July 31, 2017

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Vicki Craft
U.S. Bureau of Land Management
Southeastern State District Office
273 Market Street
Fleetwood, MS 39232
Submitted Via BLM Online Portal

Re: Comments on FEIS for the Mountain Valley Pipeline and Proposed Grant of a Right-of-Way to Cross the Jefferson National Forest

Dear Ms. Craft:

I am transmitting the comments included in this document on behalf of Wild Virginia, Heartwood, and Ernest Q. Reed, Jr. (collectively "Wild Virginia"). We assert that the Bureau of Land Management ("BLM") may not adopt the Final Environmental Impact Statement ("FEIS") for the Mountain Valley Pipeline ("MVP") and we oppose issuance of a right-of-way ("ROW") grant for National Forest lands.

The FEIS prepared by the Federal Energy Regulatory Commission ("FERC") is grossly deficient and the process through which it was developed violates the National Environmental Policy Act ("NEPA"). The incomplete evidence in the record demonstrates that the current proposal would cause unacceptable impacts to our public lands. The BLM is obligated to issue a revised EIS that is adequate to support findings in its own Record of Decision ("ROD") on the application for ROW grant

In addition to the comments contained in the pages following this letter, we are submitting the additional documents listed below and incorporate them as part of our comments:

- Letter from Wild Virginia to FERC, *Re: Comments on DEIS for the Mountain Valley Pipeline Proposal, FERC Docket No. CP16-10-000, In Response to Notice of Availability of Draft Environmental Impact Statement for the Mountain Valley Pipeline, September 16, 2016*, December 22, 2016. (file name: Wild Virginia Comments on MVP DEIS 12.22.16.pdf).

- Letter from U.S. EPA to FERC, *Re: Mountain Valley Project and Equitrans Expansion Project Draft Environmental Impact Statement; Pennsylvania, West Virginia, and Virginia*; September 2016 (FERC Docket Nos. CP16-10-000 and CP16-13-000; CEQ #2016-0212), December 20, 2017. (file name: EPA Comments MVP DEIS 12.20.17.pdf).

- Letter from Virginia DCR to FERC, *RE: Comments on MVP FEIS and Forest Fragmentation Impacts and Mitigation Recommendations of Virginia State Agency Staff*, July 21, 2017 (file name: VFCP MVP Fragmentation 7.21.17.pdf).

- Dodds, Pamela C., PhD., *Hydrogeological Assessment of Watershed Impacts Caused by Constructing the Mountain Valley Gas Pipeline Through Summers and Monroe Counties, West Virginia*, August, 2016 (file name: Dodds Hydrogeological Assessment 2016.pdf).

- Sligh, David, *Impacts of the MVP on Headwater Streams* (file name: Impacts of the MVP on Headwater Streams.pdf).

Thank you for accepting these comments.

Sincerely,

_____/s/_____
Ernest Q. Reed, Jr.

Comments on Proposal to Grant Right-of-Way Permit
for
Mountain Valley Pipeline
From Wild Virginia, Heartwood, and Ernest Q. Reed, Jr.

I. Introduction

The above-named organizations and individual (collectively "Wild Virginia") strongly object to the proposal to issue approval for a right-of-way ("ROW") to allow the Mountain Valley Pipeline ("MVP") and any associated activities to occupy or cross National Forest lands. Through these comments, we explain the reasons the Bureau of Land Management ("BLM" or "Bureau") may not legally issue the requested ROW permit, based on both procedural and substantive grounds. These reasons include the following:

- The federal agencies have failed to meet the requirements for environmental review and public involvement mandated by the National Environmental Policy Act ("NEPA").
- The applicant has failed to provide information and analyses required to support approvals of the project under federal law governing the actions of both the FS and the BLM.
- The BLM should not proceed with the ROW review process until after the objection process for the draft Record of Decision ("ROD") issued by the FS is complete and a final ROD is issued.

Wild Virginia is a non-profit organization, incorporated in the Commonwealth of Virginia, with the mission of protecting and conserving the wild and natural values of Virginia's National Forests. Heartwood is a non-profit organization, incorporated in the state of Indiana, with the mission of protecting national forests throughout the central and eastern United States. Ernest Q. Reed, Jr. is a Virginia resident. Both organizations and Reed have important interests in the Jefferson National Forest lands that are affected by this action. These interests include past and ongoing uses of these public lands for recreational, scientific, and educational activities. The parties have all been actively involved in the processes through which the Jefferson National Forest Land and Resource Management Plan ("Forest Plan") was developed and in the NEPA review addressing the MVP proposal. All three parties have standing to participate in this BLM process and to seek judicial review of any decisions made by the BLM.

II. Inadequate NEPA Process

The Federal Energy Regulatory Commission ("FERC") has conducted a process under NEPA to review a proposal by Mountain Valley Pipeline, LLC ("Applicant") to construct, operate, and maintain a 42-inch natural gas pipeline through portions of West Virginia and Virginia. In pursuance of its duties under NEPA, FERC published a Draft Environmental Impact Statement ("DEIS") and a notice requesting public comments on the DEIS on September 16, 2016. A Final Environmental Impact Statement was published in June, 2017.

