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February 21, 2023

SUBMITTED VIA ONLINE COMMENT PORTAL

Dr. Homer Wilkes
Under Secretary
U.S. Department of Agriculture
c/o Jefferson National Forest MVP Project
MVP Project
5162 Valleypointe Parkway
Roanoke, VA 24019

RE: Comments on the U.S. Forest Service Mountain Valley Pipeline and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement (#50036)

Dear Dr. Wilkes:

Our organizations respectfully submit these comments on the U.S. Forest Service Mountain Valley Pipeline (MVP) and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement (DSEIS). Thank you for the opportunity to comment and for considering our concerns and recommendations. We are deeply invested in the Jefferson National Forest and the health and well-being of the communities in the region who treasure and depend on a sustainable and resilient ecosystem.

For the third time, the U.S. Forest Service (Forest Service or USFS) is attempting to amend the Jefferson National Forest (JNF) Revised Land and Resource Management Plan (Jefferson National Forest Plan, Jefferson Forest Plan, Forest Plan, or JNF Plan) to allow MVP to cross the JNF. The U.S. Court of Appeals for the Fourth Circuit has twice vacated these attempts.[1] The DSEIS yet again fails to adequately analyze project impacts and fails to demonstrate that the proposed JNF Plan Amendment satisfies the directly related substantive requirements of the 2012 Planning Rule.

[1] *Wild Va. v. U.S. Forest Serv.*, 24 F.4th 915 (4th Cir. 2022); *Sierra Club v. U.S. Forest Serv.*, 897 F.3d 582 (4th Cir.), *reh'g granted in part*, 739 F. App'x 185 (4th Cir. 2018).

We strongly urge the Forest Service to issue a revised and corrected DSEIS and, based on a proper analysis, choose the No Action Alternative, which means not proceeding with the proposed amendments to the Jefferson Forest Plan to accommodate MVP and not providing concurrence to the Bureau of Land Management (BLM) for a right-of-way and temporary use permit.

If you have questions about or would like to discuss these comments, please contact Ben Tettlebaum at The Wilderness Society: ben_tettlebaum@tws.org; or (720) 647-9568.

Respectfully submitted,

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I. INTRODUCTION AND SUMMARY.

The DSEIS fails to resolve deficiencies that led the Fourth Circuit to vacate the Forest Service's and the BLM's prior approvals of the MVP project. The Forest Service does not to take the requisite hard look at the pipeline project's adverse impacts, particularly erosion and sedimentation effects on aquatic resources, under the National Environmental Policy Act (NEPA), and misapplies the 2012 Planning Rule to the proposed Amendment of the Jefferson Forest Plan under the National Forest Management Act (NFMA). The 2012 Planning Rule allows the Forest Service to make project-specific amendments, but those amendments must satisfy the Rule's directly related substantive requirements.[2] The DSEIS fails to demonstrate that the MVP project is compatible with the 2012 Planning Rule. In fact, the best available scientific information indicates that the directly related substantive requirements of the Rule will not be satisfied within the scope and scale of the amendments.

Primary flaws in the DSEIS include but are not limited to:

- **Erosion, sedimentation, water quality, and water resources analysis.** The Fourth Circuit remanded the MVP decision to the Forest Service "to consider the 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."[3] **The DSEIS relies on fundamentally flawed modeling projections and ignores a large body of relevant real-world data and information to conclude that short- and long-term water quality impacts from MVP would be minor.**[4] An independent expert sedimentation report by Jonathan A. Czuba, Ph.D., Licensed Professional Engineer, which we adopt in full and incorporate by reference, confirms the DSEIS's failures to adequately address MVP's impacts on erosion, sedimentation, water quality, and water resources.[5] Likewise, an independent expert hydrogeological assessment by Pamela C. Dodds, Ph.D, Licensed Professional Geologist, finds that the DSEIS is based on flawed and inadequate analysis.[6] Accordingly, the Forest Service fails to show that the proposed JNF Plan Amendment satisfies the 2012 Planning Rule's directly related substantive

[2] *Wild Virginia*, 24 F.4th at 931–32 ("'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.'" (quoting *Cowpasture River Pres. Ass'n v. Forest Serv.*, 911 F.3d 150, 164 (4th Cir. 2018), *rev'd and remanded on other grounds*, 140 S. Ct. 1837, 207 L. Ed. 2d 186 (2020))).

[3] *Id.* at 928.

[4] U.S. Forest Serv., Mountain Valley Pipeline and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement 23 (Dec. 2022) [hereinafter DSEIS].

[5] Jonathan A. Czuba, Ph.D, P.E., Assessment of erosion, sedimentation, and water quality impacts of the Mountain Valley Pipeline and Equitrans Expansion Project's proposed crossing of the Jefferson National Forest as it pertains to the U.S. Forest Service's Draft Supplemental Environmental Impact Statement dated December 2022 (Feb. 9, 2023) [Ex. 1] [hereinafter Czuba Report].

[6] Pamela C. Dodds, Ph.D, A Hydrogeological Assessment of the U.S. Forest Service/Bureau of Land Management Mountain Valley Pipeline and Equitrans Expansion Project Supplemental Draft Environmental Impacts Statement (Jan. 24, 2023) [Ex. 2] [hereinafter Dodds Report].

requirements to maintain or restore water quality and water resources,[7] ecosystem integrity,[8] soils and soil productivity,[9] and the ecological integrity of riparian areas.[10]

Specifically, issues in the DSEIS include but are not limited to the following:

- The DSEIS states that Revised Universal Soil Loss Equation 2 (RUSLE2) modeling estimates cannot reasonably be compared to measured data, meaning there is no way to independently validate the RUSLE2 results and assure their validity.[11] As such, **the Forest Service fails to consider monitoring data in the context of the DSEIS's relied-upon modeling results, contrary to the Fourth Circuit's direction**.

- RUSLE/RUSLE2 modeling results are questionable because the model is not calibrated to and highly uncertain for the steep slopes of the JNF. The model is most applicable for slopes less than 20% with very limited data to support the validity of model results derived from slopes greater than 20–30%. Well over half of the total length of the MVP crossing of the JNF has a slope >20% and over a quarter of the total length has a slope >30%. This means that **the RUSLE/RUSLE2 model is most applicable to less than half of the MVP study area in the JNF**.[12]

- Statistical methods used in the DSEIS to analyze USGS in-stream turbidity data are not valid. Further, **analysis of the USGS data indicates MVP construction has caused increases of in-stream turbidity ranging from 20% to 200%, not the 0.1% to 2.6% increase in sediment yield suggested by the RUSLE2 modeling**.[13]

- Moreover, the factor used to represent forest land type in the modeling is not appropriate and likely overestimates baseline soil loss by 500% or more, meaning **the amount of sediment generated from clearing the forest for MVP will increase the annual soil loss estimates from the RUSLE/RUSLE2 model by at least 500%**.[14]

- Still, the **RUSLE/RUSLE2 modeling results show that between 6 and 28 football fields per year would be covered in 1/8-inch thick sediment deposition due to the extra sediment generated during the construction scenario in *each* of the different HUC-12 basins**. This corresponds to nearly 127 football fields per year covered in 1/8-inch-thick sediment deposition for the entire study area of nine HUC-12 basins. **But a full assessment shows that**

[7] 36 C.F.R. § 219.8(a)(2)(iii).
[8] *Id.* § 219.8(a)(1).
[9] *Id.* § 219.8(a)(2)(ii).
[10] *Id.* § 219.8(a)(3)(i).
[11] *See* Czuba Report, *supra* note 5, at 2, 4–6.
[12] *See id.* at 3, 12–15.
[13] *See id.* at 2, 17–23.
[14] *See id.* at 3, 16.

actual amounts are up to two orders of magnitude higher than estimated by the RUSLE/RUSLE2 modeling, meaning 600 to 2,800 football fields per year for each HUC-12 basin would be covered in 1/8-inch thick sediment.[15] Yet, the DSEIS makes no attempt to explain how excepting the MVP project from the relevant JNF Plan standards to allow this amount of sedimentation satisfies the directly related substantive requirements of the 2012 Planning Rule. Nor does the Forest Service even attempt to define what metric or threshold it is using to determine whether this impact means that the amended JNF Plan would be consistent with the Planning Rule.

- A substantial amount of information contradicts the DSEIS's assertion that erosion control devices (ECDs) are effective at managing sediment yields,[16] instead showing that **MVP has caused hundreds of discharges of sediment off its right-of-way (ROW) and has damaged waterbodies all along its path**.[17] The DSEIS improperly limits its examination to certain Virginia Department of Environmental Quality (VADEQ) inspection reports and fails to acknowledge or account for an enormous body of information that refutes predictions that ECDs are reliable and effective.[18] **Construction activities on MVP sites have covered numerous streambeds in inches of sediment for hundreds and sometimes thousands of feet.**

- **The Forest Service fails to provide a meaningful metric, threshold, or standard to assess sedimentation effects on waterbodies.** The DSEIS thus fails to connect the analysis's (flawed) predictions regarding increased sediment load to water quality standards or the needs of aquatic species.[19] Relying on the sediment load delivered to waterways from the RUSLE/RUSLE2 modeling and turbidity data is not sufficient to determine an adverse impact to the streambed. Doing so requires translating sediment load and turbidity into information directly related to the waterbody and biota, such as via embeddedness—accumulation of sand (and finer particles) around gravel streambed particles—and ecological integrity through biotic monitoring. Many species of aquatic biota are adversely affected by even modest levels of embeddedness. But the 2022 DSEIS does not provide any specific metrics or thresholds for determining the significance of impacts. Thus, it is unclear how the Forest Service leaps from the RUSLE/RUSLE2 modeling results and the turbidity data to assessing potential impacts, specifically to the streambed. By measuring turbidity alone, the DSEIS fails to provide a meaningful assessment of the impacts that may be occurring on the streambed due to sedimentation.[20]

[15] *See id.* at 6–10.
[16] DSEIS, *supra* note 4, at 39.
[17] *See infra* Section V(a), (b).
[18] *See* Czuba Report, *supra* note 5, at 24.
[19] *See infra* Section V(a), (b).
[20] *See* Czuba Report, *supra* note 5, at 8–10.

- The DSEIS arbitrarily limits its analysis of water quality data, omitting relevant timeframes and information. The Forest Service reviewed weekly and monthly Transcon monitoring reports only from "2021 and 2022."[21] However, pipeline construction was stalled for much of that time because MVP had lost various federal and state permits and approvals. Importantly, extensive clearing and construction activities began in May of 2018—meaning **the Forest Service failed to independently analyze at least three years of relevant reports**. MVP has caused pollution incidents due to failures of erosion and sedimentation control measures from 2018 through at least October of 2021. The DSEIS fails to address monitoring data or reports from the entirety of this time period and, moreover, does not reveal that construction was occurring during only seven months of the 20-month period that the Forest Service did consider, arbitrarily diluting the failure of pollution control measures.[22]

- The DSEIS is based on: inadequate soil loss estimates; inadequate Best Management Practices (BMPs) and ECDs; disregard for the functions of headwater areas that would be crossed by the MVP pipeline construction on forested ridges; and disregard of water resources, including seeps and springs, in the headwater areas that would be crossed by the MVP pipeline construction on forested ridges.[23] **These deficiencies mean that the ECDs fail to adequately control erosion and sedimentation adversely impacting water quality.**

- **2012 Planning Rule analysis and application.** The Fourth Circuit directed the Forest Service on remand to properly apply the 2012 Planning Rule's directly related substantive requirements to the JNF amendments. **The court specifically held that "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 (i.e., without Pipeline-related amendments) outside this area will continue to provide adequate protections."**[24] **But that is precisely the flawed rationale the Forest Service yet again relies on in the DSEIS**, among many other deficiencies with its analysis and application of the 2012 Planning Rule.

  Specifically, issues in the DSEIS include but are not limited to the following:

  - **The DSEIS fails to properly identify the directly related substantive requirements under both the "purpose" and "effects" prongs of 36 C.F.R. § 219.13(b)(5).**[25] The Forest Service continues to erroneously rely on the notion that plan amendments cannot have substantial impacts if only a small percentage of the larger resource value is impacted. And the Forest Service never adequately explains *why* the small percentages it calculates translate to insubstantial impacts. Further, the Forest Service unlawfully collapses the substantial-adverse-effects

[21] DSEIS, *supra* note 4, at 49.
[22] *See infra* Section V.
[23] Dodds Report, *supra* note 6, at 1.
[24] *Wild Va.*, 24 F.4th at 931.
[25] *See infra* Section V.

test and the substantial-lessening test into one, while conveniently altering the actual regulatory language for what constitutes substantial lessening.[26]

- **The DSEIS fails to apply the directly related substantive requirements *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.**[27]

- **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.** Instead, the Forest Service relies on unsupported and arbitrary assertions that impacts are negligible. On the contrary, to take just one example, **the Forest Service never explains how covering the equivalent of nearly 127 football fields in 1/8-inch-thick sediment deposition for the entire study area of nine HUC-12 basins satisfies the relevant soils, water quality, and riparian substantive requirements**. To take another example, the best available science reveals that MVP will cut across one of the largest blocks of land of high ecological integrity in West Virginia and Virginia, intersecting one of the top 1% largest high-ecological-integrity patches in the two-state region. That suggests that MVP will likely have an outsized, substantial adverse impact on ecological integrity in the plan area—if not the region. Since the Forest Service did not perform ecological integrity assessments, 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.[28]

- The DSEIS's assertion that "existing Forest Plan direction for the JNF is sufficient to maintain the soil resource"[29] finds no support in law or fact; nor does the DSEIS's treatment of water resources, water quality, or ecological integrity of riparian areas find such support. The Forest Service's claim that existing plan direction is sufficient to "maintain the soil resource" and water resources is belied by the fact that the Jefferson Forest Plan was developed under the 1982 Planning Rule and was not designed with the 2012 Planning Rule's substantive requirements in mind, which continues to ignore the "fundamental structural and content differences" between the 1982 Planning Rule and the 2012 Planning Rule.[30] **It is thus 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.**

[26] *See infra* Section VII.
[27] *See infra* Section VII.
[28] *See infra* Section VII
[29] DSEIS, *supra* note 4, at 74.
[30] *See* 81 Fed. Reg. 90,723, 90,724 (Dec. 15, 2016).

- The DSEIS offers no fact-based justification for how or why the sedimentation modeling results, the monitoring data, and MVP's numerous water quality related violations mean that soils, soil productivity, water resources, water quality, and ecologically integrity of riparian areas in the project area will avoid irreversible damage, much less be maintained or restored.[31]

Because the DSEIS has failed to demonstrate that the Jefferson Forest Plan amendments intended to allow MVP to cross the JNF can satisfy the directly related substantive requirements of the 2012 Planning Rule, the Forest Service should issue a revised DSEIS. Based on this revised analysis, the Forest Service must choose the No Action Alternative and, accordingly, not amend the Jefferson Forest Plan to accommodate the pipeline.

II. THE FOREST SERVICE MUST CONSIDER ALL ISSUES RAISED IN COMMENTS AND ANALYZE RELEVANT INFORMATION.

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."[32] This framing improperly limits the scope of the Forest Service's review.

To avoid arbitrary and capricious decisionmaking, 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.[33] Here, the Forest Service proposes to make a new decision[34] in response to a new application from MVP,[35] requiring the agency to consider all issues and relevant information necessary to support that decision,[36] regardless of whether those issues were, or could have been, raised earlier.[37]

III. THE FOREST SERVICE HAS NOT PROVIDED ADEQUATE OPPORTUNITY FOR PUBLIC PARTICIPATION, GATHERING OF OR ACCESS TO INFORMATION, OR DECISIONAL REVIEW.

[31] *See infra* Section V.

[32] DSEIS, *supra* note 4, at 13.

[33] *See Ohio Valley Envtl. Coal. v. Aracoma Coal Co.*, 556 F.3d 177, 211 (4th Cir. 2009).

[34] *See, e.g.*, Emily Hammond Meazell, *Deference and Dialogue in Administrative Law*, 111 Colum. L. Rev. 1722, 1738 (2011) ("When an agency action is vacated, it is essentially extinguished; if the agency wishes to try again, it must initiate procedures anew.").

[35] DSEIS, *supra* note 4, at iii.

[36] *See Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 371 (1989) ("NEPA ensures that [an] agency will not act on incomplete information . . . .").

[37] *See Ohio Valley Envtl. Coal.*, 556 F.3d at 211.

a. The Forest Service improperly refused to provide a scoping period to gather relevant information for its analysis and has subsequently failed to provide adequate and timely access to documents necessary for the public's review of the DSEIS.

The Forest Service has provided inadequate opportunities for public engagement in this process, which, as occurred in the previous attempt to amend the JNF Plan, has led to the Forest Service not considering information needed to inform its decision. In its vacated 2021 decision to amend the JNF Plan, the Forest Service failed "to consider the USGS data and any other relevant information indicating" inconsistencies "with data about the actual impacts of the Pipeline and its construction."[38] Had the Forest Service provided the public with a scoping period on the DSEIS in 2020 and, for the present process, in 2022, it would have enabled the agency to consider critical information needed to arrive at a supportable decision. Having refused, the Forest Service has produced a DSEIS that now reflects that information failure.

The goal of the NEPA public scoping process is to "identify specific issues to be addressed and studied by soliciting comments and input from the public and other state and federal agencies."[39] If "changes or new information or circumstances" have arisen since the prior environmental review, scoping is important for "ensuring informed decisionmaking and public participation."[40] NEPA requires agencies "to disseminate information that allows the public to participate in the decisionmaking process."[41] As to what information the Forest Service must employ in its decisionmaking in the SEIS, the 2012 Planning Rule requires the agency to use the best available scientific information (BASI).[42] Public scoping therefore helps the agency properly understand the issues it needs to address and gather information, including BASI, it might otherwise not analyze in the record so as to avoid *un*informed and erroneous decisionmaking.

By not responding to—and thus denying a request for—public scoping,[43] the Forest Service has once again neglected its information-gathering and public participation responsibilities under NEPA. To support its decision not to engage in scoping, the DSEIS contends that the Federal Energy Regulatory Commission (FERC) conducted adequate scoping related to issues impacting the JNF in its 2017 FERC Final Environmental Impact Statement (2017 FERC FEIS) and that "[w]ritten comments relevant to NFS lands were addressed in the 2017 FERC FEIS," so "this SEIS will focus on the topics identified by the [Fourth Circuit]."[44] True, scoping is not required for a supplemental EIS.[45] But, as noted above, the DSEIS is "supplemental" only in relation to the 2017 FERC FEIS. The Forest Service is considering a separate and new application from Mountain Valley to cross the JNF. The scoping FERC

[38] *Wild Va.*, 24 F.4th at 928.

[39] *Webster v. United States Dep't of Agric.*, 685 F.3d 411, 424 (4th Cir. 2012).

[40] *See id.*

[41] *Shenandoah Valley Network v. Capka*, 669 F.3d 194, 196 (4th Cir. 2012) (citation omitted).

[42] 36 C.F.R. §§ 219.13(b)(5)(i), 219.14(a)(3).

[43] *See* Allegheny-Blue Ridge Alliance et al., Request for Comprehensive Reevaluation of and Scoping Comments for the Mountain Valley Pipeline Project (Dec. 1, 2022).

[44] DSEIS, *supra* note 4, at 11.

[45] 40 C.F.R. § 1502.9(c)(4) (1978). The Forest Service uses the 1978 NEPA regulations for this process, so these comments cite to those regulatory provisions unless otherwise noted.

conducted and the issues FERC analyzed in its EIS were, first, considerably circumscribed in relation to the JNF and, second, now extremely dated, given that information was obtained over seven years ago—*prior* to construction activities on the JNF. Because the Forest Service refused to conduct independent NEPA review in 2017, refused to provide public scoping in 2020, and now refused to allow public scoping in 2022, the agency has never conducted public scoping to identify issues and information it should consider for this project.

Twice now—in the previous SEIS and in the current DSEIS—the Forest Service disregards "changes" and "new information" since the FERC EIS and since the previous USFS SEIS. This new information includes, but is not limited to, relevant data that is essential to understanding impacts of erosion and sedimentation on water quality and affected species, which the Forest Service has now ignored on two separate occasions, leading to vacatur of its 2021 decision to amend the JNF Plan. The agency's apparent desire to rush the process to completion and willfully ignore relevant information is "striking" and "inexplicable."[46]

On top of not providing public scoping, the Forest Service initially refused to grant an extension to the minimal 45-day comment period on the DSEIS[47] and, moreover, did not provide the public with timely access to documents needed to comment on the DSEIS. The Forest Service must keep, *inter alia*, assessment reports, environmental documents associated with a plan, monitoring evaluation reports, and documents that support analytical conclusions "readily accessible" to the public by posting them online and through other means.[48] The comment period for the DSEIS began on December 23, 2022.[49] But the monitoring reports and GIS data on which the Forest Service relied for its analytical analysis in the DSEIS were not posted until January 12, 2023.[50] Further, the Forest Service still has yet to provide access to an unredacted Supplement to the Biological Assessment (SBA), on which the agency has based much of its listed-species analysis. This violates the Planning Rule's requirement to make documents "readily accessible" to the public, along with undermining the public's ability to adequately comment on the DSEIS.

We appreciate that the Forest Service ultimately provided a two-week extension of the comment period late on Friday, February 3, 2023, three days before the initial comment submission deadline.[51] However, as noted, the agency had previously denied a request for an extension.[52] In that extension denial letter, the Forest Service cited to 40 C.F.R. § 1506.11(e) for "[d]irection related to comment extensions."[53] While this regulatory section notes that "agencies shall allow at least 45 days for comments on draft statements,"53F[54] it otherwise addresses the

[46] *See Cowpasture River Preservation Ass'n*, 911 F.3d at 166-67; *Wild Virginia*, 24 F.4th at 931–32; *Sierra Club*, 897 F.3d at 606.

[47] U.S. Forest Serv., MVP Comment Extension Request Denial Letter (Jan. 20, 2023).

[48] *See* 36 C.F.R. § 219.14(d).

[49] 87 Fed. Reg. 78,960, 78,961 (Dec. 23, 2022).

[50] *See* Mountain Valley Pipeline and Equitrans Expansion Project Supplemental EIS, Project Documents, https://www.fs.usda.gov/project/?project=50036&exp=overview (stating dates documents were posted and made available to the public).

[51] U.S. Dep't of Agric., MVP DSEIS Comment Extension Letter (Feb. 2, 2023).

[52] U.S. Forest Serv., *supra* note 47.

[53] *Id.*

[54] 40 C.F.R. § 1506.11(d).

timing of release of the record of decision.[55] Yet, in the letter, the Forest Service claimed that it was denying the extension request in part because there were "no compelling reasons of national policy warranting an extension of the comment period."[56] Setting aside the fact that there certainly were compelling national policy reasons, this is the wrong standard by which to determine whether to grant an extension of the comment period on a DSEIS. The cited provision references a showing of compelling national policy reasons to reduce or extend the time period between issuance of a draft EIS or final EIS and the record of decision,[57] not for the initial comment period on a draft EIS or SEIS. We encourage the Forest Service not to erroneously rely on this compelling-reasons-of-national-policy standard in the future to make its decision on whether to extend a comment period for a draft EIS.

b. The Forest Service should not forego the pre-decisional review process.

Yet again, the Forest Service has designated the Under Secretary of Agriculture, Natural Resources and Environment as the responsible official, thereby circumventing the pre-decisional administrative review process.[58] The Forest Service should reconsider its decision to forego this critical accountability tool.

Pre-decisional administrative review is a "vital" tool.[59] It not only helps authorities "avoid[] potential disputes," but also creates opportunities to "identify and correct any errors" and "fine-tune the design of proposed actions . . . *before* final decisions are made."[60] Perhaps not coincidently, adequate pre-decisional review can also relieve land managers from "the criticism sometimes leveled against post-decisional appeals that reviewers are unfairly disposed to a particular or predetermined outcome."[61]

The Forest Service's decision to circumvent pre-decisional review is again surprising, given it originally agreed to amend the JNF Plan for MVP in accordance with the objection process. Indeed, it found that its decision was "subject to the pre-decisional objection process pursuant to 36 [C.F.R.] § Part 218" and opened a 45-day objection filing period on June 23, 2017.[62] Yet, now for the second time, the agency is refusing to conduct any pre-decisional administrative review of the same project on remand—also for the second time—from the Fourth Circuit.

For a project where the Fourth Circuit has twice vacated the Forest Service's decision, it is stunning that the agency is not taking advantage of the benefits of a thorough pre-decisional review process. The oversight and public process that pre-decisional review provides would

[55] *Id.* § 1506.11.

[56] U.S. Forest Serv., *supra* note 47.

[57] 40 C.F.R. § 1506.11(b), (e).

[58] DSEIS, *supra* note 4, at *4 (preface).

[59] Project-Level Predecisional Administrative Review Process, 77 Fed. Reg. 47,337, 47,342 (August 8, 2012) (notice of proposed rulemaking).

[60] *Id.* (emphasis added).

[61] *Id.* at 47,341.

[62] U.S. Forest Serv., Record of Decision: Mountain Valley Project Land and Resource Management Plan Amendment for the Jefferson National Forest 36 (2017).

greatly benefit the Forest Service's decision on the MVP project. We strongly urge the Forest Service to reconsider its decision to forego pre-decisional review.

IV. THE FOREST SERVICE'S PURPOSE AND NEED STATEMENT IS UNREASONABLY NARROW AND CONFLATED WITH THAT OF THE PROJECT PROPONENT.

The DSEIS defines the Forest Service's purpose and need in unreasonably narrow terms, improperly limiting it to merely responding to MVP's proposal. This narrow framing neglects to account for the Forest Service's own legal mandates NEPA, along with its broad authority and obligations under NFMA, the 2012 Planning Rule, and the JNF Plan itself. In turn, the DSEIS improperly limits the scope of alternatives the Forest Service must consider.

NEPA regulations require that an EIS "briefly specify the underlying purpose and need" for the proposed action.[63] This purpose and need statement is critical because it "necessarily dictates the range of 'reasonable' alternatives" that the agency will consider63F[64] due to the fact that the agency must first define the project's purpose before it can determine what the reasonable alternatives are.[65] Importantly, "[t]he broader the purpose, the wider the range of alternatives; and vice versa."[66]

Although an agency bears responsibility for defining a project's purpose and need, NEPA prohibits agencies from defining their objectives in "unreasonably narrow terms."[67] Such a statement is fundamentally at odds with NEPA's policies and goals:

> One 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.[68]

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[63] 40 C.F.R. § 1502.13.

[64] *Audubon Naturalist Soc. v. U.S. Dep't. of Transp*., 524 F. Supp. 2d 642, 642 (D. Md. 2007) (quoting *Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997)).

[65] CEQ explains: "In determining the scope of alternatives to be considered, the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." *See* Council on Environmental Quality (CEQ), Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations (1986).

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

[67] National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23,453, 23,458 (Apr. 20, 2022) (quoting *Nat'l Parks & Conservation Ass'n* v. *Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2010) ("Agencies enjoy `considerable discretion' to define the purpose and need of a project. However, 'an agency cannot define its objectives in unreasonably narrow terms.'")).

[68] *Simmons*, 120 F.3d at 666 (citing 42 U.S.C. § 4332(2)(E)).

Additionally, "'a purpose is unreasonable when the agency defines it so narrowly as to allow only one alternative from among the environmentally benign ones in the agency's power, such that the EIS becomes essentially a foreordained formality.'"[69]

The CEQ recently reaffirmed its longstanding approach of rejecting purpose and need statements based solely on the applicant's goals as "unreasonably narrow" and therefore inconsistent with NEPA.[70] In 2022, CEQ promulgated a final rule to revert its NEPA regulations concerning the purpose and need statement[71] back to the 1978 versions that had guided agencies for over forty years.[72] CEQ undertook this rulemaking because the Trump Administration in 2020 had modified 40 C.F.R. § 1502.13 and 40 C.F.R. § 1508.1(z) so as to "require agencies to base the purpose and need on the goals of an applicant and the agency's authority."[73] The 2022 rule removed this requirement from 40 C.F.R. § 1502.13 as well as a reference to the applicant's goals in 40 C.F.R. § 1501.8(z), the definition of "reasonable alternatives."[74] CEQ explained that its reasoning for the rule reversion is:

> [to] ensure agencies have the flexibility to consider a variety of factors in developing the purpose and need statement and are not unnecessarily restricted by misconstruing this language to require agencies to prioritize an applicant's goals over other potentially relevant factors, including effectively carrying out the agency's policies and programs or the public interest.[75]

Further, CEQ explained the importance of agencies basing their purpose and need for a proposed action "on a variety of factors" to ensure informed decision-making.[76] Such factors include:

> the goals of the applicant, but not to the exclusion of other factors. Agencies have long considered myriad factors in developing a purpose and need statement. These include the agency's mission and the specifics of the agency decision, including statutory and regulatory requirements. Factors also may include national, agency, or other policy objectives applicable to a proposed action, such as a discretionary grant program targeted to achieve certain policy goals; desired conditions on the landscape or other environmental outcomes . . . .[77]

As such, a purpose and need statement based solely on the applicant's goals is not only unreasonably narrow, but also inconsistent with NEPA.

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[69] *Sierra Club*, 897 F.3d at 599 (citations omitted).

[70] National Environmental Policy Act Implementing Regulations Revisions, 87 Fed. Reg. 23,453, 23,458 (Apr. 20, 2022) (codified at 40 C.F.R. §§ 1502, 1507, and 1508).

[71] 40 C.F.R. §§ 1502.13, 1508.1(z).

[72] *Id.*

[73] 87 Fed. Reg. at 23,457.

[74] 40 C.F.R. §§ 1502.13, 1508.1(z).

[75] 87 Fed. Reg. at 23,458.

[76] *Id.*

[77] *Id.*

Here, the Forest Service has done just that, defining its purpose and need for the proposed action in unreasonably narrow terms. It claims as its sole purpose and need responding to MVP's application. Section 1.3, Purpose and Need for Action, expressly states:

> 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.[78]

Even more confounding, the DSEIS repeatedly asserts that "[t]he purpose of amending" the Forest Plan standards "is to allow MVP to exceed" those very standards.[79]

The plain language of the DSEIS's purpose and need clearly prioritizes the applicant's goals over *any other* relevant factors. It mentions no purpose (or considerations) other than MVP's proposals. Astonishingly, the purpose and need statement completely ignores such relevant factors as the Forest Service's duty to manage the Jefferson National Forest consistent with the Forest Plan and the 2012 Planning Rule, as well as the historical fact that the JNF itself was established to restore and protect water resources.[80] This approach puts a thumb on the scales for a predetermined outcome, completely antithetical to the agency's statutory obligations under NEPA, NFMA, and the 2012 Planning Rule.

These are serious omissions given MVP's proposal to the Forest Service is a request to amend the Forest Plan to modify 11 protective standards critical to the JNF Plan and its ability to provide for species diversity, ecological integrity, water quality, and other environmental concerns.[81] By prioritizing MVP's goals and ignoring other relevant factors, including conservation and management of the Jefferson National Forest, the DSEIS improperly skews its analysis of project impacts and application of the 2012 Planning Rule toward allowing the pipeline to cross the JNF before actually grappling with whether this action is consistent with the directly related substantive requirements of the 2012 Planning Rule. This inadequately narrow purpose and need statement also unreasonably restricts the range of reasonable alternatives the Forest Service has reviewed in the DSEIS. In fact, the DSEIS considers only two potential actions: the proposed action and the "no-action alternative" (or the one "environmentally benign alternative"[82]).

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 DSEIS's unreasonably narrow purpose and need statement fails to comply with NEPA.

V. THE NEPA EFFECTS ANALYSIS IN THE DSEIS IS INADEQUATE.

[78] DSEIS, *supra* note 4, at 7 (emphasis added); *id.* ("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 . . . .").

[79] *Id.* at 62, 63, 65, 67. *See infra* Section VII.

[80] *See* 16 U.S.C. § 552.

[81] DSEIS, *supra* note 4, at 18–21.

[82] *Sierra Club*, 897 F.3d at 599 (internal citations omitted).

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."[83] The primary purpose of this analysis is "to ensure agencies consider the environmental impacts of their actions in decision making."[84] NEPA requires agencies to "take a hard look at environmental consequences."[85] The agency must give proper consideration to "significant new information or environmental changes" that "come to light after the agency prepares an EIS."[86] 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."[87]

Far from minor errors, the DSEIS's analysis of project effects is riddled with substantial flaws, unsupported contentions, inaccurate information, and conclusory statements.

a. The erosion and sedimentation analysis violates NEPA.

The Fourth Circuit remanded the MVP decision to the Forest Service instructing the agency "to consider the 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."[88] The DSEIS fails to meet the court's mandate, using deeply flawed modeling projections and ignoring a large body of "real-world" data and information, to conclude that short- and long-term water quality impacts from MVP would be minor.[89] A decision based on the record before the USFS would be arbitrary and capricious, as demonstrated by expert analyses and a large body of evidence submitted as exhibits with these comments.

1. Flawed modeling approach.

The Czuba Report draws the following general conclusion about the modeling effort used by MVP and accepted in the DSEIS:

> This assessment of the 2022 DSEIS shows why the real-world data and the modeling do not align. That is, a consistent story emerges that identifies deficiencies with the RUSLE/RUSLE2 modeling . . . that has led to pollution incidents and failures of the designed erosion control devices . . . resulting in in-

[83] 42 U.S.C. § 4332(C).
[84] 40 C.F.R. § 1502.1.
[85] *Shenandoah Valley Network*, 669 F.3d at 196 (4th Cir. 2012) (citation and internal quotation marks omitted).
[86] *See Wild Va.*, 24 F.4th at 921 (citing *Save Our Sound OBX, Inc. v. N.C. Dep't of Transp.*, 914 F.3d 213, 218 (4th Cir. 2019) (citing 40 C.F.R. § 1502.9)).
[87] *Webster*, 685 F.3d at 421–22 (citations and internal quotation marks omitted).
[88] *Wild Va.*, 24 F.4th at 928 (emphasis added).
[89] *See* DSEIS, *supra* note 4, at 23.

> stream turbidity levels that have increased by 20% to 200% . . . instead of the 0.1% to 2.6% increase in sediment yield suggested by the RUSLE2 modeling.[90]

The basis for assessing erosion and sedimentation in the DSEIS is the "Revised Universal Soil Loss Equation (RUSLE) model to estimate annual erosion of soils within a watershed and RUSLE, Version 2 (RUSLE2) to estimate site-specific annual erosion of soils due to project activities on the JNF."[91] The DSEIS assumes 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."[92] This assumption disregards the Fourth Circuit's direction that stream monitoring data and other evidence of actual environmental impacts be considered in the context of the modeling results. The Czuba Report highlights the inexorable problem with relying on this modeling as the Forest Service continues to do in the DSEIS: "if the RUSLE2 estimates cannot be reasonably compared to measured data, then there is no way to independently validate the RUSLE2 results and assure their validity."[93] Boiled down, the modeling results have little to no utility in determining actual erosion and sedimentation impacts. Worse yet, the results of the flawed modeling actually support the *opposite* of the DSEIS's conclusions regarding the substantiality of the erosion and sedimentation impacts, as explained below.

The modeling results attempt to show sediment delivered *to* waterways but, contrary to a finding in the DSEIS, do not show that ECDs would be effective at minimizing actual sedimentation impacts *in* affected waterbodies, such as sedimentation in the streambed (embeddedness). Erosion and sediment control (ESC) measures can only be deemed adequate if they prevent negative impacts to the stream environment. Elevated turbidity levels caused by sediment discharges are one measure of impacts to a stream but reveal nothing about other impacts, such as changes to habitat due to sediment deposition in the waterbody—resulting in embeddedness in the streambed—and the resulting negative short- and long-term effects on aquatic organisms.[94]

The DSEIS cites estimates about bulk amounts of sediment coming off the land, in units such as tons/acre/year before, during, and after pipeline-related activities occur.[95] The DSEIS includes calculated percent increases between pre-pipeline construction—baseline conditions—and those that may be released during later stages. According to the DSEIS, sediment loads may increase as much at 2.6% due to MVP activities. However, these results do not present a meaningful picture of the impacts on individual streams or stream systems, nor does the DSEIS attempt to contextualize or even explain why this increase is de minimis, as the DSEIS presumes.

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[90] Czuba Report, *supra* note 5, at 2.

[91] DSEIS, *supra* note 4, at 38.

[92] *Id.*

[93] Czuba Report, *supra* note 5, at 5.

[94] 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 (e.g., the Roanoke River and Blackwater River (*see infra* note 126)) to determine whether there are aquatic life impacts that might be correlated.

[95] DSEIS, *supra* note 4, at 39.

A more useful way to look at the potential impacts of the predicted sediment inputs is in layers 1/8-inch thick blanketing defined areas, such as that equal in size to a football field (120 yards long by 160 feet wide).[96] As explained in the Czuba Report, there is a sound biological basis for the 1/8-inch figure: "The sedimentation depth of 1/8-inch thick . . . represents an amount of sediment . . . expect[ed to] adversely affect the streambed, which would then likely affect sediment-sensitive biota."[97]

Based on the loading estimates from the RUSLE/RUSLE2 model runs used in the DSEIS, "between 6 and 28 football fields per year would be covered in 1/8-inch-thick sediment deposition due to the extra sediment generated during the construction scenario in each of the [nine] different HUC-12 basins" examined in the modeling analysis.[98] These figures are alarming and uncover what the DSEIS's 2.6% sediment increase figure conceals.

It is also important to note that streams affected by these sediment loads are not one-size-fits-all. Impacts from sediment deposits will be considerably different in different types of streams, with different communities of aquatic species, different bottom types, and so on. The modeling analysis takes no account of these variations in aquatic ecosystems that would be affected, treating entire, relatively large drainage areas as if they were homogenous aerial units. That the deposits would be concentrated in much smaller areas within each of the HUC-12 units paints an even starker picture of the substantial effects of this amount of erosion and sedimentation.

Even if the RUSLE/RUSLE2 results were useful to answer the question the court identified, the models are inappropriate for use on the steep slope areas which predominate in the JNF, both for assessing the baseline scenario in undisturbed landscapes and for lands that would be disturbed by pipeline activities. The models were developed based on measurements from thousands of plot years of data,[99] but the vast majority of those plots had slopes much less steep than are found on sections of the JNF.

Based on the data used to develop the RUSLE/RUSLE2 model, its results are most likely reliable where slopes are less than 20%, with very limited data to support the validity of model results derived from slopes greater than 20-30%. Based on the slopes found on the two segments of the pipeline path through the JNF that were examined by the Czuba Report,[100] the model has limited application in the pipeline corridor:

> This means that the RUSLE/RUSLE2 model is most applicable to only 43% of the MVP study area in the JNF (where slope is < 20%) and there is very limited data (in deriving the fundamental RUSLE/RUSLE2 model equations) to support the validity of the RUSLE/RUSLE2 model results obtained from 26% of the MVP study area in the JNF (where slope is > 30%).[101]

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[96] Czuba Report, *supra* note 5, at 7.

[97] *Id.*

[98] *Id.* at 8.

[99] *Id.* at 12.

[100] The Czuba Report did not examine the east slope of Sinking Creek Mountain, which is nearly vertical, posing another host of issues that the DSEIS fails to address.

[101] Czuba Report, *supra* note 5, at 15.

Another flaw in the modeling is that one of the key input factors used is inappropriate for predictions in the Appalachian region.[102] The cover and management factor (C factor) is based on predicted soil loss on forested slopes, thus setting the baseline for measuring increased soil losses during and after clearing and land disturbance. The modeling relied on in the DSEIS used a C factor inappropriate for the forested hillslopes encountered in the JNF.[103] This means that the C factor used in the Geosyntec modeling could result in an overestimate of soil loss from undisturbed slopes in the JNF *by at least 500%*.[104] The reason is that by using the wrong C factor, the modeling assumes a baseline of soil loss that is at least 500% higher than actual pre-construction soil loss for forested slopes in the JNF. "The baseline value is important because the impact of any proposed change is in relation to the baseline estimate."[105] The Forest Service has an obligation to use BASI. It has not done so in the DSEIS and must correct these serious errors.

2. Flawed USGS stream monitoring data analysis.

The Fourth Circuit rejected the previous USFS decision based, in part, on the agency's failure to compare modeling results to stream data for turbidity, which showed increased levels after pipeline work began. In the DSEIS, the Forest Service discusses an analysis of data from monitoring stations operated by the U.S. Geological Survey (USGS) at six sets of paired stations along the MVP route in Virginia: Little Stony Creek; Sinking Creek; and the Roanoke River. The analysis and the datasets contain numerous shortcomings, which include the spatial placement of USGS monitoring sites, the time periods the data cover, and conclusions about the mitigation measures.[106]

The DSEIS relies on a regression analysis of the paired station data to attempt to detect significant difference between downstream and upstream turbidity. Sinking Creek and Little Stony Creek were eliminated from this analysis because of "insufficient sample size."[107] Only Roanoke River data were run through the regression analysis "for detecting significant differences in an upstream - downstream relationship after a change in land management."[108] The DSEIS concludes: "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

[102] *See id.* at 16 (citation omitted).
[103] *Id.*
[104] *Id.*
[105] *Id.*
[106] USFS also should have analyzed additional monitoring data. *See* Czuba Report, *supra* note 5, at 17 ("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 Forest Service excluded the other paired stations because they were outside the geographic boundary of the modeling performed by Geosyntec (p. 39, DSEIS, 2022). At the very least, an analysis of the other USGS paired stations could have provided 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 three paired locations differ from the MVP crossing in the JNF. This point suggesting that the justification was not adequate for the Forest Service to exclude those other three paired stations was also highlighted by the Court in their recent decision.").
[107] DSEIS, *supra* note 4, at 42.
[108] *Id.*

during storm events did not increase following the beginning of construction."[109] "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."[110] USFS erred in not doing so.

Compounding these errors, the regression analysis that the Forest Service relies on is not a valid approach because of changes in land surface conditions post-construction.[111] "Soil erosion generated right after construction is not the same amount of soil erosion that should be expected to occur after vegetation has grown back. Because the conditions on the ground had changed over time . . . in the post-construction period, all the post-construction data cannot be grouped together[, as the Forest Service has done in the DSEIS,] for a statistical analysis investigating changes relative to the data from the pre-construction period."[112] As a result, the regression analysis results are inaccurate, meaning the high confidence level indicating that turbidity pre- and post-construction had no significant difference is unwarranted.

To make matters worse, actual construction that would much more significantly impact water quality is still in early stages. These streams have not been crossed by the pipeline. Indeed, satellite imagery shows that the riparian vegetation of Little Stony Creek, Sinking Creek, and the Roanoke River where the pipeline is supposed to cross are still intact, with the constructed pipeline right of way at some distance from the water bodies.[113]

The Forest Service is attempting to use differences in turbidity between the downstream and upstream stations as a measure of impacts from land uses—MVP as well as others—within "incremental drainage areas" defined as "the difference between the drainage area of the upstream station and the drainage area of the downstream station."[114] However, these areas are a very small percentage of the entire watersheds. Even more significantly, 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[115] 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.[116] Accordingly, the DSEIS's reliance on differences in turbidity between the upstream and downstream stations is inadequate for revealing actual water resource impacts.

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[109] *Id.*

[110] Czuba Report, *supra* note 5, at 17.

[111] *Id.*

[112] *Id.*

[113] USGS Gauging Stations maps [Ex. 3].

[114] DSEIS, *supra* note 4, at 39.

[115] Although charts comparing turbidity for Little Stony Creek are shown for Hurricane Michael, it is unclear what this is intended to demonstrate. Indeed, the text accompanying the graphs states: "The graphs, which cover a period of approximately 4 days, illustrate how quickly turbidity can spike and recede in response to precipitation events." DSEIS at 40. This is unsurprising and unrelated to ineffectiveness of MVP mitigation measures.

[116] USGS Gauging Stations maps, *supra* note 113.

Further, the DSEIS lists inaccurate dates for the beginning of MVP construction in areas that would impact the sites on Little Stony Creek, Sinking Creek, and the Roanoke River.[117] 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.[118] For example, the DSEIS claims that construction started in the Little Stony Creek watershed in September of 2021,[119] but inspectors from the VADEQ and McDonough, Bolyard, and Peck (MBP) documented at least 21 pollution incidents at MVP sites in the period between June 10, 2021, and August 30, 2021.[120] For this example, turbidity and sedimentation from these events actually entered Little Stony Creek via tributaries *downstream* of both monitoring stations.[121]

Another problem with the timing of data that the DSEIS relies on is the limited monitoring period before clearing and land disturbance for MVP. There was only about one year for gathering baseline data.[122] 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.

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."[123] 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. Clearing and construction in upland sites on and off national forest lands started long before the dates listed in Table 4 as "Construction Start."[124] For the Roanoke River, this early construction occurred on numerous tributary streams emptying into the river both above and below the monitoring stations. Therefore, both upstream and downstream stations could have *already* shown significant impacts and sediment load from upland sites,

[117] *See* DSEIS, *supra* note 4, at 41, Table 4.

[118] Wild Virginia, MVP's Record of Pollution Incidents is Predictive of Future Water Quality Threats at App. B, 18–95 (Action Item Log acquired from the DEQ) (July 28, 2022) [Ex. 4] [hereinafter Wild Virginia 2022]; MVP website, News and Info, https://www.mountainvalleypipeline.info/news-info/ (last visited Feb. 20, 2023).

[119] *See* DSEIS, *supra* note 4, at 41, Table 4.

[120] Wild Virginia, Summary of MVP Pollution Incidents in Little Stony Creek Watershed [Ex. 5].

[121] *See id.*; Wild Virginia 2022, *supra* note 118, at App. B, Action Item Log (showing locations corresponding to ID numbers by plan station numbers); USGS Gauging Stations maps, *supra* note 113 (showing that streams flowing from areas where incidents occurred drain to Little Stony Creek downstream from both monitoring stations).

[122] USGS, Monitoring High-Priority Stream Crossings Along Proposed Natural Gas Pipeline Routes (Oct. 8, 2017) (showing stations were not installed until 2017), https://www.usgs.gov/centers/virginia-and-west-virginia-water-science-center/science/monitoring-high-priority-stream.

[123] *Id.*

[124] *See* DSEIS, *supra* note 4, at 41, Table 4.

seriously impairing the efficacy of the data.[125] 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.

For Little Stony Creek and Sinking Creek, where early construction occurred on tributaries emptying into the main streams *downstream* of the USGS stations, the USGS stations thus reveal little about turbidity that was occurring on these tributaries and entering *downstream* from the USGS stations.

For all the USGS stations, construction and impacts upstream and downstream of the USGS stations on the subject streams is a much more complicated story than the DSEIS tells. The final analysis must explain not only the context for USGS stations data, but also the potential cumulative effects from all MVP construction on these streams, including, importantly, those not being monitored by the USGS stations.[126]

Nonetheless, some insight can be gleaned by looking at turbidity data following several storm events. As stated in the Czuba Report:

> The peak turbidity values for each of . . . two storm events [between July 15 and 18, 2019, show differences] in turbidity from the upstream sensor to the downstream sensor. The first peak of each storm event exhibited the greatest increase from the upstream sensor to the downstream sensor of 60% and 150% for the first and second storm events, respectively. The later peaks of each storm event exhibited a 20% to 40% increase in turbidity from the upstream sensor to the downstream sensor . . . . This shows that the turbidity in the Roanoke River has increased quite considerably downstream of the MVP crossing. These percentages could be compared to RUSLE2 modeling results, in general if the model was applicable to the landscape[, which it is not], . . . to assess if percent changes are in reasonable agreement.

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[125] *See* Czuba Report, *supra* note 5, at 18 ("The major issue is that the MVP cuts across the upstream watershed in several places, so the upstream sensor may be reporting an already elevated turbidity reading because of the potentially more extensive construction work farther upstream in the watershed. This is particularly relevant because construction did not extend all the way down to the Roanoke River between the turbidity sensors – the construction work for the stream crossing has not occurred. Other issues with the data itself include several data gaps (particularly at a few high flows that could have been relevant in assessing changes), there is limited pre-construction data, and the "post-construction" data captures incomplete construction work that was eventually halted, allowing vegetation to reestablish. These issues further limit the statistical pre-/post-analysis of only peak flows that was conducted by the Forest Service in the 2022 DSEIS.").

[126] Additional real-world data suggests substantially more problems from upland construction than the Forest Service has considered. *See, e.g.*, Andrew L. Garey (DEQ Water Quality Monitoring Team Leader), High turbidity events at Blackwater River Near MVP Pipeline Corridor (Aug. 12, 2019) [Ex. 6]; Andrew L. Garey, High turbidity events at Ramsey's Draft, near proposed ACP Corridor and Blackwater River, Near Proposed MVP Corridor (Aug. 3, 2018) [Ex. 7]; Andrew L. Garey, High turbidity events at Ramsey's Draft, near proposed ACP Corridor and Blackwater River, Near Proposed MVP Corridor [Ex. 8]; Commonwealth of Va., Re: MVP data is live (email thread) (Aug. 2021) [Ex. 9]; VSCI Data of paired monitoring stations [Ex. 10]. The agency must analyze such additional and relevant real-world data under the Fourth Circuit's decision (or explain why it believes it need not do so).

. . .

> The analysis of these two storm events on the Roanoke River . . . indicates that **turbidity has increased by 20% to 150% during construction in contrast to the 0.1% to 2.6% increase in sediment yield suggested by the RUSLE2 modeling**. **This is a substantial difference that further underscores the poor applicability of the RUSLE2 modeling and suggests that predicted water quality impacts are being severely underestimated.** Going from a 2% increase in sediment predicted by RUSLE2 to a 20% or 150% increase in sediment indicated by the monitoring data represents an **underprediction of between one and two orders of magnitude**. This increase of 20% to 150% is likely an underestimate because . . . the upstream sensor may be reporting an already elevated turbidity reading because of the potentially more extensive construction work farther upstream in the watershed. This change in turbidity was observed after the [additional] []erosion control devices[] were in place.[127]

Additionally, a single storm event on Little Stony Creek "shows that peak turbidity has increased by 200% after construction in contrast to the 0.1% to 2.6% increase in sediment yield suggested by the RUSLE2 modeling."[128] Thus, independent analysis in the Czuba Report shows that in some areas turbidity levels actually increased between 20% and 200%—substantially greater than the 0.1% to 2.6% suggested by the RUSLE2 modeling. These increases are correlated with MVP construction.[129]

3. The USFS has failed to assess a large body of relevant information about MVP impacts on waters.

In the DSEIS, the USFS asserts that a "[c]omprehensive analysis of the modeling results and real-world data indicates that the ECDs that were installed and maintained are effective at managing sediment yields."[130] Contrary to this assertion, a massive amount of information shows that MVP has caused hundreds of discharges of sediment off its ROW and damaged waterbodies all along its path through West Virginia[131] and Virginia[132].

As acknowledged in the DSEIS, one way to judge the effectiveness of erosion and sediment controls is through inspections.[133] Given this recognition, it is puzzling that the DSEIS examines just one limited set of inspections conducted by the VADEQ[134] and the results from a

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[127] Czuba Report, *supra* note 5, at 17–21 ("Even though the timescales are different (single events for in-stream 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.").

