate placement and management of infrastructure, continue to provide for scenic character, or continue to provide for protection of other designated areas.

- 2 forest-wide old-growth standards
- 28 standards for Management Prescription 6A (old-growth forest communities not associated with disturbance)
- 30 standards for Management Prescription 6B (old-growth forest communities dependent of fire)
- 25 Management Prescription 6C standards
- numerous components including forest-wide goals, objectives, and 19 additional Forest-wide standards for scenery

The following analysis of the application of the directly related substantive requirements considers the extent of the proposed amendment (scope) and area of the Forest affected by the proposed amendment (scale), evaluated the desired future conditions contained in the JNF Plan<sup>39</sup>, and utilized best available science data such as monitoring reports and other scientific information. The direction required by each substantive requirement is included in the analysis below.

### § 219.8(a)(1) – Ecosystem integrity and § 219.8(a)(2)(ii) – Soils and soil productivity

Substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(2)(ii) – soils and soil productivity are directly related to the proposed amendment through the purpose of modifying standards FW-5, FW-8, FW-9, FW-13, and 11-003 and the addition of the MVP-specific standard. The overarching goal of the substantive requirements found in § 219.8 is for the plan to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement for ecosystem integrity is to include plan components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. The substantive requirement specific for soils and soil productivity is to include plan components to maintain or restore soils and soil productivity including guidance to reduce soil erosion and sedimentation. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19), and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

### Scope

The scope of the amendment for these substantive requirements are the modification of 3 out of 10 forest-wide water and soil quality standards; 2 out of 20 forest-wide channeled ephemeral zone standards; and 1 of 56 riparian prescription area standards as they are applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

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<sup>39</sup> Within the JNF Forest Plan, forest-wide desired conditions are articulated in the goal statement for each resource (Forest Plan p. 2-1).

## Scale

The scale of the Project-specific amendment for this resource is the construction zone (54 acres) during the construction and restoration phases, which is less than 99.99% of the 723,300-acre JNF. After construction the scale would be limited to the ROW (22 acres) for the life of the pipeline.

## Application

Exempting MVP from adhering to these soil standards would have an adverse impact to the soil resource. However, as discussed below, exempting MVP from the soil standards would not detract from the Plan's ability to provide for the ecological integrity of the forest-wide soil resource, and the mandates of the 2012 Planning Rule would be met. The POD includes measures to minimize impacts to soil and soil productivity from the MVP project, and thus would minimize impacts to ecosystem integrity as it relates to the soil resource. The soil resource within the ROW would be maintained and restored to the level sufficient to accommodate the desired conditions for soil resources across the Project area. The POD requires regrading and recontouring of the ROW to approximate the original contours. The POD also requires the removal and storage of topsoil for later replacement during the regrading and recontouring phase of the Project. Topsoil would be supplemented to mitigate any lost nutrients and ensure adequate productivity for revegetation. Over the long term, with implementation of restoration measures in Appendix H of the POD, soil productivity would be maintained and restored in the Project area. Although, at the Project level, soils would be compacted and loss of porosity would occur, soils would be of sufficient structure and composition after revegetation to maintain desired soil processes of soil stability and production of desired vegetation for the ROW. Thus, soils, soil productivity, and ecological integrity as it relates to the soil resource would be sufficiently maintained and restored within the Project area.

As stated previously, sedimentation modeling estimated that required ECDs, per the POD, would be effective at minimizing soil loss and associated sedimentation in waterways. The model estimated that baseline sediment yields (soil loss) would vary from 0.15 to 0.43 tons/ac/yr at each HUC-12 watershed outlet, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is completed sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. This modeling informed the selection of appropriate ECDs to minimize sediment yield from the proposed project. As described in detail in Section 3.3.2 of this FSEIS, the available relevant data, including the Forest Service and BLM's consideration of information from USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspection reports, and Transcon monitoring reports on the JNF, are all consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment runoff, and that observations of elevated sediment levels within the watershed may result from multiple land uses. As a result, soils and soil productivity would be maintained under the amended Forest Plan.

Multiple unmodified Forest-wide Plan components to maintain or restore soils and soil productivity (e.g., FW-1, FW-6, FW-10, FW-22, FW-23, FW-111, FW-118, FW-128, FW-130, FW-150, and FW-176) would remain in place throughout the entire JNF, including the MVP ROW. Additionally, multiple unmodified standards for Management Prescription 11 to maintain or restore soils and soil productivity (e.g., 11-001, 11-010, 11-030, 11-034, and 11-052) would remain in place throughout all of Management Prescription 11, including the MVP ROW. In addition, the original requirements of FW-5, FW-8, FW-9, and FW-13

continue to apply to 99.99% of the JNF, and the original requirements of 11-003 continue to apply to 99.99% of Management Prescription 11. As such, the scope and scale of the proposed amendment is negligible in context of the forest-wide (FW-5, FW-8, FW-9, and FW-13) or Management Prescription 11 (11-003) soil resource. Considering the scale of the plan amendment, the unaffected plan components maintain or restore soil resources, and the measures imposed on the MVP project during construction, Forest Plan direction for the JNF, including the Project-specific amendment, is sufficient to maintain the soil resource.

The Forest Plan's desired condition for soils forest-wide is articulated in Goal 4 (Forest Plan, p. 2-6) which states: “[m]anage soils to maintain or improve their productivity.” The proposed amendment would not affect the current forest-wide trend of maintaining or improving movement towards this desired condition, nor the management of soil resources across the forest. As previously mentioned, the sediment delivery (soil loss) to streams would be minimal from the MVP project during construction and would be negligible after construction. Therefore, the proposed exemption of the MVP project from the related soils standards would minimally affect the current forest-wide trend or management of the soil resource and the ecosystem integrity across the forest as it relates to the soil resource.

The Forest Plan's desired condition for soils within Management Prescription 11 is articulated in the desired condition statement (Forest Plan, p. 3-179) which states: “soils of riparian corridors have an organic layer (including litter, duff, and/or humus) of sufficient depth and composition to maintain the natural infiltration capacity, moisture regime, and productivity of the soil (recognizing that floods may periodically sweep some areas within the floodplain of soil and vegetation). Exposed mineral soil and soil compaction from human activity may be present but are dispersed and do not impair the productivity and fertility of the soil. Any human-caused disturbances or modifications that cause environmental degradation through concentrated runoff, soil erosion, or sediment transport to the channel or water body are promptly rehabilitated or mitigated to reduce or eliminate impacts.” The proposed amendment would not affect movement towards this desired condition because the pipeline construction zone would be planted with riparian vegetation; tree and shrub vegetation would be allowed to grow back within the ROW except within a 10 foot strip over the pipeline; the 10 foot strip would be managed for grass/forbs and would allow for natural infiltration levels and moisture regimes; productivity levels would be sufficient to attain desired composition, structure and function; and topsoil treatment as articulated in the Restoration Plan (POD, Appendix H) would ensure potential soil productivity losses are minimized.

The overall trend for soils and soil productivity since the establishment of the JNF (1936) is a vast improvement for the resource. The soil resources in the JNF have experienced dramatic changes over the last 87 years. Historically, land management in the southern Appalachians (as elsewhere) was not subject to requirements designed to protect or minimize damage to soil and riparian resources. As a result, mining, timbering, and clearing of land for agriculture caused extensive and widespread damage during the 1800s and early 1900s. The resulting flooding, fires, and erosion meant “the landscape was close to complete deforestation”, according to the National Forests Foundation. As described by William E. Shands of the Pinchot Institute for Conservation Studies in his publication “The Lands Nobody Wanted: The Legacy of the Eastern National Forests” (1991), “At the time they were acquired by the federal government, most of the lands that are now the eastern national forests could hardly have been called “forest.” For the most part they were cutover forestland or worn-out and abandoned farmland. Thus, forest rehabilitation has been and continues to be a theme of management of the national forests of the East.” Shands describes soils as negatively affected by this era of forest mismanagement. “Soil was degraded by years of abuse. Of the southern Appalachians, a federal forester wrote in 1917, “It is very probable that the productive capacity of forest soils throughout most of this region have been greatly decreased by repeated fires, so that the present forest growth is poorer in composition and quality than it once was.”

And ... farming further impoverished thousands of acres of land later acquired for national forests” (Shands 1991).

The FY 2015-2019 Monitoring Evaluation Report for GWJ (Forest Service 2020) does not indicate problems with the protection of soils resources on the JNF within the context of ongoing activities. In addition, the Transcon monitoring reports for the MVP provides an additional mechanism for the Forest Service to determine effects on soils resources. The reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained. The proposed MVP project would be consistent with acreages and associated impacts of historic activities on the JNF despite the need for an amendment.

The substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(2)(ii) – soils and soil productivity would be sufficiently applied within the scope and scale of the Project-specific amendment to maintain or restore ecosystem integrity as it relates to the soil resource and soils/soil productivity across the planning unit (i.e., the plan area or applicable Management Prescription) because of:

- the limited scale of the proposed modification to the soil standards (54 acres, which is less than 99.99% of the 723,300-acre JNF),
- the limited soil loss and displacement from the construction, operation, and maintenance of the pipeline due to implementation of the POD appendices C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), and H (Restoration Plan),
- the ability for the soil in the impacted area (54-acre construction zone) to maintain the desired ecological conditions after restoration,
- the limited scope of the proposed amendment to soil standards (3 out of 10 forest-wide water and soil quality standards; 2 out of 20 forest-wide channeled ephemeral zone standards; and 1 of 56 riparian prescription area standards), and continued application of the unmodified standards across the plan area, including the MVP ROW, and other soil standards across the rest of the Forest,
- the fact that the proposed amendment does not affect the trend towards attaining forest-wide or Management Prescription 11 desired conditions for the soils resource,
- the fact that Forest Plan monitoring and Transcon monitoring show the existing JNF Forest Plan has been adequate to protect the soil resource in context of ongoing activities, and the proposed MVP project’s effects are consistent with historic levels of disturbance on the JNF.

To ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP that will incorporate the following POD Appendices: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), and H (Restoration Plan). See the MVP-specific standard below.

### **§ 219.8(a)(1) – Ecosystem integrity, § 219.8(a)(2)(iii) – Water quality, and § 219.8(a)(2)(iv) – Water resources**

Substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(iii) – water quality, and § 219.8(a)(2)(iv) – water resources are directly related to the proposed amendment through the purpose of



modifying standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 and the addition of the MVP-specific plan standard. The overarching goal of the substantive requirements found in § 219.8 is to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement for ecosystem integrity is to include plan components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. The substantive requirements specific for water quality and water resources are to include plan components to maintain or restore water quality and water resources including guidance to prevent or mitigate detrimental changes in water quantity, quality, and availability. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19), and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

### **Scope**

The scope of the Project-specific amendment for the water quality and water resource substantive requirements is the modification of 3 out of 10 forest-wide water and soil quality standards (FW-5, FW-8, FW-9); 2 out of 20 forest-wide channeled ephemeral zone standards (FW-13, FW-14); and 1 of 56 riparian prescription area standards (11-003) as they are applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

### **Scale**

The scale of the amendment is the nine affected HUC-12 watersheds out of 88 HUC-12 watersheds containing JNF lands. Eight of the affected HUC-12 watersheds include the pipeline corridor and one is downstream. These nine affected HUC-12 watersheds contain 61,826 acres of NFS lands or about 8.5% of the JNF. There are about 811 stream miles within these nine HUC-12 watersheds, of which about 160 miles of stream would experience increased sedimentation from the MVP project (Geosyntec 2020b).

### **Application**

Exempting MVP from adhering to these standards would have an adverse impact to the water resource. However, as discussed below, exempting MVP from these standards would not detract from the Plan’s ability to provide for the ecological integrity of the forest-wide water resource and the mandates of the 2012 Planning Rule would be met. The required POD includes measures to minimize impacts to water quality and water resources from the MVP project, and thus would minimize impacts to ecosystem integrity as it relates to the water resource. Appendices C-1 (West Virginia Erosion and Sedimentation Control Plan), C-2 (Virginia Erosion and Sedimentation Control Plan), and H (Restoration Plan) all contain numerous measures that must be applied to minimize impacts to water resources. For example, temporary stream crossings consisting of bridges of timber mats or clean rock fill and flume(s), must be installed to cross minor or intermediate streams. Sediment basins and sumps, perimeter dikes, sediment barriers, and other measures intended to trap sediment must be constructed as a first step and shall be made functional before upslope land disturbance occurs.

As stated previously, sedimentation modeling estimated that required ECDs would be effective at minimizing sedimentation in waterways. The model estimated that baseline sediment yields would vary from 0.15 to 0.43 tons/ac/yr at each HUC-12 watershed outlet, with a median of 0.35 tons/ac/yr for the study area. The model estimated that sediment yields during the tree clearing phase of the Project would

increase by less than 0.001 tons/ac/yr (median: less than 0.001 tons/ac/yr) above the baseline. The sedimentation modeling estimated that sediment yields during construction would increase by less than 0.001 to 0.011 tons/ac/yr (median: 0.003 tons/ac/yr) above the baseline. This correlates to an increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario. One year after construction is completed sediment yields would be reduced to about 0.01% to 0.5% (median: 0.4%) above baseline. This modeling informed the selection of appropriate ECDs to minimize sediment yield from the proposed project. As described in detail in Section 3.3.2 of the FSEIS, the available relevant data, including the Forest Service and BLM's consideration of information from USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspection reports, and Transcon monitoring reports on the JNF, are all consistent with the conclusion that the ECDs as modeled in RUSLE2 on the JNF continue to be effective in minimizing sediment runoff, and that any observations of elevated sediment levels within the watershed may result from multiple land uses. As a result, ecosystem integrity as it relates to water resources, water quality, and water resources would be maintained under the amended Forest Plan.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. In summary, the FERC found that "conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation" (FERC 2021 p. 92). The FERC's conclusion is consistent with the Forest Service's independent agency analysis and demonstrates that the four JNF stream crossings would not hinder the amended Forest Plan's ability to maintain or restore water quality or water resources.

The Forest Plan includes numerous forest-wide goals, objectives, and standards for water and soils that are not subject to modification as part of this proposed amendment (JNF Forest Plan, Chapter 2, pp. 2-5 to 2-9). For example, although this project would amend three Forest-wide soil and water standards (FW-5, FW-8, and FW-9) and two Forest-wide riparian standards (FW-13 and FW-14), seven additional Forest-wide water and soil quality standards and 17 Forest-wide channeled ephemeral (riparian) zone standards remain unchanged by the proposed amendment that would continue to protect water quality and water resources throughout the plan area. In addition, specific water and soils standards associated with individual management prescriptions are provided in many of the individual prescriptions; and standards FW-5, FW-8, FW-9, FW-13, and FW-14 would continue to apply to the remaining 723,300 acres of the JNF, and standard 11-003 would continue to apply to the remaining 73,600 acres in Management Prescription 11 on the JNF. As described in detail in the following paragraph, the modified standards would not hinder the Forest Plan's ability to maintain or restore water quality and water resources because real-world water quality data and information show the ECDs are effective at minimizing sediment runoff. After construction and restoration, operation of the 22-acre authorized ROW impacts are expected to be minimal. Therefore, it is only during the construction and restoration phases that impacts to water quality and water resources would be of concern.

The FY 2015-2019 Monitoring Evaluation Report for the GWJ (Forest Service 2020) includes long-term macroinvertebrate monitoring, which is an indicator of water quality and aquatic habitat conditions. Results of the macroinvertebrate monitoring indicate forest protection measures are adequate for protection of water resources and aquatic habitats on the JNF within the context of ongoing activities on NFS. The proposed MVP project would be consistent with historic activities on the JNF (acreages and

associated impacts) that resulted in current macroinvertebrate health. Based on the macroinvertebrate monitoring there was no change recommended for management of water resources in the FY 2015-2019 Monitoring and Evaluation Report. This recommendation indicates forest-wide protections are adequate for maintaining or restoring the desired conditions for the water resources on the JNF.

The Forest Plan's desired condition for water quality and water resources forest-wide is articulated in Goals 1, 2, and 3 (Forest Plan, p. 2-5 to 2-6) which states:

*GOAL 1: Manage watersheds to maintain or restore resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support beneficial water uses. Instream flows (or lake levels) provide the amounts necessary to: 1) maintain the capacity of the channels to transport water and sediment; 2) protect aquatic organisms; 3) sustain or restore riparian habitats and communities; and 4) provide for recreation, scenic, aesthetic, and research purposes.*

*GOAL 2: Manage and restore riparian ecosystems, wetlands and aquatic systems to protect and maintain their soil, water, vegetation, fish, wildlife, and other resources. Channeled ephemeral streams maintain their ability to filter sediment from upslope disturbances while achieving the goals of the adjacent management prescription area.*

*GOAL 3: Aquatic habitat conditions are suitable to maintain aquatic species native to the planning area, and to support desirable levels of selected species (e.g., species with special habitat needs, species commonly fished, or species of special interest).*

Although there would be adverse effects to water quality and water resources due to increased sedimentation from the Project, it would be minimized through the implementation of the POD. Impacts to the water resource are expected to be minor, and not to the degree to change ecological functions or ability of the system to support beneficial uses (Goal 1). Water quantity and instream flow levels would not be affected by the proposed amendment. In addition, because the sedimentation levels would be minor, aquatic habitat conditions would remain suitable to maintain desired aquatic species across the planning area (Goal 3).

As stated previously in the soils and soil productivity section, the proposed amendment would not affect movement towards the desired condition of maintaining the sediment filtration function within the MVP corridor because the pipeline corridor would be planted with riparian vegetation; tree and shrub vegetation would be allowed to grow back within the corridor except within a 10 foot strip over the pipeline; the 10 foot strip would be managed for grass/forbs and would allow for natural infiltration levels and moisture regimes; and soil productivity levels would be sufficient to attain desired composition, structure and function (Goal 2). This maintenance of the affected area to filter sediment after restoration is completed, provides for the application of the substantive requirements for water quality and water resources because sediment delivery is the primary concern to these resources if the Project is allowed to be implemented.

The Forest Plan's desired condition for water quality and water resources within Management Prescription 11 is articulated in the desired condition statement (Forest Plan, p. 3-181) which states: "[w]ater quality remains within a range that ensures survival, growth, reproduction, and migration of aquatic and riparian wildlife species; and contributes to the biological, physical, and chemical integrity of aquatic ecosystems. Water quality meets or exceeds State and Federal standards. Water quality (e.g.: water temperature, sediment level, dissolved oxygen, and pH) will be improved where necessary to benefit aquatic communities."

Similar to Goal 3, sedimentation levels from the Project are expected to be so minor that it would remain within the range that water quality would not affect the life cycles of aquatic species or riparian wildlife across the planning unit. This is supported by the fact that macroinvertebrate monitoring indicates existing Forest Plan direction is adequate for protection of water resources and aquatic habitats on the JNF within the context of ongoing activities. Water temperature, dissolved oxygen and pH are not expected to change due to this project to the level that it would affect life cycles of aquatic species or riparian wildlife.

The remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the water resources. The substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(iii) – water quality, and § 219.8(a)(2)(iv) – water resources would be sufficiently applied within the scope and scale of the Project-specific amendment, and implementation of the POD would ensure ecosystem integrity as it is related to water resources, water quality, and water resources are maintained across the planning unit because of:

- the limited scope of the proposed amendment (3 out of 10 forest-wide water and soil quality standards; 2 out of 20 forest-wide channeled ephemeral zone standards; and 1 of 56 riparian prescription area standards) and the limited area the proposed modification to standards associated with water quality and water resources would be applied to (54-acre construction zone),
- the limited scale of the proposed amendment and the fact that only nine HUC-12 watersheds would be affected by the MVP project out of 88 HUC-12 watersheds forest-wide,
- the limited sediment delivery from the construction, operation, and maintenance of the pipeline due to implementation of the POD appendices C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), and H (Restoration Plan), and the fact that sediment deliver would substantially decrease one year after construction,
- the fact that within the nine affected HUC-12 watersheds, only 160 of the 811 stream miles would experience increased sedimentation from the MVP project (Geosyntec 2020b),
- the ability for water quality in the impacted area (54-acre construction zone) over the approximately two-year construction period to maintain the desired ecological conditions in the existing unmodified JNF Plan,
- the fact that operation of the ROW is expected to meet the Forest Plan direction for ‘maintaining or restoring’,
- the continued application of the unmodified standards across the plan area, including the MVP ROW, and other standards across the rest of the Forest,
- the fact that Forest Plan monitoring and Transcon monitoring show the existing JNF Forest Plan has components to protect water quality, and
- the fact that ongoing macroinvertebrate monitoring resulted in a recommendation of no change for management of water resources on the JNF.

To ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP that will incorporate the following POD Appendices: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E

(Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), and H (Restoration Plan). See the MVP-specific standard below.

### **§ 219.8(a)(1) – Ecosystem integrity and § 219.8(a)(3)(i) – Ecological integrity of riparian areas**

Substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(3)(i) – ecological integrity of riparian areas are directly related to the proposed amendment through the purpose of amending standards FW-13, FW-14, and 11-003. The overarching goal of the substantive requirements found in § 219.8 is to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement for ecosystem integrity is to include plan components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area. The substantive requirement specific to riparian areas is to include plan components to maintain or restore the ecological integrity of riparian areas in the plan area. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19), and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

#### **Scope**

The scope of the Project-specific amendment for the riparian areas is the modification of 2 out of 20 forest-wide channeled ephemeral zone standards (FW-13, FW-14); and 1 of 56 riparian prescription area standards (11-003) as they are applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

#### **Scale**

The scale of the amendment in the context of the substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(3)(i) is 0.15 acre out of 73,600 acres of Management Prescription 11 across the JNF or less than 0.01% of the forest.

#### **Application**

Exempting MVP from adhering to these three standards would have an adverse impact to the riparian resource. However, as discussed below, exempting MVP from these standards would not detract from the Plan’s ability to provide for the ecological integrity of the forest-wide riparian resource and the mandates of the 2012 Planning Rule would be met. The required POD includes measures to minimize impacts to riparian areas from the MVP project, and thus would minimize impacts to ecosystem integrity as it relates to the riparian resource. Appendices C-1 (West Virginia Erosion and Sedimentation Control Plan), C-2 (Virginia Erosion and Sedimentation Control Plan), and H (Restoration Plan) all contain numerous measures that must be applied to minimize impacts to riparian resources.

Mountain Valley reduced the width of the construction ROW from 125 feet to 75 feet at all waterbody crossings including their riparian buffers. Approximately 0.15 acre of riparian buffer at the four stream crossings was affected from construction activities. The POD requires establishes a 10-foot width over the pipeline to be managed in the long-term in a grass-forb state (0.02 acre), rather than the 50-foot ROW width.

Approximately 0.15 acre of riparian buffer at the four stream crossings was affected from construction activities. The POD requires establishes a 10-foot width over the pipeline to be managed in the long-term in a grass-forb state (0.02 acre), rather than the 50-foot ROW width.

The POD requires the planting of riparian seed mixes for at least 25 feet perpendicular to each side of the channel or farther if existing riparian buffer was greater than 25 feet. The field-verified riparian buffers measured 3.6 feet to 26 feet average width that was removed from the pipeline construction zone. Therefore, approximately 0.19 more acres of riparian vegetation would be planted compared to the original condition.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. In summary, the FERC found that “conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation” (FERC 2021 p. 92). The FERC’s conclusion is consistent with the Forest Service’s independent agency analysis and demonstrates that the four JNF stream crossings would not hinder the amended Forest Plan’s ability to maintain or restore riparian areas.

There are 55 riparian area standards for Management Prescription 11 that are not subject to modification as part of this proposed amendment; those standards continue to apply throughout Management Prescription 11, including in the Project area. Numerous Forest-wide standards relevant to the maintenance or restoration of riparian areas are also unaffected by the proposed amendment. Forest-wide, there are about 73,600 acres of riparian areas (i.e., lands designated as Management Prescription 11). Short- and long-term impacts would affect only 0.15 and 0.02 acres, respectively, of those 73,600 acres. Within these areas, restoration would include planting of riparian seed mixes to maintain and restore the riparian resource.

As described in detail in Section 3.3.2, real-world water quality data and information show the ECDs are effective at minimizing sediment runoff. For these reasons, the modified standards would not hinder the Forest Plan’s ability to maintain or restore the ecological integrity of riparian areas. After construction and restoration, operation of the ROW is expected to not be of concern to the riparian resource. Despite the Project-specific amendment, riparian areas would be maintained and restored to the level sufficient to accommodate the Forest Plan desired conditions for riparian resources in Management Prescription 11 and within the Project area.

The Forest Plan’s desired condition for riparian resources forest-wide is articulated in Goal 2 (Forest Plan, p. 2-6) which states:

*GOAL 2: Manage and restore riparian ecosystems, wetlands and aquatic systems to protect and maintain their soil, water, vegetation, fish, wildlife, and other resources. Channeled ephemeral streams maintain their ability to filter sediment from upslope disturbances while achieving the goals of the adjacent management prescription area.*

The Forest Plan’s desired condition for riparian resources within Management Prescription 11 is articulated in the desired condition statement (Forest Plan, p. 3-181) which provides greater details of the Jefferson National Forest

forest-wide Goal 2 statement. Key conditions within the Management Prescription 11 desired condition statement include:

- *Riparian corridors reflect the physical structure, biological components, and ecological processes that sustain aquatic, riparian, and associated upland functions and values. The preferred management for riparian corridors is one that maintains, or moves toward, the restoration of processes that regulate the environmental and ecological components of riparian areas.*
- *Riparian corridors are managed to emphasize the maintenance, restoration, and enhancement of habitat for species that depend on riparian resources for at least a part of their life-cycle.*

The proposed amendment would not affect most of the riparian areas across the forest nor would it affect management of most riparian areas. Although there would be an adverse impact through removal of riparian vegetation, it would be limited to 0.15 acre and would not be significant enough to affect forest-wide trends towards desired conditions. Additionally, as previously mentioned, riparian seed mixes would be planted at least 25 feet from each side of the steam channel within the construction area. This would assist in decreasing the total acreage of riparian vegetation converted from the MVP project implementation and thereby would not impede the Forest Plan's movement towards the desired condition after vegetation establishment and more riparian vegetation could be restored from the original condition.

The Forest Plan also clearly continues the long-term trend of maintenance and restoration of riparian resources. As stated in the Forest Plan Appendix A, "This Forest Plans [sic] meets or exceeds State Best Management Practices" for riparian corridor management. Forestry BMPs are strongly correlated with benefits to riparian and aquatic species. For example, the USGS in 2017 published a research paper examining literature regarding potential contributions of sediment reducing BMPs to conservation of riparian and aquatic wildlife. The authors conclude, "Overall, BMPs developed for protection of water quality should benefit a variety of riparian and aquatic species that are sensitive to changes in water quality or forest structure." The Virginia Department of Forestry, the state agency that develops forestry BMPs for water quality in Virginia agrees: "BMPs are proven methods to lessen the potential damage from land-disturbing activities." Given that the existing Forest Plan meets or exceeds state BMPs, and because prior land management was not subject to these recommendations and requirements (resulting in a highly degraded baseline condition from which resources are being restored), riparian resources are being maintained and restored Forest-wide under the 2004 Forest Plan.

The remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the riparian resources. The substantive requirements § 219.8(a)(1) – ecosystem integrity and § 219.8(a)(3)(i) – ecological integrity of riparian areas would be sufficiently applied within the scope and scale of the Project-specific amendment and that ecological integrity of riparian areas across the Project area are maintained or restored because of:

- the limited scale of the proposed amendment and associated limited impact to riparian vegetation, which would be about 0.15 acre during construction and 0.02 acres after vegetation is established,
- the fact that vegetation within the pipeline ROW will be required to regrow except for a 10-foot-wide area over the pipeline and restoration of riparian vegetation due to implementation of the POD Appendix H (Restoration Plan),
- the fact that real-world data and information including Forest Plan monitoring, USGS in-stream water quality monitoring data, MVP sediment monitoring data, VDEQ pipeline inspections, and Transcon monitoring show the existing JNF Forest Plan has been adequate to protect water

resources and by extension riparian areas in context of ongoing activities and the proposed MVP project is consistent with historic activities on the JNF,

- the limited scope of the proposed amendment and the continued application of the unmodified Forest-wide standards and 55 other riparian standards in the Project area and across the remaining 73,600 acres of riparian areas across the Forest, and
- movement towards the desired condition at a forest-wide scale is not expected to be impacted by the amendment.

To ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP that will incorporate the following POD Appendices: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), and H (Restoration Plan). See the MVP-specific standard below.

### **§ 219.8(b)(3) – Multiple uses that contribute to local, regional, and national economies**

Substantive requirement § 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies is directly related to the proposed amendment based on the beneficial effects of the proposed action. The overarching goal of the substantive requirements found in § 219.8 is to provide for social, economic, and ecological sustainability within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to local and regional contribution to the economy is to include plan components to guide the plan area's contribution to social economic sustainability.

#### **Scope**

The scope of the Project-specific amendment for the economic substantive requirement is the modification of all 11 Forest Plan standards as they are applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

#### **Scale**

The scale of the amendment is the contribution the MVP project has to the local, regional, and national economies.

#### **Application**

The Forest Plan includes goals, objectives, desired conditions, and standards to ensure the JNF contributes to social and economic sustainability. The Forest Plan includes plan components addressing timber, recreation, range, mineral, infrastructure, access, land uses, and special uses. All these contribute to the social and economic sustainability of the area influenced by the JNF, as summarized in the 2017 FERC FEIS, pages 5 to 11. Therefore, the amended Forest Plan would further meet the overarching goal of the substantive requirements related to §219.8, and no additional plan components are needed to guide the plan area's contribution to social economic sustainability.

### **§ 219.9(a)(1) – Ecosystem integrity and § 219.9(a)(2) – Ecosystem diversity**

Substantive requirements § 219.9(a)(1) – ecosystem integrity and § 219.9(a)(2) – ecosystem diversity are directly related to the proposed amendment through the purpose of amending standards 6C-007 and 6C-026. The overarching goal of the substantive requirements found in § 219.9 is to provide for the ecological conditions to both maintain the integrity and diversity of plant and animal communities and



support the persistence of most native species in the plan area. The substantive requirements specific to ecosystem integrity and diversity are to include plan components to maintain or restore the integrity and diversity of ecosystems and habitat types throughout the plan area. To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19) and to “restore” means bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area. However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

## Scope

The scope of the amendment is the modification of the two Management Prescription 6C old growth standards out of 27 standards, as they are applied to the MVP construction zone and ROW. There are two forest-wide old growth standards, 28 Management Prescription 6A (old-growth forest communities not associated with disturbance) standards, and 30 Management Prescription 6B (old-growth forest communities dependent of fire) standards which would remain unmodified. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

## Scale

The scale of the Project-specific amendment is the permanent loss of 5.2 acres of old growth of the approximately 30,200 acres of old growth across the JNF, or about 0.07% of the total old growth on the JNF.

## Application

Only two Management Prescription 6C standards (6C-007 and 6C-026) would be modified by the proposed project-specific amendment; the other 25 standards would not be modified and would remain in place. The limited scope and scale of the modification is one reason why the amended Forest Plan direction, which includes an old growth management strategy (Appendix B of the Forest Plan) would continue to meet the overarching goal of the substantive requirements related to § 219.9. The old growth management strategy would not be affected by the proposed plan amendment.

The FY 2015-2019 Monitoring Evaluation Report for the GWJ (Forest Service 2020b) indicates old growth on the JNF exceeds JNF Forest Plan objectives (Forest Plan Objective 13.01). The only recommendations from the monitoring report regarding old growth management were a review of the old growth survey process and exploring options and methodologies for analyzing impacts to old growth from mechanical treatments. Current plan components along with the two modified standards are sufficient to maintain and restore old growth habitats across the JNF.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule and no additional provisions are needed to ensure the Forest Plan’s consistency with the 2012 Rule. Furthermore, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the old growth resources. Substantive requirements § 219.9(a)(1) – ecosystem integrity and § 219.9(a)(2) – ecosystem diversity would be sufficiently applied within the scope and scale of the Project-specific amendment, and no additional plan components are needed to ensure ecosystems and habitat types are maintained or restored the throughout the plan area because:

- the limited area the proposed modification of the two old growth standards would be applied to (about 2 acres),

- the continued application of 25 unmodified standards in Management Prescription 6C, including the MVP ROW, and 58 other old growth standards in Management Prescriptions 6A and 6B across the remaining 30,200 acres of old growth, and
- the fact that monitoring data indicates current old growth habitat exceeds JNF Forest Plan objectives even after the removal of the old growth associated with the MVP project.

### § 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors

Substantive requirement § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors is directly related to the proposed amendment through the purpose of modifying standards FW-248, 4A-028, and 6C-026. The overarching goal of the substantive requirements found in § 219.10 is to provide for ecosystem services and multiple uses within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to utility corridors is consideration of appropriate placement and sustainable management of infrastructure, including utility corridors.

#### Scope

The scope of the Project-specific amendment is the modification of the FW-248, 4A-028, and 6C-026 standards as it is applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

#### Scale

During construction, the scale of the amendment is the 54-acre construction zone and, after construction, the 22-acre authorized ROW. These acreages correlate to 0.007% of the total JNF during construction and 0.003% of the total JNF during operation.

#### Application

The Forest Plan includes forest-wide goals, objectives, and standards for lands and special uses, which include utility corridors and ROWs. In addition, current Management Prescriptions of: 4A-Appalachian National Scenic Trail Corridor; 4J-Urban/Suburban Interface; 6C-Old Growth Forest; and 8A1-Mix of Successional Habitats and 11-Riparian Corridors would continue to apply to the MVP corridor. The amended Forest Plan direction provides sufficient direction for future placement of infrastructure, including utility corridors.

The application of the proposed MVP-specific amendment demonstrates that the amendment is consistent with the 2012 Planning Rule and no additional provisions are needed to ensure the Forest Plan's consistency with the 2012 Rule. Furthermore, the remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the riparian resources. The substantive requirement § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors would be sufficiently applied within the scope and scale of the Project-specific amendment, and no additional plan components are needed to ensure appropriate placement and sustainable management of infrastructure, including utility corridors because:

- the limited footprint of the proposed MVP project accounts for about 0.007% of the entire plan area during construction, and

- Forest Plan direction for utility corridors and ROWs would continue to apply across the Forest along with other Forest Plan direction, which do not foreclose future placement of infrastructure.

### § 219.10(b)(1)(i) – Sustainable recreation, including recreation setting, opportunities, access; and scenic character

Substantive requirement § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character is directly related to the proposed amendment through the purpose of modifying standards FW-184 and 4A-028 and the addition of the MVP-specific plan standard. The overarching goal of the substantive requirements found in § 219.10 is to provide for ecosystem services and multiple uses within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to scenery is to include plan components to provide for sustainable scenic character.

#### **Scope**

The scope of the Project-specific amendment is the modification of the FW-184 standard as it is applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

#### **Scale**

The scale of the amendment encompasses areas of High SIO (12.4 acres), Moderate SIO (32.0 acres), and Low SIO (4.2 acres), approximately 43% of the 54-acre construction zone or approximately 0.003% of the 723,300-acre JNF.

#### **Application**

Exempting MVP from adhering to these two standards would have an adverse impact to the scenery resource. However, as discussed below, exempting MVP from these standards would not detract from the Plan's ability to provide for sustainable recreation and the scenery resource and the mandates of the 2012 Planning Rule would be met. The POD requires reducing the appearance of the ROW from 50 feet wide to 10 feet wide on the JNF through the restoration and revegetation plan contained in Appendix H of the POD. Application of this POD element in the ROW grant on the JNF would substantially reduce the visibility of the ROW on the JNF, especially when viewed in the far middle-ground and background distance zones and at an angle. The POD requires along the edge the linear corridor shrubs, small trees, and shallow rooted trees be planted and maintained along a slightly undulating line to break up the straight edge effect of the utility corridor. This POD provision should allow the MVP project to obtain consistency with the applicable SIO within five years of construction. The visual impact assessment in the 2017 FERC FEIS (pp. 4-336 to 4-347) users of the ANST would not see the pipeline at the location where the pipeline crosses underneath the trail due to the vegetative buffer the POD requires. In addition, users of the ANST at Angels Rest could notice the pipeline corridor on Peters Mountain (Moderate SIO) from about 6 miles, but after revegetation occurs, the MVP corridor would be visually subordinate and would meet the assigned SIO due to the small scale of the Project relative to the panorama view from Angels Rest. Users of the ANST to the west of Sinking Creek Mountain would see the MVP corridor "notch" as it crests the ridgetop of Sinking Creek Mountain (Moderate SIO), particularly from Kelly's Knob. However, the "notch" from this view would be backlit by Brush Mountain rather than sky, which would reduce the visual impact. After revegetation occurs, the view from Sinking Creek Mountain would be noticeable but would not dominate the landscape character and would meet the assigned SIO. As a result, it is only during construction and the five-year period immediately following construction that the scenery resource would be of concern. After vegetation is established for five years, the area is expected to be consistent with the assigned SIO.

The Forest Plan includes numerous forest-wide goals, objectives, and 19 additional forest-wide standards for scenery would not be subject to modification from this proposed amendment (JNF Forest Plan, pp. 2-47 to 2-48), including a forest-wide assignment of SIOs by management prescriptions. The amended Forest Plan direction would provide for sustainable scenic character for the JNF.

The Forest Plan's desired condition for the scenery resource forest-wide is articulated in Goals 25 and 26 (Forest Plan, p. 2-47 to 2-48) which states:

*GOAL 25: Protect and enhance the scenic and aesthetic values of the National Forest lands in the Southern Appalachians.*

*GOAL 26: Provide a variety of Landscape Character themes with the predominant themes being Natural Appearing and Natural Evolving including variations of these themes. Maintain smaller enclaves of Pastoral/Agricultural, Historic/Cultural, Rural/Forested, and Urban landscape character themes.*

As stated above, only 12.4 acres of High SIO and 32.0 acres of Moderate SIO would not meet the assigned SIO standard; however, it would be short-term (limited to the construction and initial restoration phases) and the area would meet the assigned SIO within 5 years of construction. This would be minor compared in context of moving towards the forest-wide desired conditions protecting and enhancing scenic and aesthetic values across the plan unit or providing a variety of landscape character themes. Forest-wide the JNF would remain predominately natural appearing and natural evolving. In addition, the main plan component for managing for sustainable scenic character, the assigned SIO map for the JNF, would remain in place and unaffected by the proposed amendment.

The remainder of the JNF Plan is unaffected by the MVP-specific amendment and is adequately protecting and maintaining the scenery resources. The substantive requirement § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character would be sufficiently applied within the scope and scale of the Project-specific amendment, and the POD provisions would provide for sustainable scenic character because of:

- the POD provisions in Appendix H (Restoration Plan) would reduce the appearance of the ROW from 50 feet wide to 10 feet wide on the JNF (for context, many forest trail corridors are this wide),
- the limited scope of the proposed amendment and the fact that the modification to FW-184 would only apply to one out of 20 Forest-wide scenery standards in the Forest Plan and would only be needed during construction and for approximately five years after construction,
- the fact that forest-wide, the scenery resources would continue towards meeting the desired conditions,
- the limited area the proposed modification to scenic standards would be applied to (12.4 acres of High SIO and 32.0 acres of Moderate SIO), and
- the application of scenery standards would continue across the remaining plan area.

To ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP that will incorporate the POD Appendix H (Restoration Plan). See the MVP-specific standard below.

## § 219.10(b)(1)(vi) – Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas

Substantive requirement § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas is directly related to the proposed amendment through the purpose of modifying standard 4A-028. The overarching goal of the substantive requirements found in § 219.10 is to provide for ecosystem services and multiples uses within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to other designated areas is to include plan components to provide for protection of other designated areas, such as the ANST.

### Scope

The scope of the Project-specific amendment is the modification of the 4A-028 standard as applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects. In addition, the scope of the amendment would include the addition of a standard as a new Forest Plan component.

### Scale

The scale of the amendment is the one crossing of the pipeline under the ANST, which is about 2.5 acres of the ROW within 4A or 0.008% of the 30,700 acres of the JNF allocated to Management Prescription 4A.

### Application

Exempting MVP from adhering to the 4A-028 standard would have an adverse impact to the ANST designated area. However, as discussed below, exempting MVP from this standard would not detract from the Plan's ability to provide for appropriate management of the ANST designated area and the mandates of the 2012 Planning Rule would be met. The POD (Appendix E, Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail) contains measures to avoid and minimize impacts on the ANST, including avoiding trenching near the ANST and staging equipment away from the ANST. Direct impacts to users of the ANST would be limited to the noise and dust from the boring operations and would only occur during the approximately 10-week construction period. Visual impacts would be minor because of the 300-foot buffer on either side of the trail and because the topography acts as a natural barrier to reduce potential visual impacts to the south of the ANST.

Only one Management Prescription 4A standard (4A-028) is proposed to be modified in this project-specific amendment; the other 29 standards would not be modified and would remain in place. In addition, the implementation of the POD as required by the MVP-specific standard, during the construction and restoration phases of this Project, would minimize impacts to the ANST corridor.

The ANST is approximately 2,190 miles long, running from Georgia to Maine; there is no reasonable alternative that avoids crossing the ANST. The MVP project would cross the ANST once near MP 196.3 through a 600-foot-long bore underneath the trail, effectively mitigating impacts within Management Prescription 4A for the reasons outlined below. After construction, operation of the ROW is expected to meet the Forest Plan direction for “maintaining or restoring.” Therefore, it is only during the approximately 10-week-long construction phase that this project-specific amendment would be in place.

The Forest Plan includes 29 other standards for recreation, including the ANST, in Management Prescription 4A, which are not subject to a modification from this proposed amendment. In addition, the Forest Plan includes specific recreational standards associated with other management prescriptions; these

would not be subject to a modification, either. Management direction for Management Prescription 4A would continue to apply and continue to provide for protection of other designated areas, such as the ANST.

The Forest Plan's desired condition for ANST corridor (Management Prescription 4A) is articulated in the desired condition statement (Forest Plan, p. 3-19 to 3-21). Key conditions related to the MVP project proposal within the Management Prescription 4A desired condition statement include:

- *Views from the Appalachian Trail are predominantly forested, sporadically intermixed with meadows, old fields, pastoral valleys, and cultural landscapes.*
- *The prescription area has a minimum width of 100 feet on either side of the Appalachian Trail footpath for protection from social, aural, and other impacts, but this minimum width should be considered only when the foreground zone does not extend beyond 100 feet on either side of the Appalachian Trail footpath.*
- *Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate.*

As stated in the application of § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character the views from the Appalachian Trail would remain predominately natural appearing and natural evolving. The POD requirement of boring under the ANST and providing a 300-foot buffer on either side of the trail would allow the Project to still meet the desired conditions articulated in the Forest Plan. The POD requires vegetation to be planted in a manner that breaks up the linear, straight, parallel edges on the construction corridor to minimize long-term visual impacts and to blend the pipeline corridor into the landscape. The visual impact analysis conducted in the 2017 FERC FEIS indicates that the vegetative buffer would be sufficient to block the views of the MVP corridor from users of the ANST where the pipeline crosses underneath the trail (2017 FERC FEIS, p. 4-337). The pipeline corridor would remain unseen within the foreground of the trail and the pipeline itself in the middle ground and background would be visually subordinate in the landscape 5 years after construction. Users of the ANST at Angels Rest could notice the pipeline corridor on Peters Mountain (Moderate SIO) from about 6 miles, but after revegetation occurs, the MVP corridor would be visually subordinate and would meet the assigned SIO due to the small scale of the Project relative to the panorama view from Angels Rest. The MVP project should be consistent with the Management Prescription 4A desired condition 5 years after construction.

The substantive requirement § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas would be sufficiently applied within the scope and scale of the Project-specific amendment, and would provide for protection of other designated areas, specifically the ANST because of:

- the fact that the POD Appendix H (Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail) would require the pipeline to go under the ANST with approximately 300 feet on either side of the trail to mitigate visual impacts,
- the limited impact to the single crossing of the pipeline,
- the fact that the topography along the ANST acts as a natural barrier to reduce potential visual impacts to the south. Appendix E of the POD also includes measures to avoid placing equipment and conducting trenching near the ANST,

- direct impacts to users of the ANST would be limited to the noise and dust from the boring operations only during the approximately 10-week construction period,
- the modification to 4A-028 would only affect one out of 30 Management Prescription 4A standards, and
- the desired condition for Management Prescription 4A should be met within 5 years after construction due to the required POD provisions.

To ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP that will incorporate the POD Appendix E, Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail. See the MVP-specific standard below.

### **§ 219.11(c) – Timber harvesting for purposes other than timber production**

Substantive requirement § 219.11(c) – timber harvesting for purposes other than timber production is directly related to the proposed amendment through the purpose of modifying standard FW-14 and 6C-007. The overarching goal of the substantive requirements found in § 219.11 is to provide for timber management within Forest Service authority and the inherent capability of the plan area. The substantive requirement specific to timber harvesting for purposes other than timber production states that the plan may include plan components to allow for timber harvest for purposes other than timber production throughout the plan area or portions of the plan area, as a tool to assist in achieving or maintaining one or more applicable desired conditions or objectives of the plan in order to protect other multiple-use values and for salvage, sanitation, or public health or safety.

#### **Scope**

The scope of the Project-specific amendment is modification of the two standards (FW-14 and 6C-007) as applied to the MVP construction zone and ROW. The proposed amendment would only apply to the MVP project and not exempt any other future projects.

#### **Scale**

The scale of the amendment to modify FW-14 is the vegetation removal in the channeled ephemeral zones within the 54-acre construction zone, and for modification of 6C-007 the scale is vegetation removal within the 5.2 acres of the construction zone in Management Prescription 6C.

#### **Application**

The Forest Plan recognizes timber harvesting for purposes other than timber production but does not explicitly include goals, objectives, or standards as forest-wide direction. Some management prescriptions also recognize timber harvest for purposes other than timber production. However, the substantive requirement for timber harvesting for purposes other than timber production is optional (because the requirement is described as “may include”), and the overarching goal of providing for timber management direction is clearly provided for in the Forest Plan. No additional components need to be added to the Forest Plan to provide for timber management.

### **MVP Specific Standard**

A Forest Plan standard is a mandatory constraint on project and activity decision making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (36 CFR § 219.7(e)(1)(iii)). To ensure the proposed amendment is

consistent with the directly related substantive requirements of the 2012 Planning Rule for 219.8(a)(1) – ecosystem integrity, 219.8(a)(2)(ii) – soils and soil productivity, 219.8(a)(2)(iii) – water quality, 219.8(a)(2)(iv) – water resources, 219.8(a)(3)(i) – ecological integrity of riparian areas, 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character, 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP. This new forest plan standard would require adherence and implementation of specific POD appendices during the construction and restoration phases of the Project. The Forest Service proposes to include a Forest Plan standard specific to the MVP construction zone and ROW. The following standard is proposed to be added to the Forest Plan:

**MVP-Specific Standard** – To ensure the directly related substantive requirements are applied and to minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction and restoration phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan).

## Step 2 Analysis of MVP-Specific Plan Component

**Purpose** – As stated above, the purpose of this additional standard is to ensure the proposed amendment is consistent with the 2012 Planning Rule and to address environmental impacts to soils, water, riparian areas, the ANST, and scenery resources. Therefore, the addition of the MVP specific plan standard is directly related through purpose to: § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character; and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

**Effects** – The addition of this standard would result in an additional assurance that impacts to soils, water, riparian areas, the ANST, and scenery resources are minimized. Although implementation of the MVP project would result in adverse effects (albeit not substantial), the inclusion of the MVP-specific standard would result in no change to environmental impacts because the POD would still be required per the terms and conditions of the ROW grant regardless of the standard. Since the inclusion of the standard would result in no adverse effects, a determination of substantial adverse effects and substantial lessening of plan protections are not applicable.

Mitigation measures designed to minimize soil and riparian effects are incorporated into the POD (2017 FERC FEIS, Sec. 4.2.3, p. 4-88; Sec. 5.1.2, p. 5-3; Sec. 4.3.2.2., p. 137; Sec. 4.4.2.6, p. 4-187; Sec. 4.6.2.2). Specifically, an Erosion and Sediment Control Plan (POD, Appendix C1 and C2), Restoration Plan (POD, Appendix H), and Winter Construction Plan (POD, Appendix M) would ensure effects to soils, riparian, and water resources are minimized and are designed to expedite vegetative recovery, such as planting trees and shrubs in the riparian corridor. Continuous monitoring indicates mitigation measures and design criteria are effective at minimizing impacts to soils, riparian, and water resources.



The POD requires the pipeline to go under the ANST and a forest buffer of about 300 feet on either side of the trail would remain. In addition, the POD requires managing the ROW in herbaceous cover for only 10 feet rather than the full 50 feet, which would minimize impacts to scenic character. In addition, the POD Appendix H, Restoration Plan, requires vegetation to be planted and SIOs met within five years after completion of the construction phase of the Project. This would minimize long-term impacts of the Project on scenic character.

Although the implementation of the MVP project would still result in minor adverse environmental effects, even with the addition of the MVP-specific plan standard, the addition of the standard produces a beneficial regulatory effect to the soils, water, riparian areas, the ANST, and scenery resources. Therefore, the addition of the standard is directly related based on beneficial effects to substantive requirements § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character; and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

In conclusion, the proposed addition of the MVP specific plan standard is directly related to § 219.8(a)(1) – ecosystem integrity, § 219.8(a)(2)(ii) – soils and soil productivity, § 219.8(a)(2)(iii) – water quality, § 219.8(a)(2)(iv) – water resources; § 219.8(a)(3)(i) – ecological integrity of riparian areas; § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character; and § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas. These seven substantive requirements are directly related to the proposed amendment through the purpose of the amendment and beneficial effects. None of the substantive requirements are directly related through substantial adverse effects or substantial lessening of plan protections.

### **Step 3 Analysis of MVP-Specific Plan Component**

The addition of the MVP-specific standard did not result in any additional directly related substantive requirements. The discussion of the scope, scale, and application of the directly related substantive requirements above does not change with the addition of the MVP-specific standard because the POD is considered part of the proposed action and thus the effects of implementing the POD are addressed with or without the MVP-specific standard. The addition of the MVP-specific standard ensures the proposed amendment is consistent with the 2012 Planning Rule.

**Table A-1. Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to be Modified	Directly Related			Required Protection Measures in the POD
	Purpose	Effect	Substantive Requirement	
<b>Standard FW-5: On all soils dedicated to growing vegetation, the organic layers, topsoil, and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years (JNF Forest Plan, p. 2-7).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>
<b>Standard FW-8: To limit soil compaction, no heavy equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit. Soil moisture exceeds the plastic limit when soil can be rolled to pencil size without breaking or crumbling (JNF Forest Plan, p. 2-7).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C2, Erosion and Sediment Control Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table A-1 (continued). Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to be Modified	Directly Related			Required Protection Measures in the POD
	<i>Purpose</i>	<i>Effect</i>	<i>Substantive Requirement</i>	
<b>Standard FW-9: Heavy equipment is operated so that soil indentations, ruts, or furrows are aligned on the contour and the slope of such indentations is 5% or less (JNF Forest Plan, p. 2-7).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table A-1 (continued). Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to be Modified	Directly Related			Required Protection Measures in the POD
	<i>Purpose</i>	<i>Effect</i>	<i>Substantive Requirement</i>	
<b>Standard FW-13: Management activities expose no more than 10% mineral soil in the channeled ephemeral zone (JNF Forest Plan, p. 2-8).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• POD Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>
<b>Standard FW-14: In channeled ephemeral zones, up to 50% of the basal area may be removed down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian dependent resources (JNF LRP, p. 2-8).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• § 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• § 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table A-1 (continued). Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to be Modified	Directly Related			Required Protection Measures in the POD
	<i>Purpose</i>	<i>Effect</i>	<i>Substantive Requirement</i>	
<b>Standard FW-184: The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses). Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO (JNF Forest Plan, p. 2-48).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix H, Restoration Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table A-1 (continued). Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to be Modified	Directly Related			Required Protection Measures in the POD
	Purpose	Effect	Substantive Requirement	
<b>Standard FW-248: Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Prescription Area 5B or 5C (JNF Forest Plan, p. 2-60).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Standard 4A-028: Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project (JNF Forest Plan, p. 3-23).</b>	Yes	No	<ul style="list-style-type: none"> <li>• §219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors</li> <li>• § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> <li>• § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix E, ANST Contingency Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table A-1 (continued). Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to Be Modified	Directly	Related	Substantive Requirement	Required Protection Measures in the POD
	Purpose	Effect		
<b>Standard 6C-007: Allow vegetation management activities to: maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities; restore, enhance, or mimic historic fire regimes; reduce fuel buildups; maintain rare communities and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, sensitive, and locally rare species habitat; control non-native invasive vegetation (JNF Forest Plan, pp. 3-82 to 3-83).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.9(a)(1) – ecosystem integrity</li> <li>• § 219.9(a)(2) – ecosystem diversity</li> <li>• § 219.11(c) – timber harvesting for purposes other than timber production</li> <li>• 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Standard 6C-026: These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses are allowed to continue (JNF Forest Plan, p. 3-84)</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.9(a)(1) – ecosystem integrity</li> <li>• § 219.9(a)(2) – ecosystem diversity</li> <li>• 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Standard 11-003: Management activities expose no more than 10% mineral soil within the Project area riparian corridor (JNF Forest Plan, p. 3-182).</b>	Yes	No	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• § 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix M – Winter Construction Plan</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

**Table A-1 (continued). Summary of Plan Amendment by Standard to be Modified/Added Standard.**

Forest Plan Standard to Be Modified/Added	Directly	Related	<i>Substantive Requirement</i>	Required Protection Measures in the POD
	<i>Purpose</i>	<i>Effect</i>		
<b>MVP-Specific Standard – To minimize environmental impacts to soils, water, riparian areas, the ANST, and scenery resources, adherence and implementation of the following MVP Plan of Development (POD) appendices must be followed during the construction and restoration phases of the Project: C-1 (West Virginia Erosion and Sediment Control Plan), C-2 (Virginia Erosion and Sediment Control Plan), E (Conventional Bore Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail), H (Restoration Plan), M (Winter Construction Plan), and N (Environmental Compliance Management Plan)</b>	Yes	Yes	<ul style="list-style-type: none"> <li>• § 219.8(a)(1) – ecosystem integrity</li> <li>• § 219.8(a)(2)(ii) – soils and soil productivity</li> <li>• § 219.8(a)(2)(iii) – water quality</li> <li>• § 219.8(a)(2)(iv) – water resources</li> <li>• § 219.8(a)(3)(i) – ecological integrity of riparian areas</li> <li>• § 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> <li>• § 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Appendix C-1 and C-2, Erosion and Sediment Control Plan</li> <li>• Appendix E – ANST Contingency Plan</li> <li>• Appendix H, Restoration Plan</li> <li>• M (Winter Construction Plan),</li> <li>• Appendix N – Environmental Compliance Management Plan</li> </ul>

\*Note: Substantive requirement 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies is directly related due to beneficial effects of the Project as a whole and is not directly related to a specific modified Forest Plan standard.



**Table A-2. Summary of Scope and Scale of Plan Amendment by Substantive Requirement.**

Directly Related Substantive Requirement	Scope	Scale
<ul style="list-style-type: none"> <li>• 219.8(a)(1) – ecosystem integrity</li> <li>• 219.8(a)(2)(ii) – soils and soil productivity</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 3 out of 10 forest-wide water and soil standards</li> <li>• Modification of 2 out of 20 forest-wide channeled ephemeral zone standards</li> <li>• Modification of 1 out of 56 riparian prescription area standards</li> </ul>	<ul style="list-style-type: none"> <li>• 54 acres out of 723,300-acre JNF during construction and restoration phases</li> <li>• 22 acres out of 723,300-acre JNF during operation and maintenance phase</li> </ul>
<ul style="list-style-type: none"> <li>• 219.8(a)(1) – ecosystem integrity</li> <li>• 219.8(a)(2)(iii) – water quality</li> <li>• 219.8(a)(2)(iv) – water resources</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 3 out of 10 forest-wide water and soil standards</li> <li>• Modification of 2 out of 20 forest-wide channeled ephemeral zone standards</li> <li>• Modification of 1 out of 56 riparian prescription area standards</li> </ul>	<ul style="list-style-type: none"> <li>• 9 affected HUC-12 watersheds out of 88 HUC-12 watersheds containing JNF lands</li> <li>• 61,826 acres out of 723,300-acre JNF</li> <li>• 811 stream miles</li> </ul>
<ul style="list-style-type: none"> <li>• 219.8(a)(1) – ecosystem integrity</li> <li>• 219.8(a)(3)(i) – ecological integrity of riparian areas</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 2 out of 20 forest-wide channeled ephemeral zone standards</li> <li>• Modification of 1 out of 56 riparian prescription area standards</li> </ul>	<ul style="list-style-type: none"> <li>• 0.15 acre out of 73,600 acres of Management Prescription 11 across the JNF</li> </ul>
<ul style="list-style-type: none"> <li>• 219.8(b)(3) – multiple uses that contribute to local, regional, and national economies</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 11 standards</li> </ul>	<ul style="list-style-type: none"> <li>• MVP contribution to the local, regional, and national economies</li> </ul>
<ul style="list-style-type: none"> <li>• 219.9(a)(1) – ecosystem integrity</li> <li>• 219.9(a)(2) – ecosystem diversity</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 2 out of 27 Management Prescription 6C standards</li> </ul>	<ul style="list-style-type: none"> <li>• 5.2 acres out of 30,200 old growth acres across the JNF</li> </ul>
<ul style="list-style-type: none"> <li>• 219.10(a)(3) – appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 1 standard (FW-248)</li> </ul>	<ul style="list-style-type: none"> <li>• 54 acres out of 723,300-acre JNF during construction and restoration phases</li> <li>• 22 acres out of 723,300-acre JNF during operation and maintenance phase</li> </ul>
<ul style="list-style-type: none"> <li>• 219.10(b)(1)(i) – sustainable recreation, including recreation setting, opportunities, access; and scenic character</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 1 out of 20 forest-wide scenery standards</li> </ul>	<ul style="list-style-type: none"> <li>• 12.4 acres of High SIO, 32.0 acres of Moderate SIO, and 4.2 acres of Low SIO</li> </ul>
<ul style="list-style-type: none"> <li>• 219.10(b)(1)(vi) – appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 1 standard (4A-028)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 crossing under the ANST, which is about 2.5 acres of the ROW within 4A or 0.008% of the 30,700 acres of the JNF allocated to Management Prescription 4A</li> </ul>
<ul style="list-style-type: none"> <li>• 219.11(c) – timber harvesting for purposes other than timber production</li> </ul>	<ul style="list-style-type: none"> <li>• Modification of 2 standards (FW-14 and 6C-007)</li> </ul>	<ul style="list-style-type: none"> <li>• For FW-14 is the vegetation removal in the channeled ephemeral zones within the 54-acre construction zone</li> <li>• for 6C-007 5.2 acres of old growth removal in Management Prescription 6C</li> </ul>

## Compliance with the Planning Rule Regulations

This section provides the agency's view of why the updated proposed amendment is consistent with the 2012 Planning Rule, specifically 36 CFR § 219.13, the section outlining the requirements for forest plan amendments.

The NFMA regulation at **36 CFR § 219.13(a)** states:

A plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for change, and should be used to keep plans current and help units adapt to new information or changing conditions. The responsible official has the discretion to determine whether and how to amend the plan and to determine the scope and scale of any amendment. Except as provided by paragraph (c) of this section, a plan amendment is required to add, modify, or remove one or more plan components, or to change how or where one or more plan components apply to all or part of the plan area (including management areas or geographic areas).

The responsible official utilized his discretion to propose an amendment to allow the MVP project to move forward consistent with the FERC's decision. The proposed amendment is narrow and is limited to the MVP project. The amendment modifies 11 standards, adds on forest plan standard, and only applies to the MVP corridor. The proposed amendment is consistent with the direction at 36 CFR § 219.13(a).

The NFMA regulation at **36 CFR § 219.13(b)(1)** states:

Base an amendment on a preliminary identification of the need to change the plan. The preliminary identification of the need to change the plan may be based on a new assessment; a monitoring report; or other documentation of new information, changed conditions, or changed circumstances. When a plan amendment is made together with, and only applies to, a project or activity decision, the analysis prepared for the Project or activity may serve as the documentation for the preliminary identification of the need to change the plan.

The proposed amendment is a project-specific amendment, and the June 2017 FERC FEIS serves as the documentation for the need to change the plan. This is consistent with the direction at 36 CFR § 219.13(b)(1).

The NFMA regulation at **36 CFR § 219.13(b)(2)** states:

Provide opportunities for public participation as required in § 219.4 and public notification as required in § 219.16. The responsible official may combine processes and associated public notifications where appropriate, considering the scope and scale of the need to change the plan. The responsible official must include information in the initial notice for the amendment (§ 219.16(a)(1)) about which substantive requirements of §§ 219.8 through 219.11 are likely to be directly related to the amendment (§ 219.13(b)(5)).

Opportunities for public participation have been extensive for this Project. The 2017 FERC FEIS Section 1.4 (pp. 1-27 to 1-39) describes the public involvement process used to develop the 2017 FERC FEIS and resulting first set of decisions. The 2020 Forest Service/BLM FSEIS Section 1.6 (pp. 8 to 10) describes the public involvement process used to develop the 2020 FSEIS and resulting 2021 Forest Service and BLM decisions. Section 1.6 of this FSEIS describes the public involvement process used thus far for the development of the third set of decisions for the Forest Service and

BLM. The FERC, Forest Service, and BLM have utilized a wide variety of tools to engage the public, including mailings, public meetings, legal notices in local newspapers and the *Federal Register*, distribution of information on the internet, and intake of comments electronically and in writing. Federal agencies have outreached to affected landowners, public and private organizations, individuals, State and local governments, and Tribes. The FERC consulted with Federally recognized Tribes on a government-to-government basis that were interested and had a potential to affect their traditional cultural properties. The public participation process, which began in April 2015 and continues today, is consistent with 36 CFR § 219.4.

This proposed amendment is a project-specific amendment; therefore, the notification requirements of 36 CFR Part 218 were followed per direction at 36 CFR § 219.16(b). The notice of availability for this DSEIS serves as the required *Federal Register* notice for inviting comments on the proposed amendment (36 CFR § 219.16(c)(3)). The public notification process is consistent with 36 CFR § 219.16.

The initial notice for this proposed amendment was the notice of intent (87 FR 68996) for this DSEIS and it included information on which substantive requirements are likely to be directly related to the amendment. The public participation effort undertaken for this proposed amendment is consistent with 36 CFR § 219.13(b)(2).

The NFMA regulation at **36 CFR § 219.13(b)(3)** states:

Amend the plan consistent with Forest Service NEPA procedures. The appropriate NEPA documentation for an amendment may be an environmental impact statement, an environmental assessment, or a categorical exclusion, depending upon the scope and scale of the amendment and its likely effects. Except for an amendment that applies only to one project or activity, a proposed amendment that may create a significant environmental effect and thus requires preparation of an environmental impact statement is considered a significant change in the plan for the purposes of the NFMA and therefore requires a 90-day comment period for the proposed plan and draft environmental impact statement (§ 219.16(a)(2)), in addition to meeting the requirements of this section.

This amendment applies only to the MVP project; therefore, the amendment is not considered a significant change in the plan for the purposes of the NFMA. A 90-day comment period is not required. This comment period for this proposed amendment is consistent with 36 CFR § 219.13(b)(3).

The NFMA regulation at **36 CFR § 219.13(b)(4)** states:

Follow the applicable format for plan components set out at § 219.7(e) for the plan direction added or modified by the amendment, except that where an amendment to a plan developed or revised under a prior planning regulation would simply modify the area to which existing direction applies, the responsible official may retain the existing formatting for that direction.

This proposed amendment modifies 11 standards by describing where the standard would not apply, which is consistent with 36 CFR § 219.7(e). The MVP-specific standard is only applicable to the MVP project, which is consistent with 36 CFR § 219.7(e). Therefore, the proposed amendment is consistent with 36 CFR § 219.13(b)(4).

The NFMA regulation at **36 CFR § 219.13(b)(5)** states:

Determine which specific substantive requirement(s) within §§ 219.8 through 219.11 are directly related to the plan direction being added, modified, or removed by the amendment and apply such requirement(s) within the scope and scale of the amendment. The responsible official is not required to apply any substantive requirements within §§ 219.8 through 219.11 that are not directly related to the amendment.

The “Step 2” section in this document describes which specific substantive requirements are directly related to the proposed amendment. Each standard proposed to be modified and the MVP-specific standard were reviewed for purpose and effect of the amendment. Modified and additional standards that would result in an adverse effect require further review to determine whether the adverse effects were substantial, substantially lessen plan protections, or beneficial. Eleven substantive requirements were found to be directly related due to purpose of the amendment; no substantive requirements were found to be directly related due to adverse effects; and eight substantive requirements were found to be directly related due to beneficial effects. Due to overlap, 12 substantive requirements in total were found to be directly related. The determination of directly related substantive requirements is consistent with 36 CFR § 219.13(b)(5).

The “Step 3” section in this document applies the directly related substantive requirements. The Forest Service must ensure that the JNF Forest Plan will contain components meeting the directly related substantive requirements even after the MVP project-specific amendment takes effect. Specifically, the amended plan must contain plan components that maintain or restore<sup>40</sup> ecosystem integrity and diversity (36 CFR § 219.8 and 219.9), guide the plan area’s contribution to social and economic sustainability (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11). To “maintain” a resource is defined by the rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19). This does not infer that there must be *no net loss* to the resource in question across the plan area.

The NFMA regulation at **36 CFR § 219.13(b)(6)** states:

For an amendment to a plan developed or revised under a prior planning regulation, if species of conservation concern (SCC) have not been identified for the plan area and if scoping or NEPA effects analysis for the proposed amendment reveals substantial adverse impacts to a specific species, or if the proposed amendment would substantially lessen protections for a specific species, the responsible official must determine whether such species is a potential SCC, and if so, apply section § 219.9(b) with respect to that species as if it were an SCC.

The JNF Forest Plan was revised under the prior planning regulation and SCC have not been identified for the plan area. SCC are species, other than Federally recognized threatened, endangered, proposed, or candidate species, that are known to occur in the plan area and for there are substantial concern about the species’ capability to persist over the long-term in the plan area (36 CFR § 219.9(c)). The NEPA analysis did not identify any substantial adverse effects to a specific species (see 2017 FERC FEIS pp. 4-252 to 4-256) and did not identify any species that the proposed amendment would substantially lessen protections. Therefore, the amendment is consistent with 36 CFR § 219.13(b)(6).

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<sup>40</sup> The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystem sustainability, resilience, and health under current and future conditions (36 CFR § 219.19)

## Agency Response to Fourth Circuit Opinion

This section describes how the agency responded to the January 2022 Fourth Circuit Opinion regarding compliance with the 2012 Planning Rule. The Fourth Circuit agreed with petitioners that the Forest Service “failed to apply ... the directly related substantive requirements within the scope and scale of the amendments (sic) to the Jefferson Forest Plan to accommodate the Pipeline, as the 2016 Revised Rule requires.” For clarification, the Forest Service is proposing one amendment that would modify 11 standards and add one standard.

The Fourth Circuit found the Forest Service applied the incorrect legal standard when it determined if the amendment complied with the substantive requirements. According to the Fourth Circuit, the Forest Service should not have relied upon measuring substantial lessening of protections to determine compliance with the 2012 Planning Rule; rather, the Forest Service should have determined compliance with the 2012 Planning Rule by disclosing the maintenance or restoration of resources.

Response: To address the Court’s finding on utilization of the correct legal standard, the agency reviewed the application of directly related substantive requirements. The legal standards for determining whether a directly related substantive requirement is applied consistent with the 2012 Planning Rule are: the amended plan must contain plan components that maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), guide the plan area’s contribution to social and economic sustainability (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11). The Forest Service provides analysis of applying the directly related substantive requirements which is disclosed in Section 3.3.4.3 and Appendix A, Step 3.

The Fourth Circuit stated, “[B]ecause the Forest Service did not sufficiently consider the Pipeline’s actual sediment and erosion impacts ... the amendments to the Jefferson Forest Plan may not ‘maintain’ soil and riparian resources with the scope of the 2012 Planning Rule.”

Response: To address the Court’s finding that the Forest Service did not sufficiently address actual sediment and erosion impacts, the agency considered actual sediment and erosion impacts through a review of USGS in-stream water quality monitoring data; MVP in-stream water quality data; VDEQ in-stream water quality monitoring data and inspection reports; and Transcon ROW site monitoring reports (see Section 3.3.2.2). These data sets were not inconsistent with the sediment modeling used to evaluate application of the directly related substantive requirements in Section 3.3.4.3 and Appendix A, Step 3.

The Fourth Circuit stated, “because the Forest Service does not have a clear indication from FERC about the environmental impacts of the use of the conventional bore method to cross the four streams within the Jefferson National Forest, it is unclear whether the amendments to the Jefferson Forest Plan for the Pipeline will even ‘maintain’ the forest’s resources, as the 2012 Planning Rule intended.”

Response: To address the Court’s finding, the agency reviewed relevant information on the conventional bore method. The 2020 FSEIS assessed the effects of using a conventional bore method for stream crossings on NFS (pp. 57 to 58, pp. 74 to 75, p. 79, p. 92, pp. 95 to 96, and p. 123). The 2020 FSEIS found that conventional boring would result in less disturbance in and adjacent to water features, leading to a lower predicted sedimentation load for streams (compared to the originally proposed dry-ditch open cut crossing method); that there would be limited impacts within the riparian zone; conventional boring would limit potential release of sediment from the ROW to the riparian zone and/or stream channel; that adherence to

industry BMPs in the POD would further reduce the risk of landslides; and that conventional boring is expected to result in further reduced effects on aquatic species.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021). The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). However, the FERC Boring EA descriptions of the general nature and type of impacts associated with conventional boring would be the same on NFS lands. Thus, the FERC Boring EA is incorporated by reference in this SEIS.

In conjunction with the development of this SEIS, the Forest Service conducted an independent review of the FERC Boring EA and concluded the analysis is consistent with the conclusions in the 2020 FSEIS and that, overall, conventional bore stream crossing would result in fewer adverse effects for stream crossing on NFS lands.

The DSEIS considered the effects of boring under the four stream crossings on NFS lands in Section 3.2 and Appendix C. This FSEIS has been updated to include additional analysis of smaller geographic areas, such as the watersheds crossed by the proposed pipeline route within the JNF. In addition, the analysis examines real-world data and information including Forest Plan monitoring information, pipeline corridor inspection reports, and USGS in-stream water quality monitoring station data, to determine whether the amended Forest Plan would maintain or restore ecosystem integrity and diversity. Many of these sources are specific to the proposed project.

The Fourth Circuit stated, “the Forest Service cannot rely on the notion that because the Pipeline will affect only a minimal fraction of the entire Jefferson National Forest, application of the existing forest plan outside this area will continue to provide adequate protections.” In addition, the Fourth Circuit stated, “the Forest Service has not provided an analysis of whether application of the existing Jefferson Forest Plan is adequately protecting these resources elsewhere in the Jefferson National Forest.”

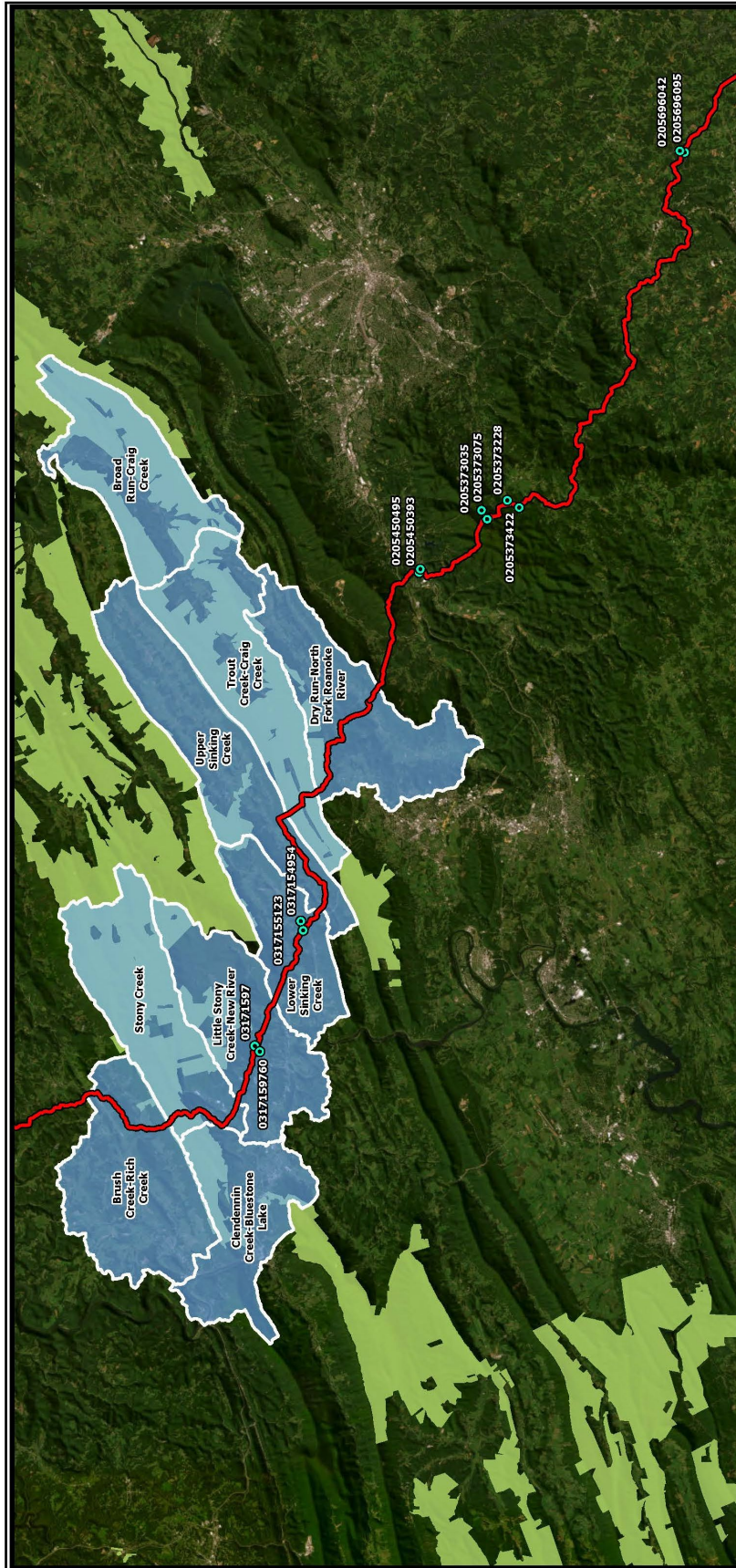
Response: To address the Court’s finding, the agency considered the scope and scale of the proposed amendment, in context of the broader planning unit, as required by 36 CFR § 219.13(b)(5). Since the 2012 Planning Rule requires the application of directly related substantive requirements at the plan unit scale (generally this means forest-wide) in context of the scope and scale of the proposed amendment, consideration of the scale of the MVP project in context of the entire JNF is relevant. However, this SEIS has been updated to consider additional analyses when assessing the application of the directly related substantive requirements (Section 3.3.4.3 and Appendix A, Step 3) so that the scale of the MVP project in context of the entire JNF is not the sole factor. The agency additionally considered the scope and scale of the amendment in context of the area affected by the proposed amendment, plan components unaffected by the proposed amendment, and the desired conditions contained in the JNF Plan.

The FY2015-2019 Monitoring Evaluation Report for the GWJ is an additional factor considered in the application of the directly related substantive requirements. The monitoring report evaluates monitoring questions and indicators presented in the Forest Plan, in relation to ongoing management actions. Because the monitoring report helps determine the need for forest plan changes, it is a good reflection of whether the existing forest plan is adequately maintaining specific resources across the plan unit within the context of ongoing forest

activities. This information was used to help assess whether the forest plan, as amended, could maintain a directly related substantive requirement across the plan unit.

## **Appendix B – USGS Water Quality Monitoring Stations**





<b>Mountain Valley Pipeline Proposed Route</b>
Location of USGS In-Stream Water Quality Monitoring Stations
<b>Jefferson National Forest</b>
<b>U.S. Forest Service Southern Region</b>

Map Creation Date -29-11-2022

**Base Data Legend**

- Water Quality Station
- HUC-12 Sub-watershed
- National Forest System Lands

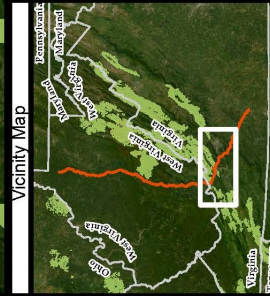
**MVP Pipeline Data**

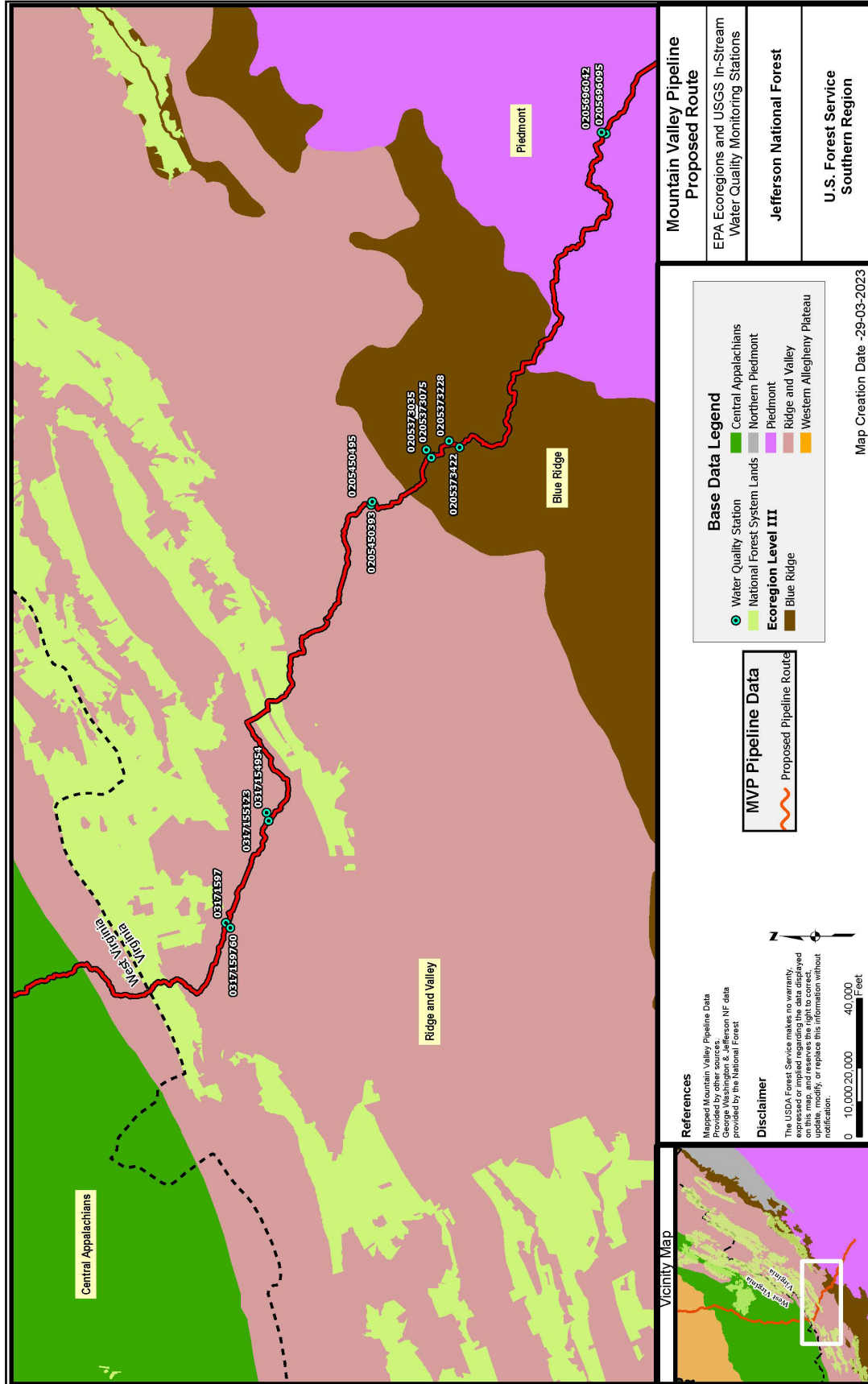
- Proposed Pipeline Route

**References**  
 Mapped Mountain Valley Pipeline Data Provided by other sources, Google Earth Pro and Jefferson NF data provided by the National Forest

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<b>Mountain Valley Pipeline Proposed Route</b>
EPA Ecoregions and USGS In-Stream Water Quality Monitoring Stations
Jefferson National Forest
U.S. Forest Service Southern Region

**Base Data Legend**

- Water Quality Station
- National Forest System Lands
- Ecoregion Level III
- Central Appalachians
- Northern Piedmont
- Piedmont
- Ridge and Valley
- Western Allegheny Plateau
- Blue Ridge

**MVP Pipeline Data**

- Proposed Pipeline Route

Map Creation Date -29-03-2023

**References**

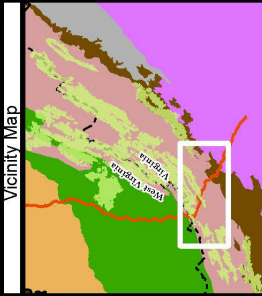
Mapped Mountain Valley Pipeline Data Provided by other sources, including the National Forest System (NFS) data provided by the National Forest.