Federal regulations implementing NEPA command that a DEIS "must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act." 40 C.F.R. § 1502.9(a). FERC's DEIS for the MVP failed to meet this mandate in numerous respects. Further, the Final Environmental Impact Statement ("FEIS") released by FERC in June 2017 fails to correct many of the deficiencies previously identified in the DEIS. Finally, a large body of information has been submitted to FERC after the FEIS was issued and has not been considered or incorporated into the NEPA review.

The BLM and Forest Service have independent authorities and duties for this project proposal (the Grant and Plan Amendments) and must also fulfill all NEPA requirements, as well as the requirements of their governing laws. Under NEPA, BLM and the Forest Service are acting as "cooperating agencies" in this EIS process. As such, these resource agencies may adopt FERC's impact statements, if those documents are adequate to meet the commands of NEPA and provide the information and analyses to properly support their regulatory decisions.

FERC violated its obligations for review of this project under NEPA by failing to compile and include necessary information in Draft Environmental Impact Statement ("DEIS") and both the BLM and Forest Service were obligated to reject that document. FERC has also failed to meet its obligations for the FEIS and the BLM and Forest Service are required to correct the deficiencies in the NEPA process and documents before they may issue final decisions in accordance with their resource management responsibilities.

Wild Virginia previously submitted comments explaining many of the deficiencies in the DEIS. We incorporate those comments herein and are submitting them as a separate attachment to these comments (See *Letter from Wild Virginia to FERC, December 22, 2016*). Some of the information and analyses the FEIS still fails to include, despite the fact that these issues were raised by numerous parties in DEIS comments, include the following:

A. Purpose Defined Too Narrowly and Need Not Shown

An adequate explanation of the Purpose and Need for a proposed project is vital to a complete environmental review under NEPA. The way these factors are defined can inappropriately narrow the range of alternatives that will be analyzed. As one court has stated,

> [o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing "reasonable alternatives" out of consideration (and even out of existence). The federal courts cannot condone an agency's frustration of Congressional will. If the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role. Nor can the agency satisfy the Act. 42 U.S.C. § 4332(2)(E).

Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 666 (7th Cir. 1997).

The scope and scale of impacts to which this proposed project will contribute are huge. The pipeline is directly and inextricably tied to the fracking operations that produce the gas and the consumers at the receiving end. However, FERC has refused to incorporate any consideration of those activities and their environmental impacts into this NEPA review. This narrow focus, in turn, has led to a purpose that is so narrowly-defined as to be essentially meaningless.

FERC has stated that the purpose for MVP is "to transport natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States." A more appropriate statement to meet the public's interest, as the federal agencies are charged with doing, would be something like the following: "to help meet energy needs for populations in the Northeast, Mid-Atlantic, and Southeastern United States in the most efficient and environmentally protective manner." Such a purpose would require consideration of renewable energy sources and would dictate that this project be considered in context of the multitude of proposed natural gas pipelines currently in place or under review that can help meet the same purpose.

FERC has also refused to meet NEPA requirements to assess the need for this project to meet either the stated purpose or a more appropriately-defined purpose. In the FEIS, FERC reiterates its previous position that the need issue will not be addressed in detail in the NEPA process. Instead, FERC states that "[t]he Commission will more fully explain its opinions on project benefits and need in its" Order for MVP. FEIS at 1-9. This approach serves to negate the purpose behind NEPA. Federal agencies are to fully describe the possible impacts on the human and natural environments, look at all reasonable alternatives, and take a "hard look" at the proposals. Only by doing this in an open process, whereby the public can understand the proposals and provide useful information to the agencies, can the federal government make sound decisions in the public interest. The BLM may not dismiss this part of the NEPA requirements as FERC insists on doing. Revised EIS documents must adequately address need and the public must have the chance to comment on those analyses before the BLM takes final action on the ROW request.

B. Climate Change Issues Not Adequately Addressed

FERC failed to make any credible analysis of the relation of this proposal and climate change. Two aspects of this issue must be addressed by BLM before it may comply with NEPA. First, BLM must describe the project's incremental impacts on climate change while including both carbon dioxide and methane emissions from all parts of the system to which the pipeline would be tied. This would include the fracking operations, the pipeline and all associated facilities, and the end users of the gas. As stated above, fracking operations cannot be

divorced from the pipeline. It is widely recognized that this and other proposed pipelines would not be built without the fracking boom occurring in West Virginia and nearby states and, conversely, the future of fracking in those areas is largely dependent on the availability of pipelines to transport the gas to U.S. and foreign markets.