[128] *Id.* at 21–22.

[129] *Id.* at 20–22.

[130] DSEIS, *supra* note 4, at 39.

[131] *See* State of West Virginia MVP Incident Reports [Exs. 11, 12 & 13].

[132] *See* Wild Virginia, Compilation of Virginia DEQ Inspection Reports - Mountain Valley Pipeline, Spread G - 2021 and 2022, Assembled (Feb. 17, 2023) [Ex. 14] [hereinafter VADEQ Inspection Reports].

[133] *Id.*

[134] *Id.* at 44–46.

narrowly tailored inspection program by a contractor working for the USFS.[135] Pertinent information that the Forest Service has not addressed, includes (but is not limited to):

- the much larger set of DEQ inspections not discussed in the DSEIS;
- inspection reports by MBP prepared under a contract with DEQ;
- inspection reports by the West Virginia Department of Environmental Protection (WVDEP); and
- information collected by volunteer monitors and observers.

As detailed below, numerous state water quality violations in both Virginia and West Virginia demonstrate that sedimentation issues have been pervasive during construction of MVP, especially in upland sites with steep slopes. The public has also observed major sedimentation events, landslides, and failures of mitigation. The route across Jefferson National Forest contains some of the steepest slopes and most challenging terrain of the entire MVP route. The route was closed to public access for critical periods during and after construction, preventing public efforts to monitor streams on national forest lands. However, consistent sedimentation of streams coming from MVP construction activity has been impossible for the public to ignore. Reports by the public and non-profit conservation groups have led to many of the state water quality violations. 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.[136]

A. VADEQ reports.

An allegedly independent agency review of inspection information in the DSEIS is deeply flawed. The USFS looked at 135 reports prepared by VADEQ inspectors from January 2021 through August 2022.[137] These inspections were conducted in Giles, Craig, and Montgomery counties. The Forest Service offers no reasons for arbitrarily limiting its review to this time period or this geographic area. As explained below, numerous factors dictate a different approach to gain a true and accurate understanding of MVP's impacts.

The Forest Service ignored a large body of VADEQ reports, reviewing just a small sample of the full 980 that are available.[138] These reports are easily accessed on DEQ's website[139] and the Forest Service must address their relevance to its decision.

First, there is no obvious basis on which to limit the review to the particular 20-month period the Forest Service chose. Extensive clearing and construction activities began in May of

[135] *Id.* at 46.

[136] Trout Unlimited and West Virginia Rivers Coalition, Numeric Turbidity Water Quality Standards: A Tool to Protect Aquatic Life 4 (March 2020) [Ex. 15], https://wvrivers.org/wp-content/uploads/2020/03/WV-Rivers-TU-Turbidity-Report.pdf.

[137] DSEIS, *supra* note 4, at 45.

[138] This total number includes: 68 Complaint Investigation Reports; 8 VWP Field Inspection Reports; and 904 Field Inspection Reports.

[139] Va. DEQ, Mountain Valley Pipeline, https://www.deq.virginia.gov/get-involved/topics-of-interest/mountain-valley-pipeline/-folder-199#docan1481_4948_942 (last visited February 17, 2023).

2018 in the subject counties and throughout other parts of the pipeline route, so lands have been disturbed across a seven-county area since that time. Pollution incidents have occurred due to failures of ESC measures from early 2018 through at least October of 2021.[140] It is arbitrary and capricious not to include reports from this entire period.

If any single period for review were chosen, a reasonable way to do so would be to cover just that timeframe when actual land clearing and construction were underway. In Spread G, which includes Giles, Craig, and part of Montgomery counties, active construction has occurred in two periods, from May 2018 to January 2019, and from May 2021 to November 2021.[141] It is predictable, and has been clearly shown,[142] that pollution events are most likely to occur during such times. The threat to streams in the JNF and downstream is highest during active construction.

Use of the period in 2021 and 2022 is particularly inappropriate because this time period skews the overall violation numbers or pollution events to minimize the perception of threats to water quality. 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.[143]

In its accounting, the Forest Service indicates that ten 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.[144] But during construction periods in 2021 on Spread G, more than a third (34.4%) of the reports showed that measures were not installed as planned or at all.[145]

The DSEIS also states that twenty-two of 135 VADEQ reports (16%) indicate that measures were not properly maintained in effective operating condition in accordance with good engineering practices and, where applicable, manufacturer specifications.[146] During 2021 construction periods in Spread G, this proportion is in fact 28% of the total.[147]

The Forest Service should review the individual instances of deficiencies described in the VADEQ 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. Not surprisingly, of all types of problems shown on the VADEQ reports examined in the DSEIS, nearly 70% of the problems described occurred during that short period when construction was underway in 2021.[148]

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[140] *See* Wild Virginia 2022, *supra* note 118, at App. B, 18–95; *see also* Wild Virginia, Mountain Valley Pipeline Pollution in Virginia Watersheds at App. A, 41–43 (Feb. 2023) [Ex. 16] [hereinafter Wild Virginia 2023].

[141] Wild Virginia 2022, *supra* note 118, at 11.

[142] *Id.* at 11–13, Figures 1–3.

[143] *Id.* at 11, Figure 3.

[144] DSEIS, *supra* note 4, at 45.

[145] *See* VADEQ Inspection Reports, *supra* note 132.

[146] DSEIS, *supra* note 4, at 45.

[147] VADEQ Inspection Reports, *supra* note 132.

[148] *Id.*

In actuality, the entirety of violations shown in the VADEQ inspection reports for the whole period of record is enormous and appalling. VADEQ's documents strongly refute assertions in the DSEIS that pollution controls for MVP have—or could—adequately protect water quality. The specific assertion that, in Virginia, "ECDs are maintained and repaired as needed, and the vast majority of inspection reports did not identify any environmental harm,"[149] is patently untrue.

The most egregious pollution impacts VADEQ inspectors found are those shown in Virginia Water Protection Program (VWP) Field Inspection reports covering a period from May to October of 2018.[150] In these reports, VADEQ reveals pollution incidents where MVP dumped tons of sediments into waterbodies in Franklin, Montgomery, Giles, and Roanoke counties. A summary of those impacts shows the following:

Date	Stream Impacted	Sediment Deposition in Waterbody
May, 2018	Unnamed tributary (UT) to Blackwater River	approx. 1,100 linear ft. of deposits, depth from 1 to 11 inches
May, 2018	UT to Blackwater River	approx. 1,690 linear ft. of deposits, depth from 1 to 10 inches
June, 2018	UT to Flatwoods Branch	approx. 3,600 linear ft. of deposits, depth from 1 to 7 inches
June, 2018	Two UTs to North Fork Roanoke River	total approx. 2,200 linear ft. of deposits, depth from 1 to 5 inches
June, 2018	UT to Flatwoods Branch	approx. 209 linear ft. of deposits, depth < 0.5 to 3 inches
Aug., 2018	UT to Sinking Creek	approx. 600 linear ft. of deposits, depth from < 0.5 to 3 inches
Sept., 2018	Kimballton Branch	approx. 630 linear ft. of deposits, depth from < 0.5 to 9 inches
Sept., 2018	wetland adj. to UT Mill Creek	approx. 350 sq. ft. of deposits, depth from < 0.5 to 6 inches
Oct., 2018	UT to Blackwater River	linear ft. not known, impacts private property owner denied access, depth from < 0.5 to 2 inches where observable

The physical and biological consequences of these pollution incidents are substantial. The VWP reports indicate in most of the cases cited above that the sedimentation affected the "channels' viable habitat" and were "substantially disrupting aquatic life movement."[151]

The VADEQ reports also reveal impacts to numerous other waterbodies, some highly concentrated in individual streams or watersheds. For example, inspectors documented stream

[149] DSEIS, *supra* note 4, at 46.

[150] Wild Virginia, VWP Field Inspection Reports Prepared by Virginia DEQ: Mountain Valley Pipeline (Feb. 17, 2023) [Ex. 17] [hereinafter VWP Reports].

[151] *See, e.g.*, *id.* at 2, 7 (explaining that, in the reports, inspectors answer "no" to the statement, "Construction activities are **not** substantially disrupting aquatic life movement," indicating that the activities are substantially disrupting movement of organisms, which is supported by the accompanying statement, "Sedimentation observed within the stream channels' viable habitat" (emphasis in original)).

sediment deposits to Stony Creek or its tributaries on September 15, 2018, November 28, 2018, and December 20, 2018. In numerous other instances, VADEQ observed measurable amounts of sediment deposited on land outside the pipeline ROW, creating likely impacts to waters in at least some cases.[152]

Just as the Forest Service has failed to justify the limited time period it chose for VADEQ reports assessed in the DSEIS, it has likewise not explained a non-arbitrary basis for the geographic scope of its review. The ESC methods Mountain Valley proposes to use on the JNF are essentially the same as those used throughout the pipeline's path in both West Virginia and Virginia. However, the slopes in the JNF are steeper, posing greater threats to an ecosystem of high ecological integrity.[153] And while the areas the DSEIS considered (Giles, Craig, and part of Montgomery counties) contain or are closest to JNF lands and have some characteristics in common, there are also significant differences across this three-county area in terms of slope, soil type and depth, erodibility, and numerous other factors that will affect the capabilities of the ESC measures. Moreover, though the landscapes in these counties differ from the Virginia counties farther to the east, there is no obvious basis for assuming that these pollution controls will be more effective at on-Forest sites versus off-Forest sites. Quite the opposite. Many of the features that led USFS to designate certain sections as "high hazard areas" do not occur as frequently in Franklin and Pittsylvania counties. As such, ESC failures are even more likely in the JNF.

B. Failure to acknowledge or assess findings by MBP inspectors.

In addition to the inspections conducted by VADEQ personnel, the State of Virginia contracted with the firm MBP to perform MVP inspections. MBP has documented thousands of inspections. Yet, the DSEIS contains no analysis of these results, which constitute "other relevant information." In fact, in its discussion of water quality impacts in Virginia, the DSEIS fails even to mention that the MBP inspection reports exist.

MBP inspectors have compiled a listing, designated an Action Item Log, in which individual action item issues are described and assigned separate identification numbers. The issues include a variety of conditions that, according to the inspectors, require follow-up by Mountain Valley to implement missing pollution control measure, "remediate" damages to waterbodies or offsite areas affected by MVP pollution discharges, or repair or maintain BMPs.[154]

MBP listed 5,100 action item issues in the log through July 14, 2021.[155] The record of pollution problems revealed in this listing is even more appalling than that shown in VADEQ inspections. Several reports describe these results in detail[156] (in combination with the separate VADEQ reports). Important issues from the reports include:

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[152] Wild Virginia 2023, *supra* note 140, at 19–21.

[153] *See infra* Section VII.

[154] Wild Virginia 2022, *supra* note 118, App. B, 18–95 (Action Item Log).

[155] *Id.*

[156] Wild Virginia, Documenting the Damage, An Analysis of Virginia State Inspection Reports for MVP (Dec. 13, 2021) [Ex. 18]; Wild Virginia 2022, *supra* note 118.

- MVP has deposited sediment off its construction sites nearly 700 times. These deposits onto adjacent landowners' properties and into waterbodies have continued into late 2021—between June and October of 2021, inspectors found 114 instances of off-ROW sediment deposition and 8 instances where waterbodies were impacted.
- Overall, MVP has caused measurable sediment deposited into streams or wetlands in at least 112 of those instances.
- In more than 360 instances, MVP has failed to install pollution controls in accordance with state-approved plans, 37 of which occurred in spring and summer of 2021.
- In at least 553 instances, MVP failed to meet deadlines to fix deficiencies in pollution controls. In many other cases, the usual deadlines were extended, sometimes indefinitely, because of wet conditions on the ROW or because neighboring landowners refused to allow access to their properties.
- The timing of MVP pollution incidents corresponds closely with the periods when active construction was occurring, indicating that construction results in the greatest spike in impacts to waterbodies and residents.
- Many pollution 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.
- Supposed "enhanced"[157] pollution control measures promised in a consent decree with Virginia have not stopped the pollution and waterbody damages.
- The MVP pollution impacts have been heavily concentrated in particular watersheds, including some very small drainages. These include many areas where endangered, threatened, or sensitive species are native.
- Supposed "remediation" of streams from damages from sediment deposition are not shown to be effective and may cause more harm than good.[158]

These findings directly contradict the DSEIS's claims that erosion and sedimentation impacts have been and would be minor.

C. VADEQ's claims about MVP violations and pollution impacts.

In the DSEIS, the Forest Service recounts VADEQ responses to public comments regarding ESC failures and pollution events caused by MVP. The Forest Service does not acknowledge or assess a large body of information in the record before VADEQ and the State Water Control Board, much of which strongly refutes the VADEQ's claims that MVP has caused minimal impacts. (This information was submitted to the record in the Forest Service's vacated

[157] 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 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. Oral Argument at 23:03–23:00, *Sierra Club v. W. Va. Dep't of Envtl. Prot.*, No. 22-1008 (4th Cir. Oct. 25, 2022), https://www.ca4.uscourts.gov/OAarchive/mp3/22-1008-20221025.mp3.

[158] Wild Virginia, Documenting the Damage, *supra* note 156; Wild Virginia 2022, *supra* note 118.

2020 decision.) Information compiled by groups and submitted with these comments further shows that the VADEQ claims are false or, at best, misleading.

The Forest Service seems to have accepted VADEQ's assertions—presenting no analysis of their bases—thus failing to fulfill its obligation to independently review critical information. The VADEQ 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. Most significantly, the VADEQ has chosen not to perform any instream assessments of the impacts of sedimentation on ecological integrity, which is the duty of the Forest Service under the 2012 Planning Rule.

As an example of the Forest Service accepting the VADEQ's assertions without independent or adequate analysis, the DSEIS cites a VADEQ memo claiming "there have been no widespread impacts, no evidence of a fish kill, or citizen monitoring-identified violations of water quality standards."[159] These claims are both untrue or, in some instances, irrelevant to the issues USFS must consider. To wit:

- As described above, MVP discharges have resulted in sediment deposition in waterbodies in at least 112 instances and those events have damaged streams and wetlands in 18 of the HUC 12 areas along the pipeline path in Virginia, refuting the contention that impacts have not been widespread.

- MVP pollution allegedly not causing documented fish kills is not particularly useful for showing the severity of water quality damages from pipeline activities or threats future work would pose. Sediment suspended in the water column of streams or deposited on the streambed from erosion can harm fish physically and affect their habitat, success in feeding, reproduction, or other behaviors, even if it does not cause mortality.

- The VADEQ claim that water quality standards violations have not been demonstrated is soundly refuted by the facts in the VADEQ's own records, as shown immediately below.

D. Duty to independently assess compliance with water quality standards.

The DSEIS incorrectly states that "Virginia does not have a water quality standard for turbidity."[160] To the contrary, while Virginia has not established numeric water quality criteria for turbidity or related pollutant measures—such as suspended or settleable solids—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.[161] 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,[162] as well as specialized uses, such as public water supplies.[163]

[159] DSEIS, *supra* note 4, at 45.
[160] *Id.* at 42.
[161] 9 Va. Admin. Code § 25-26-20(A).
[162] *Id.* § 25-260-10(A).
[163] *Id.* § 25-260-380.

As documented by VADEQ and MBP inspectors, conditions in streams undeniably interfere with designated uses.[164] For example, DEQ inspectors prepared a series of reports designated as VWP inspections in which they documented a total of nine streams whose bottoms had been covered by sediments from MVP sites for hundreds and sometimes thousands of feet.[165] The record of pollution discharges from MVP sites compel a conclusion that water quality standard violations are likely to recur if pipeline construction is allowed to resume.

E. West Virginia DEP inspection reports and notices of violation.

The WVDEP has issued at least 56 notices of violation (NOVs) to Mountain Valley for sediment and erosion control and water quality related violations at MVP sites throughout the counties all along MVP's route.[166] Importantly, many of the NOVs cite violations of water quality standards, indicating degradation of conditions in the waterbodies. Reports describe incidents where MVP produced conditions "allowing sediment deposits on the bottom of" streams or wetlands in at least 25 different locations.[167] In 23 locations, Mountain Valley was cited for "allowing visible settleable solids in" streams or wetlands.[168]

Just as those that have been documented by Virginia inspectors and citizen monitors, these pollution incidents in West Virginia are predictive of problems likely to recur if construction is allowed to begin in the JNF. As in Virginia, where the USFS chose to assess only a tiny percentage of the reports available from VADEQ and MBP inspectors, the Forest Service has provided no rationale in the DSEIS for ignoring these West Virginia NOVs and water quality standards violations. The proposed erosion and sediment control measures MVP has used, which have failed repeatedly in West Virginia, are essentially the same as those proposed for the JNF. The Forest Service must revise the DSEIS to include analysis of these findings.

F. Volunteer Monitoring Results

Citizen volunteers, trained and supported by Trout Unlimited (TU) and the West Virginia Rivers Coalition (WVRC), have monitored streams along the MVP route since well before land clearing or other construction activities began in 2018. The monitors test for turbidity, as well as other basic physical and chemical parameters.

In several instances, monitors have documented significant pollution impacts from MVP that further support the finding that ESC measures implemented on pipeline sites have not prevented significant pollution events in waterbodies. The following excerpt from a report prepared by TU and WVRC describes just one such example:

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[164] *See* VWP Reports, *supra* note 150 (explaining that MVP activities have substantially disrupted the movements of aquatic organisms, thus interfering with the designated of aquatic life support as required at 9 Va. Admin. Code § 25-260-10(A)).

[165] *See* Wild Virginia 2023, *supra* note 138, at 10–11; VWP Reports, *supra* note 148.

[166] West Virginia DEP, Mountain Valley Pipeline, Water Quality-Related Violations and Damage to Waterbodies, Summary of Findings from West Virginia DEP Inspection Reports (February 2023) [Ex. 19].

[167] *Id.*

[168] *Id.*

> On the North Fork Roanoke River in Montgomery County, Virginia, volunteers have been monitoring several sites near the Mountain Valley Pipeline crossing since 2017. During one notable event on June 22, 2018, a short but heavy downpour resulted in turbidity levels exceeding the maximum detection limit of the 120-centimeter secchi tube (>240 NTU). At the same time, upstream of pipeline construction turbidity levels on the North Fork Roanoke River only elevated to 30 NTU. Similar occurrences took place on September 15, 2018; February 23, 2019; April 13, 2019; and July 21, 2019. On July 19, 2018 turbidity downstream of the pipeline rose to 50 NTU, despite no rainfall in the past 48 hours and low water conditions in the stream. After this event, volunteers noted new sediment buildup on the streambed. Though Virginia has no numeric turbidity standards, these measurements far exceed numeric standards in nearby states such as West Virginia. The difference in turbidity values upstream and downstream of the pipeline crossing would suggest that the increased turbidity and resultant sedimentation instream is due to pipeline construction activities, even in absence of visual observation of construction activities.[169]

This example is typical of others and yet another demonstration that MVP's pollution control measures have not prevented—and therefore likely will not prevent—significant pollution impacts to streams.

b. The DSEIS's water resources and water quality impacts analysis violates NEPA.

The DSEIS concludes that adoption of six amendments to Forest Plan standards (FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003) "would result in minor, short-term adverse effects on hydrology."[170] The Dodds Report, however, demonstrates that a decision based on this finding in the DSEIS would be arbitrary and capricious and unsupported by evidence in the record.[171]

The Dodds Report explains that the proposal to amend the Forest Plan, modifying standards related to ecosystem integrity, soils, water quality, and water resources is based on:

> (1) inadequate soil loss estimates;
> (2) inadequate Best Management Practices (BMPs) and Erosion Control Devices (ECDs);
> (3) disregard for the functions of headwater areas that would be crossed by the MVP pipeline construction on forested ridges; and
> (4) disregard of water resources, including seeps and springs, in the headwater areas that would be crossed by the MVP pipeline construction on forested ridges.[172]

[169] Trout Unlimited and West Virginia Rivers Coalition, *supra* note 136, at 4.
[170] DSEIS, *supra* note 4, at 47.
[171] Dodds Report, *supra* note 6.
[172] *Id.* at 1.

Predictions about changes in runoff patterns and soil loss from land surfaces due to construction must be done at a functional watershed level to be meaningful and valid. In the JNF and adjacent areas, such watersheds are relatively small, encompassing first and second order streams, as well as intermittent and ephemeral streams.[173]

These headwater stream systems, beginning on the mountain ridges and draining relatively steep slopes, "provide the essential aquatic habitats for aquatic species and associated terrestrial fauna and fowl within the entire length of the river continuum in the overall watershed."[174] Further, "[b]ecause upland first order high gradient streams are well defined and are considered to provide the basis for watershed evaluation, it is essential to select these smaller watersheds, typically 200 acres in size, to evaluate the impact of construction projects."[175]

By contrast, the modeling upon which the DSEIS's conclusions rely used considerably large land areas represented by 12-digit Hydrologic Unit Codes (HUC-12s). 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.[176]

One part of the JNF affected by the MVP is the Craig Creek area. The pipeline path through the Craig Creek watershed is 2.3 miles long and 125 feet wide. In context of the HUC-12 area of 33,173 acres used for modeling, the 35 acres of land disturbance the pipeline ROW represents appears small.[177] However, the MVP ROW crosses four small watersheds containing first order tributaries to Craig Creek (each less than 200 acres in size) and its impacts on these smaller systems are likely substantial.

1. Inadequate BMPs and ECDs.

The BMPs and ECDs included in plans for MVP are, by design, inadequate to properly control runoff pollution and protect streams from sedimentation in the areas along the pipeline path. Even so, documents submitted to USFS present a menu of BMPs Mountain Valley may use to control erosion and sediment discharge from its sites.[178] This list names "sediment trap outlet" as one such method, but the actual construction plan sheets, which are to show the specific measures installed along the entire pipeline, do not indicate that either sediment traps or sediment trap outlets will be used.[179]

This omission is a serious deficiency because "[s]ediment basins constitute the only BMP capable of detaining the water quality volume for release over 48 hours, or detaining and releasing over a 24-hour period the expected rainfall resulting from the one-year, 24-hour storm"

[173] *Id.* at 3, 8, 19.
[174] *Id.*at 6.
[175] *Id.* at 3 (internal citations omitted).
[176] *See id.* at 3, 18.
[177] *See id.* at 3.
[178] Geosyntec Consultants, Inc., Hydrologic Analysis of Sedimentation for Streams near Suitable Habitat for Threatened and Endangered Aquatic Species, Virginia and West Virginia, Report of Findings – Version 1.2 (May 4, 2020).
[179] *See* POD, App. C-3 (Plan Sheets 1, 2, & 3).

for the MVP sites.[180] Without structures or devices that will be effective under these major storm conditions, protection of waterbodies and of properties cannot be assured.

Of the control measures that Mountain Valley does propose and has relied on in the past, there are serious deficiencies in design. For example, silt fence and compost filter socks are the most common measures used for filtering flows leaving the construction sites. Yet, those measures are not designed to perform the functions for which they are proposed. Silt fences, according to Virginia guidance, are used "[t]o intercept and detain small amounts of sediment from disturbed areas,"[181] but the amounts of sediment the models predict to be discharged from MVP "do not constitute small amounts."[182]

As documented at length in these comments and in supporting documents, MVP's erosion and sediment control measures have failed on hundreds of occasions in both West Virginia and Virginia. These real-world results confirm that the methods Mountain Valley has used and plans to continue to use are inadequate. The Forest Service conclusion that these measures, which includes the same kinds of measures that have failed so often, are adequate is arbitrary and capricious.

c. The DSEIS's reliance on a yet-to-be-written biological opinion precludes meaningful comment.

One of the twin aims of NEPA is to guarantee that "relevant information about a proposed project will be made available to members of the public so that they may play a role in both the decisionmaking process and the implementation of the decision."[183] To that end, applicable CEQ regulations require agencies to ensure "that environmental information is available to public officials and citizens *before* decisions are made and *before* actions are taken."[184] Failing to adhere to this obligation "deprives the public of its procedural right to an adequate opportunity to participate in the [NEPA] process."[185]

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[180] Dodds Report, *supra* note 6, at 24.

[181] Virginia DEQ Erosion and Sediment Control Handbook (1992) [Ex. 20].

[182] Dodds Report, *supra* note 6, at 27.

[183] *Hodges v. Abraham*, 300 F.3d 432, 438 (4th Cir. 2002) (citation omitted).

[184] 40 C.F.R. § 1500.1(b) (emphases added); *id.* § 1501.4 (requiring agencies to "involve environmental agencies, applicants, and the public, to the extent practicable," in preparing environmental assessments); *id.* § 1506.6(a) (requiring agencies to "[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures"); *id.* § 1506.6(d) (requiring agencies to "[s]olicit appropriate information from the public"); *see* 40 C.F.R. § 1500.1(b) (2022) ("The purpose and function of NEPA is satisfied if Federal agencies have considered relevant environmental information, and the public has been informed regarding the decision-making process."); *id.* § 1501.9(d) (2022) (requiring the public to be informed of a project proposal as soon as the "proposal is sufficiently developed to allow for meaningful public comment").

[185] *Ohio Valley Envtl. Coal. v. U.S. Army Corps of Eng'rs*, 674 F. Supp. 2d 783, 809–10 (S.D.W. Va. 2009); *see also Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 953 (9th Cir. 2008) (holding that NEPA requires agencies to "provide the public with sufficient environmental information . . . to permit members of the public to weigh in with their views and thus inform the agency decision-making process"); *California v. Block*, 690 F.2d 753, 770–71 (9th Cir. 1982) (concluding that since it is "[o]nly at the stage when the draft EIS is circulated [that] the public and outside agencies have the opportunity to analyze a proposal and submit comment," withholding information at this stage illegally "insulates [an agency's] decision-making process from public scrutiny").

Yet, that is precisely what the Forest Service has done here. According to the agency, its final record of decision "*would* incorporate relevant portions of the *expected* 2023 United States Fish and Wildlife Service (FWS) Biological Opinion."[186] However, since that biological opinion does not yet exist, the public has no ability to comment on those "relevant portions."[187] Nor does the public have any way to verify the Forest Service's conclusory prediction that, thanks to as-yet-undeveloped "mitigation measures" contained in that as-yet-unwritten biological opinion, the "project, and all activities on [Forest Service] lands, would be compliant with the [Endangered Species Act (]ESA[])]."[188] Meaningful comment on these issues is impossible. This not only deprives the public of its procedural right to participate in the NEPA process, but also violates the regulatory prohibition against incorporating a document by reference "unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment."[189]

Because the Forest Service's analysis of impacts to listed species relies on the as-yet-unfinished 2023 biological opinion—and since the agency *must* allow public comment on that incorporated analysis—the agency must reissue the DSEIS for public comment following the publication of the revised biological opinion.

d. The DSEIS fails to consider deficiencies in MVP's Supplemental Biological Assessment.

Perhaps because the Forest Service lacks a valid biological opinion to refer to, the DSEIS spends most of its listed-species analysis parroting MVP's 2022 Supplemental Biological Assessment (2022 SBA).[190] It claims that this incorporation is appropriate because the "Forest Service conducted its own independent agency review" of the 2022 SBA.[191] But at no point does the Forest Service mention that the U.S. Fish and Wildlife Service—the expert agency—conducted its own review of MVP's 2022 SBA, and found some of its key conclusions "unclear and unsupported,"191F[192] "inaccurate,"192F[193] "incorrect[],"193F[194] "contradicted by earlier

[186] DSEIS, *supra* note 4, at iv, 17 (emphases added).

[187] It is no answer to say that the public will have an opportunity to provide meaningful comments on the revised biological opinion because no such opportunity will be given. Even if it were, NEPA guarantees the public the right to meaningful comment *regarding the amendments to the Jefferson Forest Plan*. Any remote potential opportunity for public engagement will be provided at a later date during the comment period for a separate federal action could not cure a deficiency in the NEPA process at issue here.

[188] DSEIS, *supra* note 4, at 50.

[189] 40 C.F.R. § 1502.21.

[190] *See* DSEIS, *supra* note 4, at 50–54. Despite its reliance on this document, the Forest Service failed to provide a copy of the 2022 SBA in the MVP project folder. And while a public copy is available on the FERC docket, it is heavily redacted. As a result, it is nearly impossible to provide meaningful comment on the Forest Service's incorporation of the 2022 SBA.

[191] *Id.* at 50. It is not clear which version of the 2022 SBA the Forest Service is referring to. MVP submitted an Updated Supplement to the Biological Assessment to the Fish and Wildlife Service on July 29, 2022. After receiving some agency comments, MVP submitted a further updated version to FERC on December 12, 2022. Given that this later submission took place only days before the Forest Service filed the DSEIS, it seems reasonable to assume the agency is referring to the July 29 document.

[192] U.S. Fish and Wildlife Service, Comments on the Updated Supplement to the Biological Assessment at 6 (Oct. 4, 2022) [Ex. 21] [hereinafter FWS Comments].

[193] *Id.* at 4.

[194] *Id.* at 8.

statements,"[195] "somewhat misleading,"[196] "at best, misleading,"[197] "[in]appropriate,"[198] "entirely false,"[199] "unsupported by any data,"[200] "anecdotal,"[201] and "inconsistent with the best available information."[202]

To list a few relevant examples:

- 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."[203] The DSEIS repeats this definition verbatim.[204] However, the Fish and Wildlife Service asserts that this definition "is unclear and unsupported."[205] Yet the DSEIS never addresses this issue—which is key to defining the scope of the project's impacts.

- The 2022 SBA states that "[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."[206] The DSEIS adopts this conclusion in perfunctory fashion.[207] However, the Fish and Wildlife Service notes that this assessment is difficult to square with "previous Virginia state water quality violations" attributed to MVP.[208] 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."[209] The DSEIS never addresses these issues, which seriously undermine the Forest Service's conclusions.

- 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."[210] However, the Fish and Wildlife Service explains that sedimentation is not a "minor stressor[]" and the assertion that habitat-related stressors did not lead to population declines is "entirely false."[211] 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

[195] *Id.* at 5.
[196] *Id.* at 7.
[197] *Id.* at 8.
[198] *Id.* at 7.
[199] *Id.* at 8.
[200] *Id.*
[201] *Id.* at 9.
[202] *Id.* at 13.
[203] *Id.* at 6 (quoting 2022 SBA).
[204] DSEIS, *supra* note 4, at 50.
[205] FWS Comments, *supra* note 192, at 6.
[206] *Id.* (quoting 2022 SBA).
[207] DSEIS, *supra* note 4, at 52.
[208] FWS Comments, *supra* note 192, at 6.
[209] *Id.*
[210] *Id.* at 8.
[211] *Id.*

of persistence."[212] The DSEIS never acknowledges this issue with MVP's candy darter analysis.

Other issues with the 2022 SBA abound. For example, MVP neglected to provide monitoring data to support its candy darter effects determination. The Fish and Wildlife Service 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."[213] MVP subsequently provided agencies with access to its monitoring data. However, MVP continues to withhold it from the public.[214] 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). Because the Forest Service entirely failed to address the weaknesses and oversights in the 2022 SBA, its listed-species NEPA analysis is arbitrary and capricious.

e. The DSEIS fails to adequately assess impacts to the critical habitat of the candy darter.

The Forest Service fails to properly assess impacts to the critical habitat of the candy darter in light of changed circumstances and new information. In the 2021 Record of Decision, the Forest Service explained that all access to the JNF ROW would occur via the off-JNF ROW and Rogers Road.[215] The final critical habitat of the candy darter in Stony Creek was designated on May 7, 2021.[216] On January 26, 2023, FERC maintained the designation of "Project May Affect, and is Likely to Adversely Affect" the candy darter and its critical habitat in Stony Creek; in doing so, it contradicted the MVP-authored 2022 SBA which recommended a determination of Not Likely to Destroy or Adversely Modify designated Critical Habitat.[217] The DSEIS has inadequately considered MVP's threats to the candy darter's critical habitat.

[212] *Id.* at 7–8.

[213] *Id.* at 8.

[214] *See* 2022 SBA at App'x L (stating that the relevant data is "Withheld In Its Entirety as Privileged and Confidential").

[215] U.S. Forest Serv., Record of Decision, Mountain Valley Pipeline and Equitrans Expansion Project 24 (Jan. 2021) [hereinafter 2021 ROD].

[216] 86 Fed. Reg. 17,956, 17,964 (Apr. 7, 2021) ("Unit 2b consists of approximately 31.1 skm (19.3 smi) of Stony Creek from the confluence with White Rock Branch, downstream to the confluence with the New River. . . . Surveys documented candy darters at multiple locations within this unit. Unit2b is the most robust population in Virginia and contributes to the representation and redundancy of the species.").

[217] FERC Letter to Cindy Schulz, U.S. Fish & Wildlife Serv. 2, CP16-10 Accession No. 20230126-3024 [Ex. 22] ("We note that Mountain Valley's 2022 SBA made the determination that the Project May Affect, but is Not Likely to Adversely Affect the candy darter . . . based on new data regarding the Project's potential impacts on the species and completion of surveys. However, based on further discussions with FWS, FERC is not changing its prior determination that the *Project May Affect, and is Likely to Adversely Affect* the candy darter . . . .").

Pipeline construction on Peters Mountain in Virginia will increase sediment and construction pollutants in the candy darter's critical habitat. Kimballton Branch will bear the brunt of MVP's failed ECDs. The impact will extend from its headwater tributaries close to MVP's bore pit atop Peters Mountain to Rogers Road before entering Stony Creek (Figure 1).

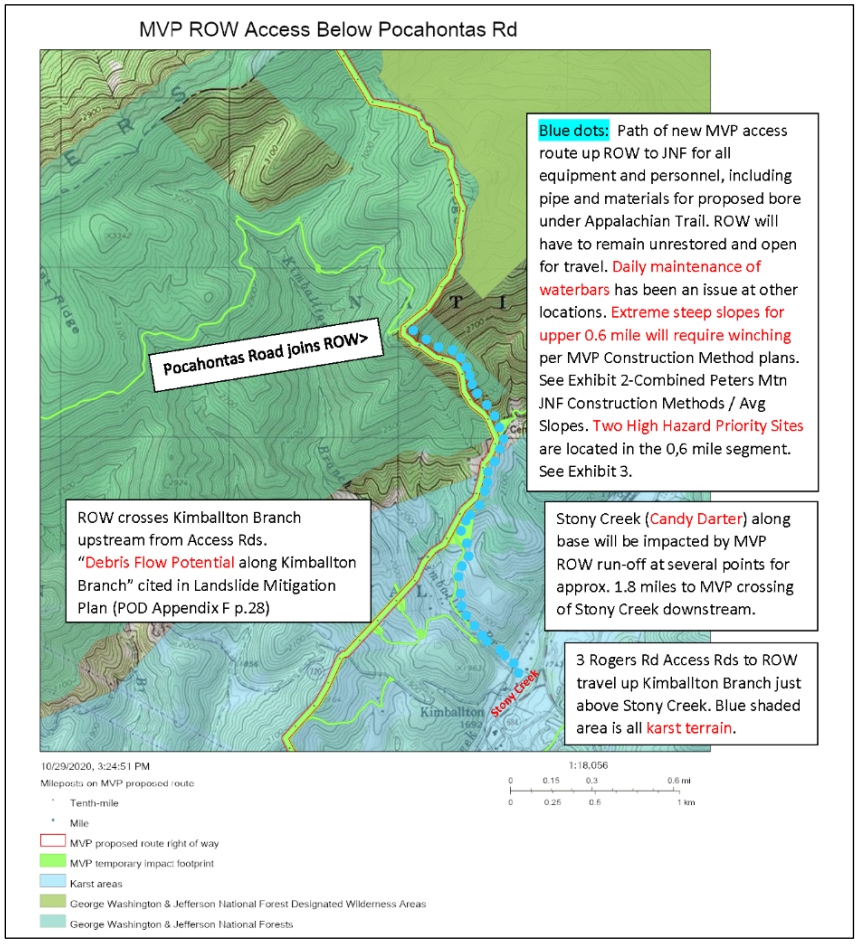

Figure 1.

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 predicted to have suspended sediment concentrations above the threshold for adverse impacts.[218] Actions on NFS lands would contribute to sedimentation and related effects on candy darter habitat in this mixing zone. No analysis of embeddedness has been conducted for the sections of Stony Creek that are directly upstream and downstream of the Kimballton Branch confluence. The Forest Service must ensure this analysis is undertaken.

The environmental impacts of each of the four segments of MVP construction on Peters Mountain include but are not limited to the following:

[218] U.S. Forest Serv., Copperhead Environmental Consulting, Inc.: Fisheries and Aquatic Resources Specialist Report, Mountain Valley Pipeline Supplemental Environmental Impact Statement 10, https://usfs-public.app.box.com/v/PinyonPublic/file/1119665014334.

- On-JNF MVP ROW MP 196.4 – MP 197.9: Indirect sedimentation effects to Stony Creek are anticipated from JNF ROW runoff via Kimballton Branch.[219] "As in the case of determining adverse impacts to ecological integrity and water resources, no consideration has been given to the location of the MVP pipeline in the headwater areas of first and second order streams."[220]

- For at least 10 weeks, trucks and heavy equipment will continuously compact soil on the steep sloped ROW as they construct the pipeline and transport equipment to bore under the Appalachian National Scenic Trail (ANST) on the top of Peters Mountain. "The result of soil compaction and dewatering in the headwater areas of these watersheds is the destruction of habitats for benthic aquatic organisms at the base of the food chain for the riverine system."[221] MVP's use of waterbars as a BMP for steep slopes is problematic.[222] Not only does the POD fail to show necessary sediment traps,[223] but Transcon inspection reports describe continuing failure of waterbars on Pocahontas Road even though traffic was restricted.

- The DSEIS did not analyze the current adverse effects that are still occurring as a result of past use of Pocahontas and Mystery Ridge roads.[224] Failure of waterbars and silt fences were still unresolved as of the last recorded Transcon inspection on October 26, 2022.[225] There has been no assessment of the amount of sediment that has entered the headwaters of Kimballton Branch or the other streams along this access route, nor proper modeling of how much pollution is still to come.

- Since traffic is now prohibited on Pocahontas Road, the ROW between the JNF boundary and Rogers Road access serves as both the pipeline ROW and the only transport route for all pipeline construction and boring equipment on the JNF. For more than a half-mile of this transport route on the ROW, winches will be required to transport pipes, construction equipment, materials, and personnel over steep slopes that range up to 74% (see Figure 2 below). Best Management Practices would require a segment like this to be completed and restored as quickly as possible to minimize environmental impacts. However, as the only access route to the JNF ROW, this section will need to remain open during the entire JNF construction, which includes a minimum of 10 weeks to bore through Peters Mountain.[226]

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[219] DSEIS, *supra* note 4, at 51.

[220] Dodds Report, *supra* note 6, at 4, 9.

[221] *Id.* at 17.

[222] *Id.* at 26.

[223] *Id.* at 24

[224] DSEIS, *supra* note 4, at 91, Table 10 ("Repair of waterbars, culverts, and aquatic organism passage development . . . This road has erosion and sedimentation issues because of failing waterbars and culverts.").

[225] *See, e.g.*, Peters Mountain – Mystery Ridge & MVP, video at 3:05 (Feb. 7, 2023), https://www.youtube.com/watch?v=YmwjYRM63pk; MVW Report Narrows of Hans Creek (Feb. 19, 2023) [Ex. 23] (showing various photos, including of ECD degradation).

[226] DSEIS, *supra* note 4, at 66.

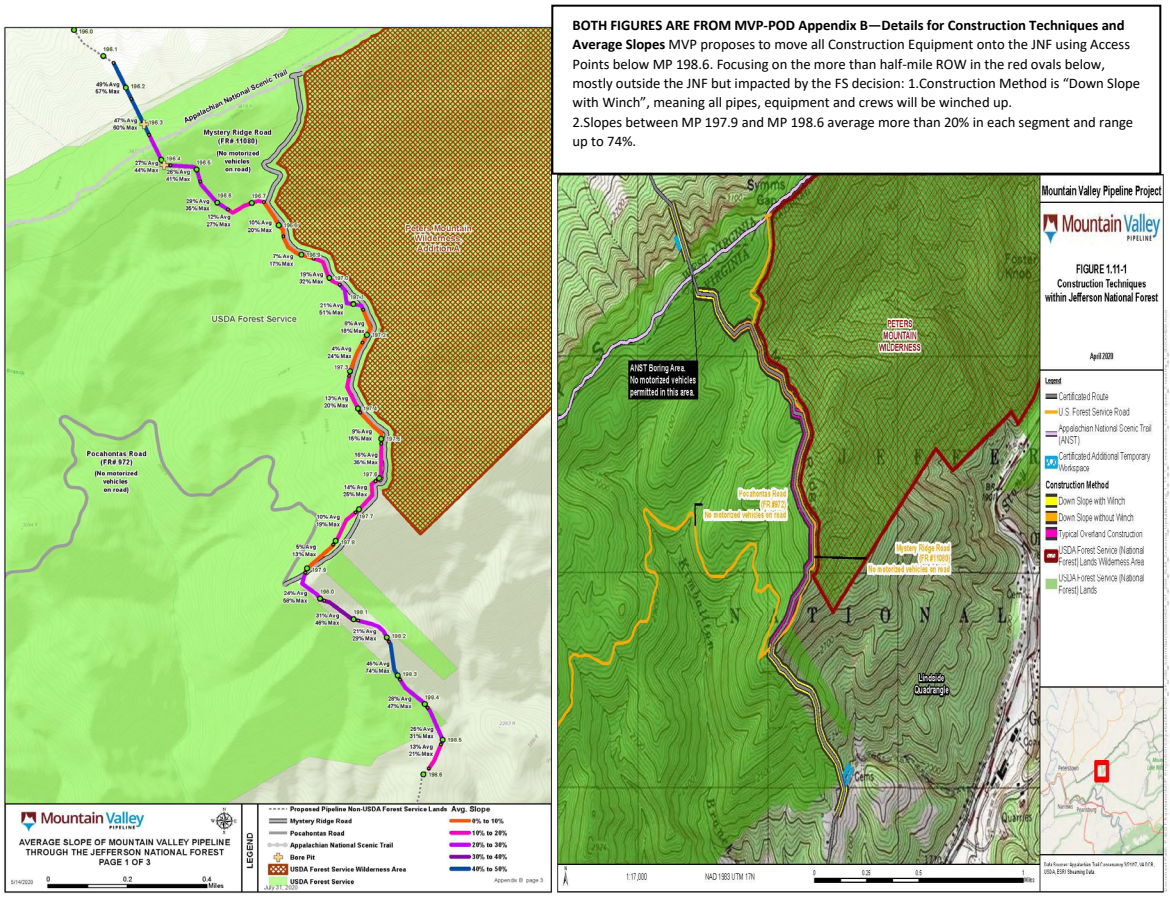

Figure 2.

- Headwaters to both Kimballton Branch and Stony Creek—first order streams—are vulnerable to sediment and pollutants from construction on steep slopes at three of the six High Hazard Priority Sites on this section of the MVP.[227] The ROW crosses Kimballton Branch at approximately MP 199.0. This off-JNF ROW was approved in the 2017 FERC FEIS before the Forest Service eliminated Pocahontas Road access in 2020. There appears to be nothing in the public record to show that FERC has analyzed the environmental impacts on Kimballton Branch that will result from the increased ROW traffic (e.g., soil compaction, frequent removal and replacement of waterbars to accommodate the dual role of the ROW, failures of ESCs, and High Hazard priority site plans).

- "Rogers Road" refers to Rogers Road and a complex of other small public roads in the approach to MVP's ROW near Kimballton, Virginia. Rogers Road is a small, one-lane road that provides sole access to the section of the off-JNF ROW described above and parallels Kimballton Branch shortly before Kimballton Branch enters Stony Creek. See the map and photographs of Rogers Road area.[228] Like the off-JNF ROW described above, this access road was approved in the 2017 FERC FEIS and there are no publicly

[227] 2017 FERC FEIS.
[228] Map of Rogers Road access route and photographs of Rogers Road [Ex. 24].

known additional approvals. The closing of Pocahontas Road access will lead to a substantial increase in heavy traffic and wear, compaction, and waterbar and ECD failures resulting in an increase in sediment and other pollutants in Kimballton Branch. This area also lies within a broad band of karst that would be subjected to increased traffic and heavy equipment.

Rather than grapple with the sedimentation impacts to these areas that would adversely impact critical habitat of the candy darter—a changed circumstance and new information since the previous FSEIS—the Forest Service instead fails to discuss these adverse effects, not even mentioning Rogers Road a single time. The Forest Service must correct this failure in a revised DSEIS.

f. The DSEIS inadequately analyzes hazards with the proposed ANST crossing location.

The USFS required MVP to prepare the study titled "Site-Specific Design of Stabilization Measures in Selected High-Hazard Portions of the Route of the Proposed Mountain Valley Pipeline Project in the National Forest."[229] The study examines six High-Hazard areas identified by the USFS (four of them on Peters Mountain, one each on Sinking Creek and Brush mountains) that combine steep slopes, landslide prone soils, a highly active seismic zone, and susceptibility to significant high rainfall events in a concentrated area. The six High-Hazard areas are shown below in two figures.

Figure 3 depicts four High-Hazard areas on Peters Mountain including the two (#3 and #5) immediately below the bore pits for drilling under the ANST.[230]

[229] High Hazard Study, FERC e-Library, CP16-10, Accession 20161222-5442(31856030) [Ex. 25].

[230] *Id.* It is important to note that most of High Hazard area #5 is outside of JNF, evidence that Forest Service staff acknowledges that MVP-related problems beyond the national forest boundaries can have major impacts on the national forest and should still be considered.

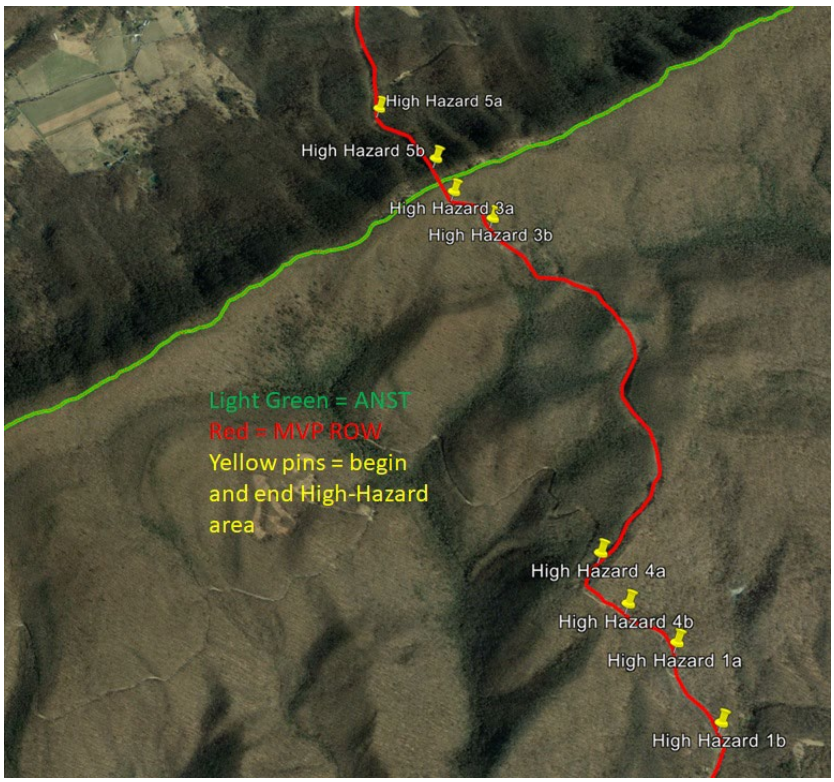

Figure 3. Four High-Hazard areas on Peters Mountain

Figure 4 depicts High-Hazard areas on Sinking Creek and Brush Mountains in the other segment of JNF that would be crossed by MVP.

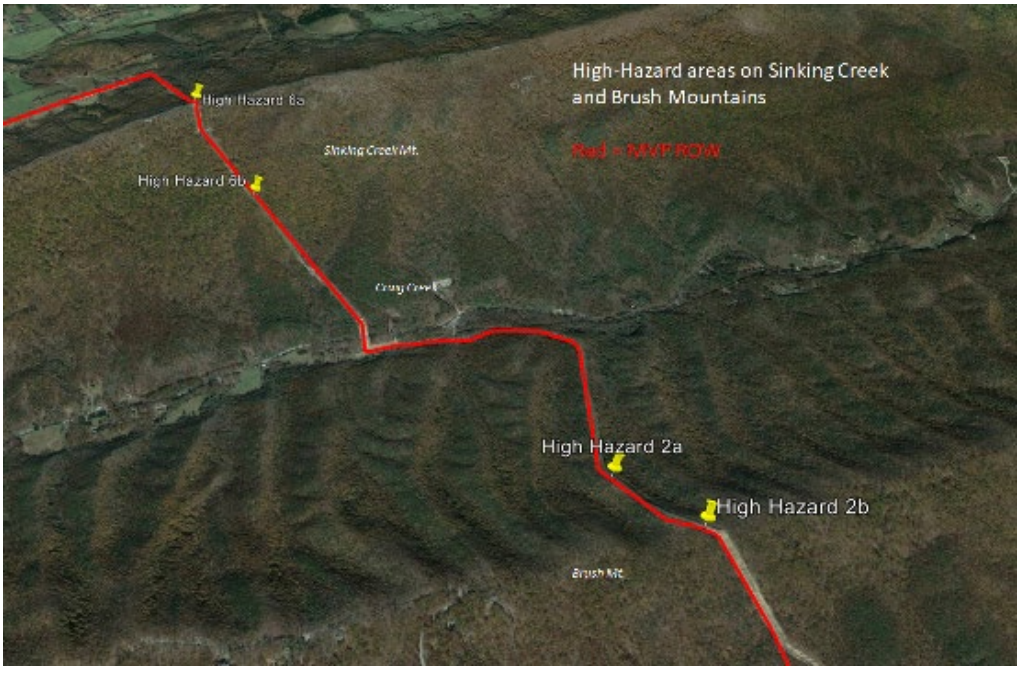

Figure 4. High-Hazard areas on Sinking Creek and Brush Mountains.

The failures of the DSEIS with respect to the High-Hazard study and other USFS discussions of proposed construction in these areas include:

- **The DSEIS fails to consider hazards associated with bore pits**. Each of the proposed bore pits for drilling under the ANST lies immediately above a High-Hazard area (#5 on the West Virginia side and #3 on the Virginia side). Yet, the USFS never required analysis of hazards at the bore pits, nor analysis of impacts to the bore pits were landslides to occur in the nearby High-Hazard areas. The High Hazard report states that, "It should be noted that stability of the bore pit is not considered herein."[231] High-Hazard area 5 (approximately MP 196.0 to 196.3) is on the West Virginia side of Peters Mountain with the steepest slopes (60% to 76%) closest to the bore pit, the crest, and the ANST, as seen in Figure 5. MVP admits that "Geologic mapping of Monroe County, West Virginia is not as well developed as that for Virginia," calling into question what they will actually find there.[232] High-Hazard area 5 is downslope from both the ridge line and the bore pit—underneath the bore pit. The stability of the bore pit location was explicitly not addressed for either High-Hazard area 3 or 5. Landslides (unconsolidated overburden failure) were noted as a concern, especially during heavy rainfalls.