**Disclaimer**

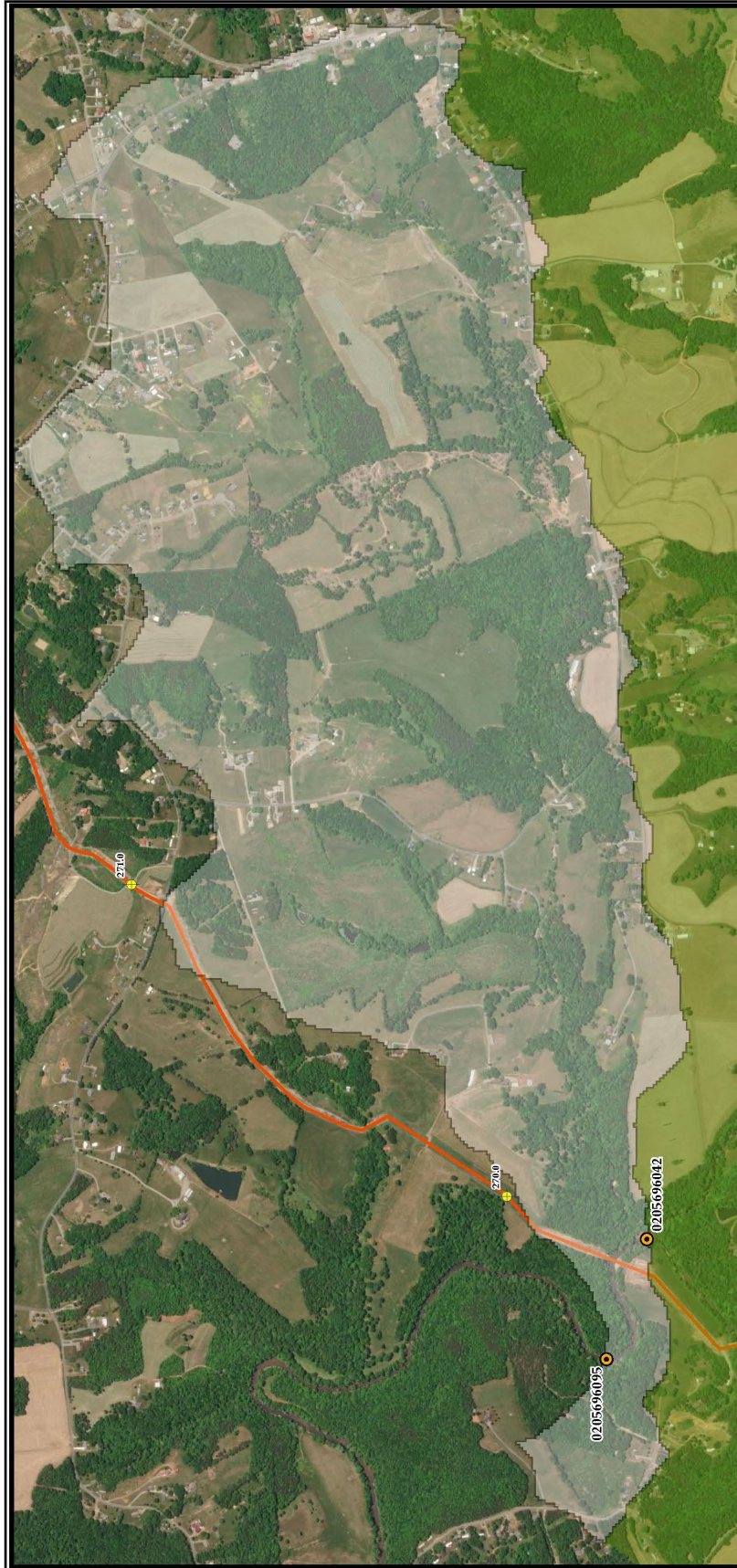
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<b>Mountain Valley Pipeline Proposed Route</b>
USGS Water Quality Monitoring Stations Blackwater River
<b>Jefferson National Forest</b>
<b>U.S. Forest Service Southern Region</b>

**Base Data Legend**

- USGS Station
- Incremental Drainage Area
- USGS Upstream Station Drainage Area

**MVP Pipeline Data**

- Milepost
- Proposed Pipeline Route

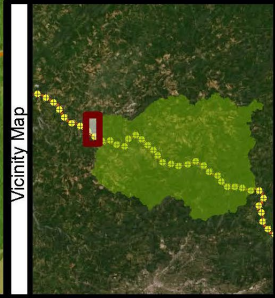
**References**  
Mapped Mountain Valley Pipeline Data  
Provided by other sources.  
USGS Water Quality Monitoring Station NF data  
provided by the National Forest.

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notification.

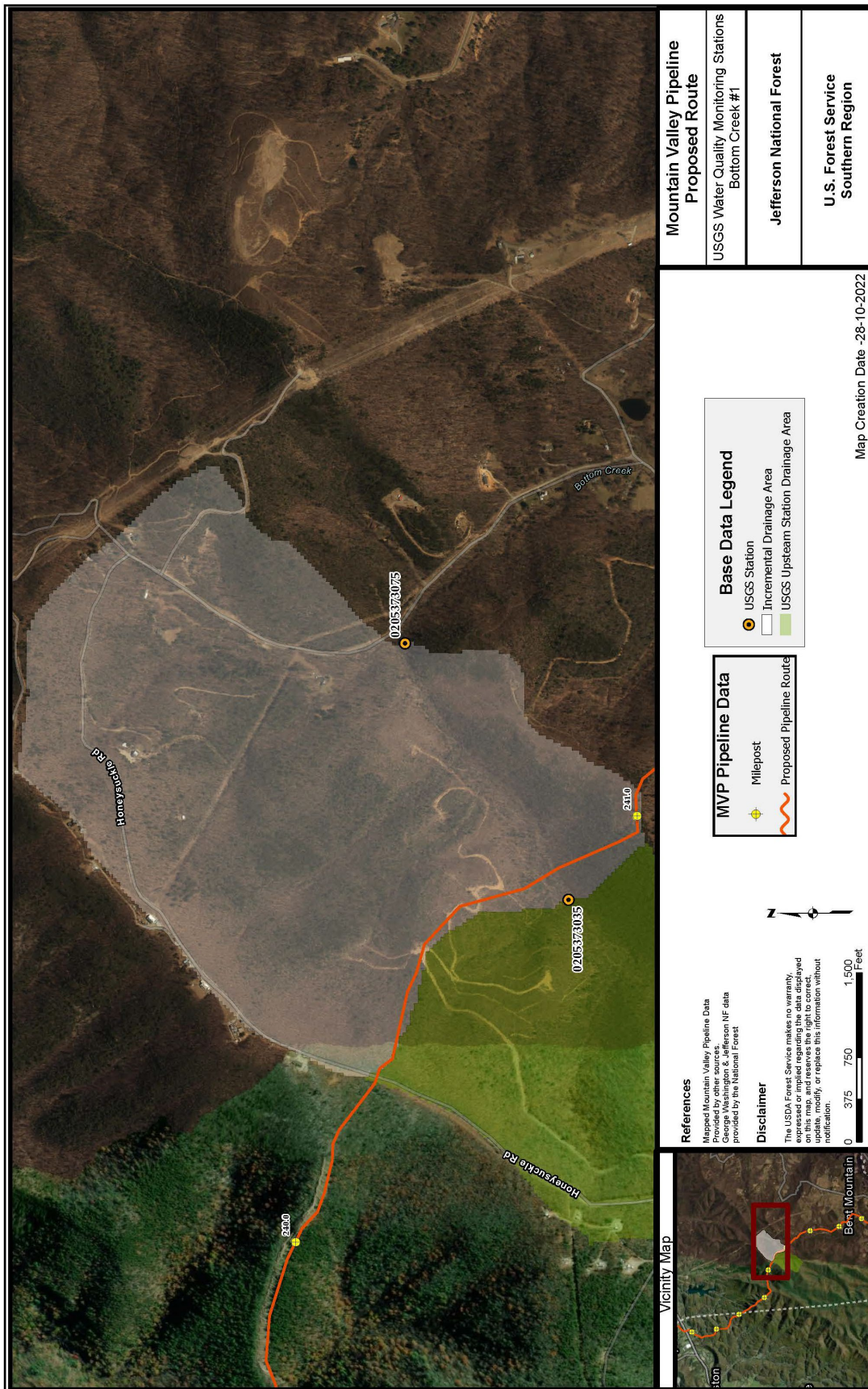
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Map Creation Date -04-11-2022











<b>Mountain Valley Pipeline Proposed Route</b>
USGS Water Quality Monitoring Stations Bottom Creek #2
<b>Jefferson National Forest</b>
<b>U.S. Forest Service Southern Region</b>

**Base Data Legend**

- USGS Station
- Incremental Drainage Area
- USGS Upstream Station Drainage Area

**MVP Pipeline Data**

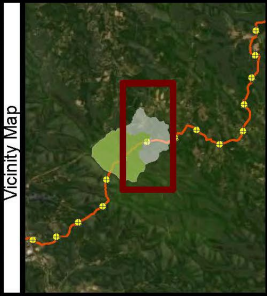
- Milepost
- Proposed Pipeline Route

Map Creation Date - 28-10-2022

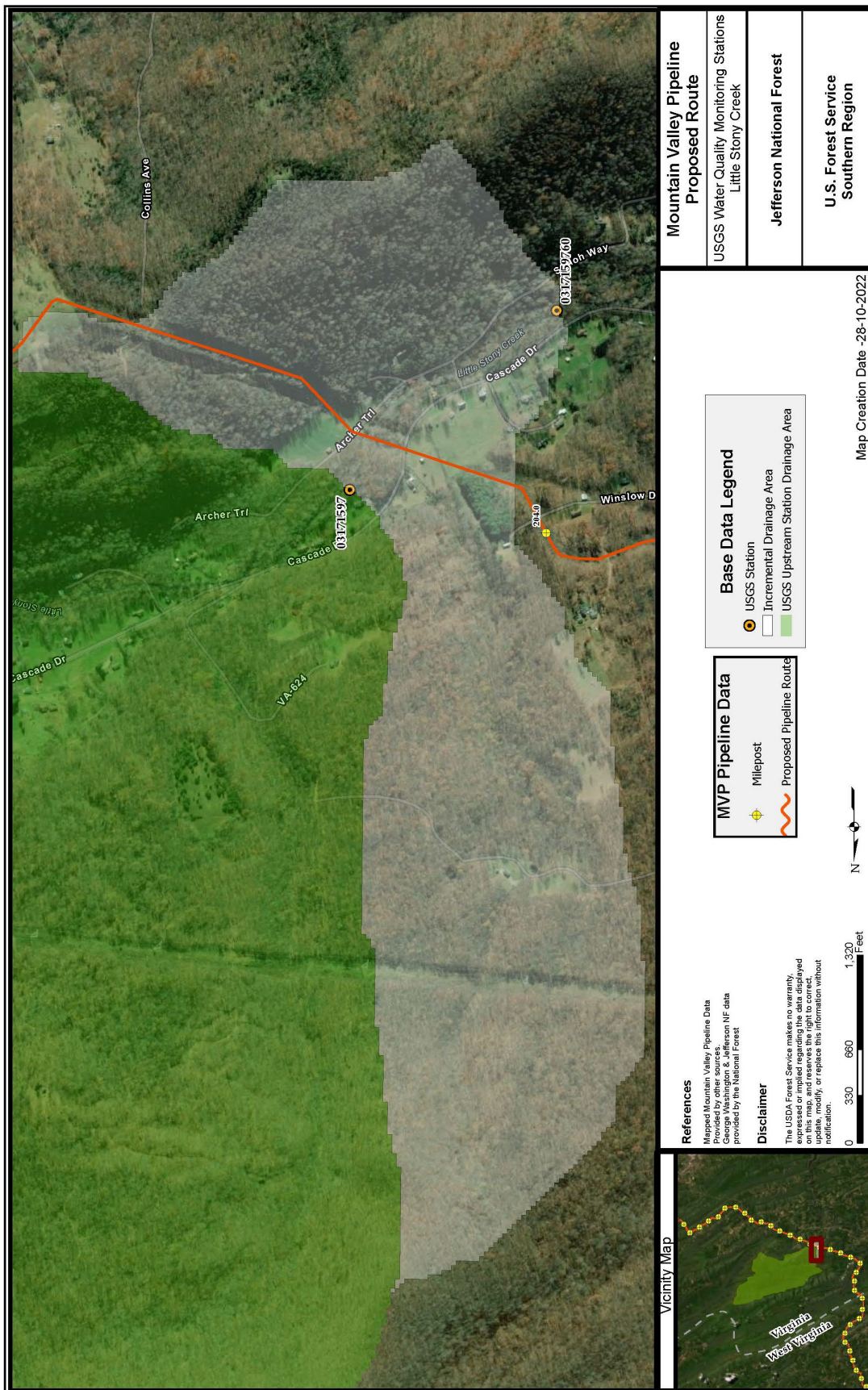
**References**  
Mapped Mountain Valley Pipeline Data Provided by other sources. All other data is provided by the National Forest.

**Disclaimer**  
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<b>Mountain Valley Pipeline Proposed Route</b>
USGS Water Quality Monitoring Stations Little Stony Creek
<b>Jefferson National Forest</b>
<b>U.S. Forest Service Southern Region</b>

**Base Data Legend**

- USGS Station
- Incremental Drainage Area
- USGS Upstream Station Drainage Area

**MVP Pipeline Data**

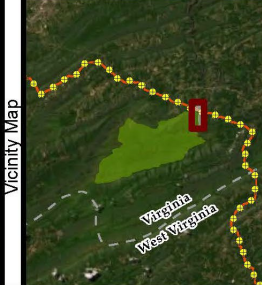
- Milepost
- Proposed Pipeline Route

**References**  
Mapped Mountain Valley Pipeline Data Provided by other sources: George Washington & Jefferson NF data provided by the National Forest.

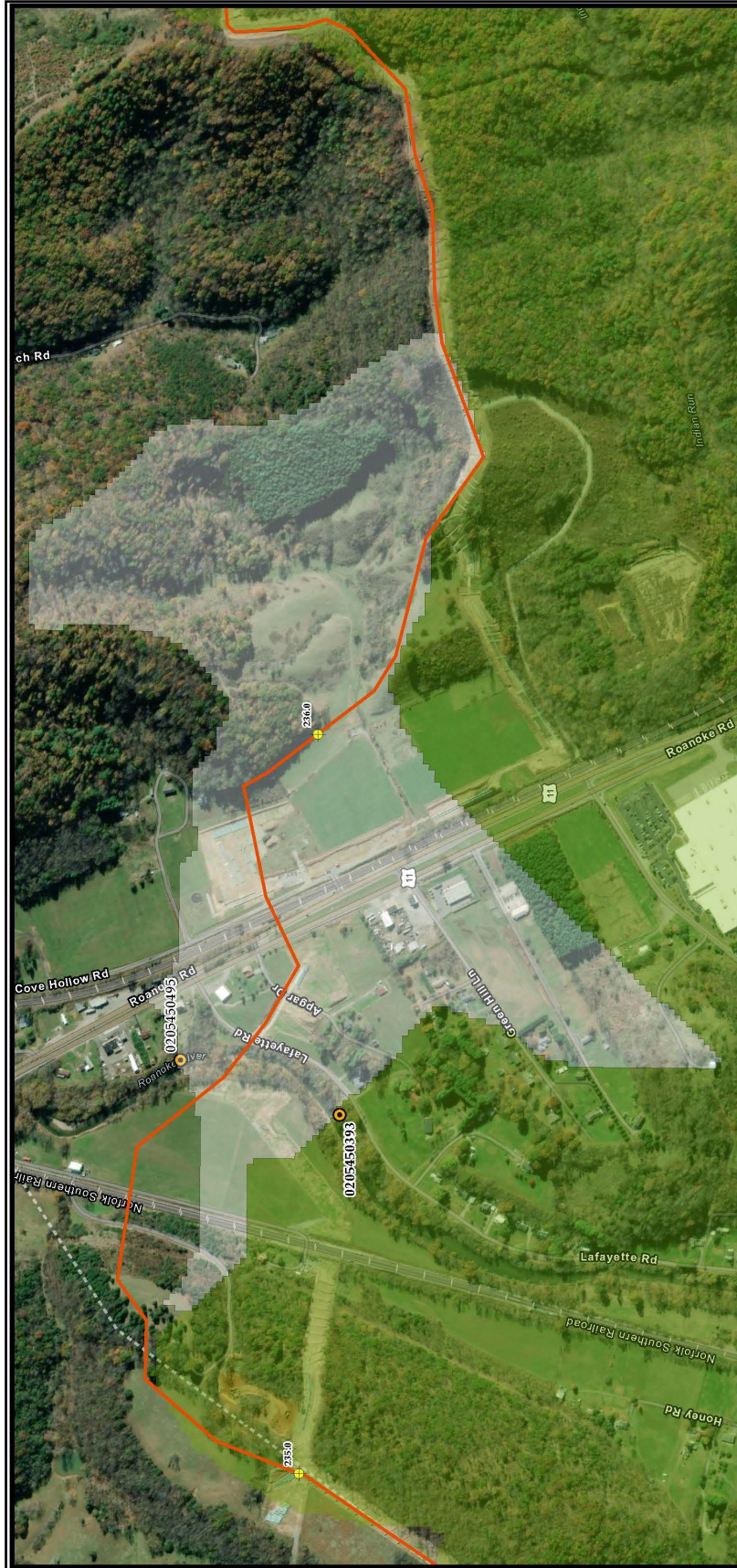
**Disclaimer**  
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Scale: 0 330 660 1,320 Feet

Map Creation Date -28-10-2022







<b>Mountain Valley Pipeline Proposed Route</b>
USGS Water Quality Monitoring Stations Roanoke River
<b>Jefferson National Forest</b>
<b>U.S. Forest Service Southern Region</b>

**Base Data Legend**

- USGS Station
- Incremental Drainage Area
- USGS Upstream Station Drainage Area

**MVP Pipeline Data**

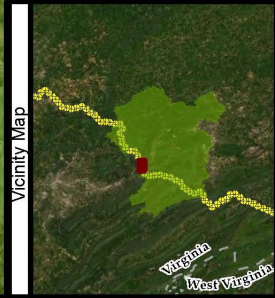
- Milepost
- Proposed Pipeline Route

**References**  
 Mapped Mountain Valley Pipeline Data  
 Provided by other sources.  
 USGS Water Quality Monitoring Station NF data  
 provided by the National Forest

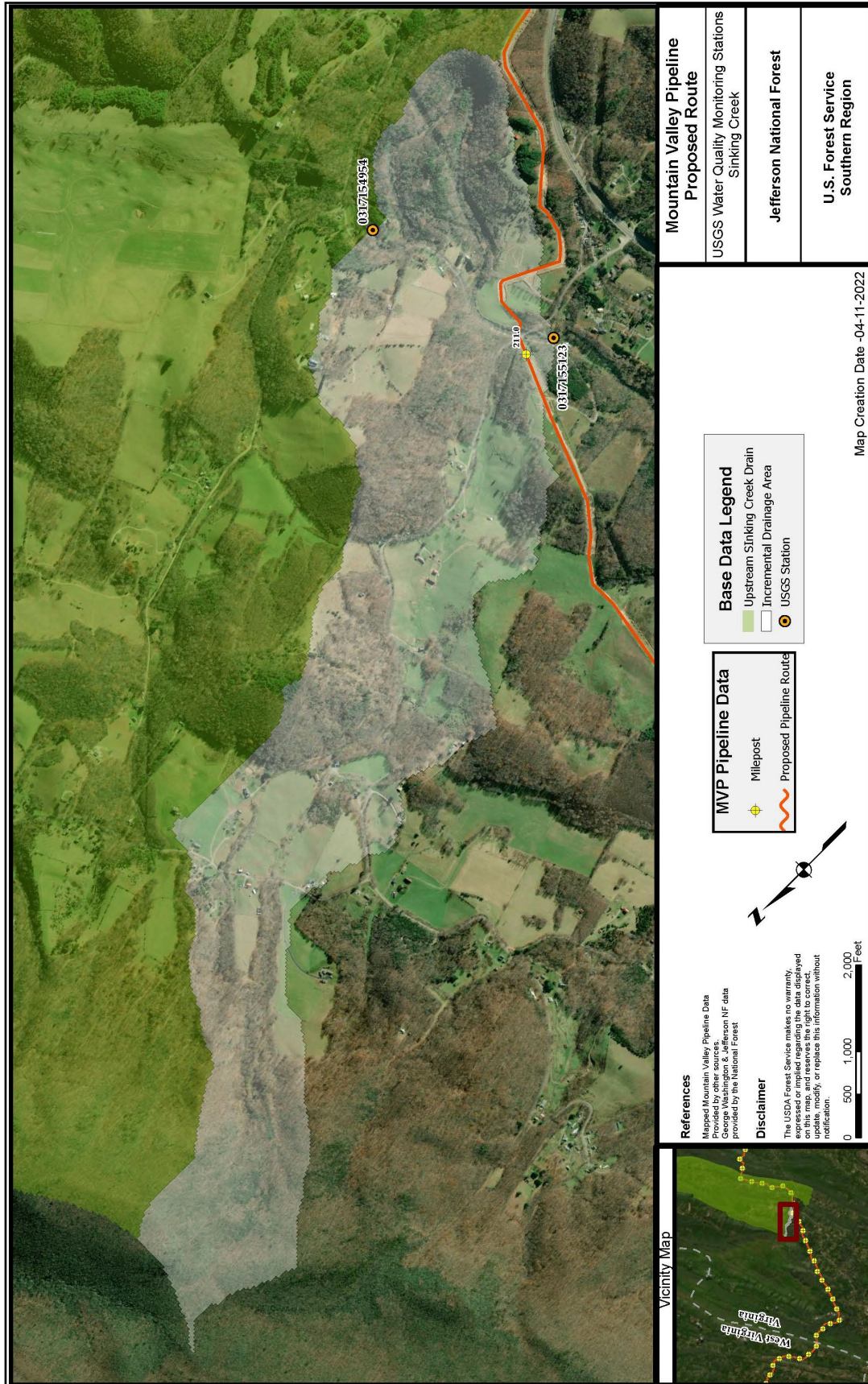
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Map Creation Date -04-11-2022











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## **Appendix C – Conventional Bore Stream Crossing Method**

The Court ruled that the Forest Service improperly approved the use of the conventional bore method for crossing the four streams on the JNF without first considering FERC's analysis on assessing the potential environmental impacts of the change in the stream crossing construction method from the FERC 2017 FEIS.

This FSEIS provides a review of the 2021 FERC Boring EA analysis regarding conventional boring stream crossing methods and its applicability to stream crossings on the JNF. Specifically, see Sections 3.2.1 through 3.2.15, Section 3.3.2, and Section 3.3.3 for the Forest Service's independent agency analysis of conventional boring as it relates to the 2021 FERC Boring EA and the JNF. This appendix provides additional context regarding the proposed stream crossings.

The Forest Service followed a four-step methodology to address the Court's remand. First, the Forest Service reviewed the 2021 FERC Boring EA analysis and its conclusions for each resource (e.g., air, wildlife, recreation). Second, to confirm how stream crossing impacts had been previously addressed in related NEPA documents, the Forest Service again reviewed its 2020 FSEIS and the 2017 FERC FEIS. Third, the Forest Service performed its own independent review of the impacts of crossing the four JNF streams with a conventional bore method. Finally, the Forest Service compared the conclusions in the 2021 FERC Boring EA, 2017 FERC FEIS, 2020 FSEIS, and the Forest Service's own independent review to determine if there were any inconsistencies in the analyses. The results are summarized in this appendix.

The ROW alignment on NFS lands includes four stream crossings (see figure on following page). All crossings are of unnamed tributaries to Craig Creek. The 2022 POD identifies the flow regime of each stream:

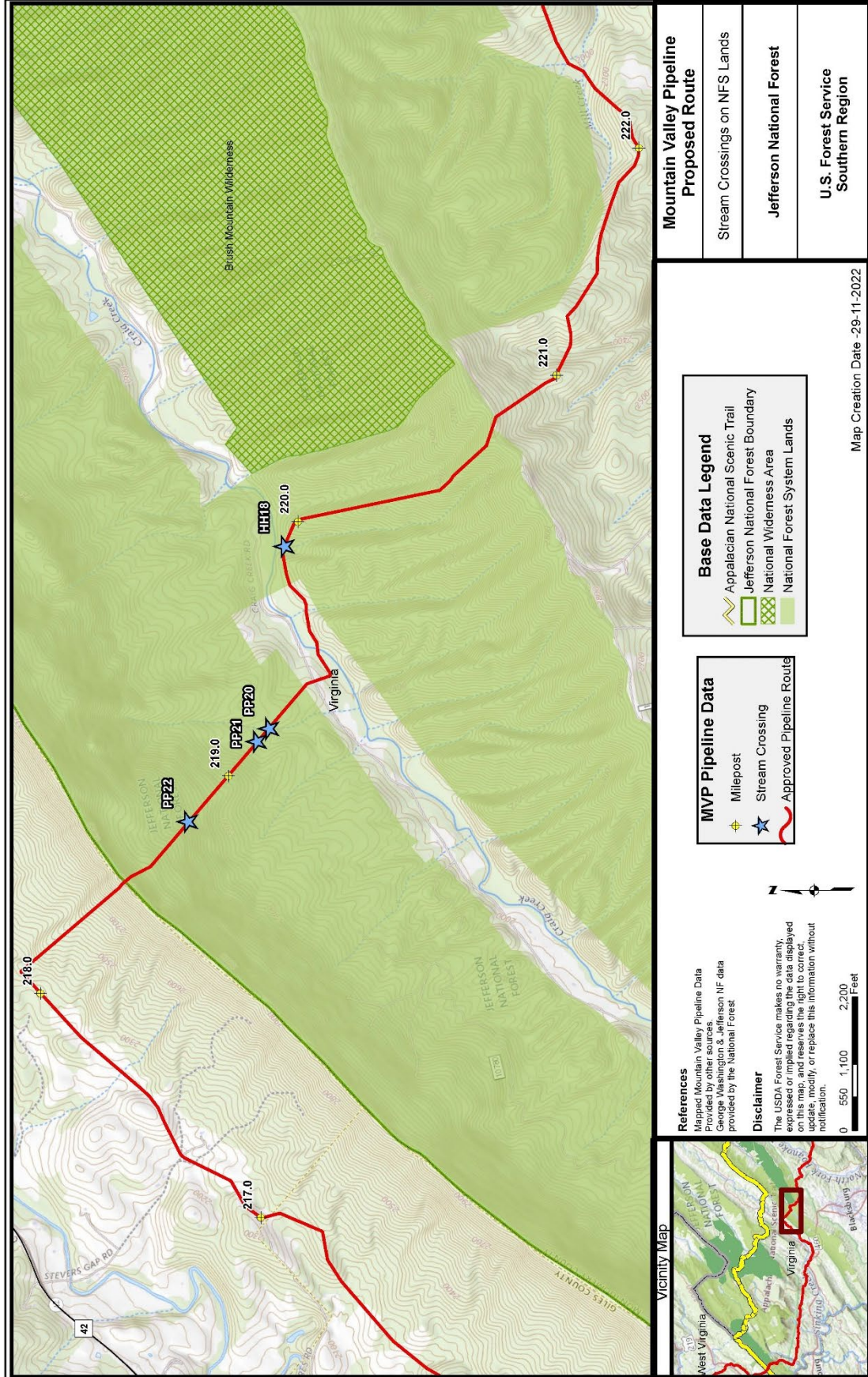
- Stream PP22 (Sinking Creek Mountain) is an intermittent<sup>41</sup> stream
- Stream PP21 (Sinking Creek Mountain) is a perennial<sup>42</sup> stream
- Stream PP20 (Sinking Creek Mountain) is a perennial stream
- Stream HH18 (Brush Mountain) is a perennial stream

The following figures display each stream crossing. All photographs were taken in October 2022

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<sup>41</sup> Intermittent streams flow during certain times of the year when smaller upstream waters are flowing and when groundwater provides enough water for stream flow

<sup>42</sup> Perennial streams typically have water flowing in them year-round



Jefferson National Forest

<b>Mountain Valley Pipeline Proposed Route</b>
Stream Crossings on NFS Lands
<b>Jefferson National Forest</b>
<b>U.S. Forest Service Southern Region</b>

<b>Base Data Legend</b>
Appalachian National Scenic Trail
Jefferson National Forest Boundary
National Wilderness Area
National Forest System Lands

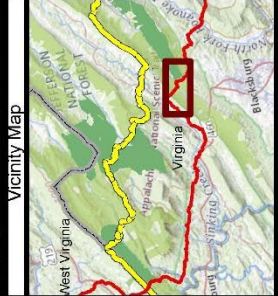
<b>MVP Pipeline Data</b>
Milepost
Stream Crossing
Approved Pipeline Route

**References**  
 Mapped Mountain Valley Pipeline Data Provided by other sources.  
 George Washington & Jefferson NF data provided by the National Forest

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Map Creation Date - 29-11-2022



Location of Proposed Stream Crossings on NFS Lands





**Stream PP22 Crossing on Sinking Creek Mountain (October 2022).**



**Stream PP21 Crossing on Sinking Creek Mountain (October 2022).**





**Stream PP20 Crossing on Sinking Creek Mountain (October 2022).**



**Stream HH18 Crossing on Brush Mountain (October 2022).**



The 2020 FSEIS assessed the effects of using a conventional bore method for stream crossings on NFS lands (pp. 57 to 58, pp. 74 to 75, p. 79, p. 92, pp. 95 to 96, and p. 123). In summary, the FSEIS found that conventional boring would result in less disturbance in and adjacent to water features leading to a lower predicted sedimentation load for streams (compared to the originally proposed dry-ditch open cut crossing method), that there would be limited impacts within the riparian zone, conventional boring would limit potential release of sediment from the ROW to the riparian zone and/or stream channel, that adherence to industry BMPs in the POD would further reduce the risk of landslides; and that conventional boring is expected to result in further reduced effects on aquatic species.

In August 2021, the FERC issued an EA analyzing the use of trenchless methods (e.g., conventional bore) to cross 183 waterbodies and wetlands at 120 locations along the MVP route (FERC 2021).

The 2021 FERC Boring EA did not address the four stream crossings on NFS lands because the FERC had already issued partial approval for conventional bore stream crossings on the JNF (FERC 2020b). Although the 2021 FERC Boring EA did not include the NFS lands stream crossings, its analysis examines the general nature and type of impacts associated with conventional bore crossings. The FERC's analysis is incorporated by reference into this FSEIS. In summary, the FERC found that "conventional bore crossing methods would reduce environmental impacts on surface waterbodies, wetlands, and aquatic resources, as compared to [open-cut trench methods], because trenchless crossing methods do not result in impacts associated with constructing directly in waterbodies and wetlands, including increased turbidity and disruption to stream bank and wetland vegetation. [Trenchless] crossings would cause increases in air emissions and noise during the excavation and boring activities as compared to [open-cut trench methods]; however, these impacts would be temporary and would persist for only the short duration required to complete the bores" (FERC 2021 p. 92).

As provided in Sections 3.2.1 through 3.2.15, Section 3.3.2, and Section 3.3.3, the Forest Service performed an independent agency review of the 2021 FERC Boring EA. The Forest Service's review concluded that the FERC EA's analysis is consistent with the conclusions in the 2020 FSEIS and that, overall, conventional bore stream crossings would result in fewer adverse effects for stream crossings on NFS lands.

#### Air Quality, Climate, and Noise

The 2021 FERC Boring EA (pp. 67 to 88) analyzed the effects of conventional boring stream crossings on air quality, climate, and noise. In summary, the FERC found that conventional bore methods would lead to a temporary and short-term increase in construction emissions and construction noise. The Forest Service performed an independent agency review of the 2021 FERC Boring EA and determined that its effects analysis is consistent with effects anticipated on NFS lands because the nature and type of stream crossings on NFS lands would be similar to those analyzed in the 2021 FERC Boring EA for the MVP as a whole. Noise effects on NFS lands would be less than those elsewhere along the pipeline route because there are fewer sensitive noise receptors (e.g., residences, schools, hospitals, churches) on NFS lands than on private lands (including residential areas as discussed on p. 55 of the 2021 FERC Boring EA). Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Public Health and Safety

2021 FERC Boring EA (p. 89) concluded that effects on public health and safety from the use of conventional bore stream crossing methods would not differ from the originally proposed dry-ditch open cut crossing method. The Forest Service agrees with this conclusion because the MVP must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192 and other applicable Federal and State regulations. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Heritage Resources

The 2021 FERC Boring EA (pp. 57 to 67) analyzed the effects of conventional boring stream crossing methods on heritage resources, concluding that no changes to the PA are required and that Mountain Valley would adhere to its Discovery Plan for unanticipated discoveries. The Forest Service has determined that effects associated with conventional boring to cross streams on NFS lands would be the same as for dry-ditch open cut methods because both methods would be subject to the PA and its associated requirements for mitigating adverse effects. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Mineral Resources

The 2021 FERC Boring EA (p. 22) concluded that the effects of conventional bore stream crossing methods on mineral resources would be the same as for dry-ditch open cut methods and that no further analysis was needed. The Forest Service has determined that this conclusion is accurate for NFS lands because there are no reasonably foreseeable future oil and gas wells within the MVP ROW. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Socioeconomics

The 2021 FERC Boring EA (p. 22, p. 57) concluded that the effects of conventional bore stream crossing methods on socioeconomics and environmental justice would be the same as for dry-ditch open cut methods and that no further analysis was needed. The Forest Service determined that this conclusion is accurate for NFS lands because there would be no measurable difference in employment, taxes, or other indicators. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Scenery

The 2021 FERC Boring EA (p. 55) concluded that impacts on scenery would be similar to those discussed in the 2017 FERC FEIS. The Forest Service determined that there would be fewer short-term effects on NFS lands because conventional boring methods would result in less surface disturbance. Long-term effects would be similar to those associated with a dry-ditch open cut crossing because the Project area would be restored to as close to the pre-project condition as practicable or possible. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Vegetation

The 2021 FERC Boring EA (pp. 43 to 44) concluded that conventional bore stream crossing methods would result in fewer impacts on vegetation because there would be less surface disturbance. The Forest Service determined that this conclusion is consistent with effects on NFS lands because



vegetation has already been cleared and conventional boring would avoid impacts to vegetation between the boring pits. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Silviculture

The 2021 FERC Boring EA (p. 19) discloses that trees have already been cut along the entire 303.5-mile pipeline. None of the four stream crossings on NFS lands are in areas where trees would need to be cut; therefore, there are no adverse effects associated with conventional bore stream crossings. Boring under the ANST on Peters Mountain would require a second round of tree clearing as described above. The effects of this tree clearing are consistent with those described in the 2017 FERC FEIS and 2020 FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Terrestrial Wildlife

The 2021 FERC Boring EA (pp. 45 to 48) concluded that the effects of conventional bore crossing methods would be similar to those disclosed in the 2017 FERC FEIS because work would be confined to previously authorized workspaces. The Forest Service determined that effects on NFS lands would be consistent with the FERC's analysis for the same reason. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Aquatic Species

The use of conventional boring and approved permitted ECDs and BMPs would limit potential release of sediment from the ROW to the riparian zone and/or stream channel. This conclusion is consistent with the 2021 FERC Boring EA (pp. 41 to 45) which found that conventional boring (compared to the dry-ditch open cut method) would avoid direct impacts associated with working directly within the aquatic resource, would result in reduced in-stream sedimentation, and would allow for uninterrupted existing streamflow and undisturbed wetland soils and scrub-shrub and herbaceous vegetation. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects. See Section 3.3.2 "Water Resources" and Section 3.3.3 "Threatened and Endangered Species" for additional analysis on aquatic species and their habitat.

### Soils

The 2021 FERC Boring EA (pp. 22 to 26, p. 42) found that effects on soils from conventional boring would generally be similar to those described in the 2017 FERC FEIS and would allow for undisturbed wetland soils. Effects would be minimized by adherence to the POD, including Erosion and Sediment Control Plans to enhance stockpile stability and protect environmental resources downstream of bore pits and stockpiles. The Forest Service determined that effects on soils on NFS lands would be less than those associated with dry-ditch open cut crossings because conventional boring would result in less overall area of soil disturbance (including avoiding soils in stream channels) and would use Reinforced Filtration Devices (e.g., Priority 1 Silt Fence, Triple Stacked CFS, or Super Silt Fence) as specified in the 2020 Variance Request (MVP 2020a) to minimize the potential for sediment movement. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

### Geology

The 2021 FERC Boring EA (pp. 22 to 26) analyzed effects of conventional boring on geological resources and concluded that effects would be minimized by using appropriate conventional bore

tooling and technology. The Forest Service determined that the 2021 FERC Boring EA analysis is consistent with conclusions in the 2020 FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

#### Land Use

The 2021 FERC Boring EA (pp. 54 to 55) found that there may be impacts on residential areas from some conventional bore stream crossings for the pipeline as a whole. The Forest Service determined that there would be negligible impacts on land use on NFS lands because there are fewer sensitive receptors near the proposed crossings on NFS lands. Effects of the Forest Plan amendment are discussed in Section 3.3.4 of this FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

#### Recreation and Special Uses

The 2021 FERC Boring EA (p. 55) analyzed effects on recreation from conventional bore stream crossings and concluded that “with the exception of the possible exclusion of recreation in the immediate vicinity of construction, no impacts on waterbodies used as recreational resources is expected.” The Forest Service determined that this analysis is consistent with findings in the 2020 FSEIS. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

#### Transportation

The 2021 FERC Boring EA (p. 55) found that there would be increased construction-related traffic on local roads during construction. This is consistent with conclusions in the 2017 FERC FEIS and the 2020 FSEIS. The Forest Service determined that conventional bore stream crossing methods would not affect transportation on NFS roads as all access would be via private roads. Under the No Action Alternative, the pipeline would not cross streams and there would be no adverse effects.

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## **Appendix D – Federally Listed Species and Regional Forester Sensitive Species**

**Table D-1. Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS**

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Fish	Federal E	<i>Etheostoma osburni</i>	Candy darter	Suspected downstream of project/activity area. Within cumulative effects area					X	X
Fish	RFSS	<i>Notropis semperasper</i>	Roughhead shiner*	Suspected downstream of project/activity area. Within cumulative effects area						
Fish	RFSS	<i>Noturus gilberti</i>	Orangefin madtom*	Suspected downstream of project/activity area. Within cumulative effects area						
Fish	Federal E	<i>Percina rex</i>	Roanoke logperch	Suspected downstream of project/activity area. Outside cumulative effects area					X	X
Fish	RFSS	<i>Phenacobius teretulus</i>	Kanawha minnow	Suspected downstream of project/activity area. Within cumulative effects area	X	X	X			

\*Not included in SBE because there would be no effect on these species; they are suspected to occur outside of the HUC-10 watersheds that comprise the geographic scope of analysis for cumulative impacts.

**Table D-1 (continued). Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS**

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	Survey status	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Mussel	Federal T	<i>Elliptio lanceolata</i>	Yellow lance	Suspected downstream of project/activity area. Outside cumulative effects area	N/A					X	
Mussel	Federal E	<i>Epioblasma triquetra</i>	Snuffbox	N/A	N/A					X	X
Mussel	Federal T	<i>Fusconaia masoni</i>	Atlantic pigtoe	Suspected downstream of project/activity area. Outside cumulative effects area	N/A					X	
Mussel	RFSS	<i>Lasmigona subviridis</i>	Green floater	Suspected downstream of project/activity area. Within cumulative effects area	N/A	X	X	X			
Mussel	Federal E	<i>Pleurobema clava</i>	Clubshell	No records on the JNF	N/A					X	X
Mussel	Federal E	<i>Parvaspina collina</i>	James spiny mussel	Suspected downstream of project/activity area. Outside cumulative effects area	N/A					X	X

**Table D-1 (continued). Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS**

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	Survey status	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Dragonfly	RFSS	<i>Hylogomphus viridifrons</i>	Green-faced clubtail	New R, Craig Ck, Pound R, Locust Spring	N/A	X	X	X			
Dragonfly	-	<i>Ophiogomphus incurvatus alleghaniensis</i>	Allegheny snaketail	No longer on RFSS List	N/A						
Butterfly	RFSS	<i>Atrytone arogos</i>	Arogos skipper	Historic records, Blacksburg area.	Assume presence	X	X	X			
Butterfly	RFSS	<i>Calephelis borealis</i>	Northern metalmark	Montgomery County and historical records from Giles County	Assume presence	X	X	X			
Butterfly	RFSS	<i>Danaus plexippus</i>	Monarch	Suitable habitat occurs	Assume presence	X	X	X			
Butterfly	RFSS	<i>Erora laeta</i>	Early hairstreak	Historical records from Giles, Montgomery Cos.	Assume presence	X	X	X			
Butterfly	RFSS	<i>Erynnis martialis</i>	Mottled duskywing	Historical records from Montgomery County	Assume presence	X	X	X			



Table D-1 (continued). Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	Survey status	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Butterfly	-	<i>Speyeria diana</i>	Diana fritillary	No longer on RFSS List	N/A						
Butterfly	RFSS	<i>Speyeria idalia</i>	Regal fritillary	Habitat present	Assume presence	X	X				
Bee	Federal E	<i>Bombus affinis</i>	Rusty patched bumble bee	Habitat present outside of Action Area	N/A					X	X
Bee	RFSS	<i>Bombus pensylvanicus</i>	American bumble bee	No records in VA	Assume presence		X		X		
Beetle	-	<i>Hydraena maureenae</i>	Maureen's shale stream beetle	No longer on RFSS List	N/A						
Liverwort	RFSS	<i>Plagiochila virginica</i>	A liverwort	Not observed	Survey completed; no individuals found	X	X	X			
Liverwort	RFSS	<i>Radula tenax</i>	A liverwort	Not observed	Survey completed; no individuals found	X	X	X			

**Table D-1 (continued). Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS**

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	Survey status	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Mammal	Federal E	<i>Corynorhinus townsendii virginianus</i>	Virginia big-eared bat	No records on JNF	N/A					X	X
Mammal	Federal E	<i>Myotis grisescens</i>	Gray bat	No records on JNF	N/A					X	X
Mammal	RFSS	<i>Myotis leibii</i>	Eastern small-footed bat	Species in project area, outside of activity area	Assume presence	X	X	X			
Mammal	RFSS	<i>Myotis lucifugus</i>	Little brown bat	Habitat present	Assume presence		X		X		
Mammal	Federal E	<i>Myotis septentrionalis</i>	Northern long-eared bat	Habitat present, species not found previously	Not observed					X	X
Mammal	Federal E	<i>Myotis sodalis</i>	Indiana bat	Habitat present, species not found previously	Not observed					X	X
Mammal	Proposed Federal E	<i>Perimyotis subflavus</i>	Tricolored bat	Not captured on JNF	Not observed	X	X	X	X		

Table D-1 (continued). Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	Survey status	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Vascular Plant	Federal E	<i>Arabis serotina</i>	Shale barren rock cress	No records on JNF	N/A					X	X
Vascular Plant	RFSS	<i>Berberis canadensis</i>	American barberry	Species in project area, outside of activity area	N/A						
Vascular Plant	RFSS	<i>Clematis coactilis</i>	Virginia white-haired leatherflower	Survey completed, no individuals found	Not observed	X	X	X			
Vascular Plant	RFSS	<i>Delphinium exaltatum</i>	Tall larkspur	Survey completed, no individuals found	Not observed	X	X	X			
Vascular Plant	Federal E	<i>Echinacea laevigata</i>	Smooth coneflower	Lack of suitable habitat	Not observed					X	X
Vascular Plant	Federal T	<i>Isotria medeoloides</i>	Small whorled pogonia	Lack of suitable habitat	N/A					X	X
Vascular Plant	RFSS	<i>Monotropsis odorata</i>	Sweet pinesap	Habitat present	Assume presence	X	X	X			

**Table D-1 (continued). Endangered Species List Species and Regional Forester Sensitive Species Addressed in this FSEIS**

Group	Listing (2022)	Species Name	Common Name	Screening / Survey Result	Survey status	2018 RFSS	2022 RFSS	2020 SBE	2022 SBE	2020 SBA	2022 SBA
Vascular Plant	RFSS	<i>Panax quinquefolius</i>	American ginseng	Species found outside of impact area	Individuals found outside of impact area		X		X		
Vascular Plant	RFSS	<i>Scutellaria saxatilis</i>	Rock skullcap	Species located in activity area	N/A	X	X	X			
Vascular Plant	Federal T	<i>Spiraea virginiana</i>	Virginia spiraea	Lack of suitable habitat	N/A					X	X
Vascular Plant	RFSS	<i>Talinum teretifolium</i>	Quill fameflower (Roundleaf fameflower)	Survey completed, no individuals found	Not observed	X	X	X			
Vascular Plant	delisted	<i>Trifolium stoloniferum</i>	Running buffalo clover	No records on JNF	N/A					X	

RFSS = Regional Forester Sensitive Species, Federal E = ESA-endangered, Federal T = ESA-threatened, SBA = Supplement to the Biological Assessment, SBE = Supplement to the Biological Evaluation.

## **Appendix E – Statistical Analysis of USGS In-Stream Water Quality Data**

**Overview**

This report summarizes the investigation of US Geological Survey (USGS) in-stream turbidity data at six MVP river crossings in Virginia to determine if there were significant differences in the upstream-downstream peak turbidity levels between the pre- and post-construction periods. This investigation is one part of a larger analysis of modeling and real-world data (see Section 3.3.2) that responds to the Fourth Circuit’s remand.

**Analysis Methods**

*Data Preprocessing*

The six stream crossings are described in Table 1. USGS continuous turbidity data at each site were aggregated into individual events that exceeded 50 Formazin Nephelometric Units (FNU; measure of turbidity using the scattered light method), and the peak turbidity for each event was calculated. Events with missing data at either the upstream or downstream station were discarded (less than 30% of events for each river). Two examples of individual events are shown in Figure E-1. The total number of events used in the analysis is provided in Table E-1.

**Table E-1: USGS stations used in this analysis.**

<b>River</b>	<b>USGS Station Upstream</b>	<b>USGS Station Downstream</b>	<b>Construction Start</b>
Little Stony Creek	LITTLE STONY CREEK AB ARCHER TRAIL NR PEMBROKE 03171597	LITTLE STONY CREEK BL ARCHER TRAIL NR PEMBROKE 0317159760	September 2021
Roanoke River	ROANOKE RIVER ALONG ROUTE 626 AT LAFAYETTE 0205450393	ROANOKE RIVER ABOVE ROUTE 11 AT LAFAYETTE 0205450495	July 2019
Sinking Creek	SINKING CREEK ALONG ROUTE 604 NEAR NEWPORT 0317154954	SINKING CREEK AT COVERED BRIDGE LN NR NEWPORT 0317155123	June 2021
Blackwater River	BLACKWATER RIVER ABOVE MAPLE BRANCH NR REDWOOD, VA 0205696042	BLACKWATER RIVER BELOW MAPLE BRANCH NR REDWOOD, VA 0205696095	October 2018
Bottom Creek 1	BOTTOM CREEK ABOVE TRIBUTARY NR BENT MOUNTAIN, VA 0205373035	BOTTOM CREEK ALONG ROUTE 612 NR BENT MOUNTAIN, VA 0205373075	September 2021
Bottom Creek 2	BOTTOM CREEK ABOVE CONFLUENCE NR BENT MOUNTAIN, VA 0205373228	BOTTOM CREEK BL POOR MTN RD NEAR BENT MOUNTAIN, VA 0205373422	August 2021

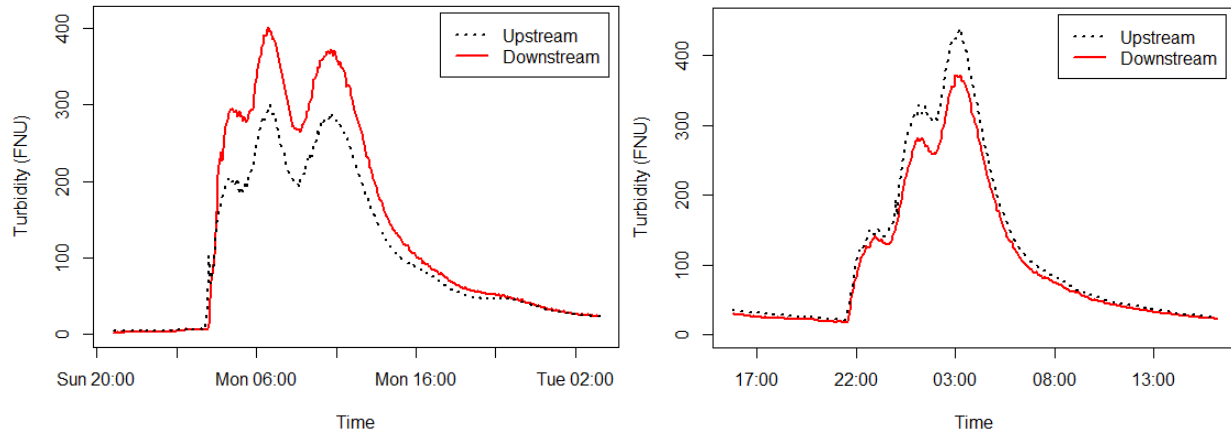


Figure E-1: Examples of aggregated events where turbidity exceeded 50 FNU.

Table E-2: Number of events with turbidity greater than 50 FNU.

River	Number of Events Pre-Construction	Number of Events Post-Construction
Little Stony Creek	43	11
Roanoke River	32	61
Sinking Creek	55	13
Blackwater River	16	97
Bottom Creek 1	17	7
Bottom Creek 2	86	27

### Statistical Analysis

A regression approach for detecting significant differences in an upstream - downstream relationship after a change in land management was used for this analysis (Grabow et al. 1998). In this regression approach (i.e., Analysis of Covariance - ANCOVA), the upstream station concentration was set as the independent variable, the downstream station was set as the dependent variable, and the period (pre-construction, post-construction) was set as an indicator variable as shown below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2$$

In this formula, Y is the downstream concentration, X<sub>1</sub> is the upstream concentration, X<sub>2</sub> is the indicator variable for the period (pre- and post-construction), β<sub>0</sub> is the y-intercept of the pre-construction regression line, β<sub>1</sub> is the slope of the pre-construction regression line, β<sub>2</sub> is the difference in the y-intercepts between the pre- and post-construction periods, and β<sub>3</sub> is the difference in slopes between the pre- and post-construction periods.

If β<sub>2</sub> or β<sub>3</sub> are significant in the regression, then there is a significant statistical difference in the upstream-downstream relationship between the pre- and post-construction periods. If β<sub>2</sub> or β<sub>3</sub> are not significant in the regression, then there is not a significant difference between the periods. To meet the normality assumptions of linear regression, the data were log<sub>10</sub> transformed prior to analysis.

A minimum sample size of 30 is a commonly accepted professional standard for statistical analyses. The number of pre- and/or post-construction events for Little Stony Creek, Sinking Creek, Blackwater River, and Bottom Creek 1 were too few to conduct a statistical comparison. Bottom Creek 2 has 27 post-construction events, so an analysis was performed, but caution should be used when interpreting the Bottom Creek 2 results.

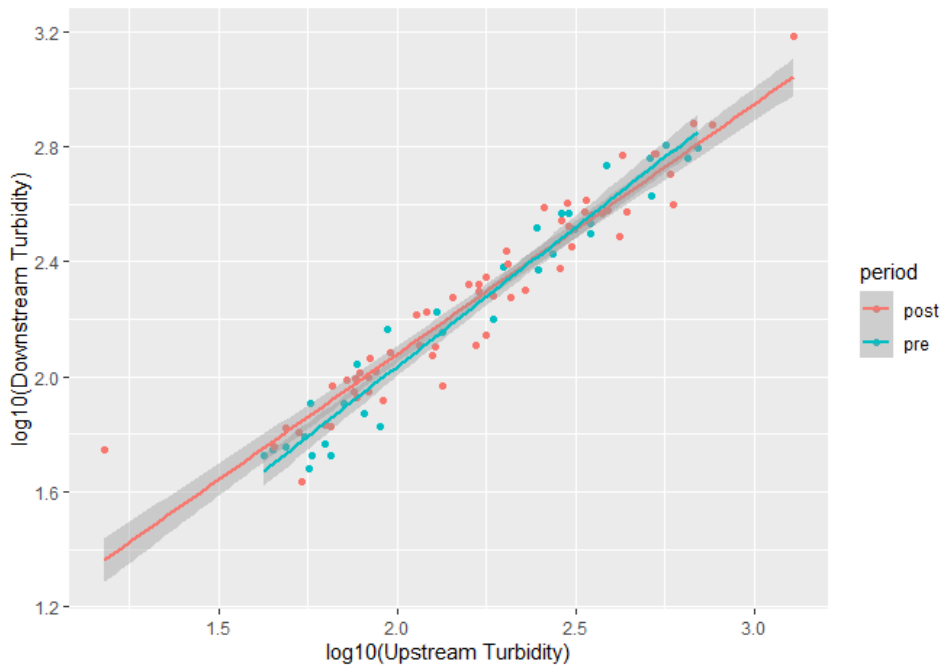
**Results**

Results are presented in Table E-3 and Figures E-2 and E-3. The Appendix includes regression output and diagnostic plots.

The comparison of peak event upstream-downstream turbidity for the pre- and post-construction periods indicated no significant differences at the 95% confidence level ( $\alpha = 0.05$ ) at the Roanoke River, meaning that in-stream turbidity measured during storm events did not increase following the beginning of construction at this site. Results for Bottom Creek 2 indicated a statistically significant ( $\alpha = 0.05$  level) decrease in downstream turbidity post-construction.

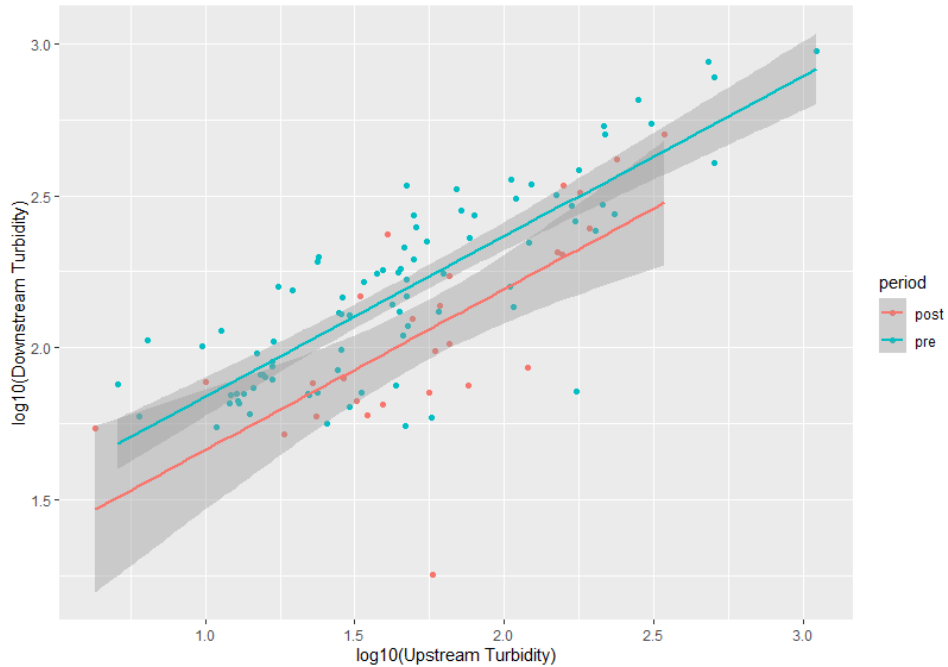
**Table E-3: Regression Results**

River	P-value for Regression	Interpretation
Roanoke River	P = 0.07	No significant difference at a 95% confidence level
Bottom Creek 2	P < 0.01	Significant difference at 99% confidence level (decreasing turbidity downstream)



**Figure E-2: Regression results for the Roanoke River.**





**Figure E-3:** Regression results for the Bottom Creek 2.

## Conclusions

The comparison of peak event upstream-downstream turbidity for the pre- and post-construction periods indicated no significant differences at the 95% confidence level ( $\alpha = 0.05$ ) at the Roanoke River, meaning that in-stream turbidity measured during storm events did not increase following the beginning of construction at these sites. Results for Bottom Creek 2 indicated a statistically significant ( $\alpha = 0.05$  level) decrease in downstream turbidity post-construction. At the other sites, there were too few events to conduct a statistical comparison.

There is inherent variability associated with turbidity data and some events were discarded at each station due to missing data. In addition, it is unclear if the construction activities occurred close enough to the stream to adequately assess the impacts of construction on in-stream water quality (e.g., construction was halted several hundred feet from Bottom Creek 2). Therefore, the results of no statistical increase in downstream turbidity levels should be interpreted carefully and do not suggest that construction activities will have no impact on in-stream turbidity levels.

This analysis evaluated if there were statistical differences in the upstream-downstream peak event turbidity between the pre- and post-construction periods. This analysis did not evaluate differences in the total sediment loads between the upstream and downstream stations or the difference in the duration of time that any turbidity thresholds were exceeded.

**Analysis conducted in R**

*Roanoke River Regression Results*

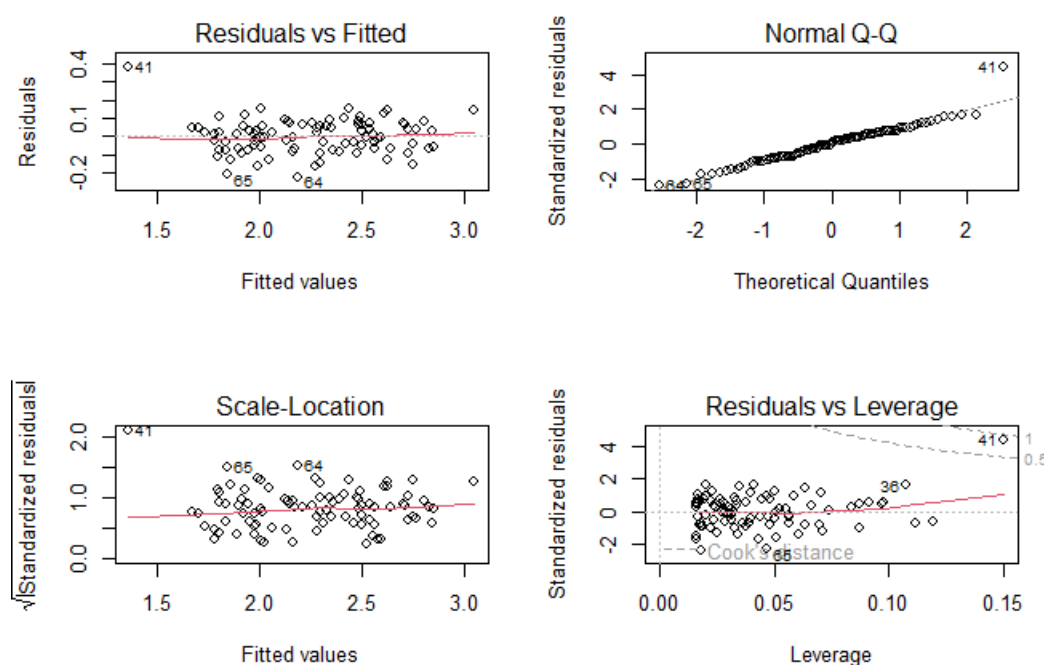
Full Regression Summary:

```
Call:
lm(formula = log10(dn) ~ log10(up) * Period, data = all)

Residuals:
    Min       1Q   Median       3Q      Max
-0.22052 -0.06568  0.00863  0.05715  0.38570

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)   0.09783   0.09537   1.026  0.3078
log10(up)     0.96876   0.04284  22.612 <2e-16 ***
Period        0.23924   0.12056   1.984  0.0503 .
log10(up):Period -0.09900  0.05379  -1.840  0.0690 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.09402 on 89 degrees of freedom
Multiple R-squared:  0.9328,    Adjusted R-squared:  0.9305
F-statistic: 411.7 on 3 and 89 DF,  p-value: < 2.2e-16
```



**Figure 1:** Regression diagnostic plots for the Roanoke River.

*Bottom Creek 2 Regression Results*

## Full Regression Summary:

```

Call:
lm(formula = log10(dn) ~ log10(up) * Period, data = all)

Residuals:
    Min       1Q   Median       3Q      Max
-0.81348 -0.08802  0.01327  0.13930  0.38768

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)   1.312066   0.074532  17.604 <2e-16 ***
log10(up)     0.527266   0.043345  12.164 <2e-16 ***
Period        -0.177490   0.175327  -1.012  0.314
log10(up):Period 0.002017   0.098230   0.021  0.984
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.195 on 109 degrees of freedom
Multiple R-squared:  0.6379,    Adjusted R-squared:  0.6279
F-statistic:    64 on 3 and 109 DF,  p-value: < 2.2e-16

```

## Regression summary with interaction term removed:

```

Call:
lm(formula = log10(dn) ~ log10(up) + Period, data = all)

Residuals:
    Min       1Q   Median       3Q      Max
-0.81347 -0.08881  0.01334  0.13941  0.38745

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)   1.31142    0.06722  19.510 < 2e-16 ***
log10(up)     0.52766    0.03872  13.628 < 2e-16 ***
Period        -0.17400    0.04299  -4.048 9.65e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.1941 on 110 degrees of freedom
Multiple R-squared:  0.6379,    Adjusted R-squared:  0.6313
F-statistic: 96.88 on 2 and 110 DF,  p-value: < 2.2e-16

```

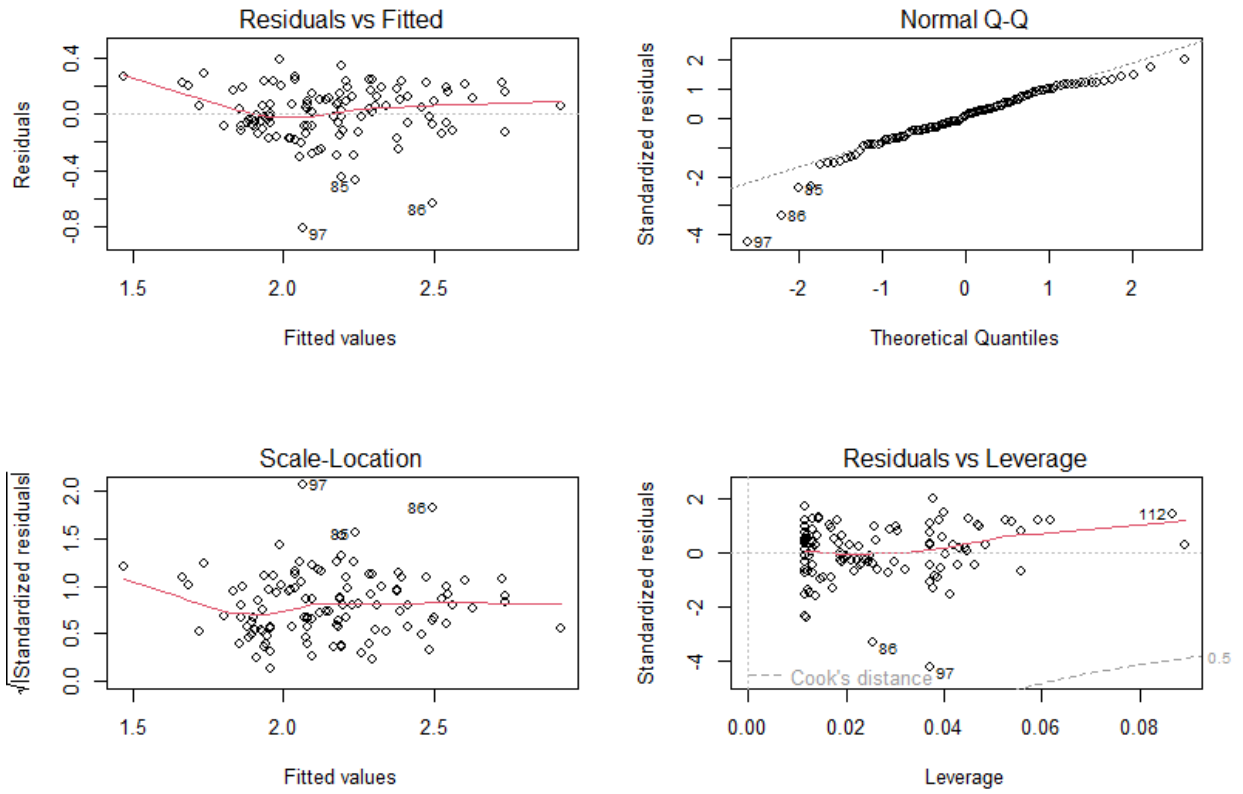


Figure 2: Regression diagnostic plots for Bottom Creek 2.

## **Appendix F – Agency Response to Comments**

Between December 23, 2022 and February 21, 2023, the Forest Service received approximately 2,165 comment letters, 9,100 form letters, and 53,781 signatures submitted via petitions regarding the DSEIS. Below, public comments are summarized by concern statements and grouped by topic of concern. The Forest Service and BLM responses appear after each concern statement.

## **Purpose and Need**

### **Concern Statement PN-01:**

Commenters contend that the proposed Forest Plan amendment is inconsistent with federal regulations: projects wishing to impact a National Forest are not supposed to shape the Forest Plan for their own good. Rather, the point of the Forest Plan is to shape projects impacting the Forest for the good of the Forest.

### **Response PN-01:**

Forest Plans ensure NFS lands provide for the purposes for which they were set aside as defined by the Organic Act of 1897 and Multiple Use Sustained Yield Act. Consistent with the 2012 Planning Rule, a land management plan may be amended at any time. The Planning Rule also provides the responsible official the discretion to determine whether and how to amend the plan and determine the scope and scale of any amendment (36 CFR § 219.13(a)). A plan amendment can add, modify, or remove one or more plan components.

### **Concern Statement PN-02:**

Commenters contend that the purpose and need are too narrow; the Forest Service should not limit its analysis to issues identified by the Court. The 2022 DSEIS purpose and need statement ignores such relevant factors as the Forest Service's duty to manage the JNF consistent with the Forest Plan and the 2012 Planning Rule. The Forest Service must redefine the Project's purpose and need to include its legal obligations under NEPA, NFMA, and the 2012 Planning Rule. As written, the 2022 DSEIS's narrow purpose and need statement fails to comply with NEPA.

### **Response PN-02:**

The purpose and need statement is consistent with 40 CFR § 1502.13. The purpose and need under NEPA is distinct from other laws that govern the management of projects, including amendments to and the processes by which they are approved. The scope of this analysis is not limited to the issues identified by the Court: Section 1.8 of the FSEIS discloses that the scope of analysis for this FSEIS seeks to address the deficiencies identified in the Fourth Circuit's January 2022 decision, as well as new circumstances and relevant information (40 CFR § 1502.9(d)(ii)) since December 2020.

Consistent with the 2012 Planning Rule, a land management plan may be amended at any time. The Planning Rule also provides the responsible official the discretion to determine whether and how to amend the plan and determine the scope and scale of any amendment (36 CFR § 219.13(a)).

### **Concern Statement PN-03:**

Commenters contend that the need for the MVP is speculative and unproven, given existing supply alternatives and market shifts towards non-fossil alternatives. It is inaccurate for the agency to equate the damage done to treasured national forest land with "economic benefit." The changes inappropriately allow a utility corridor and do not account for the pipeline's lack of need.

**Response PN-03:**

The FERC has sole authority to make determinations related to public necessity consistent with the Natural Gas Act (15 U.S.C. § 717f). Under the October 13, 2017, Order Issuing Certificates and Granting Abandonment Authority, the Commission granted the requested certificate authorizations, subject to conditions. In its Order, the FERC documented its rationale for determining public convenience and necessity (FERC 2017d).

Section 1.3 “Purpose and Need for Action” on the Forest Service FSEIS states, “The overall purpose of the MVP project is described in the 2017 FERC FEIS and is generally to transport natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States. Specific description of the purpose of the MVP project is found in the 2017 FERC FEIS, pages 1 to 8. Despite the remand of the 2017 and 2021 Forest Service RODs and the BLM’s corresponding MLA ROW decisions, the Project purpose articulated in the 2017 FERC FEIS remains unchanged.”

On March 28, 2022, Mountain Valley Pipeline, LLC (Mountain Valley) filed an amended MLA ROW application with the BLM, amending its prior application accepted as complete on May 1, 2020. The Forest Service and BLM authorities are triggered, in part, by their statutory obligations as a cooperating agency in processing applications for natural gas pipelines involving Federal land under provisions Section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. § 185) and provisions in the Natural Gas Act (15 U.S.C. §§ 717f, 717n). The Forest Service’s scope of authority is limited by statute; FERC has authority to authorize natural gas pipelines and make determinations of public convenience and necessity. In enacting and amending the Natural Gas Act, Congress clearly articulated that the transportation and sales of natural gas in interstate commerce for ultimate distribution to the public is in the public interest. Further, Congress did not exclude MLA ROWs across NFS lands (U.S.C. § 185(b)).

In sum, because the proposed pipeline was determined by the FERC to be a public necessity and crosses NFS lands, there continues to be a need for the Forest Service to respond to a proposal from Mountain Valley to construct and operate a buried 42-inch interstate natural gas pipeline that would cross NFS lands on the JNF along a proposed 3.5-mile corridor.

**Concern Statement PN-04:**

Commenters allege that “rewriting the rules” for one fossil fuel project will set a disturbing precedent for national forests across the country.

**Response PN-04:**

The Mineral Leasing Act of 1920 (30 U.S.C. § 181) (MLA) ) authorizes the Secretary of the Interior or appropriate agency head to issue pipeline ROWs across federal lands, including NFS lands, consistent with 30 U.S.C. § 185. In addition, granting of a natural gas pipeline ROW is consistent with the energy infrastructure and economic development priorities of the USDA.

As mentioned previously, Forest Service authorities are triggered, in part, by statutory obligations as a cooperating agency in processing applications for natural gas pipelines involving Federal land under Section 28 of the MLA and Section 313 of the Energy Policy Act of 2005. In enacting the Natural Gas Act, Congress clearly articulated that the transportation and sales of natural gas in interstate commerce for ultimate distribution to the public is in the public interest.

Furthermore, the authority to amend Forest Plans is granted at 81 FR 90726, and the process for amending is communicated at 36 CFR § 219 (NFMA implementing regulations, 2012 Planning Rule, or Planning Rule).

### **Concern Statement PN-05:**

Commenters contend that most of what the pipeline would accomplish could be accomplished by railroad. If additional rail capacity needs to be built, that capacity would be available for transportation of other goods, whereas the pipeline could only be used for natural gas.

### **Response PN-05:**

The FERC is the lead federal agency in the evaluation of alternative methods of transporting natural gas for the entire MVP pipeline, including by truck and railroad. Section 3.2.3 of the 2017 FERC FEIS concluded any new railway extension, if feasible, would require years to design, permit, and build and would come with its own set of environmental impacts. Therefore, they found that the railroad delivery alternative would not provide a significant environmental advantage (FERC 2017a). This finding has not changed since the FERC FEIS was issued.

## **Alternatives**

### **Concern Statement ALT-01:**

Commenters expressed concern that the 2022 DSEIS evaluated only two alternatives.

### **Response ALT-01:**

The analysis in this FSEIS serves to supplement the previous analyses in the 2017 FERC FEIS and the 2020 FSEIS consistent with the requirements of NEPA (40 CFR § 1502.9(d)). An evaluation of alternatives was sufficiently addressed in the 2017 FERC FEIS and the 2020 FSEIS in compliance with NEPA (36 CFR § 220.5(e)). The Court's January 2022 opinion states, "the record reveals that the BLM and the Forest Service complied with their obligations to assess alternative routes", and the range of alternatives remains valid for the 2023 FSEIS. As noted in Section 1.8 of the 2022 DSEIS, the range of alternatives was focused on the issues identified by the Fourth Circuit as well as the need to consider new information and changed circumstances.

### **Concern Statement ALT-02:**

Commenters were concerned that off-NFS routes were not adequately analyzed. Off-NFS alternative routes for MVP were never adequately considered in the 2017 FERC FEIS or the 2022 DSEIS for the purposes of NEPA or NFMA.

### **Response ALT-02:**

An alternative that would locate the pipeline completely off NFS lands, which was not within the 2017 FERC FEIS, was included in the 2020 FSEIS (i.e., the Forest Service avoidance alternative). Table 3 of the 2020 FSEIS displays that an evaluation of how different routes and alternatives would change pipeline miles resulting in additional impacts to NFS lands. In addition, in response to public comments on the 2020 FSEIS the Forest Service reviewed three additional route options that would avoid NFS lands (2020 FSEIS Appendix C).

The Court concurred with the conclusion of the BLM's practicality analysis and did not identify concerns with the Forest Service analysis of off-NFS lands routes in the 2020 FSEIS. This FSEIS supplements the 2020 FSEIS and the scope of analysis seeks to address the deficiencies identified in



the Fourth Circuit’s January 2022 decision, as well as new circumstances and relevant information (40 CFR § 1502.9(d)(1)(ii)) since December 2020. Off-NFS lands alternatives were evaluated in the 2020 FSEIS and are not repeated in the 2022 DSEIS or this 2023 FSEIS.

### **Concern Statement ALT-03:**

Commenters assert that the Forest Service must analyze a route alternative that would avoid crossing the ANST.

### **Response ALT-03:**

An evaluation of alternatives was addressed in the 2020 FSEIS, in compliance with NEPA (36 CFR § 220.5(e) and 40 CFR § 1502.14). The Court’s January 2022 opinion states, “the record reveals that the BLM and the Forest Service complied with their obligations to assess alternative routes”, and the range of alternatives remains valid for the 2023 FSEIS. As noted in Section 1.8 of the 2022 DSEIS, the range of alternatives was focused on the issues identified by the Fourth Circuit as well as the need to consider new information and changed circumstances. In Appendix A of the 2020 FSEIS, alternative route “SR-635 ANST Variation” considered effects on ANST users. This alternative would cross the ANST at the same location as an existing road, but it was dismissed because the route variation required crossing additional wetlands, waterbodies, and an additional 2.9 miles of Federal land. In addition, Section 3.5 of the 2017 FERC FEIS disclosed analysis of other alternatives that would minimize impacts on the ANST. It is outside of the agency’s authority to reroute the pipeline up to Maine and around the trail or down to Georgia and around the ANST.

## **National Forest Management Act and Forest Plan Amendment**

### **Concern Statement NFMA-01:**

Commenters contend that the MVP project is inconsistent with the following Forest Plan standards: FW-3, FW-12, FW-17, FW-32, FW-33, FW-46, FW-48, FW-49, FW-50, FW-51, FW-52, FW-55, FW-56, FW-63, FW-75, FW-76, FW-186, FW-214, 4A-001, 4A-002, 4A-003, 4A-004, 8A1-001, 4J-005.

### **Response NFMA-01:**

The Forest Service performed a consistency analysis to confirm project compliance with Forest Plan standards and determined that the Project as proposed would be inconsistent with 11 Forest Plan standards. Each Forest Plan standard identified as “inconsistent” by the commenters is stated below along with the rationale for why the Project is indeed consistent with each standard and therefore needs no modification.

**FW-3:** Prior to authorizing or re-authorizing new or existing diversions of water from streams or lakes, determine the instream flow or lake level needs sufficient to protect stream processes, aquatic and riparian habitats and communities, and recreation and aesthetic values.

**Response:** FW-3 is not applicable because no permanent or temporary water diversions are proposed.

**FW-12:** Motorized vehicles are restricted in the channeled ephemeral zone to designated crossings. Motorized vehicles may only be allowed on a case-by-case basis, after site specific analysis, in the channeled ephemeral zone outside of designated crossings.

**Response:** The Project is consistent with FW-12. Temporary, designated crossings for the four streams located on NFS lands are in place (see photographs of each crossing in Appendix C). No equipment enters the resource when traveling the right-of-way on NFS lands. See 2022 POD Section 7.3.

**FW-17:** The removal of large woody debris is allowed if it poses a risk to water quality, degrades habitat for aquatic or riparian wildlife species, impedes water recreation (e.g., rafting), or when it poses a threat to private property or Forest Service infrastructure (e.g., bridges). The need for removal is determined on a case-by-case basis.

**Response:** The Project is consistent with FW-17. Currently there is no large woody debris where the construction zone or ROW intersect with channeled ephemeral zones. However, if large woody debris is found in the future where the ROW intersects with the channeled ephemeral zone, it would be assessed to determine the need for removal on a case-by-case basis for protection of infrastructure, which is considered to be private property allowed on public land through the permit.

**FW-32:** Retain soft mast producing species (dogwood, black gum, hawthorn, grapes, serviceberry, etc.) during vegetation management treatments when consistent with the overall regeneration and species composition objectives.

**Response:** FW-32 is not applicable because the purpose of tree removal for the MVP project is not vegetation management but to create and maintain a utility ROW.

**FW-33:** Potential black bear den trees will be retained during all vegetation management treatments. Potential den trees are those that are greater than 20" diameter breast height. Potential den trees also include those that are hollow with broken tops or those with limbs greater than 12 inches diameter broken near the bole of the tree.

**Response:** FW-33 is not applicable because the purpose of tree removal for the MVP project is not vegetation management but to create and maintain a utility ROW.