Second, the forests and mountains of Virginia are particularly sensitive to warming trends and the associated ecological impacts. For a number of plant and animal species that are native to the areas to be affected by MVP, this area is at the extreme southern end of their ranges. The maintenance of cooler temperatures in these habitats, especially in higher elevations, will determine whether some of these species can survive in this region. Therefore, the impacts this project would cause to habitats and species that are sensitive to warming must be addressed in detail in the NEPA review and any possible mitigation measures to buffer these species from continuing and increasing warming must be discussed. Without question, the removal of forested tracts and of shading of waterbodies, among other effects, must be assessed and BLM must analyze whether actions can or must be implemented to ameliorate those effects.

In the FEIS, FERC claims that its "staff has presented the direct and indirect GHG emissions associated with construction and operation of the projects and the potential impacts of GHG emissions in relation to climate change." FEIS at 4-619. This assertion is not supportable. Direct impacts from the construction of the pipeline will include associated fracking operations to produce the gas transported and combustion of the gas. This again shows that FERC's narrow view of the project and its environmental review hides important information that the public should have and that BLM should use to support its decision. FERC ignores existing warming trends and ways that elimination of core forests and other effects from the project would affect species health and survival or to describe possible mitigation measures that could be required for MVP.

The U.S. Environmental Protection Agency ("EPA") has discussed important problems with FERC's analysis of climate change impacts from MVP, in its comments on the DEIS (contained in an attachment submitted with these comments, Letter from U.S. EPA to FERC, December 20, 2017). EPA noted that FERC inappropriately compared the project greenhouse gas ("GHG") emissions from this project to the global GHG inventory and that FERC incorrectly asserted that no methodology was available for assessing how the project's incremental GHG contributions would translate to physical effects in the environment.

C. Incomplete Alternatives Analysis

Federal regulations mandate that agencies are to analyze "all reasonable alternatives," explaining that this analysis forms "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. Of course, the range of alternatives that may be considered reasonable and for which detailed analyses are needed depends in part on the purpose and need determinations. As explained in section A. above, these aspects of FERC's EIS review are inappropriately narrow and incomplete, thereby limiting alternatives analysis.

One issue FERC has not adequately addressed is the need to do a detailed analysis of any alternative route or route variation that avoids crossing National Forest Lands altogether. Given that construction and operation of this pipeline would be in direct conflict with and would destroy values for which the Jefferson National Forest is supposed to be managed, an alternative that avoids this result must be deemed reasonable and appropriate for detailed analysis; in fact, consideration of such an option must be considered absolutely necessary.

This contention is supported by Forest Service rules that would govern this case directly, if the FS were the party to grant or deny the ROW permit (in FS regulations, the ROW would be termed a Special Use Permit to occupy and use National Forest Lands, 36 C.F.R. § 251.54). The standard that must be met to before a National Forest crossing can be allowed is that "[t]he proposed use cannot reasonably be accommodated on non-National Forest System land. . . ." 36 C.F.R. § 251.54(b). Throughout the NEPA process for MVP, the FS has repeatedly cited this regulatory requirement and insisted that the Applicant and FERC must provide a level of analysis to satisfy the cited regulation.

However, FERC chose an alternative and much less demanding standard by which to review non-Forest System land alternatives. FERC's analysis takes a simplistic approach in that it mechanically and arbitrarily

compares alternatives based solely on mileage of crossings for the different routes and of miles of certain resource types affected. This approach fails to account for the various qualities of the resources that would be affected and is invalid from a scientific perspective. Natural systems and resources are not interchangeable parts and cannot be addressed in that manner. In its conclusion, based upon this invalid approach to the analysis, FERC merely states that the non-Forest alternatives do not have "significant environmental advantages."

Despite its persistent and rightful citation of its own regulation throughout its communications with the Applicant and FERC, the FS has now seemingly abandoned the required standard. The draft ROD issued by the FS makes no mention of the correct standard and certainly does not hold the Applicant to that high bar. The BLM must not likewise capitulate in the face of resistance by the Applicant and FERC to meeting a valid regulatory requirement. The detailed and valid analysis of this reasonable alternative must be completed or the BLM must reject the ROW grant based on the failure of the Applicant to do so.

D. Information Submitted After the NEPA Analysis Was Completed

The final EIS should have incorporated complete information to support the conclusions about the significance of environmental impacts and the ability of the Applicant to mitigate those impacts, to meet all protection requirement and protect the public interest. However, a large body of information has been submitted to FERC by the Applicant after the FEIS was issued and could not have been considered by FERC or by BLM and cannot provide a proper basis for decisions by either body. Further, FERC staff's recommended conditions for the Commission's approval defers submittal of many studies and reports until all regulatory decisions have been made - when the results of those studies cannot change agency decisions, even if they show that serious damages will be caused.

Some of the recent submittals for MVP are described in a letter from the Applicant to FERC and dated June 30, 2017. The letter is available to BLM through FERC docket CP16-10-000. In a search for some of those documents made on this date, we found nearly eight hundred pages of submittals. This count is incomplete because 11 of the 20 documents were unavailable through the FERC docket and, therefore, we have still been deprived of the ability to see and comment upon them, even in this BLM process. However, the large volume of information that has been available for only the past month demonstrates the unfairness of this process. Requiring citizens to access and review such huge bodies of information and provide informed and effective comments at this time is outrageous and the BLM must not complete this review process until this problem has been remedied.