Figure 5. The bore pits on each side of Peters Mt. lie directly above the two High-Hazard areas, in close proximity to recognized dangerous locations.

- **The DSEIS fails to adequately analyze the impact of high rainfall in the area**. The DSEIS appears to consider two inches of rain a high rainfall event, as in the 2017 FERC FEIS. Yet, much heavier rainfall events are quite common in Virginia's mountains in this region. For example:

    - In June 2013, Greenbrier County, West Virginia (on the proposed MVP route) received 10 inches of rain in 12 hours.
    - The City of Roanoke received over 88 inches of rain in 2018.

[231] *Id.* at 33, 46.
[232] *Id.* at 46.

  - Four to six inches of rain in 24 hours are not uncommon at all in the Appalachian Mountains of Virginia and West Virginia, especially when hurricane remnants pass through.
  - With climate change, heavy rainfall is likely to be much more common in the region.[233]

- **The DSEIS failed to analyze the cumulative and reinforcing impacts of multiple risk factors that would occur in the same location.** These risk factors include: karst, steep slopes, landslide-prone soils, heavy rain events, and seismic events. USFS staff were present at a public meeting in Salem, Virginia, on June 15, 2017, along with NPS, ATC, RATC, and MVP staff, when the MVP construction supervisor was asked to cite an example of a pipeline this size that was successfully constructed in an environment of steep slopes, landslide prone soils, karst, and an active earthquake zone. His answer was: "Florida."[234] While Florida has karst, none of the other hazards is present. The lack of any prior pipeline this size being successfully constructed in an environment of steep slopes, landslide prone soils, karst, and an active earthquake zone should have resulted in more analysis in the DSEIS regarding hazards in and near the JNF.

- **The DSEIS fails to adequately analyze seismic hazards despite the proposed ANST crossing being located in a seismic zone with a history of significant seismic activity.** Seismic activity is a significant risk factor in pipeline safety. A 2019 advisory bulletin issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) states that earthquakes and other types of earth movement like landslides "can pose a threat to the integrity of pipeline facilities if those threats are not identified and mitigated." PHMSA recommends that geotechnical engineers "ensure that sufficient information is available to avoid or minimize the impact of earth movement on the integrity of the pipeline system." It also recommends in some instances that pipeline rights-of-way be rerouted prior to construction to avoid areas prone to earthquake fault zones.[235]

[233] Hazards and visual impacts of proposed Mountain Valley Pipeline crossing of Appalachian National Scenic Trail (ANST) on Peters Mountain, FERC e-Library, CP16-10, Accession No. 20170620-5108 [Ex. 26].

[234] Roanoke Appalachian Trail Club, Earthquakes and pipelines: recipe for disaster (September 18, 2017) [Ex. 27], https://www.ratc.org/earthquakes-and-pipelines-recipe-for-disaster/.

[235] Pipeline and Hazardous Materials Safety Administration, Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards, 84 Fed. Reg. 18,919, 18,920 (May 2, 2019).

Instead, the DSEIS focuses too narrowly on faults lying within the JNF to the exclusion of nearby earthquakes that could affect the safety of pipeline located in the JNF. In reality, earthquakes from as far away as the Charlottesville area (such as the 2011 "Louisa" earthquake) are felt on Peters Mountain. The High-Hazard study does even not mention the Giles County Seismic Zone (GCSZ) illustrated in Figure 6, even though the proposed JNF crossing lies near the center of the zone and earthquakes in that zone are mapped prominently on the website of the Virginia Department of Energy.[236]

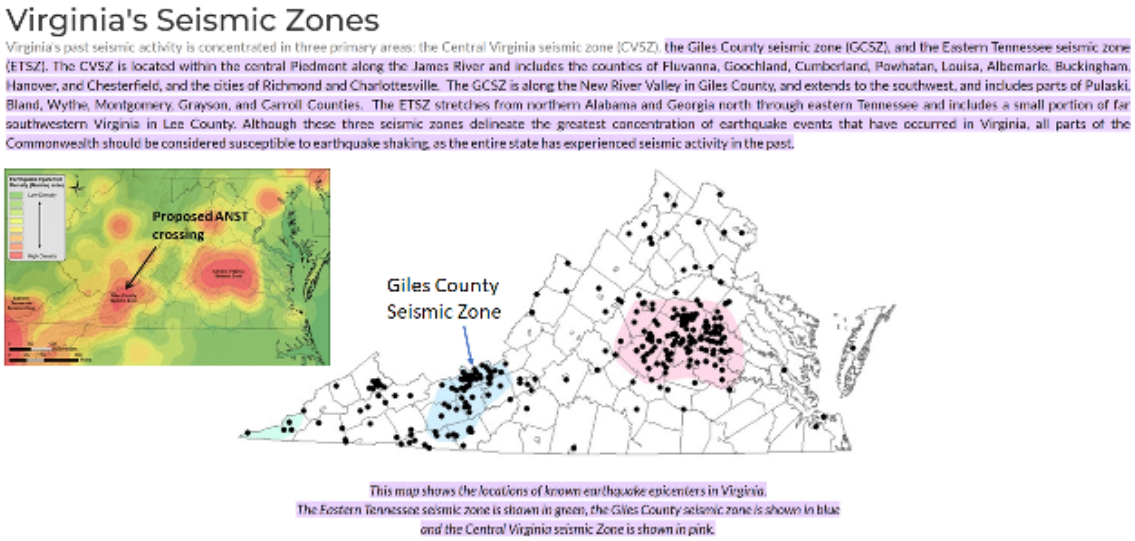

Figure 6. Virginia's seismic zones include the Giles County Seismic Zone. The smaller map shows the proposed ANST crossing.

In addition, the High-Hazard study failed to discuss seismic activity at all for High-Hazard area #5 (WV side) and dismissed the seismic area as "inactive" near High-Hazard area #3.

The DSEIS fails to acknowledge that the GCSZ experienced one of the largest known earthquakes in U.S. history very close to the proposed ANST crossing. According to the Virginia Tech (VT) Seismological Observatory, the proposed bore under the ANST on Peters Mountain is near the epicenter of an 1897 magnitude 5.8 earthquake near Pearisburg that was the third largest earthquake in the eastern U.S. in the last 200 years.[237] It was felt in twelve states. The VT Seismological Survey also reports that Virginia has had over 160 earthquakes since 1977, of

[236] Va. Dep't of Energy, Virginia's Seismic Zones [Ex. 28], https://www.energy.virginia.gov/geology/Earthquakes.shtml#:~:text=The%20Giles%20County%20seismic%20zone,areas%20in%20the%20continental%20U.S (last visited Feb. 20, 2023). A smaller map showing the ANST crossing was accessed from previous site of Virginia Department of Mines, Minerals and Energy at https://www.dmme.virginia.gov/DGMR/EQHazardMapping.shtml.

[237] Virginia Tech Seismological Observatory, Giles County Earthquake of May 31, 1897, News Reports [Ex. 29], http://www.magma.geos.vt.edu/vtso/va_quakes/Giles-Intensity.html; *see also*, Bollinger and Wheeler, The Giles County, Virginia, Seismic Zone: Seismological Results and Geological Interpretations, U.S. Geological Survey Professional Paper 1355 (1988) [Ex. 30] (providing a more detailed description of the 1897 GCSZ earthquake), https://pubs.usgs.gov/pp/1355/report.pdf.

which 16% were felt. This equates to an average of one earthquake occurring every month with two felt each year.[238]

At least three notable earthquakes have occurred within 12 miles of the MVP ROW in the JNF since publication of the High-Hazard study in December 2016:

- On May 12, 2017, a magnitude 2.8 event occurred near Narrows, Virginia, less than 12 miles from the proposed ANST crossing by MVP.[239]
- On September 13, 2017, a magnitude 3.2 earthquake occurred—the largest in decades in the Giles County Seismic Zone, with an epicenter less than 2 miles from the MVP ROW in Monroe County, WV and less than 5 miles from the bore pit above High-Hazard area #5 (See Figures 7, 8, 9).[240] The *Roanoke Times* reported that more than 200 calls came into the Giles County Sheriff's Office dispatch in the half hour after this earthquake.[241] The Virginia Tech Seismological Observatory, which uses slightly different measurement strategies than USGS, rated it a magnitude 3.7 earthquake.
- On September 27, 2021, the USGS reported a magnitude 2.6 earthquake near Brush and Sinking Creek mountains, where High-Hazard areas #2 and #6 are located (See Figure 9).[242]

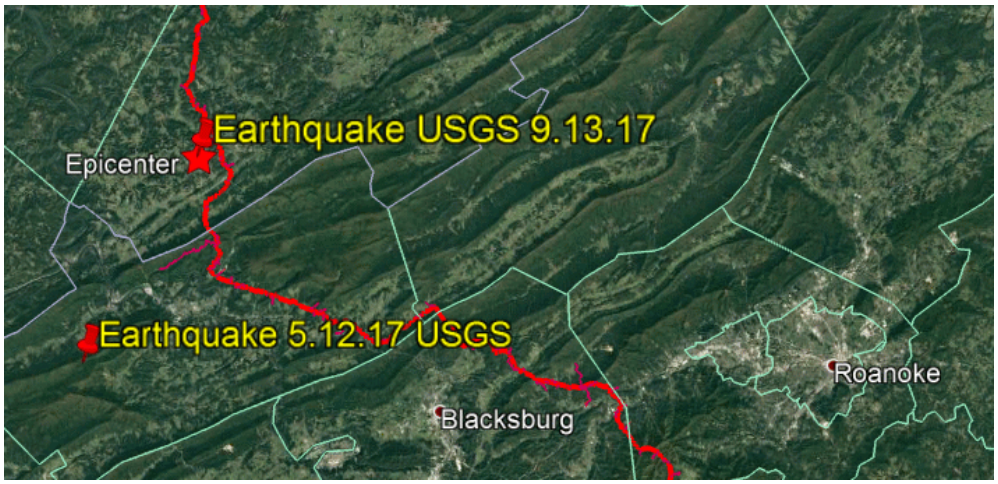

Figure 7. The red line in this Google Earth screenshot is the proposed MVP ROW.

[238] Virginia Tech Seismological Observatory, Most Recent Earthquakes to Shake Virginia [Ex. 31], http://www.magma.geos.vt.edu/vtso/va_quakes.html.

[239] USGS, 2.8 magnitude earthquake 6 km from Narrows, Virginia, United States [Ex. 32], https://earthquaketrack.com/quakes/2017-05-12-04-31-10-utc-2-8-4.

[240] USGS, M 3.2 - 11 km NE of Peterstown, West Virginia [Ex. 33], https://earthquake.usgs.gov/earthquakes/eventpage/se60179327/executive#executive.

[241] Robby Korth, "Most significant earthquake in decades shakes parts of New River Valley," *Roanoke Times*, September 13, 2017 [Ex. 34], https://roanoke.com/news/local/blacksburg/most-signficant-earthquake-in-decades-shakes-parts-of-new-river/article_0f4233cf-afee-5493-8c46-c59ab75ad8bb.html.

[242] Associated Press, "Small earthquake shakes southwest Virginia," September 27, 2021 [Ex. 35], https://apnews.com/article/virginia-earthquakes-8bd2d695298edb253e7cfcdf2c7f2d6d.

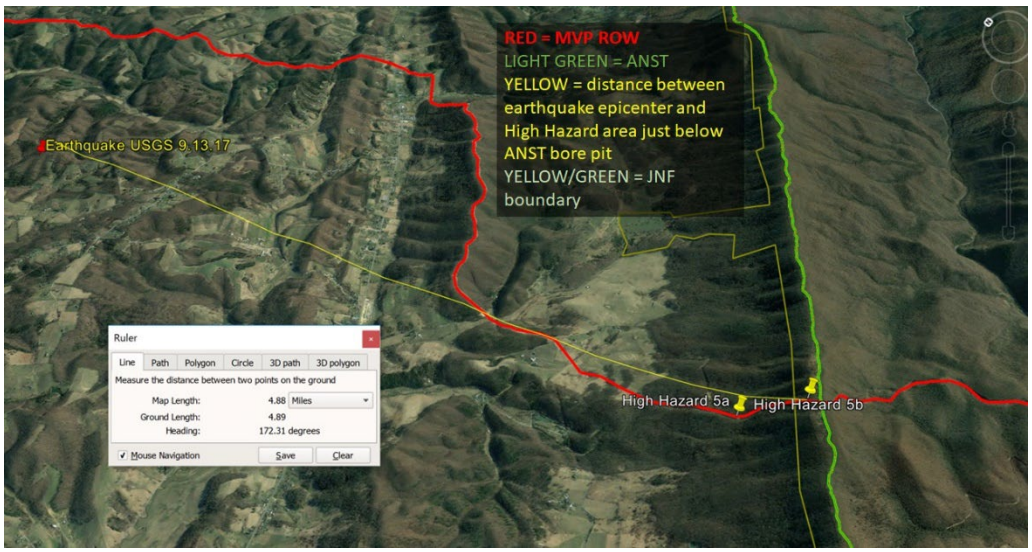

Figure 8. The red line in this Google Earth screenshot is the proposed MVP ROW. The epicenter of the 9.13.17 earthquake was less than 5 miles from High-Hazard area #5 and the ANST bore pit on the WV side of Peters Mountain.

In addition, the Forest Service ignores the extremely widespread impact of the August 23, 2011, "Louisa" earthquake in central Virginia. This magnitude 5.8 earthquake was felt along the entire MVP ROW. The website of the Virginia Department of Energy identifies it as the most damaging earthquake ever felt in Virginia and "the most widely-felt earthquake in U.S. history." Approximately 150,000 individuals reported feeling the earthquake through the U.S. Geological Survey Earthquake Hazard Program. Its impact extended over the entire eastern United States and into Canada.[243]

[243] Va. Dep't of Energy, *supra* note 236.

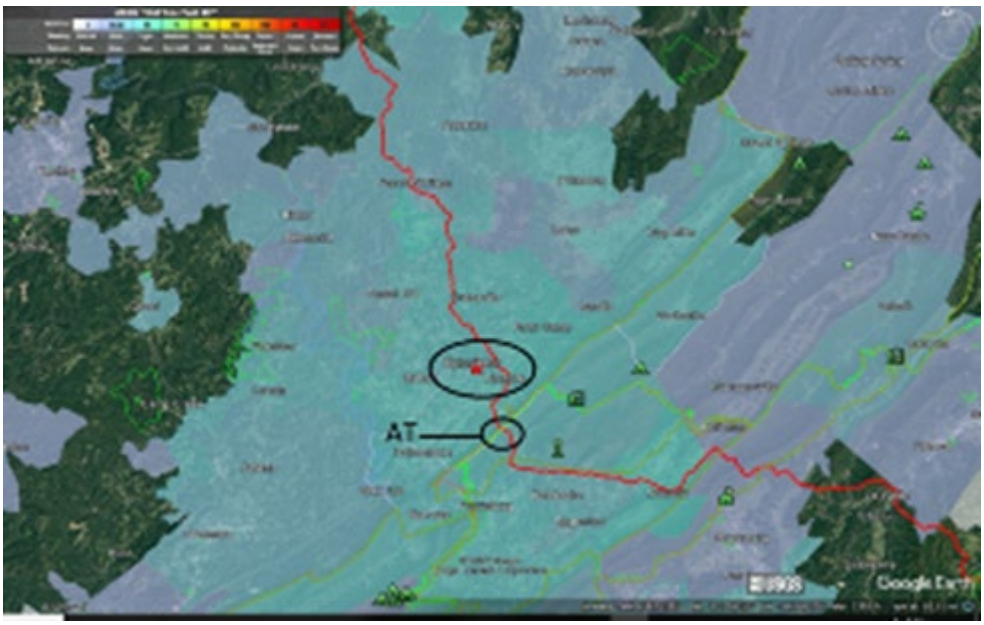

Figure 9. USGS map of the September 13, 2017, earthquake. MVP's proposed crossing of the ANST on Peters Mountain and the epicenter of the earthquake are circled; red is the approximate right of way of MVP; light green is the Appalachian National Scenic Trail; light purple and green areas felt the impacts of the earthquake. Note how much of the MVP ROW in both West Virginia and Virginia is within the affected zone.

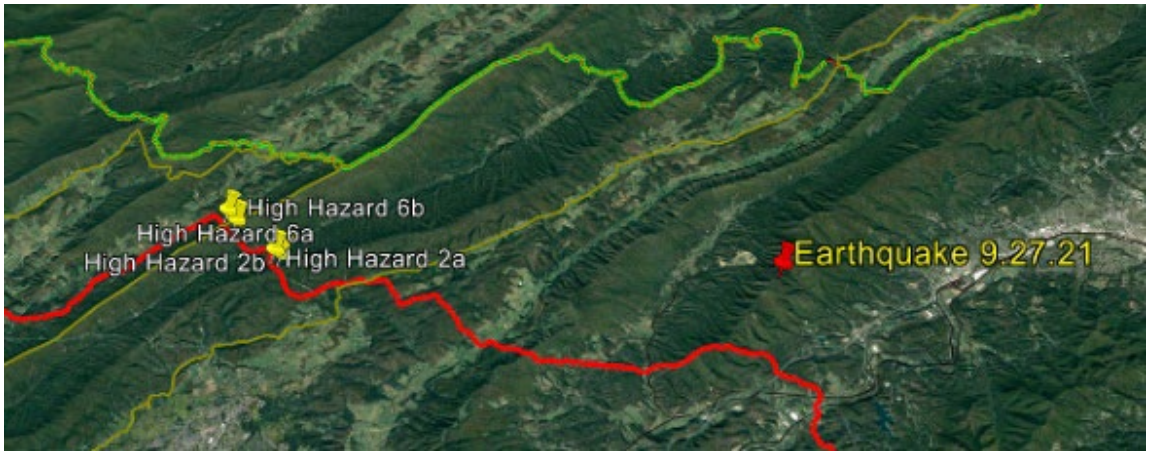

Figure 10. Red is the proposed MVP ROW, green is the ANST, and pins mark the earthquake and High-Hazard areas.

Neither the High-Hazard study nor the current or past USFS permit materials discuss the difference between eastern and western earthquakes. "The earth's crust is stronger here," explains Martin Chapman, director of the Virginia Tech Seismological Observatory. "So shock waves moving from the epicenter of an earthquake don't lose as much energy as during quakes in California. When a magnitude 7.0 earthquake occurs in the Southeast, the waves affect a larger area and can cause more damage at a greater distance than when a similar shock hits

California."[244] Note below in Figure 11 the area impacted by a magnitude 5.8 earthquake in Virginia compared to a magnitude 6.0 earthquake in California.

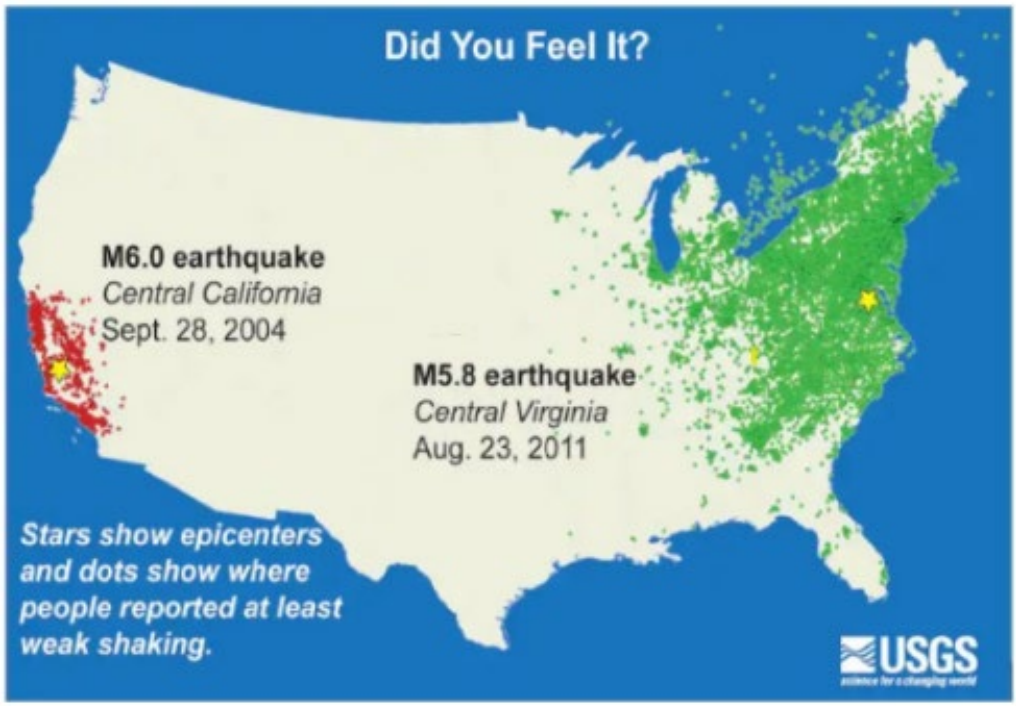

Figure 11. the area impacted by a magnitude 5.8 earthquake in Virginia compared to a magnitude 6.0 earthquake in California.

The DSEIS has not adequately analyzed the hazards associated with the proposed ANST crossing location. The Forest Service should do so in a revised DSEIS.

g. The DSEIS inadequately analyzes visual impacts of MVP on the ANST.

In 1971, when founder Benton MacKaye was asked about the ultimate purpose of the Appalachian Trail, he said, "There are three things: to walk, to see, and to see what you see."[245] The opportunity to view and walk through astounding eastern landscapes are the central purposes of the ANST, which became a national trail in 1968.

This DSEIS proposes to lower the Scenic Integrity Objectives (SIOs) for the ANST without providing a rationale for doing so except to complete the project. From the outset, the Forest Service has failed to adequately analyze the visual impacts of the MVP on the ANST, instead accepted deeply flawed reports prepared by consultants to MVP. Drilling under the Trail does not change the fact that there is clear evidence that five miles or more of the MVP ROW

[244] Va. Dep't of Energy, *supra* note 236.

[245] Appalachian Trail Conservancy, Celebrating the National Trails System Act, September 30, 2022 [Ex. 36], https://appalachiantrail.org/official-blog/celebrating-the-national-trails-system-act/.

scar would be visible from multiple locations on the Trail and impact the entire experience for people walking on the Trail.

The Forest Service has accepted statements that the SIOs for the ANST will be restored within five years after project completion[246] despite obvious evidence that the similar ROW for the much smaller Celanese/Columbia pipeline on the same mountain as the ANST crossing has not been restored nine years after its completion. Nor does the DSEIS contain thresholds for measuring restoration of the ROW or consequences if thresholds are not achieved.

Tetra Tech was instructed by the Forest Service to ignore the visual impacts of the MVP ROW unless the ROW itself was on USFS land. At Symms Gap on the crest of Peters Mountain, for example, where the pipeline ROW would be visible into West Virginia for 15 miles or more, the only photo taken is of the ground, as seen in Figure 12, instead of toward the views of the landscape of West Virginia.[247] This completely ignores the actual scenic impact on the ANST and its users.

In Tetra Tech study #1, the Forest Service allowed MVP to use a photo of the dirt along the ANST on Peters Mountain near Symms Gap as a demonstration of the project's visual impact. In its March 9, 2016, comments to MVP, the Forest Service had called an almost identical photo "not informative and . . . deficient for use in determining potential impacts to scenery as viewed from the [AT]."[248]

Figure 12. Photo from Tetra Tech study #1 KOP 110, which purports to show the impact of MVP at the crossing near Symms Gap. The location is hundreds of feet from the actual crossing. No photo was taken looking into West Virginia—the scenic direction from that vantage.

In its response to Tetra Tech study #1, the RATC shared a map of likely MVP visual impacts on the ANST showing that much of the MVP ROW scar would likely be visible from the ANST, as seen in Figure 12.[249]

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[246] *See* DSEIS, *supra* note 4, at vi.

[247] MVP Visual Study, FERC accession no. 20170217-5199 (31975339) [Ex. 37].

[248] Timm to Bose, March 9, 2016, FERC e-Library CP16-10 accession no. 20160311-501331305006 [Ex. 38].

[249] *See* Christopulos to Forest Service staff, February 3, 2017 [Ex. 39]. The Figure 13 map is an enhancement of the one shown in Spencer Phillips et. al., *Economic Costs of the Mountain Valley Pipeline* 30, Key-Log economics LLC (May 2016) [Ex. 40], https://www.delawareriverkeeper.org/sites/default/files/Economic%20Harms%20Attachment%203%2C%20Key-Log%20Economics%2C%20LLC%2C%20Economic%20Costs%20of%20the%20Mountain%20Valley%20Pipeline%2C%20May%202016..pdf.

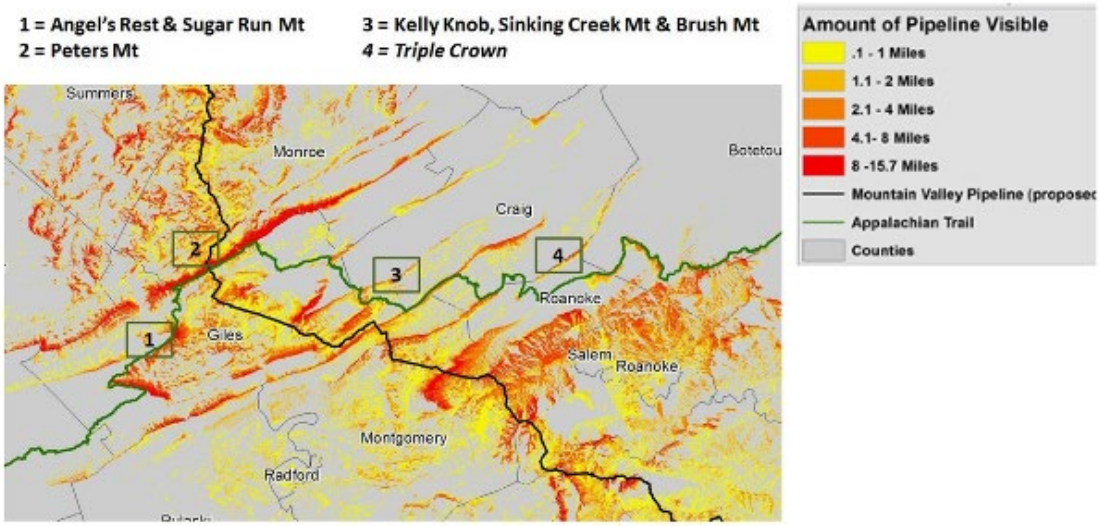

Figure 13. Visual impacts on the ANST showing how much of the MVP ROW scar could potentially be visible from the ANST. Over 15 miles of the MVP ROW could potentially be seen from Angel's Rest (#1) and from Peters Mountain near Symms Gap (#2), while 1 to 2 miles could be visible from Kelly Knob.

ATC and RATC worked together to produce a list of approximately 15 locations on the ANST that could suffer visual impact from MVP. In addition, RATC filed visual simulations from Angel's Rest and other locations showing the likely actual visual impacts of MVP on the ANST. The simulation for Angel's Rest is shown below in Figure 14.

Figure 14: Simulated visual impacts that someone walking on the ANST would see from Angel's Rest. Tetra Tech study #1 called this impact "barely perceptible."

The Forest Service, ATC, RATC, and MVP held site visits to three locations on the ANST to determine visual impacts.[250] The ROW outside JNF had been cleared on the West Virginia side. NPS photos taken on June 6, 2018, clearly showed that many miles of the ROW were visible from Symms Gap. An NPS photographer documented the visibility (Figure 15).

Figure 15. NPS photograph of MVP ROW on a hazy day from Symms Gap, June 6, 2018. Tetra Tech never took any photos facing in this direction.[251]

The visibility of the ROW from Angel's Rest was also confirmed. On June 6, Angel's Rest could be seen from the cleared ROW in the JNF near Symms Gap. On June 7, the location of the ROW on Peters Mountain and beyond could be seen from Angel's Rest. Unlike the West Virginia section of the ROW visible from Symms Gap, the Virginia section in Giles County has not been scalped. Only the trees are cleared. It is obvious that MVP will be visible, including segments both within and outside the JNF.[252]

[250] MVP ANST Field Visit Notes-Edits-Emails-Photos (20180606-08) [Ex. 41].
[251] *Id.*
[252] *Id.*

The Forest Service neglected to consider additional observable evidence that MVP is indeed likely to cause a substantial and lasting impact to scenic character: the Celanese/Columbia Pipeline on Peters Mountain in Giles County, Virginia. It is very difficult to restore vegetation on extremely steep slopes with landslide-prone soil in mountains that have received over a foot or rainfall in a single rain event in recent years. The Celanese/Columbia Pipeline is on the same mountain as the MVP ROW—in a segment of the JNF only a few miles from the proposed MVP ROW on Peters Mountain—and used the same so-called "best management practices" that MVP would use. RATC has repeatedly filed comments showing that the Celanese/Columbia pipeline has not in any sense achieved desired recovery in nine years and is unlikely to do so.[253] The Celanese/Columbia project was constructed in 2013–14 and went into service in May 2014.[254] Between 2013 and 2018 the project experienced repeated slips/landslides. The visual impacts are obvious, as illustrated in Figures 16 and 17, and can be seen from numerous locations, including Angel's Rest on the ANST. The DSEIS fails to consider this empirical evidence.

All the concerns expressed about the process used to address restoration on steep slopes are also concerns that apply to restoration of the SIOs on the ROW in the ANST viewshed. For example, in a December 6, 2016, meeting, Forest Service staff "stressed concern there could be limitations to slope contour and topsoil restoration due to steepness of slope and removal of vegetation." Forest Service staff repeatedly expressed concerns that inadequate time and attention were devoted to address these issues.[255]

More than four years after the Celanese/Columbia pipeline went into service, on June 7, 2018, NPS organized a site visit to Angel's Rest on the ANST attended by volunteers from RATC and staff from NPS, USFS, ATC, MVP, and Tetra Tech. Galileo, the company keeping official notes for FERC and the cooperating agencies, kept records of this visit. This visit confirmed the obvious scar from the Celanese/Columbia pipeline on Peters Mountain: "The Celanese Pipeline is very visible from this vista. All parties agree MVP's ROW should not look like the Celanese Pipeline ROW."[256]

The Celanese/Columbia pipeline had been in service for six years when the Forest Service issued the first MVP SEIS in 2020. The ROW was failing to recover and remained a major eyesore. RATC has repeatedly filed comments showing that the Celanese/Columbia pipeline has not in any sense achieved desired recovery and is unlikely to do so.[257] The DSEIS fails to consider this empirical evidence.

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[253] *See* RATC Comments on Visual Impacts, FERC e-Library accession nos. 20170728-5013, 20170728-5108 [Ex. 42].

[254] Duncan Adams, "Celanese Plant in Giles County Completes Conversion to Boilers Fueled by Natural Gas," the *Roanoke Times*, April 7, 2015 [Ex. 43] https://virginiasmtnplayground.com/celanese-plant-in-giles-county-completes-conversion-to-boilers-fueled-by-natural-gas/.

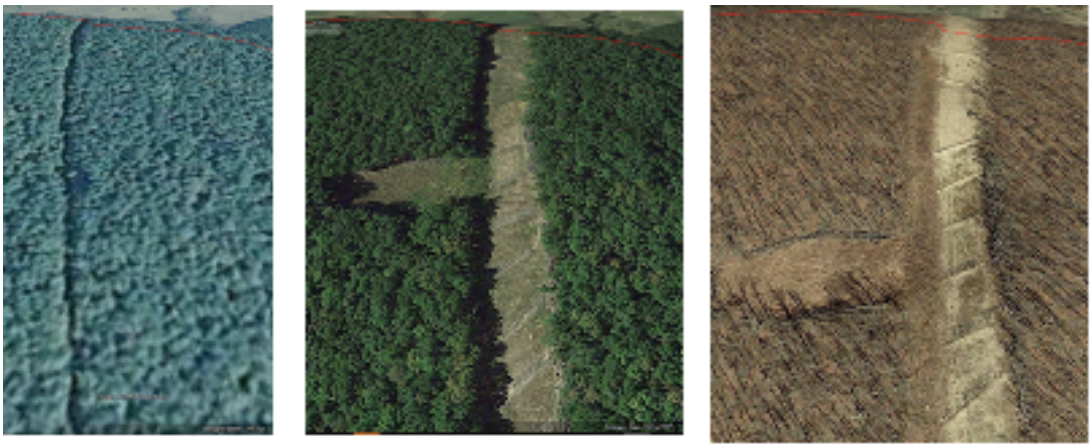
[255] FERC e-Library CP 16-10 accession no. 20170801-5174(32309737) [Ex. 44].

[256] MVP ANST Field Visit Notes-Edits-Emails-Photos, *supra* note 250.

[257] *See* FERC e-Library CP16-10 accession nos. 20170728-5013, 20170728-5108 [Ex. 45].

Nothing significant has changed in 2023. The Celanese/Columbia ROW remains almost the same as it was in the first years after its completion, and the project is now almost nine years old. The Forest Service still asserts that MVP's ROW can be successfully restored, despite clear evidence to the contrary. A photograph taken on January 27, 2023, shows that the Celanese/Columbia ROW remains unvegetated and highly visible.

This poor outcome from a much smaller pipeline—12-inch diameter for Celanese/Columbia and 42 inches for MVP—indicates what the visual impact of a separate MVP corridor could be.



Celanese/Columbia pipeline on Google Earth. From the top, left to right.
1 Pre-construction, 2011
2 In service spring 2014. Photo 9/16/15 – about 17 months after opening.
3 March 18, 2019 (almost 5 years after completion) accessed February 2 , 2023

Figure 16. Celanese/Columbia Pipeline vegetation impacts before and after construction.

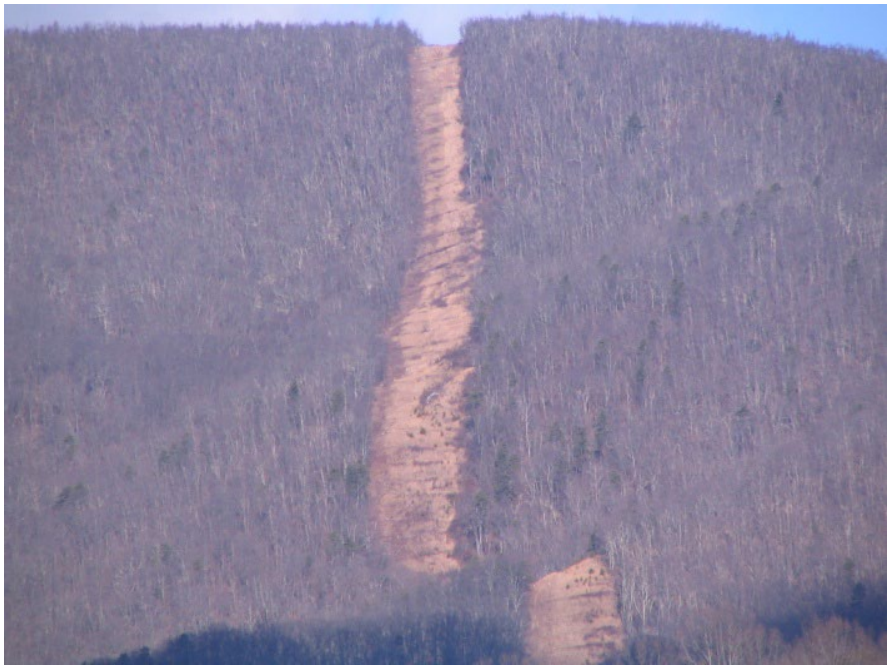


Figure 17. Photo of the lack of revegetation on the Columbia/Celanese Pipeline corridor taken from Pearisburg, VA, on 01/27/2023 (Maury Johnson).

The MVP plan for crossing Peters Mountain appears very likely to suffer the same serious erosion and sedimentation problems still occurring nearby on the same mountain with the Celanese/Columbia pipeline. The Forest Service has employed consultants from Transcon to issue weekly reports on the condition of the MVP ROW and its access roads and work areas in the JNF since construction began in 2018. Reports beginning in 2018 and continuing into 2022 consistently show significant erosion and sedimentation problems on the MVP route. Using the same so-called "best management practices" employed on the Celanese/Columbia pipeline, MVP has repeatedly experienced significant erosion and sedimentation problems. Most of the active MVP construction in JNF occurred in 2018. Excerpts from the Transcon reports for 2018 reveal numerous erosion and sedimentation problems in both sections of the JNF. In the Peters Mountain section, examples were:[258]

- 8/3/18 MP 196.76: "Heavy sedimentation off of the LOD [limits of disturbance] within the cultural resource area [Native American site]. Concentrated flow continued downslope for more than 200' off of the LOD."

- 8/3/18 MP 196.76: "Sediment-laden runoff was observed to flow more than 50' into the pipeline LOD and underneath felled timber due to a failed silt fence j-hook. The high water marks on silt fence shows that runoff initially conveyed off of the LOD. Runoff at the time of inspection had rilled into sediment, and conveyed back onto Mystery Ridge Road, where it flowed into the cultural resource area."

[258] 2018 Transcon reports, FERC e-Library CP 16-10, accession no. 20181017-5135(33197648) (March to September 2018) [Ex. 46].

- 8/1/18: "Newly installed water bars on Mystery Ridge Road have conveyed sediment laden runoff off of the side slope of the road. Sediment was observed to convey over 50' downslope into vegetative matter."[259]

Problems continued through 2022, even though there had been no active construction for years. Below are just a few examples from Transcon reports to the Forest Service on the Peters Mountain section of the MVP ROW in 2022. This is evidence of continued problems that the Forest Service failed to consider in the DSEIS:

> February 23, 2022, Transcon JNF report excerpts for Peters Mt. 196.2 - 197.8, Pochontas Road and Mystery Ridge Road:
>
> - ECD's along Pochontas Road, including water bar treatments continue to require maintenance Silt fence . . . many rotted stakes . . . fallen over
> - Failed water bars…
> - Many breached silt fences where silt and aggregate have been deposited outside the LOD
> - Most silt fences need maintenance.
> - Mystery Ridge Road – Overwhelmed silt fences
> - Failed Culverts at streams S-HH13
> - The S-PP15 culvert was noted to have worsened during the last reporting cycle.
> - Significant rilling and rutting is observed along Pocahontas Road. Ruts are up to 24 inches wide and 12 inches deep in some stretches, and stretches of ruts can last for over 50 yards.
> - Variance VA-MVP- 007/sedimentation off LOD.
>
> August 31, 2022, Transcon JNF report excerpts:
>
> - ECD's along Pochontas Road, including water bar treatments continue to require maintenance
> - Silt fence..many rotted stakes . . . fallen over . . . failed water bars
> - Many breached silt fences where silt and aggregate have been deposited outside the LOD . . . see 8/25/22 report
> - Most silt fences need maintenance
> - Mystery Ridge Road – Overwhelmed silt fences
> - Wood cribbing needs maintenance
> - Failing culverts at S-PP14 and S-PP19 along Pocahontas Road are unchanged since previous inspection
> - Localized 4-6 inch rutting observed in area of Vandergrift logging vehicle use.

The Forest Service must properly consider visual impacts to the ANST in a revised DSEIS.

[259] *Id.*

h. The DSEIS fails to adequately analyze impacts on lands outside the JNF boundaries, including the possibility of abandonment of the ANST crossing, based on new information and changed circumstances.

The DSEIS fails to adequately assess the sedimentation and erosion impacts on land and water resources outside the JNF caused by MVP's proposed crossing of the ANST.[260] The DSEIS does not adequately consider impacts to adjoining off-JNF land and water resources, including the plan to change the construction access route to the ANST crossing from the Pocahontas Forest Road to a public road access via Rogers Road at Gold Bond, Virginia. Affected resources include vulnerable karst-related water resources and critical aquatic habitat for the endangered candy darter. Changed circumstances and new information since the 2020 DSEIS include regrowth of early successional vegetation within the MVP ROW on Peters Mountain and critical habitat designation for the candy darter.[261] The DSEIS also fails to address new information in MVP's 2022 Plan of Development (2022 POD) that raises the possibility that the crossing of the ANST at this site may be abandoned if the attempt to bore under the ANST is unsuccessful.

1. The Forest Service must address the contingency that MVP may abandon the current crossing location of the ANST on Peters Mountain if its planned bore cannot be completed successfully.

MVP's route crosses the ANST in the JNF on the crest of Peters Mountain at the West Virginia-Virginia border. To reduce visual impacts on the Trail, MVP plans to complete a 600-foot bore that would be located approximately 90 feet under the ANST. In its 2022 POD, Appendix E, MVP describes its Contingency Plan for the ANST, including its preferred boring method (manned tunnel boring), and that it might seek abandonment if the boring proves unsuccessful:

> 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 FS 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.[262]

This bore will not be easy. As geologists and members of the public have argued for years, the Tuscarora Sandstone (or Tuscarora Quartzite) that dominates the Peters Mountain ridge is famously hard and will likely present a daunting challenge. An MVP memorandum by a professional geologist concludes:

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[260] *See* 36 C.F.R. § 219.8(a)(1)(ii) (requiring consideration of "[c]ontributions of the plan area to ecological conditions within the broader landscape influenced by the plan area.").

[261] DSEIS, *supra* note 4, at 12.

[262] MVP 2022 POD, App. E-5.

> In summary, the primary risk for the bore site is penetrating the Tuscarora quartzite, in terms of hardness of the formation. There is also a complication given the 30-degree southeast dip of the formation underlying Peters Mountain, in terms of bore deflection. The length of the bore (approximately 600 feet) also presents a risk to completing the bore at the prescribed receiving pit.[263]

The mere possibility of abandonment has significant implications not addressed in the DSEIS. On the ROW approach routes to the ANST crossing in West Virginia and Virginia, trees were felled in early 2018, but no clearing or ground disturbance has taken place. The DSEIS itself points out that revegetation has occurred on the MVP ROW on Peters Mountain. If that crossing location must be abandoned, the forest on Peters Mountain would be able to restore itself naturally—both on JNF property and on adjoining private lands where the ROW has not yet been cleared or disturbed. However, if MVP is allowed to proceed with its current construction plans without modification for this abandonment contingency, enormous and potentially adverse impacts will occur. These include degradation of resources on and near the ROW on Peters Mountain, along with damage to land and watersheds outside JNF boundaries, including potential landslides or massive erosion and sedimentation releases from steep slope corridors, degradation of critical habitat for the endangered candy darter, degradation of threatened karst-related drinking water resources in both states, and a permanent scar seen by ANST users. The DSEIS also fails to protect adjoining non-JNF watersheds from adverse impacts by allowing regular construction to proceed on the currently undisturbed ROW approaches to the ANST when it is expected that the initial bore attempt will take 10 weeks or more.

2. The Forest Service fails to consider adverse impacts of MVP's ANST crossing to resources outside the JNF boundary in Virginia.

The Forest Service's 2021 Record of Decision for MVP included the abandonment of the Forest Service's Pocahontas Road as an access route to ROW on the JNF.[264] This change meant that the Rogers Road area below the JNF boundary in Giles County would serve as the only access and transport route to the crossing of the ANST atop Peters Mountain.[265] MVP's 2022 POD contains the same access and construction plans, and these issues remain both relevant and inadequately addressed in the 2022 DSEIS:

- **As an access/transport corridor, the non-JNF ROW between MP 197.9 and MP 198.9 will bear a dramatically increased traffic load.** The new access/transport ROW corridor must now be used to transport all construction vehicles, pipes, and personnel to and from the construction corridor on the JNF, including the equipment needed for a 600-foot conventional bore under the AT on the Peters Mountain ridge, as proposed in MVP's plans.

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[263] *Id.* App. E, Attachment A-3 (William D. Newcomb, P.G. Memorandum on Geologic Formation Descriptions at MVP ANST Crossing Site).

[264] 2021 ROD, *supra* note 215, at 24.

[265] *See, e.g.*, Preserve Giles County and Preserve Our Water, Heritage, Rights, Alert (Jan. 26, 2021) [Ex. 47].

- **The non-JNF access/transport ROW corridor will need to remain open to traffic for months, potentially during late winter and early spring months typically marked by frequent and extreme precipitation events.** According to the MVP Historic Property Treatment Plan filed with FERC, "The work required to bore under the ANST Historic District (and associated noise and dust) is expected to last approximately 10 weeks."[266] Coupled with the increased daily load, the length of time the ROW will have to remain exposed with temporary ESCs will severely increase the amount of sediment-laden run-off in an area already identified as susceptible due to extreme steep slopes.

- **Steep slopes and "high hazard" features create the conditions for a safety and environmental nightmare.** Immediately below the JNF boundary, MVP plans to use winching construction techniques for more than half a mile of steep slopes where they will now need to repeatedly transport personnel, pipes, and equipment. Slopes range up to 74%.[267] This area is further challenged by two "high hazard sites" that were identified by Forest Service staff in October 2016.[268] The locations were Sites #1 and #4 among six representative sites selected because "they appear to present a high risk for slope failure, slippage, and erosion/sedimentation." A third high hazard site (#3) is at the bore pit at the top of Peters Mountain.[269]

- **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.** MVP's measures as described in the proposed plans for High Hazard sites include: "constructing in a timely fashion to reduce the amount of time the LOD is exposed to the elements and not under final grade; and installing additional trench breakers (minimum 25-ft spacing) in areas steeper than 65 percent slope and armoring the ground surface in steep areas with larger rocks from trench excavation."[270]

- **Removing and restoring water bars (trench breakers) every day during the time required for ROW construction and boring under the Appalachian Trail will reduce the efficacy of the most important BMPs for controlling stormwater runoff on steep slopes.** The repeated shifting of water bars and tracking back and forth by heavy equipment will also dramatically increase soil disruption and compaction, creating worse conditions for later revegetation and restoration.

- **Increased sedimentation impacts to Kimballton Branch after every rain will carry sediment-laden water across karst and directly to Stony Creek, less than 400 yards downstream from where MVP's Access Roads start from Rogers Road.** The addition

[266] MVP Historic Property Treatment Plan, Appalachian National Scenic Trail Historic District (021-5012) at 8, FERC Accession No. 20201210-5005MVP [Ex. 48].

[267] MVP 2022 POD, *supra* note 262, at App. B (Details) at B-3.

[268] USFS, Request for 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. File Code 1900; 2720 (Oct. 24, 2016) [Ex. 49].

[269] MVP 2022 POD, *supra* note 262, at App. G (JNF Priority Sites) at 10 (Site #1), 28 (Site #3), 39 (Site #4) & Figures 2, 17, 23 (slope maps).

[270] MVP 2022 POD, *supra* note 262, at App. G at 19.

of the candy darter to the endangered species list in 2018 together with the increasing trend of unpredictable high-intensity precipitation events auger against using the Rogers Road/MVP ROW combination as an access/transport corridor to the JNF. Kimballton Branch will bear the brunt of MVP's failed ESCs, from its headwater tributaries close to MVP's bore pit atop Peters Mountain at MP 196.4, to its crossing by the ROW at MP 199.5, to its run next to and under Rogers Road before entering Stony Creek. Much of this will be in karst terrain, including where Stony Creek itself will be crossed by MVP at MP 200.4.

- **Karst features have already been documented in Stony Creek near the entry point of Kimballton Branch about 200 yards above the Gravely Hill Road bridge.** FERC's Compliance Monitor report for 12/28/20 states: "In Spring 2019 numerous non-Project related sinkholes developed within the banks of Stony Creek in this general location. Both sandbag locations are above the Gravely Hill Road bridge. This is the same location as the uppermost sinkhole documented in 2019. … [T]wo recent sandbagged locations are hydraulically connected by a small channel off the left bank. Sinking waters at the upstream sandbagged location caused bank failure."[271]

- **VADEQ expressed specific concerns about karst and sedimentation in its comments on the Forest Service's Draft SEIS**.[272] Correcting a DSEIS statement that no geologic formations associated with karst are present in the affected areas of the JNF, the VADEQ commenter stated:

    - "[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 comment goes on to point out the "chance of subsurface routing of overland flow and [that] enhanced erosion controls devices should be utilized in this section."[273]

    - "Additionally, although the NFS land does not quite extend downslope on Peter's Mountain to the main karst forming Knox Group carbonate units (although the JNF boundary does at approximately 199.5), any storm flow and sediment generated from NFS land that overwhelms erosion control devices in this region will likely flow downhill onto and into these karst units known to have substantial and rapid subsurface flow paths in Giles County."[274]

    - Under "Recommendations", the VADEQ commenter noted: "MVP is highly encouraged to err on the side of overbuilding erosion control devices in this steep region . . . to prevent short term surface water and ground water impacts that

[271] Environmental Compliance Monitoring Program, December 27, 2020 - January 2, 2021 Summary Report at 3, FERC Accession No. 20210115-4000 [Ex. 50].

[272] U.S. Forest Serv., Mountain Valley Pipeline and Equitrans Expansion Project Final Supplemental Environmental Impact Statement, App. D, 275–76 (Dec. 2020).

[273] *Id.* at 291.

[274] *Id.* at 291–92.

could be caused by the type of intense storms that plagued its earlier work and resulted in impacts to groundwater."[275]

The Forest Service must take a hard look at the harmful effects to off-JNF resources of allowing the MVP project to proceed. Because of the possibility of abandoning this route if the bore is unsuccessful, the Forest Service must properly analyze these impacts in a revised DSEIS.

3. The Forest Service fails to consider adverse impacts of MVP's ANST crossing to resources outside the JNF boundary in West Virginia.

In Monroe County, on the West Virginia side of MVP's proposed ANST crossing, the JNF border is located just below MVP's proposed exit bore pit near the top of Peters Mountain. The sweeping view from Peters Mountain into West Virginia at nearby Symms Gap is a scenic landmark for hikers on the ANST, a special detour created by the ATC to bring hikers to this spot.[276] The Groundhog Trail, the only West Virginia access to the ANST south of Harpers Ferry, enters the Trail approximately one mile from the proposed crossing, and the wide MVP ROW corridor can be seen by approaching cars and hikers.

The Forest Service has recognized the relevance of these private lands on the MVP ROW to the JNF and to its consideration of the project. In 2016, when Forest Service staff prioritized six high hazard locations for site-specific analysis, they included a 0.3-mile segment extending "downslope from the bore pit, mostly subjacent to US Forest Service property on private lands," as Priority Site #5.[277] The 20'x30' exit bore pit workspace here will be created on a slope that averages 47% with maximum slopes of 60%.[278] MVP has not submitted plans for creating a stable workspace. Yet, numerous potential slope failure hazards during and post-construction were identified at this site in the high hazard analysis.[279]

A brief description of this off-JNF ROW shows its vulnerability:

- The MVP ROW descends sharply in a 1-mile run to the nearest road, traveling over a wide band of karst wooded slopes and pasture for the bottom half-mile.
- The ROW lies approximately 1700 feet east of the main headwater cave and spring of Rich Creek, an Eastern Continental Divide headwater tributary of the New River. Rich Creek is also a secondary water source for the largest public water service district in Monroe County.
- Families and farms in the immediate area of the MVP project, however, do not have access to public water. They rely on private springs and wells.
- The spring waters at the Rich Creek cave have also historically supported a successful trout hatchery.