**FW-46:** In order to promote potential summer roost trees and maternity sites for the Indiana bat throughout the Forest, planned silvicultural practices in hardwood-dominated forest types will leave all shagbark hickory trees greater than 6 inches d.b.h. and larger, except when they pose a safety hazard. In addition:

- Clearcut openings 10 to 25 acres in size will also retain a minimum average of six snags or cavity trees per acre, 9 inches d.b.h. or larger, scattered or clumped.
- Group selection openings and clearcuts less than 10 acres in size have no provision for retention of a minimum number of snags, cavity trees, or residual basal area due the small opening size and safety concerns. All other harvesting methods (and clearcut openings 26-40 acres in size) will retain a minimum residual 15 square feet of basal area per acre (including six snags or cavity trees) scattered or clumped. Residual trees are greater than 6 inches d.b.h. with priority given to the largest available trees, which exhibit characteristics favored as roost trees by Indiana bats.

**Response:** FW-46 is not applicable because the purpose of tree removal for the MVP project is to create and maintain a utility ROW.

**FW-48:** When active [Indiana bat] roost trees are identified on the Forest, they will be protected with a quarter-mile buffer surrounding them. This protective buffer remains until such time the trees and associated area no longer serve as a roost (e.g., loss of exfoliating bark or cavities, blown down, or decay).

**Response:** The MVP project is consistent with FW-48 because no active roost trees have been identified on the JNF within a quarter mile of the ROW.

**FW-49:** No disturbance that will result in the potential taking of an Indiana bat will occur within this active roost tree buffer.

- Commercial timber harvesting, road construction, and use of the insecticide diflubenzuron are prohibited.
- Prescribed burning, timber cutting, road maintenance, and integrated pest management using biological or species-specific controls during non-roosting season are allowed, following project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.
- Other activities within this buffer are allowed following determination that they will not result in a potential taking of an Indiana bat.

**Response:** The MVP project is consistent with FW-49 because no active roost trees have been identified on the JNF within a quarter mile of the ROW.

**FW-50:** Removal of known Indiana bat active roost trees will be avoided, except as specified in the next 2 standards.

**Response:** The MVP project is consistent with FW-50 because no active roost trees have been identified on the JNF within a quarter mile of the ROW.

**FW-51:** If during project implementation, active roost trees are identified, all project activity will cease within a ¼ mile buffer around the roost tree until consultation with U.S. Fish and Wildlife Service is completed to determine whether project activities can resume.

**Response:** The MVP project is consistent with FW-51. Based on coordination with VDWR, no new capture or roost records have been reported with the Action Area (MVP 2022b). However, the 2023 Supplemental Biological Opinion includes a non-negotiable term and condition for Indiana bats, which requires, prior to on-site work, that all prospective employees, operators, and contractors be informed about the presence and biology of the Indiana bat, special provisions necessary to protect the bat, activities which may affect the bat, and ways to avoid and minimize these effects. This provision in conjunction with continuous monitoring of the pipeline would ensure, if an active roost tree is identified during implementation, a stop-work order can be issued.

**FW-52:** In the event that it becomes absolutely necessary to remove a known Indiana bat active roost tree, such a removal will be conducted during the time period when the bats are likely to be in hibernation (November 15 through March 31), through informal consultation with the U.S. Fish and Wildlife Service. Trees identified as immediate threats to public safety may be removed when bats are not hibernating; however, informal consultation with U.S. Fish and Wildlife Service is still required. Examples of immediate threats to public safety include trees leaning over a trail, public road, or powerline that could fall at any time due to decay or damage.

**Response:** The MVP project is consistent with FW-52 because no known Indiana bat active roost trees have been removed. On page 20 of the 2023 FWS BO, the FWS confirmed that the areas where trees were cleared for the Project continue to be unsuitable for bat species and will be for years to come.

**FW-55:** If active [Indiana bat] maternity roost sites are identified on the Forest, they will be protected with a 2-mile buffer defined by the maternity roost, alternate roost sites, and adjacent foraging areas.

**Response:** The MVP project is consistent with FW-55 because no active maternity roost sites have been identified on the JNF within two miles of the ROW.

**FW-56:** No disturbance that will result in the potential taking of an Indiana bat will occur within this active maternity roost site buffer.

- Commercial timber harvesting, road construction, and use of all pesticides is prohibited.
- All other activities within this buffer will be evaluated during Project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats, through informal consultation with the U.S. Fish and Wildlife Service.

**Response:** The MVP project is consistent with FW-56 because no active maternity roost sites have been identified on the JNF within two miles of the ROW.

**FW-63:** A minimum of 200 foot buffers are maintained around cave entrances, sinkholes, and cave collapse areas known to open into a cave's drainage system. There are no soil-disturbing activities or harvest of trees within this buffer. Wider buffers are identified through site-specific analysis when necessary to protect caves from potential subterranean and surface impacts. Perennial, intermittent, channeled ephemeral stream standards will apply beyond the first 200 feet.

**Response:** The project is consistent with FW-63 because no cave entrances, sinkholes or cave collapse areas known to open into a cave's drainage system are known to occur within 200 feet of the ROW.

**FW-75:** In order to maintain future restoration opportunities, do not cut live Carolina hemlock. Exceptions may be made to provide for public safety, protection of private resources, insect and disease control, or research.

**Response:** FW-75 is not applicable because there is no known presence of Carolina hemlock within the ROW. If Carolina hemlock is found, a determination will be made whether removal is necessary and additional NEPA analysis would occur as appropriate.

**FW-76:** During silvicultural treatments, retain all live butternut with more than 50% live branches. Record the approximate location of these trees and notify the Forest Silviculturist.

**Response:** FW-76 is not applicable because this is not a silvicultural treatment. In addition, no butternut is known to occur within the ROW. If butternut is found, a determination will be made whether removal is necessary and additional NEPA analysis would occur as appropriate.

**FW-186:** Shape and orient vegetative management openings in the forest canopy to contours and existing vegetation patterns to blend with existing landscape characteristics. Shape and feather edges

in High and Moderate SIO areas. Some edges may not need feathering to meet the SIO. Do not use geometric shapes.

**Response:** FW-186 is not applicable because the purpose of tree removal for the MVP project is to create and maintain a utility ROW.

**FW-214:** Locate and design facilities and management activities to avoid, minimize, or mitigate negative effects on geologic resources with identified values (scientific, paleontological, ecological, recreational, drinking water, etc.).

**Response:** The Project is consistent with this standard. There are no known geologic resources with identified values within the ROW. No karst features were identified within the ROW during Mountain Valley's Karst Hazard Assessment (POD Appendix L). The 2020 VADEQ statement on karst was reviewed as well as the 2020 Mountain Valley Watch cave report cited by commenter. The 2017 FERC FEIS (Section 4.1.1.7, pp. 4-45 to 4-46) described geologic conditions on the JNF, including geologic setting, bedrock geology, surface geology, mineral resources, geological hazards, and paleontological resources. The 2021 FERC Boring EA (pp. 22 to 26) analyzed effects of conventional boring on geological resources and concluded that effects would be minimized by using appropriate conventional bore tooling and technology.

**4A-001:** Maintain the existing early-successional forest habitat within this prescription area when compatible with Appalachian Trail values. Take advantage of natural disturbance events and continued maintenance of existing openings to meet the needs for early successional habitats.

**Response:** 4A-001 is not applicable because the purpose of the Project is not about maintaining early-successional forest habitat.

**4A-002:** To enhance the Appalachian Trail environment, wildlife and fish habitat improvements are allowed. Existing wildlife openings, pastoral areas, or old fields may be maintained. Expansion of existing openings and/or creation of new openings may occur when compatible with Appalachian Trail values. Maintenance methods may include cultivation, grazing herbicides, mowing, and burning. Use of native species will be emphasized.

**Response:** 4A-002 is not applicable because the Project is not a wildlife and fish habitat improvement project.

**4A-003:** Within the Peaks of Otter salamander habitat conservation area, activities in the Appalachian Trail corridor must comply with the Habitat Conservation Agreement for Peaks of Otter salamander. See Management Prescription 8E2 for Peaks of Otter salamander habitat conservation area management direction.

**Response:** 4A-003 is not applicable because the Project does not overlap the Peaks of Otter salamander habitat conservation area (Management Prescription 8E2).

**4A-004:** Vegetation is managed only to enhance the Trail environment. Allow timber harvest, prescribed burning, wildland fire use, hand tools, power tools, mowing, herbicides, biological controls, and grazing to manage vegetation as appropriate. Vegetation management activities are limited to: Maintain open areas, old field habitats, and vistas that enhance the scenic qualities of the Appalachian Trail; Control insects and diseases; Maintain or improve threatened, endangered, sensitive, and locally rare species habitat; Maintain rare communities, species dependent on disturbance, and wildlife viewing opportunities; Meet

trail construction and maintenance needs, including shelters; Manage fuels; Restore, enhance, or mimic historic fire regimes; Control non-native invasive vegetation; Provide for public safety or resource protection.

**Response:** 4A-004 is not applicable because the purpose of tree removal for the MVP project is to create and maintain a utility ROW.

**8A1-001:** Limit creation of early-successional forest habitat to 10% of forested acres (based on the contiguous prescription area).

**Response:** Per the Forest Plan Objective 8A1-OBJ3 (p. 3-114), early successional forest habitat is considered to be stand ages of less than 10 years.

The Forest Service again reviewed JNF data to confirm Project compliance with this standard. The temporary ROW on NFS lands overlaps 29.9 acres located within Management Area 8A1 and the authorized ROW overlaps 13.6 acres of 8A1. The MVP ROW crosses two contiguous prescription areas covering 3,469 acres (on Peters Mountain) and 798 acres (on Sinking Creek Mountain).

To determine how many acres of these polygons are currently in an early-successional habitat stage, the Forest Service queried FSVeg, which is the best available data for Forest-wide stand data. Specifically, any stands 40 years or younger were considered to be early successional forest habitat, which is consistent with the JNF Forest Plan (p. 2-10).

On Sinking Creek Mountain, no areas are currently in an early successional forest habitat stage. With implementation of the MVP ROW, approximately 4% of this contiguous polygon would be in an early successional forest habitat stage.

On Peters Mountain, a total of 125 acres within this polygon are currently in an early successional forest habitat stage. With implementation of the MVP ROW, approximately 4% of this contiguous polygon would be in an early successional forest habitat stage.

**4J-005:** Assure salvage is rapid, complete, and emphasizes marketing timber before its value decreases.

**Response:** Tree removal for the MVP project was in compliance with Management Prescription 4J.

## **Concern Statement NFMA-02:**

Commenters contend the DSEIS fails to properly identify the directly related substantive requirements under the “purpose” prong of 36 C.F.R. § 219.13(b)(5). Commenters contend the Forest Service ignores substantive requirements that are directly related to the amendment’s purpose and/or substantial effects for the following substantive requirements:

- § 219.8(a)(1) and § 219.9(a)(2). The DSEIS acknowledges these substantive requirements are directly related by purpose only to the proposed amendments to 6C-007 and 6C-026. However, the purpose of the amendments to FW-5 (revegetation), FW-8 (soil compaction in water saturated areas), FW-9 (soil effects from heavy equipment use), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), and 11-003 (exposed soil within the riparian corridor) is to lessen protections for soil, water, and riparian integrity,

connectivity, and diversity. Therefore, those amendments are directly related to these substantive requirements as well.

- § 219.8(a)(1)(iv): This substantive standard requires plan components to “maintain or restore” ecological integrity “and connectivity,” taking into account “[s]ystem drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.”
- § 219.8(a)(3) requires that amended Forest Plan must include components “to maintain or restore the ecological integrity of riparian areas in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity” and instructs the Forest Service to account for a variety of factors taking into account factors like “[w]ater temperature and chemical composition,” “[b]lockages (uncharacteristic and characteristic) of water courses,” “[d]eposits of sediment,” “[a]quatic and terrestrial habitats,” “[e]cological connectivity,” “[r]estoration needs, and “[f]loodplain values and risk of flood loss.” Section 219.8(a)(3) also requires plans to establish “width(s) for riparian management zones around all lakes, ephemeral and intermittent streams, and open water wetlands, within which the plan components required by paragraph (a)(3)(i) of this section will apply, giving special attention to land and vegetation for approximately 100 feet from the edges of all perennial streams and lakes”; allows that the widths of these zones “may vary based on ecological or geomorphic factors or type of water body[,] and will apply unless replaced by a site-specific delineation of the riparian area”; and commands that “[p]lan components must ensure that no management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that seriously and adversely affect water conditions or fish habitat shall be permitted within the riparian management zones or the site-specific delineated riparian areas.” Notwithstanding these clear commands, the Forest Service has not acknowledged these details in the Rule’s mandate for riparian areas despite concluding that the proposed amendments to the management standards, and the unamended parts of the Forest Plan, satisfy § 219.8(a)(3).
- § 219.8(a)(4), best management practices for water quality, is directly related due to the purpose of the modification of FW-5 (revegetation), FW8 (soil compaction in water saturated areas), FW-9 (soil effects from heavy equipment use), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), and 11-003 (exposed soil within the riparian corridor), which is to lessen protections for water quality while still requiring MVP to follow the best management practices described in the POD. Because these POD BMPs are legally required to meet the National Core BMP standards, they are directly related to this substantive requirement.
- § 219.8(b)(1)–(b)(2): These provisions require plan components “to guide the plan area’s contribution to social and economic sustainability,” specifically its “[s]ocial, cultural, and economic conditions relevant to the area influenced by the plan” and “[s]ustainable recreation; including recreation settings, opportunities, and access; and scenic character.” If the Forest Service contends that § 219.8(b)(3) is “not tied to the proposed modification of any particular standard” but is nonetheless “directly related” due to its purported “beneficial effect,” it cannot then arbitrarily exclude § 219.8(b)(1)–(b)(2), which are just as clearly related to the proposed amendment but due to substantial lessening of plan protections for social conditions, sustainable recreation, and scenic character in and around the action area. In fact, for § 219.8(b)(3) the DSEIS conveniently elides the operative clause (*italicized*)

“[m]ultiple uses that contribute to local, regional, and national economies in a sustainable manner.” The DSEIS fails to explain how the pipeline cutting across the JNF is a use that contributes to economies “in a sustainable manner” and is thus a “beneficial effect.”

- § 219.10(a)(1). The purpose of amending FW-5 (revegetation/soils), FW-8 (soil compaction), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), FW-184 (recreation management), 4A-028 (limiting ROW to a single crossing), and 11-003 (exposed soil within the riparian corridor) is to lessen protections for recreation, riparian areas, scenic value, soils, water quality, and habitat connectivity. As such, these amendments are directly related to those substantive requirements.
- § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure: Instead of applying this requirement within the scale of the amendment—the construction zone and right-of-way—the DSEIS finds that since “the limited footprint of the proposed MVP project accounts for about 0.007% of the entire plan area during construction” and “Forest Plan direction for utility corridors and ROWs would continue to apply across the Forest along with other Forest Plan direction.” The DSEIS errs by concluding that the “amended Forest Plan direction provides sufficient direction for future placement of infrastructure, including utility corridors.” The agency provides zero support for this conclusory statement. The DSEIS erroneously concludes no new plan components are needed because “current Management Prescriptions” for 4A, 4J, 6C, 8A1, and 11 plan areas “would continue to apply to the MVP corridor.” This is not true. The Forest Service is proposing to amend several standards applicable to these management prescription areas—including the directly related amendments to 6C-026, and 4A-028—which would greenlight a new utility corridor in an area the Forest Service previously determined was inappropriate for such development. Since that is the case, the Forest Service cannot rely on continued operation of “current management prescription” standards to support its conclusions.
- § 219.10(a)(4): This substantive requirement mandates that the Forest Service design plan components that “take into account joint management objectives where feasible and appropriate.” The clear purpose of the amendment to 4A-028 (ANST and utility corridors) is to lessen protections for the Appalachian Trail, a National Scenic Trail managed by the National Park Service in partnership with the Forest Service. Because lessened protections for the ANST directly implicates the “joint management objectives” of these two agencies, the 4A-028 amendment is directly related to this requirement.
- § 219.10(a)(8): This substantive requirement mandates that the Forest Service include plan components that consider “[s]ystem drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change.” The purpose of amending FW-5 (revegetation/soils), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), 11-003 (exposed soil within the riparian corridor), and 6C-007 (tree clearing in the old growth management area) is to lessen protections for ecological processes, soils, and the ability of the ecosystem to adapt to change, including climate change. As discussed above, the DSEIS also completely fails to discuss the cumulative impacts of climate change compounding the lessening of protections and blatantly ignoring that the pipeline, which these Forest Plan amendments allow, would contribute substantial quantities of greenhouse gas emissions. These amendments are thus directly related to this substantive requirement.



- § 219.10(b)(1)(ii): This substantive requirement mandates that a forest plan provide for “[p]rotection of cultural and historic resources.” The clear purpose of the amendment to 4A-028 (ANST and utility corridors) is to lessen protections for the ANST, which is, “in and of itself, a significant historical” and “cultural resource.”
- § 219.11(d)(2): This substantive requirement mandates that a forest plan ensure that “[t]imber harvest would occur only where soil, slope, or other watershed conditions would not be irreversibly damaged.” The clear purpose of the amendments to FW-5 (revegetation), FW-8 (soil compaction in water saturated areas), FW-9 (soil effects from heavy equipment use), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), and 11-003 (exposed soil within the riparian corridor) is to allow MVP to harvest timber in areas the Forest Service has suggested may be irreversibly damaged by such activities. Therefore, these amendments are directly related to this substantive requirement.
- § 219.11(d)(3): This substantive requirement mandates that a forest plan ensure that “[t]imber harvest would be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources.” The clear purpose of the amendments to FW-5 (revegetation), FW-8 (soil compaction in water saturated areas), FW-9 (soil effects from heavy equipment use), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), 11-003 (exposed soil within the riparian corridor), and 6C-007 (tree clearing in the old growth management area) is to lessen protections for these resources during right-of-way clearing for MVP. Therefore, these amendments are directly related to this substantive requirement.
- § 219.11(d)(5): This substantive requirement permits timber to be harvested on National Forest System lands “only where such harvest would comply with the resource protections set out in sections 6(g)(3)(E) and (F) of” NFMA. These sections provide in relevant part that timber may only be harvested where “protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat.” Because the clear purpose of the amendments to FW-5 (revegetation), FW-8 (soil compaction in water saturated areas), FW-9 (soil effects from heavy equipment use), FW-13 (exposed soil), FW-14 (residual basal area within the channeled ephemeral zone), and 11-003 (exposed soil within the riparian corridor) is to lessen protections for water quality, these amendments are directly related to this requirement.

## Response NFMA-02:

Relying on part of the preamble to the 2016 Final Planning Rule, commenters contend that the Forest Service erred in its lack of finding that the amendment has direct relationships with some substantive requirements through purpose. The part of the preamble to the 2016 final rule that commenters rely upon states:

*The 2012 rule gives the responsible official the discretion to determine whether and how to amend a plan, including determining the scope and scale of an amendment based on a specific need to change the plan (81 FR 90726).*

However, continuing and further direction from the preamble to the 2016 final rule states:

*...the 2012 rule does not give a responsible official the discretion to amend a plan in a manner contrary to the 2012 rule by selectively applying, or avoiding altogether, substantive requirements within §§ 219.8 through 219.11 that are directly related to the changes being proposed. Nor does the 2012 rule give responsible officials discretion to propose amendments “under the requirements” of the 2012 rule that actually are contrary to those requirements, or to use the amendment process to avoid both 1982 and 2012 rule requirements (§ 219.17(b)(2)) (81 FR 90726).*

To argue that that every substantive requirement is interrelated would transform this amendment into a Forest Plan revision. While the agency recognizes that many forest resources are interconnected, it is not the intent of the 2012 Planning Rule for a forest plan amendment to bear the burden of a plan revision (81 FR 90725). To apply relevant substantive requirements outside of the scope and scale of the proposed amendment would hinder the ability of the agency to conduct plan amendments. Therefore, the responsible official has discretion to determine the scope and scale of a forest plan amendment (81 FR 90726). The responsible official can distinguish between rule requirements directly related to the amendment and those that may be unrelated or for which the relationship is indirect (81 FR 90731).

The substantive requirement 219.8(a)(1) that commenters asked to be included in this FSEIS as directly related, has now been included as directly related due to the modification of standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 in this FSEIS. Several subcomponents of this substantive requirement were identified previously as directly related; therefore, the higher-level element has been added as directly related. 219.9(a)(2) was not included as directly related because the purpose of modifying FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 was not specific to ecosystem diversity nor a species-specific approach to maintaining diversity, which is the overarching theme of 219.9. In addition, the effects of modifying FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 did not rise to the level of being substantial in affecting ecosystem diversity in the plan area due to the small scope and scale of the amendment.

The substantive requirement 219.8(a)(3) is just the title of that section, and 219.8(a)(3)(i) was identified as directly related and has been referred to as “ecological integrity of riparian areas” in this FSEIS.

The substantive requirement § 219.10(a)(3), that commenters asked to be included in this FSEIS as directly related, has now been included as directly related due to the modification of standards 4A-028 and 6C-026 through the purpose of the amendment.

The other substantive requirements suggested by commenters were determined to not be directly related through the modification of other standards, overlap with currently identified directly related substantive requirements, and/or are indirectly related to the proposed amendment. Therefore, they do not provide new information to inform the agency’s decision and are not considered directly related in this FSEIS. The table on the following page summarizes the review of the suggested by commenters to be directly related substantive requirements.

**Table F-1: Summary of Substantive Requirements Suggested as Directly Related**

<b>Substantive Requirement Suggested as Directly Related</b>	<b>Disposition</b>
219.8(a)(1)	Directly related due to purpose for modification of FW-5, FW-8, FW-9, FW-13, FW-14, 11-003 and the addition of the MVP-specific standard
219.8(a)(1)(iv)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification directly related to system drivers
219.8(a)(3)	Not directly related because it is just a title of a section
219.8(a)(4)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification directly affect implementation of BMPs
219.8(b)(1)	Not directly related because it is only indirectly related to the amendment; no substantial lessening of plan protection as the commenter claims because no standard directly related to social, cultural, or economic conditions are proposed to be modified FW-5, FW-8, FW-9, FW-13, FW-14, 11-003
219.8(b)(2)	Not directly related because it is only indirectly related to the amendment; no substantial lessening of plan protection as the commenter claims due to the minor scope and scale of the proposal; in addition, overlaps with 219.10(b)(1)(i)
219.9(a)(2)	Directly related due to purpose for modification of 6C-007 and 6C-026; not directly related to FW-5, FW-8, FW-9, FW-13, FW-14, 11-003 it is only indirectly related
219.10(a)(1)	This substantive requirement lists multiple resources and other substantive requirements more specific to the proposed amendment have been determined to be directly related
219.10(a)(3)	Directly related due to purpose for modification of 4A-028 and 6C-026
219.10(a)(4)	Not directly related because it is only indirectly related to the amendment; no standards related to coordination, adjacent landowners, or open spaces are proposed to be modified
219.10(a)(8)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification directly related to system drivers
219.10(b)(1)(ii)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification directly related to cultural and historic resources
219.11(d)(2)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification are not timber standards
219.11(d)(3)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification are not timber standards
219.11(d)(5)	Not directly related because it is only indirectly related to the amendment; none of the standards proposed for modification are not timber standards

**Concern Statement NFMA-03:**

Commenters state that the Forest Service misapplies the 2012 Planning Rule. It is arbitrary, capricious, and contrary to law for the DSEIS to persistently point to existing plan direction in the

Jefferson Forest Plan to support a claim that the directly related substantive requirements of the 2012 Planning Rule have been met without proper analysis.

### **Response NFMA-03:**

The 2012 Planning Rule requires the application of substantive requirements that are directly related through the purpose and/or effect of the proposed amendment. To apply a directly related substantive requirement per the 2012 Planning Rule means the Forest Plan as amended must contain plan components necessary to address the substantive requirement.

The Forest Plan must fulfill the directly related substantive requirements. For each substantive requirement, the Forest Service must review existing plan direction to determine if additional plan components are needed to fulfill directly related substantive requirements. If the Forest Plan, as amended, does not fulfill the substantive requirements, then additional or modified plan components would be necessary to bring the Forest Plan in compliance with the 2012 Planning Rule. In this FSEIS, the Forest Service added an MVP-specific standard to ensure compliance with the 2012 Planning Rule. The Forest Service has not acted in an arbitrary or capricious manner: Appendix A of this FSEIS demonstrates the Forest Service's review of existing Forest Plan direction and assessment of whether the directly related substantive requirements are adequately applied. The Forest Service considered the extent of proposed changes to the Forest Plan (scope), the extent of impacts from the proposed amendment (scale), effects to resources, the remaining unaffected plan direction to provide for the resources, and monitoring information to assist in the conclusion that the directly related substantive requirements are adequately applied.

### **Concern Statement NFMA-04:**

Commenters assert that granting the MVP permission to cross the JNF does not comply with the 2012 USFS Planning Rule's mandate "...to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area."

The DSEIS does not provide any metric, threshold, or standard for determining whether the MVP amendments will satisfy the 2012 Planning Rule's directly related substantive requirements, particularly the "maintain or restore" standard.

### **Response NFMA-04:**

The 2012 Planning Rule at 36 CFR § 219.8(a)(1) states:

*Ecosystem Integrity. The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity...*

The 2012 Planning Rule at 36 CFR § 219.9(a)(1) states:

*Ecosystem integrity. As required by § 219.8(a), the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity.*

Thus, the obligation is to ensure the Forest Plan, as amended, has components to maintain or restore ecosystem integrity (36 CFR §§ 219.8 and 219.9). In addition, the agency's responsibilities include ensuring the Forest Plan, as amended, has components to provide for multiple uses (36 CFR §

219.10), and guide timber management within the plan area (36 CFR § 219.11). An analysis to ensure that the Forest Plan, as amended, has the plan components to maintain or restore ecological integrity (or provide for multiple-uses and guide timber management) is a much different analysis than an analysis to determine the effect on ecological integrity. Appendix A identifies the number of unmodified Forest Plan components related to ecological integrity. In addition, to ensure that directly related substantive requirements are adequately applied, an MVP-specific standard has been added that would formalize affirmative requirements and restriction from POD appendices related to soils, water, riparian areas, the ANST, and scenery resources.

### **Concern Statement NFMA-05:**

Commenters contend that the Forest Plan amendment would have an outsized, substantial adverse effect on ecological integrity in the plan area based on studies by Dr. Belote et al. and Dr. Theobold. “Since the Forest Service did not conduct an assessment of ecological integrity, any conclusion that ecological integrity will be maintained or restored—a high bar when affecting exceptional ecosystems—is arbitrary, capricious, and contrary to the law.”

### **Response NFMA-05:**

An assessment of ecosystem integrity is only required for development of a new plan or a plan revision (36 CFR § 219.6(a)). A forest plan assessment of ecological integrity for a forest plan amendment is at the discretion of the responsible official (36 CFR § 219.6).

The studies conducted by Dr. Belote et al. and Dr. Theobold were course screen analyses of the continental U.S. The areas of high ecological integrity identified by Dr. Belote et al. and Dr. Theobold, provided to Forest Service by public comment, largely mirror the boundaries of national forests and other federal lands. This suggests that management of National Forests are maintaining ecological integrity and the existing Forest Plan contains plan components that are sufficient to maintain ecological integrity across the plan area. However, Appendix A of this FSEIS discusses the rationale why the agency believes the Forest Plan, as amended, has sufficient plan components to maintain or restore ecological integrity. Historical photos of lands in and around the JNF demonstrate the restoration of ecological integrity since the JNF was established.



**Erosion ca. 1900s in vicinity of JNF. Photo courtesy of Family of Bill Leichter.**

### **Concern Statement NFMA-06:**

Commenters contend that the Forest Service’s conclusion that there would be no direct, indirect, or cumulative effects from exempting MVP from FW-248 is inaccurate. In fact, there would be a cumulative impact on the JNF in conjunction with the agency’s past decision to allow a different natural gas pipeline—the Celanese Pipeline Project from Columbia Gas of Virginia—just a few miles away without redesignating that utility corridor either.

The Jefferson Forest Plan and NFMA regulations require the agency to collocate utility lines “[w]hen feasible.” So, it is not speculative that future utility lines will be located within the MVP corridor—there is a presumption that they will be.

### **Response NFMA-06:**

The Forest Service considered the Celanese/Columbia pipeline to be a part of the baseline environmental condition in the HUC-10 watershed for cumulative effects.

As discussed in this FSEIS, the MVP project would be exempted from FW-248. This exemption means the MVP corridor would not be designated as Management Prescription 5C, Designated Utility Corridors. Because exemption from FW-248 maintains existing management prescriptions and does not result in an agency action, there are no direct, indirect, or cumulative effects.

Further, the utility corridor Management Prescription 5C is a development management prescription that allows for greater impacts than the existing management prescriptions. Therefore, after the MVP project is implemented, the MVP corridor would be managed in a more restrictive manner than if it were designated in Management Prescription 5C.

The Forest Service is not aware of any proposed new utility corridors on NFS lands in the HUC-10 watersheds considered for analysis in the FSEIS. Past actions are not predictive of reasonably foreseeable future actions under NEPA. Therefore, there are no reasonably foreseeable future actions for utility corridors.

### **Concern Statement NFMA-07:**

Commenters contend that the “maintain and restore” assessment of effects related to amending Forest Plan standards for water, riparian, and soil resources is flawed because it includes the assumption that ECDs are effective when properly installed and maintained.

### **Response NFMA-07:**

The Forest Service’s obligation is to ensure the Forest Plan, as amended, has components to maintain or restore water, riparian, and soil resources (36 CFR §§ 219.8 and 219.9). To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19), and to “restore” means bring back to a baseline condition. An analysis to ensure that the Forest Plan, as amended, has the plan components to maintain or restore these resources is a much different analysis than an analysis to determine the effect on water, riparian, and soil resources. Although it was determined that the Forest Plan, as amended, has the components to maintain or restore water, riparian, and soil resources, pertinent portions of the POD have been included in an MVP-specific plan standard to ensure the 2012 Planning Rule requirements are met and impacts to water, riparian, and soil resources are minimized. Appendix A identifies the number of unmodified Forest Plan components related to water, riparian, and soil resources.

The 2022 DSEIS and this 2023 FSEIS reviewed VDEQ inspection reports from the pipeline spread closest to the JNF and Transcon monitoring reports on the JNF which affirmed that ECDs are effective when properly installed and maintained. This extensive track record of real-world information is incorporated into the sedimentation analyses that respond to the Court’s remand.

### **Concern Statement NFMA-08:**

Commenters contend that Transcon monitoring reports are confined to the MVP ROW on NFS lands and do not serve as a proxy for examining the Forest Plan’s ability to maintain soils across the entire JNF as required by 36 CFR Part 219.

### **Response NFMA-08:**

The Forest Service’s obligation is to ensure the Forest Plan, as amended, has components to maintain or restore soil resources (36 CFR § 219.8). An analysis to ensure that the Forest Plan, as amended, has the plan components to maintain or restore these resources is a much different analysis than an analysis to determine the effect on soil resources.

To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19). Appendix A identifies a number of reasons the agency believes the soil resource is sufficiently maintained within the scope and scale of the proposed amendment. This includes the limited scale of the proposal; the limited soil loss and displacement from construction, operations, and maintenance of the pipeline; the ability for the soil in the construction zone to maintain the desired ecological conditions after restoration; the limited scope of the proposed amendment; the number of unaffected standards that would continue to apply across the forest and within the ROW; and Forest

Plan monitoring and Transcon monitoring reports show the Forest Plan, as amended, has been adequate to protect soil resources.

The Transcon monitoring reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained (Appendix A and Sec. 3.3.4.3). This analysis is instructive for understanding if the modified Forest Plan standards are effective at maintaining soil resources.

### **Concern Statement NFMA-09:**

Commenters allege that the DSEIS fails to conduct an explicit analysis of ecosystem integrity, including how it relates to results of ROW inspections and modeling. Other sources, including the Draft Monitoring and Evaluation Report reveal a “repeated inability to protect soil resources in the JNF”.

### **Response NFMA-09:**

The Forest Service’s obligation is to ensure the Forest Plan, as amended, has components to maintain or restore ecological integrity (36 CFR §§ 219.8 and 219.9). To “maintain” a resource is defined by the Planning Rule as “*to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes*” (36 CFR § 219.19). An analysis to ensure that the Forest Plan, as amended, has the plan components to maintain or restore ecological integrity is a much different analysis than an analysis to determine the effect on ecological integrity. Appendix A identifies the number of unmodified Forest Plan components related to ecological integrity.

George Washington and Jefferson National Forests personnel designed monitoring plans that collect both quantitative and qualitative data on soil productivity and soil quality in accordance with the Forest Service Manual Chapter 25. Data was collected on seven harvest units for the monitoring report, and only one unit exceeded 15% detrimental soil disturbance (Draft FY2015-FY2019 Monitoring Evaluation Report for the George Washington and Jefferson National Forests, Table 20). This does not indicate a repeated inability to protect soil resources in the JNF.

### **Concern Statement NFMA-10:**

Commenters state that the Forest Service never explains how references to unaltered Plan standards (e.g., to allow MVP to exceed one of the 56 standards for riparian area protection in Management Prescription 11) are relevant to the agency’s purpose in amending the eleven standards it did decide to change.

### **Response NFMA-10:**

The relationship between the number of modified and unmodified standards is relevant because:

- 1) The 2012 Planning Rule requires the agency to determine if there is a substantial lessening of plan protections when identifying the directly related substantive requirements; the number of unchanged standards is an indicator of substantial lessening of plan protections;
- 2) Application of the directly related substantive requirements is in context of whether the Forest Plan, as amended, can maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), guide the plan area’s contribution to social and economic sustainability (36 CFR § 219.10), or guide timber management within the plan area (36 CFR § 219.11). The ratio of modified standards to unmodified standards is relevant because it is one indicator of



how the Forest Plan, as amended, fulfills the required substantive requirements. See Appendix A in this FSEIS for the Forest Service's analysis.

The relationship between the number of modified and unmodified standards is disclosed in this FSEIS at Section 3.3.4.3 and in Step 3 of Appendix A.

### **Concern Statement NFMA-11:**

Commenters state the Forest Service should not or cannot amend the Jefferson National Forest Land Management Plan because:

- It would violate the 2012 Planning Rule,
- The Forest Service cannot waive forest management standards and still achieve the goals and objectives of the Forest Plan,
- It undermines the purpose of having a Forest Plan,
- The amendment is only for the financial benefit of one company,
- National Forests were created to prevent excessive logging.

### **Response NFMA-11:**

The 2012 Planning Rule allows that a land management plan may be amended at any time. The Planning Rule also provides the responsible official the discretion to determine whether and how to amend the plan and determine the scope and scale of any amendment (36 CFR § 219.13(a)). A plan amendment can add, modify, or remove one or more plan components.

In the case of the MVP project, the proposed plan amendment is for the modification of 11 Forest Plan standards to exempt the MVP project from the requirements and the addition of an MVP-specific standard that incorporates specific appendices of the POD. A forest plan amendment does not undermine the purpose of having a forest plan; it is clearly contemplated in the NFMA and 2012 Planning Rule and clarified in the 2016 National Forest System Land Management Planning Amendment (81 FR 90723). Since the promulgation of the 2012 Planning Rule, the Forest Service has signed 107 programmatic amendments and 12 project-specific amendments across the NFS.

The proposed amendment financially benefits more than just one company. The economic consequences of the Project are outlined in the June 2017 FERC FEIS (pp. 4-393 to 4-396). The economic benefits include increased jobs and tax revenue to West Virginia and Virginia.

The Organic Act of 1897 authorized establishment of National Forest Reserves to improve and protect the condition of forested areas of the United States and to "furnish a continuous supply of timber for the use and necessities of the people of the United States." Therefore, timber harvesting is allowed in National Forests so long as it is sustainable and meets the multiple-use mandate of the agency. The JNF Forest Plan was prepared according to the Secretary of Agriculture's regulations (36 CFR §§ 219-1982 rule version), which are based on the Forest and Rangeland Renewable Resources Planning Act, as amended, by the NFMA. The timber suitability analysis for the JNF is found in Appendix D-1 of the Forest Plan. Cutting 54 acres of timber in the 723,300-acre JNF for construction of a pipeline is not excessive, is sustainable, and meets the multiple-use mandate for the agency.

### **Concern Statement NFMA-12:**

Commenters contend that the Forest Service "must ensure that all plans and permits, contracts, and other instruments for the use and occupancy of National Forest System lands . . . are consistent with" the applicable forest plan.

### **Response NFMA-12:**

To be consistent with 36 CFR § 219.15(c), the responsible official has elected to modify the plan so that the Project would be consistent with the plan as amended. A full analysis of the amendment to the Forest Plan is found in Appendix A, and in the FSEIS at Section 3.3.4.

### **Concern Statement NFMA-13:**

Commenters contend that in addition to the new-information trigger, the new-listing trigger will kick in very shortly. The new-listing trigger is subject to a statutory and regulatory exception for up-to-date forest plans. Both elements will soon be satisfied. The Jefferson Forest Plan was promulgated in 2004, which is more than fifteen years ago. And on March 23, 2023, five years will have elapsed since the passage of Public Law 115-141. On that day, the Forest Service will be required to reinitiate consultation for any species found within the JNF Plan area that were listed after the Forest Plan was issued but before March 23, 2023. This list includes: northern long-eared bat, snuffbox mussel, fluted kidneyshell, Big Sandy crayfish, and rusty patched bumble bee.

Commenters further contend that the Forest Service cannot issue a record of decision for MVP before at least one of the reinitiation triggers for the Forest Plan is tripped. Therefore, the agency will be required to reinitiate and complete consultation on the Forest Plan before it can approve any action that would result in an irretrievable commitment of resources. That includes authorizing the construction of MVP.

Commenters also assert that project-level consultations like the 2023 FWS BO will not only fail to include impacts to species outside of the Project's narrowly defined "action area," but will also fail to fold in the effects of future federal projects.

### **Response NFMA-13:**

Section 7 Reconsultation for project-specific amendments is a separate consideration from any reconsultation required for Forest Plans responding to new ESA listings.

FERC is the lead federal agency for Section 7 consultation for the entire MVP project, including project areas on the JNF. As required by Section 7 of the ESA, FERC reinitiated consultation with a SBA provided to the FWS for the MVP project. Project-specific consultation was completed and resulted in the February 28, 2023 issuance of a FWS BO which applies to the whole MVP project. This project-specific consultation sufficiently fulfills Section 7 requirements for this project on the JNF.

Furthermore, none of the standards proposed to be modified as part of the project-specific amendment are related to species, nor were any determined to be directly-related to substantive requirements associated with species (See Table F-1, in this Appendix F). Additionally, the environmental impact statements and supporting documents find no suitable habitat in the JNF Project Area for northern long-eared bat, snuffbox mussel, fluted kidneyshell, Big Sandy crayfish, or rusty patched bumble bee (this FSEIS at Section 3.3.3; FWS 2023a; FWS 2023b; 2022 SBA Sections 1.3.2.1, 5.8.3, 5.8.4, 5.9; 2020 FSEIS at Section 3.4.3; 2017 FERC FEIS at Sections 4.6 and 4.7; 87 FR 14662, 14676).

Lastly, no regulation exists which requires USFS to consider effects of unforeseeable future federal projects.

**Concern Statement NFMA-14:**

Commenters contend any significant amendment of multiple plan components with numerous directly related substantive requirements—as is the case here—will almost certainly require development of new plan components, because nearly all the 2012 Planning Rule’s substantive requirements mandate that a plan must include “plan components, including standards or guidelines,” and sometimes other components, for each category of requirement. For example, 36 C.F.R. § 219.8(a)(1) requires “plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity,” taking into account considerations like ecosystem interdependence. The Forest Service cannot use the amendment process to delete forest plan components from a plan developed under the 1982 Planning Rule without replacing the deleted components with plan components that accord with the 2012 Planning Rule and satisfy its substantive requirements. As the Fourth Circuit explained succinctly: “If the Forest Service could circumvent the requirements of the 2012 Planning Rule simply by passing project-specific amendments on an ad hoc basis . . . the substantive requirements in the 2012 Planning Rule . . . would be meaningless.”

**Response NFMA-14:**

The proposed action does not include removal of any forest plan components. In the case of MVP, 11 standards would be modified to exempt the MVP project from the requirements and an MVP-specific standard would be added to ensure the proposed amendment is consistent with the 2012 Planning Rule and to address environmental impacts to soils, water, riparian areas, the ANST, and scenery resources. All directly related substantive requirements were found to be fulfilled through the Forest Plan, as amended (see Appendix A of this FSEIS).

Project-specific amendments are not considered to be a significant change in the Forest Plan for the purposes of NFMA (36 CFR § 219.13(b)(3)). The addition of plan components, including standards and guidelines, are only required when the Forest Plan, as amended, does not fulfill the directly related substantive requirements. to ensure the proposed amendment is consistent with the 2012 Planning Rule, and to address environmental impacts. However, the responsible official, within their discretion to include additional plan components (81 FR 90726), has proposed an MVP-specific standard be added to the Project-specific amendment to ensure the proposed amendment is consistent with the 2012 Planning Rule.

**Concern Statement NFMA-15:**

Commenters contend the Forest Service inappropriately minimizes the damage associated with amending FW-8 and 11-003 by ignoring the adverse impacts of heavy equipment usage in low-lying areas that are prone to being saturated and near waterbodies (e.g., Craig Creek) at risk of degradation from project construction.

**Response NFMA-15:**

The added MVP-specific standard was developed to ensure adverse impacts are minimized to soils, water, riparian areas, the ANST, and scenery resources. For example, although the modification of FW-8 would allow heavy equipment on wet plastic soils, all stream crossings on NFS lands must have temporary bridges of timber mats or clean rock fill and flume(s) to minimize impacts from heavy equipment due to the requirements in the POD. In addition, the proposed action identifies the use of conventional boring under streams to avoid impacts associated with dry-ditch open-cut crossings that were originally considered. The modification of 11-003 would allow more than 15%

mineral soil exposure; however, the MVP-specific standard would require sediment basins and traps, perimeter dikes, sediment barriers, and other measures to trap sediment to be functional prior to upslope land disturbance to minimize sediment delivery to streams.

### **Concern Statement NFMA-16:**

Commenters contend though the Forest Service fails to acknowledge it, the purpose and effects of several proposed amendments are directly related to 36 C.F.R. § 219.8(a)(4). That substantive requirement provides that plan components must “ensure implementation” of the specific water-quality BMPs developed by the Chief as required by 219.8(a)(4)—i.e., the BMPs listed in the Technical Guide, rather than BMPs generally. It is incumbent on the Forest Service to show that the BMPs in the POD comport with the BMPs in the Technical Guide.

### **Response NFMA-16:**

36 C.F.R. § 219.8(a)(4) states, “[t]he Chief shall establish requirements for national best management practices for water quality in the Forest Service Directive System. Plan components must ensure implementation of these practices.” This substantive requirement was determined to be indirectly related because the proposed amendment does not include changing or exempting any BMPs. The responsible official can distinguish between rule requirements directly related to the amendment and those that may be unrelated or for which the relationship is indirect (81 FR 90731).

Best Management Practices for pipelines, power transmission lines, and rights-of-way are covered under FAC-9 of the National Core BMP Technical Guide (FS-990a). The overarching emphasis for BMP planning in FS-990a is development of site-specific BMP prescriptions, as appropriate or when required, using State BMPs, Forest Service regional guidance, land management plan direction, BMP monitoring information, and professional judgment (FS-990a, p. 48).

To ensure compliance with 36 C.F.R. § 219.8(a)(4), the Forest Service is providing a term and condition to the BLM that the POD must be consistent with National Core BMP Technical Guide (FS-990a).

### **Concern Statement NFMA-17:**

Commenters contend that the Forest Service incorrectly states that the modified standards would not apply during the operations and maintenance phases of the Project. The Forest Service dismisses the long-term effects of the amendment.

### **Response NFMA-17:**

In response to public comments, the FSEIS clarifies that modified standards would apply for the life of the Project. Temporal applications for the modified standards have been removed (see Appendix A).

### **Concern Statement NFMA-18:**

Commenters disagree that exempting MVP from Forest Plan Standard 4A-028 will not have substantial effects. Commenters argue that the exemption is a permanent amendment to the JNF Plan that allows MVP to install and operate a pipeline where no “major impacts already exist.”

Commenters contend because the Forest Service misunderstands the serious long-term impacts of its amendment to 4A-028, its no-effects conclusion is arbitrary and capricious.

**Response NFMA-18:**

In response to public comments, this FSEIS clarifies that modified standards would apply for the life of the Project. Temporal applications for the modified standards have been removed (see Appendix A).

There would be no violation of Forest Plan direction with the plan amendment. The NFMA analysis in this FSEIS (Section 3.3.4) states, the Project-specific amendment is needed only for the five-year period after construction. After the five years, operation of the ROW is expected to meet the Forest Plan direction for ‘maintaining or restoring’. As clarified in this FSEIS, it is only during the five-year period immediately following construction that there would be effects from this project-specific amendment, but the amendment would apply for the life of the Project. See Section 3.3.4. The MLA does not authorize permanent/perpetual interest across NFS lands. The life of the Project is 30 years, which is the life of the ROW grant. However, the ROW grant is subject to renewal.

**Concern Statement NFMA-19:**

Commenters contend the Forest Service has not shown that the existing Forest Plan maintains or restores resources. Similarly, the DEIS never explains why the “minor to moderate” adverse sedimentation impacts it predicts are consistent with a finding that water quality and resources will be maintained.

**Response NFMA-19:**

The Forest Service’s obligation under NFMA is to ensure the Forest Plan, as amended, has components to maintain or restore water, riparian, and soil resources (36 CFR § 219.8).

An explanation of the terms minor and moderate is provided in this FSEIS in Section 3.3.1. Minor is defined as an effect that is detectable, but localized, small, and of little consequence to a resource. Moderate effects are readily detectable, localized, and have consequences to a resource.

36 CFR § 219.19 defines the term “maintain:” “Maintain. In reference to an ecological condition: To keep in existence or continuance of the desired ecological condition in terms of its desired composition, structure, and processes. Depending upon the circumstance, ecological conditions may be maintained by active or passive management or both.”

The 2012 Planning Rule does not specifically define the term “restore.” The Forest Service is considering the term to mean bring back to a baseline condition. Many commenters infer that to “restore” means to improve. However, that is not necessarily correct. For example, implementation of the POD Appendix H, Restoration Plan, would help ensure that sediment delivery is restored back to near baseline conditions. This is not an improvement of conditions, but it meets the 2012 Planning Rule mandate to “restore.”

The analyses in Section 3.3.2 and Appendix A shows that short-term minor or moderate impacts would not conflict with the longer-term requirement to have plan components that would keep in existence or continuance of the desired ecological condition for water resources.

**Concern Statement NFMA-20:**

Commenters contend the DSEIS fails to properly identify the directly related substantive requirements under the “effects” prongs of 36 C.F.R. § 219.13(b)(5). The Forest Service arbitrarily finds that no substantive requirements are directly related to the amendment’s adverse effects.

### **Response NFMA-20:**

Paragraph (b)(5) provides that a responsible official must determine that a substantive requirement *is* directly related to the changes being proposed by an amendment when the likely effects of those changes are substantially adverse in a way that implicates that substantive requirement (81 FR 90733). In this case, the Forest Service determined which substantive requirements were directly related to the proposed amendment through an examination of “...effects (beneficial or adverse) of the amendment, and informed by the best available scientific information, scoping, effects analysis, monitoring data or other rationale” (36 CFR § 219.13(b)(5)). Consistent with 36 CFR § 219.13(b)(5)(ii)(A), when basing the determination on adverse effects, scoping or NEPA effects analysis for the proposed amendment did not reveal substantial adverse effects associated with a substantive requirement, and the proposed amendment would not substantially lessen protections for a specific resource or use.

### **Concern Statement NFMA-21:**

Commenters contend the Forest Service repeatedly—and erroneously—dismisses impacts as insubstantial because they are “temporary.” Substantiality is a measure of magnitude, not temporality—short-term impacts can be substantial, just as long-term impacts can be minor.

### **Response NFMA-21:**

The agency does not conclude the effects are insubstantial solely based on the temporary nature of the effects (Appendix A). The sediment analysis (Geosyntec 2020b) in conjunction with monitoring data indicate the effects do not rise to the level of substantial. Modeling suggests that sediment yields during construction would only be 0.1% to 2.6% (median: 1.1%) over baseline. The impact would be spatially and temporally limited, which indicates the impact is not substantial.

### **Concern Statement NFMA-22:**

Commenters contend the Forest Service arbitrarily relies on vague references to unspecified mitigation measures in the POD to support its no-substantial-adverse-effects findings.

The Forest Service needs to demonstrate how the failure to meet the existing Forest Plan standards does not produce substantial adverse effects. The effects of the Project are substantially adverse and the measures implemented have already failed to mitigate these substantial adverse effects.

### **Response NFMA-22:**

The POD measures are not unspecified and are described in detail. The SEIS does not reiterate the POD contents because it is voluminous and publicly available. In response to public comments, specific POD appendices that are germane to the directly related substantive requirements are now identified in an MVP-specific standard. The reliance on the POD is because it is part of the proposal and thus integral to the estimation of effects. Thus, it is relevant in the discussion of substantial adverse effects and application of the directly related substantive requirements.

The Forest Service is required to identify whether the proposed amendment reveals substantial adverse effects associated with a directly related substantive requirement (36 CFR § 219.13(b)(5)(ii)(A)). Consistent with 36 CFR § 219.13(b)(5)(ii)(A), when basing the determination on adverse effects, scoping or NEPA effects analysis for the proposed amendment did not reveal substantial adverse effects associated with a substantive requirement, and the proposed amendment would not substantially lessen protections for a specific resource or use. Although it was determined that the Forest Plan, as amended, has plan components sufficient to meet the substantive requirements

in question, an MVP-specific standard was added to ensure the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule and environmental impacts are minimized to soils, water, riparian areas, the ANST, and scenery resources.

### **Concern Statement NFMA-23:**

Commenters contend although the 2012 Planning Rule imposes the substantive command to maintain or restore soils and soil productivity, NFMA sets a statutory hard floor with a site-specific command that the agency ensure “timber will be harvested from National Forest System lands only where . . . soil, slope, or other watershed conditions will not be irreversibly damaged.” In other words, the Forest Service may not lawfully allow timber harvest on lands where the activity would irreversibly damage soil conditions even if that area is a small part of the overall forest. As this prohibition illustrates, NFMA is concerned about soil and soil productivity at a less-than-forest-wide scale.

### **Response NFMA-23:**

The requirement that a plan have components to maintain or restore soil resources is found in 36 CFR § 219.8(a)(2)(ii). In contrast, 36 CFR § 219.11 addresses timber requirements based on the NFMA and does address maintaining or restoring resources. Under 36 CFR § 219.11(d), plan components, including standards or guidelines, must ensure several things, including that timber harvest would occur only where soil, slope, or other watershed conditions would not be irreversibly damaged.

The 2020 FSEIS (Sections 3.4.1 and 3.4.2) and this FSEIS (Section 3.3.2) analyzed impacts on soils and related (water) resources. These analyses did not identify irreversible damage to soil within the ROW on NFS lands. In addition, due to the implementation of the POD Restoration Plan and associated minimization and avoidance measures, impacts to the soil resource would be minimized.

The Planning Rule also provides the responsible official the discretion to determine whether and how to amend the plan and determine the scope and scale of any amendment (36 CFR § 219.13(a)). However, the agency must apply the directly related substantive requirement to the plan scale and not to the Project scale. It is not practical to suppose substantive requirements could be attained solely at a project scale (i.e., ensuring at a project scale that 85% of the activity area soils are left in place). To interpret otherwise would render project-specific amendments inoperable.

### **Concern Statement NFMA-24:**

Commenters contend the JNF Forest Plan does not have plan components to maintain or restore the ecological integrity of the plan area or meet its other requirements if it does not list, recognize, or provide standards and guidelines for the protection of the federally listed candy darter, Atlantic pigtoe, or northern long-eared bat, or proposed listed tricolored bat. The JNF Plan should be amended to list, recognize, and provide standards and guidelines for the protection of these species.

### **Response NFMA-24:**

As stated in the preamble of the 2016 final rule clarifying the 2012 Planning Rule amendment process, “[n]o individual amendment is required to do the work of a revision... and the Department does not expect an individual plan amendment to... bring an underlying plan into compliance with all the substantive requirements” (81 FR 90725). None of the standards proposed to be modified as part of the proposed action in this FSEIS are for the management of federally listed species, and thus the substantive requirement for federally listed species is not directly related to the proposed amendment. Therefore, there is not a need to add plan components for these species. In addition, formal consultation with the FWS has been conducted by the FERC in accordance with the ESA, for the

MVP project as a whole. In March 2023, FWS issued a new BO and Incidental Take Statement for the MVP project.

### **Concern Statement NFMA-25:**

The agency recognizes that a plan amendment may be directly related to a substantive requirement via the amendment's "beneficial or adverse" effects. The Forest Service position seems to be that a substantive requirement can be directly related by adverse effects only if those adverse effects are substantial. However, 36 C.F.R. § 219.13(b)(5) defines the upper limit on the agency's discretion. Commenters contend the Forest Service can and should identify as directly related additional substantive requirements that may have adverse effects deemed less than substantial.

### **Response NFMA-25:**

The responsible official has chosen to adhere to the requirements of the regulations consistent with 36 CFR § 219.13(b)(5).

### **Concern Statement NFMA-26:**

Commenters contend that the Forest Service never adequately explains why the small percentages of impacts it calculates translate to insubstantial impacts. The Forest Service assumes that plan amendments cannot have substantial impacts if only a small percentage of the larger resource value is impacted or only a small percentage increase over baseline values occurs. For example, there is no supporting rationale as to why impacts to 54 acres of soils within nine HUC-12 watersheds are de minimis.

The amendment framework in the 2012 Planning Rule at 36 C.F.R. § 219.13(b)(5) does not allow the Forest Service to use a scale of the proposed amendment approach and the Fourth Circuit has already rejected it.

### **Response NFMA-26:**

The 2012 Planning Rule requires the application of substantive requirements across the plan area. For example, substantive requirement 219.8(a)(1) requires that the plan, as amended, must include plan components "to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area."

The planning rule also requires the application of the directly related substantive requirement within the scope and scale of the proposed amendment (36 CFR § 219.13(b)(5)); the responsible official has the discretion to determine the scope and scale of any amendment (36 CFR § 219.13(a)).

The agency must apply the directly related substantive requirement to the plan scale (which generally is the forest, but could be a management prescription area, forest-type, etc., depending on the plan component) and not to the Project scale. It is not practical to suppose substantive requirements could be attained solely at a project scale (i.e., ensuring old growth is maintained at a project scale when all old growth is removed at the Project scale). To interpret otherwise would render project-specific amendments inoperable.

The agency must consider the scale of the MVP project in context of the entire JNF to apply the directly related substantive requirement at the plan unit scale, beyond the Fourth Circuit's opinion, which stated, "the Forest Service cannot rely on the notion that because the Pipeline will affect only a minimal fraction of the entire Jefferson National Forest, application of the existing forest plan outside this area will continue to provide adequate protections." This FSEIS has considered additional



analyses for assessing the application of the directly related substantive requirements so that the scale of the MVP project in context of the entire JNF is not the sole factor.

### **Concern Statement NFMA-27:**

Commenters contend FW-5 is based on an expired regional requirement, no longer reflects the best available science, and cannot be relied upon to determine if the Forest Plan has components to maintain or restore soil resources. The agency has not shown a rational basis to rely on FW-5 automatically.

### **Response NFMA-27:**

Although the 15% detrimental soil impact threshold has been questioned for its universal application, it is still valid as a general indicator and is still a standard in the JNF Forest Plan. The determination that the Forest Plan, as amended, has sufficient plan components to maintain or restore the soil resource does not solely rely on the 15% standard. Section 3.3.4.3 and Appendix A of this FSEIS describe the application of directly related substantive requirements related to soils resource. FW-5 is not the sole measure for protecting the soil resource on the JNF. FW-5 is one of many standards, guidelines, and practices utilized to ensure maintenance of the soil resource. In addition, soils are evaluated at the Project level to further tailor project design criteria to the soils unique to the activity area.

### **Concern Statement NFMA-28:**

Section 219.8(a)(2)(ii) requires plan components “to maintain or restore . . . soils and soil productivity, including guidance to reduce soil erosion and sedimentation.” The Rule defines “maintain” in reference to an ecological condition to mean “[t]o keep in existence or continuance of the desired ecological condition in terms of its desired composition, structure, and processes.” Consequently, commenters contend the DSEIS statement that desired conditions will eventually be sustained—which necessarily implies that desired conditions will not be sustained for some period of time—means desired conditions will not be “ke[pt] in existence or continuance.”

### **Response NFMA-28:**

To “maintain” a resource is defined by the Planning Rule as “to keep in existence or continuance of the desired ecological condition in terms of desired composition, structure, and processes” (36 CFR § 219.19), and to “restore” means to bring back to a baseline condition. This does not infer that there must be *no net loss* to the resource in question across the plan area.

The ability of plan components to maintain or restore a resource must be examined at level of the plan area (36 CFR §§ 219.8 and 219.9). The timeframe for a project area to maintain or restore desired ecological conditions may not affect the overall trend of maintenance or restoration across the plan area.

However, it does mean that over time, the trend for the resource in question should be moving towards the desired condition or is constant (sideways trend). Like any trend line, there can be peaks and troughs within the trendline, so long as over time the primary trend is towards the desired condition or is constant, then maintenance of the resource is being achieved.

Many commenters infer that to “restore” means to improve. However, that is not necessarily correct. For example, implementation of the POD Appendix H, Restoration Plan, would help ensure that sediment delivery is restored back to near baseline conditions. This is not an improvement of conditions but it meets the 2012 Planning Rule mandate to “restore.”

### **Concern Statement NFMA-29:**

The 2012 Planning Rule requires that the amended Jefferson Forest Plan include “plan components, including standards or guidelines, to maintain or restore” “[w]ater quality” and “[w]ater resources,” including “guidance to prevent or mitigate detrimental changes in quantity, quality, and availability” within the scope and scale of the proposed amendments. Commenters contend the Forest Service neglects to add to its proposed amendments any concrete standards or guidelines to protect waterbodies.

### **Response NFMA-29:**

The responsible official has the discretion to determine the scope and scale of an amendment (36 CFR § 219.13(a)). In this FSEIS, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP. This new forest plan standard would require adherence and implementation of specific POD appendices during the construction and restoration phases of the Project. This would ensure the directly related substantive requirements are applied and that environmental impacts to soils, water, riparian areas, the ANST, and scenery resources are minimized.

### **Concern Statement NFMA-30:**

Commenters contend the correct regulatory trigger the Forest Service should use depends on whether a proposed amendment “would substantially lessen protections for a specific resource or use.” The Forest Service also combines the substantial-adverse-effects test and the substantial-lessening test into one.

### **Response NFMA-30:**

The regulatory trigger to determine if a substantive requirement is directly related due to effects is whether there is a substantial adverse effect or a substantial lessening of plan protections (36 CFR § 219.13). Both of these tests are related to an adverse effects determination. They are discussed separately and under the same heading in Step 2 of Appendix A.

### **Concern Statement NFMA-31:**

Commenters contend the Forest Service attempts to change the regulatory definition of the term “maintain” in 36 CFR § 219.19.

### **Response NFMA-31:**

This unintended discrepancy resulted from an editorial revision. The definition has been restored in this FSEIS.

### **Concern Statement NFMA-32:**

Commenters contend the DSEIS does not distinguish riparian areas from riparian management zones as defined in § 219.8(a)(3).

The Forest Service has not complied with the Forest Plan because it has not delineated the activity-specific riparian corridors as prescribed in Appendix A. Raw acreage is not a substitute for the process prescribed in Appendix A for delineating riparian corridors and is meaningless without assessing the corridors before disturbance.

Had the Forest Service acknowledged the applicable definitions in the Planning Rule and accurately identified the affected riparian areas, not only would the entire corridor be riparian areas—running up and down the ridge and valley terrain—the areas would extend well beyond the corridor as the

construction techniques are intended to divert water from slopes, and groundwater is pumped and discharged elsewhere.

### **Response NFMA-32:**

This FSEIS discloses effects to riparian areas (Section 3.2.10, Appendix A, Appendix C). The Forest Plan contains Management Prescription 11, Riparian Corridors – Streams, Lakes, Wetlands, and Floodplains. Appendix A of the Forest Plan defines riparian corridors and discusses the difference between riparian corridors and riparian areas.

Field visits were conducted in October 2022 and February 2023 to assess riparian areas and confirm their boundaries at each of the four proposed stream crossings on NFS lands. Field assessments utilized the definition of riparian areas in the 2004 JNF Forest Plan (Appendix A). Based on riparian area measurements taken in the field, affected riparian areas range from 12 to 42 feet in total width. These widths are less than the riparian corridor management prescription widths specified in Appendix A of the Forest Plan. Because a site-specific assessment was conducted, riparian management zones as described in 36 CFR § 219.8 are not required.

### **Concern Statement NFMA-33:**

Commenters contend the Forest Service errs by concluding that existing plan components in the JNF Forest Plan will “maintain” or “restore” ecosystem integrity or any other relevant resource.

While existing plan components might accomplish the equivalent of such maintenance or restoration, components in the existing JNF Forest Plan were not so designed to achieve those results as these terms are used in the Rule.

For example, the DSEIS relies on the other 55 unamended standards for riparian area protection and the other 25 unamended Forest-wide standards for water, soil, and challenged ephemeral (riparian) zone protection to claim that the JNF Forest Plan will still achieve maintenance or restoration. But the Forest Service has conducted no analysis to determine whether those other unamended standards are indeed meeting these maintenance or restoration requirements.

The Forest Service fails to apply the directly related substantive requirements of the 2012 Planning Rule “within the scope and scale of the amendment” by looking to 1982-era plan components outside the scope and scale of an amendment in an attempt to minimize impacts and justify amended plan standards that fail to satisfy those substantive requirements.

### **Response NFMA-33:**

The obligation under the 2012 Planning Rule is to ensure the Forest Plan, as amended, contains plan components that maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), that guide the plan area’s contribution to social and economic sustainability (36 CFR § 219.10), and that guide timber management within the plan area (36 CFR § 219.11). For forest plan amendments, the 2016 final rule stated that “[n]o individual amendment is required to do the work of a revision” (81 FR 90725). “The process requirements for plan amendments... are simpler than those for new plan development or plan revisions in order to... keep plans current and adapt to new information or changed conditions” (FR 77 21237). In addition, the 2016 final rule stated that “[w]hile the responsible official is required to apply the directly related substantive requirements to the changes being proposed, the application of those requirements can be as narrow as the amendment. If a project-specific amendment would change only one plan component, or impact only one management area, the responsible official’s application of the directly related substantive requirement would reflect the narrow scope and scale of that amendment and would be based on its purpose and effects.”

(81 FR 90734). The Forest Service’s examination of the number of unamended Forest Plan standards is one factor used to determine if there would be plan components in the amended Forest Plan to maintain or restore ecosystem integrity and diversity.

Although the standards and desired conditions in the JNF Forest Plan were developed under the 1982 Planning Rule, they still are sufficient to provide direction to ensure maintenance or restoration of specific resources. The 2012 Planning Rule defines a standard to be a “mandatory constraint on project and activities decision making, established to help achieve or maintain the desired condition or conditions” (36 CFR § 219.7(e)(1)(iii)). The JNF Forest Plan FEIS defines a standard to be a “requirement that precludes or imposes limitations on resource management practices and uses” (FP FEIS, p. 6-42). Functionally, a standard developed under the 1982 Planning Rule is the same as a standard developed under the 2012 Planning Rule.

The 2012 Planning Rule defines a desired condition to be a “description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed” (36 CFR § 219.7(e)(1)(i)). The JNF Forest Plan FEIS defines a desired condition to be “an expression of resource goals that have been set for a unit of land. It is written as a narrative description of the landscape as it appears when goals have been achieved” (FP FEIS, p. 6-15). Functionally, a desired condition developed under the 1982 Planning Rule is the same as a desired condition developed under the 2012 Planning Rule.

Within the forest planning framework, monitoring is the means of informing the agency whether there is a need to change a plan. In September 2016, the JNF conducted a Forest Plan administrative change to bring the plan monitoring program in conformance with the 2012 Planning Rule. The Draft FY2015-FY2019 Monitoring Evaluation Report was developed under the lens of the 2012 Planning Rule and made no recommendations for a need to change current Forest Plan direction. This indicates that current Forest Plan direction is sufficient within the context of ongoing activities on the JNF. The JNF monitoring report was used in conjunction with other factors to help determine whether the directly related substantive requirements are adequately applied within the scope and scale of this proposed amendment.

In addition, to ensure the directly related substantive requirements related to soils, water, riparian areas, the ANST, and scenery resources, an MVP-specific standard has been added. This standard would formalize affirmative requirements and restriction on the implementation of MVP.

### **Concern Statement NFMA-34:**

Commenters contend the agency fails to explain how the “appropriate placement” of “utility corridors” requirement is not related to its proposed amendments to 6C-026 and 4A-028. Those amendments would exempt MVP from plan standards that prohibit new utility corridors in prescription area 6C and require new utilities to cross prescription area 4A in areas “where major impacts already exist.”

### **Response NFMA-34:**

The substantive requirement § 219.10(a)(3) – appropriate placement and sustainable management of infrastructure has been added as directly related based on purpose of modifying standards 4A-028 and 6C-026 in Appendix A of this FSEIS.

### **Concern Statement NFMA-35:**

Commenters contend any time the Forest Service wishes to rely on existing plan components when amending a plan developed under the 1982 rule, the Forest Service must grapple with an issue that the

DSEIS inexplicably ignores: the Forest Service itself recognizes that because “there are fundamental structural and content differences” between the 1982 Planning Rule and the 2012 Planning Rule, “1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule.”

Unsurprisingly, the 1982 Planning Rule and the 2012 Planning Rule differ in important ways. Among other things, the 2012 Planning Rule includes substantive requirements to maintain or restore ecological integrity and explicitly mandates that multiple uses and special uses adhere to these ecological integrity requirements. In the preamble to the 2012 Planning Rule, the Forest Service explained that “[m]uch of the planning under the 1982 [Planning Rule] focused on writing [forest plans] that would mitigate negative environmental impacts.” But the Forest Service realized that, although “[t]he protective measures in the [1982 Planning Rule] were important, . . . the focus of land management has changed since then and the Agency needs [forest plans] that do more than mitigate harm.”

The Jefferson Forest Plan was last revised in 2004 under the 1982 Planning Rule, which means that it reflects these “fundamental structural and content differences.” As a result, a statement that the Jefferson Forest Plan will continue to provide adequate protections, or that the Jefferson Forest Plan’s objectives or desired conditions will be met, is simply not equivalent to a statement that the substantive requirements of the 2012 Planning Rule will be met. As explained above, the terms “maintain” and “restore” are terms of art in the 2012 Planning Rule. And as noted, although existing plan components might accomplish the equivalent of such maintenance or restoration, unless the Forest Service undertakes an adequate assessment to ensure the JNF Forest Plan will maintain or restore the resources or uses protected by the directly related substantive requirements as the terms “maintain” and “restore” are used in the 2012 Planning Rule, the agency has not conducted the analysis to determine whether the other unamended standards are indeed meeting maintenance or restoration requirements.

### **Response NFMA-35:**

The commenter correctly points out that “because ‘there are fundamental structural and content differences’ between the 1982 Planning Rule and the 2012 Planning Rule, ‘1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule.’” However, the 2012 Planning Rule states that there is no obligation for plans developed under the previous planning regulation (1982 Planning Rule) to meet the requirements of the new rule except for 219.12(c)(1) until the plan is revised (36 CFR § 219.17(c)). In addition, the Final Rule for the clarification of direction for plan amendments states that “[n]o individual amendment is required to do the work of a revision” (81 FR 90725). Nevertheless, the agency’s obligation for conducting an amendment under the 2012 Planning Rule is to ensure the directly related substantive requirements are applied within the scope and scale of the amendment regardless of whether the underlying plan was developed under 2012 Planning Rule.

Within the context of this proposed amendment, the structural and content differences between the 1982 and 2012 Planning Rules are not substantial. Although the standards and desired conditions in the JNF Forest Plan were developed under the 1982 Planning Rule, they still are sufficient to provide direction to ensure maintenance or restoration of specific resources. The 2012 Planning Rule defines a standard to be a “mandatory constraint on project and activities decision making, established to help achieve or maintain the desired condition or conditions” (36 CFR § 219.7(e)(1)(iii)). The JNF Forest Plan FEIS defines a standard to be a “requirement that precludes or imposes limitations on resource management practices and uses” (FP FEIS, p. 6-42). Functionally, a standard developed under the 1982 Planning Rule is the same as a standard developed under the 2012 Planning Rule.

The 2012 Planning Rule defines a desired condition to be a “description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed” (36 CFR § 219.7(e)(1)(i)). The JNF Forest Plan FEIS defines a desired condition to be “an expression of resource goals that have been set for a unit of land. It is written as a narrative description of the landscape as it appears when goals have been achieved” (FP FEIS, p. 6-15). Functionally, a desired condition developed under the 1982 Planning Rule is the same as a desired condition developed under the 2012 Planning Rule.

The obligation under this amendment is to ensure the Forest Plan, as amended, contains plan components that maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), that guide the plan area’s contribution to social and economic sustainability (36 CFR § 219.10), and that guide timber management within the plan area (36 CFR § 219.11). The Forest Plan components to meet this obligation can be met through existing standards and desired conditions. The current JNF Forest Plan has these plan components, and they provide a meaningful foundation for examining whether resources are maintained or restored across the plan area under the Forest Plan as amended. In this case, it has been found that the JNF Forest Plan, as amended, is sufficient to maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), guide the plan area’s contribution to social and economic sustainability (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11). However, to ensure the directly related substantive requirements are applied per the 2012 Planning Rule, an MVP-specific standard has been added. This standard would formalize specific POD appendices’ requirements and restrictions on the implementation of MVP.

### **Concern Statement NFMA-36:**

Commenters contend the DSEIS fails to provide adequate context for its assertion that ecosystem integrity and diversity will be maintained across the plan area because MVP will only affect 5.2 acres of old growth. According to the agency, these 5.2 acres are expendable because the amount of “current old growth habitat exceeds JNF Forest Plan objectives” and “unmodified” Forest Plan standards are protecting that habitat elsewhere on the Forest.

Acreage is not the only factor that matters when assessing impacts to old growth. As the Jefferson Forest Plan explains, old growth exists in a “network” of “large, medium, and small patches.” The size of the patch determines how resilient—and ecologically valuable—that patch is within the larger network. Different patches may also contain different forest communities. For example, one patch may contain old-growth Northern Hardwood forest, while another might harbor old-growth Montane Spruce. Old-growth patches that contain “underrepresented” forest communities are especially valuable for ecological integrity and diversity purposes, as are old-growth patches that help bridge the spaces between other patches in the network. The DSEIS addresses none of these nuances. It simply finds that the 2 acres of old growth at issue here are expendable without assessing the size of the patch they belong to, how they fit into the Forest’s old-growth “network,” or what ecological communities they contain.

### **Response NFMA-36:**

When amending land management plans, the responsible official must determine the substantive requirements directly related to the amendment, then apply them based on the scope and scale of the amendment (36 CFR § 219.13). The intent of applying the substantive requirements is to ensure that the plan, as amended, is consistent with the 2012 Planning Rule. Many plan components, including standards and guidelines, developed under the 1982 Planning Rule, address or meet the substantive requirements of the 2012 Planning Rule within the scope and scale of the amendment. It is not the

intent of the 2012 Planning Rule for a forest plan amendment to bear the burden of a plan revision (81 FR 90725).

Although acreage is not the only factor that matters when assessing impacts to old growth ecosystems, the limited impact of this proposal (5.2 of 30,200 acres) makes further analyses unnecessary to determine whether there are sufficient plan components in the Forest Plan, as amended, to ensure old growth is maintained or restored. In addition, since current old growth habitat exceeds Forest Plan objectives, more detailed analyses are unnecessary to determine if there are sufficient plan components in the Forest Plan, as amended, to maintain or restore old growth.

The Forest Service examined data on forest stands near the proposed pipeline to provide greater context on short- and long-term impacts on old growth forests near the ROW. The Forest Service's Field Sampled Vegetation (FSVeg) module contains plot vegetation data from field surveys such as the agency's Field Inventory and Analysis (FIA) data, stand exams, inventories, and regeneration surveys. It includes data on trees, surface cover, understory vegetation, and down woody material. The Stand Age attribute in FSVeg was used as an indicator of old growth for each Forest Community Type, based on the old growth age threshold identified in the JNF Monitoring Report (Forest Service 2020b). Within 1 mile of the temporary ROW, the FSVeg data estimates there are currently 2,337 acres of JNF forest stands with a stand age indicative of old growth. In 10 years, the number rises to 3,013 acres, and in 20 years there would be 3,399 acres. This analysis indicates that old growth in the vicinity of the Project should increase over time, which indicates that the Forest Plan, as amended, contains components to maintain and restore (36 CFR §§ 219.8 and 219.9). The 2017 FERC FEIS analyzed the impact of creating edge habitat and fragmenting existing habitats (see Sections 4.4.1.5, 4.4.2.3, 4.4.2.6, and 4.5.2.2).

### **Concern Statement NFMA-37:**

On page 152 of the DSEIS the Forest Service finds no new plan components are needed because "Forest Plan monitoring and Transcon monitoring show the existing JNF Forest Plan has been adequate to protect water quality and the water resource in context of ongoing activities as indicated by ongoing macroinvertebrate monitoring." Commenters contend there are several issues with this rationale. The DSEIS is supposed to assess whether the amended Jefferson Forest Plan will contain components to maintain or restore water quality and water resources within the scope and scale of the amendment—not whether the "existing JNF Forest Plan" did so in the recent past regarding other unspecified "ongoing activities."

### **Response NFMA-37:**

This FSEIS has been updated to clarify that the existing Forest Plan has components to maintain and restore as demonstrated by Forest Plan monitoring and Transcon monitoring reports. However, to ensure that the proposed amendment is consistent with the directly related substantive requirements of the 2012 Planning Rule, the Responsible Official has determined within their discretion to include an additional plan standard specific to MVP that provides additional assurance that protection measures for water quality would be implemented.

### **Concern Statement NFMA-38:**

Commenters contend the Forest Service has not considered FSH 1909.12 – Land and Management Planning Handbook, Chapter 10. The Handbook states, "plan components are internally consistent" such that "[o]ne plan component [does] not directly conflict with another plan component or prevent its accomplishment." Although the Forest Service is not required to follow the assessment guidance to amend a plan, an assessment in line with these directives is necessary to draw conclusions about

whether the existing plan is maintaining or restoring resources within the meaning of the 2012 Planning Rule.

### **Response NFMA-38:**

As the commenter points out, assessments are required only for development of a new plan or a plan revision (36 CFR § 219.6(a)). However, one is not needed to determine whether a Forest Plan has the plan components to maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), provide for multiple uses (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11). Within the forest planning framework, monitoring is the means of informing the agency whether there is a need to change a plan. In the case of the JNF, the Draft FY2015-FY2019 Monitoring Evaluation Report made no recommendations for a need to change current forest plan direction. The Monitoring Evaluation Report was conducted consistent with the 2012 Planning Rule as the determining factor of whether the forest plan direction is sufficient. This indicates that current forest plan direction is sufficient. An analysis to ensure that the Forest Plan has the plan components to address the directly related substantive requirements is a much different analysis than conducting an analysis to determine the effect on the directly related substantive requirements. An analysis to determine whether the Forest Plan has the components to address the substantive requirements is reflected in Appendix A.

### **Concern Statement NFMA-39:**

Commenters contend the Forest Service has not appropriately analyzed the ability of the Forest Plan to maintain or restore soil resources, especially in its reliance on the FY2015 – FY2019 Monitoring Evaluation Report for the George Washington and Jefferson National Forests.

The Monitoring Evaluation summarizes the results of a monitoring program that was designed “to specifically address soil related impacts associated with timber harvesting activities.” Instead of relying on the Monitoring Evaluation Report, FSH 1909.12 Ch. 10 Sec. 12.22 instructs that the agency “may consider the following information when assessing soils and soil productivity”: (1) “[e]xisting interpretations of soil surveys certified by the National Cooperative Soil Survey”; (2) “[e]xisting information on vegetation suitability and productivity, and natural range of variation, in addition to the standard soil interpretations from a terrestrial and ecological unit inventory”; (3) “[e]xisting approximations of soil-landform units and attribute data derived from remotely sensed data or expert opinion”; and (4) “[e]cological site descriptions of the plan area developed in cooperation with USDA Natural Resources Conservation Service.” The directive goes on to explain that “[w]hen identifying and assessing the available information, the [agency] should”: (1) “[i]dentify existing inventories of soil conditions and improvement needs”; and (2) “[i]dentify important attributes, characteristics, or processes of soils including soil erosion and sedimentation that makes them susceptible to loss of integrity resulting from specific uses, disturbances or environmental change”; and then, “using the information gathered” in those two steps, “describe in the assessment the existing conditions and trends of soil resources and soil quality assuming existing plan direction remains in place.”

### **Response NFMA-39:**

Appendix A of this FSEIS describes the steps to comply with the 2012 Planning Rule amendment procedures and application of the 2012 Planning Rule substantive requirements. The obligation for amendments under the 2012 Rule is to ensure the Forest Plan has components to maintain or restore ecosystem integrity and diversity (36 CFR §§ 219.8 and 219.9), provide for multiple uses (36 CFR § 219.10), and guide timber management within the plan area (36 CFR § 219.11).



An analysis to ensure that the Forest Plan has the plan components to maintain or restore ecological integrity is a much different analysis than conducting an analysis to determine the effect on ecological integrity. The analysis required by a Plan amendment is not the same level of analysis needed for a plan revision (77 FR 21162,21239).

### **Concern Statement NFMA-40:**

Commenters contend the DSEIS is inconsistent with Forest Plan direction, which lists Stony Creek in its discussion of Aquatic Habitat Areas and includes the following Desired Condition: “Forest management activities within these areas are designed to protect habitat for threatened, endangered, and sensitive fish and mussels in streams adjacent to, or immediately downstream from, National Forest System lands.”

### **Response NFMA-40:**

The MVP project does not intersect with Management Prescription 9A4, Aquatic Habitat Areas, designated for Stony Creek.

### **Concern Statement NFMA-41:**

Commenters contend sediment delivery is inconsistent with the planning rule requirement to “maintain or restore the ecological integrity of riparian areas.” Commenters claim that ecological integrity of riparian areas in the plan area cannot be maintained because sedimentation from the Project would destroy benthic aquatic organisms, which are the base of the food chain. This is especially important since the impacts occur at the headwaters, which would disrupt the entire river continuum ecosystem because the base of the food chain for the system is destroyed.

### **Response NFMA-41:**

As discussed in the 2020 FSEIS, the Hydrologic Analysis for the JNF (Geosyntec Consultants 2020) indicates sediment yields would increase over baseline by about 0.001 to 0.011 tons/ac/yr, which is about 0.1% to 2.6% over baseline. Sediment yields would decrease one year after construction to about 0.01% to 0.5% over baseline. The analysis of USGS, MVP, VDEQ, and Transcon monitoring data in this FSEIS indicates that these data are not inconsistent with the sedimentation modeling used in the 2020 FSEIS.

Although there would be an adverse impact to aquatic systems due to increased sedimentation, this impact would be minor. This conclusion is supported by the fact that impacts similar to what is expected for the completion of the Project already occurred in 2018 with the clearing of the pipeline corridor on NFS and partial installation. This impact did not cause a destruction of the base food chain for the aquatic system and the ecological integrity remains similar to what it was prior to 2018.