One item on that list includes information about draft Plan of Development documents, which are to guide methods of construction and pollution control implementation. Valid conclusions about the significance of impacts and the effectiveness of pollution control measures cannot be drawn by any of the responsible agencies until these plans are finalized. The documents supplied by the Applicant purport to address many important questions by both the FS and the BLM and address concerns that must be addressed through a new or revised EIS. The NEPA process cannot be deemed sufficient and any decisions made by BLM or other agencies cannot be adequately supported. Amongst the outstanding items requiring review post-FEIS submittals were the following:

In Response to FS Questions
ROW clearing and restoration plans
Impacts to wildlife and water quality and trout streams
Details about road building, closures and access
Pesticide and herbicide use
Plans to reduce and manage spread of invasive species
Scenic impacts to the AT
Water quality, erosion and sediment control methods
The extent of blasting
Monitoring plans
Safety plans

In Response to BLM Questions
Impacts to the Eastern small footed bat
Qualifications and training of MVP construction and monitoring staff
A long- term monitoring plan for the life of the right-of-way
The Hydrostatic Testing Plan and details on where MVP will obtain and discharge water on federal lands,
Stream revegetation monitoring plans
Trash clean-up plan
Avian surveys to search for nests prior to blasting activities
Contingency plans for encountering any unanticipated karst features
Protocol for road closures and environmental compliance
Construction notice plans

The final approvals by the BLM and FS may be premature and may give license for the Applicant to cause grave damages to public resources if the agencies rely only on the documents submitted and assessed prior to the publication of the FEIS. On the other hand, if the BLM relies on these documents now, the Bureau will have violated the dictates of NEPA by seeking to base its decisions on information that was not provided in the open process.

While not all of the issues listed above are of great consequence, the answers to some of the questions could require significant changes to the project. For example, based on the requested information as to the extent of blasting that will be required for the MVP (and presumably information as to the locations), the agencies may need to insist on major changes to the project plan. If blasting is shown to be needed in areas where underground structures may be damaged and sensitive subterranean species endangered, then construction may need to be forbidden in those areas. If threats to habitat of the Eastern small footed bat are shown to be too great to accommodate the current route or would require drastic changes in construction methods, then the process must be started again in response to those risks.

Likewise, documents addressing the biological evaluation, locally rare species, and management indicator species on the Jefferson National Forest, and a contingency plan for crossing the Appalachian National Scenic Trail are vital to a fully transparent and reasoned decision-making process. Focusing on just one of these documents, the adequacy of a contingency plan for crossing the Appalachian Trail could have serious implications for the project. If the responsible agencies find that the plan is deficient and cannot be made protective enough, a route variation or other significant change in the project could become necessary. Such serious results feed back into the earlier stages of the NEPA process and should never be tacked-on to the planning process after all formal reviews have been completed. The BLM must insist that all necessary plans and reports be incorporated into a new or revised FEIS, to include those important sources of information that FERC has been willing to defer until just before construction is to begin.

III. Failure to Meet BLM Requirements for Right-of-Way Grant

Before issuing a ROW grant, the BLM must meet requirements to ensure environmental protection as described at 30 U.S.C. § 185. Under the statute, the BLM "shall issue regulations or impose stipulations which shall include," among other items:

> (B) requirements to insure that activities in connection with the right-of-way or permit will not violate applicable air and water quality standards nor related facility siting standards established by or pursuant to law; (C) requirements designed to control or prevent (i) damage to the environment (including damage to fish and wildlife habitat), (ii) damage to public or private property, and (iii) hazards to public health and safety

30 U.S.C. § 185(h)(2).

The plans submitted to FERC, the FS, and the BLM fail to meet the requirements cited above in a number of ways. Some of these are described below.

A. Compliance with Water Quality Standards is Not Ensured

As stated in the quotation above, any ROW grant must include requirements to insure that all applicable water quality standards will be met. If such a showing is not made, then the ROW grant must be denied. All parties have acknowledged that the environments the Applicant proposes to cross present serious challenges in construction and in implementation of pollution prevention and control measures. At the same time, many of these waterbodies including most on or affected by National Forests are of high quality and very sensitive to development and pollution impacts. Still, FERC maintains that measures proposed by the Applicant will adequately "minimize" negative water quality effects. There are a multitude of issues that refute any contention that conformance with all water quality standards is insured, as the statute governing the BLM's action requires. The following discusses some but by no means all the concerns and evidence regarding this issue.