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[275] *Id.* at 292.

[276] Roanoke Appalachian Trail Club, July 21, 2020 letter to FERC, "New Data on Inappropriate Nature of Proposed MVP crossing of the Appalachian National Scenic Trail on Peter's [sic] Mountain," at 2 (July 21, 2020) [Ex. 51].

[277] MVP 2022 POD, *supra* note 262, at App. G at 46 (JNF Priority Sites).

[278] *Id.* at App. B (Details) at 3.

[279] *Id.* at App. G (JNF Priority Sites) at 47.

- 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.[280]
- Information provided by MVP's own sedimentation modeling documents severe sedimentation impacts to Rich Creek:

    - The Geosyntec Report commissioned by MVP as the court-ordered "independent" hydrological analysis of sedimentation and issued on May 8, 2020, clearly identifies the threat to Rich Creek on Peters Mountain, which will sustain the highest category of impact: >30% increase in sediment yield during construction compared to baseline.[281]
    - This recent modeling is consistent with the sedimentation analysis previously performed for MVP by Environmental Solutions Inc (ESI), which identified Rich Creek as likely to experience a *permanent* baseline sedimentation increase as a result of MVP construction and operation.

- The entire area (including the ANST crossing and both sides of Peters Mountain) lies within the Giles County Seismic Zone. Due to its karst, steep slopes, and multiple, compounded hazards, the region has been declared by one karst authority a "no-build" zone for a pipeline such as the MVP:

    > Karst is a critical factor in siting and management of a high-pressure gas pipeline such as the one proposed. However, other potential hazards such as land instability, weak soils, and potential seismicity are also highly significant in this region. When two or more of these elements act together, the resulting environmental threat from the pipeline is compounded and exacerbated.
    >
    > The conclusion of this report is that the karst and associated hazards constitute a serious incompatibility with the proposed pipeline. The effect of these threats on the emplacement and maintenance of the line, as well as the potential hazards of the line on the natural environment, renders this region as a "no-build" zone for the project.[282]

Despite these known hazards and threatened resources, MVP states that the ROW from Green Valley Road (known locally as Wilson Mill Road) will be the only access route for transportation to the proposed bore pit location.[283]

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[280] Indian Creek Watershed Association, Comment to Forest Service, attach. 3, Dye tracing and LIDAR maps from Cave Report, Mountain Valley Watch, May 2020 (Nov. 9, 2020) [Ex. 52].

[281] *Id.* at attach. 2.

[282] Ernst H. Kastning, Ph.D., P.G., An Expert Report on Geologic Hazards in the Karst Regions of Virginia and West Virginia: Investigations and Analysis Concerning the Proposed Mountain Valley Gas Pipeline at ES-1 (2016) [Ex. 53].

[283] MVP 2022 POD, *supra* note 262, at 6-26.

To date, the trees have been felled but not cleared, and revegetation has been taking place in the ROW. Any earth-disturbing construction activities will result in significantly increased turbidity affecting the cave, spring, creek, fish hatchery, and private water resources.[284] Heavy construction equipment crossing over and trenching through karst, then clearing and grading and trenching on steep slopes directly above the karst formations, will radically increase the threat of structural damage and change in water quality and availability. Repeated use of the ROW as a daily transport corridor, including during the extended bore operation, would further increase the damage.

During operation, any destabilization and rupture of the pipeline along this compromised segment of the ROW would destroy the area's complex karst aquifer and ecosystem, as well as the homes and farms within the blast zone. Since MVP began construction, new sinkholes have appeared, indicating an "active" karst terrain, with unknown and changing conditions. Recently a small sinkhole has developed along the construction ROW within 50 feet of Wilson Mill Road.

The individual and cumulative impacts of the proposed MVP construction on the West Virginia side of Peters Mountain are severe, including the 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 are considerations that the Forest Service has failed to adequately consider.

Before issuing a Record of Decision, the Forest Service must fulfill its obligation to adequately assess significant adverse impacts of MVP on land and water resources neighboring the JNF in both states with the new knowledge that the current crossing of the ANST may be abandoned. A serious look at cumulative impacts on Peters Mountain and other locations, coupled with the magnitude of direct impacts within the JNF and MVP's history of overestimating its construction and mitigation plans and underestimating the route's challenges, must lead to the only responsible decision: the No Action Alternative.

i. The DSEIS fails to analyze the adverse effects on public health and safety posed by pipe degradation and corrosion.

The Forest Service failed to adequately analyze the threats to and adverse impacts on public health and safety posed by pipe degradation and corrosion. The 2017 FERC FEIS and the 2020 USFS FSEIS were prepared anticipating construction with relatively new pipe. Within and near the JNF, however, pipe has now been exposed to multiple years of weathering—more than four years in some cases, which is far more than the FEIS anticipated. Such weathering leads to degradation of pipe and pipe coating that USFS must account for in its NEPA review.

Pipe and coating degradation and corrosion due to construction delay and associated exposure to the elements increases the risks of pipeline failure and explosion. Given that construction remains delayed, pipe and coating degradation and corrosion continue. The DSEIS fails to recognize those hazards or to specify mitigation measures, such as inspection and

[284] Dramatic increases in turbidity after nearby timbering is commonly experienced by landowners along the karst band at the base of Peters Mountain.

remediation procedures that are suited to corroded and degraded pipe, or replacement of all degraded pipe and coating that presents public health and safety risks.

1. Degradation of unused pipes.

Pipe coatings help protect against corrosion. MVP pipes are primarily coated with 3M Scotchkote Fusion Bonded Epoxy (FBE) 6233 coating.[285] Ideally, pipes are coated both internally and externally to protect from both types of corrosion.[286] Pipe coating, however, is not permanent or indestructible. It must be carefully maintained to retain its protective qualities.[287] If coated pipes are stored outdoors and exposed to the elements, the pipe coating can degrade due to rain, wind, and—especially—ultraviolet (UV) rays from sunlight.[288] As coating degrades, its protective function also diminishes. Even a tiny imperfection in the coating can create a concentrated area of accelerated corrosion.[289] Pipes within the JNF have been photographed with date stamps indicating they were coated in mid-2017, suggesting a likelihood that these pipes have been exposed to the elements for more than five years.

Aerial imagery and photographs reveal pipes in the corridor on Brush and Sinking Creek Mountains within JNF in October 2018, November 2019, and June 2022 (Figures 18, 19, and 20).

[285] Mountain Valley Pipeline, Response to Information Request Issued July 10, 2019, submitted to Federal Energy Regulatory Commission Docket CP16-10 within document number 20190730-5085, p. 2 of FERC document, p. 1 of Response (July 30, 2019) [Ex. 54] ("The primary coating used for the Mountain Valley Pipeline Project is 3M Scotchkote FBE 6233, which accounts for approximately 95% of coated pipe surface area of the Mountain Valley Pipeline Project.").

[286] *Id.* at p. 2 of FERC document, p. 1 of Response ("Pipeline Coatings are Required to Prevent Corrosion.").

[287] Keith Coulson et al., *Study of stockpiled fusion bond epoxy coated pipe* 16–21, Journal of the Institute of Corrosion Management (January/February 2020) [Ex. 55]; *see also Mt. Valley Pipeline, LLC v. Easements to Construct, Operate & Maintain a Nat. Gas Pipeline Over Tracts of Land in Giles Cty.*, Civil Action No. 7:17-cv-492-EKD, 2019 U.S. Dist. LEXIS 129783, at *33 (W.D. Va. Aug. 2, 2019) (Testimony of Robert Cooper) [Ex. 56] ("[P]rior to [the coating] becoming too thin to use, you have to protect it from the sun . . . .").

[288] 3M Corporation, Technical Brief UV Protection of Coated Line Pipe at *1 [Ex. 57], https://multimedia.3m.com/mws/media/850794O/uv-protection-of-coated-line-pipe-technical-brief.pdf ("[E]poxy resins generally absorb at about 300 nm and will degrade in the presence of UV light and humidity . . . .").

[289] "NTSB releases final report in 2019 Lincoln County pipeline explosion," WDRB, Sept. 14, 2022 [Ex. 58], https://www.wdrb.com/news/ntsb-releases-final-report-in-2019-lincoln-county-pipeline-explosion/article_257f7604-3495-11ed-bcd8-f3df5b2883ae.html [hereinafter NTSB article].

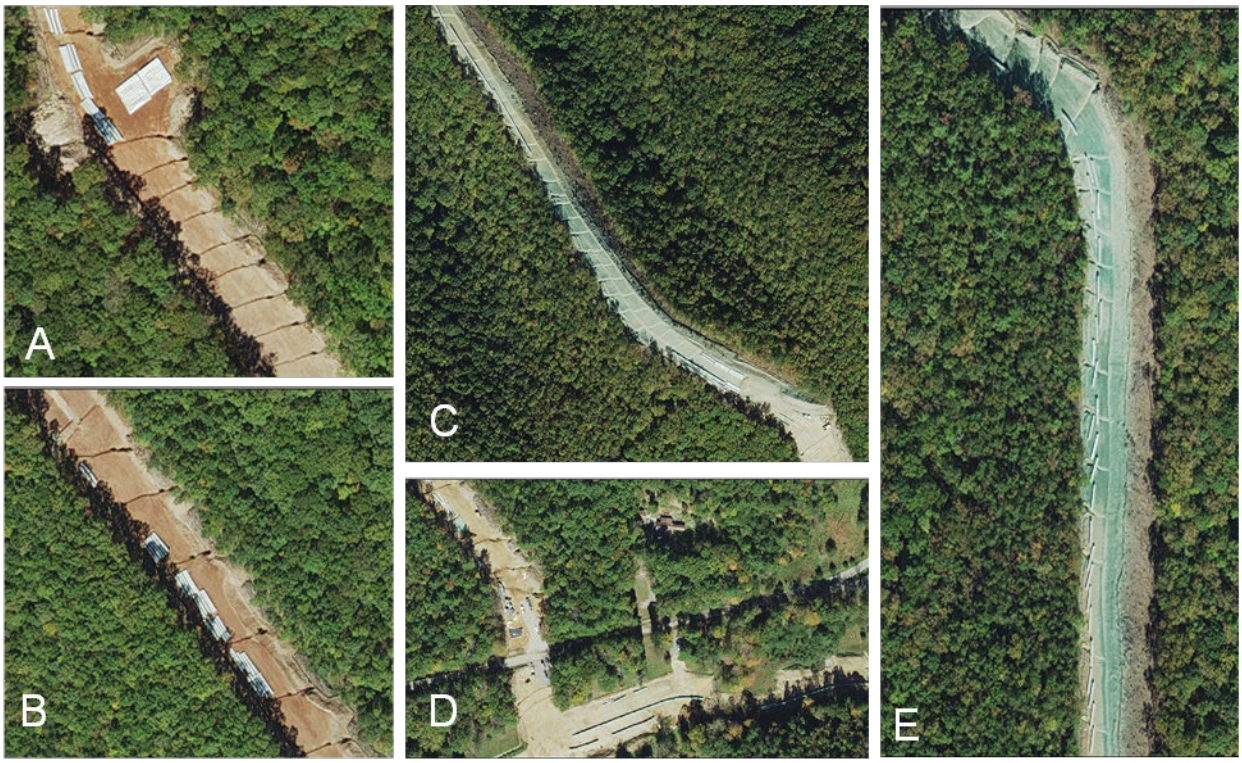

Figure 18. National Agricultural Imagery Program (NAIP) imagery of pipes exposed to the elements in Jefferson National Forest on the upper (A), mid- (B), and lower southeastern (D) slopes of Sinking Creek Mountain; and on the lower (C) and upper northwestern slopes (E) of Brush Mountain. 10/18/2018.

Figure 19. Google Earth imagery of pipes exposed to the elements on the southeastern slope of Brush Mountain in JNF, Montgomery County. 11/2019.

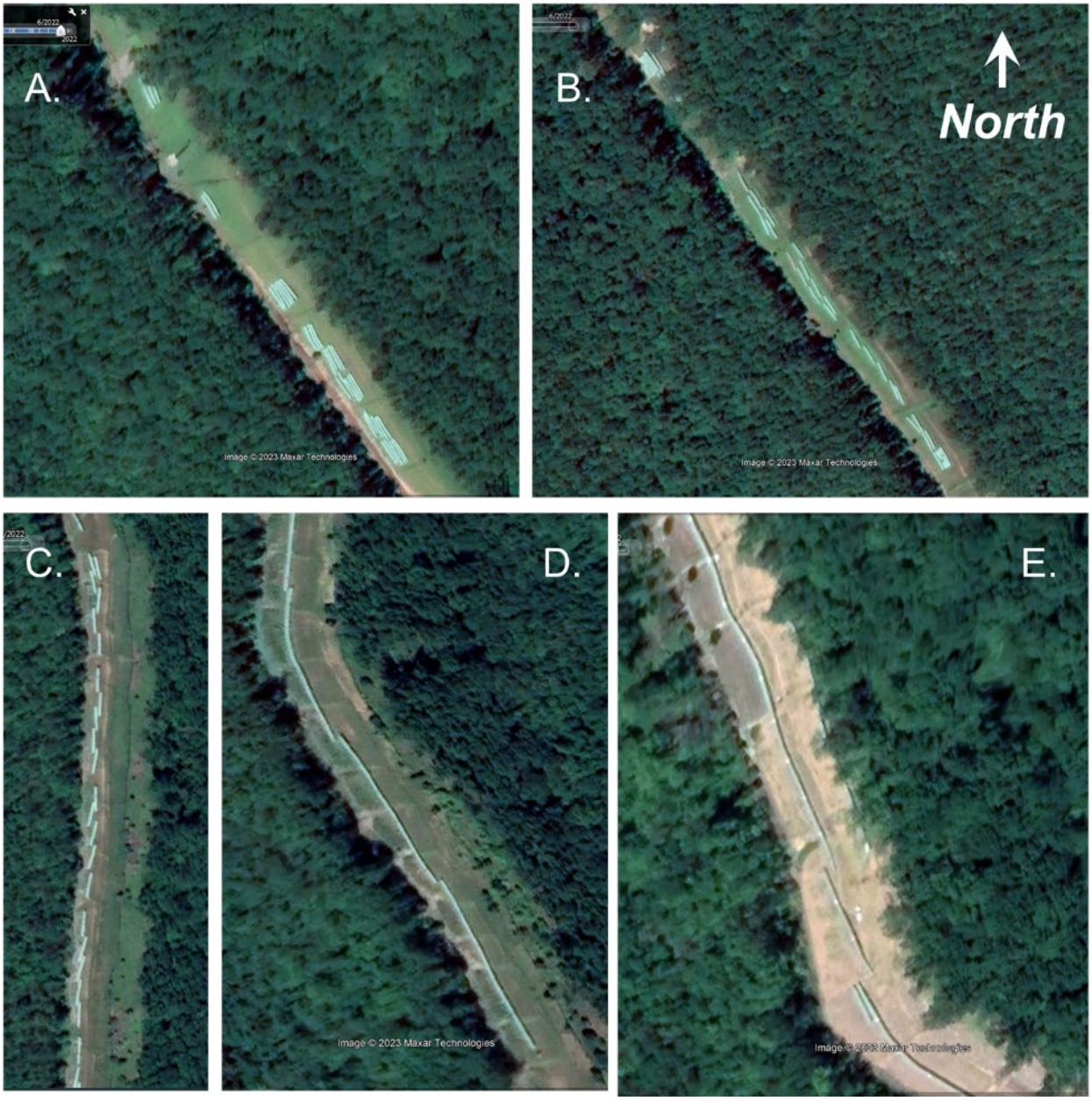

Figure 20. Pipeline corridor segments within JNF. A. Sinking Creek Mountain, upper southeastern slope. B. Sinking Creek Mountain, lower southeastern slope. C. Brush Mountain, lower northwestern slope. D. Brush Mountain, upper northwestern slope. E. Brush Mountain, middle southeastern slope. Each image shows approximately 200 meters of pipeline corridor from Google Earth Imagery. Photographs of unused pipes taken in 2020, 2022, and 2023 demonstrate their exposure to the weather (Figures 21 and 22). Photos were taken via Brush Mountain Road, a U.S. Forest Service road that crosses the pipeline corridor and is open to the public for lawful activities. Multiple pipes have been stored adjacent to Brush Mountain Road for more than two years. Multiple visits provided no indication of any maintenance or activity by Mountain Valley intended to reduce corrosion and degradation; the stored pipes appeared to be in an unmanaged condition as indicated by deterioration of the fabric cappings and by graffiti. June 2022.

Figure 21. Photos of pipes in the Jefferson National Forest adjacent to the Forest Service's Brush Mountain Road on three dates. Photos were taken from the road looking northwest. Visual observation provides no evidence of any maintenance over this period; while the sole evident protective measure applied originally, fabric cappings, has fallen into and remained in disrepair. Graffiti is visible on pipe near the center of 14 Jan 2023 photo, further indicating lack of pipe maintenance.

Figure 22. (Above) Pipes stored adjacent to and southeast of the Forest Service's Brush Mountain Road within the JNF in Montgomery County. (Below) A side view of one of the pipes as is visible from the road. The date "09/2017," inverted, appears as faded lettering near the center of the photo. A damaged section of the pipe's exterior is visible above the date, near the top of the photo. Most of the lettering on the pipe is barely visible, a likely result of coating degradation – even though the pigment applied as lettering likely provided some level of protection to the FBE coating immediately beneath it.

It is clear that the pipes stored above ground within the JNF have been subjected to accelerated corrosion.[290] The pipe ends are open such that rain, snow, and atmospheric moisture are able to enter the uncoated interiors and thus to cause corrosion of the uncoated interior steel. Mountain Valley has stored additional pipes off-site, apparently intending them for installation within the JNF (Figure 23). The storage conditions and weathering status of those pipes and their coating is of concern as well.

[290] *See, e.g.*, Degraded MVP Pipe in Monroe County, West Virginia, video (2022), https://www.youtube.com/watch?v=cy7-O1ysbZE.

Figure 23. Aerial images of pipe storage at Lindside WV, approximately 3.8 km from the pipeline corridor's crossing of Peters Mountain within JNF, on three dates. Images from Google Earth (coordinates of image center: 37.4351, -80.7006).

2. Consequences of environmental exposure.

Unused pipes exposed to the elements are subject to both internal and external corrosion. Rain, dew, soil constituents, and groundwater can all cause corrosion on the uncoated areas of pipes when they are stored outdoors; such areas include pipe ends and areas beneath FBE coating that have been damaged or lost adhesion to the pipe steel. Internal corrosion can also occur due to exposure of the steel pipe surfaces to rainwater and to atmospheric moisture; such corrosion weakens the steel. MVP pipe interiors are raw steel with no protective coating, so they are subject to corrosion via rust and associated processes when exposed to moisture. As noted by the federal agency charged with maintaining pipeline safety: "Left untreated, corrosion can weaken the pipe where the corrosion occurs, and make the pipe more susceptible to overpressure events, earth movement, and other external stresses. Thus, corrosion can sometimes also increase the risk of other types of pipeline failures."[291]

Corrosion in a pipeline is extremely dangerous, as it can lead to failures causing hazardous materials release, catastrophic explosion, or death. Indeed, corrosion problems are the second greatest cause of failures for hydrocarbon transmission and gathering pipelines.[292] A technical article published under authorship by employees and contractors of pipeline-operator TC Energy states:

> When exposed to ultraviolet rays, FBE coatings undergo polymer degradation, commonly referred to as chalking. Previous studies of exposed weathering of FBE coating had identified that this UV exposure could have a serious deleterious effect on the inherent physical properties of the coating. This phenomenon is common to all FBE coatings that are primarily designed only for below ground service. Kehr stated that, if undisrupted, this layer of chalked FBE will protect the underlaying FBE and enable the coating to retain most of its original properties. However, if this protective layer of chalked coating is removed by rain, wind or intense periods of UV exposure, then the new surface starts to suffer from the repeated process of chalking. As this breakdown and delamination of the outside layers continue, it is accompanied by a noticeable reduction in the coating thickness."[293]

The 3M Corporation, manufacturer of the FBE coating, notes that rainfall can accelerate coating thickness loss relative to dry-climate conditions: "it is important to keep in mind that the rate of chalking/thickness loss can vary considerably and is dependent on the susceptibility of the specific FBE formulation to UV attack, the intensity and duration of the UV exposure, the availability of moisture, as well as the rate at which the protective chalk layer is removed."[294]

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[291] U.S. Pipeline and Hazardous Materials Safety Administration, Fact Sheet: Corrosion (last updated Sept. 24, 2018) [Ex. 59], https://primis.phmsa.dot.gov/comm/FactSheets/FSCorrosion.htm.

[292] *Id.*

[293] Keith Coulson et al., *supra* note 287, at 16–21.

[294] 3M Corporation, *supra* note 288, at *2.

The TC Energy report also noted that the total coating thickness for pipes intended for use by the Keystone XL Pipeline was approximately 400 microns.[295] Those same authors reported a test conducted in an unspecified area, likely western North America, where FBE coating loss for unprotected pipes was measured at 25.8 microns per year and cite a report by Cetiner & Kehr that measured coating loss rates as great 40 microns per year.[296] The Mountain Valley Pipeline area receives more sunlight and more rainfall than the Keystone XL pipeline area, indicating that pipeline coatings would likely degrade more rapidly. The above information suggests that as much as half or more of the FBE coating thickness may have been lost due to environmental exposures for MVP pipes stored with no protections over more than five years.

In addition to losing thickness, FBE pipe coatings are degraded in other ways by weathering exposure. The TC Energy study found that after prolonged exposure to the environment without protection for periods of up to nine years, the coatings "completely failed to retain their original properties and attributes."[297] The TC Energy study authors performed cathodic disbondment tests on the exposed pipe; results, they wrote, led them to conclude that the pipes exposed to the sun's ultraviolet radiation (UV) without protection "**were deemed total failures**."[298]

Adhesion is an essential characteristic of FBE coating because lack of adhesion can allow moisture to enter the space between the coating and the pipe steel; pipes exposed to the sun for 9 to 10 years and then subjected to a dry adhesion test were uniformly rated as 5 on a 1-to-5 adhesion scale, with 1 as best and 5 as worst performance.[299] FBE coating's flexibility is also essential because the pipes are subject to flexing during installation; if the coating is unable to flex with the pipes, it can develop cracks which will allow environmental moisture to contact the steel pipe's exterior once it is placed underground. In flexibility tests, the TC Energy study authors found that unprotected pipe segments exposed to the sun "**were all deemed failures**" as they "demonstrated similar results of cracking within the coating" with just minor flexure.[300] As a concluding observation, study authors found that "[a]ll non-whitewashed pipe that was exposed to continuous UV at the storage site … **were deemed no longer fit for purpose**."[301]

[295] Keith Coulson et al., *supra* note 287, at 16–21.
[296] *Id.* at 16.
[297] *Id.* at 19.
[298] *Id.*
[299] *Id.* at 20, Table 1.
[300] *Id.* at 19
[301] *Id.*

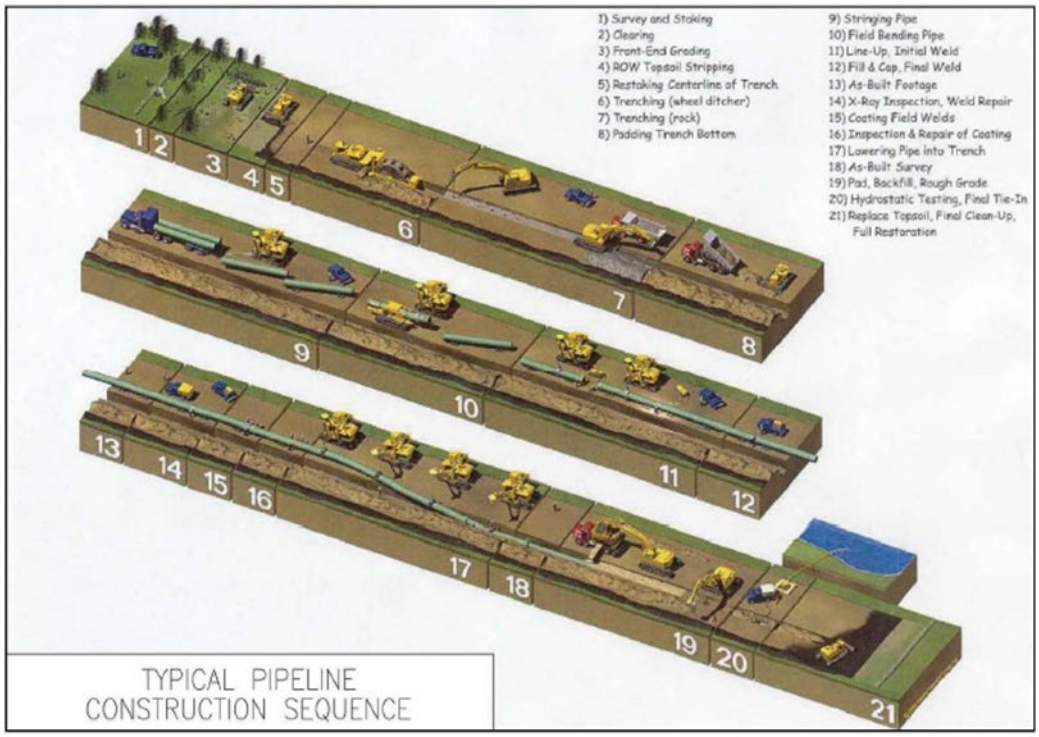

Figure 1.4-1 Typical Pipeline Construction Sequence

Figure 24. Excerpt from Mountain Valley Pipeline's application to the Federal Energy Regulatory Commission, Resource Report 1, October 2015.[302] The typical pipeline construction sequence, as represented, demonstrates that pipes are subject to flexing during installation. The upper-right legend designates operation 9 as "Field Bending". Pipes are welded together into long strings above ground (operations 10 and 11). Then, the entire string is moved into the ditch sequentially (Operations 13 through 17). As represented in the drawing at Operation 17, Lowering Pipe into Trench, the pipe string is subject to flexing during the lowering operation. As represented by Figure 2 above, actual pipe strings already assembled but not yet installed on the southeastern slope of Brush Mountain within the JNF are longer than is represented by Mountain Valley's drawing.

Pipe coating degradation has at least two consequences. Most obvious is that it can allow environmental moisture to contact the pipe exterior after the pipe is buried, accelerating corrosion. Second, coating degradation can impair the effectiveness of the cathodic protection systems used by pipeline operators to reduce rates of corrosion once the pipe is underground. As stated by pipeline industry consultant R.B. Kuprewicz: "Cathodic protection . . . is usually

[302] The original document from which this drawing has been excerpted is available from Federal Energy Regulatory Commission, Docket CP16-10, Document 20151023-5035, sub-document MVP-RR1_FINAL.PDF.

intended to work in concert with a pipeline coating to help reduce the threat of external corrosion on buried pipelines."[303]

Also, loss of thickness by FBE coating can compromise the coating's effectiveness. The Kuprewicz memo concludes by recommending that severely degraded pipe should not be installed: "Given the unusually long time that the stored pipe for the Keystone XL Pipeline was exposed to the elements, it is not surprising that a significant percentage of the coated pipe segments studied was determined not to be fit for their intended purpose."[304] Those pipe segments, concluded Kuprewicz, "should either be replaced or have the degraded FBE coating completely removed and recoated with new FBE. Otherwise, the risk of an oil release on the Keystone XL Pipeline goes up considerably."[305]

The extended exposure to the elements of pipes without maintenance protection, as practiced by Mountain Valley within the JNF and possibly at the pipe storage location, contradicts recommended best practices. When describing proper handling of pipes coated with FBE, the National Association of Pipe Coating Applicators states: "The intended use of these coatings is to provide corrosion protection for buried pipelines. Above ground storage of coated pipe in excess of 6 months without additional Ultraviolet protection is not recommended."[306]

The 3M Corporation, manufacturer of the FBE coating applied to Mountain Valley's pipes, recommends protective practices for pipes that are stored outdoors:

- "The long-term adhesion performance of the UV-barrier coating can be improved by roughening the FBE coating surface with sandpaper or a light abrasive blast. For storage **over two years**; a weldable primer should be applied to the cutback area. This helps prevent corrosion in the cutback area and undercreep of the FBE coating."[307]

- "The Cetiner study . . . evaluated pipe that had been stored for approximately **one year** . . . found [t]here was . . . a measurable reduction in flexibility . . . . Based on this work, Cetiner and coworkers recommended that pipe stored for longer than one year should be protected from UV radiation."[308]

The 3M Corporation, manufacturer of the FBE coating, recommends certain procedures for FBE-coated pipes that will be exposed to the weather beyond the 6-month recommended period, including:

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[303] R.B. Kuprewicz, Accufacts' Observations on the Use of Keystone XL Pipeline Pipe Exhibiting External Coating Deterioration Issues from Long Term Storage Exposure to the Elements 4 (Memo to: Ms. Jaclyn H. Prange, Natural Resources Defense Council, October 1, 2020) [Ex. 60].

[304] *Id.* at 12.

[305] *Id.*

[306] National Association of Pipe Coating Applicators Bulletin 12-78-04, External application procedures for plant applied fusion bonded epoxy (FBE) coatings and abrasion resistant overlay (ARO) coatings to steel pipe [Ex. 61].

[307] 3M Corporation, *supra* note 288, at *3.

[308] *Id.* at *2.

- "[A]pply[ing] additional coating thickness at the time the FBE coating is applied in order to compensate for any thickness loss that may occur" due to the extended environmental exposure time.[309]

- "Covering pipe stock piles with tarps."[310]

- Applying a protective coating to the stored pipes' exterior, such as whitewash, polyurethane, or protective powder coating.[311]

Neither the Federal Energy Regulatory Commission's (FERC) administrative record for Docket CP16-10, Mountain Valley Pipeline, nor our observations provide any indication that any such protective measures were applied by Mountain Valley to any pipes including those designated for JNF.

A Mountain Valley Pipeline, LLC, executive in January 2018 acknowledged the need to protect pipe that will be exposed to the weather for extended periods. In court testimony, Mountain Valley executive Robert Cooper stated:

> There are some other things that are kind of unique to this project, one of which is the pipeline material. The pipeline is coated with a protective material. It's an epoxy. As it sits in the sun, it ages or oxidizes and actually becomes thinner. And so we have to continue to monitor that and inspect it. And prior to it becoming—there's some margin when you coat it, but **prior to it becoming too thin to use, you have to protect it from the sun.** And so that includes either some sort of additional temporary coating, or the other thing you can do is you can restack the pipe. It's kind of like turning over when you're sunbathing: You take the part that's seen the sun and put it on the bottom and you put another part on the top. **Because the coating needs to be protected,** you have to do that very carefully.[312]

Hence, it is clear that Mountain Valley understood the effects of long-term unprotected storage and weather exposure of pipe as early as January 2018 but failed to implement maintenance and protection measures needed to forestall those effects.

Although Mountain Valley has been storing pipes in a manner that exposes them to sun and weather for multiple years, there is no evidence of pipe protection measures to prevent or reduce pipe-coating degradation. The DSEIS ignores these risks to public health and safety.

3. Pipe inspection, testing, repair, and replacement.

[309] *Id.*
[310] *Id.*
[311] *Id.*
[312] *Mt. Valley Pipeline, LLC v. Easements to Construct, Operate & Maintain a Nat. Gas Pipeline Over Tracts of Land in Giles Cty.*, Civil Action No. 7:17-cv-492-EKD, 2019 U.S. Dist. LEXIS 129783, at *33 (W.D. Va. Aug. 2, 2019) (Testimony of Robert Cooper).

Federal regulations require inspection of pipe prior to its placement in the ground.[313] FERC's FEIS states that such inspections would take place.[314] The general requirements for inspection do not address issues specific to extended exposure and weathering: "Each length of pipe and each other component must be visually inspected at the site of installation to ensure that it has not sustained any visually determinable damage that could impair its serviceability."[315]

Subsequent text referring to steel pipe describes "gouge, groove, arc burn, or dent"[316] as features requiring repair but does not refer to moisture-related forms of steel corrosion, such as the rust within the interiors of Mountain Valley's long-term-stored pipes or the FBE coating degradation that is evident on those pipes' exteriors (Figure 21). It is likely that these regulations do not consider corrosion induced by long-term exposure to the elements because construction delays such as that experienced within the JNF were rare to non-existent prior to the modern day; these regulations were first written in 1970 and last modified in 1999 and do not reflect current knowledge or circumstances.

Federal regulations require inspections of pipe and pipeline coating before the pipe is placed in the ground: "Each external protective coating must be inspected just prior to lowering the pipe into the ditch and backfilling, and any damage detrimental to effective corrosion control must be repaired."[317] Pipeline safety experts have concluded that such inspections are not adequate for pipe that has been exposed outdoors for extended periods. R.B. Kuprewicz, who serves as a member of a Congressionally mandated pipeline safety committee,[318] told a journalist who inquired about the FBE coating on Mountain Valley Pipeline: "It's probably in terrible shape . . . . But that in itself does not prevent the operator from putting it in service. . . . Given what I've seen of this project, the public is raising valid concerns."[319] Bill Caram, of the non-profit Pipeline Safety Trust, told the same journalist: "The regulations are written to largely allow the operator to determine if the coating is appropriate as opposed to prescribing exactly what would make a coating safe or unsafe."[320]

The DSEIS fails to mention how pipe or coating defects would be remediated before those pipes are placed in the ground, or the impacts of those activities. For example, the TC Energy plan for a different pipeline included scrapping and replacement of unusable pipe, and refurbishing usable but degraded pipe in an enclosed facility, not in the field: "We're inspecting every piece of pipe . . . We have a whole test plan, 11 steps. We look at coating, we look at interior, we look for corrosion. We look at everything—cleanliness, all that other stuff. It either

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[313] 49 C.F.R. § 192.307.
[314] 2017 FERC FEIS, *supra* note 227.
[315] 49 C.F.R. § 192.307.
[316] *Id.* § 192.309.
[317] *Id.* § 192.461.
[318] Richard B. Kuprewicz, Curriculum Vitae (stating that he currently serves "as a member representing the public on the federal Technical Hazardous Liquid Pipeline Safety Standards Committee (THLPSSC), a technical committee established by Congress to advise PHMSA on pipeline safety regulations") [Ex. 62], https://www.congress.gov/116/meeting/house/109198/witnesses/HHRG-116-PW14-Bio-KuprewiczR-20190402.pdf.
[319] Laurence Hammack, "As MVP construction extended, concerns about pipe's integrity grow," *Roanoke Times*, Sept. 3, 2022 [Ex. 63], https://roanoke.com/news/local/as-mvp-construction-extended-concerns-about-pipes-integrity-grow/article_0f82436c-2a2d-11ed-9a3b-336c79988438.html.
[320] *Id.*

passes or it fails. If it fails, then it's scrap. And there may be others where we may be able to remediate it . . . . [I]f we find measurements of the coating thickness are too thin, we set them aside for a strip and recoat . . . . This would be in a plant environment."[321]

The DSEIS fails to evaluate the impacts of pipe remediation on all the resources in the JNF. If many pipes need to be transported to and from a factory for coating repair, or if old pipes need to be removed and new pipes transported to the pipeline route, this would increase impacts to the JNF, including ecological integrity, and must be accounted for in the DSEIS. In addition, 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."[322]

That is clearly the case here, as FERC has provided no review of effects caused by the extended constructed delay, nor did the Forest Service in its 2020 FSEIS. The new PHMSA regulations include changes to 49 C.F.R. § 192.461, which governs inspections as the pipe is being placed in the ground. The fact that PHMSA found new regulations necessary indicates that current practices concerning pipe inspection during installation, those in effect when the FEIS was completed, are not adequate to protect public health and safety. Given the uniqueness of Mountain Valley Pipeline's situation—we are aware of only one other pipeline example of significant delay after pipes were procured (i.e., the TC Energy project as discussed extensively above), the Forest Service cannot simply assume that compliance with federal regulations in effect in 2017 would protect public health and safety within and around the JNF. The DSEIS fails to specify measures that would assure protections of public health and safety to the maximum extent that is reasonable and feasible.

4. Consequences of steep, landslide-prone slopes in a highly active seismic zone for pipeline integrity and public safety.

The issue at hand is public health and safety. Even if constructed with relatively new pipe and pipe coating, Mountain Valley Pipeline would present risks to public health and safety greater than those of most or all other natural gas pipelines. Mountain Valley's large diameter and high pressure—42 inches and up to 1480 psi, respectively, both among or the highest in North America—make it a higher risk pipeline than most if not all other gas transmission pipelines. Those risks are enhanced by terrain: 226 miles of the 304-mile pipeline, 74% of its length, cross areas of "high landslide potential,"[323] far more than any other recently constructed natural gas pipeline.[324] Some of the steepest and most landslide-prone areas along the entire

[321] Brian Zinchuk, "TransCanada is inspecting its pipe in anticipation of Keystone XL beginning second half 2019," *SaskToday*, Nov. 1, 2018 [Ex. 64], https://www.sasktoday.ca/south/local-news/transcanada-is-inspecting-its-pipe-in-anticipation-of-keystone-xl-beginning-second-half-2019-4126184.

[322] 87 Fed. Reg. 52,224, 52,233 (Aug. 24, 2022).

[323] 2017 FERC FEIS, *supra* note 227, at 3-20.

[324] Jacob Hileman, "Why the Mountain Valley Pipeline is uniquely risky," *Virginia Mercury*, Aug. 22, 2019 [Ex. 65], https://www.virginiamercury.com/2019/08/22/why-the-mountain-valley-pipeline-is-uniquely-risky/.

route are within the JNF.[325] Those risks are further enhanced by the fact that JNF's steep slopes also occur within the Giles County Seismic Zone, a zone of enhanced seismic risk.

The above risks to public health and safety were (inadequately) considered by the FEIS. But those risks are now enhanced by the pipe degradation and corrosion that has occurred since the FEIS publication more than five years ago. Slope-related earth movement can cause a pipeline to rupture, unless the pipe's physical strength is adequate to resist severe deformation by the moving earth. The DSEIS fails to address how pipe degradation and corrosion since FEIS completion influences its rupture potential and related risks to public health and safety.

Mountain Valley proposes to construct its pipeline on steep slopes within the JNF, some in excess of 60%.[326] Some of these slopes are subject to soil slippage or landslide risk.[327] Slope-related slippage risks within the JNF are enhanced by its location within a zone of enhanced seismic risk, the Giles County Seismic Zone (GCSZ).[328] As noted in the FEIS, when a seismic event occurs: "[T]he level of ground shaking is a factor in determining potential for permanent ground displacement hazards that can threaten pipeline integrity such as liquefaction, settlement, slope instability (particularly along steep sided slopes) . . . ."[329]

A seismic event will increase the probability of earth movement in steep-slope areas. More than 200 earthquakes have been recorded in Giles County, Virginia, the GCSZ's namesake location.[330] Both of the JNF's MVP segments are either within or just a few miles from Giles County. Two seismic events have been recorded close to the JNF's MVP segments since publication of the FEIS:

- An event of magnitude in the range of 3.7 to 4.0, with an epicenter in Monroe County, WV, on 13 September 2017.[331] This event occurred less than five miles from the proposed MVP right-of-way in the JNF, located in High Hazard Area #5 and just below the bore pit for tunneling under the Appalachian National Scenic Trail.[332]

- A magnitude 2.8 event on 15 July 2021, with an epicenter near Narrows, Virginia.[333]

5. Landslide risks within the JNF are also enhanced by geologic features along the pipeline's route.

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[325] U.S. Forest Service request for site-specific stabilization measures in selected high-hazard portions of the proposed Mountain Valley Pipeline route, FERC Docket CP 16-10, Accession 20161025-5044 (Oct. 24, 2016) [Ex. 66].

[326] 2017 FERC FEIS, *supra* note 227, at App. K-2, Table 4.1.2-2.

[327] *Id.* at 4-52 to 4-58.

[328] *Id.* at 4-23, 4-24; *see* U.S. Geological Survey, *supra* note 237.

[329] 2017 FERC FEIS, *supra* note 299, at 4-22.

[330] WSLS, "Earthquake's epicenter just outside Giles County," Sept. 13, 2017 [Ex. 67] (Martin C. Chapman interview), https://www.wsls.com/news/2017/09/13/earthquakes-epicenter-just-outside-giles-county/.

[331] Robby Korth, *supra* note 241.

[332] USGS, *supra* note 240.

[333] Elizabeth Thomas, "Small earthquake rattles Giles County," WSET, July 15, 2021 [Ex. 68], https://wset.com/news/local/small-earthquake-rattles-giles-county-narrows-virginia.

FERC's FEIS notes that the largest debris slide area in eastern North America is located along the Mountain Valley Pipeline corridor on Sinking Creek Mountain within the JNF and within the Giles County Seismic Zone.[334] This area was described by U.S. Geological Survey as "the largest known landslides in eastern North America and … among the largest in the world,"[335] and was identified as a high-hazard slope by U.S. Forest Service.[336]

FERC's FEIS also notes two areas, both within the JNF, where pipeline safety hazards are enhanced by the corridor's physical orientation relative to slopes: "Mountain Valley also identified two places where the pipeline would run perpendicular to a potential triggered slope displacement hazard: (1) between MPs 196.4 and 196.5; and (2) at approximate MP 197.0."[337] The PHMSA recently published an updated advisory bulletin entitled "Pipeline Safety: Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards."[338] The agency's summary states: "PHMSA is issuing this updated advisory bulletin to remind owners and operators of gas and hazardous liquid pipelines . . . of the potential for damage to those pipeline facilities caused by earth movement in variable, steep, and rugged terrain . . . These phenomena can pose a threat to the integrity of pipeline facilities if those threats are not identified and mitigated."[339] PHMSA's public notice included multiple examples of pipeline failures caused by earth movement, including several for which reduced pipe strength caused by corrosion was identified as a factor contributing to failure.

FERC's FEIS places considerable reliance on the strength of pipe for mitigation of landslide, seismic, and slippage risks.[340] Any corrosion that has occurred because of weather exposure has likely reduced pipe strength and increased public safety risks and hazards. Degraded FBE coatings on pipe placed in the ground will impair the effectiveness of cathodic protection and enable more rapid below-ground corrosion than if the pipeline were constructed with relatively new pipe and coating. Such corrosion, FBE coating degradation, and evidence of resulting risks to public health and safety were not considered by the FEIS. For example, a Lincoln County KY rupture was found to have been caused in part by "ineffective cathodic protection" which "along with degraded coating, led to cracking in the pipeline causing the explosion."[341]

Should earth movement cause Mountain Valley's pipe to rupture, consequences would include negative effects to public health and safety. Large quantities of hydrocarbons would be released into the environment. Ruptures of high-pressure natural gas pipelines are often accompanied by explosion and intensive fires that severely impact public health and safety, and the environment. For example:

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[334] 2017 FERC FEIS, *supra* note 227, at 4-45, 4-46.

[335] USGS, The Mountain that Moved (2000) [Ex. 69], https://pubs.usgs.gov/gip/mountain/mountain.pdf.

[336] U.S. Forest Serv., *supra* note 325.

[337] 2017 FERC FEIS, *supra* note 227, at 4-51. Both of these perpendicular-to-slope locations are within the JNF.

[338] 87 Fed. Reg. 33,576, 33,576–33,579 (June 2, 2022).

[339] *Id.*

[340] 2017 FERC FEIS, *supra* note 227, at ES-4 ("Mountain Valley would use Class 2 pipe in areas where seismic hazards exist."); *see also id.* at 4-26, 4-51 ("The remaining pipe in proximity to the GCSZ would be Class 2 or greater and thus have a thicker pipe wall than Class 1 pipe.").

[341] NTSB article, *supra* note 289.

- In Moundsville, Marshall County, WV, A 36-inch gas pipeline ruptured on June 7, 2018, resulting in a fire and explosion that "shook . . . houses and could be seen for miles" and "left behind a crater and 10 acres of land burned and disturbed."[342]

- A 24-inch pipeline in Center Township, Beaver County, PA, ruptured and exploded on 17 September 2018. "Witnesses said the blast sent flames more than 100 feet into the air."[343]

- A 30-inch gas pipeline rupture near Summerfield, Ohio, on 21 January 2019 resulted in fire with flames that "were estimated to reach 80 feet high, according to a Noble County sheriff's sergeant" and an explosion that "destroyed three homes and caused damage to three additional homes and the surrounding terrain."[344]

- "On August 1, 2019 around 1:30 AM a major natural gas pipeline in Lincoln County, Kentucky exploded and burned intensely until the gas could be shut off . . . . An area of 30 acres was burned . . . . There was a large 30 foot crater."[345]

- A "30-inch-diameter section of Line 10 on the Texas Eastern system ruptured on the afternoon of May 4, 2020, near Hillsboro, Ky. The accident created a fire that burned vegetation over about five acres, released about 148 MMcf of natural gas and left a crater about 20 feet wide."[346]

These are not isolated examples; dozens of other examples of natural gas pipeline ruptures, explosions, and fires are available. But should a rupture of Mountain Valley Pipeline occur, results could be more catastrophic than these examples given that Mountain Valley has a larger diameter and greater capacity, and would likely be operating at higher pressure, up to 1480 p.s.i.

USFS must properly analyze the risk to public health and safety posed by accelerated corrosion and degradation of pipe and FBE coating. The DSEIS fails to specify measures to evaluate those risks, consequent hazards to public health and safety, and measures to mitigate those hazards.

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[342] Tessa Ditirro, "Massive pipeline explosion seen across state lines," WBOY, June 8, 2018 [Ex. 70], https://www.wboy.com/news/west-virginia/massive-pipeline-explosion-seen-across-state-lines/1226553167/.

[343] "Landslide may be to blame for Beaver County explosion, pipeline owner says," WTAE, Sept. 11, 2018 [Ex. 71], https://www.wtae.com/article/gas-line-explosion-reported-in-center-township-beaver-county/23059121.

[344] Rick Stallion, "Investigation begins into Ohio pipeline explosion," *Columbus Dispatch*, Jan. 22, 2019 [Ex. 72], https://www.dispatch.com/story/news/environment/2019/01/22/investigation-begins-into-ohio-pipeline/6212487007/.

[345] National Center for Environmental Health, U.S. Centers for Disease Control and Prevention, Kentucky Gas Pipeline Explosion ACE investigation [Ex. 73], https://www.atsdr.cdc.gov/ntsip/docs/EpiAid_pipeline-508.pdf (last visited Feb. 18, 2023).

[346] Corey Paul, "Enbridge gas pipeline that ruptured in Kentucky in 2020 had weld defects," *S&P Global*, Feb. 7, 2022 [Ex. 74], https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/enbridge-gas-pipeline-that-ruptured-in-kentucky-in-2020-had-weld-defects-68772731.

The Forest Service failed to consider effects of pipe exposure and accelerated degradation over multiple years. The pipeline's physical strength is essential to its stability, especially in steep-slope areas that are potentially unstable, of which there are many along the Mountain Valley Pipeline corridor within JNF. The construction delay has compromised the integrity of stored pipe by enabling degradation of the exterior FBE coating and contributing to interior corrosion. This has reduced the pipe's capability to resist further corrosion directly once the pipe has been placed in the ground, potentially impairing the effectiveness of cathodic protection systems which are intended to reduce below-ground corrosion.

In addition, pipe and coating remediation and its impacts were not analyzed in the DSEIS. Should the pipeline experience failure as a result of corrosion and other degradation or for any other reason, results would include severe negative effects to public health and safety. At minimum, these would include release of hydrocarbons and natural gas contaminants to the environment. High-pressure pipeline ruptures are commonly accompanied by explosions and intensive fires which endanger people, structures, and the environment within thousands of feet of their occurrence.

The Forest Service must properly consider the public safety risks resulting from extended exposures of unused pipe to corrosion and degradation, and methods to mitigate those risks such as replacement of highly weathered pipe.

j. The DSEIS inadequately considers climate change.

It's striking that in an environmental review concerning whether to allow a gas pipeline to utilize federal public land to enable greenhouse gas emissions equivalent to that of 23 coal-fired power plants over a year, the DSEIS devotes merely part of one sentence to the impacts of climate change on the forest resources. It states in its entirety: "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 FERC FEIS (p. 4-514); [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 . . . ."[347] This is not the hard look that NEPA requires.[348]

On January 9, 2023, CEQ released updated guidance on how agencies should consider and analyze GHG emissions and climate change in NEPA reviews.[349] The CEQ climate guidance is effective immediately and directs agencies to "use this guidance to inform the NEPA review for all new proposed actions" and to consider applying it "to an on-going NEPA process."[350] The guidance reiterates the Forest Service's obligation under NEPA to properly consider GHG emissions and climate change. While "NEPA reviews should quantify proposed actions' GHG

[347] DSEIS, *supra* note 4, at 27.

[348] *Sierra Club, Inc.*, 897 F.3d at 590 ("NEPA's procedures require that agencies take a hard look at environmental consequences and provide for broad dissemination of relevant environmental information." (citation and internal quotation marks omitted)).

[349] *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, 88 Fed. Reg. 1196 (Jan. 9, 2023) [hereinafter 2023 CEQ Climate Guidance].

[350] *Id.* at 1212.

emissions," which the 2017 FERC FEIS attempts to do at an unhelpfully general level,[351] environmental reviews should also "place GHG emissions in appropriate context and disclose . . . relevant climate impacts."[352]

The DSEIS must provide a more searching review of the climate change impacts. The 2020 Forest Service Final Supplemental Environmental Impact Statement for MVP, which USFS implies adequately analyzed climate impacts, merely points to the 2017 FERC FEIS, stating: "Section 4.13.2.7 of the FERC FEIS analyzes the impacts of climate change. 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."[353] But the 2017 FERC FEIS devotes barely three pages to climate impacts and only at a high level of generality, noting that the Southeast Region may experience several adverse effects:

I. Sea level rise poses widespread and continuing threats to both natural and built environments and to the regional economy;
II. Increasing temperatures and the associated increase in frequency, intensity, and duration of extreme heat events will affect public health, natural and built environments, energy, agriculture, and forestry; and
III. Decreased water availability, exacerbated by population growth and land-use change, will continue to increase competition for water and affect the region's economy and unique ecosystems.[354]

This spare analysis fails to take a hard look at or disclose relevant climate impacts to the Jefferson National Forest.