## **Laws**

### **Concern Statement LAW-01:**

Commenters contend the DSEIS violates NEPA because it is not written in plain language. The DSEIS is a long document that contains technical and obscure language that the public cannot readily understand. This language makes it very difficult for the public to make meaningful comments. Use of references to other documents makes it even more difficult for the public, especially if they do not have access to those documents.

### **Response LAW-01:**

Consistent with the NEPA implementing regulations and the Plain Writing Act of 2010 (Public Law 111 – 274), authors and writer-editors of the DSEIS and this FSEIS strove to use plain language to help readers, including members of the public and decision makers, reasonably understand the environmental effects of the Project proposal and alternatives.

The construction, operation, and maintenance of a 303-mile 42-inch natural gas line over a variety of geographic conditions does involve highly complex technical and engineering design aspects. Every effort was made to relay pertinent facts, information, and analysis in a readily understandable manner. It also worth noting that different readers of this FSEIS seek varying levels of technical specificity.

The FSEIS incorporated various techniques to assist readers in understanding the document. Techniques included use of photos, maps, diagrams, and tables to communicate the highly technically subject matter using plain language and in a more easily understood manner. Use of references and citations of other documents is a standard practice. CEQ regulations at 40 CFR § 1500.4 encourage agencies to tier and incorporate by reference to reduce the length of environmental documents. Many of the referenced documents are publicly available on the internet, including the Forest Service’s [project page](#); others are available upon request.

### **Concern Statement LAW-02:**

Commenters contend FERC and PHMSA failed to comply with The Administrative Procedures Act, and Freedom of Information Act regulations, or otherwise release requested information to the public regarding the MVP threat to public safety.

### **Response LAW-02:**

FERC and PHMSA’s compliance with the Administrative Procedures Act and Freedom of Information Act is beyond the scope of this FSEIS. In communication with the Forest Service, PHMSA confirmed that PHMSA does not have statutory authority to make pipeline facility siting approvals or decisions; that authority rests with other federal and state agencies.

### **Concern Statement LAW-03:**

Commenters contend FERC is fully funded by and biased towards the energy industry; Forest Service incorrectly relies on FERC’s invalid and unreliable information and conclusions. PHMSA regulations, actions, and lack of enforcement regarding MVP pipe integrity and landslide issues; Forest Service incorrectly relies on PHMSA to protect public safety.

### **Response LAW-03:**

Consistent with the Natural Gas Act, 15 U.S.C. § 717n(b), Congress designates the FERC as the lead federal agency “for the purposes of coordinating all applicable Federal authorizations and for the purpose of complying with [NEPA]” for interstate natural gas transmission facilities and each federal agencies considering any aspect of such facilities shall coordinate with the FERC. Accordingly, the FERC is the lead Federal agency for the MVP Project, including for compliance with NEPA, and the Forest Service is a cooperating agency.

The Forest Service independently reviewed the 2017 FERC FEIS, prepared supplements to that analysis, and has determined the information is reliable and provides support, along with additional information, for Forest Service compliance with NEPA and other applicable laws.

Public health and safety concerns pertaining to pipeline safety are covered in the 2017 FERC FEIS. The 2017 FERC FEIS analyzed direct, indirect, and cumulative impacts of public health and safety in accordance with the NEPA guidelines and federal safety standards. The safety and integrity of construction, maintenance, and operation of natural gas pipes and pipelines in general is regulated by the PHMSA. That responsibility rests with the PHMSA.

PHMSA's inspectors continue to inspect the construction of MVP to ensure compliance with the applicable Federal pipeline safety regulations contained in Title 49 CFR Part 190 -199. Regulations specific to gas pipelines are in 49 CFR Part 192. These regulations are available at [www.ecfr.gov](http://www.ecfr.gov). PHMSA can issue a range of enforcement actions if they identify unsafe conditions or non-compliance with pipeline safety laws or regulations. PHMSA's enforcement actions are publicly available at <https://primis.phmsa.dot.gov/comm/reports/enforce/Enforcement.html?nocache=6308>

### **Concern Statement LAW-04:**

Commenters contend the Forest Service is relying on outdated information collected for the 2017 FERC FEIS, much of which dates to 2015 or earlier.

### **Response LAW-04:**

The Forest Service disagrees with the comment and has considered new or additional information in the 2020 FSEIS and 2023 FSEIS. The 2017 FERC FEIS withstood legal challenge, remains valid, and provides the basis for the broader decision to allow for construction and operation of the MVP project. On December 1, 2017, the Forest Service adopted the 2017 FERC FEIS and a decision (ROD) was signed.

On July 27, 2018, the Fourth Circuit vacated and remanded the Forest Service's decision concluding the Forest Service violated NEPA by adopting the sedimentation analysis in the FERC FEIS and NFMA regarding a decision to amend the JNF LRMP in response to the proposed MVP project. The Fourth Circuit also concluded that the BLM failed to acknowledge its obligations under the MLA. However, the Fourth Circuit upheld the Forest Service's and the BLM's adoption and reliance on FERC's FEIS with respect to the other NEPA claims. In response to the July 2018 Fourth Circuit opinion, the Forest Service prepared a DSEIS in September 2020 and an FSEIS in December 2020. The 2020 FSEIS was intended to correct the Court-identified deficiencies and address new information and changed circumstances that had occurred since the FERC FEIS was published. On January 11, 2021, the Forest Service issued a ROD and on January 14, 2021, the BLM issued a ROD granting a 30-year pipeline ROW in the JNF.

Both the Forest Service's and BLM's RODs were challenged and on January 25, 2022, the Fourth Circuit again vacated and remanded the decisions. The Fourth Circuit found that the Forest Service and BLM 1) inadequately considered the actual sedimentation and erosion impacts of the pipeline; 2) prematurely authorized the use of the conventional bore method to construct stream crossings; and 3) the Forest Service failed to comply with the Forest Service's 2012 Planning Rule. However, the Court upheld the agencies on three other issues. This FSEIS is intended to correct the Court-identified deficiencies and address notable changes that have occurred since the FERC FEIS and the 2020 FSEIS were published.

Specialists determined whether any changed circumstances occurred and whether they had any bearing on the environmental analysis and the effects previously disclosed. Section 3.3 in the FSEIS is the environmental analysis for those resources where new information or changed circumstances apply.

### **Concern Statement LAW-05:**

Commenters contend the DSEIS fails to provide meaningful details about tribal and agency consultation and coordination.

### **Response LAW-05:**

FERC remains the lead agency for compliance with Section 106 of the National Historic Preservation Act (NHPA). The Forest Service and BLM will continue to fulfill their obligations as directed by the December 2017 Programmatic Agreement (FERC Docket No. CP16-10-000). See Section 1.10 of the FSEIS for more details. The Forest Service and BLM emphasized tribal coordination and early notification throughout the development of this FSEIS. In addition to the FERC being the lead agency for compliance with Section 106 of the NHPA, the Forest Service continues to coordinate with its tribal partners. Additional details regarding agency coordination have been provided in Chapter 4.

### **Concern Statement LAW-06:**

Commenters contend the DSEIS incorrectly states that Virginia does not have a water quality standard for turbidity. State regulations include narrative criteria that require control of pollutants that produce turbidity if those substances would “interfere directly or indirectly with” designated uses of state waters. The Forest Service presents no analysis as to whether MVP has or could comply with the applicable criteria. In fact, all surface waters in Virginia have designated uses for the support of aquatic life and recreation, as well as specialized uses, such as public water supplies.

### **Response LAW-06:**

Virginia does not set a quantitative water quality threshold for turbidity. The Forest Service focused its quantitative analysis on turbidity spikes during high-flow events, including tropical storms, that raised turbidity levels above 50 NFU, which is the water quality action level in neighboring West Virginia and North Carolina. Turbidity levels less than the regulatory 50 NFU action level are not considered by West Virginia or North Carolina to be detrimental to water quality standards.

### **Concern Statement LAW-07:**

Commenters contend the Forest Service has not reviewed and responded to USEPA comments provided during interagency meetings, on preliminary drafts, technical resource documents and in letters.

### **Response LAW-07:**

This comment refers to correspondence that did not involve the Forest Service nor require Forest Service response. It is a comment letter sent from USEPA to the USACE on May 27, 2021 regarding the cumulative effects related to the 404 CWA application. We found this reference in the attachments that Wild Virginia provided during the comment period (CARA letter #413, #414). The letter to EPA is referenced in two attachments including the “Mountain Valley Pipeline Pollutions in Virginia Watersheds Full All Appendices” and “EPA-to-Corps-MVP-404-May 27-2021”.

The most recent comment letter the Forest Service has received from the USEPA was on February 15, 2023 (CARA letter 201). This letter reflects current comments and recommendations from the USEPA which the Forest Service has thoroughly reviewed and addressed. Because the plan for crossing streams on NFS lands has been changed to boring underneath streams, the comments provided to the USACE are not directly applicable to the Forest Service’s decision supported by this FSEIS. The 2023 letter to the Forest Service from the USEPA does not include this information on cumulative

effects. See Response LAW-05, Response AIR-02, and Response AIR-05 for responses to the most recent comments from the USEPA on the 2022 DSEIS.

### **Concern Statement LAW-08:**

Commenters contend the DSEIS largely repurposes its analysis of the Project's environmental effects under NEPA from its previously vacated SEIS. And, again, the DSEIS perpetuates many of the same fatal errors, which the Forest Service must correct by issuing a revised DSEIS. NEPA requires that "[a]ll agencies of the federal government" prepare a detailed environmental analysis for "major Federal actions significantly affecting the quality of the human environment." The primary purpose of this analysis is "to ensure agencies consider the environmental impacts of their actions in decision making." NEPA requires agencies to "take a hard look at environmental consequences." The agency must give proper consideration to "significant new information or environmental changes" that "come to light after the agency prepares an EIS." While a court "may not flyspeck the agency's environmental analysis, . . . [it] must take a holistic view of what the agency has done to assess environmental impact and examine all of the various components of the agency's environmental analysis to determine, on the whole, whether the agency has conducted the required hard look." Far from minor errors, the DSEIS's analysis of project effects is riddled with substantial flaws, unsupported contentions, inaccurate information, and conclusory statements.

### **Response LAW-08:**

The Forest Service disagrees with commentor's statement about minor errors, substantial flaws, unsupported contentions, inaccurate information, and conclusory statements and has responded to the commentor's other specific concerns elsewhere in this response document.

Because this is a supplemental EIS, this analysis builds upon the analysis and scientific evidence found in the 2017 FERC FEIS, the 2020 FSEIS, the 2021 FERC Boring EA, and other key sources of information. The 2017 FERC FEIS analyzed the environmental consequences for a wide range of issues and resources. The subsequent "supplemental" EISs focused on changed circumstances and new information. See Response DEC-02 for more information.

In 2018, the Fourth Circuit vacated and remanded the Forest Service's decision based on the 2017 FERC FEIS approving the Forest Plan amendment. This was based on violations of the National Forest Management Act (NFMA) and NEPA. The Court also vacated and remanded BLM's Mineral Leasing Act (MLA) ROW decision for the portion through NFS lands based on a violation of the MLA. In response to the Fourth Circuit opinion, the Forest Service analyzed the environmental consequences related to these issues, changed circumstances, and new information and prepared a DSEIS in September 2020 and an FSEIS in December 2020.

In 2022, the Fourth Circuit again vacated and remanded both the Forest Service's and BLM's RODs. The Fourth Circuit found that the Forest Service and BLM 1) inadequately considered the actual sedimentation and erosion impacts of the pipeline; 2) prematurely authorized the use of the conventional bore method to construct stream crossings; and 3) the Forest Service failed to comply with the Forest Service's 2012 Planning Rule. The 2023 FSEIS has analyzed the court-identified issues, changed circumstances, and new information.

### **Concern Statement LAW-09:**

Commenters contend the inadequacies of the 2017 and 2020 analyses are not sufficiently made up for in this DSEIS. The purpose of the DSEIS needs to be conservation of the Jefferson National Forest and adherence to the planning rule's substantive regulations, instead of a limited response to MVP's

supplemental information. USFS has not provided sufficient information, including needed assessment reports, monitoring reports, etc. USFS should not limit their review to “issues identified by the Court.”

### **Response LAW-09:**

The purpose of this FSEIS is identified in the Purpose and Need section of the document and is consistent with the Forest Plan and Planning Rule regulations.

Because this is a supplemental EIS, this analysis builds on the analyses and scientific evidence presented in the 2017 FERC FEIS, the 2020 FSEIS, the 2021 FERC Boring EA, and other key sources of information. See response to Dec-02 for more information.

### **Concern Statement LAW-10:**

Commenters contend the proposed pipeline will impede the migration of large migratory animals, in violation of our treaty to protect Migratory animals, signed with Canada and other nations in the 1980s. Pipelines like these block normal patterns of movement and endanger migrations of Moose, Elk, and Deer.

### **Response LAW-10:**

The Forest Service was unable to identify the specific treaty mentioned in comments. The “Convention on the Conservation of Migratory Species of Wild Animals” dates to 1979, but the United States is not party to that convention. Wildlife migration was addressed in the 2017 FERC FEIS (pp. 4-200, 4-204, and 4-212). There is no new information or changed circumstances that warrant supplemental analysis.

### **Concern Statement LAW-11:**

Under Section 4 Consultation and Coordination a list of federal [state and local] agencies and tribes consulted; however, there are no state or local agencies listed. Please update this list with the appropriate information. Commenters state if no state or local entities were consulted for the FSEIS, please explain why.

### **Response LAW-11:**

Section 4 of the FSEIS has been corrected and now displays the state and local governments that have been involved in this Project since the 2017 FERC FEIS. The FERC, the Forest Service, and BLM have coordinated with state and local governments throughout the life of this Project and state and local governments have continued to participate in meaningful ways regarding the MVP project. For example, both Monroe and Giles counties were asked to provide comments on the Revised Historic Property Treatment Plan, Appalachian National Scenic Trail Historic District (021-5012). Comments were provided either to the MVP or the FERC and were considered in the March 2021 final treatment plan. See response REG-04 for the discussion on NHPA consultation with Tribes. The Project Record, since the inception of the Project, includes many records documenting interaction with state and local entities by the Forest Service and other Cooperating Agencies on the Project.

### **Concern Statement LAW-12:**

Commenters contend to ensure meaningful engagement, provide in the FSEIS a description of topics discussed during those consultations and any follow-up coordination efforts with impacted Tribes as well as the outcomes of those discussions, including any adjustments that were made to the proposed action as a result.

**Response LAW-12:**

FERC, as the lead agency for NHPA, in consultation with Tribes, the cooperating agencies, West Virginia and Virginia SHPOs, the Advisory Council on Historic Preservation, and other consulting parties, executed a PA (FERC 2017b), under 36 CFR § 800.14(b)(3), which sets forth the steps for compliance with the requirements of NHPA Section 106. The PA contains stipulations to satisfy all responsibilities under NHPA Section 106 for the involved regulatory agencies, including consideration of effects of the undertaking on historic properties, and resolution of adverse effects of the undertaking on NRHP eligible historic properties, including a Treatment Plan for the mitigation of adverse effects to site 44GS0241.

The 2020 FSEIS concluded that “all responsibilities under NHPA Section 106 for the involved regulatory agencies” were addressed in a PA and the associated Treatment Plan for the mitigation of adverse effects to site 44GS0241. This assessment remains accurate. Since portions (1.65 acres) of the 5.8-acre 44GS0241 site cannot be avoided, Phase III excavations to recover data have been authorized. This site will be avoided (e.g., no construction allowed) until Phase III excavations are complete.

Prior to the Forest Service FSEIS being issued in December 2020, Mountain Valley provided the Monacan Indian Nation with all cultural resources reports and other documents pertaining to the Project. Following the large transfer of earlier documents, Mountain Valley added the Monacan Indian Nation to the distribution list for both Virginia and West Virginia reports, resulting in the Nation having copies of all reports listed.

After the 2021 Forest Service ROD was signed, Mountain Valley continued to engage with Tribes through the PA and provided copies of variance survey reports and other documents. As of March 2023, Mountain Valley has received no comments from tribes on any of the documents provided since the Forest Service and BLM decisions were vacated in 2022.

For the 2022 DSEIS, the GWJ Forest Supervisor sent letters to each Tribe notifying them of the forthcoming Notice of Intent to prepare a SEIS. On December 16, 2022, the GWJ Forest Supervisor notified each Tribe of the publication of the DSEIS. The Forest Service did not receive any comments on the DSEIS from interested and affected Tribes.

**Decision to be Made****Concern Statement DEC-01:**

Commenters contend the Forest Service should extend the public comment period.

**Response DEC-01:**

During the 45-day comment period on the DSEIS, the Forest Service received seven requests to extend the MVP DSEIS comment period. In response to these requests, the Forest Service granted a 15-day extension. The resulting 60-day comment period began on December 23, 2022, following the publication of the notice of availability in the Federal Register and ended at 11:59 p.m. on February 21, 2023.

**Concern Statement DEC-02:**

Commenters contend the Forest Service has rushed its analysis and cannot have taken the requisite hard look at required information under NEPA including the FWS BO and other information sources vital to making an informed decision.

## **Response DEC-02:**

The Forest Service disagrees with the comment and that the Forest Service's supplement to the 2017 FERC FEIS and 2020 FSEIS takes the appropriate review of the environmental effects of the proposed action. The Forest Service has been involved in environmental analysis related to the MVP ROW on NFS lands continuously since 2015.

As described in Section 1.3, this supplemental EIS analyzes new circumstances or information, in part, to respond to the previously remanded and vacated agency decisions approving a ROW across JNF, supplementing the previous analysis and scientific information and data in the 2017 FERC FEIS, the 2020 FSEIS, the 2021 FERC Boring EA, and other key sources of information. The 2020 FSEIS sought to address the NEPA and NFMA deficiencies identified in the Fourth Circuit's July 2018 decision. In particular, the court found that the Forest Service's decision failed to explain how the 2017 FERC FEIS took a hard look at sedimentation impacts given the concerns raised by the Forest Service during review of the hydrologic analysis drafts. In response, the 2020 FSEIS used an updated hydrologic analysis that had received an independent review by the Forest Service and other federal agencies (2020 FSEIS, pp. 27-28).

This FSEIS again seeks to supplement the 2017 FERC FEIS and 2020 FSEIS to address the NEPA and NFMA deficiencies identified in the Fourth Circuit's January 25, 2022 decision remanding and vacating the Forest Service's 2021 ROD. The court found that the Forest Service's NEPA analysis relating to sedimentation and hydrology failed to consider real-world data and information about actual sedimentation and erosion impacts (Section 1.9). This FSEIS analyzes USGS data and other information regarding sedimentation and erosion impacts, evaluating the sediment monitoring program that has been established by MVP, and evaluating monitoring and the efficacy of ECDs that occurs on NFS lands.

This FSEIS also supplements the previous analysis regarding Threatened and Endangered species, including information from the 2022 MVP Supplement to the Biological Assessment to consider changed conditions as they relate to activities on NFS lands that may affect Federally listed aquatic, terrestrial and plant species (Section 3.3.3). Although the Forest Service has included this supplemental analysis in this FSEIS, the FERC continues to be the lead agency for all ESA consultation efforts for this project.

The 2022 DSEIS disclosed preliminary effect determinations to provide the public with an opportunity to review and comment on the preliminary effects and for early identification of analysis issues. The Supplemental BA provided early information about biological resources, offering information upon which a future BO would rely and from which the 2022 DSEIS could disclose preliminary analysis (MVP 2022b). On February 28, 2023, the Forest Service received the FWS BO. The Forest Service has reviewed the FWS BO, confirmed the preliminary effect determinations, and made responsive changes in this FSEIS to reflect any changes to the terms and conditions that must be followed.

## **Concern Statement DEC-03:**

Commenters contend the Forest Service relies on the FERC 2017 scoping process from seven years ago and did not conduct an independent NEPA review in 2017, refused to provide scoping in 2020, and is now refusing public scoping in 2022.

The Forest Service subsequently failed to provide adequate and timely access to documents necessary for the public's review of the DSEIS.



The Forest Service disregards “changes” and “new information” since the 2017 FERC EIS and the 2020 FSEIS.

### **Response DEC-03:**

The MVP project has been underway since June 29, 2017 when the Notice of Availability for the 2017 FERC FEIS and the Forest Service Draft Record of Decision (ROD) for the Mountain Valley Project Land and Resource Management Plan Amendment was published in the Federal Register (FR). This current analysis is a supplement to the 2020 SEIS and the 2017 FERC FEIS.

Scoping, a requirement for an EIS (40 CFR § 1501.7 (1978, as amended in 1986 and 2005); 36 CFR § 220.4(c)(1)), was completed and summarized in the 2017 FERC FEIS (Section ES-1.4). White House Council on Environmental Quality (CEQ) regulations do not require scoping for a SEIS (40 CFR § 1502.9(d)(3)).

Written comments relevant to NFS lands were addressed in the 2017 FERC FEIS, particularly in Section 3.4 (Route Alternatives) and Section 4.0 (Environmental Analysis). Accordingly, as identified in the Forest Service 2020 and 2022 NOI, scoping will not be repeated but an opportunity for public comment was provided as required via the 60-day comment period for the DSEIS.

Contrary to the commenter’s comment, the Forest Service has considered all relevant new circumstances or information relating to Mountain Valley’s proposal to cross JNF. The 2020 FSEIS addressed changes since the 2017 FERC FEIS in Sec. 1.7. This FSEIS addressed the need to consider changed circumstances in Section 1.3 — “Purpose and Need,” Section 1.7 — “Changes Between the 2020 FSEIS and 2022 DSEIS,” and in Chapter 3 — “Affected Environment and Environmental Consequences.” The Forest Service has responded to the commenters’ specific concerns elsewhere in this response document.

### **Concern Statement DEC-04:**

Commenters contend that the Forest Service proposes to make a new decision in response to a new application from MVP, requiring the agency to consider all issues and relevant information necessary to support that decision, regardless of whether those issues were, or could have been, raised earlier. Commenter identifies the following issues that need to be addressed:

- Pipeline going through headwaters
- Soil compaction during construction
- Use of waterbars for steep slopes problematic
- No sediment traps
- Unresolved failure of waterbars and silt fences
- No assessment of sediment in streams
- Failure to discuss adverse effects with Rogers Road and closing of Pocahontas Road
- Visual impacts on ANST
- Integrity of exposed pipe
- FBE coating degradation, and evidence of resulting risks to public health and safety were not considered by the FEIS
- Climate change
- Analysis of timber sales
- Changes in T&E species since 2004 Forest Plan so Forest Plan may be affecting species “to an extent not previously considered.”
- Oil and gas development not analyzed in original BO

- Changes in Forest Plan will happen before the ROD is issued
- The Forest Service failed to incorporate soil disturbance assessment procedures as used in Forest Plan monitoring.)

### **Response DEC-04:**

Because this is a supplemental EIS, this document builds upon the analysis and scientific evidence found in the 2017 FERC FEIS, the 2020 FSEIS, the 2021 FERC Boring EA, the 2023 FWS BO, and other key sources of information. These analyses remain valid. When new information or changed circumstances since the 2020 FSEIS and 2021 ROD were relevant to environmental concerns and had bearing on the proposed action or its impacts, it was disclosed in this 2023 FSEIS. This is consistent with CEQ direction for supplementing an EIS (40 CFR § 1502.9(d)). The topics raised by commenters are addressed in the relevant sections of this Response to Comments appendix.

### **Concern Statement DEC-05:**

Commenters contend the Forest Service should not forego the pre-decisional review process. Pre-decisional administrative review is vital to help authorities “avoid potential disputes,” create opportunities to “identify and correct any errors” and “fine-tune the design of proposed actions . . . before final decisions are made.”

### **Response DEC-05:**

The Secretary of Agriculture has broad legal authority to administer the NFS as provided by the Organic Administration Act of 1897, the Multiple-Use Sustained Yield Act of 1960, and the National Forest Management Act of 1976. These statutes provide the Secretary of Agriculture the discretion to direct the programs, plans, and proper uses within any area that is part of the NFS.

The regulation for the Project-level pre-decisional administrative review process at 36 CFR § 218.13(a) states “[N]othing in this section shall restrict the Secretary of Agriculture from exercising any statutory authority regarding the protection, management, or administration of the National Forest System lands.” In this specific case, the Secretary of Agriculture is retaining the decision authority at the departmental level to ensure the MVP project is expedited consistent with the administration’s priority for energy infrastructure and economic development.

Furthermore, the Fourth Circuit Opinion upholds this broad legal authority in its 2022 decision, stating “...significantly, ‘[p]rojects and activities proposed by the Secretary of Agriculture or the Under Secretary, Natural Resources and Environment, are not subject to’ the predecisional review process. Id. § 218.13(b).”

### **Concern Statement DEC-06:**

Commenters contend the Forest Service must consider all issues relevant to its decision whether to amend the Jefferson Forest Plan to allow MVP to cross the JNF. The agency attempts to cabin its review in the DSEIS to analyzing “deficiencies identified in the Fourth Circuit’s January 2022 decision and new circumstances and relevant information since December 2020 (i.e., the date of the Forest Service FSEIS) until present identified by the Forest Service or the BLM that are relevant to the environmental concerns, decision framework, and have a bearing on the proposed action or its effects.” This framing improperly limits the scope of the Forest Service’s review.

To avoid arbitrary and capricious decision making, the Forest Service must grapple with issues raised in comments even if they are outside the agency’s self-identified categories, because the DSEIS must be able to support a new administrative approval process following vacatur of its previous decision.

The DSEIS is “supplemental” only in the sense that it incorporates by reference information from earlier administrative action. Here, the Forest Service proposes to make a new decision in response to a new application from MVP, requiring the agency to consider all issues and relevant information necessary to support that decision, regardless of whether those issues were, or could have been, raised earlier.

### **Response DEC-06:**

This Response to Comments appendix demonstrates the agencies’ consideration of public comments. Where noted, the FSEIS has been updated based on new circumstances and relevant information.

## **Permit Compliance**

### **Concern Statement PC-01:**

Commenters contend the DSEIS review of 2021-2022 inspection reports in three Virginia counties fails to account for violations occurring before 2021. Given that construction activities started in 2018, the Forest Service failed to analyze at least three years of relevant reports on water quality monitoring. Further, pollution incidents have occurred from early 2018 through at least October of 2021. It is arbitrary and capricious not to include reports from this entire period and not to examine the types of violations and the frequency of issues during active construction.

### **Response PC-01:**

The Forest Service analyzed relevant reports from the entire period. The 2020 FSEIS (Sections 3.1.2 and 3.4.2.1) disclosed that the Forest Service reviewed water quality information prior to 2021. As described in the 2020 FSEIS, an MOU was developed between VDEQ and Mountain Valley which placed further requirements on the proponent to execute additional mitigations, such as increased number of ECDs. This FSEIS supplements that analysis. Accordingly, it is appropriate for the disclosure in the 2022 DEIS to provide an environmental analysis based on the current MOU with updated mitigation measures. On the JNF, an independent third-party contractor (i.e., Transcon) has been conducting monitoring on the JNF since March 2018. They have submitted more than 1,000 inspection reports and during that period submitted 16 non-compliance reports specific to the JNF, all from 2018. The non-compliance reports noted five instances of sediment off the LOD, four instances of Work Conducted Outside the LOD Without Authorization, two instances of Damage to Trees on the Boundary of the LOD, two instances of Inadequate Road Maintenance, one instance of Inadequate Soil Separation, one instance of Unauthorized Road Widening, and one instance of a Windrow Outside the LOD. The Compliance Inspection Contractor made Recommendations to Mountain Valley to correct each non-compliance issue. See Appendix C of the 2020 FSEIS.

### **Concern Statement PC-02:**

Commenters contend citizen water monitoring has shown increased sediment load and failed ECDs at multiple locations upstream and downstream from the MVP construction site on NFS lands. The Forest Service ignores information collected by volunteer monitors and observers. Data and photographs show that impacts on NFS lands will be worse than acknowledged in the DSEIS. There many been many more violations for sedimentation and erosion control failures than disclosed in the DSEIS summary of concerns and violations identified by VDEQ.

Despite barriers to citizen monitoring efforts, a turbidity study by Trout Unlimited and West Virginia Rivers using citizen science data documented extreme turbidity downstream of MVP construction on the North Fork Roanoke River, while sites upstream of construction remained within expected levels.

## Response PC-02:

The Forest Service reviewed comments, literature, and materials submitted. The FSEIS relies on the best available scientific information. The Forest Service reviewed all submissions provided with public comments. Information provided by commenters could not be verified to be accurate, reliable, and relevant, in accordance with the definition of best available scientific information in Section 3.3.2.2.

§ 219.3 Role of science in planning, discusses Best Available Scientific Information.

*The responsible official shall use the best available scientific information to inform the planning process required by this subpart for assessment; developing, amending, or revising a plan; and monitoring. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(3). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.*

§ 219.13 Plan amendment and administrative changes.

*(i) The responsible official's determination must be based on the purpose for the amendment and the effects (beneficial or adverse) of the amendment, and informed by the best available scientific information, scoping, effects analysis, monitoring data or other rationale.*

The Forest Service acknowledges comments that have detailed the failures of erosion and sediment control structures/devices and documented violations that resulted. It is important to put these failures and violations in context of what specific ground disturbing activities have occurred on the JNF. The Forest Service and other entities continually monitor site conditions on the JNF and require Mountain Valley to implement stabilization, conservation, and safety measures, as appropriate, to protect resources and public and employee safety.

As described in the 2020 FSEIS, the Forest Service required Mountain Valley throughout 2018 and 2019 to conduct additional stabilization activities on Brush Mountain, Peters Mountain, and Sinking Creek Mountain. These on-site reviews, coupled with the frequent and continual monitoring activities detailed in Section 3.1.2 of the 2020 FSEIS, document that the Forest Service continually provides for the conservation and protection of NFS lands and its associated resources, including flora and fauna.

Since the implementation of the above-mentioned stabilization work, weekly monitoring has documented that both Sinking Creek and Brush Mountain LODs are continually noted as being largely stable with no erosion or sedimentation issues observed. These on-site weekly monitoring activities identify any maintenance necessary for ECDs. These issues are noted and quickly responded to by Mountain Valley environmental crews. Mountain Valley environmental crews continue to inspect and adjust ECDs during Project shutdown on the JNF. The 2023 FSEIS is based on these updated conditions, mitigations, and monitoring results.

Based on stabilization results on NFS lands and ECDs that have been improved since 2018, the analysis in the 2020 FSEIS and 2023 FSEIS is accurate and describes environmental conditions and anticipated impacts accurately. Monitoring reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained.

A 2021 VDEQ memo further states on page 10 that ongoing USGS total suspended solids data do not reflect any pipeline construction related events (VDEQ 2021). The 2021 VDEQ memo also does not agree with assertions from the public that there are ongoing, significant regular violations of erosion and sediment controls or water quality standards. These conclusions are based on a consistent, almost daily field presence of both VDEQ inspectors (including a pipeline team with three erosion and sediment control inspectors) and VDEQ's third party compliance inspectors (VDEQ 2021).

### **Concern Statement PC-03:**

Commenters contend the Forest Service has a poor record of enforcing proper BMPs and mitigation. For example, Forest Service post-project inspection of the Tub Run East Timber Sale identified violations related to stream buffers, vehicle use in "vehicle exclusion" zones, incomplete ECDs, and failure to close and rehabilitate temporary roads.

### **Response PC-03:**

Monitoring programs are routinely adapted to the type of activity being conducted on NFS lands. The MVP project would continue to be monitored by a third-party contractor (Transcon) to provide early detection of any measures that require maintenance or repair, respond quickly to any emerging issues, and ensure compliance with the ROW grant. In addition, the Forest Service has the authority to issue a stop work order for the Project on NFS lands in the event of serious non-compliance that could reasonably be expected to result in a risk of death or harm to persons or repeated violations of environmental requirements that have a detrimental effect to sensitive resources (ROW Grant and POD, Appendix N – Environmental Compliance Management Plan).

### **Concern Statement PC-04:**

Commenters contend that ECDs are not designed in compliance with state requirements, there is no stormwater management plan, and there are no sediment traps or sediment trap outlets on the construction plan sheets. Contrary to what was stated in the 2017 FERC FEIS, a stormwater management plan is needed. In the 2017 FERC FEIS, MVP described the post-construction land cover and soils as being the same as those existing as pre-construction, such that the stormwater discharge calculations did not need to be presented. Although the values for ground cover in stormwater discharge calculations are allowed to be the same for forests as for open areas, good engineering practices should incorporate the function of the forest tree canopy as intercepting rain more effectively than grasses or herbaceous ground covers, thereby resulting in greater stormwater discharge from deforested areas.

### **Response PC-04:**

The VDEQ and WVDEP are the state agencies responsible for reviewing erosion and sediment control plans developed to manage stormwater. Both state agencies reviewed and approved Mountain Valley's erosion and sediment control plans (including the plan sheets) prior to ground-disturbing activities occurring on NFS lands.

The ECDs are meant to minimize sediment yield during construction in accordance with requirements prescribed by WVDEP and VDEQ and applicable federal agencies. The ECDs are intended to provide sufficient stormwater capacity to manage the types of storms that are likely to occur during the expected construction period.

The plan sheets do not identify sediment traps or sediment trap outlets because Mountain Valley worked with VDEQ, which conducted several rounds of review, to include alternative structures to function a sediment trap. In lieu of a standard sediment trap, the Project employs sediment sump

surrounded by triple stack compost filter sock to provide an additional layer of filtration. This use of sediment sumps instead of sediment traps is immaterial as the Hydrologic Analysis of Sedimentation (Geosyntec 2020b). This is because the RUSLE2 program includes pre-defined BMP options such that the user cannot define the size or volume of the trap. The volumes retained by the default RUSLE2 “impoundments” or “standard sediment basins” appeared to overestimate the volumes of sediment retention possible for the small-scale BMPs proposed for the Project. Because of this, the “road rut” BMP was selected to provide a conservative approximation of sediment retention where sediment sumps were used. This resulted in a BMP effectiveness ranging from 45% to 70%, which is within the expected range of sediment retention for the sediment sumps proposed.

### **Concern Statement PC-05:**

Commenters identified required permits for construction and provided recommendations for environmental conservation measures and state agency coordination.

### **Response PC-05:**

Mountain Valley, as required by the FERC Certificate, would be required to adhere with all applicable permits for construction and operation of the proposed pipeline. The environmental conservation measures in the POD have been designed in coordination with applicable state and federal agencies.

### **Concern Statement PC-06:**

Commenters contend the DSEIS fails to examine the relationship between periods of active construction and permit compliance, in particular the fact that fewer water quality issues would be expected in 2021 and 2022 when construction was paused on NFS lands. The DSEIS analysis does not reveal that construction was occurring during just seven months in the 20-month period for which reports were reviewed by the Forest Service. Of all types of problems shown on the VDEQ reports examined in the DSEIS, nearly 70% of the problems described occurred during that short period when construction was underway in 2021, indicating that construction results in the greatest spike in impacts to waterbodies and residents. Many problems have occurred outside periods of unusually high rainfall, refuting assertions that historically wet periods are an overriding cause of MVP’s violations and pollution problems. The Forest Service should review the individual instances of deficiencies described in the VDEQ reports. Each of the reports covers activities at multiple sites and often for long segments of the ROW or multiple additional worksites. Therefore, the number of reports showing each kind of problem tells only an incomplete story.

The DSEIS states that 22 of 135 VDEQ reports (16%) from 2021 and 2022 indicate that measures were not properly maintained in effective operating condition. However, during active construction periods in 2021 in Spread G, this proportion is in fact 28% of the total. Likewise, the Forest Service indicates 10 of the 135 reports (7%) for Spread G show that pollution control measures were not installed and implemented in accordance with the approved erosion and sediment control plan and stormwater management plans. But during construction periods in 2021 on Spread G, the percentage is 34.4%.

### **Response PC-06:**

This 2023 FSEIS (Section 3.3.2) assesses real-world data collected during the entirety of agency inspection and project-specific data collection timeframes, including pre- and post-construction periods. Each agency inspection report was reviewed individually. The analysis captures timeframes when construction was active and times when construction was paused or completed. This is a reasonable approach to analyze the entirety of the actual impacts of the pipeline and its construction.

**Concern Statement PC-07:**

Commenters contend the DSEIS fails to consider inspections performed by VDEQ's third-party contractor, McDonough Bolyard Peck (MBP). These inspections recorded numerous violations not previously analyzed.

**Response PC-07:**

MBP inspection reports are not publicly available. The Forest Service obtained a spreadsheet summary of 2022 MBP inspection results from VDEQ. The inspection summaries are limited to off-NFS lands. The Forest Service reviewed attachments provided by commenters and the VDEQ spreadsheet summary for results pertaining to the 32.2-mile-long Spread G, which contains the counties most topographically like the JNF. Within Spread G, which is also where MVP proposes to cross the JNF, there are approximately 1,300 action item records from 2018 through June 2022, including 36 categorized as a stream impact and 9 as a wetland impact. Action items identify required maintenance or actions needed to restore ECDs; they are not synonymous with violations. All action items have been marked as "completed" (i.e., action item was addressed) which is consistent with this FSEIS analysis that MVP has addressed items identified by inspectors. This FSEIS (Section 3.3.2) has been updated to disclose this consideration of additional real-world information.

**Concern Statement PC-08:**

Commenters contend the DSEIS ignores inspections and associated violations occurring elsewhere in Virginia and West Virginia. For example, there is no rationale in the DSEIS for ignoring the WVDEP notices of violation and water quality standards violations and State of West Virginia MVP 2018 Incident Reports.

**Response PC-08:**

The Forest Service did review inspection reports and notices of violations issued by WVDEP and determined that they are generally consistent with similar information from VDEQ. Several violations cited by WVDEP are in Monroe County, all of which date from 2018 or 2019, which is consistent with the VDEQ inspection reports.

This FSEIS review of VDEQ's Spread G inspection reports is reasonable because the topography and land use/land cover along Spread G are most like those of the JNF. This FSEIS focuses on real-world data in Virginia because only 434 feet of the ROW on NFS lands occurs in West Virginia (including 0.74 acre of temporary ROW, of which 0.41 acre would experience ground disturbance and 0.33 acre is for the bore path which would not result in ground disturbance). In addition, there are no NFS stream crossings in West Virginia and surface and groundwater impacts for the entire ROW on NFS lands have been disclosed in the 2020 FSEIS (Section 3.4.2).

The Forest Service contacted VDEQ and requested any additional information about Spread G that could inform the FSEIS analysis. VDEQ provided 17 new inspection reports from September 12, 2022 through February 6, 2023. A review of these inspection reports did not identify problems with ECDs.

The Forest Service has reviewed violations of state water quality standards that were reported and documented along the entire proposed pipeline route, and those specific to the JNF. In Virginia, violations were cited by VDEQ, and an MOU was developed, placing further requirements on Mountain Valley to execute additional mitigations, such as increased number of ECDs and increased staffing. Since publication of the 2020 FSEIS, WVDEP has issued three notices of violation. While

VDEQ and WVDEP have issued citations to Mountain Valley for violations, no citations were issued because of non-compliance on NFS lands.

### **Concern Statement PC-09:**

Commenter provided a video purporting to show downed trees, impacted wildlife water features, and other concerns.

### **Response PC-09:**

The ROW on NFS lands is monitored and inspected by Transcon and any needed maintenance or corrections are noted and addressed by Mountain Valley. The video in question did not provide any locational information to help identify where potential issues were occurring.

## **General Impact Analysis**

### **Concern Statement GEN-01:**

Commenters contend that the cumulative adverse effects of the pipeline outweigh the benefits, especially as they relate to climate, air quality, jobs, and fracking.

### **Response GEN-01:**

The 2017 FERC FEIS (Section 4.13.2), the 2020 FSEIS (Section 3.5), and this 2023 FSEIS (Section 3.4) have analyzed cumulative impacts on a variety of resources, disclosing both beneficial and adverse effects.

### **Concern Statement GEN-02:**

Commenters contend there is no contingency plan should the construction company stop working mid-way through construction or restoration, thus leaving the ROW half-finished and at greater risk for erosion and other environmental impacts.

### **Response GEN-02:**

In December 2017, Mountain Valley posted a performance bond to ensure adequate adherence to all terms and conditions on Federal lands. The bond applies to restoration and reclamation of disturbed areas, decommissioning, and other activities. BLM reviews bonds periodically to make sure the bond amount is appropriate and covers the current and projected activities. Upon review, bond amounts can be raised, lowered or determined to be sufficient.

### **Concern Statement GEN-03:**

Commenters contend that the Forest Service failed to consider the impacts of its decisions on non-NFS lands and shared watersheds. The DSEIS ignores or dismisses new information and evidence (e.g., repeated violations, water quality impacts, etc.) that clearly indicates the likelihood of significant impacts beyond its borders.

### **Response GEN-03:**

In terms of cumulative impacts and impacts beyond its borders, the Forest Service reviewed additional actions within the HUC-10 geographic scope of analysis, particularly actions on state and private lands that have the potential to impact soil and water, to determine what could inform the cumulative effects analysis. As a result, the FSEIS includes an updated cumulative effects analysis.



Although additional actions were added to the analysis, there is no measurable change in the environmental consequences. See Section 3.4.

### **Concern Statement GEN-04:**

Commenters contend the DSEIS does not refer the reader to the independent agency analysis referenced in Section 3.3.1.

### **Response GEN-04:**

For this FSEIS, the Forest Service conducted independent agency reviews on the 2022 Supplemental BA, 2021 FERC Boring EA, and water quality information. Water quality information reviewed included USGS in-stream water quality monitoring data, MVP in-stream water quality monitoring data, VDEQ in-Stream water quality data and inspection reports, and Transcon ROW site monitoring reports. This FSEIS describes the methods and conclusions of the independent agency analyses.

### **Concern Statement GEN-05:**

Commenters contend that the size and aerial extent of the areas addressed in the cumulative impacts assessment are insufficient because only a very small fraction of the 303.5-mile-long pipeline route is considered. There are also serious deficiencies in the methods used to estimate impacts.

HUC-10 (and even HUC-12) is an inappropriate scale for meaningful analysis. The cumulative effects on water quality and aquatic species are both highly likely to occur within much smaller areas based on the heavy concentration of pipeline-related activities within relatively small watersheds that overlap the JNF.

### **Response GEN-05:**

The Forest Service's size and scale of the cumulative impacts assessment are sufficient and reasonable. The FSEIS states, "There are three 10-digit HUC watersheds that overlap the 3.5-mile-long portion of the MVP that crosses NFS lands. These HUC-10 watersheds, including all lands regardless of ownership, are the spatial boundary for evaluating cumulative effects relative to actions on NFS lands (Figure 9)". Table 9 displays these watersheds and their acreage."

The geographic scope of analysis for the *Hydrologic Analysis for the JNF* consists of the HUC-12 watersheds overlapping the proposed ROW on NFS lands, and the *Hydrologic Analysis for Aquatic Species* for the entire 303-mile-long pipeline used HUC-10 boundaries. These analyses disclosed project-related impacts extending to the HUC-10 and HUC-12 boundaries. Similarly, the 2023 FWS BO uses HUC-10 and HUC-12 watersheds as boundaries for analysis of project-related impacts. These are two reasons the FEIS, in order to capture the direct and indirect effects "most likely to contribute to a cumulative effect" (FSH 1909.15.2), utilizes HUC-10 watersheds as its geographic scope of analysis for cumulative impacts. In addition, consistency between agencies (FERC, Forest Service, FWS) and documents (2017 FERC FEIS, USFS SEIS, FWS BO, MVP analyses) is important since the analyses are interrelated.

### **Concern Statement GEN-06:**

Commenters contend the DSEIS has not provided assessment reports, monitoring reports, and other documents that support the conclusions in the DSEIS; therefore, the public cannot review the methodology to determine if DSEIS has any justification to support its conclusions.

## Response GEN-06:

This is a supplemental EIS and its analysis builds upon the analysis and scientific evidence found in the 2017 FERC FEIS, the 2020 FSEIS, the 2021 FERC Boring EA, and other key sources of information. The 2017 FERC FEIS, which was the foundation for the 2020 FSEIS and 2023 FSEIS, has been available in its entirety since 2017. VDEQ and WVDEP monitoring that is specific to the MVP can be found on the VDEQ and WVDEP websites, respectively ( <https://dep.wv.gov/pio/pages/major-pipelines-in-west-virginia.aspx>; <https://www.deq.virginia.gov/get-involved/topics-of-interest/mountain-valley-pipeline> ). It would be redundant for the Forest Service to post publicly available information on its website.

The day that the 2022 DSEIS was made available, the following supporting documents were also available on the Project website: 2017 FERC FEIS and the links to the FERC online documents (i.e. FERC Docket); 2020 BLM Final Practicality Analysis Addendum, v.2, 2020 FSEIS; 2021 Forest Service MVP ROD, 2021 MVP BLM ROD with appendices, the 2022 POD, the FERC 2013 Wetland Waterbody Construction Mitigation Procedures, the FERC 2013 Upland Erosion Control Revegetation Maintenance Plan.

As other information and documents are requested by the public, the Forest Service has been posting non-privileged documents and information under its control on the GWJ Public Reading room.

Other information released upon request has included:

- In response to a request from VDEQ, the Forest Service posted GIS shape files for the boring pits on January 3, 2023;
- In response to a January 9, 2023 request for Transcon monitoring reports, the Forest Service posted the 2021 and 2022 reports on January 12, 2023;
- In response to a January 17, 2023 request for specialist reports, the Forest Service posted the aquatic fisheries report, and the wildlife TES, botanical and NNIS, and aquatics changed condition assessments on January 21, 2023; and,
- In response to a FOIA the Forest Service posted documents that could be released on January 31, 2023.

In the case of the JNF, the Draft FY2015-FY2019 Monitoring Evaluation Report made no recommendations for a need to change current forest plan direction. An analysis to determine whether the Forest Plan has the components to maintain or restore ecological integrity is reflected in Appendix A.

FSH 1909.12 Ch. 10 Sec. 12.22 provides guidance that the Forest Service “may consider the following information when assessing soils and soil productivity”:

- (1) “[e]xisting interpretations of soil surveys certified by the National Cooperative Soil Survey”;
- (2) “[e]xisting information on vegetation suitability and productivity, and natural range of variation, in addition to the standard soil interpretations from a terrestrial and ecological unit inventory”;
- (3) “[e]xisting approximations of soil-landform units and attribute data derived from remotely sensed data or expert opinion”; and

(4) “[e]cological site descriptions of the plan area developed in cooperation with USDA Natural Resources Conservation Service.”

The directive goes on to explain that “[w]hen identifying and assessing the available information, the [agency] should”:

(1) “[i]dentify existing inventories of soil conditions and improvement needs”;

(2) “[i]dentify important attributes, characteristics, or processes of soils including soil erosion and sedimentation that makes them susceptible to loss of integrity resulting from specific uses, disturbances or environmental change”; and then, “using the information gathered” in those two steps, “describe in the assessment the existing conditions and trends of soil resources and soil quality assuming existing plan direction remains in place.”

### **Concern Statement GEN-07:**

Commenters contend the cumulative impacts conclusion for water resources is unsupported because the Forest Service provides no definition of a “water feature,” as used here, and this is not a commonly used and understood term. In another paragraph, the DSEIS mentions “[i]n-stream segments or other water features,” so presumably in-stream segments are a subset of the larger category of water features, but this presumption still does not provide a rational connection between expected or likely separate impacts and cumulative effects on the resources. The Forest Service provides no basis for using HUC-10 watersheds as the scale of analysis. In fact, the cumulative effects on water quality and aquatic species are both highly likely to occur within much smaller areas based on the heavy concentration of pipeline-related activities within relatively small cumulative effects, which are effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. EPA and USACE have stated concerns with HUC-10.

Understanding the true nature and extent of combined or cumulative impacts in a stream system requires more than quantifying miles or acres. There should be an analysis of context regarding the location and type of impacts and the relative effect on those resources.

The Forest Service’s analysis of cumulative impacts on aquatic species is also inadequate because it does not account for the hundreds of pollution incidents where Mountain Valley has failed to prevent sediment releases from its worksites and into waterbodies.

Further, the DSEIS compares MVP to past timber sales with no explanation why this pipeline construction project is like those other activities, and without acknowledging the nearby Celanese Pipeline just miles away on Peters Mountain. MVP is not consistent with past timber sales on the JNF.

### **Response GEN-07:**

The rationale for using the HUC-10 watershed for the analysis and what resources used the HUC-12 is described in detail in Response GEN-05. We looked at additional actions including those on State, private and NFS lands and updated the cumulative effects analysis. Clarification has been provided on what actions are considered baseline and represent the existing condition. Those actions that could affect soil and water and are ongoing or reasonably foreseeable have been further addressed.

The cumulative effects analysis does not compare any given action to that of the MVP, including timber sales. The actions included in the cumulative effects analysis are those which could have

“effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR § 1508.27 (g)(3)).

### **Concern Statement GEN-08:**

Commenters contend the proposed action gives MVP too much latitude to receive variances and exceptions. Given the demonstrated history of MVP receiving variances from FERC and other agencies, there is no reason to believe that the proposed action will be implemented as designed or analyzed in the SEIS.

### **Response GEN-08:**

The JNF, in general terms, defines a variance and a violation as follows:

A variance is an approved alternative that meets the intent of a required provision or standard. Generally, a variance is approved in advance of an activity or action and follows a review of environmental effects and/or regulatory compliance. Variances are approved by one or more federal agencies, depending on the type and location of variance requested by the proponent.

A violation is a notice of non-compliance with a regulatory framework or approved plan (e.g., POD) of an action that caused or threatens to cause an immediate, substantial, and adverse impact. Violations normally occur after an action, activity, or result has taken place. Violations can occur at the local, county, state, or federal level and are noticed by the appropriate regulatory agency.

It is understood by the Forest Service, FERC, BLM, and Mountain Valley that unforeseen circumstances will occur during construction, operation, and maintenance of a natural gas pipeline. The need to make changes to construction procedures, schedule, and/or approved mitigation measures and other specific stipulations and methods may be required. Under these or similar circumstances, for activities within the JNF, a variance would need to be filed and approved by the Forest Service to stay in compliance. Any requests made by the company for activities not included in the approved POD or that fall outside of the ROW must be requested to the Forest Service and/or FERC as a variance, with concurrence from the Forest Service and/or BLM as a variance.

It is important to note that in most cases, variances and notices of violations involve coordinator and/or action by multiple state or federal agencies.

An evaluation process is in place to manage variances and exceptions requested on NFS lands. Per Appendix N of the POD, variances are categorized according to three levels. Level 1 and 2 variances are minor adjustments, the effects of which are within the scope of the analysis disclosed in this FSEIS. Level 3 variances may require additional environmental analysis as appropriate and in compliance with NEPA.

Since 2018, six variance requests have been approved for the Project on NFS lands: three were Level 1 variances and three were Level 2 variances. All the requested and approved variances are consistent with the JNF Forest Plan. All these variances are minor in nature and are consistent with the level of impacts disclosed in the 2017 FERC FEIS. The following table summarizes the approved variances.

**Table F-2. Summary of Approved Variances.**

<b>Variance ID</b>	<b>Variance Level</b>	<b>Variance Description</b>
1	1	Variance was to retrieve one tree that fell outside the construction zone
2	2	Variance was to allow tree cutting in small areas around Peters Mountain, Pocahontas Road, and Mystery Ridge Road during the Migratory Bird Treaty Act time of year restriction due to delays caused by unauthorized personnel (protestors)
3	1	Variance was to retrieve 11 trees or tops that fell outside the construction zone
4	2	Variance was to increase a road turn radius along Mystery Ridge Road to accommodate large trucks (bore equipment and pipe trucks)
5	2	Variance was to allow tree cutting in a small area around Peters Mountain during Indiana bat time of year restriction due to delays caused by unauthorized personnel (protestors)
6	1	Variance was to retrieve trees that fell outside the construction zone and to move windrow piles that are outside the construction zone

**Concern Statement GEN-09:**

Commenters contend the DSEIS fails to include meaningful discussion or analysis of the proposed mitigation measures.

**Response GEN-09:**

Section 2.2.2.2 in this FSEIS references the 2022 POD. The POD contains mitigation, project design features, best management practices, and compliance monitoring requirements that would be implemented during all phases of the Project. The application of mitigation and BMPs is reflected in environmental consequences and effect findings (Sections 3.2.1 through 3.2.15, 3.3.2, 3.3.3, and 3.3.4). It is only through the application of mitigation that potential adverse effects are reduced to the extent possible.

**Concern Statement GEN-10:**

Commenters contend it is not speculative that future utility lines will be located within the MVP corridor—there is a presumption that they will be. In 2022, the George Washington and Jefferson National Forests proposed to develop a programmatic environmental assessment and decision notice that would allow the agency to quickly issue special-use permits to locate fiberoptic telecommunications lines across the forest, including in the vicinity of MVP.

**Response GEN-10:**

In January 2022, the Forest Service distributed a scoping letter for a programmatic environmental assessment that, if approved, would allow the Forest Service to issue special use permits to proponents requesting to locate fiberoptic telecommunication lines across NFS lands on the GWJNF. The scoping letter states the fiberoptic lines would mainly co-locate in existing utility or highway and road rights-of way. This programmatic document is not associated with any specific past, present, or future proposal for a fiberoptic line where environmental effects could be assessed in this FSEIS. Since distribution of the January 2022 scoping letter, this Project has been put on hold.

## Air Quality and Climate

### Concern Statement AIR-01:

Commenters contend the DSEIS fails to take a hard look at climate-related impacts because it devotes only one sentence to the topic and does not investigate the social cost of carbon in its analysis. Similarly, the DSEIS fails to comply with CEQ's interim guidance, released on January 9, 2023, regarding greenhouse gas and climate change analysis for proposed actions under NEPA. Relying on the 2017 FERC FEIS to comply with the new CEQ guidance is insufficient because the 2017 FERC FEIS devotes only three pages to general climate impacts. Instead, the Forest Service needs to fully investigate climate impacts, including impacts in the JNF and impacts on the pipeline.

Commenters contend that the MVP will cause an additional 89 million metric tons of greenhouse gases annually in carbon-dioxide equivalent units. Approving a project with this magnitude of emissions is inconsistent with President Biden's stated goal of a 50-52% reduction in US GHG emissions from 2005 levels by 2030.

### Response AIR-01:

As stated in Section 3.2.1 of this FSEIS, air quality and climate were analyzed in the 2017 FERC FEIS (Section 4.13.2.7; p. 4-614; Table 4.11.1-5) and 2020 FSEIS (pp. 68 to 69). Environmental groups challenged the sufficiency of analysis of climate-related impacts, including impacts of greenhouse gas emissions in *Appalachian Voices v. FERC*, 2019 U.S. App. LEXIS 4803 (D.C. Cir. 2019), which the United States Court of Appeals for the District of Columbia Circuit rejected finding FERC adequately considered climate-related impacts utilizing the Social Cost of Carbon tool. No new information or changed conditions have been identified and further analysis is not necessary.

On January 9, 2023, after publication of the 2022 DSEIS, CEQ published interim guidance on the consideration of greenhouse gas emissions and climate change. The interim guidance makes clear that “[a]gencies should exercise judgment when considering whether to apply this guidance to the extent practicable to an on-going NEPA process. CEQ does not expect agencies to apply this guidance to concluded NEPA reviews and actions for which a final EIS or EA has been issued” 88 Fed. Reg. 1196, 1212 (Jan. 9, 2023). “Agencies should consider applying this guidance to actions in the EIS or EA preparation stage if this would inform the consideration of alternatives or help address comments raised through the public comment process.” *Id.* The Forest Service has considered the interim guidance potential application to the FSEIS and has several observations. First, the FERC is the lead federal agency for the proposed MVP and concluded its NEPA review in 2017. As described in Section 1.3 of the FSEIS, the Forest Service's current NEPA review relates to the proposal to cross 3.5 miles of the JNF, is supplemental in nature and focuses on issues raised by the Court and new information or changed circumstances. Second, the 2017 FERC FEIS did analyze air quality and climate impacts in Section 4.13.2.7; p. 4-614; Table 4.11.1-5; Finally, in consideration of the interim CEQ guidance, the Forest Service did supplement the 2017 FERC FEIS climate analysis by conducting a quantitative analysis of the carbon sequestration effects of converting 22 acres of NFS lands from forested to shrub and herbaceous cover (Section 3.2.1).

### Concern Statement AIR-02:

Commenters request that the Forest Service quantify the carbon sequestration effects associated with the 22-acre authorized ROW and assess the effects of loss of carbon sequestration from the removal of old growth forests, which act as a carbon sink.

**Response AIR-02:**

The Forest Service examined the net change in carbon sequestration from maintaining the 22-acre authorized ROW in a mix of shrub and herbaceous cover. Estimates of carbon stocks in the felled trees was estimated based on a review of Forest Service General Technical Report NRS-202 (Standard Estimates of Forest Ecosystem Carbon for Forest Types of the United States; Hoover et. al 2021)), published November 2021. The Report provides estimates of carbon stocks by forest community type and tree age, which were identified through review of the 2016 tree survey report for the MVP on NFS lands (ESI 2016). Prior to tree clearing, the authorized ROW is estimated to have contained 2,131 tons of total non-soil carbon, including 1,611 tons of live tree carbon. The authorized ROW is 50 feet wide (40 feet of which would be planted in shrub species and 10 feet in herbaceous cover), estimated to contain 30 tons of live plant carbon. See Section 3.2.1.

**Concern Statement AIR-03:**

Commenters contend that the DSEIS is flawed because it fails to assess the Project's contribution to GHG and climate change, directly, indirectly, or cumulatively. Commenters cite information suggesting the Project would contribute 1% of the total GHG in the US, or approximately million metric tons annually.

**Response AIR-03:**

The 2017 FERC FEIS (pp. 4-488 to 4-491) analyzed climate change and GHG for the entire MVP. Readers are directed to that document for GHG analysis beyond the analysis of changed vegetation types on the JNF. The United States Court of Appeals for the Fourth Circuit did not identify a deficiency in the GHG and climate-related impacts analysis disclosed in the 2017 FERC FEIS (*Appalachian Voices v. FERC*, 2019 U.S. App. LEXIS 4803 (D.C. Cir. 2019)). No new information or changed conditions have been identified and further analysis is not necessary

**Concern Statement AIR-04:**

Commenters contend the data, methodology, and regulatory requirements that were used in FERC's Assessment are outdated and no longer valid. Much of the data that FERC used in its assessment was taken from MVP's FERC approved Resource Report 9, which discusses air quality impacts. This report was submitted to FERC in October, 2015, over 7 years ago.

**Response AIR-04:**

The FSEIS, Section 3.2.1, discloses that air quality, climate, and noise were analyzed in the 2017 FERC FEIS (Section 4.13.2.7; p. 4-614; Table 4.11.1-5; pp. 4-532, 4-539, and 4-551) and 2020 FSEIS (pp. 68 to 69). In summary, the 2017 FERC FEIS and 2020 FSEIS found that, under the Proposed Action, operation and end-use combustion emissions resulting from the Project would be the same as described in the 2017 FERC FEIS (p. 4-515); and that neither the emissions from the Project nor the general information related to projected climate change impacts differ substantially from the analysis in the 2017 FERC FEIS.

The 2021 FERC Boring EA (pp. 67 to 88) analyzed the effects of conventional boring stream crossings on air quality and climate. In summary, the FERC found that conventional bore methods would lead to a temporary and short-term increase in construction emissions. The Forest Service performed an independent agency review of the 2021 FERC Boring EA and determined that its effects analysis is consistent with effects anticipated on NFS lands because the nature and type of stream crossings on NFS lands would be similar to those analyzed in the 2021 FERC Boring EA for

the MVP as a whole. For these reasons, no new information or changed circumstances have been identified and no supplemental analysis is required.

### **Concern Statement AIR-05:**

Commenters contend in the Air Quality, Climate, and Noise section of the DSEIS there is no discussion or citation for the independent review that was conducted by the Forest Service for the 2021 FERC Boring EA that could provide further information and details.

### **Response AIR-05:**

Appendix C of this FSEIS includes more detailed information on the independent agency review that was completed by the Forest Service to determine if the FERC Boring EA was applicable to this FSEIS.

### **Concern Statement AIR-06:**

Commenters contend there is no analysis or discussion on the climate impact the permanent conversion of 22 acres of forest to grass/shrub and industrial use (e.g., access roads). The loss of the forest's ecosystem service of carbon sequestration, carbon dioxide capture, and its impact on climate change should be evaluated in the FSEIS. We suggest comparing the carbon sequestration capability of the intact mature forest that was cleared to the proposed operational land use conditions.

### **Response AIR-06:**

This additional analysis was completed and is displayed in Section 3.2.1 of this FSEIS. As described in the response to AIR-02, the Forest Service estimated the carbon stock within the 50-foot-wide authorized ROW prior to construction to be 2,131 tons of total non-soil carbon, including 1,611 tons of live tree carbon. After restoration, 40 feet of the authorized ROW would be planted in shrub species and 10 feet in herbaceous cover, which are estimated to contain 30 tons of live plant carbon.

## **Geology**

### **Concern Statement GEO-01:**

Commenters contend the Forest Service did not address earthquakes or the difference in earthquakes in the eastern vs. western US. Frequent and strong earthquakes near the MVP ROW high hazard areas demonstrate the true risk of construction and operation. There is further cause for concern because the Project on NFS lands is within the Giles County Seismic Zone, something that is not mentioned or analyzed in the DSEIS. The ROW on NFS lands is in an unstable and active seismic zone. In the steep and unstable terrain of the area, there is high risk of landslides and smaller earth movements sufficient to disrupt a pipeline due to seismic events.

Commenters contend that there is a high probability of earthquakes damaging the pipeline and causing spills and explosions. Already, blasting in 2018 is causing new ground movement, seeps, slope failures, and boulder field debris which should be evaluated with LiDAR.

### **Response GEO-01:**

The history and effects of seismicity, including in the Giles County Seismic Zone and the JNF, were addressed in the 2017 FERC FEIS (Section 4.1). The pipeline is designed to the most current 49 CFR Part 192 regulations for earthquakes. The MVP seismic hazards analysis (Resource Report #6), described in Section 4.1.1.5 of the 2017 FERC FEIS, is consistent with recent seismic events detected in the region since that analysis was completed in 2015. The hazards analysis evaluated a



probabilistic earthquake Moment Magnitude Scale (MMS) 5.0 or greater with 2% chance of recurrence in 50 years, consistent with PHMSA guidance. Between January 1, 2015 and March 1, 2023, the USGS recorded 15 earthquakes in the Giles County Seismic Zone area that ranged from MMS 1.9 (July 12, 2021) to 3.2 (September 13, 2017) (USGS 2023). Seismic events observed to date do not exceed the probabilistic ground motion design criteria established by the 2015 seismic hazards analysis. No new information or changed conditions have been identified and further analysis is not necessary (40 CFR § 1502.9(d)(4)) and FSH 1509.15\_10, Section 18.1). The pipeline is designed to the most current 49 CFR Part 192 regulations for earthquakes.

At the request of the Forest Service, field investigations were also conducted at six high hazard areas on NFS lands (see POD Appendix G). Further analysis of sensitive areas on the JNF was conducted and summarized in Appendix G of the POD (Site-Specific Design of Stabilization Measures in Selected High-Hazard Portions of the Route of the Proposed Mountain Valley Pipeline Project in the Jefferson National Forest). The areas analyzed in Appendix G include Peters Mountain, upslope of the karst topography underlying private land. The thorough desktop and field-based investigations in Appendix G resulted in the identification of additional mitigation measures that would be implemented in these sensitive areas. The additional mitigation measures would minimize the potential for indirect impacts on karst topography underlying private land. Together, these efforts provide a comprehensive examination of pre-construction conditions on the ROW.

No blasting has occurred on NFS lands. No new seeps have been identified by the Forest Service or Transcon inspection reports.

Section 4.1.1.5 of the 2017 FERC FEIS (p. 4-38) describes use of LiDAR data as one tool to assess pre-construction conditions along the ROW. The POD Landslide Mitigation Plan (Appendix F) describes field investigations conducted to assess conditions at landslide concern areas crossed by the MVP, including those on the JNF. The Landslide Mitigation Plan requires the use of LiDAR surveys to monitor the ROW for changes in ground topography that could indicate potential slope movement. No new information or changed conditions have been identified related to new ground movement, slope failures, and boulder field debris and further analysis is not necessary (40 CFR § 1502.9(d)(4)) and FSH 1509.15\_10, Section 18.1). The pipeline is designed to the most current 49 CFR Part 192 regulations with regard to earthquakes.

### **Concern Statement GEO-02:**

Commenters contend the DSEIS fails to assess the risk of landslides, a critical issue given extreme weather events, blasting, steep slopes and 203 of the 303.5-mile-long route traversing areas of high landslide incidence and susceptibility. The landslide mitigation plan is insufficient because there are no real-time slip detection systems, no evacuation plans, and no warning systems for nearby residents. Specific topics that should be investigated include: (1) whether any portions of the landslide sites exist near, above, or below the proposed pipeline site, (2) the potential for any man-made infrastructure and/or natural events (including seismic activity, heavy rainfall, freeze-thaw, natural slumping, etc.) to cause any landslides in the Project area, (3) cumulative effects, and potential for the pipeline to cause or exacerbate slumping, rockslides, landslides or other events, (4) natural features and unique biological communities related to landslides within the Project area, (5) the degree to which landslide activity or potential for landslide activity would lead to additional engineering constraints, costs, and planning or re-routing of the pipeline once it is underway, (6) the degree to which landslide activity or potential for landslide activity would necessitate additional mitigation measures, (7) worst-case downslope impacts, (8) whether, even if there was no landslide activity on the proposed route, there is a chance that past or present landslide activity to the east, west, or upslope from the pipeline could have weakened any rock formations directly within the pipeline corridor and

increase the risk of slope failure, (9) impacts to bogs, sag ponds, and sandstone cliffs, and (10) impacts to karst features on the surface and underground, since FEIS maps show karst on Sinking Creek Mountain.

### **Response GEO-02:**

Effects on geology, including landslides were analyzed extensively in the 2017 FERC FEIS (pp. 4-45 to 4-46), the 2020 FSEIS (pp. 74 to 78), and in this FSEIS (Section 3.2.12 Geology). Landslides are discussed in this FSEIS (Section 3.2.12). The MVP Landslide Mitigation Plan (POD, Appendix F) incorporated additional industry BMPs as requested by the FERC to minimize the risk of landslides, including during boring. These analyses and conclusions remain accurate, and no further assessment is needed.

The 2021 FERC Boring EA (pp. 22 to 26) analyzed effects of conventional boring on geological resources and concluded that effects would be minimized by using appropriate conventional bore tooling and technology. As stated in the FSEIS, the Forest Service determined that the 2021 FERC Boring EA analysis is consistent with conclusions in the 2020 FSEIS and no additional analysis is warranted.

### **Concern Statement GEO-03:**

Commenters contend that the DSEIS analysis of high hazard areas is incomplete because it and the associated high-hazard study fail to address the cumulative and reinforcing impacts of multiple risk factors, including bore pits, high rainfall, karst, steep slopes, slip soils, seismic events for one or all of the high-hazard areas.

### **Response GEO-03:**

The POD Appendix G addresses multiple risk factors and resulted in site-specific measures to reduce risks in high-hazard areas. For example, it incorporates rainfall into its slope stability analysis (Table C-1), which is site-specific slope analysis, including for steep slopes where present. Appendix G also analyzes the site-specific design of stabilization measures in selected high-hazard portions of the ROW on NFS lands, outlines the measures that will be taken to ensure bore pit stability. Specifically, Appendix G states, “Temporary shoring will be developed by the bore contractor to all applicable safety standards to protect both the open bore pit and the stockpiled spoil material excavated from the bore pit. The landslide inspection team will evaluate the site to determine if any mitigation measures, in addition to those proposed by the contractor, are necessary.” Thus, while the report does not analyze the stability of the bore pit, industry standard boring methodology described and analyzed in the POD Appendix G, the 2021 FERC Boring EA, and the October 27, 2020 Variance Request, as well as associated mitigation measures have been designed to enhance stability of the bore pit and the stockpiled material excavated from the pit.

No karst features were identified within the ROW during Mountain Valley’s Karst Hazard Assessment (POD Appendix L).

### **Concern Statement GEO-04:**

Commenters contend the Forest Service did not address a 2016 report analyzing geologic hazards along the MVP ROW and concluding that the pipeline could not be constructed safely.

### **Response GEO-04:**

The cited report was filed with FERC in 2016. The only pipeline milepost segment identified in the report that partially overlaps the ROW on NFS lands is on Brush Mountain. The report identified

Brush Mountain as part of the larger Mt. Tabor Karst Sinkhole Plain. The 2017 FERC FEIS Chapter 3.5.1.10 details alternative changes to avoid the Mount Tabor Sinkhole Plain (outside of JNF) and to avoid or minimize effects to karst, caves, and groundwater. While geological units known to be associated with karst formation exist within the JNF, they do not underlie the pipeline ROW on JNF lands. No karst features were identified within the ROW during Mountain Valley's Karst Hazard Assessment (POD Appendix L). The 2017 FERC FEIS Chapter 4.1 details impacts to resources associated with geology, including groundwater. Mountain Valley prepared a Karst Hazard Assessment, Karst Mitigation Plan, and Karst-specific Erosion and Sediment Control Plans for the Project. Additional information on Mountain Valley's efforts to avoid, minimize, and mitigate impacts to groundwater and karst can be found in Chapter 4.1 of the 2017 FERC FEIS.

POD Appendix G describes measures to ensure safe working conditions for bore pits: "Temporary shoring will be developed by the bore contractor to all applicable safety standards to protect both the open bore pit and the stockpiled spoil material excavated from the bore pit. The landslide inspection team will evaluate the site to determine if any mitigation measures, in addition to those proposed by the contractor, are necessary."

POD Appendix G describes High-Hazard Area #3 as located over the inactive Narrows thrust fault. It describes stability analyses for High-Hazard Areas #3 and #5 that accounted for saturated conditions and seismic loading.

The 2017 FERC FEIS (Section 4.11.1.1) assesses precipitation and climate in the region. The 2017 FERC FEIS page 4-618 discloses that climate change is expected to lead to increasingly "intense precipitation events." As stated in the 2020 FSEIS, in response to higher frequency of storm events and above-average precipitation depths fell on the Project area in 2018, MVP substantially upgraded its ECDs in many areas. As stated in the Report, use of these enhanced ECDs "mitigates the potential for extreme storms to contribute sediment loads that exceed the model's predicted loads, as well as reduce the expected sediment loads during normal precipitation events." This FSEIS examines real-world data including in-stream turbidity levels driven in part by precipitation as recorded by in-stream USGS water quality monitoring stations since 2017 (including several named storm events).

### **Concern Statement GEO-05:**

Commenters are concerned about specific challenges and impacts associated with pipeline construction on Sinking Creek Mountain. Water seeps follow the rock face, under unconsolidated and consolidated material, until it puddles on manmade benches, which are currently saturated and squishy wet during this freeze-thaw cycle of winter, indicating water penetration and retention, which gets heavy on a near vertical rockface. The water flows year-round. Commenters contend there is a high risk of ground movement, slips, and scarps forming in the MVP ROW in the JNF, which are not considered in the DSEIS.

Blasting vibrations and gravity would have accelerated ground movement of boulder fields to migrate downhill; the mountain is actively sloughing ground in unabated erosion. LiDAR should show displacement and possible strain of the boulder field debris flows. LiDAR (composite) maps should be reviewed to identify slope movement since the start of construction. The data and results should be made public.

### **Response GEO-05:**

Appendix G of the POD contains site-specific design and stabilization measures for select high-hazard portions of the ROW on NFS lands, including one site located near the crest of Sinking Creek Mountain. The report examines site-specific slope and geological conditions and includes a site visit

to confirm these findings. Potential slope failure hazards are identified and analyzed, including the potential for rock failure, debris flow and colluvial deposit, soil stockpile and subjacent slope failure, temporary cut failures, erosion, trench backfill failures, and seeps and springs. Mitigation measures, monitoring, and intervention for this high-hazard area are identified and discussed to avoid or minimize adverse impacts. LiDAR is included as a tool to monitor slope movement. Appendix G provides a comprehensive assessment of the site-specific risks associated with pipeline construction on Sinking Creek Mountain.

LiDAR surveys are discussed and incorporated into the Appendix G, Site-Specific Design of Stabilization Measures in Selected High-Hazard Portions of the Route of the Proposed Mountain Valley Pipeline Project in the Jefferson National Forest, including the concluding results.

### **Concern Statement GEO-06:**

Commenters contend the DSEIS failed to analyze documented sinkholes and subsidence along the ROW in Giles County, Virginia, adjacent to NFS lands.

### **Response GEO-06:**

Section 3.3.11 of the 2020 FSEIS discloses that geological units known to be associated with karst formation do not underlie the pipeline ROW on JNF lands. No karst features were identified within the ROW on NFS lands during Mountain Valley's Karst Hazard Assessment (POD Appendix L). As discussed in the 2020 FSEIS and the 2017 FERC FEIS, Mountain Valley developed a Karst Mitigation Plan and has developed a monitoring plan to provide safe operation of the pipeline over its lifetime in addition to the development of a LiDAR monitoring program to detect subsidence along the MVP pipeline route during operation.

### **Concern Statement GEO-07:**

Commenters contend MVP's proposed mitigation measures for the two high hazard areas—which include reducing time of exposure and installing more frequent trench breakers—will be undermined by the ROW's changed use to serve as the sole access/transport route to the JNF on Peters Mountain. There is an increased risk of slope failure from winching construction techniques for more than half a mile of steep slopes and karst terrain where Mountain Valley will now need to repeatedly transport personnel, pipes, and equipment. Similarly, it is not possible to rebuild trench breakers every day on this ROW when there is constant vehicle traffic.

### **Response GEO-07:**

Commenters contend waterbars and trench breakers are not the same BMPs and are not interchangeable. Instead, waterbars and trench breakers are separate and different devices used to manage stormwater on the right-of-way (ROW). Mountain Valley's Erosion and Sediment Control Plans and Stormwater Management Plans show the spacing requirements for these controls, and the sequence of construction also dictates the timing for which the controls are installed. This process is in conjunction with standards approved by VDEQ in the Annual Standards & Specifications as part of the overall construction sequence.

Waterbars (or slope breakers) are intended to reduce runoff velocity and divert water off the construction ROW. Waterbars are one of the first types of erosion and sediment controls installed once the ROW is temporarily graded and are constructed of compacted subsoil. Mountain Valley has multiple typical construction details dedicated to waterbar construction specifications. Once all perimeter controls and waterbars are installed and functioning, forward construction continues with trenching. As the ROW is traveled, sections of waterbars are removed from the travel lane each

workday to allow construction equipment to access the Project areas. These sections of waterbars are reconstructed at the end of each workday to ensure that stormwater runoff is properly handled by the waterbars.

Trench breakers are installed in the open trench following trench excavation to reduce the velocity of storm water flow along the trench. Following pipe installation, the temporary trench breakers are replaced with permanent breakers to inhibit piping and subsurface erosion in the trench. Permanent trench breakers must be installed at stream banks, edge of wetlands, and in road and railroad embankments to minimize the chance of subsidence. Breakers at aquatic resources must be constructed with impervious materials to prevent the trench line from serving as a conduit to convey groundwater away from the resource. Since trench breakers are installed in the excavated trench, there is no reason to move them to accommodate construction equipment travel.

### **Concern Statement GEO-08:**

Commenter quotes a VDEQ letter which states: “[T]here are limestone units underlying sections of the NFS land on Peters Mountain where trees have reportedly been felled but no other land disturbing activities have yet to occur.” The commenter contends this shows that there will be direct and indirect (i.e., downstream) karst impacts, contrary to what the DSEIS states.

### **Response GEO-08:**

The process of identifying karst features along the MVP ROW is outlined in POD Appendix L, the Karst Hazard Assessment. That process was included a desktop review of public and proprietary data sources and a field examination to confirm the desktop findings and evaluate the terrain for additional, previously undocumented karst features. The team completing this process holds qualifications of, or work under the direction of, a professional geologist having direct work experience with karst hydrology and geomorphic processes. The Karst Specialist team has over 70 years of combined direct field experience evaluating karst features in the vicinity of the proposed MVP alignment.

While geological units known to be associated with karst formation exist within the JNF, they do not underlie the pipeline ROW on JNF lands. No karst features were identified within the ROW during Mountain Valley’s Karst Hazard Assessment (POD Appendix L). The high-hazard areas analyzed in Appendix G of the POD include Peters Mountain, upslope of the karst topography underlying private land. The thorough desktop and field-based investigations in Appendices G and L resulted in the identification of additional mitigation measures that would be implemented in these sensitive areas.

### **Concern Statement GEO-09:**

Commenters contend the DSEIS fails to consider individual and cumulative impacts of the proposed MVP construction on the West Virginia side of Peters Mountain. Due to factors such as steep slopes and karst geology, there is a high potential for pipeline destabilization and rupture if the MVP project proceeds as proposed. Permanent impacts to the lowland karst and cave will likely occur even if this crossing is abandoned because the bore cannot be completed. These off-NFS resources are connected to the JNF and the ROW on NFS lands: recent mapping of the Rich Creek Cave shows that it extends into Peters Mountain in a direction parallel to and trending toward the ROW. Dye tracing from sinkholes on the opposite side of the ROW shows a clear underground connection that runs beneath the pipeline ROW.

### **Response GEO-09:**

Section 4.3.1 of the 2017 FERC FEIS analyzed the impacts of groundwater connections in karst terrain. Environmental groups challenged the sufficiency of this analysis in *Appalachian Voices v.*

*FERC*, 2019 U.S. App. LEXIS 4803 (D.C. Cir. 2019), which the United States Court of Appeals for the District of Columbia Circuit rejected finding FERC adequately considered and disclosed impacts on groundwater in karst terrain. The Forest Service reviewed all comments and associated mapping showing locations of caves; all were off NFS lands. For example, Rich Creek Cave is located off NFS lands in Giles County, West Virginia. The subterranean connection between Rich Creek Cave and Wolf Cave shown in commenter's map occurs under non-NFS lands. These concerns with geologic features were covered in the 2017 FERC FEIS.

### **Concern Statement GEO-10:**

Commenters contend the DSEIS does not address the danger of seeps. One seep, at the natural crest of Sinking Creek Mountain was frozen solid, with dripping edges as flowing liquid water forced its way around the ice-plug. Another seep of water emerged at the MVP dynamited route in exposed 85% slope sandstone rockface, in disturbed construction fill material from blasting of rock at the crest of Sinking Creek Mountain (for cut and fill) in Jefferson National Forest.

This seep was on one end of a trench that has failing construction fill material, falling down the over steepened slope, creating an erosion gully that drains out of sight out of bounds, at the other end.

Three trenches at the top of the Sinking Creek Mountain, in MVP ROW have seeps of water. Every trench has an erosion scarp of freshly exposed construction fill mix glistening with water, and a slump of what fill mix slid off heaped below. The ground is not holding onto itself and the water from rain and freeze-thaw.

### **Response GEO-10:**

Field surveys for springs and seeps were conducted along the entire MVP ROW on NFS lands. In addition, routine monitoring of the ROW on JNF lands has not identified any negative environmental issues or water quality violations related to springs and seeps. Continued Transcon inspections would identify any previously unidentified seeps.

No springs or seeps were identified near the crest of Sinking Creek Mountain during field investigations (Tetra Tech 2017). Appendix G of the POD contains a site-specific analysis of risks associated with pipeline construction on the crest of Sinking Creek Mountain. Appendix G also identifies measures to reduce those risks. If seeps or springs are encountered during construction, water will be captured by daylight drains behind the trench breaker. These drains will outlet to energy dissipation devices at the right-of-way ground surface and any resulting discharge will be directed downslope to prevent accumulation within the limit of disturbance.