- The watershed size that FERC used in its cumulative impacts analyses for water quality is totally inappropriate and provides no useful information about the combinations of effects that will result in watersheds, particularly in some of the small, sensitive headwater stream systems on the National Forest. This issue is discussed in greater detail in the Attachment: Sligh, David, *Impacts of the MVP on Headwater Streams.*
- The Applicant has asserted that the activities it will undertake will not result in changes in the hydrologic systems affected and that pre- and post-construction runoff/infiltration characteristics will be the same. This claim is completely unsupported by the scientific literature. This problem and others related to the alteration of hydrologic systems and the great threats to watersheds in the mountainous areas of West Virginia and Virginia are analyzed in detail in the Attachment: Dodds, Pamela C., PhD., *Hydrogeological Assessment of Watershed Impacts Caused by Constructing the Mountain Valley Gas Pipeline Through Summers and Monroe Counties, West Virginia*, August, 2016.
- Impacts to water quality through contributions of pollution to karst systems, due either to work on these formations or runoff into downstream formations, can be very severe and difficult to depict. Pollutants entering these underground systems through flow into sinkholes or diffuse flow into the epikarst can contaminate wells, springs, and surface waters. Despite the difficulty in predicting the flows in these systems and the fact that contaminants have been documented to travel up to 7 miles in western Virginia karst terrain, the Applicant has not yet been required to conduct dye-tracing studies or remote sensing to characterize the risks. Instead, FERC has settled for the identification of surface features within 500 feet of the construction zone. Both Forest Service and Virginia state agency experts explained the problems with these methods but warnings have been ignored by FERC. The BLM must have full information about threats in the karst regions before it may grant a ROW approval.
- The effectiveness of erosion and sediment control measures in much of the terrain through which MVP would cross presents the likelihood that sediment discharges will violate state water quality standards. The Applicant proposes to choose from various Best Management Practices without having shown how these methods will ensure compliance with standards.
- The State of Virginia, in comments to FERC on the DEIS, explained that significantly greater study was necessary to assess impacts from stream and wetland crossings. The state scientists warned that habitat and ecosystem changes could result from these activities that would produce permanent harm to these environments.
- None of the analyses of potential water quality impacts, by FERC, the Applicant, or by state governments includes discussion of antidegradation requirements, including the absolute requirement in the Clean Water Act that "existing uses" be fully protected and maintained. Antidegradation is particularly important for many of the streams on National Forest land, because intact forests and careful management has prevented water quality impairments found in other waterbodies. Indeed, these streams provide a source of clean water that is used by many downstream communities and individuals.
- The analyses of potential impacts to water quality almost uniformly refer to a goal of minimizing or lessening potential pollution impacts, however this is not the level of protection that is mandated by state standards or the Clean Water Act. The BLM must assure that conditions are in place to uphold all designated uses, meet all

numeric and narrative criteria, and comply with antidegradation policies and analyses sufficient to provide these assurances have not been completed. Therefore, it falls to the BLM to insist that these analyses be completed and to deny the ROW grant unless and until all proper assurances can be made.

- The impacts of sediment discharges, in-stream habitat changes, and riparian alterations have nowhere been analyzed in relation to recreational uses that must be protected as designated and/or existing uses under state water quality standards. Yet we know that these uses will be impaired by these activities and sometimes eliminated. One authority for this likelihood is the Corps of Engineers' NEPA support document for Nationwide Permit 12, which allows utility line construction in surface waters. In the document entitled *Notice of Intent to Provide Section 401 Water Quality Certification for Activities Authorized Under Corps of Engineers Nationwide Permit 12*, the Corps explicitly states that recreational stream uses will sometimes be eliminated even when the Corps' permit requirements are met.

B. Forest Fragmentation Analysis is Unacceptable

One of the few environmental impacts FERC acknowledged would be significant was the removal of intact forests and associated changes in ecosystems and natural processes. Thus, a proper analysis of these types of impacts are particularly important and must be paramount in BLM's deliberations to protect National Forest lands. Despite very detailed and well-documented concerns about the methods used to assess forest fragmentation and loss of core forest values submitted by Virginia state agencies, FERC relied on incomplete and professionally incompetent reports and analyses from the Applicant for completion of the FEIS.

A letter from the Virginia Department of Conservation and Recreation to FERC, dated July 21, 2017, explains a multitude of reasons why FERC should have rejected the Applicant's approach to these analyses and why the BLM must do so (the letter is being submitted as a separate attachment with these comments). Based on their analyses of the FEIS and supporting record, three state agencies with great expertise in the issues addressed, designated the Virginia Forest Conservation Partnership, have explained in significant detail and depth the flaws in methods FERC relied upon. Given the great importance of core forest areas on many aspects of ecosystem health, these concerns must be given very serious consideration by the BLM.

One overriding problem the Virginia agencies identified with the Applicant's analyses is that methods grossly underrepresented indirect impacts of forest fragmentation from the pipeline proposal. The state scientists concluded that indirect impacts to "core integrity impacts areas" would affect 15,595 acres. FERC relied on an arbitrarily constricted analysis, which assumed without scientific support that indirect impacts of forest fragmentation would reach an area no more than 100 meters from the edges created by cutting. Through this method, the Applicant predicted secondary areas of impact to total only 2,749 acres, less than one-fifth of that derived from the State's methods.