The DSEIS does not adequately address the cumulative impacts of climate change in conjunction with the greenhouse gas emissions from the pipeline enabled by crossing the JNF. It makes little attempt to discuss and qualify on-the-ground, regional environmental effects of climate change. Merely citing to the 2017 FERC FEIS listing the quantity of emissions is insufficient if the agency "does not reveal the meaning of those impacts in terms of human health or other environmental values," since "it is not releases of [pollution] that Congress wanted disclosed" but rather "the effects, or environmental significance, of those releases."[355] Although the Supreme Court reversed this decision on largely unrelated grounds, it agreed that the disclosure of impacts is the "key requirement of NEPA," and held that agencies must "consider and disclose the *actual environmental effects*" of a proposed project in a way that "brings those effects to bear on [the agency's] decisions."[356]

In another case, a court likewise held that analysis of two timber sales was insufficient after the agency quantified the acres of timber to be harvested and the miles of road to be

[351] 2017 FERC FEIS, *supra* note 227, at 4-620.
[352] 2023 CEQ Climate Guidance, *supra* note 349, at 1212.
[353] U.S. Forest Serv. FSEIS, *supra* note 272, at 68.
[354] 2017 FERC FEIS, *supra* note 227, at 4-618 to 4-619 (quoting U.S. Global Change Research Program, 2014).
[355] *NRDC v. NRC*, 685 F.2d 459, 486–87 (D.C. Cir. 1982), *rev'd on other grounds, Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 106–07 (1983).
[356] *Balt. Gas & Elec. Co.*, 462 U.S. at 96 (emphasis added).

constructed, paired with a qualitative "list of environmental concerns such as air quality, water quality, and endangered species" with a "checkbox to indicate whether the respective condition . . . w[ould] be 'affected.'"[357] The agency's analysis did not constitute a "description of *actual* environmental effects," because the agency failed to assess "the degree that each factor will be impacted."[358] As these various cases therefore make clear, agency analyses under NEPA must assess the degree to which environmental and health values will be affected by the proposed action.

The Forest Service must also consider the effects of climate change on the pipeline project. This requires evaluating how climate disruption will affect the resources, ecosystem, communities, and pipeline infrastructure, including sedimentation and erosion risks from increasing mass rainfall events, making it more vulnerable to adverse impacts.[359] The Forest Service must address these issues in a revised DSEIS.

k. The DSEIS inadequately addresses public health and environmental justice.

The DSEIS does not adequately address MVP's adverse impact on public health and environmental justice as required by NEPA and the Biden Administration's own environmental justice commitments.

The Forest Service must "use all practicable means" to "assure for all Americans safe [and] healthful . . . surroundings" and "attain the widest range of beneficial uses of the environment without . . . risk to health or safety."[360] In 2021, President Biden signed Executive Order 13990, calling for federal agencies to advance environmental justice and improve public health by relying on "the best science and . . . processes that ensure the integrity of Federal decision-making."[361] Environmental justice is a "relevant factor" that agencies must consider under NEPA.[362]

In discussing public safety risks, the DSEIS wrongly states: "Effects on public health and safety within the project area would be similar to those analyzed in the 2017 FERC FEIS . . . and the 2020 FSEIS . . . .";[363] and that "[t]he 2017 FERC FEIS and 2020 FSEIS analysis remains 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."[364] These statements are inaccurate because the 2017 FERC FEIS and 2020 FSEIS do not adequately account for the threat to public health and environmental justice caused by: (1) weathering and degradation

[357] *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004).

[358] *Id.* ("A calculation of the total number of acres to be harvested in the watershed is . . . not a sufficient description of the actual environmental effects that can be expected from logging those acres."); *see also Oregon Natural Res. Council v. Bureau of Land Mgmt.*, 470 F.3d 818 (9th Cir. 2006).

[359] 2023 CEQ Climate Guidance, *supra* note 349, at 1208.

[360] 42 U.S.C. § 4331(b)(2), (3) (1978).

[361] Exec. Order No. 13,990, 86 Fed. Reg. 7037, 7037, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (Jan. 25, 2021).

[362] *See, e.g.*, *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 87 (4th Cir. 2020).

[363] DSEIS, *supra* note 4, at 27.

[364] *Id.*

resulting from construction delay; (2) the risk of pipeline failure caused by landslides; and (3) the risk that soil erosion poses to the environment.[365]

Due to construction delay, the pipeline has been subjected to weathering and degradation for more than five years as explained in Section V. As a result, pipe exposure has created enhanced risks of pipeline failure within the JNF, which threaten nearby communities and endanger public health.[366] Natural gas transportation poses several public health dangers, including but are not limited to exposure to hazardous chemicals that are known to cause neurodevelopmental impairments, lunch cancer, leukemia, and respiratory illness, as well as the release of methane emissions that contribute to climate change.[367] The 2017 FERC FEIS itself recognizes that methane release "can result in serious injury or death" and that a "flammable concentration of natural gas within an enclosed space in the presence of an ignition source can explode."[368] Yet, the Forest Service specifically lists "Public Health & Safety" as one of the "Resources Not Brought Forward for Detailed Analysis" in the DSEIS.[369] It should conduct this detailed analysis in a revised DSEIS.

In addition to weathering and degradation, landslide potential in the proposed pipeline corridor poses a significant risk to surrounding communities and public health, which the DSEIS fails to properly consider. As noted in the 2017 FERC FEIS, "Several steep slopes along Mountain Valley's proposed pipeline route have experienced landslide activity in the past. Additionally, there are areas along the pipeline route that are characterized by both steep slopes and red shale bedrock, which . . . are prone to landslides."[370] The 2017 FERC FEIS also acknowledges that "[s]everal locations were identified as having a high incidence of and high susceptibility for landslides within the vicinity of the MVP."[371]

The risk of soil erosion also poses a threat to public health. Soil erosion presents significant threats to the surrounding environment, including decreasing soil water availability, removing plant-available nutrients, loss of important soil biota, and degrading soil structure that may lead to further erosion.[372] Section V of these comments details the substantial risk of erosion and sedimentation from the project.

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[365] *See supra* Section V.

[366] 2017 FERC FEIS at 4-558 ("The transportation of natural gas by pipeline involves some incremental risk to the public due to the potential for an accidental release of natural gas.").

[367] *See, e.g.*, Adrienne Underwood, *Natural Gas Leaked from Interstate Pipelines Contains Hazardous Air Pollutants and Carcinogens*, PUGET SOUND ENERGY (Sept. 20, 2022) [Ex. 75] (https://www.psehealthyenergy.org/news/press-releases/new-study-finds-that-natural-gas-leaked-from-interstate-pipelines-contains-hazardous-air-pollutants-and-carcinogens/#:~:text=Many%20of%20the%20chemicals%20reported,emissions%20that%20damage%20the%20climate.).

[368] 2017 FERC FEIS, *supra* note 227, at 4-558.

[369] DSEIS, *supra* note 4, at 27.

[370] 2017 FERC FEIS, *supra* note 227, at 4-52.

[371] *Id.* at 4-28.

[372] *See, e.g.*, William J. Elliot et al., *The Effects of Forest Management on Erosion and Soil Productivity*, THE SOIL AND WATER CONSERVATION SOCIETY OF AMERICA (1996) [Ex. 76], https://www.researchgate.net/publication/330770709_The_Effects_of_Forest_Management_on_Erosion_and_Soil_Productivity.

In discussing environmental justice risks, the DSEIS claims that the No Action Alternative would provide fewer socioeconomic benefits and that the 2017 FERC FEIS demonstrated minimized economic effects on low-income communities.[373] This environmental justice analysis is inadequate, as it only considers purported economic benefits and fails to address the significant environmental and public safety harms discussed above and elsewhere in these comments.[374] Further, the DSEIS asserts that "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," is a positive socioeconomic factor.[375] This assertion neglects that studies have shown natural gas transportation is disproportionately concentrated in American counties with high social vulnerability.[376] A county with high social vulnerability has little capacity "to prepare for, deal with, and recover from pollution, natural disasters, and other hazards."[377] Therefore, an increased demand for natural gas, coupled with the public health and environmental risks discussed above, poses adverse environmental justice impacts that the DSEIS must, but fails to, consider.

l. The cumulative impacts analysis for water resources is arbitrary and capricious.

As with other analyses in the DSEIS, the cumulative effects analysis is deeply flawed, conclusory, and fails to define key terms. Analyzing cumulative impacts "is critical to ensure that the action is not analyzed in a vacuum."[378] As such, "simply reciting the activities and impacts that constitute the baseline and cumulative effects and then separately addressing only the impacts of the particular agency action in isolation is not sufficient."[379]

The DSEIS, at section 3.4.2., concludes that "cumulative effects on water resources would be moderate where multiple projects impact the same water feature" and that "[w]here a water feature is impacted by only one project, cumulative effects would be minor."[380] This finding 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.

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[373] DSEIS, *supra* note 4, at 28.

[374] The DSEIS incorrectly cites to 4-280 instead of 4-373 in the 2017 FERC FEIS for information on environmental justice and socioeconomic issues.

[375] DSEIS at 28.

[376] 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], https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021GH000442 .

[377] *Id.* at 3.

[378] *Appalachian Voices v. United States DOI*, 25 F.4th 259, 278 (4th Cir. 2022) (citation and internal quotation marks omitted).

[379] *Id.*

[380] DSEIS, *supra* note 4, at 97.

Even if the meaning of the Forest Service's conclusion in this area were clear, the conclusion is based on an analysis that is flawed and technically unsupportable for several reasons.

1. The arbitrary use of a particular aerial unit in the DSEIS is unsupportable and without a rational basis.

The DSEIS continues the use of "HUC-10 watersheds that overlap the MVP route on NFS lands" as the "geographic scale of analysis" for cumulative effects.[381] The USFS contends that these defined areas are "still [] 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,"[382] but the agency provides no basis for this claim. 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 watersheds that overlap the JNF.

Both the U.S. Environmental Protection Agency (EPA) and the Army Corps of Engineers (Corps) appear to differ with the judgment that HUC-10 areas are appropriate areas for assessing possible cumulative impacts on stream systems. In a letter dated May 27, 2021, EPA expressed concern that there had been an "insufficient assessment of secondary and cumulative impacts" from MVP.[383] EPA noted that there had been "some analysis of cumulative effects" but recommended "a conclusive evaluation of cumulative effects at a watershed scale (i.e. HUC 12) be provided."[384]

Subsequently, the Corps requested that Mountain Valley supplement its application for a Clean Water Act Section 404 permit by submitting "an assessment of cumulative effects (40 CFR § 230.11(g)) to the aquatic environment associated with the completed and proposed discharge of dredged or fill material into WOTUS for each 12-digit Hydrological Unit Code (HUC)."[385] Thus, both EPA and the Corps have called for cumulative impacts analyses for aquatic resources at geographic scales that are much smaller than the HUC-10 level.[386]

In fact, even the smaller areas that EPA and the Corps have favored are at an insufficient scale. Some of the HUC-12 units are not watersheds[387] and cannot, therefore, be the basis for the kind of conclusive evaluation "at a watershed scale" that EPA deemed necessary.

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[381] *Id.* at 83.

[382] *Id.* at 84.

[383] Letter from Jeffrey D. Lapp, U.S. EPA to Michael Hatten, U.S. Army Corps of Engineers, Re: LRH-2015-00592-GBR, LRP-2015-798, NAO-2015-0898 at 1 (May 27, 2021) [Ex. 78].

[384] *Id.* at 8.

[385] Appendix Q, Revised Cumulative Impact Assessment Report - Hydrology, Mountain Valley Pipeline 1 (January 2022) (Revised May 2022) [Ex. 79].

[386] The Sinking Creek-New River HUC-10 is 198 square miles in size. The Stony Creek HUC-12 is just 49 square miles, one-fourth the size of the area the USFS has deemed acceptable.

[387] *See* James M. Omernik et al., *How Misapplication of the Hydrologic Unit Framework Diminishes the Meaning of Watersheds*, Environ Manage. (July 2017) [Ex. 80].

The Little Stony Creek-New River HUC-12 encompasses separate watersheds for three streams that flow into the New River: Dry Branch; Little Stony Creek; and Doe Creek. There is no rational basis for assuming that an impact from the pipeline in one of these drainages would have combined impacts with those in either of the other two. Further, each of the three watersheds named above is heavily impacted by MVP, with 1 to 2 miles of ROW crossing them and multiple new discharges and waterbody crossings proposed. Yet, only one of the three, the Little Stony Creek watershed, appears to have any significant portion of the JNF within it.[388]

2. A cumulative impacts analysis must look beyond easily quantifiable factors.

In addition to concerns about the size and aerial extent of the areas addressed in the cumulative impacts assessment, there are serious deficiencies in the methods used to estimate impacts. Understanding the true nature and extent of combined or cumulative impacts in a stream system requires more than the kind of simplistic accounting exercise produced, listing just supposed linear feet of stream and acres of aquatic environments to be affected and adding the numbers together for arbitrarily-chosen areas.

Questions that 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

[388] A GIS analysis indicates that just about 50 acres of NF land is within the Dry Branch drainage—about 2.5% of that land area. It does not appear that the Doe Creek watershed encompasses any of the JNF.

> the true baseline conditions? Have those impacts persisted, how long might they continue to be evident, and how will new impacts interact with them?

The Forest Service must address these questions.

3. The cumulative impacts assessment for aquatic species ignores key data and rests on assumptions proven to be unreliable.

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. In the DSEIS, the Service makes two unsupportable claims:

> Effects on waterbodies (and therefore on 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.[389]

These claims both rest on the assumptions that Mountain Valley will apply BMPs and abide by Forest Standards and, therefore, water quality will be protected. These assumptions are unfounded.

The record shows that Mountain Valley has been unable or unwilling to abide by the water quality-related requirements set by the states of Virginia and West Virginia in hundreds of instances and that these failures have resulted in significant degradation of water quality:

- WVDEP has issued at least fifty-six NOVs to Mountain Valley for problems at MVP sites throughout the counties all along the MVP's route.[390] Importantly, many of the WVDEP NOVs cite violations of water quality standards, indicating degradation of conditions in the waterbodies. Reports describe incidents where MVP produced conditions "allowing sediment deposits on the bottom of" streams or wetlands in at least 25 different locations in streams or wetlands. In 23 locations, Mountain Valley was cited for "allowing visible settleable solids in" as stream or wetland.

- The State of Virginia brought an enforcement action against Mountain Valley in Virginia Circuit Court, in which the state alleged more than three hundred violations of rules related to erosion and sediment control and stormwater management.[391] In settlement of that complaint, the parties formed a consent decree in which Mountain Valley, among other penalties and

[389] DSEIS, *supra* note 4, at 98.
[390] Wild Virginia 2023, *supra* note 140.
[391] *See Paylor v. Mountain Valley Pipeline, LLC.*, Case No. CL18006874-00 (Va. Cir. Ct.) (Compl.) [Ex. 81].

obligations, agreed to pay a penalty of $2,150,000.[392]

- Reviews of thousands of reports by Virginia inspectors, show the following:

    - In at least 113 instances, MVP activities have caused measurable sediment deposits in streams and wetlands in Virginia.
    - In at least 684 instances, MVP activities have caused measurable sediment deposits on land off the project right of way (ROW) and beyond the control of sediment treatment or reduction measures.
    - The timing of MVP pollution incidents corresponds closely with the periods when active construction was occurring and those incidents have occurred throughout the period from May 2018 through at least October 2021, whenever clearing, trenching, and backfilling of trenches was underway.
    - Many pollution incidents have occurred outside periods of unusually high rainfall, refuting assertions that historically wet periods are an overriding or the sole cause of MVP's violations and pollution problems.
    - Supposed "enhanced" pollution control measures promised in a consent decree with Virginia and cited in the DSEIS have not stopped the pollution and waterbody damages.
    - In at least 687 instances, pollution control structures have been undermined, overtopped, overwhelmed, or otherwise bypassed by water carrying sediment off-site, resulting in discharges that are poorly treated or untreated.
    - Individual watersheds, including some very small headwater drainages, have suffered numerous deposits of sediment in streams and wetlands, off-site sediment deposits on land, and discharges of poorly treated or untreated sediment-laden water.

The Forest Service must address these issues in a revised DSEIS.

VI. The Forest Service cannot grant a right-of-way to MVP until it has reinitiated and completed consultation on the Jefferson National Forest Plan as a whole.

Federal regulations require the Forest Service to reinitiate Section 7 consultation regarding the JNF Plan. Until that consultation is complete, the agency cannot authorize projects or proposals like MVP's.

Under Section 7 of the ESA, federal agencies must "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined . . . to be critical."[393] The duties in Section 7 are

[392] *Paylor et al. v. Mountain Valley Pipeline, LLC*, Consent Decree, Case No. CL18006874-00 (Va. Cir. Ct.) (Consent Decree).

[393] *See* 16 U.S.C. § 1536(a)(2). Pursuant to this process, each federal agency must review its "actions" "at the earliest possible time" to determine whether an action may affect listed species or critical habitat. 50 C.F.R. § 402.14. If an agency action "may affect" or is "likely to adversely affect" listed species or critical habitat, then

only fulfilled by an agency's satisfaction of the consultation requirements that are set forth in the ESA implementing regulations, and only after the agency lawfully complies with these requirements may an action that "may affect" protected species go forward.[394]

However, an agency cannot simply wash its hands of its Section 7 obligations once its initial consultation is complete. So long as "discretionary Federal involvement or control over the action has been retained or is authorized by law," the responsible agency is required to "reinitiate consultation" when one of the following occurs:

> (1) "[T]he amount or extent of taking specified in the incidental take statement is exceeded";
>
> (2) "[N]ew information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered";
>
> (3) "[T]he identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence"; or
>
> (4) "[A] new species is listed or critical habitat designated that may be affected by the identified action."[395]

The last trigger (the "new-listing trigger") is subject to a narrow exception. No reinitiation of consultation is required for certain land management plans—including NFMA forest plans—"*upon listing of a new species or designation of new critical habitat*" if (1) "the land management plan has been adopted by the agency as of the date of listing or designation" and (2) "any authorized actions that may affect the newly listed species or designated critical habitat [are] addressed through a separate action-specific consultation."[396]

"formal consultation" is required. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). Formal consultation commences with the action agency's written request for consultation and concludes with the Service's issuance of a "biological opinion," which considers the "effects of the action," *i.e.*, the action's direct and indirect effects, together with the "environmental baseline," the effects of "interrelated or interdependent" activities, and the action's "cumulative effects." 50 C.F.R. § 402. The biological opinion explains "how the proposed action will affect the species or its habitat" and "states the opinion" of the Service(s) as to whether the action is "likely to jeopardize the continued existence of listed species" or "result in the destruction or adverse modification of critical habitat." 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12(c). In developing a biological opinion, the Service must rely on the best scientific and commercial data available. *Id*. § 1536(a)(2).

[394] *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1055-57 (9th Cir. 1994).

[395] 50 C.F.R. § 402.16(a).

[396] *Id.* § 402.16(b) (emphasis added); 16 U.S.C. § 1604(d)(2)(A).

By its plain terms, this exception applies only to the new-listing trigger. The Fish and Wildlife Service has recognized as much.[397] So have members of the timber industry.[398] That means that the Forest Service still must reinitiate consultation for its forest plans when either (1) one or more of the three other triggers is met or (2) the new-listing exception does not apply. Both circumstances are present here.

a. The Forest Service must reinitiate consultation for the Jefferson National Forest Plan.

A straightforward application of the legal principles described above requires the Forest Service to reinitiate consultation for the JNF Plan.

To start, the Forest Service retains discretionary involvement or control over the JNF Plan.[399] Indeed, the proposed plan amendments illustrate the agency's ongoing control. Among other things, Forest Service regulations expressly acknowledge that agency officials have "the *discretion* to determine whether and how to amend the plan and to determine the scope and scale of any amendment."[400] The DSEIS recognizes the same, noting the agency has the discretion to decide "[w]hether to approve a Forest Plan amendment that would modify 11 standards in the Forest Plan;" "what terms and conditions should be included with the Forest Service concurrence for the project;" and "[w]hether to concur" with the BLM's grant of a right-of-way across lands covered by the Jefferson Forest Plan.[401]

This discretion includes the ability "to implement measures that inure to the benefit" of the listed species within the Jefferson National Forest.[402] For example, the Forest Service retains the ability to "modify" proposed plan amendments to protect listed species,[403] design "resource protection terms and conditions" as part of any site-specific project authorization or

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[397] *See* Endangered and Threatened Wildlife and Plants; Regulations for Interagency Cooperation, 86 Fed. Reg. 2373, 2376 (proposed Jan. 12, 2021) (suggesting the existing exception—which only applies "when a new species is listed or new critical habitat designation occurs"—should be expanded to encompass other reinitiation triggers, including the "new information" trigger at 50 C.F.R. § 402.16(a)(2)).

[398] *See, e.g.*, Nat'l Ass'n of State Foresters, Comment Letter on Proposed Rule regarding Regulations for Interagency Cooperation (Feb. 11, 2021) [Ex. 82] (recognizing that the current exception "does not provide an exemption from reinitiation of consultation when new information about a species is brought forward," for example).

[399] *See also Cottonwood Env't L. Ctr. v. U.S. Forest Serv.*, 789 F.3d 1075, 1087 (9th Cir. 2015) (recognizing the Forest Service "retains exclusive"—and discretionary—"'control' over its own Forest Plans throughout their implementation" (citing *Norton v. S. Utah Wilderness All.*, 542 U.S. 55, 69–70 (2004))), *superseded on other grounds by statute*, Pub. L. No. 115-141, 132 Stat. 348; *W. Watersheds Project v. Matejko*, 468 F.3d 1099, 1110 (9th Cir. 2006) (recognizing the Forest Service "maintain[s] continuing authority under a comprehensive and long term management plan").

[400] 36 C.F.R. § 219.13(a) (emphasis added).

[401] DSEIS at iii; *see also* DSEIS at 154 ("The responsible official utilized his *discretion* to propose an amendment to allow the MVP project to move forward consistent with the FERC's decision." (emphasis added)).

[402] *Env't Prot. Info. Ctr. v. Simpson Timber Co.*, 255 F.3d 1073, 1080 (9th Cir. 2001) (citation omitted); *see also Nat. Res. Def. Council v. Jewell*, 749 F.3d 776, 784 (9th Cir. 2014) ("Whether an agency must consult does not turn on the degree of discretion that the agency exercises regarding the action in question, but on whether the agency has any discretion to act in a manner beneficial to a protected species or its habitat.").

[403] *Sierra Club, Inc. v. U.S. Forest Serv.*, 897 F.3d 582, 589 (4th Cir. 2018).

concurrence,[404] or reject damaging amendments or projects entirely.[405] "Reinitiation of Section 7 consultation" for the JNF Plan could therefore "yield important *actionable* information."[406]

Additional consultation is required for the JNF Plan because one reinitiation trigger currently applies, and another will very shortly. "[N]ew information reveals" that effects from implementing the Jefferson Forest Plan "*may affect* listed species or critical habitat in a manner *or to an extent* not previously considered."[407] Examples include the following:

- **Indiana bat:** The 2004 Forest Plan and associated biological opinion considered potential impacts to the Indiana bat. However, since that opinion was issued, white-nose syndrome has ravaged Indiana bat populations, leading to range-wide population declines of "19% since 2007."[408] In Virginia and West Virginia, populations have decreased by 95%.[409] In addition, recent studies have documented an "increase in forest fragmentation and a decrease in the amount of core forests in portions of the bat's range," which could pose serious threats to bat recovery.[410] Because impacts to the bat attributed to the JNF Plan must be assessed in light of these stressors, the Forest Plan (which itself contributes to forest fragmentation) may be affecting the bat "to an extent not previously considered."

- **Virginia big-eared bat:** The 2004 Forest Plan and associated biological opinion also analyzed impacts to the Virginia big-eared bat and concluded that actions under the plan are not likely to adversely affect the species.[411] However, in 2019 the Fish and Wildlife Service identified "[o]il and gas development and associated pipeline construction" as an "emerging threat" to the bat.[412] This specific threat was not analyzed in the original biological opinion.[413] Because impacts to the bat must be evaluated in light of this emerging threat, and since the Jefferson Forest Plan is currently being amended to facilitate oil and gas development, the Forest Plan might be affecting the species "to an extent not previously considered."

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[404] DSEIS at i.

[405] 36 C.F.R. § 219.15(c). Whether the Jefferson Forest Plan is an "ongoing" action in the sense contemplated by cases interpreting the Administrative Procedure Act or the National Environmental Policy Act "is irrelevant." *Cottonwood*, 789 F.3d at 1087. Unlike these other statutes, "there is nothing in the ESA or its implementing regulations that limits reinitiation to situations where there is 'ongoing agency action.'" *Id.* at 1086. Put differently, "even if the agency action is complete and not 'ongoing,' the agency still may be required to reinitiate consultation if there is 'discretionary Federal involvement or control' over the completed action." *Id.* at 1086 n.12.

[406] *Cottonwood*, 789 F.3d at 1087 (emphasis added).

[407] 50 C.F.R. § 402.16(a)(2) (emphases added).

[408] U.S. Fish & Wildlife Serv., *Indiana Bat* [Ex. 83], https://www.fws.gov/species/indiana-bat-myotis-sodalis (last visited Jan. 12, 2023).

[409] U.S. Fish & Wildlife Serv., Mountain Valley Pipeline Biological Opinion at 78 (Sept. 4, 2020) [Ex. 84].

[410] U.S. Fish & Wildlife Serv., *Indiana Bat 5-Year Review* (2019) [Ex. 85].

[411] *See* U.S. Fish & Wildlife Serv., Revised Jefferson National Forest Land and Resource Management Plan Biological Opinion at 2 (Jan. 13, 2004) [Ex. 86].

[412] U.S. Fish & Wildlife Serv., *Virginia big-eared Bat 5-Year Review* (2019) [Ex. 87] (noting that advanced drilling techniques "could affect the geological or hydrological integrity of caves and mines that support" the bat and blasting and construction of pipelines "could affect caves and mines used by the species" or "degrade or destroy foraging habitat").

[413] U.S. Fish & Wildlife Serv., *supra* note 411.

- **Virginia spirea:** The 2004 Forest Plan and associated biological opinion also analyzed impacts to Virginia spirea and concluded that actions under the plan are not likely to adversely affect the species.[414] At the time, the species had not been comprehensively analyzed since 1992. However, in 2021, the U.S. Fish and Wildlife Service released a long-overdue 5-Year Review of the species, which concluded, among other things, that populations in West Virginia may be decreasing.[415] In addition, this review reported new information regarding the impacts of invasive and non-native species, anthropogenic disturbance, urban sprawl, hydrologic modifications, and more. Because the impacts of the Jefferson Forest Plan must be assessed in light of these stressors, the plan may be affecting this species "to an extent not previously considered."

- **James spinymussel:** The 2004 Forest Plan and associated biological opinion also analyzed impacts to James spinymussel and concluded that actions under the plan are not likely to adversely affect the species.[416] Although the mussel was not found within the forest,[417] the Forest Plan acknowledged that activities in the Jefferson National Forest could impact known populations "found in Johns Creek[,] the South Fork of Potts Creek, Catawba Creek and Craig Creek."[418] New information from the 2022 5-Year Review—the first comprehensive status review since 1990—suggests that the South Fork of Potts Creek population is stable "but highly variable," one of the two populations on Johns Creek has not been seen since 2007, the Catawba Creek population appears extirpated, and two of the three populations on Craig Creek are likely extirpated.[419] The 5-Year Review did not identify the cause of these extirpations but did explain that land-use modification—like that authorized by the Forest Plan—contributes to sedimentation that could smother mussels. Because the implementation of the Forest Plan may have contributed to local mussel extirpations, and because the few mussels that remain adjacent to the forest have thus become even more valuable, the continued operation of the Forest Plan may be affecting the species "to an extent not previously considered."

These and other unanalyzed impacts must be assessed in an updated Section 7 consultation for the JNF Plan.

In addition to the new-information trigger, the new-listing trigger will kick in very shortly. As noted above, the new-listing trigger is subject to a statutory and regulatory exception for up-to-date forest plans. However, that *exception has its own exception*: reinitiation is nevertheless required for new listings or designations of critical habitat if (1) "[f]ifteen years have passed since the date the agency adopted the land management plan" and (2) "[f]ive years have passed since the enactment of Public Law 115-141 [March 23, 2018] or the date of the listing of a species or the designation of critical habitat, whichever is later."[420]

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[414] *See* U.S. Fish & Wildlife Serv., *supra* note 411, at 2.

[415] U.S. Fish & Wildlife Serv., *Virginia Spirea 5-Year Review* at 13 (2021) [Ex. 88].

[416] *See* U.S. Fish & Wildlife Serv., *supra* note 411, at 2.

[417] U.S. Forest Serv., Revised Land and Resource Management Plan: Jefferson National Forest 2–4 (Jan. 2004) [hereinafter JNF Plan].

[418] *Id.* at 4-7.

[419] U.S. Fish & Wildlife Serv., *James spinymussel 5-Year Review* (2022) [Ex. 89].

[420] 50 C.F.R. § 402.16(b); 16 U.S.C. § 1604(d)(2)(B).

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, 2018.[421] This list includes:

- **Northern long-eared bat** (officially listed as threatened May 4, 2015);[422]
- **Snuffbox mussel** (officially listed as endangered March 15, 2012);[423]
- **Fluted kidneyshell** (officially listed as endangered October 28, 2013);[424]
- **Big Sandy crayfish** (officially listed as threatened May 9, 2016);[425] and
- **Rusty patched bumble bee** (officially listed as endangered March 21, 2017).[426]

It is highly unlikely that the Forest Service will be able to issue a record of decision for MVP before March 23, 2023. The agency will be accepting public comments on its proposal until at least February 21. The March 23 reinitiation trigger is only 30 days later. What's more, federal regulations require the Forest Service to wait 30 days after the publication of the FSEIS before it can issue its record of decision.[427] This means that the only way the agency can approve MVP before the new-listing trigger is tripped is if it completes its revised analysis and response to comments *the same day the comment period closes*. Such a rushed analysis would undoubtedly be legally deficient.

In short, there is no way that the Forest Service can 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, as set forth below.[428]

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[421] Because the exception to the exception applies to the later of two events—five years after the passage of Public Law 115-141 or five years following the date of listing/designation of critical habitat—on March 23, 2023, the five-year period will still not have run for any species listed or habitat designated *after* March 23, 2018.

[422] Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule, 80 Fed. Reg. 17,974 (April 2, 2015).

[423] Determination of Endangered Status for the Rayed Bean and Snuffbox Mussels Throughout Their Ranges, 77 Fed. Reg. 8632 (Feb. 14, 2012).

[424] Endangered Species Status for the Fluted Kidneyshell and Slabside Pearlymussel, 78 Fed. Reg. 59,269 (Sept. 26, 2013)

[425] Threatened Species Status for the Big Sandy Crayfish and Endangered Species Status for the Guyandotte River Crayfish, 81 Fed Reg. 20,450 (Apr. 7, 2016).

[426] Endangered Species Status for Rusty Patched Bumble Bee, 82 Fed. Reg. 3186 (Jan. 11, 2017).

[427] 40 C.F.R. § 1506.11(b)(2). The Forest Service also cannot issue an FSEIS until it receives the revised biological opinion from the U.S. Fish and Wildlife Service. It is unclear when that document will be issued.

[428] Once the Forest Service finalizes the eleven plan amendments proposed in the DSEIS to accommodate MVP, yet another reinitiation trigger will be tripped. Specifically, reinitiation is required when "the identified action"—the JNF Plan—"is subsequently modified in a manner that causes an effect to the listed species or critical

b. The Forest Service cannot authorize MVP until reinitiated consultation over the JNF Plan is complete.

As a rule, "[r]einitiation of consultation requires" the Fish and Wildlife Service "to issue a new Biological Opinion *before the agency action may continue*."[429] Indeed, the ESA implementing regulations make clear that following reinitiation of consultation, and until such consultation is completed, the action agency is prohibited from making or allowing any irreversible or irretrievable commitment of resources with respect to the action that may foreclose the formulation or implementation of any reasonable and prudent alternative measures.[430] So, until the Forest Service completes an updated consultation for the JNF Plan, it must refrain from authorizing activities under that Forest Plan.[431] That includes MVP.

The reason this pause is needed is simple: the ESA's "procedural requirements are designed to ensure compliance with the [Act's] substantive provisions."[432] If the Forest Service were "allowed to proceed without substantial compliance with those procedural requirements, there can be no assurance that a violation of the ESA's substantive provisions will not result."[433] And the "latter, of course, is impermissible."[434]

The fact that MVP-specific impacts on the Jefferson National Forest may be captured in the MVP project-level consultation does not relieve the Forest Service from its duty to complete the reinitiated consultation on the Forest Plan *before* greenlighting MVP. That's because "project-specific consultations do not include a unit-wide analysis comparable in scope and scale to consultation at the programmatic level."[435] For that very reason, the Fish and Wildlife Service has explained that a "programmatic action"—like the JNF Plan—"requires a programmatic consultation" even when paired with subsequent "step-down, site-specific [consultations] to insure compliance with section 7(a)(2) of the Act."[436] In other words, the MVP-specific consultation does not, and cannot, capture the full scope of the impacts to listed species from the Forest Plan, which will be affected by the cumulative impacts of MVP and other actions that are continuing to adversely affect such species.

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habitat that was not considered in the biological opinion or written concurrence." 50 C.F.R. § 402.16(a)(3). That is precisely what will occur here: the Forest Plan would be amended in a manner that the Forest Service acknowledges will cause effects to listed species that were not previously considered in the 2004 Biological Opinion.

[429] *Simpson Timber Co.*, 255 F.3d at 1076 (emphasis added); *Mt. Graham Red Squirrel v. Madigan*, 954 F.2d 1441, 1451 (9th Cir. 1992) (same).

[430] 16 U.S.C. § 1536(d).

[431] *See Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056–57 (9th Cir. 1994) (requiring the Forest Service to reinitiate consultation regarding two national forest LRMPs and consequently ordering the district court to issue an injunction against all "ongoing and announced timber, range and road projects" within the plan areas "that may affect the Snake River chinook"); *WildEarth Guardians v. U.S. Fish & Wildlife Serv.*, 416 F. Supp. 3d 909, 941 (D. Ariz. 2019) (halting all Forest Service "timber management actions" in eleven national forests until the agency reinitiated consultation and "formulate[d] superseding" biological opinions for each forest plan).

[432] *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985), *abrogated on other grounds as recognized by Cottonwood*, 789 F.3d at 1092.

[433] *Id.*

[434] *Id.*

[435] *Cottonwood*, 789 F.3d at 1082.

[436] Endangered and Threatened Wildlife and Plants; Regulations for Interagency Cooperation, 84 Fed. Reg. 44,976, 44,996–97 (Aug. 27, 2019).

To be sure, project-specific consultations must account for the "environmental baseline" of a listed species as well as "cumulative effects."[437] But that does not mean that impacts to species within the JNF Plan will be accounted for by an MVP project-level consultation (or a patchwork of such project-level consultations). Such project-level consultations need only consider the "environmental baseline" and "cumulative effects" *within the project's* "*action area*."[438] "Cumulative effects" are further limited to exclude consideration of future "Federal activities" in the action area.[439] As a result, project-level consultations like the revised MVP biological opinion 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.[440] Only a programmatic consultation on the JNF Plan can fill in these gaps. Until that reinitiated programmatic consultation is complete, the Forest Service cannot provide concurrence to the BLM to allow the MVP project to move forward.

VII. THE PROPOSED FOREST PLAN AMENDMENT VIOLATES THE 2012 PLANNING RULE UNDER NFMA.

Even though the DSEIS reflects the Forest Service's fourth attempt to accommodate a large interstate natural gas pipeline on a national forest in Virginia, and its third attempt to approve the Mountain Valley Pipeline specifically, the agency is no closer to getting it right. Two broad categories of problems persist.

First, the Forest Service continues to ignore, misinterpret, and misapply the 2012 Planning Rule to its proposed amendments of the JNF Plan. Among its myriad legal flaws, the agency's latest effort directly defies the Fourth Circuit's admonition in *Wild Virginia* that the agency "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 (*i.e.*, without Pipeline-related amendments) outside this area will continue to provide adequate protections."[441] Yet, the Forest Service relies heavily on that unlawful rationale throughout the DSEIS.

Second, even if the Forest Service had interpreted the 2012 Planning Rule's amendment framework correctly (which it has not), the agency's application of the Rule's requirements would still be arbitrary, capricious, and not in accordance with law. Simply put, the administrative record does not support the conclusion that the proposed amendments satisfy the directly related substantive requirements of the 2012 Planning Rule. To the contrary, the best

[437] 50 C.F.R. § 402.14(g).

[438] *See id.* § 402.02 (emphasis added). "Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." *Id.*

[439] "Cumulative effects are those effects of future State or private activities, *not involving Federal activities*, that are reasonably certain to occur within the action area of the Federal action subject to consultation." *Id.* (emphasis added).

[440] This latter failure is particularly concerning here. A project-level consultation that ignores future "Federal activities" in the Jefferson National Forest—where all activities are "Federal"—is a poor substitute for a comprehensive programmatic analysis of the JNF Plan, which necessarily accounts for such future impacts.

[441] *Wild Va.*, 24 F.4th at 931.

available scientific information[442] demonstrates that the directly substantive requirements of the 2012 Planning Rule *will not* be satisfied within the scope and scale of the amendment.

The Forest Service's repeated efforts to undermine the Planning Rule and accommodate the Mountain Valley Pipeline have become truly baffling. The 2012 Planning Rule equips the agency with a framework to make project-specific amendments to a forest plan under some circumstances. But the Rule does not obligate the agency to bend over backwards for a private pipeline company. In fact, the agency's obligation runs the other way: where, as here, a project cannot comply with the governing forest plan and the Forest Service evidently cannot amend the JNF Plan in accordance with the 2012 Planning Rule's requirements, the agency has no choice but to reject the project.

a. The DSEIS ignores, misinterprets, and misapplies the 2012 Planning Rule to the proposed amendments to the JNF Plan.

The DSEIS continues the Forest Service's pattern of ignoring, misinterpreting, and misapplying the 2012 Planning Rule to its proposed amendments to the JNF Plan. The agency's three prior efforts to reduce or waive Forest Plan protections in service of large pipelines have resulted in vacatur because the agency has treated the Forest Plan and the 2012 Planning Rule—"its own regulation intended to protect national forests"—as nothing more than red tape that the agency has gone to "striking" and "inexplicable" lengths to avoid.[443] But in apparent effort to reverse engineer a justification for a decision already made, the DSEIS nevertheless repeats several of the same fundamental legal errors as the agency's prior efforts and introduces some new ones too. As we explain below, NFMA and the 2012 Planning Rule impose substantive, not just procedural, constraints on the Forest Service's ability to waive forest plan protections for any project, not just pipelines. The DSEIS gives short shrift to both the substantive and procedural components of NFMA and the 2012 Planning Rule, and the justifications in the DSEIS would be unlawful if adopted as final.

1. Overview of NFMA and the 2012 Planning Rule.

NFMA "establishes a two-step procedure for managing National Forest System lands."[444] ***First***, the Forest Service must "develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System."[445] A forest plan—amended or otherwise—must "form one integrated plan . . . incorporating in one document or set of documents, available to the public at convenient locations, all of the features" that NFMA requires a plan to include.[446] A forest plan must include "plan components" that "guide future

[442] The Forest Service is legally required to use "the best available scientific information" when amending a Forest Plan and must document how the agency determined what information is the best available scientific information, how that determination was made, and how the information was applied during the amendment process. 36 C.F.R. § 219.3.

[443] *Cowpasture River Preservation Ass'n*, 911 F.3d at 166–67; *see Wild Va.*, 24 F.4th at 931–32; *Sierra Club*, 897 F.3d at 606.

[444] *Sierra Club*, 897 F.3d at 600 (quoting *Am. Wild Horse Pres. Campaign v. Perdue*, 873 F.3d 914, 919 (D.C. Cir. 2017)).

[445] 16 U.S.C. § 1604(a).

[446] 16 U.S.C. § 1604(f)(1).

project and activity decision making,"[447] and these required plan components must include desired conditions, objectives, standards, guidelines, designations of the uses for which specific lands are or are not suitable, and optionally broad goals.[448] An integrated plan is one in which "plan components are internally consistent" such that "[o]ne plan component [does] not directly conflict with another plan component or prevent its accomplishment."[449] ***Second***, the Forest Service "must ensure that all [r]esource plans and permits, contracts, and other instruments for the use and occupancy of National Forest System lands . . . are consistent with" the applicable forest plan.[450]

NFMA allows the Forest Service to amend a forest plan at any time, including in a project-level decision,[451] but this flexibility does not grant the agency free reign to amend plans however it pleases. As relevant here, the Forest Service implements NFMA in part through regulations called planning rules that define how to develop, revise, or amend a forest plan and prescribe the substantive provisions that a forest plan must contain. For decades, a set of regulations called the 1982 Planning Rule controlled.[452] Then in 2012, the Forest Service finalized the 2012 Planning Rule,[453] which was "the first significant update to Forest Service planning procedures in 30 years" and reflected "decades of experience and lessons learned."[454]

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[455] and explicitly mandates that multiple uses and special uses adhere to these ecological integrity requirements.[456] 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."[457] 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."[458] To that end, many of the substantive requirements of the 2012 Planning Rule mandate that forest plans "must include plan components, including standards or guidelines, to *maintain or restore*" ecological conditions including, but not limited to "the ecological integrity of terrestrial and aquatic ecosystems and

[447] 36 C.F.R. § 219.7(e).
[448] *See id.* § 219.7(e)(1), (2).
[449] FSH 1909.12 Ch. 20 Sec. 22.
[450] *Sierra Club*, 897 F.3d at 600.
[451] 16 U.S.C. § 1604(f)(4); 36 C.F.R. § 219.13(a).
[452] *See* 47 Fed. Reg. 43,026 (Sept. 30, 1982).
[453] *See* 77 Fed. Reg. 21,162 (Apr. 9, 2012).
[454] U.S. Forest Serv., *A Citizen's Guide to National Forest Planning* at 11 (2016), https://bit.ly/3ec8mCl (last visited Jan. 21, 2023).
[455] *See* 36 C.F.R. § 219.8.
[456] *See id* § 219.11 ("While meeting the requirements of §§ 219.8 and 219.9, a plan developed or revised under this part must provide for ecosystem services and multiple uses, including outdoor recreation, range, timber, watershed, wildlife, and fish, within Forest Service authority and the inherent capability of the plan area . . . .").
[457] 77 Fed. Reg. at 21,163.
[458] *Id.*

watersheds in the plan area,"[459] "air quality,"[460] "soils and soil productivity,"[461] "water quality,"[462] "water resources,"[463] "the ecological integrity of riparian areas,"[464] and "the diversity of ecosystems and habitat types."[465] The 2012 Planning 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."[466] Likewise, "[r]estoration" means "[t]he process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed," and "[r]estore" means "[t]o renew by the process of restoration."[467] The Rule explains that "[e]cological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions."[468]

Notably, the Forest Service 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."[469] These differences between the 1982 Planning Rule and the 2012 Planning Rule engendered some initial "confusion about how responsible officials should apply the substantive requirements [of the 2012 Planning Rule] for sustainability, diversity, multiple use, and timber set forth in 36 CFR 219.8 through 219.11 when amending 1982 rule plans."[470] The confusion centered on a debate between two camps with competing interpretations of what the 2012 Planning Rule required. The first camp supposed that "because the 2012 rule recognizes that resources and uses are connected, changes to any one resource or use will impact other resources and uses, and therefore all of the substantive provisions in §§ 219.8 through 218.11 must be applied to every amendment."[471] The second took the position that "the 2012 rule gives the responsible official discretion to selectively pick and choose which, if any, provisions of the rule to apply, allowing the responsible official to avoid 2012 rule requirements or even propose amendments that would contradict the 2012 rule," and further "hypothesized that a responsible official could amend a 1982 plan to remove plan direction that was required by the 1982 rule without applying relevant requirements in the 2012 rule."[472]

The Forest Service revised the 2012 Planning Rule in 2016 to correct this confusion and explain that neither of those competing interpretations was correct. In particular, the Forest Service explained that "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

[459] 36 C.F.R. § 219.8(a)(1).
[460] *Id.* § 219.8(a)(2)(i).
[461] *Id.* § 219.8(a)(2)(ii).
[462] *Id.* § 219.8(a)(2)(iii).
[463] *Id.* § 219.8(a)(2)(iv).
[464] *Id.* § 219.8(a)(3)(i).
[465] *Id.* § 219.9(a)(2).
[466] *Id.* § 219.19.
[467] *Id.*
[468] *Id.*
[469] 81 Fed. Reg. 90,723, 90,724 (Dec. 15, 2016).
[470] 81 Fed. Reg. 70,373 (Oct. 12, 2016).
[471] *Id.* at 70,376.
[472] *Id.*

being proposed."[473] Further, the agency clarified that responsible officials do not have the "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."[474]

In the 2016 Amendment to the 2012 Planning Rule Amendment, the Forest Service prescribed a process for amending forest plans, including those—like the Jefferson Forest Plan—developed under the 1982 Planning Rule, in accordance with the 2012 Planning Rule. Pursuant to that process, while the "responsible official has the discretion . . . to determine the scope and scale of any amendment,"[475] this "discretion to tailor the scope and scale of an amendment is not unbounded."[476] The Forest Service cannot, for example, "amend a plan in a manner contrary to the 2012 rule by selectively applying, or avoiding altogether, substantive requirements."[477] In other words, the Forest Service can't use the amendment process to defeat the intent and protective requirements of the 2012 Planning Rule.

After determining the scope and scale of the amendments, 36 C.F.R. § 219.13(b)(5) provides that the Forest Service must:

> 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.[478]

The 2012 Planning Rule's substantive requirements may be "directly" related to a plan amendment by the amendment's purpose, as determined by the need to change the plan, or the amendment's effects, whether beneficial or adverse.[479]

Once the Forest Service identifies the directly related substantive requirements, it must then apply them within the scope and scale of the amendment. 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.[480]

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,

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[473] 81 Fed. Reg. 70,376.
[474] *Id.* (internal quotation marks omitted).
[475] 36 C.F.R. § 219.13(a).
[476] 81 Fed. Reg. at 90,726.
[477] *Id.*
[478] 36 C.F.R. § 219.13(b)(5).
[479] *Id.*; *see also Sierra Club*, 897 F.3d at 602.
[480] 36 C.F.R. §§ 219.8(a)(1)–(3), 219.8(b), 219.9(a)(1), (2), 219.9(b)(1), 219.10(a), (b)(1), 219.11, (b), (d); *see id.* § 219.10(b)(2).

function, composition, and connectivity," taking into account considerations like ecosystem interdependence.[481] 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.[482] 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."[483]

The replacement plan components must follow a specific format[484] so that "each plan component added or changed by a plan amendment . . . conform[s] to the applicable definition for desired conditions, objectives, standards, guidelines, and suitability of lands set forth in [36 C.F.R.] § 219.7(e)."[485] The definition of a plan standard is "a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements."[486] Likewise, a guideline is "a constraint on project and activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met."[487]

The 2012 Planning Rule provides the Forest Service with a process for amending a Forest Plan, but the rule does not obligate the agency to use the amendment process to accommodate uses that are inconsistent with the forest plan. Although the agency may amend a plan contemporaneously with approving a project or activity that would otherwise be inconsistent, the agency can also modify the proposed activity so it will be consistent with the plan (instead of the other way around).[488] When the proposed amendments to accommodate a project "actually are contrary" to those directly related substantive requirements of the 2021 Planning Rule—as is the case here—the Forest Service must reject the proposal outright.[489] In no case may the agency amend a plan to allow a use that does not comply with the new Planning Rule's substantive requirements within the scope and scale chosen by the Forest Service for the amendment.

2. Overview of the DSEIS and the proposed amendments.

In the DSEIS, the Forest Service proposes to "exempt the MVP project from complying" with the standards in the Jefferson Forest Plan that MVP concededly cannot meet.[490] The DSEIS notes that this is a multi-step process comprised of (1) identifying the relevant forest plan standards that MVP cannot meet; (2) determining which of the 2012 Planning Rule's substantive requirement are directly related to the proposed amendment based on the amendment's purpose

[481] 36 C.F.R. § 219.8(a)(1).
[482] 81 Fed. Reg. at 90,726 (stating that an agency cannot "use the amendment process to avoid both 1982 and 2012 rule requirements").
[483] *Wild Virginia*, 24 F.4th at 931–32 (quoting *Cowpasture*, 911 F.3d at 164).
[484] 36 C.F.R. § 219.13(b)(4).
[485] 81 Fed. Reg. at 90,730.
[486] 36 C.F.R. § 219.7(e)(iii).
[487] *Id.* § 219.7(e)(iv).
[488] *Id.* § 219.15(c).
[489] *See* 81 Fed. Reg. at 90,726; 36 C.F.R. § 219.15(c)(2).
[490] DSEIS, *supra* note 4, at 18.

or effects; and (3) applying those directly related substantive requirements within the scope and scale of the proposed amendment.[491]

First, the Forest Service proposes the following changes to eleven Forest Plan standards.

Plan Standards Proposed for Amendment[492]

Proposed changes shown in italics

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, *with the exception of the MVP construction zone and right-of-way, for which the applicable mitigation measures identified in the approved Plan of Development (POD) (e.g., Appendix C-1 to C-3, Erosion and Sediment Control Plan; Appendix E, ANST Contingency Plan; Appendix H, Restoration Plan) and MVP Project design requirements must be implemented.*
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*, with the exception of the MVP construction zone and right-of-way, for which the applicable mitigation measures identified in the approved POD (e.g., Appendix C-1 to C-3, Erosion and Sediment Control Plan; Appendix E, ANST Contingency Plan; Appendix H, Restoration Plan) and MVP Project design requirements must be implemented.*
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, *with the exception of the MVP construction zone and right-of-way, for which the applicable mitigation measures identified in the approved POD (e.g., Appendix C-1 to C-3, Erosion and Sediment Control Plan; Appendix E, ANST Contingency Plan; Appendix H, Restoration Plan) and MVP Project design requirements must be implemented.*
FW-13	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, for which the applicable mitigation measures identified in the approved POD (e.g., Appendix C-1 to C-3, Erosion and Sediment Control Plan) and MVP Project design requirements must be implemented.*
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. *with the exception of the MVP construction zone and right-of-way, for which the applicable mitigation measures identified in the approved POD (e.g., Appendix C-1 to*

[491] *Id.* at 61.
[492] *See id.* at 19–21.

	C-3, Erosion and Sediment Control Plan) and MVP Project design requirements must be implemented.
FW-184	The Forest Scenic Integrity Objectives (SIOs) Maps govern all new projects (including special uses), *with the exception of the MVP right-of-way. MVP shall attain existing SIOs within five years after completion of the construction phase of the project, to allow for vegetation growth, in accordance with the POD (e.g., Appendix H, Restoration Plan)*. Assigned SIOs are consistent with Recreation Opportunity Spectrum management existing direction. Existing conditions may not currently meet the assigned SIO.
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. *However, this requirement does not apply to the MVP construction zone and right-of-way*.
11-003	Management activities expose no more than 10 percent mineral soil within the project area riparian corridor, *with the exception of the MVP construction zone and right-of-way, for which the applicable mitigation measures identified in the approved POD (e.g., Appendix C-1 to C-3, Erosion and Sediment Control Plan; Appendix M, Winter Construction Plan) and MVP Project design requirements must be implemented.*
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 communicates and species dependent on disturbance; provide for public health and safety; improve threatened, endangered, and locally rare species habitat; control non-native invasive vegetation; *clear the trees within the MVP construction zone; and maintain the MVP right-of-way in accordance with the approved POD*.
6C-026	These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites, *with the exception of the MVP right-of-way*. Existing uses are allowed to continue.
4A-028	Locate new public utilities and rights-of-way in areas of this management prescription where major impacts already exist, *with the exception of the MVP right-of-way in accordance with the POD* (*e.g., Appendix E, ANST Contingency Plan*). Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.