## **Soils**

### **Concern Statement SOI-01:**

Commenters request that an Order 1 Soil Survey be completed and approved before the Project is approved. This survey would provide information at a level of detail that would accurately characterize the local conditions and prevent costly repairs and unnecessary degradation.

### **Response SOI-01:**

The FSEIS is based on the best available scientific information. The CEQ NEPA regulations require Federal agencies to utilize reliable existing data and states that agencies are not required to undertake new scientific and technical research to inform their analyses (40 CFR § 1502.23).

As described in the Mountain Valley Pipeline Soil Profile Descriptions Report for Jefferson National Forest, MVP conducted a soil survey that closely matches the desired outcome of an Order 1 or Order 2 soil survey. The survey was performed in the JNF to characterize soils along the pipeline corridor to determine if available USDA-NRCS data were similar to field soil characterizations. Soil series found in the JNF were identified using available USDA-NRCS data by contracted soil scientists in April of 2016. Those soil series were evaluated in person by two soil scientists that described the soil profiles for each soil series in the JNF in a manner that closely matches an Order 2 Soil Survey. The soil scientists who evaluated these soil series were able to correlate their findings with the USDA-NRCS mapping designations. Their report, Mountain Valley Pipeline Soil Profile Descriptions Report for Jefferson National Forest, stated that the use of USDA-NRCS data was appropriate for analysis on the Project based on reported soil descriptions from the JNF. Forest Service soil scientists reviewed and accepted the Mountain Valley methodology and findings as sufficient because of their correlations to NRCS designations.

While an Order 1 Soil Survey would satisfy the needs of evaluating these properties, an Order 2 Soil Survey or similar effort would accomplish similar outcomes. The desired outcome of this type of survey is to identify soil limitations. These soil limitations can then be analyzed to determine the appropriate erosion and sedimentation control devices that would be implemented, maintained, and monitored throughout the construction and restoration phases, as well as identifying any potentially problematic areas that could pose landslide or slip scenarios.

In summary, the FSEIS was developed using best available USDA-NRCS data for soil series descriptions and their associated physical properties and limitations.

### **Concern Statement SOI-02:**

Commenters raised concerns about the use of RUSLE2 modeling, in particular its analysis of impacts across larger watersheds as opposed to smaller first-order watersheds, its inability to accurately predict impacts in areas of steep slopes, and the decision to “hydrologically disconnect” the MVP ROW from the surrounding hillside (which fails to account for downstream, off-ROW sediment transport) when modeling impacts.

Commenters contend first-order watersheds are the appropriate scale for RUSLE2 modeling because they more accurately capture the scale of impacts to these smaller, sensitive watersheds, and their associated unique aquatic habitats. The significance of changes to vegetation and land disturbance for the stream system, even for a major project like a 42-inch pipeline, can be hidden at this HUC-12 scale.

Examining polygons along the MVP ROW (disconnected from the surrounding hillside) rather than using the overland flow path to a “first order channel, concentration flow area” is not consistent with the intended use of the RUSLE2 equation. Further, BMPs to hydrologically disconnect the ROW are not in compliance with state regulations. If the channel slope is greater than 2%, then it must be stabilized and designed in accordance with STD & SPEC 3.17, which states: “Channels should be designed so that the velocity of flow expected from a 2-year frequency storm shall not exceed the permissible velocity for the type of lining used.” Using the scale on the construction sheets (MVP POD Appendix C-3), the channel slope at some locations is evidently greater than 2%. However, STD & SPEC 3.17 is not shown on the construction sheets at any of these locations. The Virginia Department of Transportation Drainage Manual specifies that, for designing minor channels such as diversion ditches, “Design discharges (peak flows) should be determined by the Rational Method... Velocity should be based on normal depth computed using Manning’s equation. Manning’s equation requires information on the ditch geometry, such as side slopes, the longitudinal grade, and the

appropriate Manning's n-value." There is no mention of such calculations used in the MVP POD to design the diversion ditches.

Modeling should be reviewed by third-party experts.

### **Response SOI-02:**

RUSLE2 is based on science and judgment that is superior to that of RUSLE because it better accounts for topographical differences and specific ECDs and project schedules. Based on the independent Agency reviews, the RUSLE and RUSLE2 models were appropriately applied to estimate soil loss from construction sites completely within the capacity of the RUSLE2 model. The localized data (including localized soil profiles) used to run the RUSLE and RUSLE2 modeling was appropriate to the location and environmental conditions found on the JNF where the MVP is proposed to cross. The outputs of the Model Run(s) were supported by the data and modeling. In its January 2023 decision, the Court did not find the RUSLE2 modeling to be deficient.

A comment on the draft sedimentation report requested additional discussion of how the Soil Survey Geographic Database (SSURGO) and Digital General Soil Map of the United States (STATS2GO) soil databases were used, the frequency of extremely steep slopes (greater than 60%) within the study area, and areas with high erosion rates. Geosyntec revised the sedimentation analysis to further clarify how the two soil databases were used in the process for selection of each data source. The revised analysis includes additional discussion of the first two requests. The areas with high erosion rates are addressed in Appendix D of the Geosyntec Report.

The *Hydrologic Analysis for the JNF* also used a RUSLE2 analysis to model impacts at a smaller catchment scale. The median size of the individual catchments is 332 acres and the average size is 533 acres. A catchment is the unique drainage area of a stream segment in the USGS National Hydrography Dataset Plus V2. The catchment results are consistent with the HUC-12 results.

In response to the Fourth Circuit's July 27, 2018, decision that the Forest Service failed to conduct an independent review of and take a hard look at the sedimentation analysis in FERC's FEIS, the Forest Service and the BLM conducted their own independent review of the revised sediment modeling and associated analysis for the MVP project. A USDA-NRCS liaison to the USDA Agriculture Research Service RUSLE2 team and regional agronomist at the USDA-NRCS West National Technology Support Center with 18 years of working knowledge with RUSLE2 also provided a review on the appropriate use of the model and associated data used within. The review consisted of a review and comment of several documents, including the June 21, 2019 Draft MVP Sediment Analysis of Sedimentation for Streams near Suitable Habitat for Threatened and Endangered Aquatic Species, Virginia, and West Virginia: Report of Findings prepared by Geosyntec. The applicant was provided a consolidated comment report on the finding of the reviewers on January 14, 2020. This June 2019 document was then superseded by the May 4, 2020 FWS report submitted as part of the Supplemental Biological Assessment which was reviewed for the inclusion of edits and comments provided by the Federal Agencies. Agency reviews also included the Sediment analysis of Sedimentation of the Jefferson National Forest, Virginia and West Virginia, Geosyntec Consultants, May 8, 2020 report.

All reviewers participated in discussions and reviews of the draft analysis that included other federal agency staff, the applicant, and the contractor (Geosyntec). All reviews and suggested edits were provided in context of the decision(s) to be made by the Forest Service for the JNF.

Based on reviews, comments, and incorporated edits, the Forest Service found that: (1) All input was appropriately considered and incorporated into the information that informed the final analysis



document; (2) Questions and comments on the document(s) were addressed and informed the Forest Service's supplemental analysis; (3) The RUSLE2 Model was correctly applied to the landscape conditions and scale of impacts on the JNF; and (4) The outputs of the Model Run(s) were used in a manner that would support the NEPA analysis and address issues raised by the Fourth Circuit Court of Appeals regarding the Sediment Analysis.

### **Concern Statement SOI-03:**

Commenters contend the DSEIS incorrectly assumes that ripping compacted soils to a depth of 6-8" as specified in the POD will restore soil permeability. In fact, compaction from repeated heavy equipment usage affects soils at a much greater depth, as stated in the Virginia Stormwater Management Handbook (2013). Because the proposed project will fail to restore soil permeability, it is at risk of long-term damage. The Virginia Stormwater Management Handbook (2013) states, "Research has established that when impervious cover in a watershed reaches between 10 and 25 percent ..., ecological stress becomes apparent (Schueler et al. 2009). Beyond 25 percent impervious cover, stream stability is reduced, habitat is lost, water quality is degraded, and biological diversity is diminished." If the RUSLE2 modeling had analyzed impacts at the smaller first-order watershed level, as USDA directs, the percent impermeability of each watershed would be within these ranges and the DSEIS would have disclosed the true severity of soils impacts on these sensitive watersheds.

### **Response SOI-03:**

The discing depth in the POD, Appendix H (6-8") is a conservative depth which is borrowed from Forest-Wide Directive 128: "When necessary, landings will be ripped to a depth of 6-8 inches to break up compaction, and to ensure soil productivity and the successful reestablishment of vegetation." It is expected that discing to a depth of 6-8" would be needed primarily on the travel lane where greater compaction would be expected from equipment. In the MVP's Annual Standards & Specifications, Mountain Valley addresses compaction by committing to discing subsoil to a depth of 4-6" prior to returning topsoil to the ROW.

The effects of soil compaction were analyzed extensively in the 2017 FERC FEIS (pp. 4-83, 4-88), the 2020 FSEIS (pp. 82 to 85, 87 to 88, 98, 101, and 157), and in the 2022 DSEIS (Sections 3.3.2.3, 3.3.4.2, and 3.3.4.3) and this FSEIS (Sections 3.3.2.3, 3.3.4.2, and 3.3.4.3). In addition, soil, soil mitigations, and soil compaction is discussed in the MVP POD, Appendix H (Restoration Plan).

There have not been any changed conditions to the soil resource or new information that would warrant additional analysis beyond what has already been analyzed.

The *Hydrologic Analysis for the JNF* also used a RUSLE2 analysis to model impacts at a smaller catchment scale. The median size of the individual catchments is 332 acres and the average size is 533 acres. Each catchment is the unique drainage area to each stream segment as identified by USGS NHDPlus V2.

### **Concern Statement SOI-04:**

Commenters contend the C factor used in the RUSLE2 modeling exercise is incorrect and could result in an overestimate of soil loss from undisturbed slopes in the JNF by at least 500% (Czuba 2023).

### **Response SOI-04:**

The Forest Service disagrees with the comment. The C factor accounts for the effects of vegetation, management, and certain erosion control practices (e.g., bonded fiber matrix, track walking, seeding). The sedimentation analysis for MVP that was conducted by Geosyntec included C factors selected for

a variety of vegetated cover types. In contrast, the C factor reported in the study (Mahoney et al. 2021) referenced by commenter is treated as a calibration parameter for the specific study, adjusted to a particular watershed in Kentucky, among other site-specific considerations. It is not representative of long-term average annual conditions or general forested conditions across a range of topographic conditions or seasonal influences as is captured in the Geosyntec sedimentation analysis (Geosyntec 2020a and 2020b) referenced in the 2020 FSEIS and this FSEIS. The C factor in the Geosyntec analysis relied on multiple literature sources (see Table 4-6 in Geosyntec 2020a and 2020b) and represents 16 different vegetated cover types to accurately capture on-the-ground conditions in the modeled watersheds (in contrast, the C factor preferred by commenter assumes 100% forested land cover, which is not representative of the modeled MVP watersheds).

In addition, the analysis was submitted to expert reviewers within the Forest Service, FERC, FWS, USDA NRCS, and BLM and was determined by those reviewers to be appropriate (2020 DSEIS Section 3.1.1). No agency expert reviewer raised concerns with the selection of the C factor.

### **Concern Statement SOI-05:**

Commenters contend the DSEIS reliance on a regression analysis to analyze USGS in-stream water quality monitoring station data regarding construction impacts on is not a valid approach because it fails to account for changes in land surface conditions post-construction.

### **Response SOI-05:**

The regression analysis is designed to determine whether there are statistically significant differences in turbidity between the upstream and downstream at USGS in-stream water quality monitoring stations. As stated in this FSEIS, this methodology is appropriate for watersheds where there is an upstream station (measuring the control watershed) and a downstream station (measuring the treatment watershed). At paired water quality monitoring stations, effects from land uses are measured by both water quality stations and regression analysis is used to compare data between the stations. For the USGS analysis, the MVP corridor is within the incremental watershed, as are other land uses, as disclosed in the FSEIS.

This FSEIS has been updated to disclose the analysis of the other three stream crossings monitored by USGS in-stream water quality stations. See Section 3.3.2.

### **Concern Statement SOI-06:**

Commenters contend the DSEIS soils analysis did not consider the Forest Service Rocky Mountain Research Station 2008 workshop proceedings entitled “Scientific Background for Soil Monitoring on National Forests and Rangelands.”

### **Response SOI-06:**

The document cited is the Rocky Mountain Research Station Proceedings RMRS-P-59, published April 2010, from the Workshop held April 29-30, 2008, Denver, Colorado on Scientific Background for Soil Monitoring on National Forests and Rangelands. This workshop was held to determine the state-of-the-science for soil monitoring on National Forests and Rangelands. As stated in the proceedings document, “This documentation is meant to provide the information needed for revision of Regional Soil Quality Standards and Guidelines.”

The commenter quotes part of one sentence in the document: “When critical data are lacking, it is prudent to err on the conservative side to ensure that productivity is not impaired.” However, the

second part of the same sentence says, “on the other hand, unreasonably strict standards having no basis in fact can limit forest use opportunities and tie up human resources in unnecessary litigation.”

Commenter also quotes a portion of another sentence. However, the entire sentence supports the Agency’s approach to using RUSLE2 and following up with additional enhanced ECDs based on in-person inspections: “For making judgments on impaired productivity, they recommend using risk-rating models based on research findings and collective expert opinion that account for specific site factors, potential vegetation, and forestry activity. Risk rating can then be used for site-specific prescriptions allocated to high-risk sites.”

In addition, the proceedings document a series of technical papers published by research scientists. As is typical with these summary proceedings of technical workshops, they communicate the results of individual and various research efforts and do not result in or create Agency policy. In this case, they do not create Agency policy for how to monitor soils in any given situation or project. In summary, the Forest Service considered this document but determined it did not constitute new information relevant to the SEIS.

### **Concern Statement SOI-07:**

Commenters contend findings in the Forest Service’s 2019 Soil Disturbance Monitoring Report were not disclosed in the DSEIS analysis of impacts on ecosystem integrity and are inconsistent with the Forest Service’s assertion that riparian resources can be maintained or restored.

### **Response SOI-07:**

The FSEIS has been updated with consideration of the George Washington – Jefferson National Forest 2021 Soil Disturbance Monitoring Report. The report examined eight recently closed timber harvest units were surveyed in October and November of 2021 for post-harvest detrimental soil disturbance. In addition, two proposed treatment units were surveyed to assess existing soils conditions. Data for 24 parameters were collected from shallow soil pits in distributed across each unit. Forest floor depth, amount of live vegetation, fine and coarse woody material, bare soil, surface erosion, rutting, and compaction were assessed at each soil pit. The Forest Service also reviewed soil disturbance monitoring reports for 2019, 2020, and 2022, which contain a similar sample size and conclusions.

The Monitoring Report does not evaluate projects that are similar to the MVP and uses a soils evaluation process and metric (“detrimental soil disturbance”) that differs from anything associated with the MVP, including the MVP mitigation and restoration processes. As opposed to the timber projects, Transcon is monitoring the Project area on a weekly basis and identifying repair, maintenance, or enhancements of ECDs is appropriate.

### **Concern Statement SOI-08:**

Commenters contend there is no site-specific description of soils or their chemical and biological structure, and no use of soil disturbance assessment procedures for the MVP like those referenced in the JNF Forest Plan Monitoring Report.

### **Response SOI-08:**

The history of environmental documentation for the MVP on the JNF includes soil surveys and descriptions and extensive discussions on the impacts to soils from the construction, operation, and maintenance of the MVP. Soils analysis for the MVP includes specific soil types by mile post, based on the VA Soil Surveys.

The June 2017 FERC FEIS (pp. 4-87 to 4-88) discusses the 15 different soil types in the JNF that MVP would cross, all of which are considered sandy loams and are well drained. Table 4.2.1-3 (pp. 4-82 to 4-83) identifies the soils that would be crossed within the JNF and their limitations. Soil mapping, by the NRCS, for the JNF was completed by review of aerial imagery and was ground-truthed by Mountain Valley. Table 4.2.1-4 (p. 4-84) summarizes the soil limitations that would be disturbed by construction of the MVP.

Section 4.2 of the June 2017 FERC FEIS (pp. 4-73 to 4-88) discusses the affected environment for soils, and environmental consequences to soils from construction, operation, and maintenance of the MVP. This analysis considers the properties of the specific soils found along the ROW including in the JNF. In addition, Mountain Valley would incorporate requirements from the Virginia Erosion and Sediment Control Handbook into its Erosion and Sediment Control Plans. Disturbances to soils are discussed in detail in the 2017 FERC FEIS. Impacts on soil resources in the JNF managed lands would range in duration from temporary to permanent.

Effects on soils were also analyzed and discussed in the December 2020 FSEIS (pp. 65 to 73). Soil series found in the JNF were identified using available USDA-NRCS data by soil scientists in April of 2016. Those soil series were evaluated in person by two soil scientists that described the soil profiles for each soil series in the JNF in a manner that closely matches an Order 2 Soil Survey. The soil scientists who evaluated these soil series were able to correlate their findings with the USDA-NRCS mapping designations. Their report, Mountain Valley Pipeline Soil Profile Descriptions Report for Jefferson National Forest, stated that the use of USDA-NRCS data was appropriate for analysis on the Project based on reported soil descriptions from the JNF.

The FY2015 – FY2019 Monitoring Evaluation Report for the George Washington and Jefferson National Forests discusses Forest Soil Disturbance Monitoring Protocol at the Forest Plan level, not for specific projects such as MVP. (See Response SOI-07) The Report states “The purpose of the biennial monitoring evaluation report is to help the responsible official determine whether a change is needed in forest plan direction, such as plan components or other plan content that guide management of resources in the plan area.”

### **Concern Statement SOI-09:**

Commenters contend RUSLE2 is focused solely on sediment yield as an indicator of impacts and the DSEIS ignores other relevant factors for determining whether soil and soil productivity will be adversely affected.

### **Response SOI-09:**

RUSLE2 is designed to model expected sediment yield. The RUSLE2 model considers the spatial and temporal evaluation of sedimentation increases by incorporating actual field BMP implementation, and BMP effectiveness is based on metrics established by the U.S. Department of Agriculture, studies conducted by soil erosion research laboratories (Texas A&M Transportation Institute and San Diego State University), and manufacturers’ data. This approach also allows the analysis to take into account the timing of construction activities and site conditions within the construction workspace.

Since the 2017 FERC FEIS was published, updated hydrologic modeling (Revised Universal Soil Loss Equation [RUSLE] at the watershed scale and RUSLE2 at the site-specific scale) was completed which incorporates access road utilization, time elapsed since construction, and new construction timeline (Geosyntec Consultants 2020a). The Forest Service, and other federal agencies, have conducted an independent agency review of this analysis, determined that the analysis is sound, and

incorporated it into this 2020 FSEIS. Impacts on soil and soil productivity have been disclosed and analyzed in the 2020 FSEIS (pp. 82 to 89).

This FSEIS discusses soil productivity in relation to the Forest Plan Amendment Process. The substantive Planning Rule provisions that are directly related to the amended standards include § 219.8(a)(2)(ii) – soils and soil productivity; § 219.8(a)(2)(iii). Discussion on the maintenance and restoration of soil productivity are detailed in Section 3.3.4.3 and Appendix A of this FSEIS.

### **Concern Statement SOI-10:**

Commenters contend RUSLE2 and by extension the DSEIS fails to account for soil loss associated with a second round of tree clearing on Peters Mountain.

### **Response SOI-10:**

Trees on Peters Mountain were cut during initial construction activities in 2018 but were not removed from the ROW. Trees, shrubs, associated woody material and biomass remain on the ground adding additional soil protection and ground cover. Since the initial felling of trees woody vegetation has begun to regrow.

The impacts of a second round of tree clearing on Peters Mountain were considered in Section 3.2.8 of this FSEIS. The 2017 FERC FEIS analyzed the Proposed Action including tree felling, and it was determined that the effects of additional tree clearing are expected to remain within the scope and scale of those described in the 2017 FERC FEIS and 2020 FSEIS. Woody material and biomass that remain on site from the original felling of trees would add a layer of protection and additional nutrients to the soil resource during a second round of felling. In summary, implementation of the Proposed Action would result in minor effects within the LOD and a reduced economic benefit because the felled trees left on Peters Mountain are no longer merchantable.

## **Water Resources**

### **Concern Statement WAT-01:**

Commenters contend that the DSEIS evaluation of the relationship between real-world data and the RUSLE2 model results is flawed because it fails to evaluate multiple data sources, falsely claims that inspection reports show ECDs are functioning correctly, contains inaccurate depiction of the model's supposed limitations regarding validation with real-world data, and relies on conclusions regarding topics that are irrelevant to the SEIS. The lack of reliable methodology and data (i.e., BASI) in this analysis renders the effort arbitrary and capricious.

### **Response WAT-01:**

Consistent with 40 CFR § 1502.23, the Forest Service ensured the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents, by making use of reliable existing data and resources, such as on-the-ground monitoring information and statistical models.

The FSEIS considers multiple sources of best available scientific information, including independent third-party monitoring reports; the hydrologic analyses described throughout this FSEIS; approved erosion and sediment control plans; field visits and personal observation (including observations in the JNF); scientific literature; communication with professional contacts; and opposing views, data, and information described in public comments on the 2022 DSEIS. These sources inform a sufficient

analysis by providing a variety of different data and information sources that are reliable, accurate, and relevant to the issues being considered (36 CFR § 219.3).

As disclosed in this FSEIS, on-site inspections identify maintenance necessary for ECDs. These issues are responded to by Mountain Valley environmental crews. Mountain Valley environmental crews continue to adjust ECDs during Project shutdown on the JNF. Based on stabilization results on NFS lands and ECDs that have been improved since 2018, the analysis in this FSEIS is accurate and describes anticipated impacts accurately. Monitoring reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained.

The FSEIS is narrowly focused on issues identified by the Court and new information and changed circumstances. The evaluation of RUSLE2 modeling and real-world data and information directly addresses the Court's remand, and the conclusions provided in this FSEIS are relevant to that task.

### **Concern Statement WAT-02:**

Commenters contend the Forest Service states it used a "regression approach" to analyze USGS data, but they do not define their model, making their analysis unclear. The citation used for their statistical analysis, Grabow et al. (1998), is not currently available for review and is not a widely cited article for a regression approach. The regression analysis that the Forest Service relies on is not a valid approach because of changes in land surface conditions post-construction; as a result, the regression analysis results are inaccurate.

### **Response WAT-02:**

The statistical analysis of USGS data is one consideration in the Forest Service's broader response to the Court's remand decision regarding RUSLE2 model results and real-world data and information. The approach presented in the FSEIS uses a regression analysis, which is a statistical analysis of real-world data and not a predictive model of anticipated impacts. This is a commonly used approach designed for evaluating observed changes in the relationship between upstream and downstream peak turbidity in the pre- and post-construction periods to determine if there was a shift in water quality caused by the pipeline construction. The specific statistical analysis in this FSEIS (Grabow et al. 1998) was created to assess changes in water quality in paired watersheds using data from upstream and downstream monitoring stations, making it appropriate for investigating the real-world USGS data as instructed by the Court.

### **Concern Statement WAT-03:**

Commenters provided their own statistical analysis of USGS data. They analyzed 5-minute turbidity (FNU) data from two paired stream gauges on the Roanoke River. Data was downloaded from the USGS National Water Information System (NWIS) using the R package data Retrieval (De Cicco et al., 2022). All available data was downloaded for each site. Because USGS data undergoes extensive QA/QC, erroneous and incorrect data, often caused by debris or sensor malfunction, is removed. From this raw, 5-minute dataset, a new dataset was created where each time-step had a value for both sites ( $n = 495581$  for both sites). In an effort to recreate the Forest Service analysis in the 2022 DSEIS as closely as possible, this dataset with no missing values was filtered to only contain values  $>50$  FNU.

To understand the effects of construction activities, the commenter relied on a timeline for spread G which contains the Roanoke River at Lafayette, VA USGS gages, that was assembled by Wild Virginia (2022) based on inspection reports from VDEQ, McDonough Bolyard Peck, Inc., and

Mountain Valley Pipeline, LLC. Because this timeline provides specific construction activities, we included the construction activities “clearing” and “backfilling” as factors in our analysis.

The commenters used an analysis of variance (ANOVA) to analyze the difference between upstream and downstream turbidity during documented construction in the vicinity of the Roanoke River at Lafayette, VA. This gage was chosen for analysis because 1) it was cited in the 4th Circuit Court of Appeals, and 2) it was analyzed by the Forest Service in the 2022 DSEIS. They used R Statistical Software (R Core Team 2021) to perform the ANOVA, and then computed estimated marginal means using the emmeans R package to examine the differences between upstream and downstream gages during different periods of construction. The dataset and R script used in this analysis are provided as supplemental data. The ANOVA model formula was as follows: turbidity site \* clearing \* backfilled.

The commenters found that downstream turbidity was significantly greater than upstream turbidity ( $15.8 \pm 3.22$  FNU) when both clearing and backfilling was occurring in the vicinity ( $p > 0.0001$ ). There were no significant differences between upstream and downstream turbidity during any other combination of construction periods. These results show that construction activities elevate downstream turbidity. Further, this analysis did not examine the differences in duration of various elevated turbidity events such as those indicated as leading to “adverse effects to Roanoke logperch and candy darter” (MVP 2022).

### **Response WAT-03:**

The approach presented in the FSEIS is a valid approach for evaluating observed changes in the relationship between upstream and downstream peak turbidity in the pre- and post-construction periods to determine if there was a shift in water quality caused by the pipeline construction. The analysis of USGS data is just one consideration in the Forest Service’s response to the Court’s remand regarding RUSLE2 model results and real-world data and information. Other considerations are disclosed in Section 3.3.2 and include sediment monitoring, agency inspection reports, and Transcon monitoring reports.

The Forest Service focused its analysis on turbidity spikes during high-flow events, including tropical storms, that raised turbidity levels above 50 NFU, which is the water quality action level in West Virginia and North Carolina (Virginia does not have a quantitative water quality action level). Turbidity levels less than the regulatory 50 NFU action level are not considered detrimental to water quality standards in neighboring West Virginia and North Carolina. The paired station analysis conducted in the FSEIS is particularly appropriate because it considers both upstream and downstream USGS stations which are considered the best available data from the USGS because those stations were installed specifically to better understand water quality impacts associated with the construction of MVP.

Further, the methodology used in the FSEIS (Grabow et al. 1998) utilizes an analysis of covariance (ANCOVA) analysis instead of the ANOVA analysis used by commenters. In an ANCOVA analysis, two variables (“covariates”) are being compared for a linear relationship. This analysis is stronger than an ANOVA, particularly for covariates with a strong linear relationship.

It is difficult to draw conclusions about pipeline construction impacts from the analysis provided by commenters. No sample size was identified; as disclosed in the FSEIS, limited sample sizes for the Forest Service’s analysis, which analyzed two timeframes (pre- and post-construction), prevented the agency from drawing meaningful inferences in several of the streams USGS is monitoring. To split construction into additional stages would necessarily further decrease the sample size for each stage. The analysis utilizes the best available science in accordance with 36 CFR § 219.3.

### **Concern Statement WAT-04:**

Commenters contend the incremental drainage areas between the paired USGS instream water quality monitoring stations are a very small percentage of the entire watersheds. Drainage within the areas affected by construction activities appears extremely limited. There are no tributary streams crossing areas that have seen construction activity between the USGS stations on the Roanoke River. While there are tributary streams entering Little Stony Creek and Sinking Creek between the upstream and downstream stations, these streams do not cross areas that have seen active construction as shown in aerial photos of the areas. Accordingly, the DSEIS's reliance on differences in turbidity between the upstream and downstream stations is inadequate for revealing actual water resource impacts. Reliance on differences in turbidity between the upstream and downstream stations is inadequate for revealing actual water resource impacts.

### **Response WAT-04:**

The Forest Service analyzed the best available USGS data to address the Court's 2022 remand regarding RUSLE2 model results and real-world data and information. The FSEIS investigates all available USGS data from that agency's paired stations that were designed to monitor water quality associated with the MVP. The six sets of USGS paired monitoring stations are designed to isolate turbidity generated between the two stations, including from pipeline construction or other land uses.

Any turbidity associated with construction activity and all other land uses further upstream in the watersheds would be captured in both the upstream (control watershed) and downstream (treatment watershed) monitoring stations. The analysis of upstream and downstream water quality stations is one aspect of a broader analysis of real-world data and information (see Section 3.3.2 of this FSEIS). The analysis utilizes the best available science in accordance with 36 CFR § 219.3.

### **Concern Statement WAT-05:**

Commenters contend in DSEIS Table 5, the Forest Service indicates pre- and post-construction turbidity events greater than 50 FNU, but these events are not defined. This, coupled with the lack of information regarding construction periods means that a thorough review of the Forest Service's analysis is unable to occur. Additionally, for this analysis, the Forest Service used peak turbidity for these events, which likely does not fully capture the continuous effects of elevated turbidity in-stream. The 2022 SBA, for example, looks at continuous exposure time periods to determine if aquatic species are harmed by increased sediment concentrations.

### **Response WAT-05:**

The Forest Service analysis of USGS data (Section 3.3.2) was specific to the Court's remand regarding RUSLE2 model results and real-world data and information, and focuses on water quality impacts as defined by water quality standards in North Carolina and West Virginia (because Virginia does not have a quantitative water quality standard for turbidity). The analysis of effects on aquatic species looked at ecological impacts rather than the quantitative difference between upstream and downstream turbidity levels. Section 3.3.2 describes the use of USGS data to identify pre- and post-construction turbidity events greater than 50 FNU and includes the number of events in the analysis. The USGS turbidity data record shows that turbidity spikes occurred over a few days or less during and immediately following high-flow events (i.e., substantial rainfall events). The use of peak turbidity in this analysis evaluates the worst-case impact to water quality potentially caused by stormwater runoff and/or in-stream erosion and sediment transport.



The 2023 FWS BO evaluated the potential impact to aquatic species from increased sedimentation concentrations (2023 FWS, pp. 189 to 220) and the Forest Service discussed potential impacts in Section 3.4.3.

### **Concern Statement WAT-06:**

Commenters contend that given that the Forest Service only analyzed one of these three paired USGS stations, this limited dataset should have compelled the Forest Service to consider the data from the additional three nearby stations. The DSEIS should provide further context for the impacts the MVP is having on in-stream turbidity that could be contextualized with a discussion about how specifically and quantitatively those unanalyzed three paired locations differ from the MVP crossing in the JNF.

The Forest Service erred in publishing the DSEIS without fully analyzing USGS data for Little Stony Creek and Sinking Creek. These JNF watershed streams are likely the best gauge of impacts of JNF pipeline construction. If there were not enough precipitation events to analyze turbidity in these streams post-construction, the Forest Service should wait until there are enough precipitation events to get an accurate estimate upon which to base the ROD.

For example, one commenter identified a storm event captured by the USGS stations in the Blackwater River that showed elevated turbidity upstream and downstream of the stations. The commenter explained that USGS inspectors found all erosion control structures appeared intact, and no direct evidence of erosion from the apparent construction areas into the river were observed (photos taken during the site visit are available upon request). This river system is characterized by a high sediment load which has been visually observed by DEQ staff since the study began in summer 2017. Maggodee Creek, located approximately 100 m upstream of the upstream monitoring location, also carries a high sediment load, and may have contributed to the turbidity responses discussed above. According to commenter, no further evidence regarding the causes of the observed high-turbidity events was observed.

### **Response WAT-06:**

The Forest Service analyzed USGS in-stream monitoring station data for the other three proposed MVP crossings on private land (the Blackwater River and two crossings of Bottom Creek) using the same methodology as the original analysis in Section 3.3.2 in this FSEIS. The comparison of peak event upstream-downstream turbidity for the pre- and post-construction periods at Bottom Creek 2 indicated a statistically significant ( $\alpha = 0.05$ ) decrease in downstream turbidity post-construction. At the Blackwater River and Bottom Creek 1 crossings, there was an insufficient sample size for regression analysis. A discussion of this analysis and its results has been added to Section 3.3.2 in this FSEIS.

The FSEIS is based on the best available scientific information, which includes USGS in-stream water quality data collected at six proposed MVP stream crossings off NFS lands. The CEQ NEPA regulations require Federal agencies to utilize reliable existing data and states that agencies are not required to undertake new scientific and technical research to inform their analyses (40 CFR § 1502.23). Whereas the Court remanded the Forest Service and BLM for not waiting for the 2021 FERC Boring EA, that EA was a required agency action for the larger MVP project. In contrast, natural precipitation events are not required or planned actions.

In addition, real-world data is affected by many factors, and it is often difficult or impossible to identify the data anomalies, even for data that has been professionally collected and reviewed. For example, the USGS Bottom Creek 2 data show that downstream turbidity was lower after

construction commenced. A simple cause-and-effect analysis could lead one to believe that MVP construction improved water quality conditions.

This analysis of real-world data demonstrates the sediment delivery modeling completed for this project is sufficient and a comprehensive analysis of the best available scientific information indicates minor to moderate short-term impacts on water resources.

### **Concern Statement WAT-07:**

Commenters contend the RUSLE2 predictions are flawed for several reasons. Contrary to the 0.1% to 2.6% increase in sedimentation predicted under RUSLE2, USGS in-stream data show a 20% to 200% increase, meaning the RUSLE2 results are inaccurate by a factor of 100.

### **Response WAT-07:**

Commenter's cited percentage increases in sedimentation are selected from instantaneous peak turbidity levels at two discrete precipitation events and thus are not a reliable proxy for understanding turbidity or sedimentation trends over the approximately 5-year time that USGS collected in-stream water quality monitoring. RUSLE2 is designed to estimate sediment loss in tons per acre per year (Geosyntec 2020b).

### **Concern Statement WAT-08:**

Commenters contends that erosion from the pipeline corridor is creating seeps in and near the ROW, and the ROW traverses near known seeps along the ridge of Sinking Creek Mountain. Some seeps are hydrologically connected with water features far downstream from the ROW. These features and related impacts were never considered in the DSEIS.

### **Response WAT-08:**

Commenter did not identify where new seeps have been created, and Transcon monitoring reports have not identified any new seeps in the temporary ROW. Grading and earth moving may be expected to expose near-surface water and seeps in rare cases, but surface erosional processes are not typically associated with seep creation. No karst features were identified within the ROW on NFS lands during the Karst Hazard Assessment (POD Appendix L), and the Karst Mitigation Plan (POD Appendix L) contains measures to address unanticipated discoveries and minimize impacts. No new information has been identified related to seeps and no supplemental analysis is needed.

### **Concern Statement WAT-09:**

Commenters request that the Forest Service require monitoring of streams on NFS lands during construction and that the applicant be held accountable for adverse impacts. Specifically, measure embeddedness before and during construction and require corrective measures if embeddedness increases during construction.

### **Response WAT-09:**

Sediment monitoring off NFS lands is required as part of the 2023 FWS BO. In addition, the USGS has established six pairs of monitoring stations near stream crossings off NFS lands in Virginia. Monitoring and inspection of conditions on the JNF, including the conditions of ECDs and stream or run-off sedimentation issues, is currently being conducted and will increase in frequency during construction using an independent third-party contractor. The Forest Service will provide as a term and condition to the BLM a requirement to monitor the four streams on NFS lands.

**Concern Statement WAT-10:**

Commenters raised concerns that the DSEIS states, “No springs or swallets were identified within 500 feet of the MVP pipeline route crossing the JNF” which contradicts an Aquatic Resource Report for the 2017 FERC FEIS.

**Response WAT-10:**

The statement that no springs or swallets were identified within 500 feet of the MVP pipeline route crossing the JNF statement is from the 2017 FERC FEIS, p. 4-102. The quoted statement is accurate because more recent monitoring has indicated changes in stream characteristics since the 2017 Aquatic Resources Report was published.

The cited Aquatic Resource Report details the initial field investigation to identify aquatic features on and near the proposed ROW on NFS lands. The report identified one unnamed stream tributary (identification number S-PP22) as sourcing from a spring or seep. The associated map shows the same stream originating and ending within the 125-foot-wide temporary ROW.

Continual monitoring of any previously identified or suspected springs or swallets (seeps) continues and will continue throughout construction, restoration, and maintenance. For example, S-PP22 was originally delineated in 2015 and then revisited in 2019 after initial clearing and temporary grading had occurred. At the time of the delineation in 2015, the stream flow went subsurface and lost evidence of bed, bank, and ordinary high-water mark characteristics through the right-of-way. In 2019, the stream expressed water flow on the surface, and bed and bank characteristics were more established and definable downslope. Appropriate protections and mitigations will be implemented in accordance with the POD, Appendix C-2.

**Concern Statement WAT-11:**

Commenters contend that the DSEIS contains insufficient analysis of the impacts of boring under streams because it fails to acknowledge a demonstrated history of adverse impacts from trenchless boring on other pipeline projects.

**Response WAT-11:**

Appendix C of this FSEIS discloses the Forest Service’s independent review of the 2021 FERC Boring EA, which included measures to reduce the risk of a failed bore. The Forest Service reviewed publicly available data on the PHMSA website for Gas Transmission Pipeline Performance Measures (PHMSA 2023) but did not identify new information or changed circumstances requiring a supplemental analysis. PHMSA was a cooperating agency for the 2017 FERC FEIS which addresses reliability and safety (Section 4.12).

**Concern Statement WAT-12:**

Commenters contend the DSEIS inappropriately relies on a limited monitoring period before clearing and land disturbance for MVP. There was only about one year for gathering baseline data. This short pre-construction data collection period failed to capture a sufficient range of conditions, especially high-flow events, with which to compare affected periods.

**Response WAT-12:**

The 2020 FSEIS and this FSEIS gathered the best available scientific information (Section 3.3.2.2) to examine water quality conditions and impacts. This includes USGS in-stream water quality data monitoring since the Project’s inception in 2017, VDEQ inspection reports and associated documents

detailing ROW conditions since 2018, and Transcon monitoring reports since 2018. In addition, baseline (pre-project) conditions are discussed extensively in the 2017 FERC FEIS and 2020 FSEIS in Section 3.4.2 of this FSEIS. The statistical analysis of turbidity measured by the instream USGS stations utilized a sufficient sample size of turbidity events both pre- and post-construction.

### **Concern Statement WAT-13:**

Commenters contend comparing the downstream station data with the upstream station data obscures the sediment load and turbidity from pipeline construction further upstream because both stations were affected similarly from that activity.

Moreover, the DSEIS fails to distinguish between construction that occurred in 2018 and 2019 in upland sites and later construction that occurred near the stream crossings and between the upstream and downstream stations. When USGS installed these stations, it articulated the purpose as “collect[ion of] baseline water-quality data and, if the pipeline construction is approved, to monitor water quality in these streams before, during, and after pipeline construction.” These monitoring stations might have provided a baseline for stream conditions before construction occurred in upland sites within the impacted watersheds, but the Forest Service failed to examine that issue. Comparing the downstream station data with the upstream station data thus obscures the sediment load and turbidity from pipeline construction because both stations were affected similarly from that activity. The major issue is that the MVP cuts across the Roanoke River’s upstream watershed in several places, so the upstream sensor may be reporting an already elevated turbidity reading.

In Table 4 of the DSEIS, the Forest Service presents USGS stream gages used in their analysis. They indicate the beginning of the monitoring period at these gages and the “construction start” date at these gages. These dates apparently reference only when pipeline construction was approaching crossings between the USGS stations and thus fail to account for construction that had already occurred within these watersheds in upland sites on tributary streams that would have already affected stream quality within the subject streams and rivers. Construction occurred at these gages, and particularly at the Roanoke River gages, before 2019. In fact, 2018 saw the majority of construction and land clearing activities (Wild Virginia, 2022), and it was this period (2018/05/01 - 2019/08/19) that was previously analyzed by V-SCI in 2020 and cited by the Fourth Circuit. However, the Forest Service did not analyze this period, and instead states that construction only began in 2019. Further, the dates of construction used in that previous analysis (2018/05/01 - 2019/08/19) were taken from MVP’s response to a previous comment about concerns related to sedimentation in the Roanoke River (see MVP Response to the Cristopulos Report, Geosyntec Consultants, Inc. 2019). In addition, the current Forest Service 2022 DSEIS does not document when construction ended, which is important when performing a statistical analysis of the effects of construction on turbidity at these gages.

### **Response WAT-13:**

The Forest Service did not overlook the effects of pipeline construction upstream of the paired USGS instream water quality monitoring stations. This is demonstrated through evaluation of VDEQ, WVDEP, and Transcon monitoring reports along the MVP ROW on and off NFS lands, and evaluation of MVP’s sediment monitoring program. “The purpose of the [USGS] monitoring effort is to collect baseline water-quality data and, if the pipeline construction is approved, to monitor water quality in these streams before, during, and after pipeline construction” (2023 FSEIS Section 3.3.2).

Turbidity associated with construction activity and other land uses further upstream in the watersheds would be captured in the paired upstream (control watershed) and downstream (treatment watershed) monitoring stations. The paired water monitoring stations are designed to identify differences in

turbidity levels from actions in the incremental drainage areas between the two stations, as measured in a comparison of the paired upstream and downstream station data. At each of the six stream crossings monitored by paired USGS stations, there are various land uses within the incremental drainage area. Each of these land uses, including the MVP (which has been constructed and is being maintained with ECDs approved by permitting agencies and designed to minimize turbidity and sedimentation), are potential sources of sediment which can contribute to in-stream turbidity. The USGS data do not specify how much turbidity is directly attributable to an individual source (2023 SEIS Section 3.3.2).

#### **Concern Statement WAT-14:**

Commenters contend because of the dearth of adequate baseline conditions, the Forest Service should conduct benthic sampling at sites where there is adequate baseline data and where there have been known spikes in sediment to determine whether there are aquatic life impacts that might be correlated.

MVP monitoring is not adequately documenting baseline conditions of waterbodies it will impact. MVP conducted benthic monitoring on a few, select streams but lacks data on most streams to be impacted. Additionally, their methodology, while accepted by WVDEP, has been criticized by EPA.

#### **Response WAT-14:**

This FSEIS is based on the best available scientific information. The CEQ NEPA regulations require Federal agencies to utilize reliable existing data and state that agencies are not required to undertake new scientific and technical research to inform their analyses (40 CFR § 1502.23).

#### **Concern Statement WAT-15:**

Commenters contend the Performance Standards do not provide reasonable assurance that impacts to water resources will be properly identified. MVP provided arbitrary benchmarks to determine if the water quality shows degradation. However, those benchmarks are based on outdated methodologies that do not properly identify impairments.

#### **Response WAT-15:**

The performance standards discussed in the 2022 SBA are in reference to MVP's Mitigation Framework that is currently under review with the USACE as part of the Project's Section 404 water crossing permits. Because the four streams on NFS lands would be crossed using conventional boring, these performance standards do not apply to the MVP ROW on the JNF.

#### **Concern Statement WAT-16:**

Commenters contend there is too much reliance on modeling as opposed to actual field sampling which would provide the data necessary to make an informed decision.

#### **Response WAT-16:**

Section 3.3.2 of this FSEIS discloses and assesses multiple sources of the best available information (including real-world data collected by the USGS instream water quality monitoring stations, and field inspections by VDEQ and monitoring by Transcon) related to ECD performance and associated water quality. The 2017 FERC FEIS also discusses baseline field studies conducted. This 2023 FSEIS analysis discusses the relationship between modeling and real-world data as well as the limitations associated with comparing the two.

### **Concern Statement WAT-17:**

Commenters contend there is no stated metric or threshold for determining how much of an increase in sedimentation is acceptable. Therefore, the RUSLE2 results are abstract and the modeling effort is not a reliable methodology to evaluate the actual effects of sediment transport.

### **Response WAT-17:**

As described throughout this FSEIS, RUSLE2 modeling was one tool used to analyze effects on resources and identify appropriate ECDs to minimize sediment loss. RUSLE2 computes estimated sediment loss and does not opine on the acceptability of its results. The holistic analysis in FSEIS Section 3.3.2 that considers multiple sources of best available information was conducted to determine the context and intensity of impacts.

### **Concern Statement WAT-18:**

Commenters contend that the Forest Service is required to impose riparian standards on project implementation, rather than eliminate protections by way of amending the JNF Forest Plan. This waiver of mandatory riparian standards may in fact be unlawful.

### **Response WAT-18:**

In accordance with Forest Service regulations at 36 CFR § 219, this FSEIS assesses the impacts of a proposed project-specific Forest Plan amendment, including on riparian resources. Forest Plan standards related to riparian resources are proposed to be amended, not eliminated. As disclosed in this FSEIS Appendix A, there would be continued application of 55 unmodified Forest-wide riparian standards. The proposed project would adhere to measures in the POD designed to minimize or avoid adverse effects, as disclosed in the FSEIS.

### **Concern Statement WAT-19:**

Commenters contend the Forest Service should require greater transparency about MVP's "alternate crossing measures" if the boring attempts fail. It should obtain an independent assessment of the potential bore complications and likelihood of success of boring. The Forest should require revised construction plans to minimize impacts on the approach ROWs until a successful bore is completed. To guard against unnecessary excavation of the bore pit should the bore fail, the Forest Service should require tree clearing on the West Virginia side of the ANST bore to occur only when successful boring is imminent.

### **Response WAT-19:**

Appendix E of the POD is the Contingency Plan for the Proposed Crossing of the ANST. Appendix E examines site-specific conditions for the proposed bore under the ANST, identifies risks, describes multiple alternative trenchless crossing methods, and discloses the contingency plan should issues be encountered. Trees within the ROW on NFS lands have already been cleared.

Consistent with the Proposed Action in Section 1.4 of this FSEIS, the Forest Service would provide a term and condition to the BLM requiring Mountain Valley to adhere to the stream crossing contingency measures outlined in the 2021 FERC Boring EA when boring under the four streams on NFS lands. Should Mountain Valley encounter difficulties during a trenchless crossing, the Forest Service would require Mountain Valley to implement contingency measures including shifting the bore entry point over and re-attempting the bore. Mountain Valley would be required to seek any necessary authorizations and agency approvals (including from the Forest Service as applicable) before modifying the proposed crossing method.

**Concern Statement WAT-20:**

Commenters contend that the Forest Service failed to assess impacts on groundwater and watersheds off NFS lands, including Rich Creek Cave, the trout hatchery at the Rich Creek Cave, private wells and springs that residents use for farming and drinking water, and the breach of the Clean Drinking Water Protection Zone on Sinking Creek Mountain.

**Response WAT-20:**

The 2020 FSEIS, Section 3.4.2, states that short-term impacts would be associated with construction and would be minor, which is consistent with the conclusions in the 2017 FERC FEIS. Construction activities are not likely to measurably affect groundwater resources because most construction would involve relatively shallow excavations. The Project would prevent or adequately minimize accidental spills and leaks of hazardous materials into groundwater resources during construction, operation, and maintenance by adhering to its Spill Prevention, Control, and Countermeasure Plan included the POD (Appendices D-1, D-2).

Long-term impacts would be associated with post-construction restoration, operation, and maintenance and would be minor in intensity, which is consistent with the conclusions in the 2017 FERC FEIS. The 2017 FERC FEIS Chapter 3.5.1.10 details alternative changes to avoid or minimize effects to karst, caves, and groundwater. The 2017 FERC FEIS Chapter 4.1 details impacts to resources associated with geology, including groundwater. Mountain Valley prepared a Karst Hazard Assessment, Karst Mitigation Plan, and Karst-specific Erosion and Sediment Control Plans for the Project. Additional information on Mountain Valley's efforts to avoid, minimize, and mitigate impacts to groundwater and karst can be found in Chapter 4.1 of the 2017 FERC FEIS.

No new information has been provided that requires supplemental analysis in this FSEIS.

**Concern Statement WAT-21:**

Commenters noted that as part of a team of water monitors trained by Trout Unlimited to take scientific measurements of water quality in streams and springs, the commenter monitored (among other sites) three sites on the North Fork of the Roanoke River as it runs through Catawba Valley, along Catawba Road. The commenter monitored regularly two sites upstream from the MVP construction site and stream crossing (completed in 2018) and one site below the MVP site. On September 10, 2018, they submitted to FERC, as a registered intervenor for the MVP project (CP16-10-000), a report based on that evidence in light of a year's worth of turbidity data on that downstream site before MVP began construction. They appended to this comment letter the two-page summary of that report. Commenters contend the Catawba Valley site is one that MVP now counts as "fully restored," but the North Fork shows it is not so—this is real-world evidence that MVP's erosion and sedimentation controls are inadequate to protect our streams.

**Response WAT-21:**

The Forest Service reviewed the commenter's submission and acknowledges comments that have detailed the failures of erosion and sediment control structures/devices and the documented violations that resulted. It is important to put these failures and violations in context of what specifically has occurred on the JNF. The Forest Service, and other entities, continually monitor site conditions on the JNF and require Mountain Valley to implement stabilization, conservation, and safety measures, as appropriate, to protect resources and public and employee safety.

Since the implementation of 2018 stabilization work, weekly monitoring has documented that both Sinking Creek and Brush Mountain LODs are continually noted as being largely stable with no

erosion or sedimentation issues observed. These on-site weekly monitoring activities identify maintenance necessary for ECDs. These issues are responded to by Mountain Valley environmental crews. Mountain Valley environmental crews continue to adjust ECDs during Project shutdown on the JNF.

Based on stabilization results on NFS lands and ECDs that have been improved since 2018, the analysis in this FSEIS is accurate and describes anticipated impacts accurately. Monitoring reports show that ECDs are effective at controlling erosion, runoff, and sedimentation under normal conditions when properly installed and maintained.

### **Concern Statement WAT-22:**

Commenters had concerns about the restoration plan. To ensure that temporary stream and wetland impacts have no significant adverse impact to aquatic resources, the restoration plan should document baseline conditions, and elevations through georeferenced photographs and surveys, explain how all temporary fills and structures will be removed and the area restored to pre-project conditions, and require submission of post-construction georeferenced photographs and surveys to demonstrate that the impacts are in fact temporary and successfully restored.

In addition, upon final stream bed restoration, the stream must have similar physical characteristics to include substrate, pattern, profile, dimension, and embeddedness of the original stream channel.

### **Response WAT-22:**

The Forest Service concurs that monitoring of restoration activities would benefit the Project and the resources, and this is required in Appendix H as part of the restoration and revegetation process. No wetlands occur on the MVP ROW on NFS lands and, due to the use of bridges for construction vehicles to travel over the four streams on NFS lands along with conventional boring methods to cross under the four streams, there would be no change to stream channel dimension, pattern, or profile, and thus the need to restore these parameters to pre-existing conditions is not anticipated.

### **Concern Statement WAT-23:**

Commenters contend the DSEIS is silent about the effects of the amendments to the management standards on the restoration of the ecological integrity of riparian areas, riparian management zones, and riparian corridors from stream boring practices. Plan sheets appended to the POD show the locations of large bore pits, but not the location of spoils piles or estimates of the volume of dirt, nor is any riparian corridor or zone delineated. The locations and sizes of the groundwater filtration structures are not shown even though groundwater filtrate will be discharged onto vegetated areas of the forest.

There are no assessments of the restoration of ecological integrity from the effects of constructing bore pits, stock-piling soil, and pumping, filtering-on-site, and discharging of the groundwater from the bore pits.

### **Response WAT-23:**

The Forest Service's obligation is to ensure the Forest Plan, as amended, has components to maintain or restore ecosystem integrity (36 CFR §§ 219.8 and 219.9). Appendix A of this FSEIS contains the analysis for this obligation.

The effects of the proposed amendment from boring under streams and the ANST are consistent with the effects of other construction activities. Boring would be confined to the LOD. Appendix A-2,



Bore Profiles for Weston and Gauley Turnpike and Jefferson National Forest, and Variance Request No. G-16, contain detail engineering drawings and descriptions of the bore pits, including proximate locations of spoil pits.

The POD Restoration Plan would also apply to boring under streams and the ANST and there would be enhanced dewatering structures for stream crossings on the JNF. As stated in the variance request (MVP 2020a), stream crossings would be conducted within the existing LOD. If groundwater is encountered, it would be discharged through a sediment filter bag, the water is then filtered through an interior cell that comprised of double stacked straw bales and geotextile fabric, reinforced with cattle fencing to help maintain the structural integrity. The water is then filtered through another row of double stacked straw bales, geotextile fabric, and cattle fencing. The structure will be in a well vegetated area to increase the retention and filtration of the water (MVP 2020a).

### **Concern Statement WAT-24:**

Commenters contend the DSEIS asserts that “mitigation measures and design criteria in the POD” will “minimize sedimentation to streams.” The agency provides no support for this conclusion—leaving the reader guessing if the POD will do what the agency says. At any rate, the POD cannot, as noted, bear the weight the agency places upon it. The POD provides neither standards nor guidelines within the meaning of 36 C.F.R. § 219.7(e), so it cannot satisfy the agency’s obligation to provide new plan components, including standards or guidelines, to maintain or restore water quality and water resources within the scope and scale of the amendment.

### **Response WAT-24:**

Appendix A in this FSEIS discloses that continuous monitoring indicates mitigation measures and design criteria are effective at minimizing impacts to soils, riparian, and water resources. This conclusion is supported by a review of Transcon inspection reports as discussed in Section 3.3.2.

The proposed action has been updated to include a project-specific standard that would formalize affirmative requirements and restrictions on the implementation of MVP (See Section 2.2.2).

### **Concern Statement WAT-25:**

Commenters contend that contrary to the DSEIS, real-world data can be used to validate RUSLE2. The Forest Service also cites the RUSLE2 documentation (USDA 2008) and states that “[t]he most important part of RUSLE2’s validation is whether RUSLE2 leads to the desired erosion control decision, not how well RUSLE2 estimates compare to measured data.” However, the full quote from the RUSLE2 documentation states: “The most important part of RUSLE2 validation is whether RUSLE2 leads to the desired erosion control decision, not how well RUSLE2 estimates compare to measured data. Validation certainly involves evaluating RUSLE2’s accuracy, but many other considerations are also important in judging how well RUSLE2 serves its stated purpose. For example, a model could perfectly compute erosion, but if the resources required to use a particular model exceed available resources, the model is invalid, (i.e., it does not serve its intended purpose).” Thus, the Forest Service misrepresented the RUSLE2 documentation, incorrectly asserting that RUSLE2 modeling cannot be compared to real-world data.

The RUSLE2 model documentation also suggests that model estimates are useful for analyzing individual storm events, stating “[a]lthough RUSLE2 is not intended to estimate erosion from individual storms, its accuracy for individual storm event erosion estimates may be comparable to estimates from complex, process-based models. RUSLE2 is better for estimating individual event erosion than is commonly assumed.” The RUSLE2 documentation also states, “If users understand

how RUSLE2 works regarding individual storms and representing historical events and they have the expertise and other resources to apply RUSLE2, then RUSLE2 is valid in these applications if these RUSLE2 users consider RUSLE2 estimates to be useful.” Even though the timescales are different (single events for instream monitoring versus annual estimates in the RUSLE2 modeling), most of the annual sediment yield from a watershed can occur from just a few large storms (Curran et al., 2016; Walling & Webb, 1987). Therefore, percent changes in in-stream turbidity from a handful of storm events should be correlated with changes in annual sediment yield.”

### **Response WAT-25:**

This use, parameters applied, data incorporated into, and results of the RUSLE and RUSLE2 models have been disclosed and discussed extensively in the 2017 FERC FEIS, 2020 FSEIS, this 2023 FSEIS, and numerous soil, water, and sedimentation reports produced by Geosyntec, Inc.

Consistent with 40 CFR § 1502.23, the Forest Service ensured the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents, by making use of reliable existing data and resources, such as remotely gathered information or statistical models. The Court did not identify flaws in the design and use of RUSLE2. The Forest Service maintains that an analysis consistent with “the most important part of RUSLE2’s validation” (USDA 2008), as was done in the 2020 FEIS, is a reasonable and appropriate approach.

As stated in Section 3.3.2, relevant information was considered to be the best available scientific information (BASI). Forest Service planning regulations at 36 CFR § 219.3 state that the responsible official shall use the best available scientific information to inform the planning process. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. “However, there is little direction on what constitutes BASI and how managers should discern between science sources. While definitions of BASI vary across management agencies and within academia, most include criteria emphasizing accuracy, reliability, and relevancy” (Esch et al. 2018).

The DSEIS regression analysis is designed to determine if there are statistically significant differences in turbidity between the upstream and downstream at USGS in-stream water quality monitoring stations. As stated in the DSEIS, this methodology is appropriate for watersheds where there is an upstream station (measuring the control watershed) and a downstream station (measuring the treatment watershed). The analysis accounts for peak storm events exceeding 50 FNU, which is the numerical turbidity water quality standard for West Virginia and North Carolina. The watersheds draining to each USGS station are different than those modeled in RUSLE2, and thus a direct comparison is not possible.

### **Concern Statement WAT-26:**

Commenters contend If the Forest Service believes that embeddedness surveys performed by MVP to ground truth the RUSLE2 sedimentation model predictions are applicable, then the Forest Service should also consider and compare USGS data to RUSLE2 estimates.

### **Response WAT-26:**

Commenter’s concern, taken from the 2022 SBA, requires some clarification. The 2022 SBA Section 1.4 statement should refer to the baseline embeddedness analysis described in Section 6.1.2 of the 2020 SBA and Section 3.4.3.2 of the 2020 FSEIS, not the RUSLE2 hydrologic analysis. The Forest Service re-reviewed this statement in the 2022 SBA and determined that it did not influence the

effects determinations. Section 3.3.2 of this FSEIS discusses the differences between USGS data and RUSLE2 modeling.

### **Concern Statement WAT-27:**

Commenters contend that, because RUSLE2 hydrologically disconnects the ROW from surrounding lands, it interrupts the natural flow of water on the landscape. The ecological effects of diverting the natural flow of water from the interacting ecosystem, and redirecting to another place, has not been assessed.

### **Response WAT-27:**

RUSLE2 incorporated specific ECDs to assess sediment load. These included measures to divert water from the ROW so that erosion and sediment loss would be minimized. Impacts on water resources have been analyzed in the 2020 FSEIS (Section 3.4.2) and 2023 FSEIS (Section 3.3.2).

### **Concern Statement WAT-28:**

Commenters contend the Forest Service seems to have accepted VDEQ's assertions that there have been no widespread water quality problems—presenting no analysis of their bases—thus failing to fulfill its obligation to independently review critical information. The VDEQ claims of minimal impacts are not only unsupported by the facts, but they also defy reasoning about the nature of water quality impacts that must be considered.

### **Response WAT-28:**

In Section 3.3.2 of this FSEIS, the Forest Service analyzed real-world data and information from USGS, VDEQ, MBP, WVDEP, MVP (sediment monitoring program), and Transcon. The analysis does not suggest that real-world data and information are inconsistent with the RUSLE2 modeling.

In addition, the VDEQ, as well as the WVDEP, are the state agencies responsible for reviewing and monitoring erosion and sediment control plans developed to manage stormwater. Both state agencies reviewed and approved Mountain Valley's erosion and sediment control plans prior to ground-disturbing activities occurring on NFS lands.

### **Concern Statement WAT-29:**

Commenters contend neither the JNF DSEIS nor information provided by the FERC provide evidence to validate its modeling of impacts of pipeline construction on Peters Mountain. No USGS station on Stony Creek or Kimballton Branch appears in on the DSEIS USGS station location map. A USGS station on Stony Creek performed field measurements from 1993 to 9/8/1997 and once more on 6/27/2000. It has been inactive since 6/27/2000.

### **Response WAT-29:**

This 2023 FSEIS assessed turbidity data collected by the paired USGS in-stream monitoring stations for the three proposed stream crossings nearest the JNF. This FSEIS discloses analysis of the other three paired USGS stations further from the JNF. The Forest Service did not have control over where USGS chose to install water quality monitoring stations. As stated in Section 3.3.2 of this FSEIS, "The purpose of the [USGS] monitoring effort is to collect baseline water-quality data and, if the pipeline construction is approved, to monitor water quality in these streams before, during, and after pipeline construction." All USGS in-stream monitoring stations designed to monitor effects associated with MVP construction have been assessed in this FSEIS. Therefore, analysis of USGS data generated by this monitoring effort is a reasonable approach for addressing the Court's remand.

### **Concern Statement WAT-30:**

Commenters contend an analysis of embeddedness (e.g., pebble count) has not been conducted for sections of Stony Creek that are directly upstream and downstream of the Kimballton Branch confluence. Baseline field embeddedness surveys were completed on multiple streams in March and April 2020. The validity of these baseline embeddedness surveys is questioned as the current condition is not a “baseline” because construction had already occurred and contributed sedimentation to the streams. This is important because cobbles and pebbles provide aquatic habitats and protection for aquatic organisms. Insect larvae, which constitute the base of the river continuum food chain, reside on the cobbles and pebbles. Minnows and juvenile fish (including the Candy Darter) hide in the spaces between cobbles and pebbles for protection.

### **Response WAT-30:**

The FWS considered and accepted the 2020 SBA and habitat assumptions. FWS did not identify a need to do further studies.

### **Concern Statement WAT-31:**

Commenters state VDEQ in-stream water quality monitoring receives its information from USGS monitoring stations in three paired locations. Commenters contend there is no monitoring of Stony Creek which will be directly affected by the pipeline on Peters Mountain. The purpose of the VDEQ monitoring is to “direct inspection resources as appropriate,” an after-the-pollution-fact result. MVP claims suspended sediment monitoring and conclusions. However, during the monitoring time period, construction was halted and there had been no construction except for cutting of trees.

### **Response WAT-31:**

The Forest Service has no authority to require water quality monitoring off NFS lands. The MVP sediment monitoring program analyzed in the FSEIS considered water quality data collected at “commissioned” monitoring stations off NFS lands. Monitoring stations were only commissioned when construction had resumed in those watersheds.

### **Concern Statement WAT-32:**

Commenters contend that any data not collected on NFS lands is irrelevant to the DSEIS analysis because it does not measure pollution runoff from MVP ground-disturbing activities on NFS lands.

### **Response WAT-32:**

This FSEIS examined off-NFS water quality data when such data on NFS lands was unavailable, or the data was located within HUC-10 watersheds that formed the geographic scope of analysis. For example, this FSEIS, Section 3.3.2.2 discusses the usefulness of off-NFS data collected by USGS: an examination of USEPA Level III Ecoregions shows that the Little Stony Creek, Roanoke River, and Sinking Creek stations are situated in Valley and Ridge physiography and thus characterized by bedrock geology, hillslope morphology, and soils similar to those along the proposed pipeline corridor in the JNF.

### **Concern Statement WAT-33:**

Commenters contend questions must be addressed to avoid arbitrarily combined impacts in a unified aquatic system of any size must include at least the following:

- In what part of the drainage will the impacts be caused? For example, will the combined project and non-project effects be exerted primarily on first order streams and intermittent or ephemeral streams, on larger streams, or in both types?
- What is the nature of the individual waterbodies? For example, how does an impact on a number of linear feet in a very small stream compare to the impact on the same number of linear feet in a larger stream?
- Would the impacts occur more heavily in waters where native aquatic species are relatively pollution-sensitive or pollution-tolerant? Will the impacts occur in spawning areas, pool and riffle habitats, or in other especially sensitive times or locations?
- How many individual stream segments or wetland areas will be affected within close proximity to each other?
- How will a number of upstream impacts be combined in downstream environments? Will sediments or other pollutants released, even in small amounts or for short periods at individual sites, accumulate and persist to cause serious negative effects?
- Specifically, how have the chemical, physical, and biological characteristics of the watershed streams been affected by past pipeline impacts in ways that have changed from the true baseline conditions? Have those impacts persisted, how long might they continue to be evident, and how will new impacts interact with them?

### **Response WAT-33:**

This FSEIS is narrowly focused on issues identified by the Court and new information and changed circumstances since the 2022 FSEIS was published and appropriately discusses the impacts on or from activities proposed on the JNF. The 2017 FERC FEIS, 2020 FSEIS, this FSEIS, and the 2023 FWS BO discuss impacts on water resources extensively. No new information or changed circumstances have been identified that require supplemental analysis.

Information on streams that could be impacted can be found in the FSEIS discussion in Appendix C. The ROW alignment on NFS lands includes four stream crossings (and no wetland areas). Also see figure titled “Location of Proposed Stream crossings on NFS Lands”. All crossings are of unnamed tributaries to Craig Creek. The 2022 POD identifies the flow regime of each stream:

- Stream PP22 (Sinking Creek Mountain) is an intermittent<sup>41</sup> stream
- Stream PP21 (Sinking Creek Mountain) is a perennial<sup>42</sup> stream
- Stream PP20 (Sinking Creek Mountain) is a perennial stream
- Stream HH18 (Brush Mountain) is a perennial stream.

The FSEIS identifies the location of the four proposed stream crossings on NFS lands and that these streams would be crossed using a conventional bore process meaning there would be no work activity in the streams and impacts within the riparian corridors have already occurred via grading and grubbing of vegetation. Limited additional impacts within the riparian zone are expected from the stream crossings.

As addressed in our response in Appendix F, TES-08, to provide the necessary information for its baseline analysis for aquatic species, Mountain Valley completed comprehensive stream assessments covering 417 km, including 174 km in WV and 243 km in VA (Mountain Valley 2022b). These

assessments included field evaluations of all publicly accessible areas in the streams of interest, supported by drone surveys and aerial imagery review of any areas not publicly accessible. Supplemental information related to anthropogenic influences and water quality issues or impairments were also compiled to provide a baseline stream characterization of each waterbody. The 2022 SBA, including appendices H and J (which are publicly available), contain detailed baseline stream characterizations and threat assessments for the portion of the aquatic action area (potentially supporting the Roanoke logperch off JNF lands)

Also see response TES-03, TES-04, TES-06, and TES-07(FSEIS, Appendix F). TES-06 further characterizes Stony Creek as it relates to the candy darter and also discusses baseline embeddedness information that was disclosed in the FS 2020 FSEIS. In summary, no direct effects are anticipated for the candy darter on the JNF since the impact area defined in the BO does not include any waterbodies in the JNF known to harbor the species (FWS 2020b). Indirect sedimentation effects to Stony Creek may occur from the ROW runoff via Kimballton Branch which does not support candy darter populations. The 2017 FERC FEIS considered indirect sedimentation effects resulting from the use of Pocahontas Road and Mystery Ridge roads via Kimballton Branch as well. Because these access roads would no longer be utilized for the Project, indirect effects to the species are expected to be less than those considered in the 2017 FERC FEIS and 2020 SBA.

Our response in TES-07 and TES-08 also focuses on the potential for cumulative impacts in the action area from other actions.

#### **Concern Statement WAT-34:**

Commenters contend the Forest Service should not be led to construe Mountain Valley's use of the adjective "enhanced" to describe its pollution control measures to mean "new" or "improved." As the West Virginia Solicitor General conceded to the United States Court of Appeals for the Fourth Circuit in oral argument in Page 29 footnote - October 2022, Mountain Valley has been labelling its measures "enhanced" since before it began construction, meaning "enhanced" does not mean "new" or responsive to its history of violations. Further, the DSEIS wrongly states that Mountain Valley relied exclusively on RUSLE2 model results to plan BMPs and ECDs and that RUSLE2 can reliably inform Mountain Valley's erosion control decisions.

#### **Response WAT-34:**

The FSEIS does not refer enhanced ECDs as a concept that pre-dates construction and it does not state that BMPs and ECDs are exclusively designed via RUSLE2. As disclosed in Section 3.1 of this FSEIS, enhanced ECDs were incorporated where appropriate as part of the monitoring program. Since construction commenced in 2018, enhanced measures have been implemented in response to high precipitation events and other site-specific conditions identified during monitoring. Section 3.1 discusses additional ECDs that have been implemented in response to monitoring (i.e., since initial modeling informed the placement of ECDs).

#### **Concern Statement WAT-35:**

Commenters contend sediment delivery from the Project is inconsistent with 9VAC25-840-40 Minimum Standard 19.

#### **Response WAT-35:**

9VAC25-840-40 Minimum Standard 19 is an erosion and sediment control regulation for Virginia and requires that sites downstream of development sites be protected from sediment deposition, erosion, and damage from stormwater runoff. The Virginia Department of Environmental Quality

(VDEQ) is responsible for administering State regulations related to water quality, such as 9VAC25-840-40 Minimum Standard 19. In March 2018, VDEQ finished their review of the Stormwater Management and Erosion & Sediment Control Plans for the Project and found they were in accordance with applicable laws and regulations.

## **Wetlands**

### **Concern Statement WET-01:**

Commenters provided a list of required and recommended measures to protect wetlands during project construction and operation.

### **Response WET-01:**

This comment is not applicable for this FSEIS. No jurisdictional wetlands occur within the MVP ROW on the JNF.

For other areas of the MVP off JNF, Mountain Valley would be required to follow measures to protect wetlands as prescribed by the USACE, VDEQ, and WVDEP. Mountain Valley is required to comply with permit requirements for Clean Water Act Section 401 and 404, as applicable. No Clean Water Act permitting is required for actions on NFS lands because there would be no discharge of dredged or fill material into waters of the United States.

## **Aquatic Species**

### **Concern Statement AQ-01:**

Commenters contend that the DSEIS and RUSLE2 modeling fail to address impacts on headwater aquatic habitats from pipeline construction (e.g., Transverse Profile Category and Perpendicular Profile Category as specified in the POD). Specifically, commenters are concerned about adverse impacts on forested ridges and watersheds of first and second order streams, which provide unique habitat for aquatic species (e.g., aquatic benthic macroinvertebrates) that constitute the base of the aquatic food chain for areas downslope and downstream. These concerns are supported by the River Continuum Concept which is used by multiple federal agencies including the Forest Service to illustrate the strong connection between headwater areas on mountain ridges and various downstream areas. Ecological integrity cannot be maintained or restored when the headwaters habitat for the benthic aquatic organisms is destroyed.

### **Response AQ-01:**

The FSEIS discloses impacts from forest fragmentation, conversion of land cover during construction and operation, and stream crossings. The 2017 FERC FEIS analyzed the impact of creating edge habitat and fragmenting existing habitats (see Sections 4.4.1.5, 4.4.2.3, 4.4.2.6, and 4.5.2.2). Since publication of the 2017 FERC FEIS, the ROW on NFS lands was cleared of standing trees. The 2020 FSEIS discloses adverse impacts to old growth forest (found near the forested ridge of Sinking Creek Mountain in headwater watersheds) and the creation of forest edge habitat (Section 3.4.4.3).

Riparian impacts would occur on the approximately 0.15 acre of riparian areas within the temporary ROW. Over the long-term, there would be 0.02 acre of direct impacts where the center 10 feet of the authorized ROW would be maintained in an herbaceous cover. The 2020 FSEIS (Section 3.4.3, Appendix C) also discloses effects of increased forest habitat fragmentation that could have adverse impacts on interior forest species. The FSEIS identifies the location of the four proposed stream crossings on NFS lands and that these streams would be crossed using a conventional bore process

meaning there would be no work activity in the streams and impacts within the riparian corridors have already occurred via grading and grubbing of vegetation. Limited additional impacts within the riparian zone are expected from the stream crossings.

The 10-foot-wide zone that would remain in herbaceous vegetative cover does not detract considerably from the River Continuum Concept since this concept emphasizes the longitudinal continuum of the stream corridor that creates exchange and for energy and matter, and organism movement throughout a watershed system. The concept recognizes that these interactions are complex, interdependent processes that vary over time. It is common for there to be multiple places along stream corridors where gap phase succession occurs for lengths greater than 10 feet when mature trees succumb to insect infestations, pathogens, ice damage, and other agents of tree damage and mortality. The herbaceous zone would not affect other dimensions identified in the River Continuum concept since the herbaceous zone would not affect floodplain connectivity or hyporheic flow (i.e., flow below the streambed). The width of the herbaceous zone (10-feet) is approximately 15% of the heights of the trees adjacent to the MVP corridor. It is reasonable to expect that the planted trees would reach the same height of the trees adjoining the MVP corridor within 50 to 75 years. Leaf fall would undoubtedly cover this zone, providing suitable habitats for terrestrial and soil-dwelling macroinvertebrates, which are important food for riparian avifauna. The herbaceous zone would also serve as foraging habitat for other riparian dependent species.

### **Concern Statement AQ-02:**

Commenters contend a lack of analysis regarding a new species of crayfish which has only been found on the high ridges of Monroe County, WV and Giles County, VA. The area near the MVP ROW on Peters Mountain is one of the spring/wetland areas where it lives. That spring is less than 500 feet from the MVP ROW and proposed Bore Area on Peters Mountain in the JNF.

### **Response AQ-02:**

This FSEIS evaluates impacts on federally listed and RFSS species (Section 3.3.3) and the 2017 FERC FEIS (pp. 4-139 and 4-220 to 4-223), the 2020 FSEIS (pp. 73 to 75), and 2022 DSEIS (p. 30) assessed impacts on general aquatic species and their habitat. The analysis disclosed that the use of conventional boring and approved permitted ECDs and BMPs would limit potential release of sediment from the ROW to the riparian zone and/or stream channel. See Response GEO-05 and Response GEO-10 for additional discussions on seeps.

### **Concern Statement AQ-03:**

Commenters state it is unclear if a baseline assessment was completed on the quality and function of the aquatic resources proposed to be impacted either permanently or temporarily. To better evaluate the proposed project's impacts and to ensure adequate functional replacement of the aquatic resources, the applicant should conduct a baseline assessment of the condition and functions of aquatic resources to be impacted by the proposed project, including those resources subject to temporary impacts.

### **Response AQ-03:**

Prior to development of the 2017 FERC FEIS, an Aquatic Resource Report was prepared based on the results of a comprehensive stream and wetland delineation on NFS lands. The report and this FSEIS are consistent in identifying four proposed stream crossings on NFS lands and no jurisdictional wetlands within the 3.5-mile-long ROW on NFS lands (Tetra Tech 2017).



## Vegetation

### Concern Statement VEG-01:

Commenters expressed concern that old growth forest removal and contend this has unacceptable impacts on a variety of resources including Threatened and Endangered species, soils, water, and biodiversity, and that the DSEIS did not adequately assess these impacts. The Forest Service should buffer existing and potential old growth stands to protect against direct and indirect impacts now and in the future and examine the impacts through the lens of the ROW being located within a UNESCO International Biosphere Reserve.

### Response VEG-01:

The 2017 FERC FEIS analyzed the impact of creating edge habitat and fragmenting existing habitats (see Sections 4.4.1.5, 4.4.2.3, 4.4.2.6, and 4.5.2.2). Since publication of the 2017 FERC FEIS, the ROW on NFS lands was cleared of standing trees. The 2020 FSEIS discloses adverse impacts to old growth forest and the creation of forest edge habitat (Section 3.4.4.3). Project construction has resulted in clearing 5.2 acres on Brush Mountain out of approximately 30,200 acres of JNF old growth or about 0.0002% of the total old growth on the JNF.

### Concern Statement VEG-02:

Commenters contend that there is no evidence the Forest Service followed its own guidance for old growth surveys and management. For example, the pipeline bisects old growth on Sinking Creek Mountain that was mapped for the 2004 Forest Plan; this old growth is not mentioned in the DSEIS.

### Response VEG-02:

In 2016, potentially affected forests within and adjacent to the LOD were inventoried in accordance with Forest Service protocol. The inventory methodology was reviewed and approved by the Forest Service prior to field work and the Forest Service silviculturist reviewed and ultimately approved the inventory results. Trees were cleared in 2018.

### Concern Statement VEG-03:

Commenters state old-growth forests should be protected. Commenters contend the removal of the few old-growth forests left in the Eastern United States eliminates a source of the creation of topsoil; more carbon and nitrogen are retained in old-growth forests than in younger forest stands, and their removal could harm vulnerable interior forest species by creating edge habitats, as well as adverse impacts to ecosystem diversity and ecosystem integrity.

### Response VEG-03:

Per the JNF Forest Plan, “Old growth forests are ecosystems distinguished by old trees and related structural attributes. Old growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics which may include tree size, accumulation of large woody material, number of canopy layers, species composition and ecosystem function.” Most lands that are in the JNF were deforested before they became part of the National Forest. Therefore, many old growth forests on the JNF have been maintained and restored under Forest Service management including the 2004 Forest Plan.

As stated in the FSEIS, Mountain Valley would be required to restore soil conditions to pre-project conditions. Carbon sequestration is addressed in the 2017 FERC FEIS, 2020 FSEIS, and in the Air Quality and Climate section of this Response to Comments appendix.

### **Concern Statement VEG-04:**

Commenters contend the DSEIS fails to identify additional old growth stands that have been cleared, specifically on Sinking Creek Mountain, leading to concerns about the adequacy of the old growth inventory conducted for the proposed project.

Relatedly, the Project appears to be contradict regional guidance on considerations for old-growth forests during project-level planning, which states, “When developing overall management strategies for an area, care should be taken not to isolate the medium- and small-sized old growth patches from the mid- and late-successional forests” (p. 26-7), and “National Forests need to provide for ... representation of all old growth forest community types” (FR-62 p. 14) and “consider underrepresented old growth forest community types” (FR-62 p. 17) in planning.

The agency should examine whether there is any within-stand patches of OG or relic trees that should be protected or buffered from disturbance. It is possible that some old growth may exist within whole stands, partial stands, or portions of stands adjoining other stands.

### **Response VEG-04:**

Impacts on old growth have been disclosed in the 2017 FERC FEIS, 2020 FSEIS, and 2022 DSEIS. The 2017 FERC FEIS analyzed the impact of creating edge habitat and fragmenting existing habitats (see Sections 4.4.1.5, 4.4.2.3, 4.4.2.6, and 4.5.2.2). Since publication of the 2017 FERC FEIS, the ROW on NFS lands was cleared of standing trees. The 2020 FSEIS discloses adverse impacts to old growth forest and the creation of forest edge habitat (Section 3.4.4.3). Section 3.3.4 and Appendix A in this FSEIS examine impacts on old growth through the lens of the proposed Forest Plan amendment.

Old growth survey methods are described in Response VEG-02. As described in Response VEG-04, the Forest Service performed a desktop analysis to examine the extent of old growth stands near the MVP ROW.

### **Concern Statement VEG-05:**

Commenters state only 2 of the 30,200 acres of old growth forest-wide will be impacted, and contend no other metrics are calculated forest-wide. Of all the old growth within the MVP, 100% of it is impacted.

### **Response VEG-05:**

The Forest Service examined data on forest stands near the proposed pipeline to provide greater context on short- and long-term impacts on old growth forests near the ROW. The Forest Service’s Field Sampled Vegetation (FSVeg) module contains plot vegetation data from field surveys such as FIA data, stand exams, inventories, and regeneration surveys. It includes data on trees, surface cover, understory vegetation, and down woody material. The Stand Age attribute in FSVeg was used as an indicator of old growth for each Forest Community Type, based on the old growth age threshold identified in the JNF Monitoring Report (Forest Service 2020b). Within 1 mile of the temporary ROW, the FSVeg data estimates there are currently 2,337 acres of JNF forest stands with a stand age indicative of old growth. In 10 years, the number rises to 3,013 acres, and in 20 years there would be 3,399 acres. This exercise indicates that old growth in the vicinity of the Project should increase over time, which is in line with regulations requiring the Forest Plan to include components to maintain and restore ecological integrity and diversity (36 CFR §§ 219.8 and 219.9). The acreage of affected old growth in the temporary ROW has been updated in the FSEIS.

**Concern Statement VEG-06:**

Commenters contend that the ROW corridor is a vector for invasive species.