C. Impacts to AT and Visual Impacts Analysis Inadequate

The Appalachian Trail ("AT") is a national treasure enjoyed by millions of people each year. The proposed Mountain Valley Project threatens the AT with impacts at an unprecedented scale.

The FERC had issued a severely deficient DEIS that prematurely started the public comment period. DEIS was released without volumes of key information which undermined the public comment process, which is required by the National Environmental Policy Act, and did not adequately represent impacts to important resources like the Appalachian National Scenic Trail. The FEIS fails in the same regard.

Contrary to comments by the Appalachian Trail Conservancy and the United States Forest Service, FERC claims that the proposed Mountain Valley Project would have less than significant visual impact to the Appalachian Trail. Our own analysis suggests that the proposed Mountain Valley project represents a serious threat to the scenic value of the A.T., well beyond the scope of similar projects - as many as 19 prominent AT vistas may be severely impacted from this project, many of them viewing impacts as they occur on USFS land. These include Angels Rest, Kelly Knob, Rice Fields and Dragons Tooth — some of the most visited and

photographed locations on the entire AT. The Appalachian Trail Conservancy estimates that the pipeline corridor could be viewed from up to 60 miles away at many viewpoints along the A.T.

As a result, the assessment of cumulative impacts to the AT is drastically insufficient. The scope of cumulative impacts must be based on the nature of the impacted resource, not the proposed project. In ascribing an arbitrary geographic scope for this DEIS of 100 miles, FERC avoids properly documenting cumulative impacts to the Appalachian Trail while admitting that other proposed pipeline projects on the National Forest, including but not limited to the proposed Atlantic Coast Pipeline would, without question, contribute to cumulative impacts. The issue of cumulative impacts is especially important to the AT given the nature of long-distance hiking.

The depth of inadequacy the FEIS exhibits is further apparent in the fact that FERC does not use the correct centerline of the Appalachian National Scenic Trail, repeatedly admits that coordination with AT management partners has been insufficient, falsely claims that there are no existing areas of impact on the AT in the immediate vicinity of the proposal, and fails to analyze impacts to any key observation points along the Appalachian Trail, despite the clear and repeated direction of their cooperating agency, the United States Forest Service.

The George Washington and Jefferson National Forest has more miles of Trail than any other National Forest and, as a result, contributes significantly to the preservation of AT experience by honoring their Forest Plan. The Record of Decision identifies project-specific Forest Plan Amendments that would have to be approved if this proposed project were to be permitted. These amendments would not only be unprecedented, but would significantly erode the value of the Appalachian Trail that the public has spent millions of dollars and devotes many thousands of volunteer hours to improve and 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.

D. Analysis of Impacts from Non-native and Invasive Species is inadequate

The MVP corridor would be a conduit to introduce and spread harmful nonnative invasive plant species (NNIS) along the entire length of the pipeline. This will destroy ecological integrity of private and public lands, threaten public health, and create land-management problems for the life of the pipeline and beyond. The totality of these individual and cumulative impacts remains insufficiently analyzed in the FEIS.

Nonnative invasive species (NNIS) are species intentionally or accidentally introduced by human activity into a region in which they did not evolve and cause harm to natural resources, economic activity, or humans. Invasive species can adapt to a wide range of environmental conditions. Such traits are part of the very reason that they become invasive, as they can outcompete native species with more limited environmental tolerances. Invasive plants often flourish in disturbed habitats and a pipeline corridor such at that proposed by MVP is a major disturbance that will directly lead to a significant increase in ecological and land-management problems related to nonnative invasive plant species.

NNIS damage and degrade crops, pasture and forestlands, clog waterways, spread human and livestock diseases, and destroy trees. They proliferate and displace native plant species, reduce wildlife habitat and alter natural ecological processes NNIS have spread to a wide range of ecosystems and now rank just behind habitat loss as the leading cause of rare species declines. Furthermore, impacts of invasive species are exacerbated by climate change so their effects may become more severe in the future. (Pimental et al., Update on the environmental and economic costs associated with alien-invasive species in the United States, Ecological Economics, 2005). The Forest Service already devotes extensive resources to dealing with NNIS on the Forest but admits that its efforts are far from adequate. To increase the numbers and spread of invasive plants on these lands is irresponsible and will further tax the publics resources to deal with them in perpetuity.

Forest fragmentation has been associated with the spread of invasive plant species. Pipeline rights-of-way create environments particularly conducive to the spread of invasive plant species (Miller, J.H. 2003, 2010. Nonnative Invasive Plants of Southern Forests: A Field Guide for Identification and Control. USDA Forest

Service, Southern Research Station.). Removal of existing vegetation in a wide construction corridor, and extreme soil disturbance and compaction by excavation and construction traffic, create conditions that favor pioneer (early successional) species (ibid.). The linear nature of the disturbed pipeline corridor allows invasive species to expand quickly, often moved by birds and other animals that favor such habitats (Invasive Native Plants of New England, https://www.eddmaps.org/ipane/).