The Forest Service then concludes that a total of 11 substantive requirements are directly related to the proposed Amendment—10 due to the purpose of the Amendment, one due to its supposed beneficial effects, and none due to adverse effects:

- § 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
- § 219.8(b)(3) – Multiple uses that contribute to local, regional, and national economies in a sustainable manner
- § 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
- § 219.11(c) – Timber harvest for purposes other than timber production.[493]

Finally, the Forest Service purports to apply those substantive requirements. But once again, the Forest Service's efforts fall far short of what the 2012 Planning Rule requires. This time, the agency made fundamental errors at each step of the three-step process it undertook.

3. The DSEIS provides no explanation for why its list of implicated standards is complete and overlooks relevant JNF Plan standards that MVP also cannot meet or has already contravened.

At its first step, the DSEIS presents a list of eleven Forest Plan standards that MVP cannot satisfy, but there is no explanation for how—or even if—the agency determined that those eleven standards are the only ones with which MVP cannot comply. In the 2020 FSEIS, the Forest Service proposed to modify the same eleven JNF Plan standards described above[494]—in spite of multiple comments identifying other standards in the JNF Forest Plan that the project would foreseeably violate and that the agency should have addressed.[495] Once again, the Forest Service has not only given *no* explanation of its basis for identifying the standards it did examine and excluding others, but it has also declined to even address any of the comments that urged it to widen the scope of the standards it considered. NFMA aside, these omissions and failures of explanation are arbitrary and capricious.

It is critical for the Forest Service to accurately assess all the standards that MVP would not satisfy. As an initial matter, this is required because the project cannot be approved if it would be inconsistent with *any* applicable Plan standards.[496] These standards form one of the bases on which the agency determines which of the substantive requirements in the 2012 Planning Rule are directly related. Starting with an incomplete list will fatally infect the agency's analysis. As explained below, there are at least eight additional Forest Plan standards that MVP almost certainly cannot meet or has already contravened, but which the DSEIS overlooks. If the

[493] *Id.* at 68.

[494] *See id.* at 61-62; 2020 FSEIS, *supra* note 272, at 23.

[495] *See, e.g.*, Southern Environmental Law Center, Mountain Valley Pipeline Draft Supplemental Environmental Impact Statement Comments (Nov. 9, 2020) [Ex. 90]; The Wilderness Society et al., Comment on the Mountain Valley Pipeline and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement (#50036) (Nov. 9, 2020) [Ex. 91].

[496] *E.g.* 36 C.F.R. § 219.15(b).

agency attempts to cure these omissions by amending these additionally implicated standards, the agency must provide opportunities for public participation to inform any additional amendments and may not simply debut changes to additional standards in a final SEIS.[497]

To start, MVP's past and planned tree-clearing activities appear to be necessarily inconsistent with the following four forest-wide Plan standards:

- **FW-32**: Retain soft mast producing species (dogwood, black gum, hawthorne, grapes, serviceberry, etc.) during vegetation management treatments when consistent with the overall regeneration and species composition objectives.[498]
- **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.[499]
- **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.[500]
- **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.[501]

Tree clearing within the pipeline corridor leaves no room for satisfying the retention requirements in FW-32, FW-33, and FW-46. Further, there is no indication that the ROW will be shaped or oriented to the contour or blend with existing landscape characteristics as required under FW-186.

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.[502] 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."[503] 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."[504] 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

[497] *Id.* § 219.13(b)(2).
[498] JNF Plan, *supra* note 417, at 2-14.
[499] *Id.* at 2-14.
[500] *Id.* at 2-16.
[501] *Id.* at 2-48.
[502] *Id.* at 2-16, 2-17.
[503] DSEIS, *supra* note 4, at 3.
[504] *Id.* at 53.

Indiana bat."[505] The Forest Service must explain how the project is consistent with FW-48 through FW-52, FW-55, and FW-56.

In addition, Mountain Valley's tree clearing and other construction activities within Management Prescription 4A – Appalachian National Scenic Trail Corridor appear to be fundamentally incompatible with the four standards discussed below:

- **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.[506]
- **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.[507]
- **4A-020**: All management activities will meet or exceed a Scenic Integrity Objective of High.[508]
- **4A-004**: Vegetation is managed only to enhance the trail environment . . . Vegetation management activities are limited to:
    - Maintain open area, 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.[509]

With respect to the first three of these standards—4A-001, 4A-002, and 4A-020—tree clearing and other construction activities appear impossible to square with the standards' requirements. According to the 2022 DSEIS, "[b]oring under the ANST on Peters Mountain would require a second round of tree clearing."[510] Tree clearance for the pipeline cannot "maintain" existing early successional forest habitat, even that created by any initial tree clearing associated with MVP. Moreover, the Jefferson National Forest Plan notes that while "[r]oads,

[505] *Id.* at 53–54.
[506] JNF Plan, *supra* note 417, at 3-21.
[507] *Id.* at 3-21.
[508] *Id.* at 3-23.
[509] *Id.* at 3-21 to 3-22.
[510] DSEIS, *supra* note 4, at 30.

utility transmission corridors, communication facilities, or signs of mineral development activity may exist or may be seen within the prescription area," 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."[511]

Management practices within this prescription area should "protect the Appalachian Trail experience," and lands adjoining the prescription area that are visible from the trail must be managed "in a manner which will reasonably harmonize with and be complementary to the Appalachian Trail experience."[512] Indeed, Management Prescription 4A consists of the "foreground area visible from the Appalachian National Scenic Trail."[513] But the DSEIS states that "[s]cenery analysis in the FERC FEIS . . . indicates the standard pipeline construction methods would not meet High and Moderate SIOs."[514] Thus, the presence of the MVP is almost certainly not compatible with Appalachian Trail values and will fall below the required SIO.

With respect to the fourth of these standards—4A-004—tree clearing for MVP is not an approved vegetation management activity within this management prescription. Indeed, as the Southern Environmental Law Center commented in 2020, the activities allowed under standard 4A-004 are similar to those allowed under Standard 6C-007, which the Forest Service proposed to amend because MVP cannot comply.[515] To be clear, the proposed bored crossing of the ANST does not eliminate the need for tree clearing or other construction activity within Management Prescription Area 4A. GIS analysis using shapefiles provided by the Forest Service reveals that the launch pit and receiving pit for the planned bore, as well as over 700 feet of ROW on approach to both bore pits, falls within Management Prescription Area 4A. In other words, some vegetation removal within Management Prescription Area 4A—prohibited under Standard 4A-004—would be necessary.

In addition, there are numerous forest plan standards that MVP may violate depending on its specific activities on the forest. The Forest Service must ensure that these standards are met at all times and confirm that MVP will not violate them, or else must resolve any inconsistency.[516] At a minimum, the Forest Service should explain why it has determined these standards are not implicated. This list of additional potentially implicated standards includes:

- **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.[517]

The Forest Service must ensure that Mountain Valley's planned clearing and construction does not require vehicles to cross ephemeral stream channels or enter within 25 feet to either side, and that Mountain Valley does not do so in its operations on the ground.

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[511] JNF Plan, *supra* note 417, at 3-20.
[512] *Id.* at 3-19.
[513] *Id.* at 3-19.
[514] DSEIS, *supra* note 4, at 66.
[515] Southern Envtl. Law Ctr., *supra* note 495, at 6–7.
[516] *See* 36 C.F.R. § 219.15(b), (c).
[517] JNF Plan, *supra* note 417, at 2-8.

- **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.[518]

To the extent construction crews encounter large woody debris in riparian areas or channeled ephemeral zones, FW-17 provides a limited list of reasons for removal, which does not include pipeline construction.

- **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.[519]

At least one comment noted in November of 2020 that, although the FERC FEIS asserts there is no karst topography along the pipeline route in the Jefferson National Forest,[520] a citizen group has since documented sinkholes and subsidence along the pipeline's right-of-way in Giles County, Virginia, adjacent to NFS lands.[521] If similar activity occurs on the ROW on NFS land, the Forest Service must require buffers under FW-63.

- **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.[522]

To the extent Mountain Valley undertakes a second round of tree clearing in any part of the project area,[523] the Forest Service must ensure not only that Mountain Valley's plans include retaining live Carolina hemlock, but that those plans are followed.[524]

- **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.[525]

To the extent Mountain Valley plans on a second round of tree clearing in any part of the project area,[526] the Forest Service must ensure that live butternut with more than 50% live

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[518] *Id.* at 2-8.
[519] *Id.* at 2-20.
[520] 2017 FERC FEIS, *supra* note 227, at 4-135.
[521] Southern Environmental Law Center, *supra* note 515, at 7 (citing Cave Report, Mountain Valley Watch (May 2020), https://bit.ly/350xA1r).
[522] JNF Plan, *supra* note 417, at 2-26.
[523] *See, e.g.*, DSEIS, *supra* note 4, at 30.
[524] With respect to the first round of tree clearing that has already been completed, Mountain Valley may have already violated this standard.
[525] JNF Plan, *supra* note 417, at 2-26.
[526] *See, e.g.*, DSEIS, *supra* note 4, at 30.

branches will be retained.[527] The Forest Service must ensure not only that Mountain Valley's plans include retaining live butternut but that those plans are followed.

- **FW-214**: Locate and design facilities and management activities to avoid, minimize, or mitigate negative effects on geologic resources with identified values (scientific, paleontologic, ecological, recreational, drinking water, etc.).

To the extent the pipeline crosses any areas specified in this standard, the Forest Service must ensure that the construction plan avoids, minimizes, or mitigates negative effects, and that Mountain Valley complies with the standard in its work on the ground.

- **4J-005**: Assure [timber] salvage is rapid, complete, and emphasizes marketing timber before its value decreases.[528]

The Forest Service must ensure that Mountain Valley's construction plan complies, and that trees felled during clearing or construction are promptly removed.[529]

- **8A-001**: Limit creation of early successional forest habitat to 10 percent of forested acres (based on the contiguous prescription area).[530]

Although the ROW will not constitute 10% of the contiguous prescription area through which the pipeline passes, the Forest Service must ensure that the project does not result in greater than 10% early successional habitat (ESH) within the contiguous area when combined with existing ESH, including ESH created by natural disturbance, timber harvest, prescribed fire, or through any other means.

- **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.[531]

To the extent Mountain Valley may divert or withdraw water from streams or lakes on the Jefferson National Forest for any purpose, including but not limited to hydrostatic testing, the Forest Service must ensure that minimum instream flows are identified and protected.

In sum, the Forest Service must require that pipeline construction comply with all the relevant standards in the JNF Plan, including but not limited to those stated above. Wherever the MVP cannot comply, the agency must either reject the project or propose further amendments.

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[527] With respect to the first round of tree clearing that has already been completed, Mountain Valley may have already violated this standard.

[528] JNF Plan, *supra* note 417, at 3-38.

[529] Mountain Valley may have already violated this standard. The 2022 DSEIS indicates, for example, that after the stop work order, the original trees cleared from the ROW on Peters Mountain were left in place. DSEIS, *supra* note 4, at 30.

[530] JNF Plan, *supra* note 417, at 3-114.

[531] *Id.* at 2-7.

Any further amendments must adhere to the 2012 Planning Rule, and will also require the Forest Service to provide a new comment period on any such amendments.[532]

4. The DSEIS fails to properly identify the directly related substantive requirements under both the "purpose" and "effects" prongs of 36 C.F.R. § 219.13(b)(5).

At its second step, the Forest Service attempts to determine which of the substantive requirement are directly related to the proposed amendments based on their purpose or effects. In recent years, the Forest Service has consistently failed to identify how pipeline-affiliated forest-plan amendments are "directly related" to the 2012 Planning Rule's substantive requirements.[533] The agency's latest analysis is more of the same. This time, the Forest Service ignores substantive requirements that are directly related to the amendments' purpose and arbitrarily finds that *no* substantive requirements are directly related to the amendments' adverse effects.

A. The DSEIS misapplies the "purpose" prong.

The Fourth Circuit has already told the Forest Service, in no uncertain terms, that "the clear purpose" of the eleven MVP amendments "is to *lessen requirements* protecting soil [water, scenic,] and riparian resources so that the pipeline project could meet those requirements."[534] However, the agency still refuses to acknowledge that purpose. Instead, the Forest Service nebulously claims that "[t]he purpose of amending" the eleven Forest Plan standards "is to allow MVP to exceed" those standards,[535] or to ensure the "MVP project is consistent with the Forest Plan."[536] But these somewhat circular euphemisms cannot hide the truth: the purpose of the plan amendments is to weaken environmental protections in the Jefferson National Forest.

The Forest Service attempts to further obscure this purpose by repeatedly minimizing the breadth of its proposal. For example, the agency notes that the purpose of modifying standard 11-003 "is to allow MVP to exceed *one of the 56 standards* for riparian area protection in Management Prescription 11."[537] Similarly, the Forest Service states the "purpose of modifying standards 6C-007 and 6C-026 is to allow MVP to exceed *two of the 27 Forest Plan standards* for old growth protection."[538] Its other purpose statements are similar.[539] However, the agency never

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[532] *See* 36 C.F.R. §§ 218.22, 219.13(b)(2).

[533] *Sierra Club*, 897 F.3d at 602 (concluding the Forest Service failed to analyze the purpose of the same MVP amendments at issue here); *Cowpasture River Pres. Ass'n*, 911 F.3d at 162 (also concluding the agency neglected to analyze the purpose of plan amendments connected with the Atlantic Coast Pipeline).

[534] *Sierra Club*, 897 F.3d at 603 (emphasis added).

[535] DSEIS, *supra* note 4, at 62, 63, 65, 67.

[536] *Id.* at 18.

[537] *Id.* at 63 (emphasis added).

[538] *Id.* at 65 (emphasis added).

[539] *See id.* at 62 ("The purpose of amending standard FW-248 is to allow MVP to exceed one standard for managing for future utility corridors."); *id.* at 63 ("The purpose of amending standards FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 is to allow MVP to exceed . . . five of the 30 Forest-wide standard for water, soil, and channeled ephemeral (riparian) zone protection."); *id.* at 65 ("The purpose of modifying standard 4A-028 is to allow MVP to exceed one out of 30 Forest Plan standards for the ANST corridor."); *id.* at 67 ("The purpose of modifying standard FW-184 is to allow to allow MVP to exceed one of the 20 Forest-wide standards for scenery.").

explains how these references to other unaltered Plan standards are relevant to the agency's purpose in amending the eleven standards it *did* decide to change.

If, instead of minimizing and obscuring the purpose of its amendments, the Forest Service had frankly acknowledged that it is weakening environmental protections so MVP does not have to meet them, the agency would have found far more substantive requirements are directly related to its amendments. These include but are not limited to:

1. **§ 219.8(a)(1) and § 219.9(a)(2):** These substantive requirements mandate that plan components maintain or restore "ecological integrity" and "the diversity of ecosystems."[540] 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.

2. **§ 219.8(a)(4):** This substantive requirement mandates that plan components "ensure implementation" of "best management practices for water quality" described in the National Core BMP Technical Guide.[541] 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 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.

3. **§ 219.10(a)(1):** This substantive requirement mandates that the Forest Service include plan components that consider "[a]esthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses." 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 lesson protections for recreation, riparian areas, scenic value, soils, water quality, and habitat connectivity. As such, these amendments are directly related to those substantive requirements.

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[540] 36 C.F.R. § 219.8(a)(1); *id.* § 219.9(a)(2).

[541] *Id.* § 219.8(a)(4). This regulation states in full that "[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." These BMP requirements are in various stages of completion as shown on the Forest Service BMP Website: BPR Staff Program - Best Management Practices (BMP). What has been officially released to date is "The National Core BMP Technical Guide (Volume 1, FS-990a, April 2012)" [Ex. 92], which is the national framework for BMPs for numerous ground-disturbing activities the Forest Service implements.

4. **§ 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."[542] 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.

5. **§ 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."[543] 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 lesson 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.

6. **§ 219.10(b)(1)(ii):** This substantive requirement mandates that a forest plan provide for "[p]rotection of cultural and historic resources."[544] 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."[545] Therefore, the amendment is directly related to this substantive requirement.

7. **§ 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."[546] 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.[547] Therefore, these amendments are directly related to this substantive requirement.

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[542] *Id.* § 219.10(a)(4).
[543] *Id.* § 219.10(a)(8).
[544] *Id.* § 219.10(b)(1)(ii).
[545] U.S. Nat'l Park Serv., *Appalachian National Scenic Trail Resource Management Plan* at 1-3 (2008).
[546] 36 C.F.R. § 219.11(d)(2).
[547] *See* U.S. Forest Service Comments on Hydrologic Analysis of Sedimentation (Aug. 16, 2016) [Ex. 93] [hereinafter USFS 2016 Comments] ("[T]he proposal is a permanent land cover conversion that will have long-term effects. These effects could be significant or indistinguishable at the watershed scales discussed but a disturbance of this scale will not return to background sediment levels.").

8. **§ 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."[548] 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.

9. **§ 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.[549] 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."[550] 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.

Because the Forest Service took a blinkered view of its amendments' purpose, it failed to apply the above requirements within the scope and scale of the amendments. These errors can only be fixed by withdrawing the DSEIS, properly identifying all directly related substantive requirements, and reissuing an updated draft for public comment.

B. The DSEIS misapplies the "effects" prong.

The Forest Service's effects analysis is likewise flawed. The agency recognizes that a plan amendment may be directly related to a substantive requirement via the amendment's "beneficial or adverse" effects.[551] And the Forest Service correctly reports that if an official is basing their determination on the amendment's adverse effects, then they "must determine that a specific substantive requirement is directly related to the amendment when scoping or NEPA effects analysis for the proposed amendment[: (1)] reveals substantial adverse effects associated with that requirement[; or (2)] when the proposed amendment would substantially lessen protections for a specific resource or use."[552]

[548] 36 C.F.R. § 219.11(d)(3).
[549] *Id.* § 219.11(d)(5).
[550] 16 U.S.C. § 1604(g)(3)(E).
[551] 81 Fed. Reg. at 90,731.
[552] 36 C.F.R. § 219.13(b)(5)(ii).

As an initial matter, 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.[553] But 36 C.F.R. § 219.13(b)(5) defines the upper limit on the agency's discretion. The Forest Service can and should identify as directly related additional substantive requirements that may have adverse effects deemed less than substantial. In fact, the Fourth Circuit has already observed that 36 C.F.R. § 219.13(b)(5) "does not define 'adverse effects' as including *only* substantial effects; rather, it says that the applicable substantive requirement from the 2012 Planning Rule *must* apply when the effects are substantial."[554] The agency's position is arbitrary because "only 'substantial' adverse effects could trigger application of a substantive requirement, but *any beneficial effect at all* would trigger the same substantive requirement."[555] This means it is "easier to pass amendments that harm the environment (by not requiring application of the substantive requirements, which aim to protect the environment, unless that harm is substantial) but more difficult to pass amendments that benefit the environment."[556] The Forest Service has never justified this arbitrary distinction. Because this unexplained distinction is the basis for the agency's entire "directly related" analysis, that analysis is arbitrary and capricious.

Additionally, for the "substantially lessen protections" trigger, the agency repeatedly conflates its homebrewed test for "a substantial lessening of *plan protections*"[557] with the correct regulatory trigger based on whether a proposed amendment "would substantially lessen protections *for a specific resource or use*."[558] This difference matters because finding that an amendment substantially lessens protections across the entire plan is a significantly higher bar—and an incorrect one at that—than finding such lessening of protections for a specific resource or use. The misstatement conveniently supports the DSEIS's misapplication of the 2012 Planning Rule by, as discussed further below, attempting to leverage the entirety of the plan area outside the scope and scale of an amendment to minimize the adverse impacts of an amendment to the affected area.

In all events, although the Forest Service goes through the motions of analyzing both prongs here, its analyses are arbitrary and capricious in multiple ways.

i. Substantial adverse effects.

The Forest Service's analysis of substantial adverse effects is arbitrary and capricious in two primary ways.

First, and as a preliminary matter, the Forest Service fails to articulate what constitutes a "substantial adverse effect associated with th[e] requirement." The Fourth Circuit has previously

[553] *See, e.g.*, DSEIS, *supra* note 4, at 134 ("Although the reduction of soil and riparian protection measures constitutes an adverse impact, effects would not be expected to be substantial.").
[554] *Cowpasture*, 911 F.3d at 165 (4th Cir. 2018).
[555] *Id.*
[556] *Id.*
[557] DSEIS, *supra* note 4, at 134 (emphasis added).
[558] 36 C.F.R. § 219.13(b)(5)(ii)(A).

admonished the agency for this failure.[559] Without a defined threshold, the Forest Service cannot reasonably "support [its] analytical conclusions made."[560] Instead, the agency cherry-picks what adverse effects it believes are substantial, signaling to the public a know-it-when-we-see-it approach. "The Forest Service's strained and implausible interpretations of 'substantial adverse effects' are especially striking in light of the significant evidence" detailed above that the JNF "Plan amendments would cause substantial adverse effects on the forest[]."[561] As discussed in more depth below, the agency's approach is arbitrary and capricious, and it must provide a clear explanation of substantial adverse effects in a revised DSEIS.

Second, even under the Forest Service's vague and arbitrary standard, it fails to demonstrate that its amendments would not have "substantial adverse effects." Although the agency never explains what this standard entails, it nonetheless argues the substantial adverse effects threshold is not met for any of the amendments at issue, relying primarily on unsupported contentions that because effects are de minimis or time limited, they are not substantial. Specifically, the Forest Service botches the effects analysis by: (1) mischaracterizing or misleadingly minimizing the adverse effects; (2) claiming the effects are small in proportion to something larger; (3) contending the impacts generally only result in "temporary" effects; and (4) asserting that measures in the POD will mitigate the effects. There are serious problems with each justification.

1. The Forest Service mischaracterizes or misleadingly minimizes adverse effects.

The agency mischaracterizes or misleadingly minimizes the adverse effects of most of the proposed amendments as described throughout this section, including, specifically, as follows:

- **FW-248:** This plan standard requires new utility corridors to be designated as Prescription Area 5B or 5C. As the Forest Service acknowledges, use of this prescription "is intended to reduce fragmentation and minimize visual effects by encouraging collocation of any future utility corridors."[562] However, the agency proposes exempting MVP from this requirement entirely, which will allow a new utility corridor to be built in Prescription Areas 4A, 4J, 6C, 8A1, and 11.[563] The agency claims that this exemption will have *no* direct, indirect, or cumulative effects on the Forest "because it is too speculative to assume a future utility line would be collocated within the MVP corridor and may not be logistically feasible or environmentally preferable."[564] The Forest Service is wrong at least twice over.

  The agency's proposal to waive FW-248 for MVP inflicts a cumulative impact on the Forest 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

[559] *Cowpasture*, 911 F.3d at 165 (finding it "remarkable that the agency is unable to say what *would* constitute a substantial adverse effect on the forest[s]" impacted by the Atlantic Coast Pipeline) (emphasis in original).
[560] *See* 36 C.F.R. § 219.14(d)(2).
[561] *Cowpasture*, 911 F.3d at 166.
[562] DSEIS, *supra* note 4, at 62.
[563] *Id.* at 19.
[564] *Id.* at 62–63.

miles away without redesignating that utility corridor either.[565] The Celanese Pipeline Project was built across Prescription Areas 4A and 8A1,[566] but the project documents do not acknowledge FW-248 or contemplate redesignation of the Celanese Pipeline corridor to Prescription Area 5B or 5C as required, nor does GIS analysis indicate any subsequent redesignation of this corridor.[567] In other words, the agency's refusal to heed FW-248 for MVP is the latest in a pattern of ignoring the impacts of utility corridors across the JNF, propagating additional unnecessary corridors across the landscape and increasing forest fragmentation.

The agency is wrong that future utility line collocation is speculative. The agency neglects to mention that the Jefferson Forest Plan and NFMA regulations *require* the agency to collocate utility lines "[w]hen feasible."[568] So, it is not speculative that future utility lines will be located within the MVP corridor—there is a presumption that they *will be*. Further, the Forest Service's claim that "there are no reasonably foreseeable future utility corridors proposed or known that will be proposed in the vicinity of MVP on the JNF"[569] misses the point. The concern is not that "future utility *corridors*" will be proposed near MVP—the concern is that future utility *lines* will be proposed near MVP. And if the Forest Service is suggesting that no utility development is reasonably foreseeable, its suggestion is belied by the facts. For example, just last year, 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.[570] The stated need for this programmatic decision is that the George Washington and Jefferson National Forests are "receiving unprecedented requests from proponents to install linear fiberoptic telecommunication lines across and along National Forest Systems (NFS) lands to provide broadband service to rural communities" because, "[d]ue to the shape and arrangement of the GWJNF along western Virginia, long, linear new utilities inevitably require access across or to locate along the GWJNF."[571] And while it is theoretically possible that collocating a future utility line with MVP will "not be logistically feasible or environmentally preferable," the

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[565] *See* U.S. Forest Serv., Decision Notice and Finding of No Significant Impact for the Natural Gas Pipeline Construction Project, Proposed by Columbia Gas of Virginia for service to Celanese Plant in Giles County, Virginia (Nov. 22, 2013) [Ex. 94], https://www.fs.usda.gov/project/?project=41099 (last visited Feb. 8, 2023); U.S. Forest Serv., Environmental Assessment, Natural Gas Pipeline Construction Project, Proposed by Columbia Gas of Virginia for service to Celanese Plant in Giles County, Virginia (Sept. 2013) [Ex. 95] [hereinafter Celanese EA], https://www.fs.usda.gov/project/?project=41099 (last visited Feb. 8, 2023).

[566] *E.g.*, Celanese EA, *supra* note 565, at 4.

[567] *See id.* at 53 (acknowledging FW-247 and FW-253 but omitting any discussion of FW-248).

[568] JNF Plan, *supra* note 417, at 2-60 (FW-247: "Develop and use existing corridors and sites to their greatest potential in order to reduce the need for additional commitment of lands for these uses. When feasible, expansion of existing corridors and sites is preferable to designating new sites."); *see also* FW-244 ("Locate uses where they minimize the need for additional designated sites and best serve their intended purpose. Require joint use on land when feasible."); 36 C.F.R. § 219.10(a)(3) (requiring amended forest plans provide plan components for "integrated resource management," including "[a]ppropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors").

[569] DSEIS, *supra* note 4, at 63.

[570] *See* Scoping Notice, Forestwide Programmatic Fiberoptic Telecommunication Line Special Use Project (Jan. 20, 2022) [Ex. 96].

[571] *Id.* at 1.

opposite may just as easily be true. The Forest Service's failure to consider this likelihood fatally infects its FW-248 effects determination.

- **FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003:** These standards protect soil, water, and riparian resources. Though the Forest Service proposes exempting MVP from these standards, it concludes that these exemptions will not cause substantial effects in part because "sedimentation modeling estimated that enhanced ECDs would be effective at minimizing sedimentation in waterways."[572] The first problem with this conclusion is that, as detailed above in Section V, the DSEIS's modeling is not the proper tool for assessing impacts to water resources and is also fundamentally flawed, and thus has inadequate predictive value for the sedimentation and resulting water quality impacts that will occur. The second problem is that, even assuming the modeling were accurate (which it is not), the agency neglects to mention that these ECDs are only alleged to be "effective at controlling erosion, runoff, and sedimentation *under normal conditions when properly installed and maintained*."[573] As MVP's sordid history of water-quality violations[574] reveals, the pipeline company consistently fails to protect water quality during foreseeable storm events or to properly install or maintain its ECDs. The Forest Service claims these violation concerns are overblown and contends that real-world data "indicates that the ECDs that were installed and maintained are effective at managing sediment yields."[575] But as explained above, this conclusion is likewise fundamentally flawed; real-world data shows that the effects of MVP's activities have been, and will continue to be, substantial.

- **4A-028:** This standard requires the Forest Service to locate new public utilities and ROWs along the ANST in areas where major impacts already exist. The Forest Service suggests that exempting MVP from this requirement will not have substantial effects in part because "[t]he variance would only be needed for the anticipated 10-week construction period because operation of the ROW is expected to meet Forest Plan direction."[576] This fundamentally misunderstands what the amendment to 4A-028 accomplishes. MVP's exemption is not a temporary "variance" that is only needed for "the anticipated 10-week construction period." It is a permanent amendment to the JNF Plan that allows MVP to install and operate a pipeline where no "major impacts already exist." It also is not true that "operation of the ROW is expected to meet Forest Plan direction"—on the very next page, the Forest Service admits that maintenance of the ROW will violate scenic standards for years to come.[577] Because the Forest Service misunderstands the serious long-term impacts of its amendment to 4A-028, its no-effects conclusion is arbitrary and capricious.

2. The Forest Service claims the effects are small in proportion to something larger.

[572] DSEIS, *supra* note 4, at 63.
[573] *Id.* at 75 (emphasis added).
[574] *See* State of West Virginia MVP Incident Reports, *supra* note 131; Wild Virginia, Compilation of Virginia DEQ Inspection Reports, *supra* note 132.
[575] DSEIS, *supra* note 4, at 75.
[576] *Id.* at 66.
[577] *Id.* at 67; *see supra* Section V.

The agency uses the rationale that the effects are small in proportion to something larger to support its no-substantial-adverse-effects finding for amendments to 6C-007 and 6C-026 (old growth management), FW-184 (scenery integrity), and FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 (soil and riparian).[578] Specifically:

1. The Forest Service acknowledges that amending the old-growth standards will result in forest clearing, but finds this "is not a *substantial* adverse impact due to the limited extent of the impact (about 2 of 30,200 old growth acres forest-wide)."[579]
2. Similarly, the Forest Service finds "modification of the FW-184 standards" would permanently degrade the scenic quality of the area, but this "is not a substantial adverse impact due to the limited extent of the project crossing."[580]
3. Likewise, the agency concludes that amending several soils and riparian standards will cause "adverse effects" to water quality, but that these impacts "would not be expected to be substantial" since erosion and sedimentation modeling predicts an "increase of 0.1% to 2.6% (median: 1.1%) compared to the baseline scenario."[581]
4. Finally, the agency finds that amending certain soils standards will cause "adverse effects" to soils in the construction zone, but that these impacts "would not be substantial across the HUC-12 watersheds and even less substantial across the JNF.[582]

In essence, the agency *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. There are several problems with this assumption.

To begin, this assumption is highly skewed by the selection of a denominator or comparator. Nearly any impacts will seem proportionally "small" if you divide them by an arbitrarily large denominator. The Fourth Circuit has expressly forbidden this practice, warning that the Forest Service cannot "circumvent the requirements of the 2012 Planning Rule" by passing project-specific amendments and claiming they "will affect only a minimal fraction of the *entire* Jefferson National Forest."[583] Yet, the Forest Service does exactly that here—it calculates MVP's impacts to certain resources as a percentage of that resource "forest-wide," "across [nine] HUC-12 watersheds," and "across the JNF" as a whole. For example, the agency notes that MVP will only impact "2 of 30,200 old growth acres *forest-wide*."[584] Such a comparison obscures the impacts on MVP within the project area. If we swap this arbitrarily large denominator for the total amount of old growth found in the MVP project area—2 acres—then MVP will be impacting *100%* of that total.

Even if we assume that the Forest Service's skewed statistics are relevant to the "substantial adverse effects" inquiry, there is still a disconnect between those statistics and the

[578] *Id.* at 63–65, 67. The agency also uses forest-wide comparisons to prop up its substantial-lessening analysis. This issue is discussed below.
[579] *Id.* at 65 (emphasis added).
[580] *Id.* at 67.
[581] *Id.* at 63–64.
[582] *Id.* at 64.
[583] *Wild Va.*, 24 F.4th at 932 (emphasis added).
[584] DSEIS, *supra* note 4, at 65 (emphasis added).

agency's conclusions. The Forest Service never adequately explains *why* the small percentages it calculates translate to insubstantial impacts. Why is a 2.6% annual increase in sediment yield insubstantial per se? Why is 2 out of 30,200 acres of old growth automatically inconsequential? Why are impacts to 54 acres of soils within nine HUC-12 watersheds necessarily de minimis? The DSEIS fails to support its bald assertions, which collapse under the weight of real-world data demonstrating, in particular, observable substantial adverse impacts to streams due to sedimentation, as discussed in these comments.

It may be tempting to assume that fractional or single-digit percentages equate to minor impacts, but that is not always true. The Forest Service has acknowledged as much when assessing impacts from this very pipeline. In 2017, MVP decided to use a 10% impact threshold to assess sedimentation effects on waterbodies. However, the Forest Service warned MVP that "organisms respond differently to increases in sedimentation, and a 10% impact threshold to determine when impacts would occur is likely not relevant."[585] The agency further explained that listed and sensitive species, in particular, could be significantly impacted by a "less than 10% increase in sediment load, particularly if construction may coincide with low flow conditions."[586] In other words, small percentages do not always equal insubstantial impacts[587]—and context matters.

Context is entirely lacking in the DSEIS. For example, the DSEIS provides no rationale to support its contention that "impacts to the soil resources would not be substantial across the HUC-12 watersheds and even less substantial across the JNF."[588] The Forest Service has failed to undertake—or at minimum failed to discuss—any adequate analysis to demonstrate the condition of soil resources "across the JNF." Yet, context like this is critical to assessing the agency's assertion that impacting an allegedly small percentage of the Jefferson's soil resources (or streams, or old growth, or scenery) is insubstantial.

3. The Forest Service contends the impacts generally only result in "temporary" effects.

Next, the Forest Service repeatedly—and erroneously—dismisses impacts as insubstantial because they are "temporary."[589] For instance, the agency concludes that since "most impacts" to soils and water quality will "occur during the construction and restoration phases of [the] project" and thus would not substantially affect the area "[i]n the long-term," they must "be considered minor."[590] But as the Fourth Circuit recently explained, "nowhere do the regulations . . . state that a substantial adverse effect must be *long term* for the substantive

[585] *Sierra Club*, 897 F.3d at 592.
[586] *Id.*
[587] Czuba Report, *supra* note 5, at 7; 2017 FERC FEIS, *supra* note 227, at 3-157 and 3-158.
[588] DSEIS, *supra* note 4, at 64.
[589] *See id.* at 64 (noting that "most impacts" to soil and water resources "occur during the construction and restoration phases of project, which would be considered minor and temporary adverse effects"); *id.* at 66 (stating that there are no substantial impacts associated with amending 4A-028 in part because "there would be no long-term noise effects" and "the amended standard is only needed for approximately 10 weeks of construction"); *id.* at 67 (suggesting impacts to scenic integrity are insubstantial in part because "[v]egetative growth would allow the corridor to meet the assigned SIO within five years following construction").
[590] *Id.* at 64.

requirement in the 2012 Planning Rule to be 'directly related' to the amendment."[591] The regulations only require the adverse effects to be "substantial," and substantiality is a measure of magnitude, not temporality—short-term impacts can be substantial, just as long-term impacts can be minor.

For example, the Forest Service interprets a time-limited construction period to mean that the sedimentation effects on streams of that construction are insubstantial. Not so. The magnitude of the sedimentation load during construction—while, by definition, a temporary period of time—substantially alters the water quality and embeddedness of the impacted streams far beyond just the construction period.

Therefore, the Forest Service's assumption that "temporary" impacts "would be considered minor"—without sufficient analysis in the DSEIS to demonstrate that these so-called "temporary" impacts do not cause substantial adverse effects—is arbitrary and capricious.

4. The Forest Service asserts that measures in the POD will mitigate the effects.

Finally, the agency arbitrarily relies on vague references to unspecified mitigation measures in the POD to support its no-substantial-adverse-effects findings.[592] Critically, the Forest Service already determined that MVP could not meet any of the plan standards at issue *with* the mitigation measures described in the POD.

In other words, the agency found MVP's impacts—*post*-mitigation—were still so severe that the only way it could make the project consistent with the JNF Plan was to totally exempt MVP from eleven forest plan standards. It would be odd if the Forest Service could now turn around and say that those very same mitigation measures—the ones that did nothing to prevent the necessity of a total exemption from numerous plan standards—somehow drive the effects of those exemptions below the "substantial adverse effects" threshold. To be sure, the Forest Service would need to demonstrate how the clear failure to meet the existing Forest Plan standards does not produce substantial adverse effects. But for the reasons articulated above, the effects of the project are substantially adverse and the measures implemented *have already* failed to mitigate these substantial adverse effects. As such, the Forest Service cannot rely on MVP's mitigation measures to somehow wipe clean the substantial adverse effects of the project.

ii. Substantial lessening of protections.

[591] *Cowpasture*, 911 F.3d at 166 (emphasis in original).

[592] DSEIS, *supra* note 4, at 64 ("Further, mitigation measures designed to minimize soil and riparian effects have been incorporated into the POD."); *id.* at 66 ("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."); *id.* at 67 ("The effect of the modification of the FW-184 standards would be the 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 of the project crossing the JNF, the project 's proposed mitigation measures that would apply to construction zone and ROW are found in the updated POD.").

The Forest Service's analysis of which amendments trigger directly related substantive requirements because they "would substantially lessen protections for a specific resource or use"[593] is also arbitrary, capricious, and not in accordance with law for three primary reasons.

First, the DSEIS repeatedly characterizes the operative inquiry as whether a proposed amendment would cause a "substantial lessening of plan protections."[594] To reiterate, this is not the correct regulatory language—it is a new test of the agency's own creation debuted in the DSEIS—and every use of this incorrect test in the DSEIS is arbitrary, capricious, and not in accordance with law. The correct regulatory trigger depends on whether a proposed amendment "would substantially lessen protections *for a specific resource or use*."[595] This trigger operates at a finer scale than the agency's incorrect test, which would essentially license the agency to simply eyeball how much of the original plan remains after the amendment. The agency itself recognized in 2016 that this trigger is tripped when protective plan direction is removed—such as the standards proposed to be waived for MVP—without regard to what remains of the plan, explaining that "[t]his requirement is intended to prevent the removal of protective direction in an underlying plan without the application of the relevant requirements of the 2012 rule."[596]

Second, the Forest Service effectively collapses the substantial-adverse-effects test and the substantial-lessening test into one. Its analysis for each of the five categories of plan standards proceeds in the same stepwise fashion: (1) the amendments will have no substantial adverse effects; and (2) therefore, there is no substantial lessening of plan protections.[597] This is most apparent in the "Utility Corridors" category, where the Forest Service finds that "[s]ince there would be no effects" associated with the amendment to FW-248, "the lessening of plan protections consideration is not applicable."[598] This conflation is also evident in the four other categories; each time, the agency starts by explaining why the amendments will not have "a substantial adverse impact," then says that for the reasons "[a]s stated above," there will not be a substantial lessening of plan protections.[599]

That approach makes these two textually distinct tests redundant. Such an interpretation flies in the face of the well-established canon against surplusage, which strongly counsels against adopting a legal interpretation that "renders superfluous another portion of that same law."[600] Put differently, since the agency promulgated regulations with two distinct adverse effects tests, they must mean different things. Because the Forest Service's interpretation effectively eliminates this distinction, it is unreasonable and would be afforded no deference.

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[593] 36 C.F.R. § 219.13(b)(5)(ii)(A).

[594] *E.g.*, DSEIS, *supra* note 4, at 135.

[595] 36 C.F.R. § 219.13(b)(5)(ii)(A).

[596] 81 Fed. Reg. at 90,731.

[597] To reiterate, "substantial lessening of plan protections" is not the correct test, regardless of its pervasive use throughout the DSEIS.

[598] DSEIS, *supra* note 4, at 63.

[599] *Id.* at 64–67. The only new wrinkle the Forest Service adds to each of these substantial-lessening analyses is the observation that the various amended standards "would continue to apply across" the remainder of the Forest in their unaltered form. *Id.* But for reasons explained below, reliance on this factor is arbitrary and capricious.

[600] *United States v. Jicarilla Apache Nation*, 564 U.S. 162, 185 (2011).

A non-redundant substantial-lessening test would hew closer to the guidance the Forest Service provided in promulgating the 2016 Planning Rule. There, the agency explained that "[t]his requirement is intended to prevent the *removal* of protective direction in an underlying plan without the application of the relevant requirements of the 2012 rule."[601] "For example, if a proposed amendment to a plan developed under the 1982 planning rule would remove direction that was necessary to meet the 1982 rule's requirement to provide for the viability of a specific species, [36 C.F.R. §219.13](b)(5) would require that responsible official apply [the related substantive requirement] to the proposed amendment with regard to that specific species."[602]

As this example suggests, it is not necessary to show substantial adverse effects to find a substantial lessening of protections for specific resources or uses. Removing plan direction that "provide for the viability of a specific species"—like a standard that requires the Forest Service to plant certain beneficial tree species following timber management—may not have any immediate impacts on that species at all. But it certainly is a reduction in protections for that species. An analogy helps illustrate why this makes intuitive sense: imagine you are a homeowner that lives in a floodplain protected by a levee. If the levee were removed, your home would not experience a "substantial adverse effect" from this action until the floodwaters rose. Despite the speculative nature of these effects, any rational person would agree that your home is *substantially less protected* from the threat of flooding.

Further, the regulation does not require that a standard must be removed across *the entire forest* for a substantial lessening of protections to occur. If that were the case, the Forest Service could evade the substantial-lessening prong "simply by passing project-specific amendments on an ad hoc basis."[603] However, the Fourth Circuit has already squarely rejected the notion "that only amendments changing a management standard for the forest as a whole—and not project-specific amendments—can trigger the substantive requirements of the 2012 Planning Rule."[604] Indeed, the very text of the regulation in question confirms that it is *not* focused on plan protections in the abstract, but rather is triggered "when the proposed amendment would substantially lessen protections *for a specific resource or use*."[605]

If we apply these principles here, then there is no doubt that the eleven MVP amendments result in a substantial lessening of protections for soil, water, riparian, ANST, and scenic resources. As the agency recognizes, its amendments "would *exempt* the MVP project from complying with" eleven plan standards.[606] So, the Forest Service did not just *lower* the bar a bit for MVP, it *eliminated* the bar entirely. That sounds more like the "*removal* of protective direction" and thus a substantial lessening of protections, which requires application of the 2012 Planning Rule. To be sure, the proposed exemptions are limited to the MVP project. But as the Fourth Circuit held, the Forest Service cannot duck the requirements of the 2012 Planning Rule by claiming "project-specific amendment[s]" deserve special treatment—otherwise, "both the

[601] 81 Fed. Reg. at 90,731 (emphasis added).
[602] *Id.*
[603] *Cowpasture*, 911 F.3d at 164.
[604] *Id.*
[605] 36 C.F.R. § 219.13(b)(5)(ii)(A) (emphasis added)..
[606] DSEIS, *supra* note 4, at 18 (emphasis added).

substantive requirements in the 2012 Planning Rule and the NFMA's Forest Plan consistency requirement would be meaningless."[607]

Third, the Forest Service errs by propping up its substantial-lessening analyses with references to plan standards outside the MVP action area. The Fourth Circuit has explained that "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 (i.e., without Pipeline-related amendments) outside this area will continue to provide adequate protections*."[608] But that is exactly what the agency does here.

For example, in concluding there will be no substantial lessening of plan protections[609] for soil and riparian resources, the Forest Service notes that "[s]tandards 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." The agency's analyses of old growth,[610] the ANST,[611] and scenic integrity[612] are of a piece. Boiled down, the Forest Service is essentially saying that project-specific amendments cannot result in a substantial lessening of plan protections since other portions of the forest remain unaffected. But as explained above, the Fourth Circuit has already squarely rejected this argument.[613]

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Together, these errors reflect a fundamental misapplication of the 2016 Planning Rule's two "adverse effects" triggers. The agency's failure to apply these triggers is not harmless. To be sure, the Forest Service ultimately found eleven substantive requirements were directly related to its amendments' purpose. However, if it had conducted a proper effects analysis, it would have identified even more directly related substantive requirements, including the following:

- **§ 219.8(a)(1) and § 219.9(a)(2):** These substantive requirements mandate that plan components maintain or restore "ecological integrity" and "the diversity of ecosystems."[614] For the reasons explained above, 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) will

[607] *Cowpasture*, 911 F.3d at 164.

[608] *Wild Va.*, 24 F.4th at 931 (emphasis added).

[609] Again, this is not the correct standard and, as noted above, conveniently opens the door for the Forest Service to do precisely what it does here—point to the rest of the forest to arbitrarily minimize the impacts of the amendment.

[610] DSEIS, *supra* note 4, at 65 ("Standards 6C-007 and 6C-026 would continue to apply to the remaining 30,200 acres in management prescription 6C on the JNF.").

[611] *Id.* at 66 ("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 variance.").

[612] *Id.* at 67 ("Standard FW-184 would continue to apply across the Forest with 283,000 acres remaining in a high SIO with the MVP project only affecting 0.5 acres in Very High SIO, 6.2 acres in High SIO, and 242,000 acres remaining in a Moderate SIO with the MVP project only affecting 14.5 acres in Moderate SIO.").

[613] *Cowpasture*, 911 F.3d at 164.

[614] 36 C.F.R. §§ 219.8(a)(1), 219.9(a)(2).

have serious and long-lasting impacts on soil, water, and riparian integrity, connectivity, and ecological diversity. Since these amendments will completely exempt MVP from standards that would have prevented such impacts, they will also result in a substantial lessening of protections for ecosystem integrity and diversity. Therefore, the amendments are directly related to these substantive requirements.

- **§ 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."[615] Collectively, the plan amendments will substantially affect the action area's ability to maintain "connectivity" and "the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change" because they effectively fragment the forest into distinct chunks separated by a 50-foot right-of-way. This right-of-way will prevent some plants and animals from traversing between these areas,[616] limiting their ability to adapt to climate change, disturbance, and anthropogenic influences. Because these amendments completely exempt MVP from standards that would have prevented such fragmentation, they also result in a substantial lessening of protections for ecologically connected resources. Therefore, they are directly related to this substantive requirement.

- **§ 219.8(a)(3)(i):** This provision requires "plan components, including standards or guidelines, 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."[617] For the reasons explained above, 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) will have serious and long-lasting impacts on soil, water, and riparian integrity, connectivity, and ecological diversity. It defies comprehension that that Forest Service does not find this substantive requirement directly related to the proposed amendment by the effects of amending FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003.

- **§ 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

[615] 36 C.F.R. § 219.8(a)(1)(iv).

[616] 2017 FERC FEIS, *supra* note 227, at 4-201; *see also* DSEIS, *supra* note 4, at 99 ("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"); Travis Belote et al., *Wild, connected, and diverse: Building a more resilient system of protected areas*, Ecological Applications 27:1050–1056 (2017) [Ex. 97]; David M. Theobald, *A general model to quantify ecological integrity for landscape assessments and US application*, Landscape Ecology 28:1859–1874 (2013) [Ex. 98].

[617] 36 C.F.R. § 219.8(a)(3)(i).

scenic character."[618] 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,"[619] 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 lessoning 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*."[620] 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." Quite the contrary. The finding that this substantive requirement is directly related due to its beneficial effect is arbitrary, capricious, and contrary to law, as is the Forest Service's failure to include § 219.8(b)(1) and (b)(2) as directly related substantive requirements.

- **§ 219.11(d)(2):** These provisions require plan components to ensure that "[t]imber harvest would occur only where soil, slope, or other watershed conditions would not be irreversibly damaged."[621] As explained above, 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) have permitted MVP to harvest timber in areas where substantial—and irreversible—damage to soil and water resources occurred. In addition, because the amendments completely exempt MVP from standards that would have prevented such irreversible damage, they also represent a substantial lessening of plan protections for soils and water resources. Therefore, these amendments are directly related to this substantive requirement.

- **§ 219.11(d)(3):** These provisions require plan components that ensure "[t]imber harvest would be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources."[622] As explained above, 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) allow MVP to harvest timber in a manner that guarantees "the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources" will *not* be achieved. Because these amendments totally exempt MVP from harvest practices that would protect these resources, they also substantially lessen plan protections. Therefore, these amendments are directly related to this substantive requirement.

- **§ 219.11(d)(5):** These provisions require plan components to provide that timber may only be harvested where "protection is provided for streams, streambanks, shorelines,

[618] *Id.* § 219.8(b)(1)–(b)(2).
[619] DSEIS, *supra* note 4, at 67.
[620] *Id.* at 67 (emphasis added).
[621] 36 C.F.R. § 219.11(d)(2).
[622] *Id.* § 219.11(d)(3).

> 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."[623] Collectively, the soil and riparian amendments permit timber harvest that both "seriously and adversely affect[s] water conditions" and wholly exempt MVP from protection directives that would have prevented such harm. Therefore, the amendments are directly related to this substantive requirement because they substantially lessen plan protections.

Because the Forest Service misapplied the effects tests, it failed to apply the above requirements within the scope and scale of the amendments. These errors can only be fixed by withdrawing the DSEIS, properly identifying all directly related substantive provisions, and reissuing an updated draft for public comment.

5. The DSEIS fails to apply the directly related substantive requirements within the scope and scale of the amendment.

Even if the DSEIS contained a complete and correctly derived list of the directly related substantive requirements (which it does not), the Forest Service has not applied those requirements as the Rule requires.

At the outset, the agency's attempt to change the regulatory definition of the term "maintain" is striking. Over half of the substantive requirements that the Forest Service concedes are directly related to the proposed amendment include the 2012 Planning Rule's mandate to include plan components that "maintain or restore" various ecological resources.[624] The Rule defines "maintain" as follows:

> *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 on the circumstances, ecological conditions may be maintained by active or passive management or both.[625]

In the DSEIS, the Forest Service edited the regulatory definition of "maintain" by inserting the word "net" before the word "continuance" as shown below:

> To "maintain" a resource is defined by the rule as "*to keep in existence or <u>net</u> continuance of the desired ecological condition in terms of desired composition, structure, and processes*" (36 C.F.R. § 219.19).[626]

This regulatory rewrite in the DSEIS—from what the Rule states to what the agency apparently wishes the Rule stated—is a transparent attempt to paper over the adverse impacts of constructing a natural gas pipeline through protected public land on steep slopes and prejudice

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[623] 16 U.S.C. § 1604(g)(3)(E).
[624] *See* DSEIS, *supra* note 4, at 68 (citing 36 C.F.R. §§ 219.8(a)(1), (a)(2)(ii)-(iv), (a)(3)(1), 219.9(a)(2)).
[625] 36 C.F.R. § 219.19.
[626] DSEIS, *supra* note 4, at 73 (misquoting 36 C.F.R. § 219.19) (italics in original, underline added).

the application of the implicated substantive requirements by weakening the meaning of "maintain." The 2012 Planning Rule may allow the Forest Service to amend plan standards under some circumstances, but it does not license the agency to rewrite the rule itself. This is tantamount to a concession from the Forest Service that the plan will not adequately "maintain" the resources protected by the relevant substantive requirements after the amendment—otherwise the agency would not have resorted to this textual innovation. On its face, this rewrite by the Forest Service is arbitrary, capricious, and not in accordance with law.