**Response VEG-06:**

This FSEIS Section 3.2.7 discloses that, since publication of the 2020 FSEIS, the Forest Service silviculturist has identified tree of heaven (*Ailanthus altissima*) and princess tree (*Paulownia tomentosa*) growing within the ROW on Peters Mountain. These non-native species and those disclosed in the 2020 FSEIS have previously and would continue to be managed and removed as described in the POD Appendix S, Exotic and Invasive Species Control Plan. Monitoring and inspections will identify invasive species and they will be managed according to POD Appendix S.

**Concern Statement VEG-07:**

Commenters contend the Forest Service should have considered the impact of tree clearing for the pipeline on any area's future eligibility for wilderness designation before approving any activities in the Brush Mountain and Peters Mountain areas. It is less likely that the Brush Mountain inventoried roadless area could be recommended for wilderness or designated wilderness if the pipeline were constructed. Due to the clear potential for significant harmful impacts from this proposal, and the uncertainties involved, the EIS needs to expressly examine this issue. Projects in roadless areas that would alter the area's undeveloped character require an EIS. The decision for extractive development in the Brush Mountain and Peters Mountain areas would substantially alter the undeveloped character of the area. In this proposal, the Forest Service would likely degrade and greatly diminish the Brush Mountain inventoried roadless area by permitting on-the-ground activities within a quarter of the Brush Mountain Wilderness. On Peters Mountain the pipeline is proposed near the center of a large core of low road density habitat on Peters Mountain.

**Response VEG-07:**

According to the 2004 Forest Plan, the Brush Mountain Inventoried Roadless Area was not recommended to Congress for wilderness study and is not managed as 1B Recommended Wilderness. The Peters Mountain Wilderness Additions recommended wilderness area lies outside the ROW and the proposed project is consistent with Forest Plan management for 1B Recommended Wilderness.

**Concern Statement VEG-08:**

Commenters contend the cumulative impacts of logging is a significant issue that should have been addressed in the EIS. Logging in roadless areas is highly controversial and cumulatively significant when the effects of all projects are examined as a whole. The Forest Service failed to consider other planned or recent logging and roadbuilding in the Big Schloss/Great North Mountain, Crawford Mountain, Elliott Knob, Little Allegheny, Jerkentight, North Fork of Pound, Gum Run area, and other wildlands areas may be significantly affecting the pool of high-quality remote habitat in the Appalachians.

**Response VEG-08:**

Section 3.4 of this FSEIS contains an analysis of cumulative effects, including from timber sales within the geographic scope of analysis. As disclosed in this FSEIS, there have been 569 acres of completed projects, there are 262 acres of present and ongoing projects, and there are no reasonably foreseeable future timber sales within the analyzed HUC-10 watersheds.

The Forest Service assessed the geographic areas provided in comments to determine if cumulative actions may have been missed. The assessment concluded that the areas listed in comments are

outside the HUC-10 watersheds that comprise the geographic scope of analysis. Big Schloss/Great North Mountain, Crawford Mountain, Elliott Knob, Jerkemtight, and Gum Run area are in the George Washington National Forest, Little Allegheny is in the Monongahela National Forest. The North Fork of Pound Lake is in a different Ranger District on the JNF, approximately 100 miles from the MVP ROW.

### **Concern Statement VEG-09:**

Commenters contend that the DSEIS fails to fully characterize and analyze impacts on riparian areas. There are no baseline inventories or descriptions of the riparian areas or delineations of riparian management zones, meaning restoration cannot be planned or measured. The restoration plan calls only for a certain seed mix to be planted in riparian areas without any discussion of restoring other ecological aspects of the riparian area besides stabilization of soil with plants. There is no analysis of how slope dewatering will impact restoration of riparian areas, that is, the ecological integrity. There are no riparian-area-specific plans for restoration. The DSEIS fails to account for three-dimensional ecotones of interaction in riparian areas: there is no discussion of the tree canopy's interactions with the ecosystem in the riparian area, which is not limited to the riparian management zone. And the Forest Service has failed to consider whether the soils will be capable of revegetation.

### **Response VEG-09:**

The Forest Service has analyzed impacts on riparian areas (2017 FERC FEIS (pp. 4-139 and 4-220 to 4-223), 2020 FSEIS (pp. 73 to 75), and 2023 FSEIS (Section 3.2.10, 3.3.4)). The 2022 SBA, 2022 SBE, and the POD and its appendices describe the field studies conducted to characterize natural resources within the ROW, along with the conservation measures and BMPs that would be applied to avoid or minimize impacts. Other agencies have also reviewed resource information on NFS lands, including the BLM, FERC, FWS, USACE, and state resource agencies (e.g., VDEQ).

A field visit was conducted in February 2022 to confirm the boundaries of riparian areas associated with each of the four proposed stream crossings on NFS lands. Field assessments used the definition of riparian areas in the 2004 JNF Forest Plan (Appendix A) and focused primarily on landforms, vegetation, and field indicators of flooding and temporary flow based on the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) (USACE 2012). Shallow soil samples were also taken at each cross section and examined for changes in color and texture signaling the boundary of a riparian area. Locations showing broadly concave, flat, or terraced landforms adjacent to waterbodies with ephemeral, intermittent or perennial flow were considered riparian areas to the point where either: the surrounding landform transitioned to a convex surface, vegetation communities changed to predominantly upland species, and soils lacked evidence of flooding or saturation. Based on riparian area measurements taken within and adjacent to the MVP LOD, affected riparian areas range from 12 to 42 feet in total width.

Section 3.4.2.2 of the 2020 FSEIS discusses the short-term, minor adverse effects on hydrology to ephemeral zones and riparian corridors within the JNF. Additional discussion of potential riparian effects was addressed in the 2017 FERC FEIS (Sections 4.3.2 and 5.1.3.2).

Appendix H of the POD details the restoration activities that MVP would undertake after construction, including revegetating riparian areas. As stated in Appendix H, factors such as soil pH would be considered when selecting the appropriate plant species for restoration. Appendix H also requires monitoring to assess the effectiveness of revegetation and additional treatments should they be needed. These additional treatments “may include additional seedbed preparation, control of noxious weeds, use of soil amendments, and/or use of another appropriate seed mix (which would

have to be approved by the Forest Service prior to its use). Revegetation efforts will continue until the targeted areas are determined to be successfully revegetated...” These measures address the ability to successfully revegetate riparian and upland areas.

The 2017 FERC FEIS analyzed the impact of creating edge habitat and fragmenting existing habitats (see Sections 4.4.1.5, 4.4.2.3, 4.4.2.6, and 4.5.2.2). This FSEIS states that the temporary ROW would be revegetated with deep-rooted species (trees), that 40 feet of the 50-foot-wide authorized ROW would be planted in shrub species, and that the 10 feet directly over the pipeline would be maintained with herbaceous cover, resulting in approximately 0.02 acre of long-term impacts. The analysis also discloses that implementation of POD measures would ensure effects to riparian resources are minimized and are designed to expedite vegetative recovery, such as planting trees and shrubs in the riparian corridor.

### **Concern Statement VEG-10:**

Commenters expressed concerns about the likelihood that revegetation will be successful, given the soil condition post-construction, high winds on steep slopes, faulty assumptions in the restoration plan, and the failure to fully revegetate the nearby Celanese/Columbia pipeline on similar terrain in the JNF.

Commenters contend that the proposed fertilizer application is excessive by agricultural production standards and will run off the corridor and accumulate downslope or even be washed into surface waters.

Commenters state the Forest Service also acknowledges that the saplings will need water to survive the transplant process, but there are no plans to water the saplings and by construction-design, the slopes will be dewatered, meaning that the natural hydrologic process that would help saplings survive will be directed away from the corridor.

Commenters contend the DSEIS falsely compares post-construction soil conditions on the MVP ROW to logging operations instead of comparing them to the Celanese/Columbia pipeline ROW which is located nearby on NFS lands with similar topographical conditions and has failed to fully revegetate as intended.

Commenters conclude that for these reasons, the Forest Service has not taken a hard look at the post-construction soil conditions in its assumption that the corridor will be restored to anything that resembles the pre-existing forest ecosystem.

### **Response VEG-10:**

Appendix H of the POD includes a detailed restoration plan that identifies on-site soil conditions and an appropriate mix of plant species suited to those conditions. Stockpiled topsoil will be amended as needed and reapplied to the ROW to assist in restoration. Appendix H also requires monitoring and adaptive management to ensure revegetation requirements are met.

## **Threatened, Endangered, and Sensitive Species**

### **Concern Statement TES-01:**

Commenters contend that the DSEIS analysis of impacts on the Atlantic pigtoe mussel is flawed because it fails to account for impacts on fish species which act as a host for this mussel; adverse impacts on the host fish would result in greater adverse impacts on the Atlantic pigtoe than were disclosed in the DSEIS.

### **Response TES-01:**

During the 2020 reinitiated consultation, at which time FWS had proposed listing the Atlantic pigtoe species as Threatened with a 4(d) rule and proposed designating critical habitat for the species, FWS determined that MVP would have no effect on the Atlantic pigtoe or its proposed critical habitat because the species does not occur “at or downstream of the MVP pipeline crossing of Craig Creek or any other MVP pipeline stream crossings, or in the Action Area (which includes upland sedimentation effects)”.

The February 27, 2023 FWS letter concurred with the January 26, 2023, FERC determination that MVP would have no effect on the Atlantic pigtoe or Atlantic pigtoe critical habitat. No further analysis is needed.

### **Concern Statement TES-02:**

Commenters contend the DSEIS fails to address impacts on a variety of rare, sensitive, or listed species that occur on or downstream of the JNF. These include the yellow lance, Atlantic pigtoe, Orangefin madtom, and roughhead shiner.

### **Response TES-02:**

The 2023 FWS BO and 2022 SBE evaluate potential impacts on a variety of rare, sensitive, or listed species that occur on or downstream of the JNF. The FWS and the Forest Service both evaluated potential MVP project impacts to federally listed species. In addition, the Forest Service evaluated potential MVP project impacts to additional rare, sensitive, and state-listed species (RFSS list) in the 2022 SBE. This FSEIS contains Appendix D, a table that identifies both federally listed species and 2022 Draft Regional Forest Sensitive Species and which documents address them (e.g., RFSS, SBE, SBA).

The February 28, 2023 FWS letter concurred with the 2022 SBA that a no effect determination for the federally listed Threatened yellow lance and Atlantic pigtoe and critical habitat for these species. The Orangefin madtom and roughhead shiner do not occur on the JNF in the MVP action area. They are suspected downstream of the MVP project off JNF lands and were considered as part of the FSEIS cumulative effects analysis on aquatic species (Section 3.4.3.1). Effects on waterbodies (and therefore aquatic species) would be minor, short-term and mostly limited to construction activities associated with construction of the MVP and other reasonably foreseeable actions, including road repairs and TSs, that would be conducted in accordance with BMPs and Forest standards. Due to adherence with BMPs and Forest standards to minimize impacts on aquatic resources, none of these effects would be cumulatively significant.

### **Concern Statement TES-03:**

Commenters state new information exists and includes, but is not limited to, additional sedimentation and erosion impacts, additional failure of mitigation measures, and impacts to the candy darter.

### **Response TES-03:**

The 2023 FWS BO as well as 2022 SBA and 2022 SBE considered potential effects from sedimentation and erosion impacts on TES including the candy darter, and candy darter critical habitat. The 2023 FWS BO considered potential increased sedimentation/suspended sediment on the and candy darter as well as their habitat. FWS determined that the candy darter critical habitat will continue to function but at a reduced level in the short term. Following restoration, the areas are expected to return to previous quality as stream conditions return to previous baseline levels. The

Forest Service reviewed information provided by commenters and determined that it did not change the conclusions in the FSEIS.

The candy darter is a small, freshwater fish found in small to large streams and rivers in the Gauley and greater New River watersheds in Virginia and West Virginia. A habitat specialist, this species prefers fast flowing segments with coarse substrate (FWS 2018a). Since publication of the 2020 FSEIS, this species has been listed as Endangered under the ESA and Critical Habitat has been designated. In consideration of the entire 303.5-mile-long project, the 2023 FWS BO concurs with a determination of **May Affect, Likely to Adversely Affect** for this species, but finds it is not likely to jeopardize the continued existence of the candy darter (FWS 2023b).

Analysis of effects to the candy darter and its critical habitat as a result of the Project is based on the best available information, including species and habitat occurrence and newly available monitoring data collected by Mountain Valley that measures the Project's contribution of sediment to streams that were subject to the 2020 BO's monitoring requirement.

No direct effects are anticipated for the candy darter on NFS lands since the four streams (unnamed tributaries of Craig Creek) crossed by the MVP on Brush Mountain and Sinking Creek Mountain are not known to harbor the candy darter (FWS 2023a; MVP 2022b). The JNF MVP crossings are not in the candy darter watershed and the anticipated effects remain consistent with those disclosed in the 2017 FERC SEIS and 2020 SEIS.

The 2020 FWS BO required sediment monitoring to assess the effects of pipeline activity on the candy darter. Project construction activities had not yet resumed in the candy darter sediment monitoring watersheds when the Fourth Circuit vacated the 2020 FWS BO. The candy darter monitoring stations were brought online upon installation, have remained operational, and have been continuously collecting data since installation. Although not officially commissioned for the Monitoring Plan (due to the vacatur), Mountain Valley conducted field inspections and remote analysis of potential exceedances measured by the stations. As discussed in more detail in Section 3.3.2.2, the monitoring data show that the maximum tributary SSCs during named storms were similar to or lower than the maximum SSCs at the upstream and downstream stations in the corresponding species streams for the same storms. This suggests that sources of SSCs in the tributaries, which include the pipeline along with other uses, have a similar or lower effect on water quality as sources in the upstream and downstream species streams, which do not include the pipeline. The maximum calculated SSC Differences in the species streams were all below the FWS's 3-hour 40 mg/L threshold for the named storms reviewed. None of the elevated calculated SSC Differences in the species streams exceeded the FWS Take Risk Concentration<sup>43</sup>. The 2023 FWS BO determined that impacts from the MVP pipeline crossings of Kimballton Branch and Stony Creek, which are outside NFS lands, are not likely to jeopardize the continued existence of the candy darter. A thorough independent review of the MVP data was performed by Forest Service biologists and hydrologists. The Forest Service anticipates no indirect or cumulative effects from the MVP ROW on NFS lands on the candy darter.

As summarized in Section 2.2.2.2, the Project would implement measures to avoid, minimize, and mitigate potential effects on the candy darter.

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<sup>43</sup> The Take Risk Concentration in a tributary to a Stream of Interest is the concentration of Project-related sediment that must occur in the tributary to potentially cause a 20 mg/L increase in the Stream of Interest as indicated in Table 2 of Appendix F to the 2020 BO.

Candy darter critical habitat in the JNF is part of the Middle New Unit in Bland and Giles Counties. In Giles County, this includes approximately 19.3 stream miles of Stony Creek from the confluence with White Rock Branch, downstream to the confluence of the New River (10 stream miles occur within the JNF) (86 FR 17956). No candy darter critical habitat occurs in the NFS waterbodies crossed by the MVP as the unnamed tributaries to Craig Creek or Craig Creek are not in candy darter critical habitat. Therefore, MVP on the JNF will have no direct effect on candy darter critical habitat.

Kimballton Branch at the pipeline crossing location is not known to support candy darter. This crossing is located approximately 900 meters upstream from its confluence with Stony Creek and occurs within the JNF Proclamation Boundary, but not on NFS lands. The JNF Proclamation Boundary includes both NFS lands and private lands. The Forest Service only manages NFS lands. The 2022 SBA determined that no direct instream impacts to critical habitat is anticipated due to the use of the conventional bore method at the Stony Creek crossing outside of and downstream from the JNF (MVP 2022b). The 2023 FWS BO determined that impacts from these two pipeline crossings are not likely to jeopardize the continued existence of the candy darter and are not likely to destroy or adversely modify designated critical habitat (FWS 2023a).

The FWS evaluated potential indirect sedimentation effects to Stony Creek from the MVP Kimballton Branch crossing and ROW runoff via Kimballton Branch which does not support candy darter populations. The 2017 FERC FEIS considered indirect sedimentation effects resulting from the use of Pocahontas Road and Mystery Ridge roads via Kimballton Branch as well. Because these access roads would no longer be utilized for the Project, indirect effects to the critical habitat are expected to be less than those considered in the 2017 FERC FEIS. The portion of Mystery Ridge Road that is partially collocated with the pipeline LOD and the crossing of Mystery Ridge Road by the pipeline were considered in the 2017 FERC FEIS and the *Hydrologic Analysis for Aquatic Species* (Geosyntec Consultant 2020b). Indirect effects from MVP ROW on NFS lands are not anticipated to occur to Stony Creek as the closest location is approximately 0.5 mile from MVP ROW on NFS lands. Figures showing the distance to NFS lands can be found in the Project record and will be posted on the Project website. Therefore, no indirect effects from the NFS lands crossings are anticipated on candy darter critical habitat.

#### **Concern Statement TES-04:**

Commenters state the 2022 SBA reports that sedimentation is a “minor stressor” for the candy darter, and that “the best available science recognizes that habitat-related stressors” like sedimentation “did not lead to candy darter population declines.” However, the FWS explains that sedimentation is not a “minor stressor” and the assertion that habitat-related stressors did not lead to population declines is “entirely false.” On the whole, the agency finds that MVP repeatedly and “incorrectly” “minimize[ed] the importance of sedimentation, temperature, and other habitat/water quality parameters to both the [candy darter’s] historic decline and its future probability of persistence.” Commenters contend the DSEIS never acknowledges this issue with MVP’s candy darter analysis. In addition, sediment monitoring cannot be relied upon to accurately assess impacts on candy darters in the JNF.

#### **Response TES-04:**

In the 2023 FWS BO, FWS determined that the Project is likely to adversely affect the candy darter. FWS, however, did not anticipate any reductions in the overall reproduction, numbers, and distribution of the candy darter. FWS’s opinion is that authorization to construct and operate the pipeline, as proposed, including the activities that have already been completed, is not likely to jeopardize the continued existence of the candy darter, and is not likely to destroy or adversely



modify designated critical habitat. No candy darters or critical habitat occur in the Project area on the JNF.

The FWS, when it listed the candy darter in 2018, identified the candy darter as endangered and noted that “the primary stressor” is currently hybridization through interbreeding with the invasive variegate darter (*Etheostoma variatum*). FWS also identified other stressors, including sedimentation, water temperature and quality, water flow, water chemistry and stream acidification, spills or releases, habitat fragmentation, and nonnative competition and predation, are believed to have contributed to the current condition of the species and may continue to do so in the future.

FWS recognizes that “excessive sedimentation was likely a primary cause of the historical decline of the candy darter” (FWS 2018a; cf. Dunn 2013). In addition, “several species experts” believe that sedimentation “continues to act as a stressor in some watersheds” (FWS 2018a). On the other hand, those experts “also expressed the view that variegate darter hybridization (discussed above) is exerting a stronger influence on candy darter distribution and population status” (FWS 2018a). Nevertheless, it is recognized that candy darters are sensitive to increases in sedimentation, which is naturally caused by soil erosion but can be increased by a range of anthropogenic activities like agriculture, forestry, mining, unpaved roads, road or pipeline construction, and urbanization or the destabilization of stream channels (FWS 2018a). However, like many fish species, candy darters also have some ability to tolerate temporary increases in stream sediment loads. The suspended sediment analysis identifies possible causes of stream channel destabilization, such as dredging, channelization, construction of dams, culverts, linear infrastructure crossings, as future potential threats.

Measured turbidity values are used as an indicator of potential impacts to water resources. For example, the States of West Virginia and North Carolina have established a turbidity water quality standard of 50 NTUs, and this standard was used as the basis for the 2020 FWS BO Monitoring Plan for Roanoke logperch and candy darter habitat.

The 2020 FWS BO required Mountain Valley to conduct suspended sediment monitoring at each FWS-defined Sediment Concentration Impact Area and each Mixing Zone Impact Area for the Roanoke logperch or candy darter to ensure that impactful concentrations of Project-related suspended sediment do not travel beyond the limits of the Impact Area. FWS delineated each potential Impact Area.

Mountain Valley’s sedimentation modeling, which FWS used in the 2023 FWS BO to identify the sediment concentration Action Areas and Impact Areas and the Mixing Zone Action Areas and Impact Areas for the candy darter, as well as to evaluate potential effects to aquatic critical habitat units, is extremely conservative and significantly overstates potential sediment loss from the Project. In fact, the commissioned station tributary data, which are the most direct measure of any sediment potentially originating from the Project, show that, even during tropical and other flood-inducing severe storm events, the Project’s potential sediment contributions to candy darter streams are negligible. Further, a comparison of candy darter and Roanoke logperch monitoring station data showed similar responses during named storms. Stations were commissioned when active construction was occurring.

As summarized in the 2020 SBA and the 2022 SBA, sediment deposition modeling performed for the Project indicated that no Sediment Deposition Impact Area will form in any candy darter streams. Although FWS did not rely on Mountain Valley’s sediment deposition modeling to define the candy darter impact areas, the modeling results further support our assessment that the risk of significant resuspension and downstream redeposition or project-related sediment is low. For these reasons, FWS

do not expect resuspended project-related sediments are likely to create new downstream impact areas in candy darter-occupied habitat.

No direct effects are anticipated for the candy darter on NFS lands since the four streams (unnamed tributaries of Craig Creek) crossed by the MVP on Brush Mountain and Sinking Creek Mountain, as well as Craig Creek, are not known to harbor the candy darter (FWS 2023a; MVP 2022b). The JNF MVP crossings are not in the candy darter watershed and the anticipated effects remain consistent with those disclosed in the 2017 FERC SEIS and 2020 SEIS. Indirect effects from MVP ROW on NFS lands near Peters Mountain are not anticipated to occur to Stony Creek as the closest location is approximately 0.5 mile from MVP ROW on NFS lands. Figures showing the distance to NFS lands can be found in the Project record and will be posted on the Project website. Therefore, no indirect effects from the NFS lands crossings are anticipated on candy darter critical habitat.

### **Concern Statement TES-05:**

Commenters contend MVP neglected to provide monitoring data to support its candy darter effects determination. The FWS found it could not “evaluate any of the statements in” the candy darter’s effects determination “without reviewing the monitoring data and analysis which support the conclusions.” MVP subsequently provided agencies with access to its monitoring data. However, MVP continues to withhold the monitoring data, methods, and results from the public. If the Fish and Wildlife Service could not evaluate the 2022 SBA’s conclusions without this data, it is hard to see how the public can. If the Forest Service had indeed conducted a “thorough independent review” of the 2022 SBA, it is hard to see how it could have missed these glaring issues (or the Fish and Wildlife Service’s letter discussing them).

### **Response TES-05:**

As commenter noted, sensitive information in Appendix L of the 2022 SBA was redacted in accordance with 5 U.S.C. 552(b)(4). The Forest Service does not have the authority to release an unredacted version of Appendix L. Determinations on the adequacy of information to make ESA determinations is the responsibility of the FWS, not the Forest Service.

### **Concern Statement TES-06:**

Commenters voiced concerned that the Project would harm federally listed species and their habitat, and contend that the DSEIS has inadequately considered direct, indirect, and cumulative threats to candy darter and Roanoke logperch critical habitat, in part because the Forest Service did not analyze embeddedness and associated impacts for the sections of Stony Creek that are directly upstream and downstream of the Kimballton Branch confluence.

### **Response TES-06:**

Stony Creek is addressed in the 2023 FWS BO, which characterizes the water conditions throughout Stony Creek as reflective of the forested landscape, with generally cold, fast-flowing waters, high water quality, and low substrate embeddedness (p. 149). The 2023 FWS BO also finds a low risk of downstream impacts in candy darter occupied habitat (p. 216). The 2023 FWS BO also relied on the best available scientific information to identify the natural extent of the candy darter.

Mountain Valley will implement the nondiscretionary measures in the 2023 FWS BO to avoid, minimize, and mitigate potential effects on the Roanoke logperch and candy darter. Potential project-related effects on the Roanoke logperch and candy darter would be minimized based on the avoidance and mitigation measures and the Restoration and Rehabilitation Plan.

Section 3.4.3 of this FSEIS discloses that the MVP pipeline inside the JNF would not cross known habitat for the Roanoke logperch or the candy darter and that known Roanoke logperch habitat is beyond the extent of sedimentation from the JNF. No novel observations of candy darter have been reported in the Commonwealth since 2017 (VDWR WERMS Database <http://www.dwr.virginia.gov/gis/werms/> accessed June 9, 2022). For this Supplement, the lack of new occurrence records was verified by VDWR (S. Watson [VDWR] email to J. Spaeth [May 19, 2022]), confirming that there are no new records of candy darter occurrence anywhere within the Project's Action Area in Virginia since FWS's issuance of the 2020 BO. Similarly, no novel range expansions across the entire distributional range for the species are known. The 2023 FWS BO determined the effects from MVP are not anticipated to reduce appreciably the suitable habitat available for recovery or recovery potential for the candy darter (FWS 2023a, pp. 268 and 270).

In Stony Creek (Virginia), it is likely that there are no candy darters continuously occupying the dry stream reach near the confluence with the New River, a view which is consistent with a statement made by Mike Pinder (VDWR, personal communication April 8, 2015) that there are few candy darters occupying the lower portions of Stony Creek, downstream of Kimballton, Virginia. As FWS stated to Mountain Valley during the March 9, 2022, meeting, the lower portions of Stony Creek dry up periodically as a result of water leaking into a local mine. Mountain Valley's consultants also have observed and documented these same dry conditions in the lower segment of Stony Creek (J. Spaeth personal observation; N. Muenks personal observation). The Project traverses Stony Creek in its lower reaches downstream of Kimballton, but the stream crossing will be trenchless using the guided conventional bore method. As a result, while there is a 1,000-meter stream crossing action area associated with the Stony Creek crossing, there is no Project-related sediment impact area in this segment of the stream.

As disclosed in the 2020 FSEIS (p. 111), embeddedness surveys were conducted in the Upper Roanoke River basin to assess potential sedimentation effects to the Roanoke logperch (MVP 2020b). The streams assessed were the reaches of Bradshaw Creek, North Fork Roanoke River, Roanoke River, North Fork Blackwater River, Teels Creek, Little Creek, and Blackwater River. Baseline field embeddedness information was not obtained from the Roanoke River because of restricted land access at the time of the field work. However, baseline embeddedness measurements in the North Fork Roanoke River serve as a surrogate for the Roanoke River due to proximity, relatively similar hydrological and/or basin characteristics, and longitudinal connection. Craig Creek in Virginia was also assessed due to the potential presence of James spinymussel. Baseline conditions in the field were taken immediately above the most upstream point of sediment input from the Project within each stream reach evaluated. A preliminary examination of potential alternate reference reaches was conducted on data collected from VDEQ. The 2023 FWS BO also examines embeddedness as it relates to the candy darter.

### **Concern Statement TES-07:**

Commenters contend the cumulative effects analysis for the candy darter fails to consider impacts from use of non-NFS roads such as Rogers Road and project activities at Peters Mountain on Kimballton Branch, the candy darter, and karst. Adverse effects are already documented. For example, according to the Fisheries and Aquatic Resources Specialist Report prepared for the Forest Service, a mixing zone on private land at the confluence of Kimballton Branch and Stony Creek was identified to have suspended sediment concentrations above the threshold for adverse impacts.

## **Response TES-07:**

Mountain Valley will implement the nondiscretionary measures in the 2023 FWS BO to avoid, minimize, and mitigate potential effects on the candy darter. Potential project-related effects on the candy darter would be minimized based on the avoidance and mitigation measures and the Restoration and Rehabilitation Plan.

Section 3.4.3 of this FSEIS discloses that the MVP pipeline inside the JNF would not cross known habitat for the candy darter. No novel observations of candy darter have been reported in the Commonwealth since 2017 (VDWR WERMS Database <https://dwr.virginia.gov/gis/werms/> accessed June 9, 2022). For this Supplement, the lack of new occurrence records was verified by VDWR (S. Watson [VDWR] email to J. Spaeth [May 19, 2022]), confirming that there are no new records of candy darter occurrence anywhere within the Project's Action Area in Virginia since FWS's issuance of the 2020 BO. Similarly, no novel range expansions across the entire distributional range for the species are known. The 2023 FWS BO determined the effects from MVP are not anticipated to reduce appreciably the suitable habitat available for recovery or recovery potential for the candy darter (FWS 2023a, pp. 268 and 270).

In Stony Creek (Virginia), it is likely that there are no candy darters continuously occupying the dry stream reach near the confluence with the New River, a view which is consistent with a statement made by Mike Pinder (VDWR, personal communication April 8, 2015) that there are few candy darters occupying the lower portions of Stony Creek, downstream of Kimballton, Virginia. As FWS stated to Mountain Valley during the March 9, 2022, meeting, the lower portions of Stony Creek dry up periodically as a result of water leaking into a local mine. Mountain Valley's consultants also have observed and documented these same dry conditions in the lower segment of Stony Creek (J. Spaeth personal observation; N. Muenks personal observation). The Project traverses Stony Creek in its lower reaches downstream of Kimballton, but the stream crossing will be trenchless using the guided conventional bore method. As a result, while there is a 1,000-meter stream crossing action area associated with the Stony Creek crossing, there is no Project-related sediment impact area in this segment of the stream.

## **Concern Statement TES-08:**

Commenters note that the 2022 SBA states "[t]he Project at most contributes trivial amounts of sediment to Roanoke logperch streams that are well below the concentrations at which [the Fish and Wildlife Service] concluded the Roanoke logperch would be impacted." The DSEIS adopts this conclusion in perfunctory fashion. However, the Fish and Wildlife Service notes that this assessment is difficult to square with "previous Virginia state water quality violations" attributed to MVP. The Service also asks MVP to explain how its statement is consistent with a "July 21, 2019, photograph of Bradshaw Creek showing the creek heavily impacted by sediment." Commenters contend the DSEIS never addresses these issues, which seriously undermine the Forest Service's conclusions.

The 2022 SBA quantifies high-quality habitat patches for Roanoke logperch based on post-construction habitat monitoring starting in 2020 but fails to disclose how much habitat was present before construction.

## **Response TES-08:**

No Roanoke logperch habitat occurs within the MVP construction area on the JNF.

To provide the necessary information for its baseline analysis for aquatic species, Mountain Valley completed comprehensive stream assessments covering 417 km, including 174 km in WV and 243

km in VA (Mountain Valley 2022b). These assessments included field evaluations of all publicly accessible areas in the streams of interest, supported by drone surveys and aerial imagery review of any areas not publicly accessible. Supplemental information related to anthropogenic influences and water quality issues or impairments were also compiled to provide a baseline stream characterization of each waterbody. The 2022 SBA, including appendices H and J, contain detailed baseline stream characterizations and threat assessments for the portion of the aquatic action area potentially supporting the Roanoke logperch off JNF lands.

FWS reviewed Mountain Valley's data collection methods and concluded that the resulting information is "comprehensive and represents the best available information regarding the physical conditions, activities, and stressors in the Roanoke logperch action area" that may influence the condition of Roanoke logperch and its habitat (FWS 2023a, p. 128). FWS adopted those stream characterizations and threat assessments.

Eight HUC-12 watersheds contain a portion of the aquatic action area occupied by Roanoke logperch: Purgatory Creek–South Fork Roanoke River, Brake Branch–South Fork Roanoke River, Bradshaw Creek–North Fork Roanoke River, Dry Run–North Fork Roanoke River, Wilson Creek–North Fork Roanoke River, Sawmill Hollow–Roanoke River, Owens Creek–Pigg River, and Tomahawk Creek–Pigg River. Each HUC-12 watershed, and the activities that may result in cumulative effects on Roanoke logperch were evaluated in the 2023 FWS BO (FWS 2023a, pp. 225 to 231). Given the probability of Roanoke logperch population persistence and the relatively small extent of the impact in the action area from the activities in each of the HUC-12 watersheds, FWS concluded that the cumulative effects from all future non-federal activities do not pose a significant risk to Roanoke logperch populations. More detailed information is contained in Appendix K in Mountain Valley (2022).

Sediment deposited on the waterbody bottom from upland sedimentation will interfere with the ability of Roanoke logperch to feed (FWS 2023a). In response to sediment plumes and increased suspended sediment, most Roanoke logperch are anticipated to alter feeding behavior, move to clearer water, resume normal activity, and use the area again once until sediment levels return to background levels.

FWS considered the current overall improving range wide status of the Roanoke logperch and the improving condition of the species within the action area (environmental baseline). FWS then assessed the effects of the proposed action and the potential for cumulative effects in the action area on individuals, populations, and the species as a whole. It concurred with the recommendation that the Project may affect, likely to adversely affect the Roanoke logperch. As stated in the Jeopardy Analysis, FWS does not anticipate any reductions in the overall reproduction, numbers, and distribution of the Roanoke logperch. It is the opinion of FWS that authorization to construct and operate the pipeline, as proposed, including the activities that have already been completed, is not likely to jeopardize the continued existence of the Roanoke logperch.

The management units ((MU) 3,514 km); and the amount of Roanoke logperch habitat impacted in each MU is also relatively minor (4.8% of in the Upper Roanoke MU plus Bradshaw Creek, and 2% in the Pigg MU plus Harpen Creek); the effects of the proposed action are expected to be primarily temporary; in general, Roanoke logperch habitat will recover to a suitable condition following temporary impacts; and Roanoke logperch is expected to continue to occupy waterways within the impact area during and after the Project.

Although the MVP project will temporarily increase sedimentation and embeddedness in portions of the action area that fall within the Roanoke logperch Upper Roanoke and Pigg MUs as detailed above, the Project will not increase other threats listed in the Roanoke logperch recovery plan (FWS

1992) such as building dams or other impediments to movement, increase channelization, remove woody debris, or create a long-term water withdrawal project. The overall status of the species is improving and the effects from this specific project are not anticipated to reduce appreciably the suitable habitat available for recovery or the recovery potential for the species.

### **Concern Statement TES-09:**

Commenters contend the Forest Service must analyze impacts on candy darter habitat, including consideration of extreme storm events caused by climate change, and the combined stresses of vegetation disturbance (e.g., forest fragmentation and the vulnerability of riparian forests) and increased precipitation frequency. The combined forest disturbance and precipitation changes make it highly likely that candy darter habitat will have increased baseline and storm-related sedimentation. The assessment should also describe how these events, and MVP's impact, intersect with the candy darter life cycle.

### **Response TES-09:**

The 2023 FWS BO and ITS used a framework that represents the best available methodology for assessing project-related effects and is the appropriate document to be used to inform discussions and analysis for Threatened and Endangered species and their habitat. The FWS explains the framework and reasonings for choosing the most appropriate model as well as supporting literature (FWS 2023a, pp. 51 to 53, 84, 97, 193 to 213). The Forest Service has reviewed the 2023 FWS BO and 2022 SBA which have evaluated new data and to ensure using the best scientific and commercial data available. The Forest Service conducted an independent review of these documents and concurs with their findings on potential effects.

As described in the 2023 FWS BO Climate Change section, climate change is occurring globally. Climate change may affect precipitation frequency and intensity, runoff patterns, and stream hydrology, which may negatively affect the candy darter's abilities to forage, shelter, and reproduce. To date, the candy darter and its habitat are not known to have experienced effects attributable to climate change (P. Angermeier, USGS, email to J. Spaeth, EDGE, June 15, 2022).

The 2023 FWS BO identified that the clearing of trees, shrubs, herbaceous ground, and ground cover had the potential to degrade habitat and water quality due to increase in sedimentation. This stressor was determined to likely adversely affect the candy darter and candy darter habitat (FWS 2023a, p. 258 and Appendix B, Tables 5 and 6).

Sub-lethal effects and cumulative stressors are addressed in Analysis for Jeopardy (FWS 2023a, pp. 262 to 264).

### **Concern Statement TES-10:**

Commenters contend the DSEIS fails to adequately assess impacts on the rusty patch bumble bee, which is suspected to be present in the old field and orchard adjacent to the MVP ROW on Peters Mountain in Monroe County, WV. No field survey has ever been conducted in that area.

### **Response TES-10:**

In the 2023 FWS letter to FERC, FWS stated that the No Effect determination is appropriate for the rusty patched bumble bee because MVP is outside the species' current range. No impacts to known, occupied rusty patched bumble bee foraging, nesting, and/or wintering habitat are anticipated as none currently exists within the MVP construction area (October 4, 2022 FWS letter).

As reported in the 2020 SBA, WVDNR performed surveys in 2018 and 2019 in Braxton, Greenbrier, Lewis, Harrison, Nicholas, Taylor, Webster, and Wetzel counties, West Virginia at various Wildlife Management Areas, state parks, and a state farm. There are no known occurrences of rusty patched bumble bee within the Action Area in West Virginia (A. Silvis [WVDNR], pers. comm. [May 13, 2022]). Likewise, coordination with VDCR (E. Orcutt [VDCR], pers. comm. [May 3, 2022]) confirmed there are no known occurrences of rusty patched bumble bee occurrences within the Action Area in Virginia. As a result, and as confirmed by the best available information from FWS, no rusty patched bumble bee HPZs overlap with the Action Area in West Virginia or Virginia.

As explained in the 2020 SBA, Mountain Valley engaged Western Ecosystems Technology, Inc. (WEST) to conduct an independent review and analysis of all available information regarding the rusty patched bumble bee in Virginia and West Virginia in relation to MVP. WEST's analysis, attached as Appendix F, concluded that the MVP construction area is outside of the current range, and therefore the Project is expected to have no effect on the rusty patched bumble bee. For purposes of this new (2022) Supplement, FWS directed Mountain Valley to verify that there are no changes to this conclusion by implementing the protocol in the Service's current Section 7 Consultation Guidelines for the Rusty Patched Bumble Bee (C. Schulz [FWS] email to P. Moore [May 9, 2022]). WEST completed this analysis, which again confirmed that the species is not expected to occur in the Action Area and therefore that no effect to the rusty patched bumble bee is expected.

### **Concern Statement TES-11:**

Commenters contend there would be unacceptable impacts to listed bats from the clearing of roost trees; the timbering of larger tracts of land than are allowed in the Forest Plan; and potential impacts to caves, karst, and associated hibernacula.

### **Response TES-11:**

Clearing of trees can affect bat habit. However, FWS has concurred that trees (i.e., potential roosts) have already been cleared from the construction area on the JNF and no known roost trees were identified in the Project area. Therefore, roosting habitat will not be impacted further. Recent coordination with FWS has not resulted in the need for additional surveys.

The 2023 FWS BO determined that the MVP would be likely to adversely affect Indiana bats and northern long-eared bats (FWS 2023a). In the JNF, approximately 54 acres of trees were cleared in 2018 in connection with MVP. As described in the 2020 FSEIS, the original trees felled on approximately 26.2 acres of Peters Mountain were left in place due to the stop work order. Natural regeneration (regrowth) of early successional vegetation is occurring on Peters Mountain and would need to be cleared if MVP is authorized. As was done in 2018, the second round of tree clearing would be conducted in accordance with the POD Timber Plan. FWS concurred that the trees that have grown back on Peters Mountain (including tree of heaven and princess tree) are not suitable Indiana bat or northern long-eared bat habitat.

FWS evaluated additional tree clearing associated with remediation of unknown future slippage (approximately 247.68 acres) along the entire 303.5-mile MVP. These slips could occur on both JNF and non-JNF lands. Since 2018, no slippage has occurred on MVP in the JNF. It is anticipated that only a small amount of potential future clearing related to slippage remediation could occur in the JNF.

The FWS determined that MVP is not likely to adversely affect gray bats and Virginia big-eared bats. No records exist for the gray bat or Virginia big-eared bat in the Project area and therefore, they do not occur within the MVP construction area. There have been no changed conditions or effects

determinations since the 2017 FERC FEIS and 2020 SEIS related to these bat species. Tricolored bats are not currently listed but potential impacts are addressed in the 2020 SBE, 2022 SBE, and 2023 FSEIS and the 2023 FWS letter concurs with the not likely to jeopardize determination.

No potential impacts to caves and associated hibernacula are anticipated to occur on the JNF. Therefore, no impacts to listed bat hibernacula are anticipated in the JNF.

### **Concern Statement TES-12:**

Commenters contend Mountain Valley has also likely already violated multiple standards for Indiana bat management. These include at least FW-48 through FW-52, FW-55, and FW-56. The Fourth Circuit specifically recommended addressing how there could be “no effects to the Indiana bat from clearing more than 1,000 acres of suitable but unoccupied summer bat habitat.” The 2022 DSEIS asserts that no effects on the Indiana bat are anticipated in the JNF because “trees were removed within LOD in 2018,” and “FWS has confirmed that the areas where trees were cleared for the Project continue to be unsuitable for bat species and will be for years to come.” But the Forest Service assumes that Indiana bats are present in the parts of the Action Area where surveys were not conducted and that “[s]ome Indiana bat individuals would possibly be impacted during construction and operation and maintenance of the project.” In fact, the DSEIS requires “implementation of measure to avoid, minimize, and mitigate adverse effects on the Indiana bat.”

### **Response TES-12:**

The 2023 FWS BO includes an effects determination of May Affect, Likely to Adversely Affect for the Indiana bat for the MVP as a whole. However, no effects are anticipated on the JNF. Indiana bats were not captured during 2015 and 2016 mist-net surveys, but it is assumed the species occupies potentially suitable summer habitat, spring staging/fall swarming habitat, and winter hibernacula in the Action Area where presence/probable absence surveys were not conducted. Additional mist-net surveys have not been required since trees were removed within the LOD in 2018. On page 20 of the 2023 BO, FWS confirmed that the areas where trees were cleared for the Project continue to be unsuitable for bat species. Based on coordination with VDWR, no new capture or roost records have been reported with the Action Area (MVP 2022b). Some Indiana bat individuals would possibly be impacted during construction and operation and maintenance of the Project. As summarized in Section 2.2.2.2, the Project would require implementation of measures to avoid, minimize, and mitigate adverse effects on the Indiana bat.

The 2023 FWS BO determined no effects to migrating individual Indiana bats and NLEBs are expected from project implementation as trees were cleared in 2018. Trees were cleared between February and May 2018 except for one area where Mountain Valley requested permission to clear trees between June 1 and July 31, 2018. The area was a 0.31-acre area at the top of Peters Mountain in Monroe County, West Virginia. The FWS approved this request based on previous negative mist net surveys that indicate probable absence of Indiana bats during the summer and previous analysis (FWS 2018a). Mountain Valley has also committed to avoid conducting any future tree removal activities associated with slip repair in known and unknown use summer habitat (up to 247.74 acres) during the inactive bat season (November 15 through March 31), whenever possible. They have further committed to avoiding future tree removal during the period of time when pups are non-volant (June 1 to July 31), unless presence/probable absence surveys (in accordance with the Service’s current Indiana bat Range-wide Survey Guidelines) indicate the probable absence of Indiana bat.

Within 5 miles of a known bat hibernaculum, 0 acres of planned tree clearing remains in WV and VA (M. Hoover, Mountain Valley, email to C. Schulz et al., Service, January 11, 2023); therefore, within



known use and unknown use spring staging/fall swarming habitat, no planned future tree clearing is expected.

### **Concern Statement TES-13:**

Commenters contend the DSEIS does not address impacts to the tricolored bat, which is being considered for listing under the Endangered Species Act.

### **Response TES-13:**

On September 13, 2022, the FWS listed the tricolored bat as Proposed Endangered. The official listing determination is expected in September 2023. The February 27, 2023 FWS letter response to FERC states that the MVP project is not likely to jeopardize the tricolored bat. In addition, the 2020 SBE and 2022 SBE considered potential effects to the tricolored bat. A May Impact Individuals – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability determination is made for the tricolored bat.

Summer habitat for tricolored bats is present within the JNF in the form of trees. However, roosts are not limiting for this species and the removal of trees has already occurred. No tricolored bats were captured during survey efforts (MVP 2017). There are no known winter hibernacula within the construction area on the JNF; however, there are three known hibernacula in Giles County. The closest hibernaculum to the JNF sections of the MVP is approximately 3 miles northwest of the Project (VDGIF 2022). No additional effects would occur for this species that have not been covered by other mitigation measures, i.e., noise, hydrology, and karst features. No indirect effects are expected to detrimentally impact tricolored bats in the vicinity of the Project area.

### **Concern Statement TES-14:**

Commenters contend the SEIS does not adequately analyze impacts to endangered species, does not address the full scope of listed and sensitive species affected by the Project, and puts industry before species protection.

### **Response TES-14:**

TES species are afforded protection by law, regulation, or policy by federal and/or state agencies. These species include federally listed species that are protected under the ESA, or are under review as candidates for such listing by the FWS, and species on the RFSS list. Potential effects that could affect the conservation needs of a species or decrease the viability of a population include habitat fragmentation, loss, or degradation; decreased breeding or nesting success; increased predation or decreased food sources; and injury or mortality. Field studies were conducted from 2015-2020 on and off JNF lands.

The February 28, 2023 FWS BO and the December 14, 2022 SBA evaluated federally listed species that could be affected by MVP. The Forest Service independently reviewed these documents and evaluated Threatened and Endangered species that could be affected in Sections 3.3.3 and 3.4.3 of this FSEIS.

In addition, under the ESA and National Forest Management Act, the Forest Service is also required to determine whether any TES species identified specific to the JNF or any of their designated critical habitats are near the proposed action on NFS lands and to determine potential effects on those species or critical habitats. A Supplemental Biological Evaluation (SBE) was prepared in December 2022 to review new data, re-evaluate the proposed action, and re-evaluate the TES species with potential to be found on the JNF which includes ESA-listed species and the Region 8 RFSS.

The 2023 FWS BO along with the 2022 SBA identify conservation measures to avoid and minimize the potential for adverse effects from construction, operation, and maintenance activities on federally listed species and their suitable habitat whereas such measures for RFSS are provided in this FSEIS.

The Forest Service evaluated RFSS in the 2020 SBE, 2020 FEIS, 2022 SBE, and 2023 FSEIS. The 2023 FSEIS discusses RFSS in the text and in Appendix D.

### **Concern Statement TES-15:**

Commenters state Virginia DCR recommends coordination regarding several state-listed species whose designation has recently changed (updated status) or newly added to ensure compliance with the Virginia ESA.

### **Response TES-15:**

The 2022 SBE addresses state-listed species whose designation has recently changed. The 2022 SBE re-evaluated potential effects of the MVP on the Draft Region 8 RFSS List, which made changes where state-listed species designation has recently changed. The 2022 SBE reviewed VDWR databases on current state-listed Threatened and Endangered species. As is common practice for the JNF, the Forest Service will continue to coordinate on state-listed species with the VDCR. The MVP project does not alter the Forest Service's relationship and communication with the state agency.

### **Concern Statement TES-16:**

Commenters contend the project should adhere to state-recommended time-of-year restrictions to protect rare and listed species.

### **Response TES-16:**

The Forest Service will require Mountain Valley adherence to federal and state time-of-year restrictions for TES, as applicable, for future MVP activities on the JNF. Mountain Valley is subject to non-discretionary mitigation measures in the 2023 FWS BO, which include time-of-year restrictions.

### **Concern Statement TES-17:**

Commenters raise concerns that Mountain Valley, the Forest Service, and the public do not have adequate time to review new information and incorporate mitigation measures/ requirements from the recently issued BO on February 28, 2023. Commenters contend, as such, the Forest Service must reissue the DSEIS for public comment following the publication of 2023 FWS BO.

### **Response TES-17:**

Forest Service staff immediately reviewed the 2023 FWS BO upon receipt and coordinated necessary changes to the FSEIS. For example, in the 2023 FWS BO, there are reasonable and prudent measures that apply to Indiana bat in the 2023 FWS BO (p. 285), terms and conditions (pp. 286 to 287), and monitoring requirements (pp. 289 to 290). FWS provided additional reasonable and prudent measures, terms and conditions, and monitoring requirements. The 2017 FERC EIS, 2020 SEIS, and 2022 SEIS all discussed Mountain Valley being subject to mandatory nondiscretionary mitigation measures. Section 2.2.2.2 of this FSEIS describes the mitigation measures incorporated from the 2023 FWS BO.

### **Concern Statement TES-18:**

Commenters state the 2022 SBA defines the downstream terminus of the aquatic action area as “the downstream point at which the stream becomes impounded to an extent that water velocity slows and

sediment settles out.” The DSEIS repeats this definition verbatim. However, the Fish and Wildlife Service asserts that this definition “is unclear and unsupported.” Commenters contend the DSEIS never addresses this issue—which is key to defining the scope of the Project’s impacts.

### **Response TES-18:**

In the 2022 SBA, the “downstream extent of the aquatic portion of the Action Area for each “affected” stream segment is defined in one of two ways: (1) the downstream point at which the stream becomes impounded to an extent that water velocity slows and sediment settles out or (2) the downstream point at which the Project’s estimated maximum increase in delivered sediment concentration to the stream is attenuated to the point where an increase in measurable sediment concentration (for example, total suspended solids or suspended sediment concentration) from the Project could not be discerned from background sediment concentrations (i.e., the “concentration attenuation threshold”).” The 2023 FWS BO includes this same definition on pages 52 to 53 and uses this definition in its analysis to determine effects. Additional information has been added to the FSEIS (Section 3.3.3.2).

### **Concern Statement TES-19:**

Commenters expressed concern about the continuation of the NEPA process with active legal challenges to the 2020 FWS BO.

### **Response TES-19:**

In response to legal challenges to the 2020 FWS, FWS has prepared a 2023 FWS BO which the Forest Service has reviewed and considered in this FSEIS. The FWS is the lead agency responsible for ESA Section 7 consultation. The Forest Service can rely on the 2023 FWS BO as the best available science currently related to project impacts on federally listed Threatened and Endangered species.

### **Concern Statement TES-20:**

Commenters contend the DSEIS failed to mention that the FWS had concerns with the 2022 SBA.

### **Response TES-20:**

On October 4, 2022, FWS reviewed and provided comments on the July 2022 SBA. FWS requested “clarifications and/or additional information.” In response to FWS comments, MVP revised the SBA and submitted a new version to FWS in December 2022. FWS has not raised concerns related to the December 2022 SBA and discussed using information from the 2022 SBA in its 2023 FWS BO.

### **Concern Statement TES-21:**

Commenters contend the Forest Service should reconsider areas that are suitable for candy darter repatriation.

### **Response TES-21:**

Repatriation of species is outside the scope of this FSEIS.

### **Concern Statement TES-22:**

Commenters contend the SEIS should address changes to federally listed species.

## **Response TES-22:**

### Longsolid (*Fusconaia subrotunda*)

On March 9, 2023, the FWS listed the longsolid, a freshwater river mussel as Threatened (88 FR 14794). The longsolid is a 5-inch long mussel with a light brown shell with darker brown stripes. Longsolid are found in river gravel and coarse sand in clear, flowing water. They are found in Alabama, Indiana, Kentucky, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. The FWS will issue regulations under Section 49(d) of the ESA.

As no mussels have been identified in the four streams crossed in the JNF, the Forest Service has determined that MVP would have no effect on the longsolid.

### Longsolid Critical Habitat

The FWS designated critical habitat for the longsolid on March 9, 2023 (88 FR 14797). For the longsolid, the FWS designated approximately 1,115 river miles as critical habitat. No critical habitat for the longsolid occurs in Giles and Montgomery counties, Virginia or Monroe County, West Virginia. Therefore, the Forest Service does not anticipate any effect on critical habitat from MVP.

### Round Hickorynut (*Obovaria subrotunda*)

On March 9, 2023, the FWS listed the round hickorynut, a freshwater mussel as Threatened (88 FR 14794). The round hickorynut is a 2.5-inch nearly round mussel with a greenish-olive shell with a yellow band. It is found in Alabama, Indiana, Kentucky, Michigan, Mississippi, Ohio, Pennsylvania, Tennessee and West Virginia. The FWS will issue regulations under Section 49(d) of the ESA.

As no mussels have been identified in the four streams crossed in the JNF, the Forest Service has determined that MVP would have no effect on the round hickorynut.

### Round Hickorynut

The FWS designated critical habitat for the round hickorynut on March 9, 2023 (88 FR 14794). For the round hickorynut, the FWS designated approximately 921 river miles as critical habitat. No critical habitat for the round hickorynut occurs in Giles and Montgomery counties, Virginia or Monroe County, West Virginia. Therefore, the Forest Service does not anticipate any effect on round hickorynut critical habitat from MVP.

## **Wildlife**

### **Concern Statement WIL-01:**

Commenters contend the DSEIS fails to conduct surveys and assess impacts on a variety of general wildlife species and management indicator species, including black bears, salamanders, trout, and trout stream designations.

### **Response WIL-01:**

Section 4.5.2.8 in the 2017 FERC FEIS discloses effects on black bears and Section 3.5.1.4 discusses the analysis of alternative routes through the lens of avoiding and minimizing black bear impacts.

Section 3.3.9 and 3.3.10 of the 2020 FSEIS disclose impacts on terrestrial wildlife and aquatic species. The 2020 FSEIS found that the analysis in the 2017 FERC FEIS remains accurate and that the use of conventional bores for crossing the four streams on NFS lands would reduce impacts on

aquatic species. The 2020 DSEIS (Sections 3.2.9 and 3.2.10) re-examined this analysis and confirmed its conclusions.

The proposed ROW crosses four unnamed tributaries of Craig Creek on NFS lands. The proposed Craig Creek crossing is on private lands. Craig Creek is known trout habitat and is periodically stocked by the Virginia Department of Wildlife Resources. Effects on aquatic species and recreational fishing are disclosed in the 2020 FSEIS at Sections 3.3.10, 3.3.13, and 3.4.3. BMPs are disclosed in the POD to mitigate effects to aquatic species.

### **Concern Statement WIL-02:**

Commenters contend they provide new information: according to the information currently in DCR's files, the Peters Mountain Slopes-Laurel Branch Slopes Conservation Site is documented within the proposed project area. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. The site has been given a biodiversity significance ranking of B2, which represents a site of very good significance. The natural heritage resources of concern associated with this conservation site are: *Aneura sharpie*, A liverwort, *Corallorhiza bentleyi*, Bentley's coralroot, *Myotis lucifugus*, Little Brown Bat, and *Myotis leibii*, Eastern Small-footed Myotis. It is recommended to utilize BMPs regarding ECDs, invasive species control, native species restoration, and to resubmit project information and a map to DCR for an update on this natural heritage information if the scope of the Project changes and/or six months has passed before it is utilized.

### **Response WIL-02:**

Review of the Virginia Natural Heritage Data Explorer on the VDCR website indicates that the referenced conservation site boundary mirrors that of the Peters Mountain recommended wilderness study area (Management Prescription 1.B in the 2004 Forest Plan). The proposed MVP ROW was designed to avoid Management Prescription 1.B. Impacts on biological resources and species habitats are addressed in Sections 3.2.7, 3.2.9, 3.2.10, and 3.3.3 of this FSEIS.

## **Transportation**

### **Concern Statement TRA-01:**

Commenters contend that the DSEIS fails to properly analyze the use of public roads, such as Rogers Road, for access to the ROW on NFS lands. Rogers Road is a steep, single lane, gravel road not designed for the heavy traffic and equipment that will be required for employees and equipment to access the ROW on NFS lands. Affected resources include karst-related water resources and habitat for the endangered candy darter.

### **Response TRA-01:**

The 2017 FERC FEIS (Section 4.9.1.5 and 4.9.2.5) describes the use of public roads to access the MVP ROW. Appendix T of the 2017 FERC FEIS lists each road, including Rogers Road. The analysis describes anticipated impacts from use of these public roads, the procedures to maintain and repair roads as needed, and the need for permits as applicable. Where needed, Mountain Valley would perform upgrades such as grading, widening, or stabilization of access roads. Following pipeline installation, Mountain Valley would restore improved roads to their pre-construction condition, unless otherwise directed by the landowner, county, or state agency. These measures from the 2017 FERC FEIS apply regardless of the traffic volume on private roads used to access the ROW on NFS lands and would minimize adverse impacts on safety conditions, karst features, and aquatic habitat.

### **Concern Statement TRA-02:**

Commenters contend the DSEIS does not make clear how long the ROW corridor/construction zone would be used by motor vehicle use. As such, it is difficult to distinguish the proposed corridor/construction zone from a de facto road. These issues need to be examined in the context of resource impacts and compliance with the Roadless Rule for the Brush Mountain Inventoried Roadless Area.

### **Response TRA-02:**

There would be vehicle and equipment use within the ROW during construction and restoration. During operation, vehicle travel would be limited to MVP and contractor inspections, repair, and maintenance (e.g., mowing the 10-foot-wide herbaceous cover corridor) and would require use of temporary crossings over waterways. Public vehicle use is not permitted within the authorized ROW.

## **Recreation and Special Interest Areas**

### **Concern Statement REC-01:**

Commenters expressed concern about the ability to successfully bore under the ANST as described in the DSEIS and POD. Commenters contend the DSEIS does not take a hard look at contingency options should the bore fail and another crossing method be needed, nor is the public afforded an opportunity to review the contingency plan.

### **Response REC-01:**

As stated in the Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail (POD Appendix E), “If insurmountable issues are encountered during the manned tunnel boring process, Mountain Valley, in consultation with Michels [Mountain Valley’s trenchless technology consultant] and the FS, intends to perform corrective actions, such as selecting a new drill path, within the approved corridor or may implement an alternate trenchless crossing method as outlined in this plan.” The Plan provides an overview of several alternative boring methods.

The Plan further states, “Mountain Valley will not use open-cut methods to install the pipeline under the ANST. Mountain Valley will notify and seek approval from Federal Energy Regulatory Commission (FERC) inspectors and [Forest Service] representatives prior to implementing this contingency plan or making any adjustments to the boring plans and procedures. Abandonment procedures and alternative crossing measures will be discussed with appropriate permitting, regulatory, and land-managing agencies, and required approvals will be obtained prior to implementing any alternative crossing measures.” Whether additional NEPA is needed would be dependent on the scope of the change and evaluated.

### **Concern Statement REC-02:**

Commenters contend that the DSEIS assessment of impacts on the ANST is insufficient for multiple reasons, including: FERC does not use the correct centerline of the ANST, FERC admits that coordination with ANST management has been insufficient, there are false claims that there are no areas of impact on the ANST, the DSEIS fails to analyze impacts to observation points on the ANST or other impacts outside the JNF, there is no acknowledgement of the proximity of the proposed crossing to a cherished viewpoint on Peters Mountain, the proposed crossing undermines the 1940s-era ANST reroute that brought the trail to its present-day alignment to provide improved scenery and protection, and there is no analysis of cumulative impacts (including cumulative visual impacts)

related to the ANST. No large pipeline has crossed the ANST on NFS lands since the ANST was designated as a National Scenic Trail in 1968.

### **Response REC-02:**

Section 4.8.2.4 of the FERC FEIS summarizes the input the Appalachian Trail Conservancy (ATC) and the Forest Service provided to FERC to reduce visual impacts to the ANST. As stated in the 2020 FSEIS (p. 225), the Roanoke Appalachian Trail Club (RATC) and the ATC, writ large, are important and valued partners in the management of the ANST resource. The Forest Service continues to consult with the RATC on all matters related to the trail on JNF lands, including those associated with the MVP Project.

The Bureau of Land Management is a cooperating agency, and both agencies have worked closely together throughout the SEIS process. No comment was received from the National Park Service on the 2022 DSEIS. However, the 2017 FERC FEIS documents its engagement efforts, including through a Programmatic Agreement executed under the NHPA which the Forest Service is a signatory, with the NPS and ANST partners in the 2017 FERC FEIS in Appendix AA, Response to Comments. For clarification, the Forest Service did receive comments on the DSEIS from both the ATC and the RATC.

Impacts to the ANST are disclosed in the 2017 FERC FEIS, Section 4.8.1 and 4.8.2. The cumulative impacts for visuals are found in Section 4.13.2.5 and 4.13.2.8. Impacts to the ANST are addressed in the 2020 FSEIS (Sections 3.3.1, 3.3.13, 3.4.4, and Appendix C) and this FSEIS (Sections 3.2.14 and 3.3.4).

Because this is a supplement, the analysis in the 2017 FERC FEIS and the 2020 FSEIS remains valid. The 2022 visual resources changed condition assessment identified New River as a water trail as a changed condition, but concluded there had been no significant changed environmental conditions that would have a bearing on the analyses conducted in 2017 and 2020 (Williams 2022).

Federal law allows pipeline ROWs in national forests, including areas crossed by the ANST, 30 USC § 185, *United States Forest Serv. V. Cowpasture River Pres. Ass'n*, 140 S. Ct. 1837, 1843 (2020). 55 other oil and natural gas pipelines already cross under the ANST at 34 separate locations (sometimes several pipelines cross at a single location). In addition, roads and utility transmission lines cross the ANST.

In 2013, a natural gas pipeline in Giles County, Virginia was authorized to cross the ANST on NFS lands (the permit renewal was granted before the ANST was relocated). The Forest Service is aware that a more recent pipeline crossing of the ANST was constructed by Transco in 2018 north of Swatara State Park on Pennsylvania Game Commission Lands. Also, an additional pipeline was installed within an existing pipeline ROW across NPS land near Carlisle, Pennsylvania, in 2019 as part of the Mariner East II project.

### **Concern Statement REC-03:**

Commenters contend the proposed Forest Plan amendment severely compromises wilderness and the remote character of these areas, that the impacts are immediate, ongoing, and cannot be mitigated; and that the Forest Service has not ensured a variety of related resources (e.g., water, soils, wildlife, old growth) are adequately protected in wilderness.

### **Response REC-03:**

The management of Peters Mountain Wilderness is outside of the scope of the 2017 FERC FEIS and 2020 FSEIS. As specified in Section 3.3.13 of the 2020 FSEIS, no changes to project-related land uses or land use resources, including Peters Mountain Wilderness, are beyond those described in the 2017 FERC FEIS. As stated in the 2020 FSEIS, 2017 FERC FEIS analysis remains accurate and the effects of implementing the No Action Alternative and Proposed Action in the 2020 FSEIS are consistent with those described in the 2017 FERC FEIS. Therefore, no supplemental analysis of recreation and special interest areas effects is needed.

### **Concern Statement REC-04:**

Commenters contend that the ROW corridor facilitates illegal OHV use on the Forest, both during construction and over the long term. The 2017 FERC FEIS states: “Mountain Valley and Equitrans would manage unauthorized off-road vehicle and ATV use on their operational rights-of-way by adhering to Section VI of the FERC Plan and Equitrans’ Plan, which includes measures such as signs, fences/gates, and slash, timber, and boulder barriers.” However, these measures have not proven effective across many sites on the GWJNFs. For example, in the Patterson Mtn ATV site (formerly an official site for ATV use on NFS lands), the Forest Service was forced to erect boulders, steel barriers and other deterrents, but ATV riders continued to ride ATVs off-trail. The site eventually had to be closed. Similar concerns abound for the MVP corridor.

### **Response REC-04:**

To address the concern of illegal OHV use within the MVP ROW, the POD contains an Off-Highway Vehicle Management Plan (POD Appendix AA). As stated in Appendix AA, the JNF Forest Plan lists 47.7 miles of road in nine areas as open to OHV use. None of these roads are crossed by the MVP ROW. As stated by commenters, Appendix AA contains a suite of management tools to deter illegal OHV use, including locked gates, fencing and a law enforcement presence. Unlike the cited Patterson Mountain ATV site, the MVP ROW does not have an established history of OHV use and it is anticipated that the management tools in Appendix AA would be effective in deterring such use.

### **Concern Statement REC-05:**

Commenters contend the DSEIS should analyze alternative routes, such as colocation with the Celanese/Columbia pipeline corridor, specifically through the lens of avoiding the adverse effects of crossing the ANST. There is precedent for avoiding the ANST, as evidenced by the multi-party and multi-year undertaking by the Forest Service and non-profit organizations to reroute the ANST such that it would not be crossed by the Celanese/Columbia pipeline on public land.

### **Response REC-05:**

As described in Appendix C of the 2020 FSEIS, the Forest Service has considered but eliminated colocation with the Celanese/Columbia pipeline. In addition, this alternative was considered and eliminated in the 2017 FERC FEIS as well (pp. 3-10 to 3-11). The factors leading to elimination of this alternative and the decision to eliminate it from further consideration would not be changed by consideration of the ANST as the pipeline’s capacity is already contracted (spoken for).

An evaluation of alternatives was addressed in the 2020 FSEIS, in compliance with NEPA (36 CFR § 220.5(e)). The Court’s January 2022 opinion states, “the record reveals that the BLM and the Forest Service complied with their obligations to assess alternative routes”, and the range of alternatives remains valid for this 2023 FSEIS. As noted in Section 1.8 of this 2023 FSEIS, the range of



alternatives was focused on the issues identified by the Fourth Circuit as well as the need to consider new information and changed circumstances.

Section 3.5.1.6 of the 2017 FERC FEIS addresses other alternatives that were considered that would have avoided crossing the ANST. “These route variations are the State Route (SR) 635- ANST Variation and the American Electric Power (AEP) -ANST Variation (see figure 3.5.1-7). A comparative analysis of environmental impacts of the proposed route and the SR 635-ANST and AEP-ANST Variations is presented in table 3.5.1-6. (2017 FERC FEIS, pp. 3-52 to 3-55).

### **Concern Statement REC-06:**

Commenters stated the GWJNF has more miles of ANST than any other National Forest and, as a result, the Forests contribute significantly to the preservation of the ANST experience by honoring their Forest Plan. Commenters contend that amending the Forest Plan would significantly erode the value of the ANST which the public has invested heavily to protect. Amending the plan in the ways proposed would negatively impact prescription areas protecting the Appalachian Trail, Wilderness, Old Growth Forest, Inventoried Roadless areas and fragile successional habitats. Further, it would require the establishment of a new 5c utility corridor directly adjacent to Federally Designated Wilderness, leading up to the ANST’s doorstep in a location that is currently wild and pristine.

### **Response REC-06:**

Impacts related to the ANST, public use of the trail, and its management prescription in the JNF Forest Plan have been addressed in the 2020 FSEIS (Sections 3.3.1, 3.3.13, 3.4.4, and Appendix C) and this FSEIS (Sections 3.2.14, 3.3.4, and Appendix A). The analysis for impacts to old growth is found in the 2017 FERC FEIS (pp. 4-171 to 4-172) and in this FSEIS, Section 3.3.4 and Appendix A. The analysis for inventoried roadless areas is found in the 2017 FERC FEIS on pages 4-279, 4-313 and 4-314, and impacts to vegetation is found in the 2017 FERC FEIS in Section 4.4.2 and in this FSEIS as it relates to the NFMA amendment in Appendix A. Response REC-O3 addresses designated wilderness.

### **Concern Statement REC-07:**

Commenters contend the Forest Service’s only action alternative would also change the JNF Plan, lowering plan standards. These changes would cause substantial adverse impacts to the ANST and its users. Most significantly, the following two changes being proposed in the DSEIS would risk abandoning protections for the ANST in all national forests by allowing a potentially unlimited number of project-specific crossings merely by exempting a project from plan standards. Such proposed Forest Plan changes directly affecting the ANST also allow for a potentially unbounded number of projects on the crest of Peters Mountain alone. This would set a damaging precedent, yet the Forest Service provides no standards for approval or rejection of a project. An exception could be used not only throughout the JNF, but also in a total of eight national forests that contain 1,015 miles (47%) of the ANST. This violates the nature and purpose of the ANST as found in the National Trails System Act, as well as the National Park Service’s Foundation Document for the ANST, which provides basic agency guidance for planning and management decisions.

### **Response REC-07:**

The proposed action would not reallocate NFS lands to different management prescriptions; there would be no expansion or creation of Management Prescription 5B or 5C (utility corridors). Impacts related to the ANST and its Management Prescription have been addressed in the 2020 FSEIS (Sections 3.3.1, 3.3.13, 3.4.4, and Appendix C) and this FSEIS (Sections 3.2.14 and 3.3.4). The FSEIS has been updated to include POD Appendix E as a Forest Plan standard under the proposed

action (Section 172.2.2). The NPS provided no comments on the Project during the most recent comment period.

### **Concern Statement REC-08:**

Commenters contend the DSEIS failed to adequately assess impacts on wilderness. There is no assessment of the cumulative impacts to the National Wilderness System from this pipeline and other actions and no confirmation of whether the restrictions for the Brush Mountain Wilderness Area extend beyond the boundaries established for the area, including sound and visual impacts to the wilderness area.

### **Response REC-08:**

The management of designated Wilderness is outside of the scope of the 2017 FERC FEIS, 2020 FSEIS, and this 2023 FSEIS. As specified in Section 3.3.13 of the 2020 FSEIS, no changes to project-related land uses or land use resources, including Wilderness, are beyond those described in the 2017 FERC FEIS. As stated in the 2020 FSEIS, 2017 FERC FEIS analysis remains accurate and the effects of implementing the No Action Alternative and Proposed Action in the FSEIS are consistent with those described in the 2017 FERC FEIS. Therefore, no supplemental analysis of wilderness and special interest areas effects is needed.

### **Concern Statement REC-09:**

Commenters identified recreation and tourism as essential parts of the local and regional economy and contend recreation and tourism will be permanently affected by the MVP and its scenic and other impacts.

### **Response REC-09:**

Effects on recreation, socioeconomics, and scenic resources are disclosed in Sections 3.2.5, 3.2.6, and 3.2.14 of this 2023 FSEIS. This FSEIS contains additional context regarding the analysis of viewshed impacts, but overall, the 2017 FERC FEIS (Section 4.8.2.4) and 2020 FSEIS (Sections 3.3.13, 3.3.5, and 3.3.6) analyses remain accurate and the effects of implementing the No Action Alternative and Proposed Action in the 2023 FSEIS are consistent with those described in the 2017 FERC FEIS, 2020 FSEIS, and 2022 DSEIS. No new information has been presented to alter the existing analysis related to recreation, socioeconomics or scenic resources, therefore, no supplemental analysis is needed.

### **Concern Statement REC-10:**

Commenters contend that making an exception for MVP to cross the ANST in the JNF, especially at this scenic and unsafe location should be something that the Forest Service carefully considers. No large pipeline has crossed the ANST on national forest land since the ANST was designated as a National Scenic Trail in 1968. Allowing the MVP to cross the ANST, especially in such a high-profile location, degrades the ANST and threatens trails across the country. There are now 11 National Scenic Trails in the U.S. and allowing for this to happen on Peters Mountain in the JNF would set a bad precedent for National Scenic Trails across the country.

### **Response REC-10:**

Federal law allows pipeline ROWs in national forests including areas crossed by the Appalachian National Scenic Trail. 30 U.S.C. § 185; *United States Forest Serv. v. Cowpasture River Pres. Ass'n*, 140 S. Ct. 1837 (2020). There are 55 other oil and natural gas pipelines already crossing under the ANST at 34 separate locations (sometimes several pipelines cross at a single location). Some of these crossings are on Federal land. In addition, roads and utility transmission lines cross the ANST.

The Forest Service is aware that a more recent pipeline crossing of the ANST was constructed by Transco in 2018 north of Swatara State Park on Pennsylvania Game Commission Lands. Also, an additional pipeline was installed within an existing pipeline ROW across NPS land near Carlisle, PA in 2019 as part of the Mariner East II project.

### **Concern Statement REC-11:**

Commenters ask if Mountain Valley will cross the ANST with motorized vehicles.

### **Response REC-11:**

No. As established in the Plan of Development (see Sections 6.1 and 6.6) and in the Revised Historic Property Treatment Plan for the Appalachian National Scenic Trail, no motorized equipment will enter into the space between the bore pits at the ANST crossing. The Forest Service does reserve the right for motorized emergency response vehicles to access or cross the ANST.

### **Concern Statement REC-12:**

Commenters ask if the MVP had considered timing of boring under the ANST to minimize impacts to hikers.

### **Response REC-12:**

Yes. In the 2021 Revised Historic Property Treatment Plan for the ANST, potential noise, and visual impacts to users of the ANST were evaluated. That analysis concluded that there would be minimal impact to hikers with the adoption of various construction practices such as significant bore setbacks from the ANST, an undisturbed vegetated buffer between the bore pits and the ANST, the topography of the site (bore pits/construction equipment is lower in elevation from the ANST), and the overall temporary nature of the activity. Therefore, should construction be authorized during summer months, Mountain Valley would prefer to begin construction immediately. This would help decrease the level of safety risk that comes with working on steep slopes when cold and snow could occur.

## **Scenery**

### **Concern Statement SCE-01:**

Commenters expressed concern that the 5-year requirement for meeting SIOs is unreasonable. Among the reasons cited, commenters identified the Celanese/Columbia pipeline corridor as not being restored after 9 years, creating long-term visual and related impacts that cast doubt on the Forest Service assertion that the MVP ROW can be successfully restored. Commenters provided photographs of this pipeline and real and simulated views of the MVP from multiple locations including along the ANST to support their opinion and that contradict contractor analysis of the visual impacts. Commenters state the DSEIS does not contain thresholds for measuring restoration of the ROW or consequences if thresholds are not achieved.

### **Response SCE-01:**

The Forest Plan contains a range of SIOs that allow for varying degrees of change in scenic conditions. The proposed ROW traverses NFS lands with SIOs of High, Moderate, and Low as described and analyzed in the 2017 FERC FEIS (pp. 4-294 to 4-296). The project-specific amendment for Standard FW-184 indicates that the “MVP shall attain the existing SIOs within five years after completion of the construction phase of the Project, to allow for vegetation growth.” In this specific location and given the geographic, climatic, and edaphic conditions, five years is a standard time period to permit existing native seed bank and installed plant material to establish and

begin to develop a successional regime. Given the mitigation and revegetation design referenced in the 2017 FERC FEIS, project conformance with the SIOs referenced in Table 4.8.1-11 of the 2017 FERC FEIS is attainable. No changes in circumstances have occurred that would suggest that conformance with these SIOs within a 5-year time frame following construction could not be achieved. The 2021 Revised Historic Property Treatment Plan addresses many of the visual impacts to the ANST from construction on both Federal lands and private lands. The natural regrowth on Peters Mountain as shown in FSEIS Section 3.1 demonstrates that revegetation as prescribed under Appendix H of the POD is likely to achieve SIOs.

### **Concern Statement SCE-02:**

Commenters expressed concern that, contrary to the DSEIS's conclusions, the Project would permanently and significantly degrade the viewshed, including views from the ANST at locations including Symms Gap, Kelly's Knob, and elsewhere. Specific concern was expressed about leaf-off conditions.

Commenters stated that the DSEIS wrongly minimizes the adverse impacts of the MVP ROW as seen from multiple vantages on the ANST, including Peters Mountain, Angel's Rest, and Symms Gap. Particularly egregious is the view crossing nearby Little Mountain in Monroe County, just before crossing the Wilson Mill Valley and then up Peters Mountain. The analysis is faulty because the original contractor study failed to photograph important vantage points and there is no consideration of the substantial adverse visual impacts caused by the nearby Celanese/Columbia pipeline on the JNF.

In 1967 the ANST was re-routed to the top of Peters Mountain after the Roanoke Appalachian Trail Club (RATC) got an easement from the Celanese Corporation to access the crest of Peters Mountain. At that time, the Appalachian Trail Conservancy (ATC) Vice President Tom Campbell stated that the view from Symms Gap (looking over Monroe and Summers County WV) "...is one of the most beautiful views east of the Mississippi." This view is now highly impacted by the Mountain Valley Pipeline. It is evident that the MVP's wide, unnatural corridor undermines the JNF's Scenic Integrity Objectives.

### **Response SCE-02:**

The 2017 FERC FEIS addresses scenery analysis starting on p. 4-334 and in Appendix S, parts 1 and 2. Mitigation added to the Project to address ANST crossing scenery issues are also disclosed (e.g., "More specifically, the Forest Service would require the company to reduce its mowing to a 10-foot-wide strip centered over the pipeline, and also reduce its trimming or selective cutting of trees to a 30-foot-wide strip centered over pipeline" (FERC FEIS, p. 4-336)). Regarding Keeney's Knob and Little Mountain, the FERC, the NPS, and Forest Service worked with ATC to come up with the key observation points (KOPs) that were representative of various impacts. The ATC and the Federal agencies visited the crossing location on July 22, 2016. At that time, the two points that are referenced were again not brought up. Table 4.8.1-10 in the FERC FEIS identify KOPs where there could be high visual impacts from the MVP. Also see Table 4.8.2-3. The visual impacts analysis focused on the relevant counties of Monroe, Montgomery, and Giles. In response to comments on the FERC DEIS, additional KOPs were added to the 2017 FERC FEIS. Some points referenced by commenters are up to 30 miles away from the JNF.

Based on Forest Service comments to the FERC about the ANST crossing, the 2017 FERC FEIS discussed increasing the boring length under the ANST to 600 feet so that there is an approximate 300-foot forested buffer on each side of the trail. The 2017 FERC FEIS (Section 4.8.1.10) identified that the photographic simulations contained in the Visual Impact Assessment (VIA) (see Appendix S),

prepared for multiple KOPs at this crossing, indicate that the vegetative buffer at this location would be sufficient to block the views from the ANST.

Although no new KOPs were added (except for New River, as was disclosed in the DSEIS), the Forest Service and Transcon continue to monitor scenery points, including those from the ANST that were developed with ATC. In the late summer and fall of 2022 the Forest Service drove the roads that access Brush Creek and Sinking Creek to gauge impacts to scenery and determined that no additional KOPs were needed. Based on these field visits, scenery is consistent with effects disclosed in the 2017 FERC FEIS, 2020 FSEIS, and this FSEIS.

For all JNF project locations (except where the MVP would bore under the ANST), trees have been cleared along the pipeline ROW for a 125-foot width during construction. The 2017 FERC FEIS and this FSEIS recognize that this conversion from forested landscape to a cleared work zone would create contrasts in the scenery by changing the texture and color, introducing lines, and changing forms. Mountain Valley recognizes that minimizing these visual effects is critical for reducing long-term impacts of the permanent ROW. Therefore, per conversations between the FERC and the Forest Service, as outlined in the 2017 FERC FEIS, the permanent ROW width could be maintained consistent with Mountain Valley's Procedures, for the length of the entire ROW on the NFS lands. Forest Service-prescribed recommendations include requiring the company to reduce its mowing to a 10-foot-wide strip centered over the pipeline and reducing its trimming or selective cutting of trees to a 30-foot-wide strip centered over pipeline. Further, outside the 10-foot-wide strip, the remainder of the construction and permanent ROW would be revegetated through the use of acceptable seed mixes, pollinator plants, shrubs and trees in accordance with the FERC Plan, Mountain Valley's procedures, and as described in the POD (Appendix H). Particularly along the edge of this herbaceous linear opening, a variety of sizes and species of vegetation would be planted in a manner that breaks up the straight, parallel edges of the corridor and reduces the hard shadow line that can draw the viewer's attention. The measures identified in the 2017 FERC FEIS should substantially ameliorate the long-term impacts resulting from initial construction.

The 2021 Revised Historic Property Treatment Plan addresses many of the visual impacts to the ANST from construction on both Federal lands and private lands. Although not part of the 2021 revised treatment plan, and not specific to the JNF, the MVP, Appalachian Trail Conservancy (ATC) and The Conservation Fund signed a voluntary agreement in August of 2020 under which the MVP will provide up to \$19.5 million to the ATC for actions that would benefit the ANST trail users and local trail-dependent business (MVP 2021).