Construction techniques that fail to effectively preserve and replace existing topsoil and its natural structure will exacerbate invasive-plant problems even further (Thomas A. Monaco Invasive Plant Ecology and Management: Linking Processes to Practice Centre for Agricultural Bioscience International, 2012). Common management practices for rights-of-way (including mowing and the use of chemical herbicides) maintain the corridor habitat in a condition ripe for invasions, partly by maintaining edge and shrub habitats that are attractive to animal species that quickly and continually bring propagules of invasive plants from other areas (Yates et al. Recruitment of three non-native invasive plants into a fragmented forest in southern Illinois, Forest and Ecology Management, 2004).

Additionally, corridor managers typically limit their activities to within the corridor boundaries, and such a limited approach to management will allow deep penetration of invasive plants into the now-fragmented forest (ibid.). Once invasive plant species penetrate adjacent non-corridor habitats, those areas will serve as a continual source for corridor reinvasion (and, thus, increased maintenance expense and an increased timeframe where management for invasive plants will be necessary). The original forest structure and composition and even the soil will be changed by the invasive plants, and native vegetation (particularly what had been interior-forest trees) will be negatively impacted or even killed.

Many invasive species are associated with disturbance. Many thrive on bare soil and disturbed ground where native plants have been displaced. Some invasive species may initially enter forests on vehicles or equipment. Japanese stiltgrass (Microstegium vimineum), garlic mustard (Alliaria petiolata), shrub honeysuckles (Lonicera spp.), common privet (Ligustrum vulgare), Oriental Bittersweet (Celastrus orbiculatus), Multiflora Rose, (Rosa multiflora), Nandina (Nandina domestica), Tree-of-Heaven (Ailanthus altissima), Mimosa (Albizia julibrissin), and Russian, Silverthorn and Autumn Olive (Elaeagnus spp.) are all examples of invasive plants most likely to populate these areas.

The impacts of construction and maintenance would be extensive. “The MVP would impact about 2,428 acres of contiguous interior forest designated as Large Core (greater than 500 acres) forest areas in West Virginia. In Virginia, the MVP would impact about 547 acres of contiguous interior forest during construction classified as High to Outstanding quality. The result of the establishment of a new corridor through interior forest would be the conversion of about 17,194 acres of interior forest in West Virginia and 4,579 acres of interior forest in Virginia into edge habitat based on the extension of forest edge for an estimated 300 feet on either side of the MVP right-of-way.” (FEIS, Executive Summary, p. ES- 5).

The adverse effects to forest proposed by the FEIS are significant. The FEIS states that a total of 4,874 acres of forest would be directly affected by construction, in addition to the 21,773 acres of forest-to-edge-habitat conversion cited by the above statement. Hence, a total of 26,674 forest acres would be affected directly and indirectly by the pipeline’s construction. Of the 4,874 acres of forest that would be directly affected by construction, 1,710 acres would be utilized for pipeline operation. Thus, a total of approximately 3,164 acres would be temporary workspaces in forested areas and available for reforestation and adverse-effects mitigation. (FEIS, Table 4.8.1- 1, p. 4- 248).

According to the FEIS, nearly 1000 acres of forested land not located in the pipeline corridor would be used for construction but not for operation, and presumably would be available for reforestation. (ibid.) These temporary workspaces located within forest but outside of the pipeline corridor are estimated to be 21,773 acres of forest-to-edge-habitat conversion, yet these do not include the edge-habitat that would be created by non-corridor temporary workspaces because such disturbances are assumed to be temporary.

This is especially significant in this regard, given that every square inch of area cleared would become immediate and long-term habitat for non-native and invasive species (NNIS) as well as a vector for further intrusion of NNIS from edge towards the remaining forest interior In summary, pipeline construction and maintenance will certainly change and likely reduce ecosystem services that had been provided by the native forest, resulting in both the pipeline corridor and a significant amount of native habitat being lost as a source of important services (e.g., erosion protection, watershed protection, environmental resilience, quality of outdoor recreation, habitat for uncommon or rare species, etc.). Thus, the right-of-way corridor serves to quickly spread invasive plant species along its length, it serves as source for invasives that penetrate and degrade adjacent habitats, and corridor management itself can exacerbate rather than control the spread and persistence of invasive plants species.

Actions will effect previously undisturbed or minimally disturbed National Forest; Peter's Mountain Wilderness; previously unbroken interior forest; steep, erodible forested mountain slopes; erodible remote mountain ridge tops; unique boulder field habitats; ephemeral and perennial streams and wetlands; conservation easements; critical watershed protection areas; private and public wildlife habitat restoration areas; pollinator conservation areas; threatened and endangered species habitats; private farms and grazing lands; sustainable forestry operations; organic farming operations; residential housing developments; and historical farms and battlefields.