Even without this rewrite, the agency has not applied the directly related substantive requirements "within the scope and scale of the amendment."[627] By erroneously shifting how it defines the scope and scale of amendments in applying the substantive requirements in order to make effects appear de minimis, the Forest Service has violated the 2012 Planning Rule.

After determining which specific substantive requirements are directly related, the Forest Service must "apply such requirement(s) within the scope and scale of the amendment."[628] This "application of the substantive requirement[s] is intended to be commensurate with the scope and scale of the amendment."[629] While the Forest Service has discretion to determine the scope and scale of an amendment,[630] it cannot manipulate that scale during the application stage to circumvent the substantive requirements of the 2012 Planning Rule.[631] The guidance accompanying the 2016 Amendment to the 2012 Planning Rule provides an instructive example:

> [I]f a proposed amendment would create an energy corridor that would have substantial adverse effects on critical habitat necessary for the recovery of an endangered species, the responsible official could choose to modify the proposed corridor to avoid the critical habitat. Otherwise, the responsible official must apply § 219.9(b) to review whether the plan provides the ecological conditions necessary to contribute to the recovery of that species. If the plan components would be insufficient to provide such ecological conditions, then the responsible official would be required to develop additional, species-specific plan components, including standards or guidelines, to provide such ecological conditions in the plan area.[632]

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[627] 36 C.F.R. § 219.13(b)(5).

[628] *Id.* § 219.13(b)(5). Among the DSEIS's other flaws, its unsupported assertion that "[t]he scale of a project specific amendment varies for each substantive requirement," DSEIS, *supra* note 4, at 128, is not correct and is contrary to 36 C.F.R. § 219.13(b)(5). The plain text of the regulation makes clear that there may be multiple "specific substantive requirement(s) within §§ 219.8 through 219.11 [that] are directly related to the plan direction being added, modified, or removed by the amendment," and that all "such requirement(s)" are to be applied within a single scope and scale—"the scope and scale of the amendment." 36 C.F.R. § 219.13(b)(5) (emphases added). The regulation describes the scope and scale of the amendment as a discrete thing by using the definite article "the" with a singular noun. *See, e.g.*, *Niz-Chavez v. Garland*, 141 S. Ct. 1474, 1483 (2021).

[629] 81 Fed. Reg. at 90,732.

[630] 36 C.F.R. § 219.13(a).

[631] 81 Fed. Reg. at 90,726.

[632] *See id.* at 90,726 ("[T]he 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 . . . .").

If the requisite ecological conditions cannot be met, the Forest Service cannot amend the plan.[633] Instead of approaching its task in accordance with the Rule, the DSEIS commits three major mistakes.

First, the Forest Service also repeatedly errs by concluding that existing plan components in the JNF Forest Plan will "maintain" or "restore" ecosystem integrity or any other relevant resource. The terms "maintain" and "restore" are terms of art in the 2012 Planning Rule. 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. As such, unless the Forest Service undertakes an adequate assessment[634] 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 no basis in law or fact to conclude that the existing JNF Plan can achieve maintenance or restoration within the meaning of the 2012 Planning Rule.[635]

Second, it fails to apply the directly related substantive requirements of the 2012 Planning Rule "*within* the scope and scale of the amendment"[636] 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. The Fourth Circuit has explained that the agency "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 (*i.e.* without Pipeline-related amendments) outside this area will continue to provide adequate protections."[637] But that faulty logic is once again a foundational element of the Forest Service's approach.

Specifically:

- **§ 219.8(a)(1) – Ecosystem integrity and § 219.9(a)(2) – Ecosystem diversity:** The DSEIS states that these substantive requirements are directly related to the purpose of the

[633] *Id.*

[634] *See, e.g.*, FSH 1909.12 Ch. 10.

[635] To the extent that the Forest Service is asserting that the Jefferson Forest Plan, writ large, complies with the 2012 Planning Rule, it is substantively mistaken as explained throughout these comments. However, this assertion is also procedurally flawed. The Forest Service's latest notice of intent explained that the DSEIS would assess whether its eleven proposed amendments complied with the Planning Rule—not whether the entire Jefferson Forest Plan does. U.S. Dep't of Agric., Jefferson National Forest; Monroe County, West Virginia; Giles and Montgomery County, Virginia. Mountain Valley Pipeline and Equitrans Expansion Project Supplemental Environmental Impact Statement, 87 Fed. Reg. 68,996 (Nov. 17, 2022) (notice of intent). These are two significantly different questions, and the latter is not within the scope of the public notice of intent that the agency issued in advance of the DSEIS. *See* 40 C.F.R. § 1501.9(g).

[636] 36 C.F.R. § 219.13(b)(5).

[637] *Wild Va.*, 24 F.4th at 931.

proposed amendments to 6C-007 and 6C-026, which will allow MVP to cut trees in a management prescription allocated to old growth and turn part of the area into a new utility right-of-way.[638] The DSEIS defines "the scale for old growth [a]s 2 acres."[639] But then, when applying those substantive requirements, instead of even considering whether they are met within the project area at that defined scale—two acres—the DSEIS asserts that "[c]urrent plan components are sufficient to maintain and restore old growth habitats *across the JNF*"[640] as a whole, merely comparing those two acres to the "approximately 30,200 acres of old growth" across the entire forest.[641] The DSEIS further claims that "the continued application" of many other standards are sufficient to maintain or restore ecosystem integrity. But the DSEIS never explains how eliminating the two acres of old growth will meet the substantive requirement of maintaining ecosystem integrity *within* "the scale for old growth [of] 2 acres." How many acres of old growth cut down *would ever* result in the plan standards not satisfying the substantive requirements? The DSEIS never even attempts to provide an answer.

- **§ 219.8(a)(2)(ii) – Soils and soil productivity:** The DSEIS notes that this substantive requirement is directly related to the purpose of the proposed amendments to FW-5, FW-8, FW-9, FW-13, and 11-003, which will allow MVP to exceed soil standards in the project area.[642] Instead of applying this requirement within the scale of the proposed amendments—which the agency recognizes as the MVP "construction zone" and right-of-way—the DSEIS claims that the "proposed amendment[s] [are] negligible in context of the *forest-wide* . . . or Management Prescription 11 . . . soil resource[s]."[643] Because "Forest-wide Plan components to maintain and restore soils and soil productivity would remain in place on 99.99% of the JNF and on 99.99% of soils in Management Prescription 11," the agency concludes that "existing Forest Plan direction for the JNF is sufficient to maintain the soil resource despite the allowance of the MVP project."[644] Again, the DSEIS looks *outside* the defined scale of the amendment to claim the plan outside the area will satisfy the requirement.

- **219.8(a)(2)(iii) – Water quality and § 219.8(a)(2)(iv) – Water resources:** The DSEIS acknowledges these substantive requirements are directly related to the purpose of the proposed amendments to FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003, which will allow MVP to exceed Forest Plan directives protecting water quality and water resources. The Forest Service defines the scale of the amendment to be the roughly "811 stream miles within these nine HUC-12 watersheds, of which about 155 miles of stream would experience increased sedimentation from the MVP project."[645] Instead of applying these substantive requirements within the scale of the proposed amendments, the DSEIS dismisses impacts to the project area because unmodified plan standards "would continue to apply to the remaining 723,300 acres of the JNF" and "the remaining 73,600 acres in

[638] DSEIS, *supra* note 4, at 141.
[639] *Id.* App. A at 128, 135.
[640] *Id.* at 74 (emphasis added).
[641] *Id.* at 73.
[642] *Id.* at 74.
[643] *Id.* (emphasis added).
[644] *Id.*
[645] *Id.* at 76.

management prescription 11."[646] The DSEIS never even attempts to explain how increased sedimentation across *155 miles of stream* in nine affected HUC-12 watersheds is somehow not a substantially adverse impact that fails to meet the substantive requirements. The Forest Service leverages its claim that the effects on water resources are not "substantial *across the JNF*"—*outside* the scale of the amendment—to erroneously find that the substantive requirements "would be sufficiently applied to the scope and scale of the project-specific amendment" *within* "the planning unit."[647] But the agency has not conducted an adequate analysis (or really any at all) to demonstrate how allegedly unaffected water resources *outside* the scale of the amendment (across the JNF) translate to meeting the substantive requirements *within* the scale of the amendment. Worse still, the justifications that water quality and water resources would be maintained or restored erroneously rely on a faulty soil erosion model to assess instream impacts, as discussed in Section V. Moreover, forest plans "must comply with all applicable laws and regulations."[648] Given MVP's repeated water quality related problems in both Virginia and West Virginia, the Forest Service must explain how its plan amendments do not facilitate violations of Virginia's water quality standards, including its narrative turbidity and sediment deposit standard.[649] In particular, the Forest Service must explain how sedimentation deposited across 155 miles of stream and, at minimum, the equivalent of nearly 127 football fields per year covered in 1/8-inch-thick sediment deposition for the entire study area of nine HUC-12 basins[650] would not violate that standard.[651]

- **§ 219.8(a)(3)(i) – Ecological integrity of riparian areas:** The DSEIS states that this substantive requirement is directly related to the purpose of the proposed amendments to FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003, which will allow MVP to exceed Forest Plan directives protecting riparian areas. Instead of applying this requirement within the scale of the proposed amendments, the DSEIS notes that "Forest-wide, there are about 73,600 acres of riparian areas," and that the MVP project "would affect only 0.6 and 0.05 acres, respectively, of those 73,600 acres."[652] Based on "unmodified Forest-wide standards and 55 other riparian standards" continuing to apply across these "remaining 73,600 acres of riparian areas across the Forest," the agency erroneously concludes that this substantive requirement is satisfied within the scope and scale of the amendments.[653]

- **§ 219.10(a)(3) – Appropriate placement and sustainable management of infrastructure:** The DSEIS says this substantive requirement is directly related to the

[646] *Id.* at 77.
[647] *Id.* (emphasis added).
[648] 36 C.F.R. § 219.1(f).
[649] 9 Va. Admin. Code §25-260-20(A).
[650] *See* Czuba Report, *supra* note 5, at 6–10
[651] Because such conditions would interfere with the aquatic life use of the affected streams, and because they would be inimical or harmful to aquatic life, the Forest Service likely cannot make such a showing. Virginia's general narrative criteria prohibit the discharge of sediments that would cause sedimentation deposits that would interfere with the aquatic life use or be inimical or harmful to aquatic life. 9 Va. Admin. Code §25-260-20(A). As the Czuba Report opines, sediment depth of 1/8-inch thickness would be expected to violate that standard. Czuba Report, *supra* note 5, at 7.
[652] DSEIS at 78.
[653] *Id.* at 79.

purpose of the proposed amendment to FW-248, which will allow MVP to create a new utility corridor without changing the management prescription designation. 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," this substantive requirement is satisfied.[654]

- **§ 219.10(b)(1)(i) – Sustainable recreation, including recreation setting, opportunities, access; and scenic character:** The DSEIS states this substantive requirement is directly related to the purpose of the proposed amendment to FW-184, which will allow MVP to exceed scenic-integrity standards. Instead of assessing whether this requirement is met within the project area, the DSEIS asserts that since this amendment will only impact "approximately 0.003% of the 723,300-acre JNF" and "the application of scenery standards across the remaining plan area" would continue, this substantive requirement is satisfied.[655]

- **§ 219.10(b)(1)(vi) – Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas:** The DSEIS states this substantive requirement is directly related to the purpose of the proposed amendment to 4A-028, which will allow MVP to exceed standards protecting the ANST from construction of new utility corridors. Instead of applying this requirement within the scale of the amendment—the 2.5 acres of the right-of-way in management prescription 4A—the DSEIS dismissed the "limited impact" of this "single crossing" by asserting it represents only "0.008% of the 30,700 acres of the JNF allocated to Management Prescription 4A."[656]

In each instance, the Forest Service is saying that the 2012 Planning Rule's substantive requirements are met *within* the project area because the agency unlawfully concludes that they are being met on thousands of acres *outside* the project area. This repeated conclusion is arbitrary, capricious, and not in accordance with law.

Applying substantive protections *outside* the scope and scale of an amendment is not applying them "*within* the scope and scale of the amendment."[657] This matters, because the Forest Service's drop-in-the-bucket approach would license piecemeal degradation through project-specific amendments without ever accounting for the substantive requirements, which the agency could claim in perfunctory fashion are always satisfied elsewhere on the forest—a shell game at the forest's expense. Indeed, this is the very approach the Fourth Circuit warned against in *Wild Virginia.*[658]

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[654] *Id.* at 80 (emphasis added).
[655] *Id.* at 81.
[656] *Id.* at 82.
[657] 36 C.F.R. § 219.13(b)(5).
[658] *See Wild Va.*, 24 F.4th at 931.

To be clear, a larger scale may be relevant or scientifically appropriate in some analysis and application of the substantive requirements, and the Forest Service should consider its actions within the context of the plan area. But that inquiry alone is not sufficient for purposes of 36 C.F.R. § 219.13(b)(5). For example, the substantive requirement for ecosystem integrity at 36 C.F.R. § 219.8(a)(1) provides that the plan must include components "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."[659] Similarly, the Forest Service Handbook instructs that "[e]cological integrity may be considered at a range of spatial and temporal scales," based in part on consideration of "[t]he scales of the disturbance processes that impact the plan area" and "[t]he scales at which ecosystem characteristics are relevant to developing plan components."[660] But applying the directly related substantive requirements with a "maintain or restore" directive *within* the scope and scale of the amendment means, at minimum, ensuring that the amended plan contains components to maintain or restore *the relevant affected ecological resources*. For example, properly applying 36 C.F.R. § 219.8(a)(2)(ii) to the MVP amendment means ensuring that the amended plan contains components that maintain or restore soils and soil productivity *at that scale*.

Although the 2012 Planning Rule requires the agency to apply the directly related substantive requirements "within the scope and scale of the amendment," the rule does not foreclose the agency from approving a project-specific amendment that will have adverse impacts in a project area. The 2012 Planning Rule gives the agency "the direction to determine . . . the scope and scale of any [plan] amendment," and the agency can exercise that discretion to zoom in or out as necessary to achieve its objectives.[661] For example, if the Forest Service wanted to waive plan standards for a discrete project like a timber sale that could not satisfy those standards, the agency might determine that the scale of the amendment was limited to the project area. In fact, that would be the most natural choice. But the agency might quickly discover that it could not demonstrate the directly related substantive requirements governing, for example, soils and soil productivity would be met within the project area because of the adverse impacts of the activity after standards are waived. Although the agency might (rightfully) decide at that point that it ought not amend the plan, the agency might also elect to zoom out and apply the directly related substantive requirements at a broader scale. Zooming out would allow the agency an opportunity to dilute environmental impacts in the project area by showing that the directly related substantive requirements would nevertheless be met at that broader scale.

But, of course, zooming out comes with a corresponding duty: the agency must actually apply the directly related substantive requirements at that broader scale. This will almost always require new plan components that meet the substantive requirements, and at a minimum means the agency needs to demonstrate on the basis of a well-supported administrative record that the

[659] 36 C.F.R. § 219.8(a)(1)

[660] FSH 1909.12 Ch. 10 Sec. 12.12. These Handbook assessment directives expressly apply to the development and revision of forest plans where forestwide scale is required to develop the components necessary to meet the 2012 requirements. 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.

[661] 36 C.F.R. § 219.13(a).

directly related substantive requirements are actually being met *within that scale*, which, for an amendment to a forest plan developed under the 1982 Planning Rule, will be a tall order absent new plan components, since the existing components would not have been designed to meet the substantive requirements of the 2012 Planning Rule.

The agency might also find that its own future actions are more constrained in that broader area. So, where the substantive requirement for soils and soil productivity at 36 C.F.R. § 219.8(a)(2)(ii) is directly related, the agency would be required to ensure that the amended plan contains components "to maintain or restore . . . soils and soil productivity, including guidance to reduce soil erosion and sedimentation" within the scale that the agency selects.[662] As the DSEIS notes, this is not equivalent to a "no net loss" rule.[663] The agency may be able in some circumstances to lawfully conclude that the directly related substantive requirements will be met within the scope and scale of the amendment, notwithstanding project-specific adverse impacts, even without corresponding increases in protection outside the project footprint. But whether the agency can make such a showing will depend on the nature of the project, the nature of the affected area, the ecological conditions within the scale of the agency's analysis, and the substantive requirement at issue. In all events, under no circumstances may the agency "use the amendment process to avoid both 1982 and 2012 rule requirements."[664]

Accordingly, where there will be significant adverse effects such that, for example, ecological integrity will not be maintained or restored, the Forest Service must choose to: (1) deny the amendment; (2) zoom out; or (3) add new plan components that would apply within the scope and scale of the amendment sufficient to allow it to satisfy the directly related substantive requirements.

Thus, the fundamental problem with the approach in the DSEIS for applying the substantive requirements is that the agency defines the scale on a limited, zoomed-in basis, and then zooms out to use the entirety of the plan area to claim project impacts at the zoomed-in scale are de minimis. This mismatch violates the Rule. Again, the agency must either: (1) demonstrate that the substantive requirements are satisfied *within* the defined zoomed-in scale without merely pointing to the rest of the plan area to claim the impacts are de minimis; (2) perform an assessment to determine that plan standards are sufficient to satisfy the directly related substantive requirements at the appropriate zoomed-out scale; or (3) add plan components sufficient to ensure standards satisfy the requirements at the scale of the defined affected area. The DSEIS takes the second tack, but the Forest Service never performs the assessments to understand the baseline conditions on the JNF, which would be a necessary first step to determining whether existing JNF Plan standards are sufficient to satisfy the directly related substantive requirements at the zoomed-out scale.

Third, 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

[662] *Id.* § 219.8(a)(1).
[663] DSEIS, *supra* note 4, at 143.
[664] 81 Fed. Reg. at 90,726.

Planning Rule, "1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule."[665] 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."[666] 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.

That fundamental disconnect highlights several reasons why the DSEIS is arbitrary and capricious and contrary to the 2012 Planning Rule. The DSEIS offers a repeated refrain that the "proposed MVP project . . . would be consistent with acreages and associated impacts of historic activities on the JNF despite the need for an amendment.[667] But MVP's supposed consistency with past activities on the Jefferson National Forest is wholly irrelevant to the question whether the directly related substantive requirements *of the 2012 Planning Rule* will be met.[668] As the Forest Service itself acknowledged, the requirements of a 1982 rule plan and a 2012 rule plan are different, such that compliance with a 1982 rule plan does not imply satisfaction of the 2012 Planning Rule's substantive requirements.[669] Similarly, the agency repeatedly invokes the numerous plan components that will not be waived or modified in an effort to show that the amended plan will continue to provide ample protection.[670] But those standards are, by the agency's own definition, outside the scope of the amendment.[671] And even if they were not outside the scope the agency set for itself, those other plan components are not necessarily responsive to the substantive requirements of the 2012 Planning Rule such that the agency can merely invoke them without substantiating that they do what the 2012 Planning Rule requires, the method for which assessments is prescribed in the Forest Service Handbook. Put simply, it is

[665] *Id.* at 90,724.

[666] *Id.*

[667] *E.g.*, DSEIS, *supra* note 4, at 75, 77–79.

[668] Further, the DSEIS analogizes 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. To start, those timber sales were required to comply with the Forest Plan standards that MVP concededly cannot meet, which makes them definitionally inconsistent with each other. Other Forest Plan standards confirm that MVP and timber sale activities are not alike. For example, FW-118 prevents heavy equipment for site preparation in advance of regeneration harvest on sustained slopes over 35 percent or sustained slopes over 20 percent when soils have a high erosion hazard or are failure-prone. JNF Plan, *supra* note 417, at 2-34. Construction of MVP involves heavy equipment on very steep slopes: 26% of the total length of the pipeline on the JNF occurs on slopes steeper than 30%, and some segments are much steeper than that, over 60% in places. *See* Czuba Report, *supra* note 5, at 13–16 & Table 2.

[669] *See* 81 Fed. Reg. at 90,724.

[670] *See* DSEIS, *supra* note 4, at 73, 76, 78, 80-82.

[671] *See id.* at 128 ("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 11 plan standards that are proposed to be modified for the MVP project and would only be modified for the duration of this project.").

arbitrary, capricious, and not in accordance with law for the Forest Service to rely on existing 1982-era plan components to satisfy the 2012 directly related substantive requirements without so much as acknowledging the agency's own prediction that those same plan protections likely will fall short of what the 2012 Planning Rule requires.

6. Reliance on the POD does not satisfy the directly related substantive requirements.

The DSEIS proposes to waive two plan standards (FW-248 and 6C-026) outright and waive the others in effect by swapping compliance with the standard for a requirement that MVP adhere to the POD and project design requirements.[672] This proposal is arbitrary and capricious for several reasons.

Requiring POD compliance and adherence to project design requirements is just a total waiver by another name. The POD is merely a set of strategies for how MVP will be built. The problem is that it embodies the very same "standard industry pipeline construction methods" that make it not "possible or practical" for MVP to comply with forest plan standards in the first place.[673] As explained throughout these comments, the POD mitigation measures are insufficient to enable satisfaction of the directly related substantive requirements. Relying on the POD to provide any additional substantive protections towards compliance with the 2012 Planning Rule is arbitrary and capricious for this reason alone.

In addition, cross references to the POD in the standards that are proposed to be amended do not satisfy the "one integrated plan" requirement[674] or "follow the applicable format for plan components set out at § 219.7(e) for the plan direction being added or modified by the amendment."[675] That regulation provides that a forest plan standard is a "mandatory constraint on project and activity decisionmaking"[676] and a guideline is "a constraint on project and activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met."[677] Further, the Forest Service Handbook instructs that a forest plan standard "must be stated in a precise manner" and "written clearly and without ambiguity so that consistency of a project or activity with a standard can be easily determined."[678] Yet, the POD is not a mandatory constraint against which compliance can be easily determined—it is "an iterative document that will evolve throughout the design and implementation process."[679]

Even if the POD itself were not a moving target, it is not clear which provisions and appendices of the voluminous POD the amended standards would actually incorporate. Where the proposed amendments reference the POD, they cite its potentially applicable provisions preceded by "*e.g.*" apparently to indicate that the list of applicable appendices is non-

[672] *See id.* at 19-21.
[673] 2020 FSEIS, *supra* note 272, at 119.
[674] 16 U.S.C. § 1604(f)(1).
[675] 36 C.F.R. § 219.13(b)(4).
[676] *Id.* § 219.7(e)(iii).
[677] *Id.* § 219.7(e)(iv).
[678] FSH § 1909.12 Ch. 20, Sec. 22.13.
[679] 2022 POD at 1–2.

exclusive.[680] Indeed, it seems the Forest Service has not even bothered to carefully review which POD provisions might be important to a given standard. FW-13 and 11-003 both prohibit management activities from exposing more than 10% mineral soil and the standards differ only in that the former applies to the channeled ephemeral zone and the latter to the riparian corridor.[681] There is no logical reason the proposed amendments to these two standards should cross reference different POD appendices and yet they do: 11-003 as amended would cross reference Appendix C-1 to C-3. Erosion and Sediment Control Plan as well as Appendix M, Winter Construction Plan, but FW-13 as amended would reference only the former with no mention of Appendix M.[682]

Careful review of the POD provisions is also required to ensure the BMPs it describes comply with the National Core BMP Technical Guide. 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).[683] 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.[684] It is incumbent on the Forest Service to show that the BMPs in the POD comport with the BMPs in the Technical Guide. Because the agency has not even attempted to do so, its reliance on BMPs in the POD is necessarily arbitrary and capricious.

Incorporating the POD into forest plan standards also unlawfully delegates the Forest Service's planning authority under 16 U.S.C. § 1604(g)(3) because Mountain Valley is an interested private party.[685] The Forest Service cannot supplant the need to promulgate new plan components by relying on the POD. It is not at all clear that the Forest Service retains a meaningful degree of control over potential future changes to the POD,[686] but even if the Forest Service exercises some authority over changes to the POD, the agency cannot lawfully allow the POD to be changed without opportunities for public participation so long as the POD is incorporated into a forest plan standard.[687]

b. The record does not support conclusions that the proposed amendments satisfy the directly related substantive requirements of the 2012 Planning Rule.

Even if the DSEIS was not riddled with fundamental legal errors, its attempts to show that the directly related substantive requirements are satisfied is arbitrary and capricious. Proper application of the substantive requirements is a mandatory step. The agency must use the best

[680] DSEIS, *supra* note 4, at 19–21.
[681] *See id.*
[682] *Id.* at 20.
[683] *See supra* Section IV.
[684] 36 C.F.R. § 219.8(a)(4).
[685] *See Perot v. FEC*, 97 F.3d 553, 559 (D.C. Cir. 1996); *NCPA v. Stanton*, 54 F. Supp. 2d 7, 18 (D.D.C. 1999).
[686] *See* DSEIS, *supra* note 4, at 10 (discussing process for requests to change activities on NFS lands not included in the POD).
[687] *See* 36 C.F.R. § 219.13(b)(2).

available scientific information when considering whether it can or should amend a plan.[688] But the information on which the agency relied—particularly as to erosion and sedimentation—is rife with technical errors and inconsistencies. Further, the agency once again fails to show that "application of the existing Jefferson Forest Plan is adequately protecting . . . resources" outside the MVP project area.[689] Because amending the JNF Plan would violate the Planning Rule, the Forest Service must choose the No Action Alternative.

1. The DSEIS's application of §§ 219.8(a)(1) (ecosystem integrity) and 219.9(a)(2) (ecosystem diversity) is arbitrary, capricious, and contrary to law.

For the first time in any of the decision making processes, the Forest Service addresses the requirement that the proposed amended management standards must "maintain or restore the ecological integrity of terrestrial and aquatic ecosystems."[690] The agency misses the mark.

The DSEIS purports to apply §§ 219.8(a)(1) and § 219.9(a)(2)—ecosystem integrity and ecosystem diversity—within the scope and scale of proposed amendments to standards 6C-007 and 6C-026 only. However, the DSEIS's analysis omits other amendments that are directly related to §§ 219.8(a)(1) and 219.9(a)(2), and fails to support its conclusions, rendering the DSEIS arbitrary, capricious, and not in accordance with law.

Section 219.8(a)(1) provides that the amended Forest Plan must include plan components "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."[691] Section 219.9(a)(2) provides that the amended plan must also include plan components "to maintain or restore the diversity of ecosystems and habitat types throughout the plan area."[692]

Though these requirements are enormously broad, the Forest Service concludes they are directly related to only two of the eleven proposed amendments—those related to old-growth resources. This is arbitrary and capricious. Cutting a 54-acre swath through an intact forest that will permanently degrade soil resources, increase forest fragmentation, destroy riparian habitat, and elevate sediment levels in 155 stream miles throughout nine HUC-12 watersheds will *obviously* implicate the ecological integrity, connectivity, and diversity of soil, water, and riparian resources. In fact, the entire purpose of the agency's proposed amendments to Forest Plan standards to FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003 is to *lessen* environmental protections for the ecological integrity, connectivity, and diversity of soil, water, and riparian resources. The Forest Service's failure to apply the 2012 Planning Rule's substantive requirements to these six amendments is therefore arbitrary and capricious, as explained above.

[688] *Id.* § 219.3.
[689] *Wild Va.*, 24 F.4th at 932.
[690] 36 C.F.R. § 219.8(a)(1).
[691] *Id.* § 219.8(a)(1).
[692] *Id.* § 219.9(a)(2).

What limited analysis the DSEIS did perform regarding ecological integrity and diversity is also arbitrary and capricious.

First, 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 2 acres of old growth. According to the agency, these 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.[693] There are problems with both supporting rationales.

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."[694] The size of the patch determines how resilient—and ecologically valuable—that patch is within the larger network.[695] 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,[696] 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. Nor does the agency expound on the health of old-growth patches that will *not* be affected by the project. Instead, it asks us to assume that that "unmodified" Forest Plan standards operating outside the project area are maintaining these resources. Further, the DSEIS neglects to note that the "unmodified" standards it is relying on were developed under the 1982 Planning Rule, not the 2012 Planning Rule. As explained above, there are "fundamental structural and content differences" between the 1982 Planning Rule and the 2012 Planning Rule.[697] For that reason, the Forest Service has recognized that "1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule."[698] So, the Forest Service cannot (without adequate assessment) simply rely on existing "unmodified" plan direction—developed under the 1982 Planning Rule—to satisfy the 2012 Planning Rule's substantive requirements.

Second, the best available scientific information reveals that MVP will cut across one of the largest blocks of land of high ecological integrity in West Virginia and Virginia. In the past decade, scientists have developed an ecological integrity model using human-modification data.[699] Data from these studies were applied to West Virginia and Virginia to identify the lands with the 15% highest of ecological integrity. The results (Figure 25) show that MVP intersects one of the top 1% largest high-ecological-integrity areas in the two-state region. That suggests

[693] DSEIS at 74.
[694] JNF Plan, *supra* note 417, at App. B-1.
[695] *Id.*
[696] *Id.* at App. B-2.
[697] 81 Fed. Reg. at 90,724.
[698] *Id.*
[699] Travis Belote et al., *supra* note 616,; David M. Theobald, et al., *supra* note 616.

that MVP may have an outsized impact on ecological integrity in the plan area—if not the region. Since the Forest Service did not perform ecological integrity assessments, conclusions that ecological integrity will be maintained or restored—a high bar when affecting exceptional ecosystems—are arbitrary and capricious under NFMA[700] and NEPA.[701]

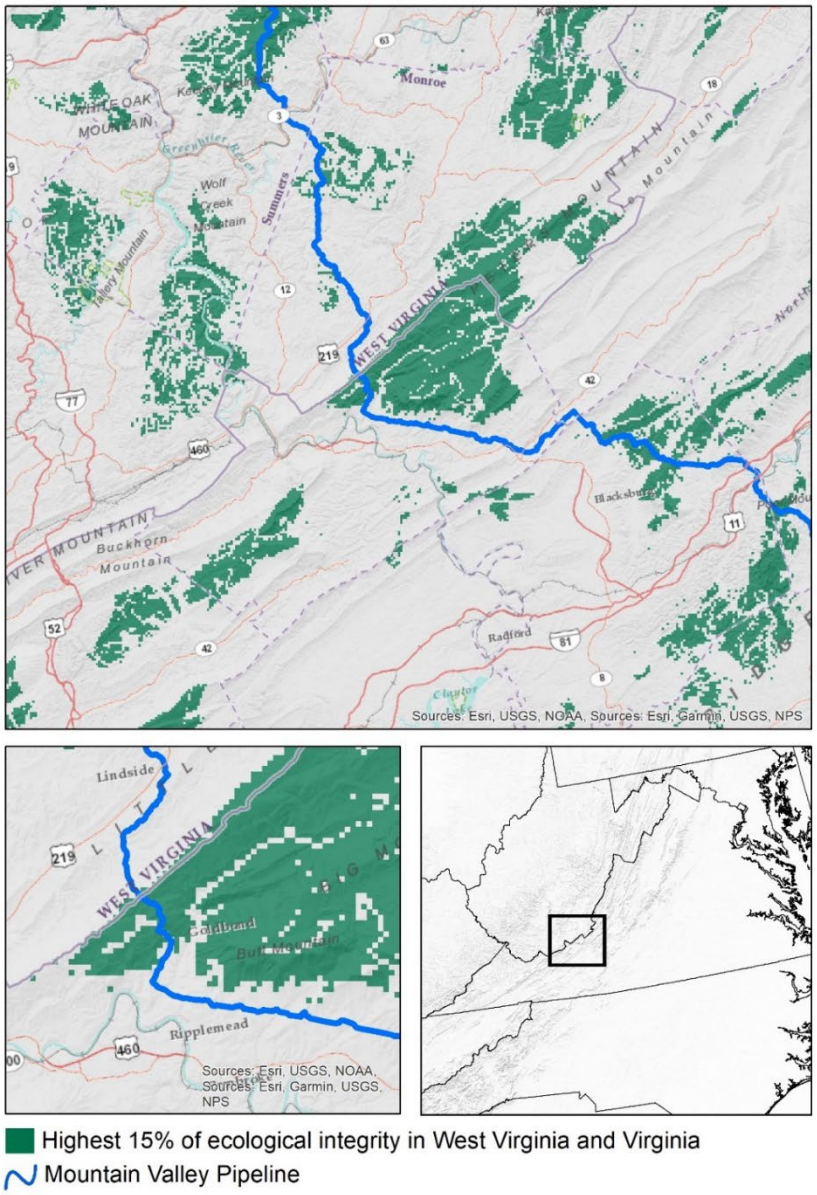

Figure 25.

[700] *See* 36 C.F.R. § 219.3; FSH 1909.12, Ch. 7.12 (requiring data and methodology used in an environmental analysis to be accurate, reliable, and relevant).

[701] 40 C.F.R. § 1502.23 (requiring agencies to "make use of reliable existing data and resources").

2. The DSEIS's application of §219.8(a)(2)(ii) (soils and soil productivity) is arbitrary, capricious, and contrary to law.

The DSEIS purports to apply § 219.8(a)(2)(ii) but its rationales and supposed factual support are rife with errors, oversights, and inconsistencies, rendering the DSEIS arbitrary, capricious, and not in accordance with law.

Section 219.8(a)(2)(ii) provides that the amended plan "must include plan components, including standards or guidelines, to maintain or restore . . . soils and soil productivity, including guidance to reduce soil erosion and sedimentation."[702] The DSEIS offers six basic justifications for the claim that the proposed amendments to FW-5, FW-8, FW-9, FW-13, and 11-003 will satisfy § 219.8(a)(2)(ii).[703] None of the reasons withstands scrutiny.

First, the DSEIS states that the "scale of the proposed amendment is negligible" because the construction zone is a small fraction of the entire JNF.[704] According to the Forest Service, "[b]ased on scale alone, existing Forest Plan direction for the JNF is sufficient to maintain the soil resource despite the allowance of the MVP project."[705]

This justification is irrelevant and wrong. As discussed above, the amendment framework in the 2012 Planning Rule at 36 C.F.R. § 219.13(b)(5) does not allow the Forest Service to employ this drop-in-the-bucket rationale and the Fourth Circuit has already rejected it. Applying this directly related substantive requirement as the Rule requires means the Forest Service must ensure the amended plan will "include plan components, including standards or guidelines, to maintain or restore . . . soils and soil productivity, including guidance to reduce soil erosion and sedimentation"[706] that apply "within the scope and scale of the amendment" that the agency selected.[707] In the DSEIS's own telling, "[t]he scale of the project-specific amendment for this resource is the construction zone (54 acres) during the construction and restoration phases. After construction the scale would be limited to the ROW (22 acres) for the life of the pipeline."[708] Since the DSEIS never attempts to show that this substantive requirement would be met within the construction zone, this rationale violates the Planning Rule.

Further, the DSEIS's effort to justify adverse impacts in the project area based on a skewed comparison of the project area as a "negligible" part of the entire JNF runs contrary to an emphasis in NFMA itself. 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."[709] 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*

[702] 36 C.F.R. § 219.8(a)(2)(ii).
[703] *See* DSEIS, *supra* note 4, at 144–46.
[704] *Id.* at 144.
[705] *Id.*
[706] 36 C.F.R. § 219.8(a)(2)(ii).
[707] *Id.* § 219.13(b)(5).
[708] DSEIS, *supra* note 4, at 144.
[709] 16 U.S.C. § 1604(g)(3)(E)(i).

the overall forest. As this prohibition illustrates, NFMA is concerned about soil and soil productivity at a less-than-forest-wide scale. Pointing elsewhere to justify adverse impacts simply will not do.

Second, the DSEIS's assertion that "existing Forest Plan direction for the JNF is sufficient to maintain the soil resource" finds no support in law or fact. The agency's claim that existing plan direction is sufficient to "*maintain* the soil resource" runs headlong into the fact that the Jefferson Forest Plan was developed under the 1982 Planning Rule and was not designed with the 2012 Planning Rule's substantive requirements in mind. The Forest Service continues to ignore the "fundamental structural and content differences" between the 1982 Planning Rule and the 2012 Planning Rule.[710] As explained above, the Forest Service has already conceded that, because of these differences, "1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule."[711] Yet, the DSEIS persistently points to existing plan direction in the Jefferson Forest Plan to support a claim that the directly related substantive requirements of the 2012 Planning Rule are met. This is not a defensible inference, especially against the backdrop of the agency's own recognition that the opposite is likely true.

An example illustrates the problem. The DSEIS emphasizes that existing plan direction will be sufficient to maintain soils across the JNF based, in part, on the continued application of unmodified standards including FW-5 outside the MVP construction zone.[712] In its unmodified form, FW-5 provides that "[o]n 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."[713] Implicit in the DSEIS's reliance on FW-5 across the rest of the JNF is the assumption that FW-5 is sufficient to protect soils from irreversible damage, the hard floor that applied when the JNF Plan was last revised. But that naked assumption lacks support today. FW-5 embodies the so-called 85/15 standard, which was at one time assumed to reflect the best available science for preventing cumulative soil impairment. At that time, it was an explicit requirement from Region 8, and something forests could rely on without independent, original analysis. That Regional requirement has now been withdrawn, because the literature now suggests that the simple 85/15 rule is not reflective of BASI. In fact, the Forest Service's own scientific research now recognizes that, contrary to previous guidance using the 15% disturbance threshold, "there is little or no documented evidence of any connection between disturbance thresholds and [soil] productivity. When critical data are lacking, it is prudent to err on the conservative side to ensure that productivity is not impaired."[714] Instead, more recent research suggests that site-specific expertise and data should be used "[f]or making judgments on impaired productivity."[715]

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[710] 81 Fed. Reg. at 90,724.

[711] *Id.*

[712] *See* DSEIS, *supra* note 4, at 145 (". . . the unmodified standards would still be applied across the rest of the JNF.").

[713] JNF Plan, *supra* note 417, at 2-7.

[714] Scientific background for soil monitoring on National Forests and Rangelands: workshop proceedings; April 29-30, 2008; Denver, CO at 19 [Ex. 99], https://www.fs.usda.gov/rm/pubs/rmrs_p059.pdf (last visited Feb. 3, 2023).

[715] *Id.*

In other words, the Forest Service cannot reflexively assume that FW-5 provides sufficient plan-wide protection for soils. If the agency continues to rely on the continued application of unmodified standards such as FW-5 outside the MVP construction zone, the agency bears the burden to show a reasoned basis to conclude that those standards will meet not only the legal requirement that existed at the time the JNF Forest Plan was adopted (namely, to prevent "irreversible damage"), but also the Planning Rule's requirement to maintain or restore soils and soil productivity. However, as the foregoing discussion of the 85/15 rule illustrates, the agency has not shown a rational basis to rely on FW-5 automatically. In fact, the Forest Service's own analysis in the 2022 FEIS for the revision to the Forest Plan for the Nantahala and Pisgah National Forests in North Carolina concedes that using a standard applying the 85/15 rule allows up to 15 percent of the activity area and the harvest unit to "lose potential long-term soil productivity."[716] On its face, that statement all but concedes that 219.8(a)(2)(ii) is not satisfied.

Third, the DSEIS asserts that "sediment modeling estimated that enhanced ECDs would be effective at minimizing sedimentation in waterways and associated soil loss."[717] The DSEIS goes on to characterize the results of the RUSLE2 modeling estimated sediment yields at a baseline level and during various stages of project construction.[718]

This rationale is arbitrary and capricious multiple times over. Forest plan amendments must be based on BASI[719] and the data and methodology used in environmental analysis must be accurate, reliable, and relevant.[720] "Reliability reflects how appropriately the scientific methods have been applied and how consistent the resulting information is with established scientific principles."[721] In addition to NFMA, NEPA requires that agencies disclose likely impacts and consider reasonable alternatives that may avoid harmful impacts, so the DSEIS must "have some reliable methodology for estimating" impacts to soil.[722]

The DSEIS does not come close. The RUSLE2 modeling results on which the DSEIS relies are not accurate or reliable for the reasons described above and in the Czuba Report.[723] That alone is a fatal problem.

Further, even if the RUSLE2 results were accurate and reliable, the DSEIS offers no fact-based justification for why the results mean that soils and soil productivity in the project area will avoid irreversible damage, much less be maintained or restored. RUSLE and RUSLE2 are, at best, indirect measures of impacts to soil because they are focused only on soil loss. In other words, these tools entirely overlook the notion of soil productivity. The rationale in the DSEIS seems to be that, because the modeled amount of erosion and sediment transport projected from MVP during construction and post-construction is small in relation to the modeled baseline, soils

[716] U.S. Forest Serv., Nantahala and Pisgah National Forests, Final Environmental Impact Statement for the Land Management Plan at 3-45 (Jan. 2022) [Ex. 100], https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd988846.pdf (last visited Feb. 3, 2023).

[717] DSEIS, *supra* note 4, at 144.

[718] *Id.* at 144-45.

[719] *See* 36 C.F.R. § 219.3.

[720] FSH 1909.12, Ch. 7.12.

[721] *Id.*

[722] *Rocky Mountain Wild v. Vilsack*, 843 F. Supp. 2d 1188, 1198 (D. Colo. 2012).

[723] *See supra* Section V; Czuba Report, *supra* note 5, at 2–16.

will be sufficiently protected.[724] The first problem is that the DSEIS does not determine the proper baseline, as explained in the Czuba Report.[725] The second problem is that with no identified metric for assessing how much soil loss is too much, all the RUSLE modeling offers is an abstract set of projections about sediment transport—and that alone is not a reliable methodology to evaluate what the effects of that sediment transport will be on the areas from which the sediment is being eroded.

The DSEIS's reliance on the modeling implicitly assumes that total sediment yield is the only relevant factor for determining whether soil and soil productivity will be adversely impacted. Not so. There are numerous other factors—which the modeling does not even attempt to capture—that the Forest Service's own agency directives highlight as important aspects of the problem. The official responsible for assuring compliance with § 219.8(a)(2)(ii) is explicitly instructed to consider a list of factors that includes, but it not limited to: "[m]aintaining biological properties of soils, such as, appropriate level of organic matter input to sustain biological cycling"; "[m]aintaining organic matter inputs and avoiding losses, to contribute to maintaining or increasing net soil carbon storage"; "[l]imiting potential impacts on soil physical properties, including compaction, rutting, puddling, displacement of the soil surface, and erosion"; and "[l]imiting potential effects on soil chemical properties, such as potential for nutrient depletion or acidification or both."[726] At most, the RUSLE2 results go to erosion. The failure to do so much as acknowledge these factors that even the Forest Service says are important is arbitrary, capricious, and contrary to law.[727]

Fourth¸ the DSEIS claims the mitigation measures in the POD will ensure that "[d]espite the soil compaction and displacement, the soil resource within the ROW would be maintained to the level sufficient to accommodate the Forest Plan desired conditions for soil resources across the project area."[728] The POD cannot bear the weight the agency places upon it. The 2012 Planning Rule requires the agency to provide new plan components, including standards or guidelines, to maintain or restore soils and soil productivity within the scope and scale of the amendment.[729] But, as explained above, the POD (among its other problems) provides neither standards nor guidelines within the meaning of 36 C.F.R. § 219.7(e) so it will not suffice as a matter of law. Perhaps even more troubling, the agency's reliance on the POD is more like an act of faith than a rationale informed by any science at all, much less the "best available scientific information."[730] After listing several of the POD's mitigation measures, the DSEIS abruptly asserts that, "[a]lthough, 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 of grass/forbs for the ROW."[731] The DSEIS offers no rationale for this conclusion. The reader is left to infer that agency believes the POD will bring about this outcome, but the DSEIS never explains why. Wholly lacking is any explanation of "how appropriately [any] scientific methods

[724] DSEIS, *supra* note 4, at 144–45.
[725] *See supra* Section V; Czuba Report, *supra* note 5, at 16.
[726] FSH 1909.12 Ch. 20 Sec. 23.12b.
[727] *Defs. of Wildlife v. N.C. Dep't of Transp.*, 762 F.3d 374, 396 (4th Cir. 2014).
[728] DSEIS, *supra* note 4, at 134, 145.
[729] *See* 36 C.F.R. §§ 219.8(a)(2)(ii), 219.13(b)(5).
[730] 36 C.F.R. § 219.3.
[731] DSEIS, *supra* note 4, at 145.

have been applied and how consistent the resulting information is with established scientific principles."[732]

Fifth, the DSEIS says that the project area itself "would *eventually* sustain desired conditions."[733] This is another tacit admission that the substantive requirement for soils will be violated. Section 219.8(a)(2)(ii) demands plan components "to maintain or restore . . . soils and soil productivity, including guidance to reduce soil erosion and sedimentation."[734] 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."[735] Consequently, the 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."[736] This rationale is evidently based on the DSEIS's attempt to unilaterally rewrite the Rule's definition of "maintain" as "to keep in existence or *net* continuance of the desired ecological condition in terms of desired composition, structure, and processes."[737] The Rule does not include the word "net" and the agency's apparent reliance on the concept of "net continuance" to justify reaching the desired ecological conditions "eventually" is flatly unlawful.

A similar problem flows from the DSEIS's concession that modifying FW5, FW-8, FW-9, FW-13, FW-14, and 11-003 will have adverse impacts.[738] Once a substantive requirement like § 219.8(a)(2)(ii) is triggered, it requires plan components to "maintain or restore" the relevant resource without regard to the substantiality threshold the agency invokes in the effects determination. The DSEIS never adequately explains how acknowledged adverse impacts to "erosion and sedimentation, soil compaction, soil porosity, runoff potential, soil fertility, revegetation potential, and soil carbon budget"[739] can be reconciled with the requirement to apply plan components that will "keep in existence or continuance . . . the desired ecological condition in terms of its desired composition, structure, and processes."[740]

Finally, the DSEIS invokes the FY 2015-2019 Monitoring Evaluation Report for the George Washington and Jefferson National Forests and the Transcon inspection reports for MVP.[741] Regarding the Monitoring Evaluation, the DSEIS asserts that it "does not indicate problems with the protection of soils resources on the JNF within the context of ongoing

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[732] *Id.*

[733] *Id.* The DSEIS's discussion of § 219.8(a)(2)(ii) also repeats the nonsensical refrain that, "[a]fter construction, operation of the ROW is expected to meet the Forest Plan direction for 'maintaining or restoring.'" *Id.* at 144. As explained at length throughout these comments, the unmodified JNF Forest Plan was issued well before the 2012 Planning Rule existed and was not designed to satisfy the Rule's substantive requirements, so it contains no plan direction that is necessarily capable of maintain or restoring ecological integrity or specific resources within the meaning of the 2012 Planning Rule.

[734] 36 C.F.R. § 219.8(a)(2)(ii).

[735] *Id.* § 219.19.

[736] *Id.*

[737] DSEIS, *supra* note 4, at 143 (citing but mischaracterizing 36 C.F.R. § 219.19).

[738] *See id.* at 134; *see also supra* Section VII (discussing the agency's misapplication of the "effects" test).

[739] DSEIS, *supra* note 4, at 134.

[740] 36 C.F.R. § 219.19.

[741] DSEIS, *supra* note 4, at 145.

activities."[742] As an initial matter, the relevance of this statement depends on the Forest Service's unsupported claim that "[t]he proposed MVP project, which includes minimization measures in the POD, would be consistent with acreages and associated impacts of historic activities on the JNF despite the need for an amendment."[743] This naked conclusion with no factual support given would be arbitrary and capricious in any circumstance, and it is also definitionally untrue here. The very fact that MVP cannot be built absent waiver of numerous plans standards means that its impacts are *not* consistent with historic activities that have been legally required to satisfy those same standards.

Another problem with the assertion that there are no ongoing problems with soils on the JNF is that it presumes there are no problems because none are disclosed within the Monitoring Evaluation, but "[o]f course, absence of evidence is not always evidence of absence."[744] And in any event, the most fundamental problem is that the 2012 Planning Rule does not ask whether monitoring has "indicate[d] problems" complying with a 1982 rule plan—it asks whether the amended plan will maintain or restore soils and soil productivity within the scope and scale of the amendment.

This disconnect between the operative question and the data the agency rely upon is also present in the Monitoring Evaluation itself. A binding Forest Service directive 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."[745] The directive goes on to explain that "[w]hen identifying and assessing the available information, the [agency] should": (1) "[identify 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."[746]

The Monitoring Evaluation does not even purport to meet this directive. Instead, it summarizes the results of a monitoring program that was designed "to specifically address soil related impacts associated with timber harvesting activities," in which the agency surveyed seven timber harvest units on the George Washington National Forest and the JNF to assess "the extent

[742] *Id.*

[743] *Id.*

[744] *Int'l Ass'n of Machinists & Aerospace Workers, Loc. Lodge 964 v. BF Goodrich Aerospace Aerostructures Grp.*, 387 F.3d 1046, 1055 (9th Cir. 2004).

[745] FSH 1909.12 Ch. 10 Sec. 12.22. The Forest Service Handbook provides that an assessment in accordance with its provisions is not required "to determine the need for an amendment," but that does not relieve the agency of the requirement to gather the necessary information when attempting to show that a proposed amendment complies with the substantive requirements.

[746] *Id.*

of detrimental soil disturbance resulting from timber harvest activities."[747] Detrimental soil disturbance from timber sales may be a relevant factor, but this sampling is not independently sufficient to draw conclusions about soils and soil productivity across the entire JNF, especially in contrast to the assessment directive in FSH 1909.12 Ch. 10 Sec. 12.22.[748] So, even assuming the Monitoring Report itself is flawless, it does not connect the dots that the DSEIS says it does.

With respect to the Transcon inspection reports, they are specific to MVP and provide no rational basis for the agency to draw any conclusions about the extent to which the existing Forest Plan is protecting soils across the JNF—which in any case is not the same as assessing whether the existing JNF Forest Plan developed under the 1982 Planning Rule maintains or restores soil resources. The reports are likewise not equivalent to an inquiry into soil within the project area using the soil assessment factors specified in FSH 1909.12 Ch. 10 Sec. 12.22 or even the detrimental soil disturbance monitoring protocol reflected in the FY 2015-2019 Monitoring Evaluation Report. Further, the Transcon inspection reports purport to show "that ECDs are effective at controlling erosion, runoff, and sedimentation *under normal conditions when properly installed and maintained*."[749] Those are significant caveats given MVP's track record, and both Section V and the Czuba Report illustrate that the conclusion is belied by the facts. In reality, MVP's ECDs have not been effective at controlling erosion, runoff, and sedimentation, even under normal operating conditions.

In sum, the DSEIS provides no sufficient explanation for why the proposed amendment would comply with § 219.8(a)(2)(ii). Instead, its justifications are arbitrary, capricious, and not in accordance with law.

3. The DSEIS's application of §§ 219.8(a)(2)(iii) (water quality) and 219.8(a)(2)(iv) (water resources) is arbitrary, capricious, and contrary to law.