The Forest Plan contains a range of SIOs that allow for varying degrees of change in scenic condition. The proposed ROW traverses NFS lands with SIOs of High, Moderate, and Low as described and analyzed in the 2017 FERC FEIS (pp. 4-294 to 4-296). The FERC analysis describes in detail the scenery analysis and why the SIOs would be met on pages 4-334 to 4-347. The project-specific amendment for Standard FW-184 indicates that the "MVP shall attain the existing SIOs within five years after completion of the construction phase of the Project, to allow for vegetation growth." Five years is a standard time period to permit existing native seed bank and installed plant material to establish and begin to develop a successional regime. Given the mitigation and revegetation design referenced in the 2017 FERC FEIS, project conformance with the SIOs referenced in Table 4.8.1-11 of the 2017 FERC FEIS is attainable. No changes in circumstances have occurred that would suggest that conformance with these SIOs within a 5-year time frame following construction could not be achieved. In fact, the natural regrowth on Peters Mountain as shown in this FSEIS Section 3.1 demonstrates that revegetation as prescribed under Appendix H of the POD is likely to achieve SIOs and would not permanently degrade views from the ANST.

Leaf-off is addressed in the 2017 FERC FEIS on pp. 4-312 and 4-313 as well in the 2017 FERC FEIS visual impact analysis Appendix S, part 1 and part 2: “Mountain Valley filed updated correspondence and revised visual simulations on February 17, 2017, and February 23, 2017. These filings indicated they were continuing to coordinate with the FS and ATC on the evaluation of the updated visual simulations. On March 20, 2017, we filed a request for additional information from Mountain Valley, which included a request for additional visual simulations. The FS also filed a comment on the VIA on April 3, 2017 which also requested additional visual simulations and they requested a meeting with Mountain Valley. Mountain Valley met with the FS on April 11 and April 20, 2017, to present photographs taken in March 2017 during leaf-off conditions, and to develop a plan for preparing the final visual simulations and VIA. Mountain Valley filed an updated VIA on May 1, 2017. On May 3, 2017 the FS then filed specific guidance and requested that Mountain Valley file a supplement to the VIA. On May 11, 2017 Mountain Valley filed a revised VIA. Visual simulations are provided in appendix S” (2017 FERC FEIS, pp. 4-312 to 4-313).

### **Concern Statement SCE-03:**

Commenters expressed concern about scenic impacts should the Project not be completed.

### **Response SCE-03:**

As described in Section 2.2.1, under the No Action Alternative, if the MVP is not authorized, portions of the Project area on JNF land would be restored to as close to the pre-project condition as practicable or possible. Restoration activities will follow POD Appendix H: Restoration Plan.

### **Concern Statement SCE-04:**

Commenters contend that computer modeling, such as was performed to determine viewsheds along the New River, is unreliable; in-person observations should be performed instead. Conversely, other commenters request visual simulations of the view of the pipeline corridor from multiple locations along the ANST and other local viewpoints off NFS lands.

### **Response SCE-04:**

In an attempt to verify desktop findings, in-person observations were also performed near the New River in February 2023 to evaluate viewsheds. The use of computer simulations and digital elevation modeling is a commonly used and an appropriate method for determining visibility, particularly when private land makes access difficult. The 2017 FERC FEIS (Section 4.8.1.10) identified that the photographic simulations contained in the Visual Impact Assessment (see Appendix S), prepared for multiple key observation points (KOPs) at this crossing, indicate that the vegetative buffer at this location would be sufficient to block the views from the ANST. The 2017 FERC FEIS provides extensive details on the scenery analysis and the rationale that supports the conclusions on pages 4-334 to 4-347.

The ATC and the Federal agencies visited the crossing location on July 22, 2016. At that time, no additional ANST views were identified beyond those analyzed in the 2017 FERC FEIS, 2020 FSEIS, and this FSEIS. Table 4.8.1-10 in the 2017 FERC FEIS identify KOPs where there could be high visual impacts from the MVP. Also see Table 4.8.2-3. The visual impacts analysis focused on the relevant counties of Monroe, Montgomery, and Giles.

## Heritage Resources

### Concern Statement HER-01:

Commenters identified “Cultural Resource Areas” located on Peters Mountain that should have been investigated with a Phase 2 Archeological Study. A commenter was told by the Forest Service in 2018 that a Phase 2 study was indeed scheduled, but the DSEIS does not mention whether it has been completed. Commenters ask whether a Phase 2 Archeological Study is still required prior to construction and ask whether appropriate Native American Tribes been consulted about this area and the Project in general.

### Response HER-01:

As described in Section 3.3.3 of the 2020 FSEIS, Phase II archaeological evaluations of all archaeological sites at least partially within the Area of Potential Effect have been completed (MVP Cultural Resources Survey and Evaluation 2017). One site (44GS0241) was determined to be eligible for the NRHP.

FERC, as the lead agency for NHPA, has undertaken Section 106 Native American Consultation on the MVP. In consultation with Tribes, the cooperating agencies, West Virginia and Virginia SHPOs, the Advisory Council on Historic Preservation, and other consulting parties, executed a PA (FERC 2017b), under 36 CFR § 800.14(b)(3), which sets forth the steps for compliance with the requirements of NHPA Section 106. The PA contains stipulations to satisfy all responsibilities under NHPA Section 106 for the involved regulatory agencies, including consideration of effects of the undertaking on historic properties, and resolution of adverse effects of the undertaking on NRHP eligible historic properties, including a Treatment Plan for the mitigation of adverse effects to site 44GS0241. The 2020 FSEIS concluded that “all responsibilities under NHPA Section 106 for the involved regulatory agencies” were addressed in a PA and associated Treatment Plan for the mitigation of adverse effects to site 44GS0241. This assessment remains accurate. Since portions (1.65 acres) of the 5.8-acre 44GS0241 site cannot be avoided, Phase III excavations to recover data have been authorized. This site will be avoided (e.g., no construction allowed) until Phase III excavations are complete.

### Concern Statement HER-02:

Commenters provided a video, stating it shows a Native American site affected by the pipeline ROW.

### Response HER-02:

The Forest Archaeologist reviewed the submitted video and confirmed the film highlights the known archaeology site 44GS0241, described above. The site has been surveyed and evaluated by qualified archaeologists. Tribal authorities were consulted about results of the archaeologist’s evaluations and recommended mitigation for the site. Since portions (1.65 acres) of the 5.8-acre 44GS0241 site cannot be avoided, Phase III excavations to recover data have been authorized. This site will be avoided (e.g., no construction allowed) until Phase III excavations are complete.

## Socioeconomics and Environmental Justice

### Concern Statement SOC-01:

Commenters contend that the proposed project would negatively affect socioeconomics and environmental justice, especially the environmental justice communities near the pipeline corridor. The DSEIS did not consider Executive Order 13990, Protecting Public Health and the Environment

and Restoring Science To Tackle the Climate Crisis. Other commenters provided rationale highlighting positive socioeconomic impacts.

### **Response SOC-01:**

Sections 4.9.1.8, 4.9.1.9, 4.9.2.8, and 4.9.2.9 in the 2017 FERC FEIS and Section 3.3.5 of the 2020 FSEIS analyzed socioeconomic and environmental justice. EO 13990, issued on January 20, 2021, “directs all executive departments and agencies (agencies) to immediately review and, as appropriate and consistent with applicable law, take action to address the promulgation of Federal regulations and other actions during the last 4 years that conflict with these important national objectives, and to immediately commence work to confront the climate crisis.” The Forest Service reviewed this information and found that the previous analysis considered socioeconomic and environmental justice concerns for the broader project area, and that there is no new information which would affect the socioeconomic impacts on the JNF. In addition, refer to Response REC-09.

## **Public Health and Safety**

### **Concern Statement PHS-01:**

Commenters state that the pipeline would improve national security and energy self-sufficiency.

### **Response PHS-01:**

As mentioned previously, the Mineral Leasing Act of 1920 (30 U.S.C. § 181) (MLA) recognizes the need for issuing pipeline ROWs across federal lands. The Background section of this FSEIS (Sec. 1.2) references the Energy Policy Act of 2005 as it relates to FERC’s responsibilities. The need for the Act was “spurred by rising energy prices and growing dependence on foreign oil, the new energy law was shaped by competing concerns about energy security, environmental quality, and economic growth” (U.S. Congressional Research Service 2006). This project is in alignment with the objectives of both Acts.

### **Concern Statement PHS-02:**

Some commenters were concerned that the pipeline would also put lives at risk due to the possibility of it bursting. Commenters claimed publicly available data shows how dangerous pipelines are and their poor safety track record of leaks and spills. If incidents are this common, the impact assessment should take a potential leak into account instead of just stating that precautions will be followed to ensure leaks don't occur.

Other commenters expressed concern that: the pipeline contains highly pressurized gas that might leak, rupture, or explode; pipeline leaks might start forest fires; and the risk of spills could affect wildlife and forest health. Gas leaks could contaminate groundwater. There was further concern that the effects of chemicals such as radon, lead, mercury, hydrogen sulfide, benzene, toluene, ethylbenzene, xylenes, hexane, and polonium were not analyzed: they could impact people and ecosystems by entering the environment.

### **Response PHS-02:**

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the design, construction, operation, and maintenance of its pipeline facilities. Regulations specific to gas pipeline are in 49 CFR Part 192. These regulations are available at [www.ecfr.gov](http://www.ecfr.gov). PHMSA monitors and enforces compliance with pipeline safety regulations and conducts inspections to ensure operators are



meeting applicable Federal pipeline safety requirements for the safe, reliable, and environmentally-sound operation of their facilities. Hazardous air pollutants were addressed in the 2017 FERC FEIS, Section 4.11.1.2.

Information about pipeline data and statistics, including public safety information such as pipeline incidents, is readily available to the public on the PHMSA website at:

<https://www.phmsa.dot.gov/data-and-statistics/pipeline/data-and-statistics-overview>.

### **Concern Statement PHS-03:**

Commenters expressed concern that the stockpiled pipes on NFS lands have degraded to a point where they are no longer safe for use because the protective coating has worn off and the interior steel has rusted. Commenters assert that the pipes must be removed to be recoated before they can be considered safe enough to use, and that the Forest Service must analyze the impacts associated with recoating the existing pipes and delivering new pipes to the ROW.

### **Response PHS-03:**

The safety and integrity of construction, maintenance, and operation of natural gas pipes and pipelines in general is regulated by the PHMSA. The Forest Service has no legal or regulatory authority to mandate pipe and pipeline safety. That responsibility rests with the PHMSA.

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the design, construction, operation, and maintenance of its pipeline facilities. Regulations specific to gas pipeline are in Part 192. Pursuant to PHMSA's regulation 49 CFR § 192.461, pipeline operators must inspect each external protective coating prior to lowering the pipe into the ditch and backfilling. Additionally, any damage detrimental to effective corrosion control must be repaired. PHMSA inspects pipeline construction to ensure compliance with these Federal safety requirements.

Section 2.4.2.4 (Pipe Stringing, Bending, Welding, and Coating) of the 2017 FERC FEIS and Section 5.1 (Conventional Bore) of the 2021 FERC Boring EA describes the process used to check pipe and weld coatings prior to installation. The pipeline would comply with requirements for cathodic protection.

Mountain Valley is required to adhere to the following process for restoring the pipe and its coatings prior to putting the pipe in the ground: Mountain Valley will follow an industry standard process for proactively assuring the coating on the currently strung pipe is suitable to be installed during construction activities. To accomplish this, the coating on each individual pipe will be inspected for damage and thickness before the pipe is installed in the trench. This testing is conducted by running a device called a "Holiday Detector" along the outside of the pipe. That device uses an electrical current to detect any anomalies in the coating. Any damaged coating or coating thin spots must be repaired prior to installation. The coating must be restored to meet the thickness requirements established by the PHMSA. PHMSA is a federal agency responsible for developing and enforcing regulations for the safe, reliable, and environmentally sound operation of pipelines. Mountain Valley will continue to follow the rules and regulations that PHMSA requires.

Mountain Valley will treat anomalies with either of the two processes below, according to standard industry protocol as defined by PHMSA:

- 1) At the location of an identified anomaly, the surface of the pipe exterior will be primed, either by hand-sanding or by blast/brush-sweep application of a low-silica

abrasive. Particles and dust will be captured on heavy-duty sheeting and disposed off-site. A two-part epoxy will be mixed on-site at time of application, further than 100 feet from water resources, and consistent with standard industry safety protocols such as secondary containment and placement of protective sheeting below the pipe. The epoxy would be applied by hand using brushes and/or rollers.

- a. This is the same process used during welding of pipe joints, as disclosed in the 2017 FERC FSEIS.
- 2) The surface of the pipe exterior will be prepared with a hand-application of acetone or alcohol to clean the exterior pipe surface of debris, and a heavy-duty, self-adhesive wrap coating will be applied around the circumference of the pipe at the location of the anomaly. Standard industry safety protocols would be followed, such as secondary containment and placement of heavy-duty protective sheeting below the pipe.

Consistent with PHMSA requirements and standard industry practice, Mountain Valley employs measures to monitor and ensure that the integrity of its pipe coating is not compromised. Mountain Valley conducts evaluations of stored coated pipe segments before any pipe segments are installed, including photodegradation. Mountain Valley implemented protective measures that substantially decreased the coating degradation of pipes stored for long periods in construction yards. When pipe is stored stacked in construction yards, the photodegradation occurs on the outer pipe joints in the stack that are most exposed to sunlight. Mountain Valley took the proactive step of shuffling the pipe in the stacks to prevent the photodegradation from occurring at one location on the coated pipe surface. Mountain Valley will employ this measure as necessary until all pipe segments are installed.

In addition, in August 2018, Mountain Valley engaged the coating manufacturer in a discussion on the minimum coating thickness necessary to maintain the coating's integrity and sampled the average pipe coating thickness of its stored pipes. Mountain Valley determined that the coating thickness on its stored pipes remained above the manufacturers' recommendation. Mountain Valley expects that all pipes will be installed in the trench well before the coating thickness drops below an acceptable level.

The pipe coating monitoring and protective measures discussed above are employed by Mountain Valley as part of a general coating integrity management strategy for its stock of pipes. Nevertheless, the coating on each individual pipe is inspected for damage and thickness before the pipe is installed in the trench. This testing is conducted by running a device called a "Holiday Detector" across the pipe. That device uses an electrical current to detect any defects in the coating. Any damaged coating or coating thin spots must be repaired prior to installation, or the pipe segment is not installed.

#### **Concern Statement PHS-04:**

Commenters contend the region's soils, groundwater, and weather conditions are incompatible with safe pipeline construction. For example, ground movement associated with ice (including freeze-thaw), fog, and resulting saturation of soils, and the fluctuating water table on steep slopes are both common in this region and safety and integrity concerns not considered in the DSEIS.

Considering the Ice that forms in frigid temperatures at the crest of every mountain ridge, the MVP project is unsuitable and inappropriate for this Region. Ice breaks down rocks and soils by chemical and physical weathering mechanisms. Ice moved Sinking Creek Mountain's unstoppable landslides intact. Ice breaks pipes. MVP has created a very unstable, and regrettable, situation on Sinking Creek Mountain. Freeze-Thaw is dangerous to the remaining manmade fill material stability. Wet ground is heavy. Gravity is persistent. Ice breaks pipes. The steel pipe and welds are brittle and ought not to

have temperature fluctuations that welds cannot hold when strained, stressed and frigid. The north face of Sinking Creek Mountain remains frozen while the south face warms daily and freezes again at night during the Winter months, in freeze-thaw cycles.

Based on new information and observations of Fog, the mountain valley pipeline project should be denied entry and operation in the Jefferson National Forest, and I am asking the Forest Service to deny any pipeline ROW in JNF. The ridge of Sinking Creek Mountain is often covered in wet Fog in Winter, that freezes and frosts the trees overnight, while the valley may not freeze 1,000 feet away. The wet air clings to the MVP's chalky green pipes in the ROW, leaving water spots and rusty drip marks. The moisture corrodes the pipe, both chemically and physically.

The pipes are not suitable for use due the chemical weathering by Fog, and its misty cling, corroding pipes. Fog, subject to freeze-thaw, penetrates surfaces and freezes, physically corroding pipe surfaces. Fog, at the crest of Sinking Creek Mountain where some pipe is stored, has degraded the pipes and coating.

### **Response PHS-04:**

Sections 4.1.2.4 (Slopes and Landslide Potential), 4.2.1.3 (Ground Heaving), and 4.2.2 (Environmental Consequences) of the 2017 FERC FEIS discloses effects of the freeze-thaw cycle. Effects of precipitation, saturated soils and fluctuating water tables on steep slopes, including soil liquefaction associated with seismic activity, are disclosed in sections 4.1.1.5 (Geologic Hazards), 4.1.2.3 (Seismicity and Potential for Soil Liquefaction), and 4.11.1.1 (Affected Environment, Regional Climate).

The POD Appendix F (Landslide Mitigation Plan) also discusses effects of freeze-thaw cycles, precipitation, saturated soils and fluctuating water tables. While fog can contribute moisture to the ground surface, such moisture is minor in comparison to routine rainfall received in the region. Fog is a negligible risk to landslide development. The appendix contains potential mitigation measures to protect against landslides including stabilization, drainage improvement, and erosion runoff control. Mountain Valley has committed to monitor following rainfall events where precipitation of 0.5 inch occurs in a 24-hour period during the revegetation of the right-of-way (2017 FERC EIS Section 4.1.2.5, Appendix H Restoration Plan Section 3.2). The POD Appendix F outlines monitoring requirements designed to provide advanced warning of landform changes that may signal potential slope movement.

All pipe on the JNF would be buried below the frost line; the likelihood of affects from frost is low (2017 FERC FEIS section 4.2.1.3) and because the pipes are buried, there would be no direct impacts from precipitation or fog.

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the design, construction, operation, and maintenance of its pipeline facilities. Regulations specific to gas pipeline are in Part 192. Pursuant to PHMSA's regulation 49 CFR § 192.461, pipeline operators must inspect each external protective coating prior to lowering the pipe into the ditch and backfilling. Additionally, any damage detrimental to effective corrosion control must be repaired. PHMSA inspects pipeline construction to ensure compliance with these Federal safety requirements.

### **Concern Statement PHS-05:**

Commenters contend that the DSEIS fails to assess impacts from insecticide use.

### **Response PHS-05:**

Mountain Valley does not propose the wide-scale use of pesticides (e.g., insecticides) or herbicides; however, the Forest Service requested that pesticides or herbicides be incorporated into the management plan for maintenance of the right-of-way and treatment of invasive species on the Jefferson National Forest. Section 4.4.2.6 (Special Areas) of the 2017 FERC FEIS highlights this and discloses effects of pesticide or herbicide use are disclosed in this section.

Several portions of the POD, including Appendix H Restoration Plan, Appendix S Exotic and Invasive Species Control Plan, and Appendix T Herbicide Use Plan provide guidance for the use of pesticides and herbicides.

### **Concern Statement PHS-06:**

Commenters contend no safety measures are in place to protect the MVP from a terrorist attack. The top of the MVP pipe is only 3 feet under the surface of the ground in many locations. The pipe walls are less than 5/8 thick. Access to the pipe is not restricted by physical barriers. There are no warning systems in place to alert authorities if a terrorist is excavating the ground above the pipe, or preparing to set off an explosive device.

A single terrorist with hand tools could easily detonate the MVP, resulting in a catastrophic explosion. This would also result in very large power outages to downstream users. A coordinated attack against U.S. natural gas pipeline system could cripple our country's power supply.

Page 4-573 of FERC's environmental impact statement for the MVP reads "The Commission, in cooperation with other federal agencies, industry trade groups, and interstate natural gas companies, is working to improve pipeline security practices, strengthen communications within the industry, and extend public outreach in an ongoing effort to secure pipeline infrastructure." This is virtually meaningless, and would do nothing to protect the public from a terrorist attack on the MVP.

The DEIS does not analyze the significant threat to the public safety from the MVP. The USFS should consult with the Department of Homeland Security or safety experts to determine actions needed to prevent terrorist acts against the MVP on USFS property. The USFS should require MVP to implement recommended actions before the pipeline goes into operation.

### **Response PHS-06:**

Section 4.12.4 (Terrorism and Security Issues) of the 2017 FERC FEIS addresses safety and security concerns related to terrorism, including the role of the U.S. Department of Homeland Security. It also discloses the likelihood of future acts of terrorism or sabotage at any of the myriad natural gas pipeline or energy facilities throughout the United States is unpredictable given the disparate motives and abilities of terrorist groups. The unpredictable possibility of such acts did not support a finding that the Project should not be constructed.

The Transportation Security Administration (TSA) is a component of the Department of Homeland Security (DHS/TSA) and the PHMSA is an entity within the DOT. DHS/TSA is the lead Federal agency for transportation security, including pipeline security. Specifically, the Pipeline Security Division (PSD) within DHS/TSA's Office of Transportation Sector Network Management (TSNM) is tasked with enhancing the security preparedness of hazardous liquid and natural gas pipeline systems. The PSD works to develop security measures to mitigate risk, monitor compliance with security guidelines, and build and maintain stakeholder relations.

Based on the past safety history of interstate pipelines, attacks are extremely uncommon. However, any future acts of terrorism or sabotage is unpredictable given the disparate motives and abilities of terrorist groups.

The FERC has taken measures to limit the distribution of information to the public regarding facility design to minimize the risk of sabotage. Other measures include:

- Per the 2022 POD (Section 6.4), a third-party inspector, the Compliance Inspection Contractor, selected by, managed by, and reporting solely to FERC is to provide monitoring services (compliance with permit requirements, ensuring environmental impacts do not exceed estimates disclosed in the EISs). The Forest Service will also designate its own Authorized Officer with authority over the Project activities on the Jefferson National Forest.
- Adherence with DOT surveillance requirements, including air and ground inspection of the facilities and establishment of an Emergency Plan with written procedures to conduct leak surveys and minimize hazards from a natural gas pipeline emergency (see the 2022 POD Appendix Q Framework Construction Emergency Preparedness and Response Plan and Appendix R Framework for Operations, Maintenance, and Emergency Response Plan).
- Mountain Valley will provide security staffing during construction of the Project. During operations periodic aerial and ground inspections will occur, including routine patrols, inspections, and scheduled maintenance (2022 POD Table 9-1 and Section 9.4 Safety).
- All aboveground facilities, although none proposed on the JNF, would include secure fencing.
- Appendix AA (Off-Highway Vehicle Management Plan) of the 2022 POD identifies methods to prevent unauthorized motor vehicle/OHV use of and along the ROW.

The 2017 FERC EIS Section 4.12 (Reliability and Safety) discloses the risk of fire or explosion following a major pipeline rupture. The risks are ameliorated by pipeline design and safety regulations mandated by the DOT and implemented as part of the Emergency Response Plan.

When identified, known or observed occurrence of unauthorized activities is brought to the attention of the Forest Service, agency law enforcement is notified, and the Forest works with appropriate parties to address the concerns.

### **Concern Statement PHS-07:**

Commenters contend the Forest Service did not address 2020 reports on corrosion of pipes on the ground.

### **Response PHS-07:**

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in 49 CFR Parts 190-199 for the design, construction, operation, and maintenance of its pipeline facilities. Regulations specific to gas pipeline are in Part 192. Pursuant to PHMSA's regulation 49 CFR § 192.461, pipeline operators must inspect each external protective coating prior to lowering the pipe into the ditch and backfilling. Additionally, any damage detrimental to effective corrosion control must be repaired. PHMSA inspects pipeline construction to ensure compliance with these Federal safety requirements.

The safety and integrity of construction, maintenance, and operation of natural gas pipes and pipelines in general is regulated by the PHMSA. The Forest Service has no legal or regulatory authority to mandate pipe and pipeline safety. That responsibility rests with the PHMSA. See Response PHS-02 regarding concerns related to corrosion and stockpiled pipes prior to installation.

### **Concern Statement PHS-08:**

Commenters contend the Forest Service did not consider PHMSA's June 2022 public notice about earth movement damaging pipelines and the Forest Service must take notice of recent federal PHMSA regulation changes that are scheduled to become effective on May 23, 2023, and were not considered in the 2017 FERC FEIS. PHMSA's response to public comments for this new regulation states that regulatory change is needed because "[i]nadequately reviewed or documented design, construction, maintenance, or operational changes can contribute to pipeline failures."

### **Response PHS-08:**

As indicated by commenters, the safety and integrity of construction and operation of natural gas pipes and pipelines in general is regulated by the U.S. DOT, PHMSA. The Forest Service has no legal or regulatory authority to mandate pipe and pipeline safety. The purpose of the 2022 PHMSA advisory bulletin (87 FR 33576) is to remind owners and operators of gas pipelines of the potential damage to those facilities caused by earth movement.

PHMSA enforces the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the pipeline design, construction, operation, and maintenance. Regulations specific to gas pipelines are in 49 CFR Part 192. These regulations are available at [www.ecfr.gov](http://www.ecfr.gov). Pipeline operators must comply with the applicable regulatory requirements for its pipeline.

### **Concern Statement PHS-09:**

Commenters contend the Forest Service had not addressed multiple pipeline failure incidents.

### **Response PHS-09:**

The 2017 FERC EIS Section 4.12.2 (Pipeline Accident Data) summarizes pipeline accidents and effects. Section 4.12 (Reliability and Safety) discloses the risk of fire or explosion following a major pipeline rupture. The risks are managed by pipeline design and safety regulations mandated by the PHMSA and implemented as part of the Emergency Response Plan.

### **Concern Statement PHS-10:**

Commenters contend the Forest Service has not reviewed or addressed Ryan E. Emanuel et al., *Natural Gas Gathering and Transmission Pipelines and Social Vulnerability in the United States*, 5 GEOHEALTH 6, 1 (May 18, 2021) [Ex. 77].

### **Response PHS-10:**

The document referenced by commenters assesses whether the societal impacts of gathering and transmission falls equitably across society. The Forest Service and BLM decision space is limited to the 3.5 miles proposed to cross NFS lands. The 2017 FERC FEIS, 2020 FSEIS, and this FSEIS address impacts on socioeconomics and environmental justice. No new information or changed circumstances related to these topics and the 3.5 miles of pipeline that would cross the JNF.

### **Concern Statement PHS-11:**

Commenters contend the 2018 blasting of Sinking Creek Mountain violated the JNF Forest Plan.

### **Response PHS-11:**

No blasting has occurred on NFS lands.

### **Concern Statement PHS-12:**

Commenters contend the impact assessment does not adequately address the potential for pipeline leaks or similar failures. Leaks and other incidents are quite common. According to the US DOT PHMSA the 5-year average for yearly pipeline incident counts is 629. The impact assessment states that precautions to avoid leaks will be followed, but data shows that incidents will occur, and the impact assessment does not adequately address the impact of a leak or similar incident on the environment.

### **Response PHS-12:**

The 2017 FERC EIS Section 4.12.2 (Pipeline Accident Data) summarizes pipeline accidents, including leaks, and associated effects. Section 4.12 (Reliability and Safety) discloses the risk of fire or explosion following a major pipeline rupture and potential impacts to various resources.

The safety and integrity of construction, maintenance, and operation of natural gas pipes and pipelines in general is regulated by the PHMSA. The Forest Service has no legal or regulatory authority to mandate pipe and pipeline safety. That responsibility rests with the PHMSA. PHMSA will continue to execute its safety oversight on the pipeline system from construction to operation and maintenance, to ensure compliance with the federal pipeline safety regulations contained Title 49 CFR Parts 190-199. For example:

- Per the 2022 POD (Section 6.4), a third-party inspector, the Compliance Inspection Contractor, selected by, managed by, and reporting solely to FERC is to provide monitoring services (compliance with permit requirements, ensuring environmental impacts do not exceed estimates disclosed in the EISs). The Forest Service will also designate its own Authorized Officer with authority over the Project activities on the Jefferson National Forest.
- Federal pipeline safety regulations include a requirement for pipeline operators to have and follow a patrol program to observe surface conditions on and adjacent to its transmission line right-of-way (ROW) for indications of leaks, construction activity, and other factors affecting safety and operation. Methods of patrolling include walking, driving, flying, or other appropriate methods of traversing the ROW under Title 49 CFR § 192.705 for gas pipelines.
- Establishment of an Emergency Plan with written procedures to conduct leak surveys and minimize hazards from a natural gas pipeline emergency (see the 2022 POD Appendix Q Framework Construction Emergency Preparedness and Response Plan and Appendix R Framework for Operations, Maintenance, and Emergency Response Plan).
- Mountain Valley will provide security staffing during construction of the Project. During operations periodic aerial and ground inspections will occur, including routine patrols, inspections, and scheduled maintenance (2022 POD Table 9-1 and Section 9.4 Safety).

### **Concern Statement PHS-13:**

Commenters contend that this proposal fails to fully detail and address the costs and burdens associated with extending this Pipeline on the environment and public health, but it is obvious and clear that such would significantly increase as an immediate and direct result of this Pipeline.

### **Response PHS-13:**

The 2017 FERC FEIS (Chapter 4), 2020 FSEIS (Chapter 3), and this FSEIS (Chapter 3) addresses effects to the environment and public health. Cumulative effects, including reasonably foreseeable actions, have been considered. The scope of this project is limited to the current proposal.

Section 2.7 (Future Plans and Abandonment) states Mountain Valley has no plans currently to either expand or abandon proposed MVP facilities. However, in the future, if market conditions change, Mountain Valley may seek to expand or modify its facilities. For any future expansion, Mountain Valley must file an amendment to their permit or new application. Typically, the FERC would conduct a separate environmental review under NEPA for a new application and effects of expansion would be further analyzed and available for public comment.

### **Concern Statement PHS-14:**

Commenters contend that MVP gas will not contain any odorant, which typically serves as a critical safety feature for providing people with an early warning of a breach in gas pipelines (MVP FEIS page 848/930). Therefore, immediate rapid evacuation of people who might be hiking, working, or caving near the vicinity of the pipeline will be dangerously delayed.

This unique and dangerous absence of odorant in the transported methane is likely attributable to industry plans for ultimately processing the methane into liquified natural gas which is not compatible with odorant. See page 4 of 415-liquifiednaturalgasawareness.pdf (mass.gov).

### **Response PHS-14:**

The 2017 FERC FEIS (p. 4-566) addresses the lack of odorant introduced into natural gas and states a data acquisition system would be installed to monitor pipeline flows and pressures along the system and “the data acquisition systems would be monitored by gas control technicians who are on duty 24 hours a day, 365 days a year.”

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the design, construction, operation, and maintenance of its pipeline facilities. For instance, pipeline operators must conduct leakage surveys of a transmission line at intervals not exceeding 15 months, but at least once each calendar year. However, in the case of a transmission line which transports gas in conformity with 49 CFR § 192.625 without an odor or odorant, leakage surveys using leak detector equipment must be conducted within the prescribed interval under 49 CFR § 192.706. Also, pipeline operators must patrol the pipeline right-of-way. See response to PHS-11 related to patrolling. In addition, there are Federal pipeline safety regulations that prescribe safety requirements for controllers, control rooms, and supervisory control and data acquisition (SCADA) systems used to remotely monitor and control pipeline operations under 49 CFR § 192.631 for gas pipelines. A controller in a control room would be able to detect and respond to a leak on the pipeline via SCADA.

Commenters reference a document “415-liquifiednaturalgasawareness.pdf”; reviewers were unable to locate a copy of the document.

### **Concern Statement PHS-15:**

Commenters contend that any rupture in a high-pressure methane transmission line (1480 psi for the MVP) results in an unquenchable gas fire that cannot be put out via customary means using water hoses, fire beaters or trenching. The area surrounding the breach (including contiguous forest) will burn until all the methane between the pipeline shut off valves is consumed by the blaze. Shut off valves are 10.4 miles apart along this portion of the route that crosses the JNF. This mileage equates to a huge quantity of flammable methane.

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the design,



construction, operation, and maintenance of its pipeline facilities. PHMSA's regulations require that each operator must establish an emergency response plan to minimize the hazard resulting from a gas pipeline emergency, under 49 CFR § 192.615.

### **Response PHS-15:**

Section 4.12.1 of the 2017 FERC FEIS discusses the potential for forest fires to occur from a pipeline accident during construction and operation of the pipeline. Mountain Valley would implement the measures outline it its Fire Prevention and Suppression Plan (2022 POD Appendix X) to protect the public and property from potential fires during construction and operation of the pipelines.

### **Concern Statement PHS-16:**

Commenters contend that allowing this methane pipeline to tunnel through the forest leaves a permanent toxic tube of radioactivity in our National Forest land. MVP's FEIS downplays the significance of this hazard with the word "radioactivity" found only ONCE in the FEIS p. 798 in a footnote defining Curie measurement units.

Transported methane from fracked gas contains highly radioactive particles: Lead210 and Polonium210 that are present in the gas extracted from deep underground in the Marcellus Shale formation. This intensely radioactive debris accumulates in a layer of sludge deposited on the pipe lining over time - becoming a permanent, highly potent toxin throughout the entire pipeline. Based on the characteristics of radioactive Lead and Polonium, the potency of this toxic sludge increases exponentially over the life of the pipeline. TENORM: Oil and Gas Production Wastes | US EPA

The Mountain Valley Pipeline, if completed and put into operation, will become a 300-mile Superfund site due to permanent radioactive sludge deposited in the pipe lining. Per plans stated in MVP's FEIS, the pipeline could be "abandoned in place" or removed after a lifespan of approximately 50 years (FEIS page 162/930). What MVP's FEIS does not address is the fact that "abandonment" leaves a highly radioactive layer of sludge within the pipe and thereby, within the forest floor. Once the pipeline is abandoned it will lack internal pressure, and the buried pipes will fracture over time due to the weight of covering soil. This disruption will allow leakage of radioactive debris into the forest soil, with eventual contamination of downstream and subterranean waterways that are ubiquitous in the surrounding karst terrain.

### **Response PHS-16:**

Section 4.11.1.4 (Radon Exposure) of the 2017 FERC FEIS discloses impacts of radon, one of many naturally occurring radioactive substances found in gas. Other effects related to soils and karst terrain, groundwater and surface water, are found in sections 4.1 and 4.2.

Section 2.7 (Future Plans and Abandonment) states Mountain Valley has no plans currently to either expand or abandon proposed MVP facilities. At the end of the expected 50-year project lifespan, there may be a need to repair, replace, or abandon facilities. Any of these actions would require permission from the FERC; with abandonment activities requiring an application to the FERC under Section 7(b) of the NGA. Facilities could either be abandoned in place or by removal. Typically, the FERC would conduct a separate environmental review under NEPA for a new application and effects of abandonment would be further analyzed and available for public comment.

### **Concern Statement PHS-17:**

Commenters state that pipe welding can be challenging under good conditions, but it's exceptionally hard in remote, rugged terrain under extreme outdoor conditions. I have not found any quality assurance/quality control documents which detail the steps taken by the MVP to prevent poor joints

which leak. This is exceptionally critical for a complex, remote job with little oversight and in which the welded product is buried and out of sight. The fact that the MVP does not add odor to the odorless methane they are pumping makes this exceedingly dangerous: any leaked methane will be hard to detect and trace. This may save maintenance costs but it is a hazard to the public. Methane is heavier than air. It can collect in pockets and present an explosion hazard. Leaks from the MVP will greatly increase the risk of forest fires.

Typical pipelines are mainly long straight segments where most joints are uncomplicated and repetitive. The MVP follows a heavily meandering path with frequent vertical and lateral changes of direction which require many more complex joints. There are very few straight segments. The MVP is an atypical pipeline. Its design and worksite conditions present difficulty to expert welders.

The DSEIS is incomplete in that it did not require pipeline integrity QA/QC, with records accessible to the public, and it did not require post-construction field surveys with instruments capable of detecting the odorless methane intended to be carried by the MVP. Forest fires due to methane leaks are severe environmental impacts. Fires have resulted from fracked-gas pipelines in Pennsylvania.

### **Response PHS-17:**

Section 2.4.2.4 (Pipe Stringing, Bending, Welding, and Coating) of the 2017 FERC FEIS and Section (5.1 Conventional Bore) of the 2021 FERC Boring EA describes the process used to check pipe and weld coatings prior to installation.

See Response PHS-14 regarding odorant.

Detailed specifications about pipeline integrity are beyond the scope of this FSEIS. The safety and integrity of construction, maintenance, and operation of natural gas pipes and pipelines in general is regulated by the PHMSA. The Forest Service has no legal or regulatory authority to mandate pipe and pipeline safety. That responsibility rests with the PHMSA.

Pipeline operators that transport gas and hazardous liquids or carbon dioxide are required to follow the Federal pipeline safety regulations contained in Title 49 CFR Parts 190-199 for the design, construction, operation, and maintenance of its pipeline facilities. Pipeline operators must comply with applicable requirements related to pipeline construction which include how welding must be performed, limitations on pipe bending, installing pipe in the ditch, and the required depth of burial under 49 CFR Part 192 for gas pipelines. PHMSA inspects pipeline construction to ensure compliance with these requirements. PHMSA's inspectors review operators' construction procedures to verify that they conform to regulatory requirements. PHMSA inspectors also observe construction activities in the field to ensure that they are conducted in accordance with the applicable Federal regulations and procedures.

### **Concern Statement PHS-18:**

Commenters contend that according to studies, natural gas pipelines in the U.S. experience an average of one leak every 40 hours (Udasin 2022).

### **Response PHS-18:**

The referenced article by Sharon Udasin published in The Hill describes a study released by U.S. Public Interest Research Groups (U.S. PIRG) Educational Fund. The study described leaks, related incidents, and effects. As described in the article and in the study (<https://publicinterestnetwork.org/wp-content/uploads/2022/05/USP-EA-FG-Methane-Gas-Leaks->

[Jun22-screen.pdf](#)), the authors concluded “a gas pipeline incident occurs somewhere in the U.S. approximately every 40 hours.”

The 2017 FERC EIS Section 4.12.2 (Pipeline Accident Data) summarizes pipeline accidents, including leaks, and associated effects from 1997 to 2016 and was based on U.S. DOT PHMSA data. The U.S. PIRG study focuses on incidents between 2010 and 2021 and was also based primarily on U.S. DOT PHMSA data. The likelihood of a gas leak has not substantially changed from the conditions evaluated in the FERC FEIS in 2017.

### **Concern Statement PHS-19:**

Commenters contend the stated studies and findings indicate negative public health issues from compressor station discharges.

Hendryx et al. 2020 conducted a county-level ecological study, using VOC emission data from the 2017 National Emissions Inventory, and found that total age-adjusted mortality, controlling for covariates (race/ethnicity, education, poverty, urbanicity, smoking and obesity rates), was significantly higher in association with greater non-methane VOC emissions from compressor stations. Twelve individual VOCs were also associated with significantly higher adjusted mortality. Payne et al. 2016 found high methane readings in areas downwind of compressor stations during periods of air inversion. The study conducted sampling at 9 compressor stations, seven in Pennsylvania, and two in New York. High methane reading would indicate high levels of other pollutants in the gas stream since they are all much heavier than methane and would tend to drop out of the discharge plume closer to the compressor station.

The data indicates that the areas downwind of compressor stations during periods with winds exceeding 3 meters per second will be exposed to methane plumes, and any other co-emitted pollutants released by compressor stations. Residents and properties downwind under prevailing wind conditions will likely be subjected to a disproportionate burden of contaminants from compressor stations, especially those closer to the station under light prevailing wind conditions. Conditions at night and during other low wind periods may result in particularly high methane burdens for residents and properties located downslope from compressor stations, especially during atmospheric temperature inversions.

### **Response PHS-19:**

No compressor stations are proposed on the JNF. The proposed action in the 2017 FERC FEIS includes three new compressor stations, all of which would be in West Virginia. The closest of the three compressor stations is in Fayette County, West Virginia, 29.4 miles north of the JNF, was analyzed in the 2017 FERC FEIS, and is outside the geographic scope of analysis for this FSEIS.

### **Concern Statement PHS-20:**

Commenters contend important public safety records that have been withheld including the following:

- The exact length of time that all pipe has remained exposed to damaging UV and weathering.
- The length of time that pipe has been in the ground with no cathodic protection.
- The location of cathodic protection equipment.
- Inspection reports showing project name, location, date, inspector name, and if the inspection found the site in compliance with, or in violation of the regulations.

- Tests for the above coating properties.
- The results of those tests if they were completed.
- Records of PHMSA meetings or discussions regarding pipe safety issues.
- Records of meetings or communications between PHMSA and FERC concerning landslides.
- The dimensions, volume, depth, and degree of slope of the landslides.
- A description of MVP attempts to stop the landslides and prevent them from sliding again.
- MVP's integrity management plan, which shows actions that MVP will take to maintain the public safety.

### **Response PHS-20:**

The FERC FEIS analyzed direct, indirect, and cumulative impacts of the public health and safety in accordance with the NEPA guidelines and federal safety standards.

On the JNF, pipe was placed on the surface along Brush Mountain and Sinking Creek Mountain portions of the proposed ROW between May 2, 2018 and August 3, 2018. No pipe has been installed (e.g., buried). At present, cathodic protection has not been installed.

Inspection reports along the proposed ROW, including those conducted by 3rd party monitors, Virginia Department of Environmental Quality, and West Virginia Department of Environmental Protection, are accessible to the public and posted to the web. See: <https://www.fs.usda.gov/project/?project=50036>, <https://www.deq.virginia.gov/get-involved/topics-of-interest/mountain-valley-pipeline>, and <https://dep.wv.gov/pio/pages/major-pipelines-in-west-virginia.aspx>.

Response PHS-02 describes the process Mountain Valley is required to follow for restoring the pipe and its coatings prior to putting the pipe in the ground.

The safety and integrity of construction, maintenance, and operation of natural gas pipes and pipelines in general is regulated by the PHMSA. The Forest Service has no legal or regulatory authority to mandate pipe and pipeline safety. That responsibility rests with the PHMSA.

Pipeline safety information can be found on PHMSA's public website [www.phmsa.dot.gov](http://www.phmsa.dot.gov). There you can find general information about a pipeline, a pipeline operator, pipeline location, etc. You may request specific information that is not publicly available through the Freedom of Information Act (FOIA). A FOIA request involves a legal process PHMSA must adhere to when it discloses information. You can find how to make a FOIA request at [How to Make a FOIA Request | PHMSA \(dot.gov\)](#).

PHMSA also has a FOIA Library / Electronic Reading Room which contains records that were frequently requested [FOIA Library/Electronic Reading room | PHMSA \(dot.gov\)](#).

Effects on geology, including landslides, were analyzed extensively in the 2017 FERC FEIS. See response to SOI-03 for more details. See the POD, including Landslide Mitigation Plan (Appendix F), Framework Construction Emergency Preparedness and Response Plan (Appendix Q) and Framework for Operations, Maintenance, and Emergency Response Plan (Appendix R), for MVPs plan to address landslides and public safety.

## **Appendix G – Agency Correspondence**

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Per FSH 1909.15, Sec. 25.1, the Forest Service is required to “include in an appendix of a final EIS copies of all comments received on the draft EIS from Federal, State, and local agencies and elected officials.” This will satisfy the requirement in Section 102 (c) of NEPA, which states, “...comments and views of the appropriate Federal, State and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public...”

The following federal and state agencies; elected officials; and local governments provided comments on the DSEIS:

1. US Environmental Protection Agency – Region 3
2. Virginia Department of Environmental Quality
3. Kevin R. Byrd, New River Valley Regional Commission
4. US Senator Bill Hamilton, West Virginia
5. Chris Head, Virginia House of Delegates – District 17
6. Paul Chappy Baker, Giles County Board of Supervisors
7. John Lawson, Giles County Board of Supervisors
8. Gordon Powell, Person County North Carolina Board of Commissioners
9. Freeda Cathcart, Soil and Water Conservation District Director representing Roanoke City
10. Pittsylvania County, Virginia
11. Craig County, Virginia

## US Environmental Protection Agency – Region 3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
Four Penn Center  
1600 John F. Kennedy Boulevard  
Philadelphia, Pennsylvania 19103-2852

February 15, 2023

Dr. Homer Wilkes, Under Secretary  
Natural Resources and Environment  
U.S. Department of Agriculture  
c/o Jefferson National Forest  
MVP Project  
5162 Valleypointe Parkway  
Roanoke, VA 24019

RE: Mountain Valley Pipeline and Equitrans Expansion Project, Draft Supplemental Environmental Impact Statement, Monroe County, WV and Giles and Montgomery Counties, VA (CEQ # 2020191)

Dear Dr. Wilkes:

The U.S. Environmental Protection Agency (EPA) Region 3 has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). The CAA Section 309 role is unique to EPA. It requires EPA to review and comment publicly on any proposed federal action subject to NEPA's environmental impact statement requirement.

The U.S. Department of Agriculture (USDA) U.S. Forest Service (USFS), with the Bureau of Land Management (BLM) as a cooperating agency, has prepared a Draft Supplemental Environmental Impact Statement (DSEIS) that evaluates the potential environmental impacts associated with the construction and operation of a buried 42-inch natural gas pipeline across 3.5 miles of the Jefferson National Forest (JNF). The DSEIS supplements the Federal Energy Regulatory Commission (FERC) 2017 Final Environmental Impact Statement (2017 FEIS), which evaluates the potential impacts of the entire 303.5-mile Mountain Valley Pipeline and Equitrans Expansion Project (MVP), and the USFS 2020 SEIS, which was developed to respond to a 2018 United States Court of Appeals for the Fourth Circuit ruling that vacated and remanded the Forest Service's decision approving the Forest Plan amendment, based on violations of the National Forest Management Act and NEPA. The USFS 2020 SEIS also responded to the Court's 2018 ruling that vacated and remanded BLM's Mineral Lease Act (MLA) Right-of-Way (ROW) decision for the portion of the pipeline proposed to cross through National Forest System (NFS) lands, based on a violation of the MLA.

EPA was a cooperating agency on the development of the FERC 2017 EIS and provided extensive comments during interagency meetings, on preliminary drafts, technical resource documents and in letters dated December 20, 2016, and July 31, 2017, on FERC's draft and final 2017 EIS. On November 9, 2020 (Draft) and January 7, 2021 (Final), Region 3 provided comments on the USFS 2020 SEIS. Additionally, on September 12, 2021, EPA Region 3 provided comments on the draft FERC MVP Amendment Project Environmental Assessment referred to in the DSEIS as the 2021 FERC Boring EA.

The current DSEIS responds to a Fourth Circuit Court ruling on the 2020 USFS SEIS and Record of Decision (ROD) that asserts the USFS and BLM: 1) inadequately considered the actual sedimentation and erosion impacts of the pipeline; 2) prematurely authorized the use of the conventional

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bore method to construct stream crossings; and 3) failed to comply with the USFS's 2012 Planning Rule.

The scope of analysis for this DSEIS seeks to address the deficiencies identified in the Fourth Circuit's January 2022 decision and new circumstances and relevant information that have materialized since the December 2020 USFS Final SEIS, regarding the environmental concerns and decision framework, and which have a bearing on the proposed action or its effects. Two alternatives were evaluated: a No-action Alternative and the Proposed Action Alternative in which the USFS would amend the Forest Plan as necessary to allow for the MVP to cross the JNF and concur in a decision by the BLM to grant a right-of-way and a temporary use permit under the MLA.

EPA acknowledges the USFS stated reason for limiting the scope of the SEIS, because previous evaluations of the project's expected impacts on resources, including climate and air quality, were provided in the FERC 2017 FEIS and the USFS 2020 SEIS. However, policy changes have occurred since those evaluations were developed and finalized. Most notably, on January 9, 2023, the Council on Environmental Quality (CEQ) published interim guidance to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews.<sup>1</sup> CEQ developed this guidance in response to EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. This interim guidance is effective immediately. CEQ indicated that agencies should use this interim guidance to inform the NEPA review for all new proposed actions and for evaluations in process, as agencies deem appropriate, such as informing the consideration of alternatives or helping address comments raised through the public comment process. EPA recommends the Final SEIS (FSEIS) apply the interim guidance as appropriate, to ensure robust consideration of potential climate impacts, mitigation, and adaptation issues. Please see enclosed additional comments for your consideration in the FSEIS.

Thank you for providing EPA with the opportunity to review the DSEIS. We look forward to reviewing the FSEIS when it becomes available. In the interim, we welcome the opportunity to discuss any of our comments further. If you have any questions, please feel free to contact Joy Gillespie at 215-814-2793 or [gillespie.joy@epa.gov](mailto:gillespie.joy@epa.gov).

Sincerely,

STEPAN  
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Date: 2023.02.15 14:32:49  
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Stepan Nevshehirlan  
Chief, Environmental Assessment Branch  
Office of Communities, Tribes and Environmental  
Assessment

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<sup>1</sup> <https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate>



**Detailed Comments for Draft Supplement Environmental Impact Statement  
Mountain Valley Pipeline and Equitrans Expansion Project**

EPA has the following recommendations for consideration in the development of the FSEIS:

- Section 3.2.1 *Air Quality, Climate, and Noise* states [t]he Forest Service performed an independent agency review of the 2021 FERC Boring EA and determined that its effects analysis is consistent with effects anticipated on NFS lands because the nature and type of stream crossings on NFS lands would be like those analyzed in the 2021 FERC Boring EA for the MVP as a whole. EPA recommends providing a discussion of the USFS independent agency review or provide a citation as to where the analysis can be reviewed.
- EPA finds the 2017 FERC EIS and the 2020 USFS SEIS do not have an analysis or discussion on the climate impact the permanent conversion of 22 acres of forest to grass/shrub and industrial use (e.g., access roads). The loss of the forest's ecosystem service of carbon sequestration, carbon dioxide capture, and its impact on climate change should be evaluated in the FSEIS. EPA suggests comparing the carbon sequestration capability of the intact mature forest that was cleared to the proposed operational land use conditions.
- EPA finds under Section 4 *Consultation and Coordination* a list of federal [state and local] agencies and tribes consulted; however, there are no state or local agencies listed. Please update this list with the appropriate information. If no state or local entities were consulted for the FSEIS, please explain why. Also, EPA recommends, in an effort to ensure meaningful engagement, USFS provide in the FSEIS a description of topics discussed during those consultations and any follow-up coordination efforts with impacted Tribes as well as the outcomes of those discussions, including any adjustments that were made to the proposed action as a result.

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# Virginia Department of Environmental Quality



*Commonwealth of Virginia*  
*VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY*

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Travis A. Voyles  
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus  
Director  
(804) 698-4020

February 2, 2023

Dr. Homer Wilkes, Under Secretary  
U.S. Department of Agriculture/U.S. Forest Service  
c/o Jefferson National Forest, MVP Project  
Submitted online: <https://cara.fs2c.usda.gov/Public/CommentInput?Project=50036>

RE: U.S. Forest Service and Bureau of Land Management, Draft Supplemental Environmental Impact Statement, Mountain Valley Pipeline and Equitrans Expansion Project (DEQ 23-001F).

Dear Dr. Wilkes:

The Commonwealth of Virginia has completed its review of the draft supplemental environmental impact statement (DSEIS) for the portions of the Mountain Valley Pipeline (MVP) within Jefferson National Forest in Virginia. The Virginia Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act and responding to appropriate federal officials on behalf of the Commonwealth. This letter, including attachments, is the Commonwealth of Virginia's response. Comments from reviewers primarily focus on recommending measures to mitigate potential environmental impacts.

As part of the Commonwealth's review, DEQ requested comments from state agencies, localities and the planning district commission. DEQ notified reviewers of the availability of the DSEIS and files suitable for use in Geographic Information System software of the route that were provided by the U.S. Forest Service via its website. The comments that were submitted as part of this review are attached and organized as follows:

- Attachment A: Comments and Recommendations
- Attachment B: Detailed comments from reviewers

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Thank you for the opportunity to comment. If you have questions, please do not hesitate to contact me at [bettina.rayfield@deq.virginia.gov](mailto:bettina.rayfield@deq.virginia.gov) or (804) 659-1915.

Sincerely,



Bettina Rayfield, Manager  
Environmental Impact Review and Long Range  
Priorities Program

Enclosures

ec: Amy Martin, DWR  
Keith Tignor, VDACS  
Allison Tillet, DCR  
Arlene Warren, VDH  
Roger Kirchen, DHR  
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**ATTACHMENT A: COMMENTS AND RECOMMENDATIONS**

The Commonwealth of Virginia encourages the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM) to incorporate the following recommendations into appropriate sections of the final supplemental environmental impact statement.

**1) Wetlands and Streams**

**a) Requirements**

- Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by the Virginia Department of Environmental Quality (DEQ) and/or the U.S. Army Corps of Engineers (Corps). The Corps is the final authority for an official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs).

**b) Recommendations**

- Based upon review of the information provided, the DEQ Office of Wetlands and Stream Protection (OWSP) offers the following general recommendations concerning potential surface water impacts:

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1. Prior to commencing project work, all surface waters on the project site should be delineated by a qualified professional and verified by the Corps for federal jurisdictional waters and by DEQ for state jurisdictional waters.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
3. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural and Historic Resources and/or the Corps.
4. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
5. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the *Virginia Erosion and Sediment Control Handbook*, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the *Virginia Erosion and Sediment Control Handbook*, Third Edition, 1992.
8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.
9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.

10. Activities should be conducted in accordance with any time-of-year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the time-of-year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage. Wet, excess, or waste concrete should be prohibited from entering surface waters.
12. Herbicides used in or around any surface water should be approved for aquatic use by the U.S. Environmental Protection Agency or the U.S. Fish and Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.

**c) Comments**

- DEQ OWSP concurs with the proposed amendments to the Forest Plan, the use of conventional boring to reduce stream impacts, and incorporation of the 2023 Biological Opinion as related to listed species, including the Northern Long-eared Bat.

**2) Erosion and Sediment Controls**

**a) Requirements**

- Comply with the DEQ-approved Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management.
- Implement the DEQ-approved Erosion and Sediment Control Plan and Stormwater Management Plan.

**b) Comments**

- DEQ states that the proposed trenchless crossings are included in the MVP annual standards and specifications.

**3) Air Quality**

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**a) Comments**

- The DEQ Division of Air and Renewable Energy states that the project is located in an attainment area for all National Ambient Air Quality Standards.

**4) Solid and Hazardous Waste Database Search.**

**a) Comments**

- The DEQ Division of Land Protection and Revitalization (DLPR) conducted a search (200-foot radius) of the project area of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project area. The search did not identify any waste sites within the project area which might impact the project.

**5) Natural Heritage Resources**

**a) Comments**

- DCR reiterates its previous comments for the proposed project. In addition, DCR provides the following comments for the December 2022 Mountain Valley Pipeline and Equitrans Expansion Project DSEIS.
- **Peter Mountain Slopes-Laurel Branch Slopes Conservation Site:**

According to the information currently in DCR's files, the Peter Mountain Slopes-Laurel Branch Slopes Conservation Site is documented within the proposed project area. The site has been given a biodiversity significance ranking of B2, which represents a site of very good significance. The natural heritage resources of concern associated with this conservation site are:

*Aneura sharpie*, A liverwort, G1G2/S1/NL/NL  
*Corallorhiza bentleyi*, Bentley's coralroot, G2/S2/LE/NL  
*Myotis lucifugus*, Little Brown Bat, G3/S1S3/LE/NL  
*Myotis leibii*, Eastern Small-footed Myotis, G4/S2/NL/NL

The Eastern small-footed myotis is a bat species known from southern Canada and New England, south through the Appalachians and Ohio Valley (NatureServe, 2009). This species has been recorded in Virginia most frequently in association with cavernous limestone (karst) areas and sandstone ridges in the western portion of the state. It roosts in rock crevices, rock shelters, caves, mines, human habitations, and trees in mountainous



areas with deciduous or evergreen forest. Threats to the Eastern small-footed myotis include alteration or destruction of its roosting or hibernation habitats including rock outcrops, bridges, trees, and caves.

The Little brown bat is a small brown insect eating bat, which uses a wide range of habitats including caves and human-made structures (NatureServe, 2015). Since 2008 there has been a significant decline in population numbers (greater than 90%) for bat species due to white nose syndrome. The Little brown bat is state listed as endangered on April 1, 2016 by the Department of Wildlife Resources (DWR).

- **Karst:** The Western part, on the southeastern slope of Peters Mountain, consists mostly of a long access road on Devonian-Silurian bedrock that contains a very small percentage of limestone. Because of this, it is included in the new DCR statewide karst screen. However, only very locally are any significant karst features developed. In the project area, there are no caves or sinkholes documented in the unit. Downslope (east) of the project area, streams cross onto the significant karst. Some are likely to sink while others may not. No documented significant cave resources are at risk from activities associated with the construction of the MVP on the southeast slope of Peters Mountain.
- **Forest Fragmentation:** According to the 2020 DSEIS, the majority of the tree removal has been conducted for the project “except for tree removal activities associated with future slip repairs, existing slip remediation and variance requests remains”. The previous tree removal associated with the project, fragmented C1 and C2 Ecological Cores as well as other ecological cores as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they



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contain. Impacts to cores occur when their natural cover is partially or completely converted permanently to developed land uses. Habitat conversion to development causes reductions in ecosystem processes, native biodiversity, and habitat quality due to habitat loss; less viable plant and animal populations; increased predation; and increased introduction and establishment of invasive species.

To date, the MVP project has resulted in clearing of trees in all of the cores ranked C1 (outstanding ecological integrity) or C2 (very high ecological integrity) along the limits of disturbance identified for the FEIS. The forest fragmentation impacts and recommended mitigation for these impacts, as well as impacts to other cores and non-core forests, on and outside National Forest lands, were calculated for the FEIS and to inform the December 2017, "Memorandum of Agreement for Comprehensive Mitigation of Virginia Resource Impacts of Mountain Valley Pipeline" to address these impacts.

- **State-listed Plants or Insects:** The current activity will not affect any documented state-listed plants or insects, according to DCR.
- **State Natural Area Preserves:** There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity, according to DCR.

#### b) Recommendations

##### **Bats:**

- Due to the legal status of the Little brown bat, DCR recommends coordination with the DWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (Code of Virginia §§ 29.1-563 – 570). The northern long-eared bat (*Myotis septentrionalis*) was up listed from "Threatened" to "Endangered" on November 29, 2022, under the Endangered Species Act (ESA). Based on a recent extension by the U.S. Fish and Wildlife Service (FWS), the rule will become effective March 31, 2023. On September 13, 2022, the FWS also announced a proposal to list the tricolored bat as endangered under the ESA.
- As stated in the DSEIS, DCR supports formal consultation with the FWS for the northern long-eared bat and the Indiana bat (*Myotis sodalis*, G2/S1/LE/LE) to ensure compliance with protective species legislation.
- The FWS utilizes an online project review process (<https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process>) to facilitate compliance with the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended. The process

enables users to 1) follow step-by-step guidance; 2) access information that will allow them to identify threatened and endangered species, designated critical habitat, and other Federal trust resources that may be affected by their project; and 3) accurately reach determinations regarding the potential effects of their project on these resources as required under the ESA. For questions regarding the online review process, contact Rachel Case at [rachel.case@fws.gov](mailto:rachel.case@fws.gov).

#### **Water Quality and Aquatic Resources:**

- To minimize adverse impacts to the aquatic ecosystem and associated rare species including the Candy darter (*Etheostoma osburni*, G3/S1/LE/NL) and the Hellbender (*Cryptobranchus alleganiensis*, G3/S2/NL/NL) as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management regulations.
- As stated in the DSEIS, DCR supports formal consultation with the FWS for the candy darter and Roanoke logperch (*Percina rex*, G1G2/S1S2/LE/LE) to ensure compliance with protective species legislation.
- Due to the legal status of the James spiny mussel, DCR recommends coordination with FWS and DWR to ensure compliance with the Virginia Endangered Species Act (Code of Virginia §§ 29.1-563 – 570).

#### **Karst Resources:**

- DCR recommends adherence to erosion and sediment control measures as required by the USFS, Federal Energy Regulatory Commission, and DEQ under the DSEIS to protect downstream, karst resources.

#### **Native and Invasive Species:**

- DCR continues to recommend the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way. The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (<http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf>) and methods for treating the invasives.
- DCR recommends that the right-of-way restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if

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invasive species outbreaks occur.

**Update Request:**

- Re-submit project information and a map to DCR for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

**6) Wildlife Resources**

**a) Recommendations**

- The Department of Wildlife Resources (DWR) documents federally listed endangered and state-listed endangered Candy Darters from the project area. Stony Creek, where the pipeline crosses, has been documented a Threatened and Endangered Species Water due to the presence of this species. To ensure protection of Candy Darters and their habitat, DWR recommends that any instream work in Stony Creek or at work sites located within 1 mile upstream of Stony Creek adhere to a time-of-year restriction from March 15 through June 30 of any year.
- DWR documents federally listed endangered and state-listed endangered Indiana Bats from a cave located along this pipeline route. Based on the location and timing of documentations, it is likely that this cave serves as hibernacula (over-wintering habitat) for this species. This project is located within the regulatory buffer around such features. As such, DWR recommends that all tree removal, tree timbering, and/or prescribed burns adhere to a time of year restriction from April 1 - November 14 of any year. DWR also recommends that the applicant coordinate with the FWS for all projects that may affect Indiana Bats.
- Stony Creek, Little Stony Creek, and Mill Creek have been designated wild trout waters known to support brook and/or brown trout. To ensure protection of these species, DWR recommends that any work occurring in these waters or at sites within 1 mile upstream of these waters adhere to a time-of-year restriction from October 1 through March 31 of any year.
- DWR recommends conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time (minimal overlap of construction footprint notwithstanding), stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. DWR recommends that instream work be designed and performed in a manner that minimizes impacts upon natural streamflow and

movement of resident aquatic species. If a dam and pump-around must be used, DWR recommends that it be used for as limited a time as possible and that water returned to the stream be free of sediment and excess turbidity. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, DWR recommends the use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, DWR recommends that such activities occur only in the dry, allowing all concrete to harden prior to contact with open water. Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, DWR prefers stream crossings to be constructed via clear-span bridges. However, if this is not possible, DWR recommends countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms. DWR also recommends the installation of floodplain culverts to carry bankfull discharges.

- To minimize overall impacts to wildlife and natural resources, DWR offers the following comments about development activities: we recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. Avoidance and minimization of impact may include relocating stream channels as opposed to filling or channelizing as well as using, and incorporating into the development plan, a natural stream channel design and forested riparian buffers. DWR recommends maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. DWR recommends maintaining wooded lots to the fullest extent possible. DWR generally does not support proposals to mitigate wetland impacts through the construction of stormwater management ponds or the creation of in-stream stormwater management ponds.
- DWR recommends that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.
- DWR recommends that all tree removal and ground clearing adhere to a time-of-year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

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- DWR recommends adherence to erosion and sediment controls during ground disturbance. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, DWR recommends the use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap.
- DWR recommends coordination with the FWS regarding the up-listing of Northern Long Eared Bats (NLEB) from Threatened to Endangered, which should occur by March 31, 2023. Upon up-listing, almost any project that proposes tree removal in Virginia will need to consider potential impacts upon NLEB and what is necessary to protect them. To ensure the applicant is aware of their responsibilities for the protection of NLEB, DWR offers the below DRAFT guidance, per the FWS and recommend coordination with them. Depending on what tree removal activities are still necessary along this stretch of the MVP, the project could be considered included within one of the three general project types below, categories A-C:

A. Project activities that are excluded under the federal listing because they would not constitute a "take" of the species include, but are not limited to:

- Minimal tree removal and vegetation management activities that occur any time of the year outside of suitable forested/wooded habitat and more than 5 miles from known or potential hibernacula;
- Insignificant amounts of suitable forested/wooded habitat removal provided it occurs during the hibernation period and the modification of habitat does not significantly impair an essential behavior pattern such that it is likely to result in the actual killing or injury of northern long-eared bats after hibernation;
- Tree removal that occurs at any time of year in highly developed urban areas (e.g., street trees, downtown areas);
- Mowing of existing (non-suitable forested/woodland habitat) rights-of-way; and
- Maintenance, repair, and replacement activities conducted completely within existing, maintained utility rights-of-way provided there is no tree removal or tree trimming.

B. Projects previously coordinated and permitted under the FWS current "4(d) Rule:"

- If the project can be completed by March 31, 2023, adherence to the "4(d) rule" is appropriate.

- If the project cannot be completed by March 31, 2023, the project applicant should engage in the interim consultation process, which will be available through Spring 2024.
- C. New projects in Virginia that are in suitable habitat:
- Projects located in Chesapeake, Isle of Wight, Norfolk, Portsmouth, Surry, Sussex, Southampton, Suffolk, and Virginia Beach:
  - Projects proposing <1 acre or less of tree clearing, timbering, or prescribed fire: adhere to a time-of-year restriction from December 15 - February 15 and April 15-30 or perform relevant pre-assessment surveys per Service guidelines; coordinate with DWR and/or FWS. No disturbance of hibernating bats and/or physical modification of the hibernaculum entrance.
  - If the project proposes greater than 1 acre of tree clearing, timbering, or prescribed fire, coordinate with the Service: Virginia Ecological Services Field Office, [virginiafieldoffice@fws.gov](mailto:virginiafieldoffice@fws.gov) or (804) 693-6694. 6669 Short Lane, Gloucester, VA 23061-4410
  - Projects located elsewhere in Virginia:
    - Time-of-year restriction on tree clearing, timbering or prescribed fire in NLEB suitable habitat from April 1 through November 14 or perform pre-assessment surveys per Service guidelines; coordinate the results with DWR and/or the Service.
    - No disturbance of hibernating bats and/or physical modification of the hibernaculum entrance.

**7) Public Water Supplies**

**a) Comments**

The Virginia Department of Health (VDH) Office of Drinking Water (ODW) states that its comments on the previous DSEIS remain valid They are provided below:

The following public groundwater wells are located within a 1-mile radius of the project site:

PWS ID Number	City/County	System Name	Facility Name
1071568	GILES	LHOIST NORTH AMERICA OF VIRGINIA	SPRING
1121751	MONTGOMERY	CAMP TUK-A-WAY	DRILLED WELL



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There are no surface water intakes located within a 5-mile radius of the project site.

The project is within the watershed of the following public surface water sources:

PWS ID Number	System Name	Facility Name
4087125	HENRICO COUNTY WATER SYSTEM	HENRICO RAW WATER INTAKE
4075735	JAMES RIVER CORRECTIONAL CTR	JAMES RIVER INTAKE
5680200	LYNCHBURG, CITY OF	JAMES RIVER-COLLEGE HILL
5680200	LYNCHBURG, CITY OF	JAMES RIVER-ABERT
4760100	RICHMOND, CITY OF	RAW WATER INTAKE
3670800	VIRGINIA-AMERICAN WATER CO	APPOMATTOX RIVER

#### b) Recommendations

- Implement best management practices, including erosion and sedimentation controls and spill prevention controls and countermeasures, on the project site.
- Manage materials while on site and during transport to prevent impacts to nearby surface water.

#### 8) Aviation

##### a) Comment

- The Virginia Department of Aviation states that it does not appear as though any portion of the project within Virginia will occur within 20,000 linear feet of a public use airport.

#### 9) Virginia Outdoors Foundation

##### a) Comments

- The Virginia Outdoors Foundation (VOF) has reviewed the proposed project. As of January 17, 2023, there are no existing or proposed VOF open-space easements immediately adjacent to the referenced portion of MVP in Jefferson National Forest.

**b) Recommendation**

- Contact VOF (Baron Lin at [impactreview@vof.org](mailto:impactreview@vof.org)) for further review of if this project and its location changes or does not begin within 24 months.

**10) Regional Comments**

**a) Comments**

- The New River Valley Regional Commission Board has concern about the overall environmental impact of the proposed project. The board prefers, Option 1, no action, thereby not altering the U.S. Forest Service Standards to accommodate the project.

**b) Recommendations**

Should the reviewing agency recommend Option 2, the board recommends the following:

- Confirm that previous violations, and their underlying impacts, cited by DEQ have been addressed and remedied prior to issuing a permit for any new construction activity.
- Require water quality monitoring upstream and downstream of water body crossings up to two months before and one year after constructing the crossings.
- Provide certified professional engineer construction drawings for all stream crossings prior to construction as opposed to allowing stream crossing design decisions to be made in the field during construction.
- Recommend that DEQ staff be present onsite to oversee stream crossing construction as a proactive approach as opposed to reactive site visits, which necessitate remediation that may have been avoided.
- For wilderness areas such as the Brush Mountain Wilderness Area, confirm whether restrictions for the wilderness area extend beyond the boundaries established for the area, including sound and visual impacts to the wilderness area in close proximity.





*Commonwealth of Virginia*

*VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY*

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Travis A. Voyles  
Acting Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus  
Director  
(804) 698-4020

**ATTACHMENT B: DETAILED COMMENTS FROM REVIEWERS**

Detailed comments submitted by reviewers are included in this attachment.

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Environmental Impact Review: 23-001F

## MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER DIVISION

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**TO:** Julia Wellman, DEQ/EIR Environmental Program Planner

**FROM:** Steve Hardwick  
Office of Wetlands and Stream Protection

**DATE:** January 23, 2023

**SUBJECT:** Environmental Impact Review: 23-001F US Forest Service Draft Supplemental EIS for Mountain Valley Pipeline in Giles and Montgomery Counties, Virginia.

The DEQ's Office of Wetlands and Stream Protection (OWSP) has reviewed the information concerning the above-referenced project. According to the information provided, under the proposed action, the Forest Service would amend the Forest Plan as necessary to allow for the MVP to cross the JNF and concur in a decision by the BLM to grant a ROW and a TUP under the MLA. Changes to the Proposed Action since publication of the 2020 FSEIS include using a conventional bore method for crossing the four streams on NFS lands (the potential use of dry-ditch open trench methods is no longer under consideration). The ROW grant and TUP would incorporate relevant portions of the expected 2023 FWS BO (for example, portions related to species [e.g., listed bats] which have the potential to be affected by activities on NFS lands).

DEQ concurs with the proposed amendments to the Forest Plan, the use of conventional boring to reduce stream impacts, and incorporation of the 2023 Biological Opinion as related to listed species, including the NLEB.

**Water Quality and Wetlands.** Measures must be taken to avoid and minimize impacts to surface waters and wetlands during construction activities. The disturbance of surface waters or wetlands may require prior approval by DEQ and/or the U.S. Army Corps of Engineers. The Army Corps of Engineers is the final authority for an official confirmation of whether there are federal jurisdictional wetlands or other surface waters that may be impacted by the proposed project. DEQ may confirm additional waters as jurisdictional beyond those under federal authority. Review of National Wetland Inventory maps or topographic maps for locating wetlands or streams may not be sufficient; there may need to be a site-specific review of the site by a qualified professional. Even if there will be no intentional placement of fill material in jurisdictional waters, potential water quality impacts resulting from construction site surface runoff must be minimized. This can be achieved by using Best Management Practices (BMPs).

**Erosion and Sediment Control and Storm Water Management.** DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at <http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx>. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Denuded areas should be promptly revegetated following construction work.

Environmental Impact Review: 23-001F

### Recommendations

Based upon review of the information provided, DEQ's OWSP offers the following general recommendations concerning potential surface water impacts:

1. Prior to commencing project work, all surface waters on the project site should be delineated by a qualified professional and verified by the U.S. Army Corps of Engineers (the Corps) for federal jurisdictional waters and by DEQ for state jurisdictional waters.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
3. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural Resources and/or the Corps.
4. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
5. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.
8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.
9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.
10. Activities should be conducted in accordance with any Time-of-Year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage. Wet, excess, or waste concrete should be prohibited from entering surface waters.

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Environmental Impact Review: 23-001F

12. Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the U.S. Fish & Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.

Office of SWM Comment

Comply with the Virginia Department of Environmental Quality approved Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management. Implement the Virginia Department of Environmental Quality approved Erosion and Sediment Control Plan and Stormwater Management Plan.

L.G.



Wellman, Julia &lt;julia.wellman@deq.virginia.gov&gt;

**Re: Review Request: US Forest Service Draft Supplemental EIS for Mountain Valley Pipeline**

1 message

**Stafford, Matthew** <matthew.stafford@deq.virginia.gov>

Mon, Jan 23, 2023 at 10:15 AM

To: Julia Wellman &lt;julia.wellman@deq.virginia.gov&gt;

Cc: "Morris, Scott" &lt;anthony.morris@deq.virginia.gov&gt;, "Davis, Dave" &lt;dave.davis@deq.virginia.gov&gt;, Rebeccah Rochet &lt;rebeccah.rochet@deq.virginia.gov&gt;

Julia,

OWC reviewed the DSEIS and has no additional comment. The proposed trenchless crossings are currently included in MVPs standards and specifications.

Thank you.  
Matt

Matthew W. Stafford  
Manager - Office of Water Compliance  
Department of Environmental Quality  
1111 East Main Street  
Richmond, Virginia 23219  
804-298-4956

On Tue, Jan 3, 2023 at 3:39 PM Morris, Scott &lt;anthony.morris@deq.virginia.gov&gt; wrote:

Please see below.

----- Forwarded message -----

From: **Wellman, Julia** <julia.wellman@deq.virginia.gov>

Date: Tue, Jan 3, 2023 at 2:42 PM

Subject: Review Request: US Forest Service Draft Supplemental EIS for Mountain Valley Pipeline

To: Scott Morris &lt;anthony.morris@deq.virginia.gov&gt;, Kathryn Perszyk &lt;kathryn.perszyk@deq.virginia.gov&gt;, Michael Dowd &lt;michael.dowd@deq.virginia.gov&gt;

Cc: Melanie Davenport &lt;melanie.davenport@deq.virginia.gov&gt;, Baxter Sharon dku34917 &lt;sharon.baxter@deq.virginia.gov&gt;, Bettina Rayfield &lt;bettina.rayfield@deq.virginia.gov&gt;, Golden James bia20947 &lt;james.golden@deq.virginia.gov&gt;, Robert Weld &lt;robert.weld@deq.virginia.gov&gt;

The U.S. Forest Service has issued another draft supplemental environmental impact statement (DSEIS) for approximately 3.5 miles of the Mountain Valley Pipeline (MVP) project that crosses Jefferson National Forest in Giles and Montgomery counties.

As we did for previous reviews, this coordination is being sent directly to division directors for coordination within your programs. Please ask your staff to review the DSEIS as appropriate.

**Document for review:** The DSEIS is available at T:\EIR\USDA USFS MVP DSEIS.

**Comments due to the DEQ Office of Environmental Impact Review: January 23, 2023**

**DEQ Project Number:** 23-001F

**How to Submit Comments:** Please save comments in T:\EIR\USDA USFS MVP DSEIS\comments and email me when they are final.

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR AND RENEWABLE ENERGY DIVISION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: Julia Wellman, OEIR

We thank OEIR for providing DEQ-AIR an opportunity to review the following project:  
Accordingly, I am providing following comments for consideration.

Document Type: DEIS  
Project Sponsor: US Forest Service  
Project Title: Mountain Valley Pipeline Crossing of Jefferson National Forest  
Location: Giles and Montgomery Counties  
Project Number: DEQ #23-001F

PROJECT LOCATION: Attainment Area for all National Ambient Air Quality Standards

REGULATORY REQUIREMENTS MAY BE APPLICABLE TO:  CONSTRUCTION  
 OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1.  9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2.  9 VAC 5-45-760 et seq. – Asphalt Paving operations
3.  9 VAC 5-130 et seq. – Open Burning
4.  9 VAC 5-50-60 et seq. Fugitive Dust Emissions
5.  9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to \_\_\_\_\_
6.  9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7.  9 VAC 5-50-400 Subpart\_\_\_\_\_, Standards of Performance for New Stationary Sources, designates standards of performance for the \_\_\_\_\_
8.  9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9.  9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the \_\_\_\_\_
10.  9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11.  9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to \_\_\_\_\_

COMMENTS SPECIFIC TO THE PROJECT:  
No additional comments.

Thomas R. Ballou, Manager  
Office of Air Data Analysis and Planning

DATE: 1/23/2023





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MEMORANDUM

TO: Julia Wellman, DEQ/EIR Environmental Program Planner

FROM: Carlos A. Martinez, Division of Land Protection & Revitalization Review Coordinator

DATE: January 19, 2023

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Review: 23-001F US Forest Service Draft Supplemental EIS for Mountain Valley Pipeline in Giles and Montgomery Counties, Virginia.

The Division of Land Protection & Revitalization (DLPR) has completed its review of the US Forest Service Draft Supplemental EIS for Mountain Valley Pipeline in Giles and Montgomery Counties, Virginia.

DLPR staff conducted a search (200 ft. radius) of the project area of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project area. DLPR search did not identify any waste sites within the project area which might impact the project.

DLPR staff has reviewed the submittal and offers the following comments:

**Hazardous Waste/RCRA Facilities – none in close proximity to the project area**

**CERCLA Sites – none in close proximity to the project area**

**Formerly Used Defense Sites (FUDS) – none in close proximity to the project area.**

**Solid Waste – none in close proximity to the project area**

**Virginia Remediation Program (VRP) – none in close proximity to the project area**

**Petroleum Releases – none in close proximity to the project area**



**PROJECT SPECIFIC COMMENTS**

None

**GENERAL COMMENTS**

**Soil, Sediment, Groundwater, and Waste Management**

Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

**Asbestos and/or Lead-based Paint**

All structures being demolished/renovated/removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to the DEQ's Blue Ridge Regional Office at (540) 562-6700.

**Pollution Prevention – Reuse - Recycling**

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Carlos A. Martinez by phone at (804) 350-9962 or email [Carlos.Martinez@DEQ.Virginia.Gov](mailto:Carlos.Martinez@DEQ.Virginia.Gov).



Commonwealth of Virginia  
Department of Conservation and  
Recreation  
MEMORANDUM

To: Allison Tillett, DCR-DPRR  
Julia Wellman, DEQ-EIR

From: Rene' Hypes, DCR-DNH

Date: January 30, 2023

Subject: DEQ 23-001F, Mountain Valley Pipeline and Equitrans Expansion  
Due January 30, 2023

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area identified by the shapefile provided for the project. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

DCR reiterates its previous comments for the proposed project. In addition, DCR provides the following comments for the December 2022 Mountain Valley Pipeline and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement (DSEIS) for the Jefferson National Forest.

According to the information currently in our files, the Peter Mountain Slopes-Laurel Branch Slopes Conservation Site is documented within the proposed project area. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. The Peter Mountain Slopes-Laurel Branch Slopes has been given a biodiversity significance ranking of B2, which represents a site of very good significance. The natural heritage resources of concern associated with this conservation site are:

<i>Aneura sharpii</i>	A liverwort	G1G2/S1/NL/NL
<i>Corallorhiza bentleyi</i>	Bentley's coralroot	G2/S2/LE/NL
<i>Myotis lucifugus</i>	Little Brown Bat	G3/S1S3/LE/NL
<i>Myotis leibii</i>	Eastern Small-footed Myotis	G4/S2/NL/NL

The Eastern small-footed myotis is a bat species known from southern Canada and New England, south through the Appalachians and Ohio Valley (NatureServe, 2009). This species has been recorded in Virginia most frequently in association with cavernous limestone (karst) areas and sandstone ridges in the

western portion of the state. It roosts in rock crevices, rock shelters, caves, mines, human habitations, and trees in mountainous areas with deciduous or evergreen forest.

Threats to the Eastern small-footed myotis include alteration or destruction of its roosting or hibernation habitats including rock outcrops, bridges, trees, and caves. DCR recommends avoiding impacts to those types of roost habitats during the summer or winter months.

The Little brown bat is a small brown insect eating bat, which uses a wide range of habitats including caves and human-made structures (NatureServe, 2015). Since 2008 there has been a significant decline in population numbers (greater than 90%) for bat species due to white nose syndrome. The Little brown bat is state listed as “endangered” on April 1, 2016 by the Virginia Department of Wildlife Resources.

Due to the legal status of the Little brown bat, DCR recommends coordination with the VDWR, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). As stated in the DEIS on page 12, the northern long-eared bat (*Myotis septentrionalis*) was uplisted from “Threatened” to “Endangered” on November 29, 2022, under the Endangered Species Act (ESA). Based on a recent extension by the United States Fish and Wildlife Service (USFWS), the rule will become effective March 31, 2023. Please note, on September 13, 2022, the USFWS also announced a proposal to list the tricolored bat as endangered under the ESA.