Construction and maintenance of the pipeline corridor will exacerbate invasive-plant management problems in perpetuity. Deer populations will increase, as will vehicle-deer collisions and deer related damage to agricultural and home landscapes. Populations of deer-hosted ticks will increase, as will incidence of serious human diseases transmitted by these ticks. Increased deer activities will intensify the spread of invasive plants in all habitats. The pipeline corridor will directly link habitats currently infested with nonnative invasive plant species to public lands (Jefferson National Forest) and private properties that are not currently infested. The penetration of Peter's Mountain Wilderness by nonnative invasive plant species will be greatly accelerated and its ecological integrity will be compromised by construction, maintenance and access roads adjacent to Peter's Mountain along Mystery Ridge.

Populations of interior forest species (both plant and animal) will decline on both public and private lands. Negative impacts of the pipeline corridor will reach much farther into interior forest areas than just the 125-foor construction corridor, effectively magnifying corridor effects to more than 700 feet (85 acres for each mile of corridor). Expensive control programs will be required to control nonnative invasive plant species, not only on the pipeline corridor but also on other public and private lands in the county. Yet, planned corridor-maintenance programs on the MVP will actually favor and spread nonnative invasive plant species.

Extensive use of chemical herbicides will likely be the only control method for nonnative invasive plant species in the pipeline corridor, and such control will be necessary for the lifetime of the pipeline and beyond. Use of chemical herbicides bring their own impacts to surface water quality, groundwater and invertebrate and fish. Such herbicide use will be in direct contradiction to MVP's previous pledge to forgo the use of herbicides in corridor management activities.

E. Insufficient Analysis on the Threatened Roanoke logperch (Percina rex)

FERC's FEIS concluded that the MVP may affect and is "likely to adversely affect" he population and habitat of the Roanoke logperch. FERC's BA states: Increased sedimentation and turbidity resulting from instream and adjacent construction activities would displace and impact fisheries and aquatic resources. Sedimentation could smother fish eggs, mussels, and other benthic biota and alter stream bottom characteristics, such as converting sand, gravel, or rock substrate to silt or mud. These habitat alterations could reduce juvenile fish survival, spawning habitat, mussel habitat, and benthic community diversity and health. Increased turbidity could also temporarily reduce dissolved oxygen levels in the water column and reduce respiratory functions in stream biota. Turbid conditions could also reduce the ability for biota to find food sources or avoid prey. The extent of impacts from sedimentation and turbidity would depend on sediment loads, stream flows, stream bank and stream bed composition,

sediment particle size, and the duration of the disturbances. FERC's words, the "extent of impacts," is noteworthy. It is potentially ominous because many factors are beyond the applicants control.

FERC indicates the applicant "would provide funds to continue and expand these restoration activities in the watershed, and expand on an existing, successful, landscape approach that tangibly benefits the federally listed Roanoke logperch with its known, occupied, range." And that "funding for logperch mitigation would be derived directly from the number of linear stream feet of Roanoke logperch habitat impacts, as identified with the BA." The applicant offers payment as "mitigation," for the destruction of the habitat, harassment, and killed RLP. Furthermore, the applicants reply to the VDEQ Comment No 4 states: "Permanent impacts to aquatic resources will be mitigated through either existing mitigation banks or state approved In-Lieu Fee programs."1 FERC in the final hour has passed the buck, instead of insisting on an alternative route that would avoid crossing the habitat of the Roanoke logperch 13 times.

Increased erodibility, and the likelihood of sediment-laden runoff is of great concern in the steep terrain located on Brush Mountain in Montgomery County and on Poor and Bent Mountain in Roanoke County. Both the Poor and Bent Mountain watersheds include the South Fork Roanoke River, a significant tributary to the RLP habitat, and confusingly this entire watershed has been ignored (Bottom Creek and Mill Creek).

Elimination of riparian buffers along the MVP route will further reduce the already insufficient riparian filtration of sediments increasing sediment loads in the Roanoke River. The previous analysis [sedimentation] does not include increases from the South Fork Roanoke River and its tributaries. As the currently proposed route for the pipeline crosses South Fork Roanoke tributaries more times than tributaries to the North Fork Roanoke River, a comparable increase in sediment load will likely occur in the South Fork Roanoke above its confluence with the North Fork Roanoke where the Roanoke River proper begins. This section of the Roanoke River holds the largest known populations of Percina rex, Roanoke Logperch, and its protection from specific threats to the species is essential for its recovery and delisting. (Dr. Steven Powers, FERC Submittal, Docket# CP16-10, # 20161220-5120-31850793).

IV. Action by BLM is Premature

The BLM cannot issue a ROW approval until it receives concurrence from the FS, which manages lands that would be affected by the MVP. The FS has issued only a draft ROD and a period is now underway in which parties may file "pre-decisional objections" to that draft. After this period ends, the FS must decide whether it will hold one or more resolution meetings and will issue a final ROD. The results of that FS process, including any changes between the draft document and the final ROD should be available to the public in making comments to the BLM. Therefore, we assert that the BLM should suspend its process and hold a new public comment period after the results of the FS process are known and can be incorporated into the public's comments on the ROW and the BLM's decision.