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"[750] within the scope and scale of the proposed amendments. Despite this clear command, the Forest Service neglects to add to its proposed amendments any concrete standards or guidelines to protect waterbodies.[751] Instead, it proposes exempting MVP from

[747] DRAFT FY2015-2019 George Washington and Jefferson National Forests Monitoring Report at 60 (Sept. 2020) [Ex. 101], https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd815567.pdf (last visited Feb. 3, 2023). The DSEIS conspicuously elides the fact that this monitoring report is a draft.

[748] Further, only three of the seven sampled timber sales were on the JNF (as opposed to the GWNF, which has its own forest plan with distinct plan direction). *See generally* George Washington-Jefferson National Forest 2019 Soil Disturbance Monitoring Report (June 2020) [Ex. 102], https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd815572.pdf (last visited Feb. 3, 2023). To the extent the Forest Service continues to improperly downplay the importance of small fractions of the JNF as it does throughout the DSEIS, we note that faulty logic cuts both ways. The agency cannot dismiss impacts to small areas as irrelevant to plan-wide conditions and then in the same breath rely on survey results from similarly small areas as evidence of plan-wide conditions.

[749] DSEIS at 145 (emphasis added).

[750] 36 C.F.R. § 219.8(a)(2)(iii)–(iv).

[751] For the reasons explained above, the Forest Service's references to POD standards are inappropriate.

water-quality and water-resource standards developed under the 1982 Planning Rule without developing any new plan components that satisfy the 2012 Planning Rule's requirements for those resources. This is exactly what it cannot do.[752]

The Forest Service asserts that "no additional plan components are needed to ensure water quality and water resources are maintained or restored across the planning unit" because these resources will be maintained at the scope and scale of the amendments, which the DSEIS defines as "the nine affected HUC-12 watersheds out of 88 HUC-12 watersheds containing JNF lands."[753] Together, these nine HUC-12 watershed encompass 811 stream miles—of which the DSEIS says 155 will be impacted by MVP—spread across 33,173 acres of Forest Service land.[754]

As an initial matter, this scale of analysis is inconsistent with how the Forest Service treats other resources. The scale for other amendment categories analyzed in the DSEIS purportedly corresponds to the project's impact area for the resource in question. For example, the Forest Service finds the scale of the amendments to soils standards (FW-5, FW-8, FW9, FW-13, and 11-003) is the 54-acre "construction zone" and 22-acre right-of-way.[755] Similarly, the agency concludes the scale of the amendments to old-growth standards (6C-007 and 6C-026) is the "two acres of old growth" proposed to be cleared for the project;[756] the scale for amendments to riparian standards (FW-5, FW-8, FW-9, FW-13, FW-14, and 11-003) is the "the 0.6 acres of riparian areas within the construction zone";[757] and the scale of the amendment to ANST standards (4A-028) is the "2.5 acres of the ROW" in the 4A management prescription.[758] Applying the agency's logic to the water quality and resource amendments, the scale of those amendments must be the area they will impact— the 155 stream miles negatively affected by the project. The agency never explains why it has expanded this scale—and *only* this scale—to encompass hundreds of stream miles and tens of thousands of acres that might not be impacted directly by MVP.

Even accepting the Forest Service's inflated scale, its analysis is still arbitrary and capricious. The agency offers eight basic rationales to support its claim that water quality and water resources will be maintained within the nine HUC-12 watersheds. But none of these rationales holds any water.

First, the DSEIS asserts that water quality and resources are being maintained across the nine HUC-12 watersheds because the amendments apply only to a "limited area."[759] Specifically,

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[752] 81 Fed. Reg. at 90,726 (stating an agency lacks "discretion" to "use the amendment process to avoid both 1982 and 2012 rule requirements").

[753] DSEIS, *supra* note 4, at 76–77.

[754] *Id.* at 76.

[755] *Id.* at 74. These five amendments were also considered in the agency's water-quality and water-resources analysis. *Id.* at 76. As explained above, it is arbitrary and capricious to select different scales of analysis for the very same amendments when examining how those are amendments are applied to separate substantive requirements. *See supra* note 628.

[756] DSEIS, *supra* note 4, at 73.

[757] *Id.* at 78.

[758] *Id.* at 82.

[759] *Id.* at 77.

the agency notes that its amendments only apply to the 54-acre construction zone, will impact only 155 out of 811 stream miles in the analysis area, and will have no impact on 79 of the other HUC-12 watersheds in the Forest.[760] In essence, the agency is asserting the project is only a drop in the bucket within the nine HUC-12 watersheds and the JNF as a whole. As discussed above, the 2012 Planning Rule does not allow the Forest Service to employ this drop-in-the-bucket rationale and the Fourth Circuit has already rejected it. Even if it could, the agency never explains how impacts to *155 stream miles*—roughly the distance between Richmond, VA, and Durham, NC—can be so casually dismissed.

Second, the DSEIS asserts water resources will be maintained in the nine HUC-12 watersheds because "unmodified standards and other standards" would continue to apply across the rest of the Forest.[761] In essence, the agency is claiming that water quality resources will be maintained *within* the scope and scale of the amendments by existing protections *outside* the scope and scale of the amendments. For the reasons explained above, this is arbitrary and capricious.

Even if the agency could theoretically rely on plan components outside the nine HUC-12 watersheds to justify its maintenance finding, it would run into another problem; namely, that the "unmodified standards" it is discussing were developed under the 1982 Planning Rule. As explained above, there are "fundamental structural and content differences" between the 1982 Planning Rule and the 2012 Planning Rule.[762] For that reason, the Forest Service has recognized that "1982 rule plans likely will not meet all of the substantive requirements of the 2012 rule."[763] So, the Forest Service cannot claim that existing plan direction—developed under the 1982 Planning Rule—satisfies the 2012 Planning Rule.

Third, the DSEIS asserts that "the desired ecological conditions in the existing unmodified JNF Plan" will be maintained in the 54-acre construction zone.[764] In effect, the agency seems to be saying that while MVP cannot comply with plan standards that protect desired conditions in the project area, it can nevertheless maintain those desired conditions. This makes little logical sense: if the standards protect the desired conditions, and MVP cannot meet those standards, it follows that MVP cannot maintain those desired conditions. At any rate, it is simply not true that MVP will maintain desired conditions in the project area. The JNF Plan describes the desired conditions for aquatic ecosystems to include: "physical integrity of aquatic systems, stream banks and substrate"; water quality that "meets or exceeds State and Federal standards"; and aquatic habitat conditions that "contribute to the recovery of [listed] species."[765] But MVP, by its very nature, will impact the physical integrity of streams; construction has already violated state water-quality standards dozens of times;[766] and the pipeline crossing of Kimballton Branch, for instance, may "degrad[e] the habitat in streams potentially suitable for

[760] *Id.* at 77.
[761] *Id.* at 77–78.
[762] 81 Fed. Reg. at 90,724.
[763] *Id.*
[764] DSEIS, *supra* note 4, at 78.
[765] JNF Plan, *supra* note 417, at 3-181.
[766] *See supra* Section V.

future candy darter reintroductions," negatively affecting the species' recovery.[767] These desired conditions—and many others—cannot be maintained by the project.

Fourth, the Forest Service asserts no new plan components are needed to protect water quality and water resources because sedimentation impacts will be "limited" or "minor to moderate and, therefore, would not be substantial."[768] But as the Fourth Circuit has already held, "the 2012 Planning Rule does not demand that the amendments protect forest resources [from] *substantial*" adverse effects.[769] "Rather, a forest plan 'must include . . . components . . . to *maintain or restore*'" water quality and water resources.[770] Because the agency never explains why the "minor to moderate" adverse sedimentation impacts it predicts are consistent with a finding that water quality and resources will be "maintain[ed]," its analysis is necessarily arbitrary and capricious.

Even if the 2012 Planning Rule's command to "maintain" water quality and resources within the scope and scale of the amendment could be satisfied by showing only "minor to moderate" adverse impacts, available evidence overwhelmingly reveals MVP's impacts have *already* exceeded any minor-to-moderate threshold—with the greatest impacts to the JNF still ahead. As discussed in the Czuba Report, the RUSLE2 model is not a method for assessing instream water quality—it is a soil loss model—and in any event the Forest Service seriously underestimates the magnitude of MVP's sedimentation impacts. The agency predicted 0.1 to 2.6% annual increases in sediment yield compared to baseline scenarios.[771] Put in proper context, these underestimates alone are substantial, as they equate to between 6 and 28 football fields per year being covered in 1/8-inch-thick sediment deposition in each of the different HUC-12 basins. So, for the entire study area of nine HUC-12 basins, this corresponds to nearly 127 football fields per year covered in 1/8-inch-thick sediment deposition.[772] But as Dr. Czuba explains, real-world data for the Roanoke River and Little Stony Creek show project-triggered turbidity spikes 20% to 200% above baseline levels following storm events.[773] Since most of a watershed's annual sediment yield occurs from just a few large storms, the spikes Dr. Czuba identified should be correlated with annual sediment deposition rates.[774] This means MVP may be increasing annual sediment yields by 1 to 2 orders of magnitude more than the Forest Service predicted.[775]

Further, even the Forest Service's own flawed RUSLE2 modeling predicts that sediment yields would increase during the tree clearing phase and the construction phase, with the largest sediment yields during the construction phase.[776] No lands on the JNF have been trenched, so

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[767] U.S. Fish & Wildlife Serv., Species Status Assessment Report for the Candy Darter at 39 (2018) [Ex. 103].

[768] DSEIS, *supra* note 4, at 77–78

[769] *Wild Virginia*, 24 F.4th at 931 (emphasis added).

[770] *Id.* (quoting 36 C.F.R. § 219.8(a)(1)).

[771] DSEIS, *supra* note 4, at 77.

[772] Czuba Report, *supra* note 5, at 8.

[773] *Id.* at 15–20.

[774] *Id.* at 18.

[775] *Cowpasture*, 911 F.3d at 166 (concluding that annual soil loss 200% above baseline erosion levels during the first year of construction was a "substantial adverse effect[]," even though sediment would eventually return to pre-construction levels within five years following restoration).

[776] DSEIS, *supra* note 4, at 147.

MVP's impacts to date may not even account for the most intensive activities.[777] In addition, the Peters Mountain section of the route through the JNF has been cleared but not graded and trees have regrown on the ROW.[778] Sedimentation from grading this section of the route and a second round of tree-clearing are likewise not accounted for in the real-world data but will occur if the Forest Service approves MVP, further increasing the magnitude of adverse impacts the agency already seriously underestimates.

The Forest Service's sedimentation analysis also fails to account for serious impacts to headwater springs and seeps. According to the DSEIS, "[n]o springs or swallets were identified within 500 feet of the MVP pipeline route crossing the JNF."[779] But as Dr. Dodds explains in her report, this is not true: the Aquatic Resource Report for the FERC FEIS documents numerous springs, seeps, and first-order streams crossed by MVP in the Jefferson National Forest.[780] Because these sensitive waterbodies provide essential habitat for benthic aquatic organisms that form "the base of the food chain" for the larger watershed, impacts to these areas can have disastrous effects on "water resources and ecosystem integrity."[781]

Finally, MVP's checkered history of violating numerous laws, regulations, and permit requirements that protect water quality also indicates MVP's impacts will be substantial and the agency's contrary conclusions run counter to the record. On more than 360 occasions, MVP has failed to install ECDs in accordance with state-approved erosion-and-sedimentation plans.[782] And in at least 553 instances, MVP has failed to meet deadlines to fix deficiencies in ECDs.[783] These failures had consequences: in total, MVP has caused measurable sediment deposition into streams or wetlands at least 113 times.[784] Some of these pollution events were severe. For example, a pollution event in May 2018 covered 1,100 linear feet of an unnamed tributary to the Blackwater River in *1 to 11* inches of sediment.[785] A month later, another pollution event covered 3,600 linear feet of an unnamed tributary to Flatwood Branch in *1 to 7* inches of sediment.[786] Numerous other events are of a piece.[787] These severe erosion impacts—which were not accounted for in the Forest Service's sedimentation modeling—further indicate that water quality and water resources will not be maintained. Because the Forest Service's sedimentation analysis fails to consider these factors, its analysis is not based on BASI.[788] And since its data

[777] *Id.* at 25.
[778] *Id.*
[779] *Id.* at 33.
[780] Dodds Report, *supra* note 5, at 3–4, 11.
[781] *Id.* at 3–6.
[782] *See supra* Section V. Thirty-seven of these occurred in spring and summer of 2021.
[783] *See id.*
[784] *See id.*; Wild Virginia 2023, *supra* note 140, at 4.
[785] *See id.*; Wild Virginia 2023, *supra* note 140, at 10.
[786] *See supra* Section V; Wild Virginia 2023, *supra* note 140, at 10–11.
[787] *See supra* Section V.
[788] *See* 36 C.F.R. § 219.3; *see also* Virginia Scientist-Community Interface, Deficiencies in 2022 Draft Supplemental Environmental Impact Statement (Feb. 20, 2023) (comments submitted on the DSEIS) [Ex. 104] (analyzing flaws in the erosion and sedimentation modeling and data analysis, among other issues).

and methodology are not accurate or reliable, it cannot rely on this factor to support its overall "maintenance" finding.[789]

Fifth, the DSEIS asserts that "mitigation measures and design criteria in the POD" will "minimize sedimentation to streams."[790] The agency provides no support for this conclusion—leaving the reader guessing if the POD will do what the agency says.[791] At any rate, the POD cannot, as noted, bear the weight the agency places upon it. As explained above, 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.[792]

Sixth, the DSEIS states that "operation of the ROW is expected to meet the Forest Plan direction for 'maintaining or restoring'" water resources.[793] As an initial matter, it is not the Forest Plan that directs the agency to maintain or restore water resources—it is the 2012 Planning Rule—and the JNF Forest Plan was not drafted to include plan direction aimed at maintaining or restoring ecological resources within the meaning of the 2012 Planning Rule because the Forest Plan was promulgated under the 1982 Planning Rule. At any rate, the DSEIS never explains *why* the operation of the ROW is expected to "maintain or restore" water quality or resources in a manner consistent with the 2012 Planning Rule. Instead, the agency simply assumes, without analysis, that maintaining a 22-acre right-of-way—a large portion of which must remain permanently cleared—will necessarily "maintain" water resources in the area.[794] Entirely failing to consider an important aspect of the problem like this is arbitrary and capricious.[795]

Seventh, the Forest Service states that no new plan components are needed to protect water quality because the "proposed MVP project is consistent with historic activities on the JNF."[796] However, the Forest Service never states what these "historic activities" are. Without this context, it is impossible to evaluate the agency's claim, and therefore impossible to determine whether the agency articulated a "rational connection" between this fact and the choice it made.[797] Yet, even if the agency had identified these so-called "historic activities," they could not factor into the agency's analysis. That's because "historic" pipeline or utility projects

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[789] FSH 1909.12, Ch. 7.12 (requiring an environmental analysis to be accurate, reliable, and relevant); *Rocky Mountain Wild v. Vilsack*, 843 F. Supp. 2d 1188, 1198 (D. Colo. 2012) (holding that NEPA requires that agencies disclose likely impacts and consider reasonable alternatives that may avoid harmful impacts, so the DSEIS must "have some reliable methodology for estimating" environmental impacts).

[790] DSEIS, *supra* note 4, at 78.

[791] *See id.* at 77–78.

[792] *See* 36 C.F.R. §§ 219.8(a)(2)(ii), 219.13(b)(5).

[793] DSEIS, *supra* note 4, at 78. The agency also states that "it is only during the construction and restoration phases that this project-specific amendment would be in place." *Id.* at 78. This is false: the Forest Service is proposing *permanent* Forest Plan amendments that exempt a *permanent* project from certain water-quality standards.

[794] *Id.* at 77 (also assuming that "[a]fter construction, operation of the 22-acre authorized ROW is expected to meet the Forest Plan direction for 'maintaining or restoring").

[795] *Defs. of Wildlife v. N.C. Dep't of Transp.*, 762 F.3d 374, 396 (4th Cir. 2014).

[796] DSEIS, *supra* note 4, at 78.

[797] *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962).

were approved under different, outdated Planning Rules.[798] While these projects may have satisfied the requirements of those since-*superseded* Planning Rules, that says nothing about whether the Forest Service can amend its Forest Plan for MVP in a way that satisfies the *2012* Planning Rule. Comparing MVP to incomparable historic projects is therefore arbitrary and capricious.[799]

Eighth, and finally, the Forest Service finds no new plan components are needed because "Forest Plan monitoring and Transcon inspections 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."[800] 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."

The documents that the Forest Service cites also do not seem to support its conclusions. For example, the "Forest Plan monitoring" the agency seems to be referring to is a "DRAFT FY2015–2019" report for the George Washington and Jefferson National Forests.[801] This draft report did not analyze impacts from MVP.[802] Instead, it assessed plan standards and BMP effectiveness on 13 different projects using 714 monitoring elements.[803] However, only 49% of these elements "indicated that BMPs [and plan standards] provided adequate or improved protection of soil and water" resources.[804] So, *more than half of the elements* the agency monitored were *not* being adequately protected by existing Forest Plan standards and BMPs. The Forest Service's own data show the agency cannot rely on "existing JNF Forest Plan" standards to protect water quality and resources.

The Transcon inspection reports referenced in the DSEIS also do not do the work that the agency thinks they do. As the Forest Service acknowledges, it only reviewed weekly and monthly Transcon monitoring reports from "2021 and 2022."[805] However, pipeline construction was stalled for much of that time because MVP had lost various federal and state permits and approvals. What's more, MVP construction actually started in 2018—meaning the Forest Service failed to independently analyze at least three years of critical data. Further, the cherry-picked 2021–22 reports that the Forest Service does reference seem to establish only that "ECDs are effective at controlling erosion, runoff, and sedimentation under *normal conditions when*

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[798] If these "historic activities" are timber projects, the Forest Service must explain why these projects—which presumably complied with Forest Plan standards—can be compared to a pipeline project that will exceed those standards.

[799] *Sierra Club*, 897 F.3d at 590 (explaining that an agency's decision is arbitrary and capricious if it "relied on factors" which it was not intended to consider (citation omitted)).

[800] DSEIS, *supra* note 4, at 78.

[801] The Forest Service does not acknowledge that it is relying on a draft report. *See id.* at 77 ("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.").

[802] U.S. Forest Serv., DRAFT FY 2015-2019 George Washington and Jefferson National Forests Monitoring Report, *supra* note 747, at 9.

[803] *Id.*

[804] *Id.*

[805] DSEIS, *supra* note 4, at 49.

properly installed and maintained."[806] And as discussed above, MVP has failed to properly install and maintain ECDs hundreds of times.

In sum, the Forest Service neglected to select an appropriate scale of analysis and then failed to justify its conclusion that the 2012 Planning Rule's requirements are met at that scale. Therefore, its water quality and water resources analysis is arbitrary and capricious.

4. The DSEIS's application of § 219.8(a)(3) (ecological integrity of riparian areas) is arbitrary, capricious, and contrary to law.

Section 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"[807] 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."[808] Section 219.8(a)(3) also requires plans to establish "width(s) for riparian management zones around all lakes, perennial 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."[809]

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). This is arbitrary, capricious, and not in accordance with the law for multiple reasons.

The Forest Plan was not revised under the mandate for "plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area."[810] Nevertheless, without any meaningful analysis, the Forest Service takes the position that the existing standards in JNF Forest Plan are sufficient to maintain or restore these resources.[811] This is arbitrary and capricious.

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[806] *Id.* at 75 (emphasis added).
[807] 36 C.F.R. § 219.8(a)(3)(i).
[808] *Id.*
[809] *Id.* § 219.8(a)(3).
[810] *Id.* § 219.8(a)(1).
[811] DSEIS, *supra* note 4, at 63.

The Forest Service concludes, in part, that ecological integrity will be maintained or restored because the entire, unamended suite of riparian standards in the Forest Plan will apply everywhere else on the JNF. The agency erroneously relies on the riparian management scheme in the Forest Plan for allegedly meeting the directly related substantive requirement of the 2012 Planning Rule without first determining based on a well-supported administrative record that the existing JNF Plan in fact meets the requirements. The same error is made throughout the DSEIS. While the Forest Service asserts that the existing Forest Plan meets the standards of the 2012 Planning Rule outside the project area, the agency mistakenly does so without any analysis or acknowledgement of the agency's prediction that 1982-Rule plans likely will *not* meet the requirements of the 2012 Planning Rule in form or substance.

Further, the record does not support conclusions that the amended management standards assure the maintenance or restoration of ecological integrity in riparian areas. Ecological integrity is not an abstract concept. The relevant definitions in the 2012 Planning Rule demonstrate the depth and scope of the agency's duty:

> Connectivity. Ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long-distance range shifts of species, such as in response to climate change.
> Ecological integrity. The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.
> Ecosystem. A spatially explicit, relatively homogeneous unit of the Earth that includes all interacting organisms and elements of the abiotic environment within its boundaries. An ecosystem is commonly described in terms of its:
>
> (1) Composition. The biological elements within the different levels of biological organization, from genes and species to communities and ecosystems.
> (2) Structure. The organization and physical arrangement of biological elements such as, snags and down woody debris, vertical and horizontal distribution of vegetation, stream habitat complexity, landscape pattern, and connectivity.
> (3) Function. Ecological processes that sustain composition and structure, such as energy flow, nutrient cycling and retention, soil development and retention, predation and herbivory, and natural disturbances such as wind, fire, and floods.
> (4) Connectivity. (see connectivity above).[812]

Absent actual assessments of ecologic integrity, the Forest Service uses the same surrogate formula and rationale to baldly conclude that ecological integrity is maintained or restored: the Forest Service minimized, couched, misapplied, or edited the regulatory directives; skewed the scale and scope of the inquiry; failed to assess/document the baseline ecological integrity; attributed untouched components of the 1982 Forest Plan with satisfaction of the 2012

[812] 36 C.F.R. § 219.19.

Planning Rule; relied on unproven science and mitigation measures to discount impacts; and limited the science of restoration to returning soil and replacing vegetation on parts of the project area.

It is important to reveal the process that the Forest Service did not use. The Forest Service Handbook has an entire 70-page chapter devoted to the process and procedures for performing ecological assessments in forest plan development and revision.[813] While these directives are not imposed on forest plan amendment processes, the framework is nevertheless relevant and applicable where the Forest Service is charged with assessing whether ecosystem integrity will be maintained or restored by the proposed amendment.

There is no indication that the Forest Service followed existing agency guidance for assessing ecosystem integrity, nor did the Forest Service distinguish the existing guidance from the formula it instead used. Most fundamentally, there are no assessments of conditions before any land-disturbing activity started.

There are two steps to assess whether an ecosystem has integrity:

> 1. Use the natural range of variation or alternative approach to determine conditions that sustain the integrity of the selected key ecosystem characteristics. The conditions that sustain integrity are also referred to as the ecological reference model (sec. 12.14a and 12.14b of this Handbook).
>
> 2. Assess and document the current condition and status of ecosystems using key ecosystem characteristics and then project their future conditions and trends (sec. 12.14c of this Handbook).[814]

Most significant to an assessment of ecological integrity of any resource is the need for documentation of the existing conditions, particularly when an activity authorized by a plan amendment is anticipated to have effects on ecosystems.

If the Forest Service had implemented the agency directives for the assessment of ecosystem integrity, it would have developed baseline descriptions of ecological conditions of the affected resources. And if the Forest Service had really utilized the riparian area management prescription in the Forest Plan, it at least would have delineated riparian corridors in accordance with the procedures in Appendix A of the Forest Plan. As the directives state, documenting the current condition is essential to assessing ecosystem integrity.

The Forest Service asserts that the amended plan will satisfy § 219.8(a)(3) for six reasons. They all fall flat. In particular, the Forest Service asserts the following about the ecological integrity of the riparian areas:[815]

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[813] FSH 1909.12 – Land and Management Planning Handbook, Chapter 10 – Assessments, https://www.fs.usda.gov/cgi-bin/Directives/get_dirs/fsh?1909.12

[814] *Id* at 17–18.

[815] Section 219.8(a) invokes the term ecosystem integrity in part, and the term ecological integrity with respect riparian areas specifically, and the definitions in section 219.19 are distinct.

> The substantive requirement § 219.8(a)(3)(i) – Ecological integrity of riparian areas would be sufficiently applied to the scope and scale of the project-specific amendment, and no additional plan components are needed to ensure the ecological integrity of riparian areas across the planning unit are maintained or restored because:
>
> • the proposed modification would apply to only 0.6 acres during construction and 0.05 acres thereafter,
> • the limited impact to riparian vegetation,
> • the design criteria in the POD applied to the pipeline corridor to allow riparian vegetation to regrow within the ROW except for a 10-foot-wide area over the pipeline,
> • operation of the ROW is expected to meet the Forest Plan direction for 'maintaining or restoring'. Therefore, it is only during the construction and restoration phases that this project-specific amendment would be in place,
> • that Forest Plan monitoring and Transcon inspections show the existing JNF Forest Plan has been adequate to protect riparian areas in context of ongoing activities and the proposed MVP project is consistent with historic activities on the JNF, and
> • the continued application of the unmodified Forest-wide standards and 55 other riparian standards across the remaining 73,600 acres of riparian areas across the Forest.[816]

The proper question is whether the proposed amendment will maintain or retore the ecological integrity of riparian areas. The agency's first three bulleted reasons are meaningless in the absence of the descriptions or inventories of the pre-activity conditions of the area that is affected by the activity. This is particularly true of riparian areas. Appendix A of the JNF Plan prescribes in detail the methodology for delineating riparian ***corridors***, but delineation of riparian ***areas*** is excluded from the scope of the delineation process in the Forest Plan. The Forest Service has not even 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. It's not evident, however, that the riparian corridor prescription in the 1982-era Forest Plan meets the requirements for establishing ***riparian management zones*** in the 2012 Rules.

Further, the agency has not conducted an assessment sufficient to decide whether the proposed modifications to the management standards meet the requirements of the 2012 Planning Rule. While vegetative growth is a component of a riparian ecosystem, which is the only post-construction life-form that's mentioned,[817] that's not all there is to it. The Planning

[816] DSEIS, *supra* note 4, at 79.

[817] *Id.* at 134 ([The] 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.) This citation is also the only instance of the reference to a riparian corridor, a term of art from the 1982 regulations.

Rule directs riparian management in far greater detail than acknowledged in the DSEIS and does not contemplate reducing an ecosystem integrity analysis to numbers-of-acres plus seed mix.

The relevant subsections of § 219.8(a)(3) distinguish between riparian areas and riparian management zones.[818] It is unclear where the 0.6 acres are, and what part of the Planning Rule requirements it represents, but these two terms have different regulatory meanings and are not equivalent. Riparian areas are "[t]hree-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at variable widths,"[819] while riparian management zones are "[p]ortions of a watershed where riparian-dependent resources receive primary emphasis, and for which plans include plan components to maintain or restore riparian functions and ecological functions."[820]

Despite the claim that both unchanged and amended standards meet the requirements to maintain and restore ecological integrity in riparian areas, the DSEIS does not distinguish riparian areas from riparian management zones as defined in the Rule. It is not clear to which definition the 0.6 acres applies.

Among other problems, the Forest Service analysis does not assess three-dimensional ecotones of interaction in riparian areas. There is no recognition of the tree canopy's interactions with the ecosystem in the riparian area, which as defined includes a riparian management zone but is not limited to the zone.

Further, the only recognition of the fact that water comes from upper slopes is in the context of stabilizing the pipe and the developer's need to divert surface and subsurface drainage from its natural course of flow, off and away from the pipeline corridor, permanently.[821] The ecological effects of diverting the natural flow of water from the interacting ecosystem, and redirecting to another place, has not been assessed. Plan sheets for erosion and sediment control show the extent of water diversion. However, the plan sheets do not delineate riparian areas, riparian management zones, or riparian corridors.[822] Permanently diverting the natural waterflow from the slopes of the riparian area (as riparian area is defined in § 219.19) neither maintains nor restores the ecological integrity of the riparian area. The ecological effects diverting natural water flow are not addressed in the ecosystem integrity assessment.

The Dodds Report illustrates the locations of the water resources that are on, and adjacent to, the pipeline corridor. The illustrations on pages 4, 5, 9 and 10 show the results of plotting the locations found in field sheets associated with the 2017 FERC FEIS. Only four of the streams shown within the corridor (Figures 2.0-2 and 2.0-3) are proposed for conventional bore crossings. The fate of the others is unclear but will most certainly become victims of altered hydrology due to the need to redirect the water flow from the corridor to stabilize the pipe. Note

[818] *Compare* 36 C.F.R. § 219.8(a)(3)(i) *with id.* § 219.8(a)(3)(ii).
[819] 36 C.F.R. § 219.19.
[820] *Id.* § 219.19.
[821] 2022 POD at 6-12 to 6-13.
[822] *Id.* at Appendix C-3.

the off-corridor springs, seeps, and streams that would be directed away from the corridor. The Forest Service fails to acknowledge that pipeline construction will permanently alter the water resources that are not subject to boring.

The Dodds Report also describes the ecological function of riparian areas, as those areas are defined by the 2012 Planning Rule.[823] 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.

The Rule requires the assessment of the effects of amending management standards on ecological integrity of the riparian area. Saying that "the continued application of the unmodified Forest-wide standards and 55 other riparian standards across the remaining 73,600 acres of riparian areas across the Forest" is not a substitute. As argued above and in other sections of these comments, the question of whether the unchanged portions of the Forest Plan comply with the Planning Rule is not at issue, was not the subject of the agency's notice of intent for this action, the agency has not done that work[824], and the conclusion is wrong. The Forest Service methodology unlawfully makes the directive to perform standard-specific-amendment analysis superfluous to the Rule.

The sixth element in the agency's assessment states "that Forest Plan monitoring and Transcon inspections show the existing JNF Forest Plan has been adequate to protect riparian areas in context of ongoing activities and the proposed MVP project is consistent with historic activities on the JNF."[825] First, this is inaccurate, as explained in Section V of these comments. Second, compliance with the existing JFN Plan is not the issue. The *amended* JNF Plan must be capable of satisfying the directly related substantive requirements.

Even if the DSEIS's analysis of the monitoring inspections and predictive modeling were not flawed, the Forest Service has not made an express assessment of ecosystem integrity with which to compare any information gleaned from the inspections and predictive modelling. The Forest Service uses its Draft Monitoring and Evaluation Report to inform its conclusions about how well the Forest Plan is working. The Forest Plan directs the monitoring tasks.[826] The draft monitoring report evaluates various inspections and datasets to gauge the implementation of the Forest Plan.[827] The evaluation of BMPs on project sites in fact revealed weaknesses in the Forest Plan that triggered more soils disturbance monitoring:

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[823] *Id*. at 6.

[824] 81 Fed. Reg. at 90,725 ("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 of the substantive requirements identified in §§ 219.8 through 219.11. The determination of which sections or requirements within those sections apply to an amendment will depend on the purpose and effects of the changes being proposed.").

[825] DSEIS, *supra* note 4, at 79.

[826] JNF Plan, *supra* note 417, at 5-1 to 5-9.

[827] FY2015 – FY2019 Monitoring Evaluation Report for the George Washington and Jefferson National Forests, *supra* note 747.

> Of 714 monitoring elements, an average 70% showed that implementation met or exceeded BMP requirements. On average, 30% showed minor departures from the intent of the BMP. These departures resulted from BMPs not installed, operating in wet periods, and erosion controls improperly installed. Lessons from these monitoring experiences resulted in expanded soil disturbance monitoring efforts in 2019 (further explored in the Soils section of this report), a forestwide soils and BMP training in 2019 and more focused hydrological surveys during project development to inform BMP's layout and implementation.[828]

The Forest Service did not explain how these results informed the conclusion that "Forest Plan monitoring … show[s] the existing JNF Forest Plan has been adequate to protect riparian areas in context of ongoing activities."[829] Nor are the "types of activities" that caused the disturbances that were subject of the monitoring "consistent with the MVP." The activities that were the subject of monitoring and evaluation were performed in compliance with the Forest Plan and did not require the Plan to be weakened (or definitions changed) to comply.

Further, the expanded soil disturbance monitoring introduces a soils evaluation process that has not been used on MVP, nor is it proposed to be used as part of the mitigation and restoration process.[830] With respect to how similar the activities in the reports were to MVP, the report includes photographs that show the relatively gentle slopes on the assessed sites compared to the extraordinarily steep slopes for MVP. Those activities were timber sales and the areas of the JNF where MVP is proposed are in management prescriptions that are not targeted for commercial timber production.

The substance of the reports includes information of the type that should be found in an assessment of the effects of the proposed plan amendments on ecosystem integrity.[831] However, in the case of MVP there are no site-specific descriptions of the soils that inform the assessment of the degradation. Most notable is the term-of-art that the Forest Service uses to evaluate effects on soils from activities that the Forest Service claims are similar to MVP. The Forest Service apparently has a process for assessing "detrimental soil disturbance." By comparison, MVP also would be anticipated to cause detrimental soil disturbance, but the term "detrimental soil disturbance" is not found in the DSEIS. The Forest Service has not identified detrimental soil disturbance as an effect of the amendments to the standards on ecosystem integrity, nor has it assessed those effects. The Forest Service failed to incorporate soil disturbance assessment procedures as used in Forest Plan monitoring.

Nearby activity that is more like MVP is the Celanese/Columbia gas pipeline, also built on the JNF over Peters Mountain in Giles County, Virginia. The Dominion Pipeline Monitoring Coalition studied the regulatory failures that resulted in slope failure on the Celanese/Columbia gas pipeline and created a detailed record.[832]

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[828] *Id*. at 9.

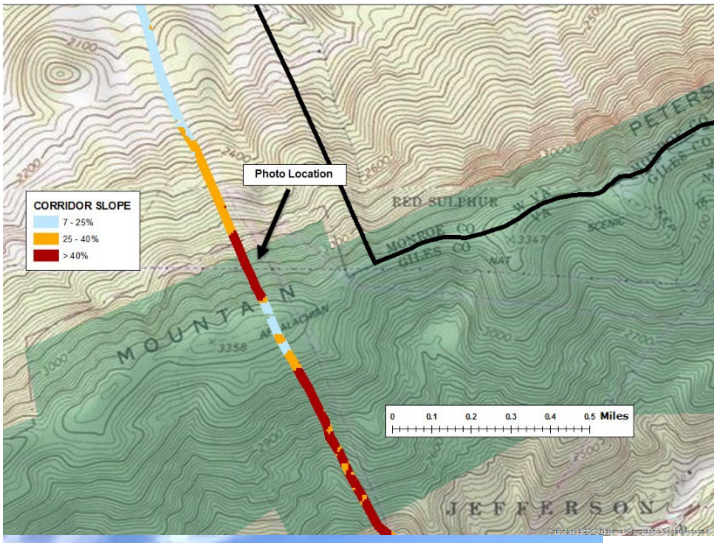
[829] DSEIS, *supra* note 4, at 79.

[830] George Washington-Jefferson National Forest 2019 Soil Disturbance Monitoring Report, *supra* note 748.

[831] *Id*., pages not numbered, text copied from below Figure 5 (italics in the original).

[832] Dominion Pipeline Monitoring Coalition, Peters Mountain Revisited (Oct. 11, 2015) [Ex. 105], http://pipelineupdate.org/2015/10/11/peters-mountain-revisited/.

This map shows the location of the 12-inch Columbia pipeline on the JNF and the location of the site:



This photograph shows the slope failure on the west side of Peters Mountain, Jefferson National Forest on October 8, 2015.

Comments submitted by Maury W. Johnson for the December 2022 DSEIS include other photographs of the Celanese/Columbia pipeline ROW taken by Paula Mann and Maury W. Johnson that are more recent than the photograph above and reveal far more exposed soils than

was seen in 2015.[833] Such conditions are an indication of "detrimental soil disturbance" resulting in the failure of restoration that the Forest Service ignored for effects-comparison purposes.

Finally, the DSEIS does not assess the effects of amending the management standards on the restoration of ecological integrity. There will be detrimental effects to soils from the construction of the MVP that have not been acknowledged or assessed.[834] The post-construction condition of the soil is the foundation of restoration. But in the DSEIS, by reference to the POD, restoration is addressed only by the planting of trees and shrubs, and the spreading of grass seed.[835] Again, there is no assessment of ecosystem integrity, particularly with respect to the post-construction productivity of the soil—the capacity of the soil to support the intended vegetative growth. The Forest Service may have more confidence in the capacity of MVP contractors than those for the Columbia pipeline to restore extraordinarily steep slopes to a condition that mitigates the potential of slope failure. But that is not the same as assessing the effects of amending the management standards on the ecological integrity of the soils or riparian areas.

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.

There are no baseline inventories or descriptions of the riparian areas or delineations of riparian management zones. Without documenting the condition of the ecosystem that will be impacted, 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's 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.[836] And the Forest Service has failed to consider whether the soils will be capable of revegetation.

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[833] Maury W. Johnson, Comment Letter on the 2022 DSEIS (Feb. 20, 2023).

[834] Nan Gray, Licensed Professional Soil Scientist, Soil Productivity Assessment of the Mountain Valley Pipeline Corridor on the Jefferson National Forest (Feb. 21, 2023) [Ex. 106].

[835] 2022 POD at App. H.

[836] *See id.* at App. H at H-20 ("Although the Forest Plan does not specifically establish restoration measures applicable to each of these areas, MVP anticipates that the FS may provide MVP with specific recommendations or requirements related to restoration in these affected Management prescriptions and Management Areas (e.g., modifications to the proposed seeding mixes for each area). MVP will continue to work with the FS on any potential site-specific measures applicable to these affected areas and will incorporate these site-specific measures into the Restoration Plan as applicable (Attachment H-3).").

5. The DSEIS's application of § 219.10(a)(3) (integrated resource management) is arbitrary, capricious, and contrary to law.

Section 219.10(a)(3) requires the Forest Service's amended JNF Plan to contain plan components to provide "for integrated resource management," including the "[a]ppropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors."[837] Despite this clear mandate, the agency declines to add any additional plan components. Instead, it proposes exempting MVP from a utility-corridor standard developed under the 1982 Planning Rule without developing any new plan components that satisfy the 2012 Planning Rule's requirements.[838] Even if it could avoid the 2012 Planning Rule in this manner, the Forest Service's analysis lacks factual support and contain several fundamental errors, rendering the DSEIS arbitrary, capricious, and not in accordance with law.

First, the agency fails to apply § 219.10(a)(3)'s requirement to all directly related proposed amendments. The agency concludes that this requirement is only related to the purpose of its proposed amendment to FW-248, which exempts the Forest Service from designating the MVP corridor as Prescription Area 5B or 5C. 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."[839] Thus, the clear purpose and effect of these proposed amendments is to exempt MVP from plan standards that provide for the "appropriate placement" of "utility corridors." The Forest Service's failure to address these obviously related amendments means its entire application analysis is arbitrary and capricious.

Second, the DSEIS errs by concluding that the "amended Forest Plan direction provides *sufficient direction* for future placement of infrastructure, including utility corridors."[840] The agency provides zero support for this conclusory statement. This statement also fails to grapple with the agency's change in policy. The Forest Service developed FW-248, 6C-026, and 4A-028—under the 1982 Planning Rule—to provide "*sufficient direction* for future placement of infrastructure, including utility corridors." Now, the agency is reversing positions and claiming that an amended plan that drops those standards for MVP still provides "sufficient direction for future placement of infrastructure"—under the 2012 Planning Rule, no less. The Forest Service must explain this change in position and clarify how an amendment that exempts MVP from 1982 Rule standards comports with the 2012 Rule's substantive requirements.

Third, 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."[841] This is not true. The Forest Service is proposing to *amend* several standards applicable to these management prescription areas—including the directly related

[837] 36 C.F.R. § 219.10(a)(3).

[838] 81 Fed. Reg. at 90,726 (stating an agency lacks "discretion" to "use the amendment process to avoid both 1982 and 2012 rule requirements").

[839] DSEIS, *supra* note 4, at 21.

[840] *Id.* at 80 (emphasis added).

[841] *Id.*

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.

Fourth, the DSEIS arbitrarily concludes that § 219.10(a)(3) is sufficiently applied within the scope and scale of the amendment to FW-248 because "the limited footprint of the proposed MVP project accounts for about 0.007% of the entire plan area during construction."[842] As explained above, this drop-in-the-bucket approach conflicts with the 2012 Planning Rule and has been expressly rejected by the Fourth Circuit. If the Forest Service could avoid the 2012 Planning Rule by simply saying that its project-specific amendment has a small footprint relative to the larger forest, then "the substantive requirements in the 2012 Planning Rule . . . would be meaningless."[843]

Fifth, the DSEIS arbitrarily relies on the fact that "Forest Plan direction for utility corridors and ROWs would continue to apply across the Forest along with other Forest Plan direction."[844] As the Fourth Circuit explained, the agency "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 (i.e., without Pipeline-related amendments) outside this area will continue to provide adequate protections*."[845] But that is exactly what the Forest Service relies on here. This reliance is doubly problematic because the "existing forest plan" outside the project area was developed under the 1982 Planning Rule, not the 2012 Rule. And as explained at length above, there are fundamental differences between these two rules. Those differences prevent the agency from relying on Forest Plan direction developed under the 1982 Rule to satisfy the 2012 Rule's requirements.

Sixth, and finally, to the extent the DSEIS relies on its earlier finding that its proposed amendment to FW-248 will have *no* direct, indirect, or cumulative effects on the Forest "because it is too speculative to assume a future utility line would be collocated within the MVP corridor,"[846] that conclusion is arbitrary and capricious. As explained above, the agency has ignored the cumulative impact of the nearby Celanese Pipeline and the propagating forest fragmentation associated with the agency's persistent refusal to redesignate utility corridors to the appropriate management prescription as required. Further, the JNF Plan and NFMA regulations *require* the agency to collocate utility lines "[w]hen feasible."[847] So it is not

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[842] *Id.*

[843] *Wild Va.*, 24 F.4th at 931–32 (quoting *Cowpasture*, 911 F.3d at 164).

[844] DSEIS, *supra* note 4, at 80.

[845] *Wild VA.*, 24 F.4th at 931 (emphasis added)

[846] DSEIS, *supra* note 4, at 62–63.

[847] JNF Plan, *supra* note 417, at 2-60 (FW-247: "Develop and use existing corridors and sites to their greatest potential in order to reduce the need for additional commitment of lands for these uses. When feasible, expansion of existing corridors and sites is preferable to designating new sites;" and FW-244: "Locate uses where they minimize the need for additional designated sites and best serve their intended purpose. Require joint use on land when feasible."); *see* 36 C.F.R. § 219.10(a)(3) (requiring amended forest plans provide plan components for "integrated resource management," including "[a]ppropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors").

speculative that future utility lines will be located within the MVP corridor—there is a presumption that they *will be*.

In fact, just last year, 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.[848] The stated need for this programmatic decision is that the George Washington and Jefferson National Forests are "receiving unprecedented requests from proponents to install linear fiberoptic telecommunication lines across and along National Forest Systems (NFS) lands to provide broadband service to rural communities" because, "[d]ue to the shape and arrangement of the GWJNF along western Virginia, long, linear new utilities inevitably require access across or to locate along the GWJNF."[849] The Forest Service's failure to consider these reasonably foreseeable developments in its application of § 219.10(a)(3) means its analysis is arbitrary and capricious.

VIII. THE FOREST SERVICE MUST ANALYZE A REASONABLE RANGE OF ALTERNATIVES IN THE DSEIS AND SHOULD CONSIDER A ROUTE ALTERNATIVE THAT WOULD AVOID AN UNPRECEDENTED, HARMFUL, AND DANGEROUS CROSSING OF THE APPALACHIAN NATIONAL SCENIC TRAIL.

The DSEIS considers only the no action alternative and MVP's proposed JNF crossing. True, the Fourth Circuit previously determined that the Forest Service adequately considered alternative routes and dismissed those alternatives because "the environmental impacts would simply be shifted to other lands and the increased length of the Pipeline's route would affect more acreage, incorporate additional privately owned parcels, and increase the number of residences in close proximity to the Pipeline."[850] However, that analysis is distinct from consideration of the alternative of avoiding the significantly adverse and unprecedented crossing of the ANST.

Analysis of alternatives is the "heart" of the NEPA process.[851] In the SEIS, the Forest Service "must . . . discuss 'reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.'"[852]

As proposed, MVP would cross the ANST near Symms Gap on Peters Mountain in Giles County, Virginia and Monroe County, West Virginia, on USFS land immediately adjacent to Peters Mountain Wilderness.[853] This would be an unprecedented crossing of the ANST on federal land. The particular location is both exceptionally scenic and wild. The crest of Peters Mountain at Symms Gap has been called "one of the most beautiful views east of the

[848] *See* Scoping Notice, Forestwide Programmatic Fiberoptic Telecommunication Line Special Use Project (Jan. 20, 2022) [Ex. 95].

[849] *Id.* at 1.

[850] *Wild Virginia*, 24 F.4th at 930.

[851] 40 C.F.R. § 1502.14 (2019). USFS correctly applied the NEPA regulations in effect prior to September 14, 2020. DSEIS at i n.1.

[852] *Wild Virginia*, 24 F.4th at 920 (quoting 40 C.F.R. § 1502.1).

[853] *See, e.g.*, DSEIS at 5, Fig. 1.

Mississippi."[854] The Forest Service should have considered a reasonable alternative that avoids crossing the ANST.[855]

As an example, in 2013 to 2014, USFS and the Appalachian Trail Conservancy (ATC), the National Park Service (NPS), and the Roanoke Appalachian Trail Club (RATC) (collectively, "ANST Partners") worked together on a major relocation of the ANST to allow construction of the Celanese/Columbia pipeline so that it would not cross the ANST. Unlike MVP, it was planned in close consultation among the ANST Partners. Its construction required a land swap and a major, multi-year relocation of the ANST so that the pipeline would not cross the ANST at all. It avoids public wildlands and is located in an already developed and disturbed area that is more appropriate for industrial development, as seen in Figure 26. Yet, the Forest Service did not consider the reasonable alternative of MVP colocation with the Celanese/Columbia pipeline corridor as an alternative in the DSEIS and did not explain why.

MVP has itself admitted there are alternative routes that would avoid impacting the ANST in the JNF. In February 2020, MPV stated that "it has other potential options for crossing the Appalachian Trail" and it was "evaluating several route changes that would involve crossing the trail on private land," including crossing the ANST "near current pipelines used by Columbia Gas of Virginia."[856] Despite MVP's own admission that the Celanese/Columbia pipeline corridor, and potentially other routes, could be considered as valid alternatives to crossing the ANST on public wildlands in the JNF, the Forest Service has not considered these alternatives in the DSEIS.

Screenshot on Google Earth 2/14/23

YELLOW PIN shows Celanese/Columbia pipeline
Lat 37.367492°
Long -80.772917°

BRIGHT GREEN LINE = Appalachian National Scenic Trail. Co-location with Celanese/Columbia pipeline would allown ANST crossing in urbanized area with no scenic viewpoints.

LARGE RED LINE = MVP ROW, with ANST crossing at scenic Symms Gap near two High-Hazard areas.

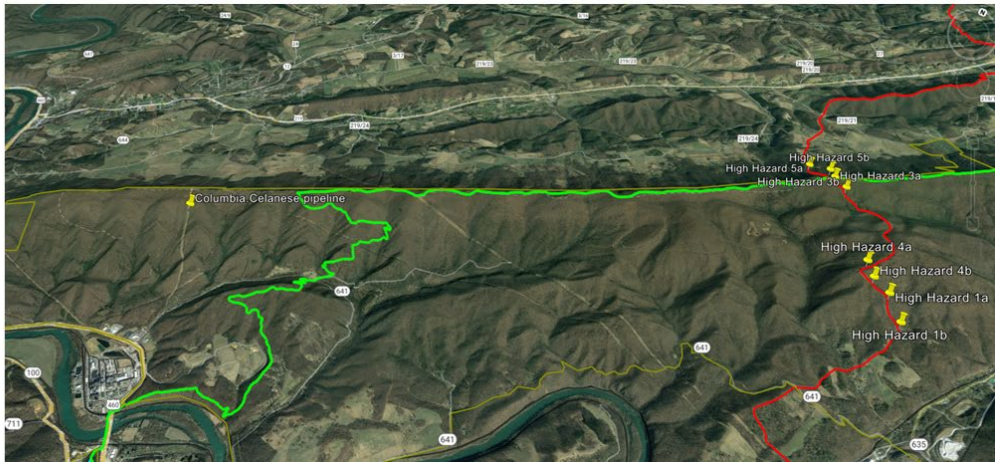

Figure 26. This illustrates the Celanese/Columbia pipeline route that crosses the ANST on private land and the opportunity for MVP colocation vs. the proposed MVP route that would cross the ANST on public wildlands in the JNF.

[854] Thomas Campbell, *Report to 17th Triennial of Appalachian Trail Conservancy*, Roanoke Appalachian Trail Club Archives (May 1967) [Ex. 107].

[855] While the BLM is responsible for conducting a practicality analysis that considers colocation, 30 U.S.C. § 185(p), that is separate from and does not relieve the Forest Service under NEPA of considering a reasonable alternative, along with analysis of the adverse effects of crossing the ANST.

[856] Laurence Hammack, *supra* note 319.

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.[857]

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,[858] 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 percent) of the ANST.[859] 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.[860]

In addition, there are no thresholds for violation of standards after project completion and no consequences for the developer if standards are not achieved. The DSEIS offers no reasonable analysis of or explanation for why this project should be approved to cross the ANST and no standards for how any future project could be denied. Accordingly, the Forest Service should correct this issue in a revised DSEIS and include analysis of a reasonable alternative that avoids crossing the ANST.

IX. CONCLUSION.

For the above reasons, we strongly urge the Forest Service to issue a revised and corrected DSEIS and, based on a proper analysis, choose the No Action Alternative. That means not proceeding with the proposed amendments to the Jefferson Forest Plan to accommodate MVP and not providing concurrence to the BLM for the right-of-way and temporary use permit.

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[857] DSEIS, *supra* note 4, at 20–21.

[858] *See* Nat'l Park Service, Comments on the USDA Forest Service - Jefferson National Forest (JNF) Draft Supplemental Environmental Impact Statement (DSEIS) for the Mountain Valley Pipeline (MVP) Project at *2 (Nov. 2, 2020) [Ex. 108] ("[W]e continue to have concerns regarding the proposed Forest Plan amendments listed above. The NPS as administrator of the ANST, encourages consistency in planning for the protection of the ANST in all the national forests it crosses. Revising the Jefferson National Forest Plan to lower protections in place for the ANST in order to accommodate a proposed project diminishes the standard of Trail protection in the JNF and could set a precedent for future similar actions in other national forests.").

[859] National Parks Conservation Association, Appalachian National Scenic Trail: A Special Report (Mar. 2010) [Ex. 109], https://www.nps.gov/appa/learn/management/upload/AT-report-web.pdf.

[860] National Park Service, Foundation Document: Appalachian National Scenic Trail (Mar. 2015) [Ex. 110], https://www.nps.gov/appa/getinvolved/upload/APPA-Foundation-Document-2015.pdf.

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