To minimize adverse impacts to the aquatic ecosystem and associated rare species including the Candy darter (*Etheostoma osburni*, G3/S1/LE/NL) and the Hellbender (*Cryptobranchus alleganiensis*, G3/S2/NL/NL) as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management regulations. As stated in the DEIS, DCR supports formal consultation with the USFWS for the northern long-eared bat, the Indiana bat (*Myotis sodalis*, G2/S1/LE/LE), the candy darter and the Roanoke logperch (*Percina rex*, G1G2/S1S2/LE/LE) to ensure compliance with protective species legislation.

The Western part, on the southeastern slope of Peters Mountain, consists mostly of a long access road on Devonian-Silurian bedrock that contains a very small percentage of limestone. Because of this, it is included in our new statewide karst screen. However, only very locally are any significant karst features developed. In the project area, there are no caves or sinkholes documented in the unit. Downslope (east) of the project area, streams cross onto the significant karst. Some are likely to sink while others may not. DCR recommends adherence to erosion and sediment control measures as required by the US Forest Service, FERC, and DEQ under the DSEIS protective of the downstream, karst resources. No documented significant cave resources are at risk from activities associated with the construction of the Mountain Valley Pipeline on the southeast slope of Peters Mountain.

The 2022 DSEIS stated on page 29 “Since publication of the 2020 FSEIS, the Forest Service silviculturist has identified tree of heaven (*Ailanthus altissima*) and princess tree (*Paulownia tomentosa*) growing within the ROW on Peters Mountain. These non-native species and those disclosed in the 2020 FSEIS have previously and would continue to be removed as described in the POD Appendix S, Exotic and Invasive Species Control Plan.” Therefore, DCR continues to support/recommend the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way (ROW). The invasive species plan should include an invasive species inventory for the project area based on the current DCR Invasive Species List (<http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf>) and methods for treating the invasives. DCR also recommends the ROW restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.

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According to the 2020 DSEIS, the majority of the tree removal has been conducted for the project “except for tree removal activities associated with future slip repairs, existing slip remediation and variance requests remains”. The previous tree removal associated with the project, fragmented C1 and C2 Ecological Cores as well as other ecological cores as identified in the Virginia Natural Landscape Assessment (<https://www.dcr.virginia.gov/natural-heritage/vaconvisvnl>), one of a suite of tools in Virginia ConservationVision that identify and prioritize lands for conservation and protection.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they contain.

Impacts to cores occur when their natural cover is partially or completely converted permanently to developed land uses. Habitat conversion to development causes reductions in ecosystem processes, native biodiversity, and habitat quality due to habitat loss; less viable plant and animal populations; increased predation; and increased introduction and establishment of invasive species.

To date, the MVP project has resulted in clearing of trees in all of the cores ranked C1 (outstanding ecological integrity) or C2 (very high ecological integrity) along the limits of disturbance identified for the final EIS. The forest fragmentation impacts and recommended mitigation for these impacts, as well as impacts to other cores and non-core forests, on and outside National Forest lands, were calculated for the final EIS and to inform the December 2017, "Memorandum of Agreement for Comprehensive Mitigation of Virginia Resource Impacts of Mountain Valley Pipeline" to address these impacts.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR’s jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The USFWS utilizes an online project review process (<https://www.fws.gov/office/virginia-ecological-services/virginia-field-office-online-review-process>) to facilitate compliance with the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended. The process enables users to 1) follow step-by-step guidance; 2) access information that will allow them to identify threatened and endangered species, designated critical habitat, and other Federal trust resources that may be affected by their project; and 3) accurately reach determinations regarding the potential effects of their project on these resources as required under the ESA. If you have questions regarding the online review process, please contact Rachel Case at [rachel\\_case@fws.gov](mailto:rachel_case@fws.gov).

The VDWR maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Amy Martin at (804-367-2211)



or [amy.martin@dwr.virginia.gov](mailto:amy.martin@dwr.virginia.gov). According to the information in our files, Craig Creek has been designated as a “T & E Water” by VDWR for the James spinymussel. Due to the legal status of the James spinymussel, DCR recommends coordination with (USFWS) and Virginia's regulatory authority for the management and protection of this species, the VDWR, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Thank you for the opportunity to comment on this project.

Cc: Wil Orndorff, DCR-Karst  
Amy Martin, VDWR

#### Literature Cited

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: April 27, 2010).

NatureServe, 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org> (Accessed: April 21, 2016).



Wellman, Julia &lt;julia.wellman@deq.virginia.gov&gt;

**ESSLog# 35246\_MVP\_SDEIS FS Lands\_DWR\_AEM20230126**

1 message

**Martin, Amy (DWR)** <Amy.Martin@dwr.virginia.gov>

Thu, Jan 26, 2023 at 2:02 PM

To: "Wellman, Julia (DEQ)" &lt;Julia.Wellman@deq.virginia.gov&gt;

Cc: "Brann, Lee (DWR)" &lt;Lee.Brann@dwr.virginia.gov&gt;, "Doucette, Tamara (DWR)" &lt;Tamara.Doucette@dwr.virginia.gov&gt;

Julia,

We have reviewed the SDEIS for the 3.5 mile section of the MVP that falls on Forest Service Lands. As per previous correspondence, we document the following species and resources from along that segment of line and recommend the SDEIS be updated to include our comments about their protection:

We document federal endangered state endangered Candy Darters from the project area. Stony Creek, where the pipeline crosses, has been documented a Threatened and Endangered Species Water due to the presence of this species. To ensure protection of Candy Darters and their habitat, we recommend that any instream work in Stony Creek or at work sites located within 1 mile upstream of Stony Creek adhere to a time of year restriction from March 15 through June 30 of any year.

We also document federal endangered state endangered Indiana Bats from a cave located along this pipeline route. Based on the location and timing of documentations, it is likely that this cave serves as hibernacula (over-wintering habitat) for this species. This project is located within the regulatory buffer around such features. As such, we recommend that all tree removal, tree timbering, and/or prescribed burns adhere to a time of year restriction from April 1 - November 14 of any year. We also recommend that the applicant coordinate with the USFWS for all projects that may affect Indiana Bats.

Stony Creek, Little Stony Creek, and Mill Creek have been designated wild trout waters known to support brook and/or brown trout. To ensure protection of these species, we recommend that any work occurring in these waters or at sites within 1 mile upstream of these waters adhere to a time of year restriction from October 1 through March 31 of any year.

We recommend coordination with the USFWS regarding the up-listing of Northern Long Eared Bats from Threatened to Endangered, which should occur by March 31, 2023. Upon up-listing, almost any project that proposes tree removal in Virginia will need to consider potential impacts upon NLEB and what is necessary to protect them. Likely, recommendations for its protection would include, but not be limited to:

A. Project activities that are excluded under the federal listing because they would not constitute a "take" of the species include, but are not limited to:

- \* Minimal tree removal and vegetation management activities that occur any time of the year outside of suitable forested/wooded habitat and more than 5 miles from known or potential hibernacula;
- \* Insignificant amounts of suitable forested/wooded habitat removal provided it occurs during the hibernation period and the modification of habitat does not significantly impair an essential behavior pattern such that it is likely to result in the actual killing or injury of northern long-eared bats after hibernation;
- \* Tree removal that occurs at any time of year in highly developed urban areas (e.g., street trees, downtown areas);
- \* Mowing of existing (non-suitable forested/woodland habitat) rights-of-way; and
- \* Maintenance, repair, and replacement activities conducted completely within existing, maintained utility rights-of-way provided there is no tree removal or tree trimming.

B. Projects previously coordinated and permitted under the Service's current "4(d) Rule:"

- \* If the project can be completed by March 31, 2023, adherence to the "4(d) rule" is appropriate.
- \* If the project cannot be completed by March 31, 2023, the project applicant should engage in the interim consultation process, which will be available through Spring 2024.

C. New projects in Virginia that are in suitable habitat:

- \* Projects located in Chesapeake, Isle of Wight, Norfolk, Portsmouth, Surry, Sussex, Southampton, Suffolk, and Virginia Beach:
  - o Projects proposing <1 acre or less of tree clearing, timbering, or prescribed fire: adhere to a time of year restriction from December 15 - February 15 and April 15-30 or perform relevant pre-assessment surveys per Service guidelines; coordinate with the VA Dept. of Wildlife Resources (DWR) and/or the Service.
  - o No disturbance of hibernating bats and/or physical modification of the hibernaculum entrance.
  - o If your project proposes greater than 1 acre of tree clearing, timbering, or prescribed fire, coordinate with the Service: Virginia Ecological Services Field Office, [virginiafieldoffice@fws.gov](mailto:virginiafieldoffice@fws.gov), <mailto:virginiafieldoffice@fws.gov> (804) 693-6694.

<https://mail.google.com/mail/u/0/?ik=20360974b0&view=pt&search=all&permthid=thread-f%3A1756112929044401670%7Cmsg-f%3A1756112929044...> 1/3

1/26/23, 2:26 PM

Commonwealth of Virginia Mail - ESSLog# 35246\_MVP\_SDEIS FS Lands\_DWR\_AEM20230126

6669 Short Lane, Gloucester, VA 23061-4410

\* Projects located elsewhere in Virginia:

- o Time of year restriction on tree clearing, timbering or prescribed fire in NLEB suitable habitat from April 1 through November 14 or perform pre-assessment surveys per Service guidelines; coordinate the results with DWR and/or the Service.
- o No disturbance of hibernating bats and/or physical modification of the hibernaculum entrance.

We recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time (minimal overlap of construction footprint notwithstanding), stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. We recommend that instream work be designed and performed in a manner that minimizes impacts upon natural streamflow and movement of resident aquatic species. If a dam and pump-around must be used, we recommend it be used for as limited a time as possible and that water returned to the stream be free of sediment and excess turbidity. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, we recommend that such activities occur only in the dry, allowing all concrete to harden prior to contact with open water. Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, we prefer stream crossings to be constructed via clear-span bridges. However, if this is not possible, we recommend countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms. We also recommend the installation of floodplain culverts to carry bankfull discharges.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: we recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. Avoidance and minimization of impact may include relocating stream channels as opposed to filling or channelizing as well as using, and incorporating into the development plan, a natural stream channel design and forested riparian buffers. We recommend maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining wooded lots to the fullest extent possible. We generally do not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor do we support the creation of in-stream stormwater management ponds.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend that all tree removal and ground clearing adhere to a time of year restriction (TOYR) protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

We recommend adherence to erosion and sediment controls during ground disturbance. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap.

Thanks, Amy

[cid:image001.jpg@01D9317B.302A3070]

Amy Martin

(she/her/hers)

Manager, Wildlife Information and Environmental Services

P 804.481.5296

Virginia Department of Wildlife Resources

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Wellman, Julia &lt;julia.wellman@deq.virginia.gov&gt;

## RE: NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #23-001F

1 message

**Warren, Arlene (VDH)** <Arlene.Warren@vdh.virginia.gov>  
To: "Wellman, Julia (DEQ)" <Julia.Wellman@deq.virginia.gov>

Tue, Jan 24, 2023 at 12:58 PM

VDH – Office of Drinking Water has reviewed the above project. ODW's previous comments as provided in response to DEQ #20-136F remains valid (see attached). ODW has no additional comments to submit at this time.

The Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any questions, please let me know.

Best Regards,

Arlene F. Warren  
GIS Program Support Technician  
Mobile 804-389-2167 (office/cell/text)  
Email [arlene.warren@vdh.virginia.gov](mailto:arlene.warren@vdh.virginia.gov)  
VDH, Office of Drinking Water  
109 Governor Street, 6th Floor  
Richmond, VA 23219

From: Wellman, Julia <julia.wellman@deq.virginia.gov>

Sent: Tuesday, January 24, 2023 9:05 AM

To: ProjectReview (DWR) <ProjectReview@dwr.virginia.gov>; Tignor, Keith (VDACS) <Keith.Tignor@vdacs.virginia.gov>; rr DCR-PRR Environmental Review <envreview@dcr.virginia.gov>; Kirchen, Roger (DHR) <Roger.Kirchen@dh.virginia.gov>; Spears, David (Energy) <David.Spears@energy.virginia.gov>; Didier, Karl (Virginia) <Karl.Didier@dof.virginia.gov>; MRC - Scoping (MRC) <Scoping@mrc.virginia.gov>; rr EIR Coordination <eir.coordination@vdot.virginia.gov>; Kevin.Byrd <kbyrd@nrvc.org>; McKlarney, Chris <cmcklarney@gilescounty.org>; Edmonds, L. Carol <edmondslc@montgomerycountyva.gov>; odwreview (VDH) <odwreview@vdh.virginia.gov>

Subject: Re: NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #23-001F

Good morning,

Please note that comments were due on this project yesterday. If you would like for your comments to be included in our response, please respond by COB today.

Thank you, Julia

On Tue, Jan 3, 2023 at 4:49 PM Wellman, Julia <julia.wellman@deq.virginia.gov<mailto:julia.wellman@deq.virginia.gov>> wrote:

Good afternoon - this is a new OEIR review request/project:

Document Type: Supplemental Draft Environmental Impact Statement  
Project Sponsor: U.S. Department of Agriculture/U.S. Forest Service  
Project Title: Mountain Valley Pipeline & Equitrans Expansion Project  
Location: Giles and Montgomery Counties  
Project Number: DEQ #23-001F

The document for review is attached. Additional information is available online at <https://www.fs.usda.gov/project/?project=50036>. The files in the folder titled "supporting" include the following:

- \* the proposed MVP project corridor (2022\_05\_22\_MVP AFC.kmz)



10/7/2020

Commonwealth of Virginia Mail - NEW PROJECT USDA/USFS Mountain Valley Pipeline &amp; Equitrans Expansion, DEQ #20-136F



Warren, Arlene &lt;arlene.warren@vdh.virginia.gov&gt;

## NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #20-136F

Warren, Arlene <arlene.warren@vdh.virginia.gov>  
 To: Julia Wellman <julia.wellman@deq.virginia.gov>  
 Cc: rr Environmental Impact Review <eir@deq.virginia.gov>

Wed, Oct 7, 2020 at 12:30 PM

**Project Name: Mountain Valley Pipeline & Equitrans Expansion Project**

**Project #: 20-136 F**

**UPC #: N/A**

**Location: Giles & Montgomery Cos.**

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility**.

The following public groundwater wells are located within a 1 mile radius of the project site:

PWS ID Number	City/County	System Name	Facility Name
1071568	GILES	LHOIST NORTH AMERICA OF VIRGINIA	SPRING
1121751	MONTGOMERY	CAMP TUK-A-WAY	DRILLED WELL

There are no surface water intakes located within a 5-mile radius of the project site.

The project is within the watershed of the following public surface water sources:

PWS ID Number	System Name	Facility Name
4087125	HENRICO COUNTY WATER SYSTEM	HENRICO RAW WATER INTAKE
4075735	JAMES RIVER CORRECTIONAL CTR	JAMES RIVER INTAKE
5680200	LYNCHBURG, CITY OF	JAMES RIVER-COLLEGE HILL
5680200	LYNCHBURG, CITY OF	JAMES RIVER-ABERT
4760100	RICHMOND, CITY OF	RAW WATER INTAKE
3670800	VIRGINIA-AMERICAN WATER CO	APPOMATTOX RIVER

Best Management Practices should be employed, including Erosion & Sedimentation Controls and Spill Prevention Controls & Countermeasures on the project site.

Materials should be managed while on site and during transport to prevent impacts to nearby surface water.

*The Virginia Department of Health – Office of Drinking Water appreciates the opportunity to provide comments. If you have any questions, please let me know.*

Best Regards,

Arlene Fields Warren

**GIS Program Support Technician**

**Office of Drinking Water**

<https://mail.google.com/mail/u/0?ik=f31ca7e946&view=pt&search=all&permmsgid=msg-a%3Ar-6271651425917745766&siml=msg-a%3Ar-62716514...> 1/2

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10/7/2020

Commonwealth of Virginia Mail - NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #20-136F

**Virginia Department of Health**

109 Governor Street

Richmond, VA 23219

(804) 864-7781

On Tue, Sep 29, 2020 at 3:15 PM Fulcher, Valerie <[valerie.fulcher@deq.virginia.gov](mailto:valerie.fulcher@deq.virginia.gov)> wrote:  
[Quoted text hidden]

<https://mail.google.com/mail/u/0?ik=f31ca7e946&view=pt&search=all&permmsgid=msg-a%3Ar-6271651425917745766&simpl=msg-a%3Ar-62716514...> 2/2

1/20/23, 10:49 AM

Commonwealth of Virginia Mail - DEQ Project # 23-001F, Mountain Valley Pipeline, Jefferson NF



Wellman, Julia <julia.wellman@deq.virginia.gov>

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**DEQ Project # 23-001F, Mountain Valley Pipeline, Jefferson NF**

1 message

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**Denny, S. Scott (DOAV)** <Scott.Denny@doav.virginia.gov>  
To: "Wellman, Julia (DEQ)" <Julia.Wellman@deq.virginia.gov>

Fri, Jan 20, 2023 at 9:32 AM

Dear Ms. Wellman:

Thank you for providing the Department of Aviation an opportunity to comment on the DEQ project # 23-001F

The Virginia Department of Aviation has reviewed the information package provided in the link to the above referenced project. Following our review, it appears that no portion of the proposed project is within 20,000 linear feet of a public use airport. Therefore, the Department has no objection to the proposed project as it has been presented.

Please feel free to contact me at (804) 236-3638 if you have any questions regarding this project.

Sincerely,

S. Scott Denny  
Senior Aviation Planner  
Virginia Department of Aviation

<https://mail.google.com/mail/u/0/?ik=20360974b0&view=pt&search=all&permthid=thread-f%3A1755552308839304120%7Cmsg-f%3A1755552308839...> 1/1

1/18/23, 12:14 PM

Commonwealth of Virginia Mail - RE: NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #23-...



Wellman, Julia <julia.wellman@deq.virginia.gov>

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**RE: NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #23-001F**

1 message

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**ImpactReview** <impactreview@vof.org>  
To: "Wellman, Julia" <julia.wellman@deq.virginia.gov>

Tue, Jan 17, 2023 at 4:23 PM

Hi Julia,

The Virginia Outdoors Foundation has reviewed the project referenced below. As of January 17, 2023, there are not any existing nor proposed VOF open-space easements immediately adjacent to the referenced portion of MVP in Jefferson National Forest.

Please contact VOF again for further review if this specific project (DEQ #23-001F) and its area changes or if this project does not begin within 24 months. Thank you for considering conservation easements.

Best,

Baron

**Baron Lin** (*he/they*)

GIS Specialist

[Virginia Outdoors Foundation](#)

cell: 540-935-3163

other work #: 844-863-9800, ext. 355

email: [blin@vof.org](mailto:blin@vof.org)

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**From:** Wellman, Julia <julia.wellman@deq.virginia.gov>

**Sent:** Tuesday, January 3, 2023 4:49 PM

**To:** ProjectReview@dgif.virginia.gov; Keith Tignor <keith.tignor@vdacs.virginia.gov>; rr DCR-PRR Environmental Review <envreview@dcr.virginia.gov>; Odwreview-VDH@cov.virginia.gov; Roger Kirchen <Roger.Kirchen@dhr.virginia.gov>; David Spears <David.Spears@energy.virginia.gov>; Karl Didier <karl.didier@dof.virginia.gov>; MRC - Scoping, rr <scoping@mrc.virginia.gov>; rr EIR Coordination <eir.coordination@vdot.virginia.gov>; Kevin Byrd <kbyrd@nrvrc.org>; cmcklarney@gilescounty.org; edmondslc@montgomerycountyva.gov; Russell Harrington <Rusty.Harrington@doav.virginia.gov>; ImpactReview <impactreview@vof.org>

**Subject:** NEW PROJECT USDA/USFS Mountain Valley Pipeline & Equitrans Expansion, DEQ #23-001F

Alert: This email originated from outside VOF

**Good afternoon - this is a new OEIR review request/project:**

<https://mail.google.com/mail/u/0/?ik=20360974b0&view=pt&search=all&permthid=thread-a%3Ar3386699810379293470%7Cmsg-f%3A175530637402...> 1/3

## Kevin R. Byrd, New River Valley Regional Commission



January 24, 2023

### MEMORANDUM

TO: Julia Wellman, Environmental Impact Review Coordinator

FROM: Kevin R. Byrd, Executive Director

SUBJECT: Regional Clearinghouse Review of:

RE: **Mountain Valley Pipeline & Equitrans Expansion Project DEQ #23-001F**

The New River Valley Regional Commission board has concern about the overall environmental impact of the proposed project. The board prefers Option 1, no action, thereby not altering the US Forest Service Standards to accommodate the project. Should the reviewing agency recommend Option 2, comments from the Regional Commission board are below.

- 1) Confirm previous violations, and their underlying impacts, cited by the Virginia Department of Environmental Quality have been addressed and remedied prior to issuing a permit for any new construction activity.
- 2) Require water quality monitoring upstream and downstream of water body crossings up to two months before and one year after constructing the crossings.
- 3) Provide certified Professional Engineer (PE) construction drawings for all stream crossings prior to construction opposed to allowing stream crossing design decisions to be made in the field during construction.
- 4) Recommend Virginia Department of Environmental Quality staff be present on-site to oversee stream crossing construction as a proactive approach opposed to reactive site visits which necessitate remediation that may have been avoided.
- 5) For Wilderness Areas such as the Brush Mountain Wilderness Area, confirm whether restrictions for the wilderness area extend beyond the boundaries established for the wilderness area, ie-sound or visual impacts to the wilderness area in close proximity.

Should you have questions concerning the status of this review, please do not hesitate to contact us.

KRB/jp

**Counties**  
Floyd | Giles  
Montgomery | Pulaski

**City**  
Radford

**Towns**  
Blacksburg | Christiansburg  
Floyd | Narrows | Pearisburg  
Pulaski | Rich Creek

**Universities**  
Virginia Tech | Radford University

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# US Senator Bill Hamilton, West Virginia

The Senate of West Virginia  
Charleston

BILL HAMILTON  
CHAIR  
COMMITTEE ON AGRICULTURE & NATURAL  
RESOURCES



SENATE CAPITOL, ROOM W-223  
1900 KANAWHA BLVD. EAST  
CHARLESTON, WV 25305-0800  
304-357-7906

January 31, 2023

Dr. Homer Wilkes  
Under Secretary  
U.S. Department of Agriculture c/o Jefferson National Forest MVP Project  
5162 Valleypointe Parkway  
Roanoke, VA 24019

RE: Mountain Valley Pipeline and Equitrans Expansion Project Supplemental EIS #50036

Dear Mr. Wilkes,

I am a West Virginia State Senator representing two counties (Braxton and Webster) through which the Mountain Valley Pipeline (MVP) passes through. This project provided good jobs and positive economic impact for my district while it was being constructed. However, we have been unable to reap the true benefits of the project, in terms of gas transmission and local tax revenues, due to innumerable permitting and legal delays. Additionally, my constituents who own property on and around the pipeline right-of-way have been inconvenienced for an extended period of time.

The MVP project has been subject to unprecedented regulatory review, with state and federal agencies repeatedly concluding this critical infrastructure system can be built safely and responsibly and can coexist with natural resources. In fact, my district, which is a very rural and scenic part of West Virginia, is a perfect example of how the pipeline responsibly coexists with our natural resources.

I appreciate the Forest Service's finding that the project can be built safely, responsibly and with minimal impact to the environment. Please approve the permit for the project to perform the work in the Jefferson National Forest. It is past time to complete this project.

Respectfully,

A handwritten signature in black ink, appearing to read "Bill Hamilton".

Senator Bill Hamilton

[BILL.HAMILTON@WVSENATE.GOV](mailto:BILL.HAMILTON@WVSENATE.GOV)

Jefferson National Forest



## Chris Head, Virginia House of Delegates – District 17

Data Submitted (UTC 11): 2/2/2023 5:00:00 AM

First name: Chris

Last name: Head

Organization: Virginia House of Delegates - District 17

Title: Delegate

Official Representative/Member Indicator :

Address1: P.O. Box 19130

Address2:

City: Roanoke

State: Virginia

Province/Region:

Zip/Postal Code: 24019

Country: United States

Email: delchead@house.virginia.gov

Phone: 540-283-2839

Comments: [comment:109-1]I write today in the interest of the environment and constituents in the Roanoke area to request the U.S. Forest Service approve the requested permit for Mountain Valley Pipeline to complete its work on a small portion of the Jefferson National Forest.

As an elected member of the House of Delegates, I frequently hear from residents who have tired of the perpetual construction of this important natural gas pipeline. Activists, many of them from outside Virginia, have been obstacles to progress by challenging permits, filing [auto-markup:Threats]lawsuits[auto-markup end] and damaging property.

Project opponents' disregard for the rule of law has been facilitated through endless regulatory delays, which have created new opportunities for more protesters to engage in more illegal acts that endanger project crew members, law enforcement personnel and the public at large. This must stop.

Mountain Valley has assembled a responsible and thorough plan to mitigate impacts associated with its remaining work in the Jefferson National Forest. The project's work is nearly 94 percent complete, and its remaining work in the forest accounts for just 3.5 miles of the pipeline's roughly 303-mile length. The company has indicated its intent to bore under the Appalachian Trail and at many waterbodies to avoid surface-level disturbances, and will employ a variety of additional techniques and practices to ensure the further protection of sensitive resources.

Finishing work and restoring the right of way should be everyone's priority because it is the most sensible and most appropriate action for the public and for the environment. This pipeline is an important piece of Southwest Virginia's economic future, and it will generate millions of dollars in valuable tax revenue for local governments after it begins operation. Furthermore, it will bring a critical supply of affordable natural gas that this region requires. The historic winter storm that hit Southwest Virginia in February 2021 resulted in an unacceptable shortage of natural gas supplies, which drove up prices for Roanoke area residents. As Roanoke Gas Company's president and CEO told the news media at the time, this would not have happened if the MVP project had been in service.

Every delay of the Mountain Valley Pipeline carries costs that affect more than just the project developers. These delays are costly to Roanoke Gas Company's customers, local governments and the landowners whose lives have been disrupted by construction. They also are costly to the environment; as many others have noted, erosion and sedimentation concerns are best addressed through final restoration.

I urge the Forest Service in the strongest terms possible to move through the remaining regulatory processes swiftly so this infrastructure project can be completed.[comment end]

[comment:109-1(102 No Further Response Required)]

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# Paul Chappy Baker, Giles County Board of Supervisors

January 31, 2023

Dr. Homer Wilkes  
Under Secretary  
U.S. Department of Agriculture  
c/o Jefferson National Forest  
MVP Project  
5162 Valleypointe Parkway  
Roanoke, VA 24019

**Subject: Supplemental EIS #50036 for Mountain Valley Pipeline, Equitrans Expansion Project**

Dear Dr. Wilkes:

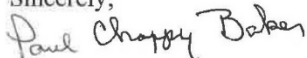
I write to express our views regarding the proposed permit for construction of the Mountain Valley Pipeline in the Jefferson National Forest. As a member of the Giles County Board of Supervisors, I believe it is important that this permit be issued so construction can be completed and the project can be brought into service.

The federal government has repeatedly found the MVP is needed to meet public demand. As such, it only makes sense for the federal government to maintain a consistent position and authorize all the permits and approvals necessary for this project to be built. Easements on private land have long since been acquired, and much of the project has been constructed. It is time to finish the project. Further delays only hinder the collection of tax revenue for local governments, and the needed infrastructure development for local industry and our country. With less than 10 percent of our electricity generated by solar and wind, natural gas is the logical energy solution for the foreseeable future.

While this project has been a source of pain and frustration for many in this region, Mountain Valley Pipeline also has invested in our community. The company has directly provided hundreds of thousands of dollars to parks, schools, fire and EMS departments, the public service authority and local nonprofit agencies, not to mention the indirect impact to the local economy. Company representatives have communicated well with updates regarding construction and been responsive to issues that we have brought to their attention.

No one wants large scale infrastructure in their backyard, but it is absolutely necessary to maintain our economy and standard of living. From a practical standpoint, if this project is halted after this level of completion and investment, how will we ever construct large scale infrastructure projects in America again? We urge you to issue the permit for construction of the Mountain Valley Pipeline.

Sincerely,



Paul Chappy Baker



## John Lawson, Giles County Board of Supervisors

January 31, 2023

Dr. Homer Wilkes  
Under Secretary  
U.S. Department of Agriculture  
c/o Jefferson National Forest  
MVP Project  
5162 Valleypointe Parkway  
Roanoke, VA 24019

**Subject: Supplemental EIS #50036 for Mountain Valley Pipeline, Equitrans Expansion Project**

Dear Dr. Wilkes:

I write to express our views regarding the proposed permit for construction of the Mountain Valley Pipeline in the Jefferson National Forest. As a member of the Giles County Board of Supervisors, I believe it is important that this permit be issued so construction can be completed and the project can be brought into service.

The federal government has repeatedly found the MVP is needed to meet public demand. As such, it only makes sense for the federal government to maintain a consistent position and authorize all the permits and approvals necessary for this project to be built. Easements on private land have long since been acquired, and much of the project has been constructed. It is time to finish the project. Further delays only hinder the collection of tax revenue for local governments, and the needed infrastructure development for local industry and our country. With less than 10 percent of our electricity generated by solar and wind, natural gas is the logical energy solution for the foreseeable future.

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No one wants large scale infrastructure in their backyard, but it is absolutely necessary to maintain our economy and standard of living. From a practical standpoint, if this project is halted after this level of completion and investment, how will we ever construct large scale infrastructure projects in America again? I urge you to issue the permit for construction of the Mountain Valley Pipeline.

Sincerely,

  
John Lawson

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# Gordon Powell, Person North Carolina Board of Commissioners



## PERSON COUNTY

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### BOARD OF COUNTY COMMISSIONERS

Person County Office Building, Room 212  
304 South Morgan Street  
Roxboro, North Carolina 27573-5245  
(336) 597-1720  
FAX (336) 599-1609

January 30, 2023

Homer Wilkes  
Under Secretary, Natural Resources and Environment  
U.S. Department of Agriculture

Re: Draft Supplemental Environmental Impact Statement for  
Mountain Valley Pipeline

Dear Mr. Wilkes,

I write to express support for the U.S. Forest Service promptly authorizing the Mountain Valley Pipeline crossing the Jefferson National Forest in a manner consistent with the forest plan, by amending the plan. The approval of Mountain Valley Pipeline crossing the Jefferson National Forest is of critical importance to the future of Person County, and with appropriate conditions or stipulations, is consistent with the public interest.

Person County is home to two important electric generating plants, the Roxboro and Mayo generating stations, both owned by Duke Energy Progress, LLC. These generating plants represent significant employment and property tax revenue for Person County, the loss of which would be devastating to the County and to the Person County community. Under North Carolina legislation (House Bill 951 – 2021) and a recent decision by the North Carolina Utilities Commission, these generating plants would be planned for retirement in the next 12 years.

Person County's future prosperity is closely tied to the continued presence of Duke Energy's operations and the Mountain Valley Pipeline is critical infrastructure that will allow the siting of replacement natural gas-powered generating plants in the community. In fact, as a part of its approval of Duke Energy's Carbon Plan, the North Carolina Utilities Commission cited the availability of natural gas as a requirement for approval of the siting of future natural gas plants. Without required approvals for the construction and

Jefferson National Forest

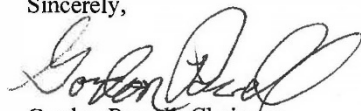
operation of Mountain Valley Pipeline, Person County is concerned that location of natural gas plants in Person County would be uncertain.

With respect to the supplemental analysis and new decision before you, resulting from the 4<sup>th</sup> Circuit Court of Appeals decision to vacate the previous Records of Decision, I respectfully request your consideration of these comments and the following specific issues. First, the economic benefit from the construction and operation of the Mountain Valley Pipeline far outweighs the potential for adverse sedimentation and erosion impacts. Second, existing regulation of sedimentation and erosion provides robust protection of the land and water within the Jefferson National Forest. Thus, it would be appropriate to require compliance with these regulations as a condition or stipulation for the amendment to the Jefferson National Forest Land Management Plan as needed to allow construction of the pipeline across 3.5 miles of the Jefferson National Forest. Third, while it is appropriate for the Forest Service to update its analysis to consider relevant new information and changed environmental conditions beyond those disclosed in the 2017 FERC FEIS and the 2020 FSEIS in response to the 4<sup>th</sup> Circuit Court of Appeals decision, Person County does not expect new information or changed environmental conditions to justify denial of the necessary amendment to the Jefferson National Forest Land Management Plan. The reality is that all infrastructure projects that cross national forests have some impact to the land and waters, but it is equally true that infrastructure projects like the Mountain Valley Pipeline also bring a rising quality of life and prosperity to local communities.

In Person County's situation, the construction and operation of the Mountain Valley Pipeline is critical to preserving the role that the Person County community has had for 60 years in producing electricity to power the livelihood of our community and a large part of our state. Without the availability of natural gas that MVP would facilitate, it would become much more difficult for Duke Energy to justify locating new gas plants in Person County. In addition to the desire for new gas-powered electric generation plants to be located in Person County, the County is pursuing other economic development projects that depend upon the availability of natural gas. I respectfully request that the Forest Service give careful consideration to the reality that Person County's future is heavily dependent upon the approval of MVP and the economic benefits that MVP would unleash.

Based upon your careful consideration of these issues, I further request that the Forest Service grant the proposed amendment to the Land Management Plan for Jefferson National Forest.

Sincerely,



Gordon Powell, Chairman  
Person County Board of Commissioners

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# Freeda Cathcart, Soil and Water Conservation District Director representing Roanoke City

Freeda Cathcart  
Soil and Water Conservation District Director representing Roanoke City  
February 21, 2023 via email to SM.FS.GWJNF-PA@usda.gov

Dr. Wilkes  
Under Secretary for Natural Resources and Environment at USDA

RE: Mountain Valley Pipeline and Equitrans Expansion Project Supplemental EIS #50036

Dear Dr. Wilkes,

Please protect the Jefferson National Forest and select Alternative 1, the No Action alternative. The Mountain Valley Pipeline is inconsistent with the Forest Plan, and I urge you to reject the eleven proposed amendments and exceptions for the following reasons:

1. Location: Mountain Valley appears to admit that they are either unwilling or unable to execute their project at the current route location without polluting the water and harming the forest ecosystem.<sup>1</sup>
2. Transparency and Accountability: Mountain Valley appears to be incapable of being able to execute the project responsibly.
3. New information must be evaluated and open to public comment before approving the proposed amendments and exceptions.

**1. Location: Mountain Valley appears to admit that they are either unwilling or unable to execute their project with adequate erosion and sediment controls to keep [nonpoint source pollution](#) from entering the waterways and harming the forest.**

Mountain Valley Pipeline's record of allowing [nonpoint source pollution](#)<sup>2</sup> into sensitive areas like the tributaries for the Roanoke River and the principal remaining habitat for the endangered [Roanoke logperch](#) is unacceptable.<sup>3</sup> Instead of doing the necessary research and development to execute their project successfully, Mountain Valley continues to try to be exempted from the rules. In an apparent admission that Mountain Valley can't build the project without violating environmental laws, they tried to get an act of Congress to exempt their project from environmental protections.<sup>4</sup>

While Roanoke City isn't downstream from the Jefferson National Forest watershed, the harm Roanoke City has experienced downstream from the Mountain Valley project is a warning for the Jefferson National Forest. Roanoke City passed a [resolution](#) on September 28, 2017 that contained the following information:

- The Roanoke River & its tributaries are an essential economic component in the expansion of the

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<sup>1</sup> April 20, 2021 letter from Mountain Valley Pipeline sent to Melanie Davenport, Director Water Division for the Virginia Department of Environmental Quality.

<sup>2</sup> Definition of nonpoint source pollution includes sediment from improperly managed construction sites.

<sup>3</sup> Current threats to the Roanoke logperch are nonpoint source pollution and spills and accidents associated with chemical releases and destruction and degradation of habitat. Small logperch populations could go extinct with minor habitat degradation

<sup>4</sup><https://biologicaldiversity.org/w/news/press-releases/750-groups-blast-manchin-ploy-to-include-dirty-deal-in-defense-bill-2022-12-05/>



regional economy.

- The Upper Roanoke River and many of its tributaries have been listed on the United States Environmental Protection Agency's 303(d) list as "impaired" for excessive sediment loading.
- The FEIS prepared for the MVP Project estimates the MVP Project will increase the baseline sediment load in the Upper Roanoke River by at least 2%, a conservative estimate given that the FEIS does not include a study of the estimated sediment load increases resulting from project construction in areas located downstream of the Jefferson National Forest, even though the MVP Project construction area plans indicate that the project will cross the Upper Roanoke River and its tributaries as many as 100 to 120 times between the City of Roanoke and the Jefferson National Forest, potentially fouling the Spring Hollow Drinking Water Reservoir and the river's traverse into and through the City of Roanoke.

Roanoke City had valid concerns about the sediment load from the MVP harming the Roanoke River in 2017 when the MVP was projecting completion of their project by the end of 2018. Roanoke City taxpayers are expected to owe at least \$36 million for MVP's stormwater sedimentation cleanup. That cost estimate was predicated on MVP's assurance that they would protect our water quality. However, MVP has failed to protect our water quality, racking up \$2 million of fines based on hundreds of violations in Virginia.

The Virginia Association of Professional Soil Scientists have repeatedly requested federal and state agencies to make MVP complete an Order 1 Soil Survey with ground truthing to provide the necessary information for their sediment-control measures in order to design them to be highly effective.<sup>5</sup> Even after hundreds of violations and over \$2 million of fines, MVP continues to ignore the recommendations of scientists and engineers to revise their erosion and sediment controls. Instead, MVP insists they are following Virginia's regulations. MVP's response to the repeated pleas to conduct an Order 1 Soil Study with ground truthing contained the following statement:

*"No erosion and sediment control in existence can remove 100% of the sediment and dissolved materials in stormwater runoff, and Virginia's regulations do not require the impossible. If controls are implemented in accordance with the approved plan, then the discharge of stormwater from a site is authorized."*<sup>6</sup>

Mountain Valley has lost their permits multiple times for the failure of their erosion and sediments controls that caused nonpoint source pollution to harm waterways. The sentiments expressed in the following communications would also apply to protecting the forest from harm due to the Mountain Valley Pipeline:

On October 28, 2020 the Chair of the Blue Soil and Water Conservation Board, Daphne Jamison, sent Director Paylor a letter that contained the following information:

*"The Blue Ridge Soil & Water Conservation District has worked with landowners in Franklin County for 80 years to reduce soil erosion and to convince the landowners to adopt farming practices which protect highly erodible soils and steep slopes from land disturbing activities. In working with these landowners, we partner with Virginia and USDA agencies. There are always requirements and specifications (rules) in these practices and our clients (local farmers) are willing to abide by these rules."*

<sup>5</sup> Dec. 5, 2017 letter from VAPSS to Virginia State Water Control Board copied to other state and federal agencies and December 9, 2020 letter from VAPSS to Virginia State Water Control Board copied to other state and federal agencies.

<sup>6</sup> April 20, 2021 letter from MVP to Melanie Davenport, Director Water Division with the Virginia Department of Environmental Quality

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*Our citizen board expects the same of the Company building the Mountain Valley Pipeline. Disturbing soil for a farm would not be approved on mountains as steep as where this pipeline is being installed. The Blue Ridge Soil & Water Conservation District Board also expects our state and federal agencies to be diligent and forceful about enforcing regulations to prevent soil erosion on these highly erodible and steep mountains in Franklin County.”*

On November 10, 2020 the Chair of the Blue Soil and Water Conservation Board, Daphne Jamison, sent Director Paylor a letter that contained the following information:

*“Our Board agrees with Roanoke County (letter sent October 6, 2020) that DEQ should grant no authorization for MVP to resume work until requirements to prevent erosion and sedimentation are in place and agreed to by MVP.”*

For almost two years, I've documented nonpoint source pollution from the MVP project entering the tributaries to the Roanoke River where the Mountain Valley Pipeline corridor intersects with Yellow Finch Lane (a designated project access road) in Elliston. This is the same location where [Director Paylor said in a statement that the department was “appalled that construction priorities and deadline pressures would ever rise above the proper and appropriate use of erosion control measures.”](#) Since August 2019, the only construction work Mountain Valley Pipeline has done at this location has been installing and maintaining erosion and sediment controls (except in March, 2021 when Mountain Valley Pipeline felled the last remaining trees on their corridor).

Our region is often subjected to scattered rainstorms. Where one area might receive inches of rain, another may receive less than an inch. For instance this [slide presentation](#) containing GPS, date and time stamped documentation was recorded on June 10, 2021 (after several days of rain it only amounted to one inch of precipitation) and June 11, 2021 (there was only a half an inch of precipitation), yet MVP was still unable to keep the nonpoint source pollution from entering the tributaries for the Roanoke River. This [video](#) taken on June 11, 2021 substantiates the concerns of the Virginia Association of Professional Soil Scientists as it clearly documents the “tunneling” phenomena that happens when stormwater puts pressure on less dense soils creating a tunnel for the sediment filled water to flow into the tributaries. This [video](#) taken on March 28, 2021, before the leaves came out, conclusively connects the MVP project to the nonpoint source pollution entering the stream.

Mountain Valley chose to move the corridor route to go through the steep terrain. Since 2013, the EPA has designated the Virginia Department of Environmental Quality to enforce nonpoint source pollution.

The recent revised version of the Virginia DEQ Nonpoint Source Pollution Management Program Plan<sup>7</sup> doesn't appear to include poorly managed construction sites. The EPA definition of nonpoint source pollution includes: “Sediment from improperly managed construction sites, crop and forest lands, and [eroding streambanks](#).”<sup>8</sup> The most recent version of the Virginia Nonpoint Source Pollution Management Program Plan was finalized on January 15, 2020. This was months before the [U.S. Supreme Court decision Maui v. Hawaii Wildlife Fund April 23, 2020](#) that included following:

<sup>7</sup> [Virginia Nonpoint Source Pollution Management Program Plan final 1/15/2020](#)

<sup>8</sup> [EPA Basic Information about Nonpoint Source \(NPS\) Pollution](#)

*“Over the years, courts and EPA have tried to find general language that will reflect a middle ground between these extremes. The statute’s words reflect Congress’ basic aim to provide federal regulation of identifiable sources of pollutants entering navigable waters without undermining the States’ longstanding regulatory authority over land and groundwater. We hold that the statute requires a permit when there is a direct discharge from a point source into navigable waters or when there is the functional equivalent of a direct discharge. We think this phrase best captures, in broad terms, those circumstances in which Congress intended to require a federal permit. That is, an addition falls within the statutory requirement that it be “from any point source” when a point source directly deposits pollutants into navigable waters, or when the discharge reaches the same result through roughly similar means.”*

While normally the Virginia DEQ Nonpoint Source Pollution Management Program Plan isn’t expected to be updated for another five years, the recent Supreme Court ruling after its last update would appear to necessitate an immediate update and enforcement of nonpoint source pollution incidents to protect Virginia’s waterways from poorly managed construction projects like the massive Mountain Valley Pipeline.

*“The plan describes both “reactive” and “proactive” elements of Virginia’s NPS Management Program. DEQ is the lead agency for addressing known impairments given its expertise and resources for monitoring, assessment, TMDL development, implementation planning, and implementation projects. Water resource protection efforts are led by several partners, such as VDH (surface water source protection) and DCR (Healthy Waters). Notably, the Healthy Waters Program operates from a basic understanding that the conservation and protection of ecologically healthy waters is environmentally and economically prudent.”<sup>9</sup>*

Melanie Davenport, Director of Water Permitting, wrote the following in response to my concerns regarding nonpoint source pollution from the Mountain Valley Pipeline project entering the habitat for the endangered Roanoke logperch:

*“DEQ has never received a report of dead or distressed fish, nor has DEQ staffer its third party compliance contractor ever observed dead or distressed fish.”*

However information from the Roanoke logperch Recovery Plan focuses on protecting the habitat for the fish instead of looking for dead or distressed fish:

*“Excessive silt deposition reduces habitat heterogeneity and primary productivity; increases egg and larval mortality; abrades organisms; and alters, degrades, and entombs macrobenthic communities (Burkhead and Jenkins 1991).”<sup>10</sup>*

## **2. Transparency and Accountability: Mountain Valley appears to be unwilling or unable to execute the project responsibly.**

In 2021, our area had an unusually dry spring. However, on the day before thunderstorms were predicted in

<sup>9</sup> Virginia Nonpoint Source Pollution Management Program Plan final 1/15/2020

<sup>10</sup> Roanoke Logperch Recovery Plan prepared for Region 5 U.S. Fish and Wildlife Service Newton Corner Massachusetts March 20, 1992



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the forecast, MVP decided to work on one of the steepest slopes along the corridor. The [Roanoke Times](#) [photographer documented MVP's work](#) on that slope known as Adney Gap on May 27, 2021. The slope was so steep that four bulldozers had to be cabled together. The next day we had severe thunderstorms as predicted.

This is not the first time MVP has ignored weather forecasts and conducted work making the slopes vulnerable to erosion and sediment pollution entering our waterways. Basic common sense should keep a contractor from risking a bad outcome that could jeopardize the success of the project. The photographer confirmed that there's a stream at the bottom of Adney Gap's steep slope and told me that MVP did have erosion and sediment controls in place. In November 2020, MVP commenced intensive land disturbance when the weather was forecasting two named large tropical depressions headed for our region. MVP's controls weren't sufficient to protect the waterways as this [documentation](#) proves on a slope not nearly as steep as Adney Gap. This is because the water goes under the controls as evidenced by this photograph:



MVP's lawyer claimed in the April 10, 2021 letter to Melanie Davenport that *"In this case, there is no stormwater issuing from the holes, which are high on the face of the fabric and appear to be above the portion of the fabric with staining from contact with stormwater. Thus, these controls were functioning as intended at the time of Ms. Cathcart's visit. As part of the regular maintenance program, the fabric on the super silt fence at this location was flagged for repair by a Mountain Valley inspector and replaced on March 31."* However on April 17, 2021, I showed a State Water Control Board member, James Lofton, the holes in the super silt fence which the GPS, date and time stamped photograph recorded on April 10. When the following photograph was taken at the same location on April 24, 2021, the holes were still there.





On May 15, 2020 I showed this same location to John McCutcheon and Cody Bain before the holes had developed because the water was going under the fence creating nonpoint source pollution on its way to the tributaries for the Roanoke River. Here's a [video](#) from June 17, 2020 with water pouring through the first holes in the fence. This incident was [reported to the DEQ on June 18, 2020](#). When I spoke to John McCutcheon this summer about the holes still being in the super silt fence, he dismissed my concerns claiming they were only pinholes. Here's a close up photo showing how large one of the holes were with the fabric stained with sediment:



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Finally after 15 months of reporting MVP patched the fabric in the super silt fence, but I never found where DEQ issued any violations to the MVP for failure to maintain their erosion and sediment controls.

MVP's lawyer claimed in the same April 10, 2021 letter to Melanie Davenport that my reporting of the MVP's controls failing wasn't fair because MVP had to use heavy equipment to remove the tree sitters. I've been reporting the same nonpoint source pollution events at the same locations for over a year. As I explained to Mr. McCutcheon, it was frustrating to report the incidents only to discover that after MVP addressed the control failures, the nonpoint source pollution entering the tributaries was worse. For example MVP's lawyer said in his April 10, 2021 letter that *"Mountain Valley responded quickly and effectively to correct the damage caused by the extraction of the protesters."*

Unfortunately, as this [video](#) taken on June 11, 2021 shows: after a half inch of rain, MVP's "fix" diverted the runoff that used to go across the lane to a riparian buffer before going to the stream. Now MVP's new controls create a dam causing the runoff to go directly to a tributary that flows through the culvert under the lane and directly into the stream. Compare that to the [video](#) taken on March 31, 2021 after only 0.4 inches of rain where one can see the culvert through the bare branches. The solution to the build-up of water on the dirt access road should have been to have it graded so the water could drain towards the riparian buffer instead of diverting the water to the culvert. I've submitted multiple pollution reports documenting MVP's controls being the problem at this location as this [video](#) proves. MVP's land agent met the landowner at this location and told him they were just there to "check a box". The last time I visited the site, the MVP still hadn't fixed the problem and DEQ hasn't issued a violation to the MVP.

Law enforcement has also learned not to trust MVP. When state troopers refused to arrest citizen monitors who had permission to be on the property from the landowner, MVP still filed a charge with the county. The commonwealth attorney requested the charges be dropped and the court granted that request. A civil suit was filed against MVP and Global Security for conspiring to file charges with "malice, ill will and a conscious disregard" on behalf of the citizen monitors.<sup>11</sup> The suit was settled out of court with the contingent that the people who brought the suit couldn't discuss the case. MVP has a history of preventing people from exercising their first amendment free speech right after agreeing to a settlement.

One of MVP's contractors is suing MVP. U.S. Trinity urged that "Notice of Mechanic's Liens be enforced and that the Pipeline be sold to satisfy the sum determined to be due Trinity up to the value of its lien (\$102,469,189.65)."<sup>12</sup>

MVP's lawyer tried to explain to Director Melanie Davenport why MVP's erosion and sediment controls were allowing nonpoint source pollution into the tributaries for the Roanoke River at the end of March 2021 by claiming that, *"The occupants of the trees disobeyed a court order to come down, leaving law enforcement agencies no alternative but to physically extract them. The extraction was a complex operation involving*

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<sup>11</sup> Roanoke Times article December 13, 2018 [Lawsuits claim false arrests by Mountain Valley Pipeline's security company](#)

<sup>12</sup> Pittsburgh Business Times article August 17, 2020 [Pipeline construction firm files lawsuit against Mountain Valley Pipeline](#)

numerous law enforcement personnel and vehicles operating at the site over two days (March 23 and 24). A 100-ton crane had to be brought up Yellow Finch Lane and staged onsite. As a result of the extraction operation, the road became heavily rutted, trees were cut, extensive ground disturbance occurred both on and off Mountain Valley's right-of-way, and many of the Project's erosion and sediment controls were damaged or destroyed."<sup>13</sup>

However, this [Roanoke Times article](#) clarifies that it was MVP who was responsible for the extraction and paid for it:

*"He [the judge] also ordered the defendants to pay Mountain Valley the \$141,386 it cost for a lengthy extraction that involved using a crane to hoist two state police officers to where the protesters were chained to a chestnut oak and a white pine, on wooden platforms about 50 feet above the ground near the top of a steep slope."*

MVP appears to fail to learn from the past and continues to use poor judgement to execute their project while misleading the DEQ. The tree sitters had been disobeying the court order since November 2020. The trees they were occupying were next to a stream and wetlands that MVP still doesn't have a permit to cross that had been clearly marked with an Aquarian Resource Buffer sign. MVP chose to extract the tree sitters when rain was predicted in the forecast leading to even more sedimentation entering the habitat for the endangered Roanoke logperch during their spawning season. This Roanoke Times article [Spring belongs to the Roanoke logperch](#) explains the importance of spring for the habitat of the endangered Roanoke logperch: *"From March 15 to June 30, nothing larger than a work boot should enter the river, said Chuck Van Allman, Salem's city engineer. That will clear the way for the April and May spawning season. "You don't do anything to interrupt the ..." Van Allman paused for the right word, "... expansion of the species. No one likes to be interrupted." That is just as true for construction work. Despite planning for the spring restriction on the Salem job, which will add two lanes to the Colorado Street bridge, accommodating the fish has required paperwork and patience."*

MVP left objects larger than a work boot in the stream after the extraction and during the endangered Roanoke logperch's spawning season. MVP left large logs and felled trees in the stream:



<sup>13</sup> April 20, 2021 letter from Mountain Valley Pipeline sent to Melanie Davenport, Director Water Division for the Virginia Department of Environmental Quality.



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MVP's rush to complete the project has even led to an unnecessary death. "Because MVP and Precision had a tight construction schedule, they opted out of waiting for the correct environmental permits and the green light to use heavy equipment and instead pushed for Beeghly and its workers to act fast, Amy Blough said in the lawsuit. Also, rather than marking danger trees, the trees were allowed to be felled by manual equipment, she said."<sup>14</sup>

Franklin County is still awaiting the answers to these questions:

1. *Did FERC require any verification of insurance for EquiTrans/MVP or its subcontractors?*
2. *Did FERC require EquiTrans/MVP or its subcontractors to post a performance bond for work in Virginia and/or Franklin County.*
3. *Did FERC require EquiTrans/MVP or its subcontractors to create a mitigation fund for activities in Virginia and/or Franklin County.*
4. *What other surety has FERC required to ensure that sites will be reclaimed/stabilized, pipe removed, etc. if the project is discontinued or abandoned?*

*"Franklin County feels that it is vital for FERC to have all the necessary sureties and bonding in place to protect its citizens and ensure completion of this project or provide FERC the ability to reclaim/restore properties should the project be discontinued or abandoned."*<sup>15</sup>

The manner in which MVP has been executing their project has created distrust with contractors, law enforcement, localities and elected officials. The evidence of MVP's lack of planning and poor execution of the project proves that MVP can't be trusted to cross our waterways or forest without inflicting further harm.

### **3. New information must be evaluated and open to public comment before approving the proposed amendments and exceptions.**

Certified professional soil scientist, Nan Gray, filed the following new information and request for follow up:

*"Sinking Creek Mountain seeps Water which follows the rock face, under unconsolidated and consolidated material, until it puddles on manmade benches, which are currently saturated and squishy wet during this freeze-thaw cycle of Winter, indicating water penetration and retention, which gets heavy on a near vertical rockface. The water flows year-round, not just at Winter.*

*I have not seen reports of small ground movement, slips, scarps forming in the mvp ROW in the JNF, and not sure why this most dangerous of erosion, at the top of the Sinking Creek Mountain, at the blast cut is under-reported.*

*Obviously, MVP blasted the Sinking Creek Mountain ridge from Craig County into the Jefferson National Forest, irreparably damaging the Jefferson National Forest and Sinking Creek Mountain and Craig County, Virginia.*

*-Mindful of the 2018 blasting through the toughest Tuscarora Sandstone that has armored Sinking Creek Mountain for millennia; there is no way mvp's unpermitted blasting through JNF lands left the rest of*

<sup>14</sup> Pittsylvania Record article August 15, 2019 [Widow blames pipeline companies after husband killed by falling tree](#).

<sup>15</sup> Letter from Franklin County to FERC dated March 26, 2021.

*the surrounding ground, unimpacted. Blasting that hard spine of the mountain lasted for more than two days. Blasting vibrations and gravity would have accelerated ground movement of boulder fields to migrate downhill, bit by bit. Blasting vibrations were felt two miles away and reported to FERC and DEQ. Not until much later did mvp admit to overcharging blast holes to break the mountain's hard rock. LiDAR imagery would reveal how much ground movement has happened before any more disturbance adds to a dangerous situation. LiDAR should show displacement and possible strain of the boulder field debris flows.*

*LiDAR (composite) maps must be compared to measure how much ground movement has happened since 2017, after blasting in 2018 and the most current LiDAR, hopefully as recent as January 2023.*

*I am respectfully requesting "LiDAR" maps of these years (2017, 2019, 2023) so that the Public may study them for the debris flows to the west of the mvp ROW blast cut in Sinking Creek Mountain. I believe evidence of at least two of the boulder field debris flows are moving based on various observations of multiple indicators, on the ground, on site recorded early January 2023. Specific study area should include within 2 miles of Blast Zone along west side of ROW, on both Jefferson National Forest land and Private land sides of the Sinking Creek Mountain ridge, please. Southeast face of Sinking Creek Mountain is Jefferson National Forest and the northface of the mountain is Private land, also dangerously impacted by mvp project route. Many potential places for stress cracks to happen on both sides of the mountain.*

*Therefore; given the persistence of gravity, water and unstable slopes, further disturbance to the irreparable damage done to Sinking Creek Mountain by MVP will further degrade the land in the Jefferson National Forest and promote continuous erosion of disturbed ground. All pipe needs to be removed and ground repaired, and vegetated.*

*Current LiDAR maps would show where the ground has moved within the last five years within the area of interest of the two-mile radius of the pipeline, starting at the crest of Sinking Creek Mountain at the mvp ROW blast cut and west along the mountain ridge, showing both north face and south face slopes. Several boulder fields exist in the area of interest which could have had accelerated downslope migration initiated by 2018 blasting of the crest of the mountain. The boulder field may have become destabilized and evidence on the ground shows the debris flow is moving or has moved within the last five (5) years.*

*Ground movement can shear tree roots, reducing water and nutrient uptake of the tree and stunting its growth or reducing its anchor and its survival resilience. Ground movement can shear rocks. Sinking Creek Mountain lies within the Giles Seismic Zone, another area to avoid for the routing or construction of a pipeline.*

*LiDAR must be updated every three months and carefully reviewed and made Public because the dangers are real to people living downslope of these impacted landslide-trigger areas, that is, areas on Sinking Creek Mountain flank, close to blasting sites.*

*The mvp should not be allowed into the Jefferson National Forest along it's current preferred route due*

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*to dangers wrapped in the Jefferson National Forest on Sinking Creek Mountain, Craig County/Montgomery Counties, VA.*

*MVP has created an unstable, regrettable, and dangerous situation at the very top of Sinking Creek Mountain. We need to know how much damage has been done, because the mountain is actively sloughing ground in unabated erosion. LiDAR can offer quantitative ground movement information for calculating soil erosion mass and qualitative LiDAR would hold mvp accountable for that mass wasting volume and LiDAR available for Public review could hopefully save lives.”*

**Conclusion:**

There's substantial evidence, including my attached 2020 affidavit, for the USFS to select Alternative 1, the No Action alternative and reject the eleven proposed amendments and exceptions. The Mountain Valley Pipeline is inconsistent with the Forest Plan.

Sincerely,

*Freeda Cathcart*

Soil and Water Conservation District Director representing Roanoke City

## Pittsylvania County, Virginia



INTERIM COUNTY ADMINISTRATOR/  
COUNTY ATTORNEY

P.O. Box 426 • 1 Center Street  
Chatham, Virginia 24531  
Phone (434) 432-7720

February 3, 2023

**VIA U.S. MAIL**

Dr. Homer Wilkes  
Under Secretary, U.S. Department of Agriculture  
c/o Jefferson National Forest MVP Project  
5162 Valleypointe Parkway  
Roanoke, Virginia 24019

*Re: MVP and Equitrans Expansion Project (Supplemental EIS #50036)*

Dear Dr. Wilkes:

This letter reiterates Pittsylvania County, Virginia's ("County"), prior support for the Mountain Valley Pipeline Project ("MVP Project") and the need for this critical energy infrastructure project to be completed and brought into service to serve the public.

As proposed, the MVP Project spans about 303 miles from northwestern West Virginia to the County. Work on the MVP Project began in 2018 and created thousands of jobs. This activity contributed significant tax revenue to the County and State. Today, work on the MVP Project is nearly 94% complete, with 90% of all pipeline work complete, and more than 50% of the right-of-way fully restored.

Some stretches of the route remain unfinished, including sections in the County, and the County hopes that work is completed soon. The County further understands that cannot happen without reissuance of permits, including a permit to allow construction on about 3.5 miles of federal land in the Jefferson National Forest. The County also understands work in this area will be performed under close regulatory supervision, and a thorough review of the MVP Project plans has shown this work can be done with limited impacts to the environment. The permit should be issued, and construction should proceed.

The need for the MVP Project is even greater than it was in 2017, when the Federal Energy Regulatory Commission ("FERC") first concluded, the MVP Project was needed to meet public demand for natural gas. In 2020, FERC renewed its finding and extended the MVP Project's certificate of public convenience and necessity. In 2022, FERC again renewed its findings and extended the validity of the certificate to 2026 to allow sufficient time for work on the project to be completed. The MVP Project's capacity remains fully subscribed, and demand for natural gas in this region is forecast to continue to grow.

Completing the MVP Project, and fully restoring the right-of-way, is the most effective way to prevent erosion and sediment control issues. It also will provide the public with greater access to an affordable, reliable, and domestic supply of natural gas, and the pipeline's operation will generate an additional \$10 million in estimated annual ad valorem tax revenue for Virginia localities along the route. This includes \$1.8 million anticipated annually for the County to devote to core services that benefit our residents

**BUSINESS SAVVY. PEOPLE FRIENDLY.**

J. Vaden Hunt, Esq., Interim County Administrator/County Attorney  
vaden.hunt@pittgov.org



**INTERIM COUNTY ADMINISTRATOR/  
COUNTY ATTORNEY**

P.O. Box 426 • 1 Center Street  
Chatham, Virginia 24531  
Phone (434) 432-7720

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In closing, the County respectfully asks the Forest Service and other relevant federal agencies to expedite issuance of remaining outstanding permits for the MVP Project, so that this important project can be brought into service.

Sincerely yours,

A handwritten signature in black ink that reads "J. Vaden Hunt". The signature is written in a cursive style.

J. Vaden Hunt, Esq.  
Interim County Administration/County Attorney

Cc: PCET (via email)  
Hon. PCBOS (via email)

**BUSINESS SAVVY. PEOPLE FRIENDLY.**

J. Vaden Hunt, Esq., Interim County Administrator/County Attorney  
vaden.hunt@pittgov.org

Jefferson National Forest



## Craig County, Virginia

### Board of Supervisors

Jessie Spence, Chair, New Castle District  
Rusty Zimmerman, Vice Chair, Craig City District  
Keith Dunbar, Craig Creek District  
Jason Matyas, Simmonsville District  
Carl Bailey, Potts Mountain District

## County of Craig

108 Court Street  
P.O. Box 308  
New Castle, Virginia 24127

### County Administrator

R.R. Dan Collins  
540-864-5010

February 2, 2023

Dr. Homer Wilkes, Under Secretary U.S. Department of Agriculture  
c/o Jefferson National Forest  
MVP Project  
5162 Valleypointe Parkway  
Roanoke, VA 24019

Submitted via Internet Website:  
<https://cara.fs2c.usda.gov/Public/CommentInput?Project=50036>

RE: Mountain Valley Pipeline and Equestrians Expansion Project  
Draft Supplemental EIS December 2022

Dear Mr. Wilkes:

Thank you for this opportunity to comment on the December 2022 Draft Supplemental Environmental Impact Statement (DSEIS) for the Mountain Valley Pipeline (MVP).

The Craig County, Virginia, Board of Supervisors once again requests that the Forest Service adopt the No Action alternative that is an option in the DSEIS. It is the Board's position that the Forest Service has failed to properly analyze the effects on the environment and comply with the Forest Planning Rule.

This request is consistent with prior comments that we provided to the Forest Service beginning in 2015 regarding proposals to permit the MVP to cross Jefferson National Forest and the Appalachian Trail. The objections we raised in our letters to the Forest Service dated August 6, 2017, and November 9, 2020, continue to be valid and have not been adequately addressed in these new proposals. Copies of the letters are attached for your review and for the record. The information provided in those comments clearly affirm the need for the Forest Service to choose No Action.

Further it is the Board's position that the DSEIS has failed to properly analyze the effects on the environment, relying on modeling projections rather than the real-world impacts that are available based on the actual construction that has occurred.

Craig County is within the ridge and valley geography at the southern end of the Allegheny Mountains. The County's landscape is dominated by the Jefferson National Forest, with more than half of the county being National Forest. One hundred percent of our communities' drinking water comes from the forested mountains, and the complex karst geology makes our water resources highly sensitive to land disturbance. This makes the protection and care of

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relationship with the Forest Service essential to our agriculture- and recreation-based economies, and the water supplies on which all of our citizens depend.

The management of the Jefferson National Forest is a vital responsibility that directly impact Craig County communities' water supplies, economies, and quality of life. Water resource protection was a driving force in the creation of the Jefferson National Forest under the Weeks Act. Therefore, the Craig County Board of Supervisors feels quite strongly that the primary duty of the Forest Service is to assure that our water resources are protected from harm.

Considering that Craig County's most significant feature are the National Forest and the Appalachian Trail, and given that local livelihoods and quality of life are inextricably linked to what happens in the National Forest, the Craig County Board of Supervisors consider the following to be critical factors for you to consider as you make your decision:

1. Craig County's Comprehensive Plan relies on the continuing protection of the Forest for destination-based recreation as a primary part of the economy.
2. Cultural Attachment to the land is an important feature of our community and must be recognized and respected.
3. Together, we are responsible to steward the precious water resources, including creeks, springs, wells, and underground reserves that are sourced from the Jefferson National Forest and upon which all of us rely.
4. The natural beauty and view sheds of the area, the steep slopes, karst geology, unique biodiversity, and fragile water systems must be preserved and protected from development.
5. We are deeply committed to the founding principles of our National Forest.

Recreation and tourism is an essential part of the economy of Craig County. All of our citizens rely upon the groundwater for drinking water and agriculture. The MVP project threatens these resources and is directly counter to the purposes established for national forest public lands. Changing the forest plan in order to issue permits to MVP will leave permanent scars on the scenic views, sedimentation in our trout streams, and threats to groundwater supplies in this complex karst geology. Based on the values and attributes that we experience every day from the Jefferson National Forest, the construction of the MVP is inconsistent with the purpose and function of the systems in and around the National Forest.

We understand that the Forest Service has no biological measure of the health of the streams on which to assess impacts from the MVP, and you have reported very little, if any data that can be considered baseline. There are no ecosystem inventories of the riparian areas with which to compare the results of the purported restoration. And with our collective experience with the soils in these mountains, we are skeptical of the claims that the slopes can effectively be reclaimed. After eight years, we find the status disturbing. The Forest Service also continues to rely on an inapplicable soil erosion model to speculate on the impacts to water courses.

We believe this concept of conforming the LRMP to the project undermines the purpose for having a Forest Plan. To make the project lawful, you propose to waive standards that protect water and

soil resources or substitute the standards with mitigation measures. We do not believe that the Forest Service can waive forest management standards and still achieve the goals and objectives of the LRMP.

The Forest Service is required to impose riparian standards on project implementation; but this proposal eliminates those standards for this project. This waiver of mandatory riparian standards may in fact be unlawful. We are concerned that it harms the interests of Craig County.

The proposal to waive forest management standards to allow the construction of a 42-inch, high-pressure gas pipeline is a troubling precedent. We are extremely concerned about the potential for serial amendment of the LRMP to accommodate further industrial development on the Jefferson National Forest. The LRMP could be diminished by amendments that collectively may render meaningless the concept of a planning document.

Craig County's Board of Supervisors has never contemplated changing the County's comprehensive plan to accommodate an incompatible land use, and neither has the Forest Service until now.

We also request full disclosure of the entire record of the Forest Plan amendments and related documents, public hearings be held by the Forest Service in Craig County or adjoining counties, and an extension of time for public comment so that our citizens can have an adequate opportunity to review the record fully.

In closing, the Craig County Board of Supervisors asks that you select Alternative 1, for "No Action," and reject the 11 proposed amendments to prevent unprecedented damage to not only the Jefferson National Forest but also to its Forest Plan.

Thank you for your consideration,



R.R. Dan Collins  
Craig County Administrator

Enclosures: August 6, 2017 Comment Letter  
November 9, 2020 Comment Letter



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JESSE SPENCE, CHAIR  
NEW CASTLE DISTRICT

RUSTY ZIMMERMAN, MEMBER  
CRAIG CITY DISTRICT

LINDSEY DUNNE, MEMBER  
CRAIG CREEK DISTRICT



CARL BAILEY, VICE CHAIR  
POTTS MOUNTAIN DISTRICT

KATHI TOELKE, MEMBER  
SIMMONSVILLE DISTRICT

ROBERT R. COLLINS  
COUNTY ADMINISTRATOR

COUNTY OF CRAIG  
P.O. Box 308  
New Castle, Virginia 24127  
540-864-5010 Phone  
540-864-5590 Fax

November 9, 2020

Jim Hubbard, Under Secretary  
U.S. Department of Agriculture  
c/o Jefferson National Forest, MVP Project  
5162 Valleypointe Parkway  
Roanoke, VA 24019

Via online comment: <https://cara.ecosystem-management.org/Public/CommentInput?Project=50036>

RE: Mountain Valley Pipeline and Equitrans Expansion Project

Draft Supplemental EIS #50036

Dear Mr. Hubbard:

Thank you for this opportunity to comment on the proposed amendments to the Jefferson National Forest Land Resource Management Plan (LRMP) and the Draft Supplemental Environmental Impact Statement (SEIS) for the Mountain Valley Pipeline (MVP). I am writing on behalf of the Craig County Board of Supervisors (CCBoS). Craig County has a long and deep tradition of working in cooperation with the Forest Service to achieve both the County and the nation's goals in the management of the Jefferson National Forest.

However, the CCBoS objects to the proposed changes to the LRMP and opposes the construction and operation of the proposed MVP Pipeline across the Jefferson National Forest. The objections we raised in our letter to the Forest Service dated August 6, 2017 continue to be valid and have not been adequately addressed in these new proposals. A copy of that letter is attached for your records.

Craig County is within the ridge and valley geography at the southern end of the Allegheny Mountains. The County's landscape is dominated by the Jefferson National Forest, with more than

half of the county being National Forest. 100% of our communities' drinking water comes from the forested mountains, and the complex karst geology makes our water resources highly sensitive to land disturbance. This makes the protection and care of the land and our relationship with the Forest Service essential to our agriculture- and recreation-based economies, and the water supplies on which all of our citizens depend.

The management of the Jefferson National Forest is a vital responsibility that directly impact Craig County communities' water supplies, economies, and quality of life. Water resource protection was a driving force in the creation of the Jefferson National Forest under the Weeks Act. Therefore, the Craig County Board of Supervisors feels quite strongly that the primary duty of the Forest Service is to assure that our water resources are protected from harm.

Considering that Craig County's most significant features are the National Forest and the Appalachian Trail, and given that local livelihoods and quality of life are inextricably linked to what happens in the National Forest, the Craig County Board of Supervisors consider the following to be critical factors for you to consider as you make your decision:

1. Craig County's Comprehensive Plan relies on the continuing protection of the Forest for destination-based recreation as a primary part of the economy.
2. Cultural Attachment to the land is an important feature of our community and must be recognized and respected.
3. Together, we are responsible to steward the precious water resources, including creeks, springs, wells, and underground reserves that are sourced from the Jefferson National Forest and upon which all of us rely.
4. The natural beauty and view sheds of the area, the steep slopes, karst geology, unique biodiversity, and fragile water systems must be preserved and protected from development.
5. We are deeply committed to the founding principles of our National Forest.

We believe that the Forest Service has performed an inadequate analysis of the proposal to route the MVP through the Jefferson National Forest.

Although a new hydrologic analysis has been prepared, the modeling is based on theoretical data. It omits the well-documented and reported record of failure of the erosion and sediment control measures that MVP has attempted to deploy since construction started in early 2018. This reliance on a predictive model to assess impacts is inadequate.

We specifically oppose the proposal to amend the LRMP in order to allow for the harmful impacts that the MVP may cause. We believe this concept of conforming the LRMP to the project undermines the purpose for having a Forest Plan.

In order to make the project lawful, you propose to waive standards that protect water and soil resources or substitute the standards with mitigation measures. We do not believe that the Forest Service can waive forest management standards and still achieve the goals and objectives of the

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LRMP. The Forest Service is required to impose riparian standards on project implementation; but this proposal eliminates those standards for this project. This waiver of mandatory riparian standards may in fact be unlawful. We are concerned that it harms the interests of Craig County.

The proposal to waive forest management standards to allow the construction of a 42-inch, high-pressure gas pipeline is a troubling precedent. We are extremely concerned about the potential for serial amendment of the LRMP to accommodate further industrial development on the Jefferson National Forest. The LRMP could be diminished by amendments that collectively may render meaningless the concept of a planning document. Craig County's Board of Supervisors has never contemplated changing the

County's comprehensive plan to accommodate an incompatible land use, and neither has the Forest Service until now.

The Craig County Board of Supervisors asks that you select Alternative 1, for "No Action," and reject the 11 proposed amendments to prevent unprecedented damage to not only the Jefferson National Forest but also to its Forest Plan.

Sincerely,

*One File*  
Jesse Spence, Chair  
Craig County Board of Supervisors

cc: Board of Supervisors  
County Administrator

JESSE SPENCE, CHAIR  
NEW CASTLE DISTRICT

RUSTY ZIMMERMAN, MEMBER  
CRAIG CITY DISTRICT

CASEY MCKENZIE, MEMBER  
CRAIG CREEK DISTRICT



MARTHA MURPHY, VICE CHAIR  
SIMMONSVILLE DISTRICT

CARL BAILEY, MEMBER  
POTTS MOUNTAIN DISTRICT

B CLAYTON "CLAY" GOODMAN III  
COUNTY ADMINISTRATOR

COUNTY OF CRAIG  
P.O. Box 308  
New Castle, Virginia 24127  
540-864-5010 Phone  
540-864-5590 Fax

August 3, 2017

Reviewing Officer Tony Tooke  
Regional Forester  
USDA Forest Service  
1720 Peachtree Street  
Atlanta, GA 30309

**Via Mail and Email: [objections-southern-regional-office@fs.fed.us](mailto:objections-southern-regional-office@fs.fed.us)**

**RE: USDA Forest Service Draft Record of Decision amending the Jefferson National Forest Land & Resource Management Plan for the proposed Mountain Valley Project (MVP)**

Dear Mr. Tooke:

With counsel of our Pipeline Advisory Committee, The Craig County Board of Supervisors (CCBoS) registers its objection to the process and finding of the United States Forest Service's (USFS) review of the above referenced project and proposed amendments to the Jefferson National Forest LRMP which would allow the construction and operation of the proposed MVP Pipeline across the Jefferson Forest.

We understand your office issued a Draft Record of Decision to amend the JNF LRMP for the MVP project and an accompanying Briefing Paper on June 23, 2017.

We are extremely disappointed that you have issued this DRoD ignoring public input and seemingly conducted little analysis of the claims by MVP and FERC.

We understand the proposed amendments to the 'Plan' claim to:

- Designate a 50-foot wide right of way. No utility corridor would be designated; therefore a plan-level amendment to allocate lands into a 5-C designated corridor would not be needed.
- Amend the standards of the plan to allow the construction and operation of the MVP to vary from certain restrictions on soil and riparian corridor conditions. The USFS would condition the amendments so that MVP would need to implement mitigation measures to meet the original standard's intent to protect soil and riparian areas.

- Allow removal of old-growth trees within the portion the MVP corridor that lies within an old-growth management area.
- Allow MVP to cross the Appalachian National Scenic Trail (ANST) on Peters Mountain in Monroe County, West Virginia at a location that does not have existing major impacts. Since release of the draft EIS, the Forest Service has worked to retain the high scenic integrity objectives when crossing the ANST.
- Allow MVP a five-year period after construction to complete mitigation to meet forest plan scenic integrity objectives.

The CCBoS has repeatedly expressed to local Forest Services' staff its concerns regarding this project and how it will negatively impact the pristine natural forest experience that our county residents enjoy by their investment as taxpayers, and that our visitors desire when visiting the area.

Your USFS DRoD states that in the case of clearing of forest, effects may be long term and significant. The removal of old-growth forest must be fully mitigated and we ask that you apply best practices, proven science, and sound conservation methods to mitigate negative effects. What mitigation for this irreparable loss will be required of MVP?

The crossing of the ANST is also a major concern to the CCBoS. Crossing the ANST and installing a 42" high pressure gas line cannot be mitigated. Once impacted, the degraded view shed will be permanent and forever. It will degrade the experience for thousands of visitors, annually, to the ANST.

To exempt MVP from certain restrictions on soil and riparian corridor conditions will not be in the best interest of the waterways which flow in the region. We object to your conclusion that exempting MVP from critical restrictions, meant to protect soil integrity and water quality, is inconsequential. Such exceptions are clearly not in the best interest of the public and they violate your agency's mission to protect the integrity of the JNF and associated critical water supplies. By allowing this or other similar projects to cross federal lands, you condemn adjoining private lands along their path.

The CCBoS objects to the entire process and granting of a permit based on the review agencies all relying on information provided by MVP. Your USFS DRoD only echoes the FERC FEIS, which only echoes the MVP Resource Reports, which were prepared by the applicants' employed experts and in some cases unnamed contractor 'experts'. Your agency is required to use all "best available science" in your decisions, but well-documented science submitted by qualified experts to FERC/USFS was ignored or dismissed as irrelevant by MVP employed contractors. It appears that your agency did little or no analysis of your own and just accepted most of what MVP declared. The USFS and MVP permit process cannot be declared impartial and balanced. The CCBoS believes that the review process has been controlled too much by MVP.

Reliance on the paid staff of MVP, in the opinion of the CCBoS, does not rise to 'technical competence' listed as one of the decision factors. Since the spring 2015, the CCBoS has raised many concerns regarding the MVP project. One overriding concern has been the effects such a massive project, if approved, will have on the condition of the waterways which flow in Craig County and the Virginia Highlands and New River Valley and Roanoke Valley regions of Virginia. Craig is the headwaters of many tributaries and due to the care and attention given to the environment in Craig our streams remain some of the best-quality headwater sources. Possible negative and irreversible



Reviewing Officer Tony Tooke  
August 3, 2017  
Page 3

impacts to the ANST, old-growth forests, and waterways would surely be devastating and must be scientifically studied and proper mitigation must be developed.

By filing this objection, the CCBoS wishes to express its continued objection to the entire process and all review agencies reliance on information provided by the applicant MVP. We formally object to the DRoD and respectfully request it be withdrawn and never be made final. If not withdrawn, then we are requesting a meeting to discuss and potentially resolve the objections in accordance with 36 CFR § 218.11.

In your role as "cooperating agency" we are extremely disappointed that most of your cooperation was directed to the FERC and was severely limited and the CCBoS believes not transparent with local stakeholders and the governments that represent them in the region that will be directly & heavily impacted.

You seemingly accept MVP's contention that stream sedimentation will 'only' increase by 10% or less, and that this is not significant. As public owners of the Jefferson National Forest, the citizens of the County of Craig dispute this contention. We have worked hard to maintain the high quality of the streams in our County, and we look to the Forest Service to do the same. All actions taken by the USFS directly impact our citizens as our county is comprised of 54% federal land. We realize that the MVP does not cross National Forest within our County but it will certainly impact lands and streams adjacent to the JNF in Montgomery and Giles counties. More pipelines want to cross this area in the future. Will you allow each one to degrade our streams by 10%? At what point would you declare degradation to be too much?

If the project is approved by the FERC to proceed with construction and operation, the CCBoS respectfully asks that all review agencies require MVP to provide a Performance Bond of necessary value to insure that if the proposed MVP mitigation efforts fail, there will be sufficient money available to provide other mitigation actions deemed necessary by objective, outside experts to protect and restore the environment. The Performance Bond should also include sufficient funds to remove all abandoned pipeline and other equipment, and cover necessary state, federal, and local permitting requirements for such removal. This will insure that if for whatever reason, the pipeline no longer serves to transport natural gas, it will be removed to protect the environment and all affected resources will be restored to their pre-construction condition.

Sincerely,  
  
Clay Goodman  
County Administrator

Cc: Ms. Kimberly D. Bose-Secretary, FERC- as posted to the FERC docket # CP16- 10-000  
Dan McKeague-USFS, Blacksburg office  
Jesse Overcash-USFS, Blacksburg office  
Karen Overcash-USFS, Roanoke office  
Honorable Mark Warner, U.S. Senator  
Honorable Tim Kaine, U.S. Senator  
Honorable Morgan Griffith, U.S. House of Representatives  
Honorable Terry McAuliffe, Governor of Virginia  
Honorable Steve Newman, Virginia Senate  
Honorable Greg Habeeb, Virginia House of Delegates