



August 12, 2019

*Via U.S. Mail and Electronic Mail*

Wendi Weber  
Regional Director, Northeast Regional Office  
U.S. Fish and Wildlife Service  
300 Westgate Center Drive  
Hadley, MA 01035-9587  
wendi\_weber@fws.gov

**Re: Request to Stay Biological Opinion and Incidental Take Statement for  
Mountain Valley Pipeline (FERC Docket CP16-10)**

Dear Ms. Weber:

On behalf of Wild Virginia, Appalachian Voices, Preserve Bent Mountain (a chapter of Blue Ridge Environmental Defense League), Preserve Montgomery County VA, Preserve Franklin, Preserve Salem, Preserve Craig, Preserve Giles, Mountain Lakes Preservation Association, Preserve Monroe, Save Monroe, Sierra Club, Defenders of Wildlife, Center for Biological Diversity, Chesapeake Climate Action Network, New River Conservancy, and the Protect Our Water, Heritage, Rights coalition, I write to request that the U.S. Fish and Wildlife Service stay its November 21, 2017 Biological Opinion and Incidental Take Statement for the Mountain Valley Pipeline (“MVP”). Because the pipeline developer is currently engaged in construction activities that harm endangered species and their habitat, we ask that you respond to this request for a stay as soon as possible, but no later than August 15, 2019.

Several of the undersigned groups submitted a letter on May 1, 2019, that described some of the fatal deficiencies in the 2017 Biological Opinion and Incidental Take Statement. For example, the take limits for the Indiana bat and Northern long-eared bat suffer from the same deficiencies found in the Service’s October 2017 incidental take statement for the Atlantic Coast Pipeline, which the Fourth Circuit vacated. *See Sierra Club v. United States Dep’t of the Interior*, 899 F.3d 260, 279 (4th Cir. 2018) (“[I]t is impossible to know what a ‘small percent’ of bats is. Therefore, there is no clear and enforceable standard of take.”). Accordingly, we requested that the Service vacate its unlawful Incidental Take Statement for the MVP. *See* Letter from Elly Benson, Sierra Club, to Kyla Hastie, FWS (May 1, 2019) (“May 1 Letter”) at 9-10, attached as Exhibit 1.

Construction activities that adversely affect these bat species are currently underway. *See, e.g., id.* at 10-12; MVP Final Environmental Impact Statement at 4-230 (“general construction disturbance would affect Indiana bats”); MVP Biological Opinion at Table 4 (noting that stressor pathways associated with trenching include “loss or alteration of hibernacula, instream sedimentation & water flow disruption, human presence & noise”); Letter from Matthew Eggerding, Mountain Valley Pipeline, LLC, to Kimberly D. Bose, FERC (Aug. 8, 2019), attached as Exhibit 2 (describing variance request that “would require tree clearing out of season” due to slide that “uprooted numerous large trees”). Moreover, the Service has acknowledged there are impacts to bat habitat that remain unassessed. *See* Letter from Kyla Hastie, FWS, to Kimberly Bose, FERC (April 12, 2019) at 2, attached as Exhibit 3.

The May 1 Letter also described fatal flaws in the Biological Opinion’s analysis of impacts to the Roanoke logperch. Exhibit 1 at 4-6. A federal scientist who has studied this species for three decades, but who was not consulted during development of the Opinion, has explained to the Service why the assumptions underlying its analysis of impacts to this species are faulty. *Id.* at 6-8; Email and attachment from Dr. Paul Angermeier to Cindy Schulz *et al.* (Oct. 23, 2018), attached as enclosure to Exhibit 3.<sup>1</sup> The Service’s April 12, 2019 letter to the Federal Energy Regulatory Commission indicates it is well aware that its effects analysis in the Biological Opinion is inadequate. *See* Exhibit 3 at 1 (requesting additional sedimentation analysis), 2 (requesting an analysis of effects to Roanoke logperch); *see also* Exhibit 1 at 4. These deficiencies render the Biological Opinion arbitrary and capricious. As we noted in the May 1 Letter, without an adequate Biological Opinion or valid Incidental Take Statement in place, any activities that result in incidental take of members of listed species are unlawful.

To date, we have not received a response from the Service to our May 1 Letter. In the meantime, local residents and concerned citizens have observed that construction activities have recently ramped up in some areas where construction adversely affects Roanoke logperch habitat. For example, in Spread H, which contains Roanoke logperch habitat, Mountain Valley Pipeline, LLC’s weekly status reports reflect a recent surge in construction activity:

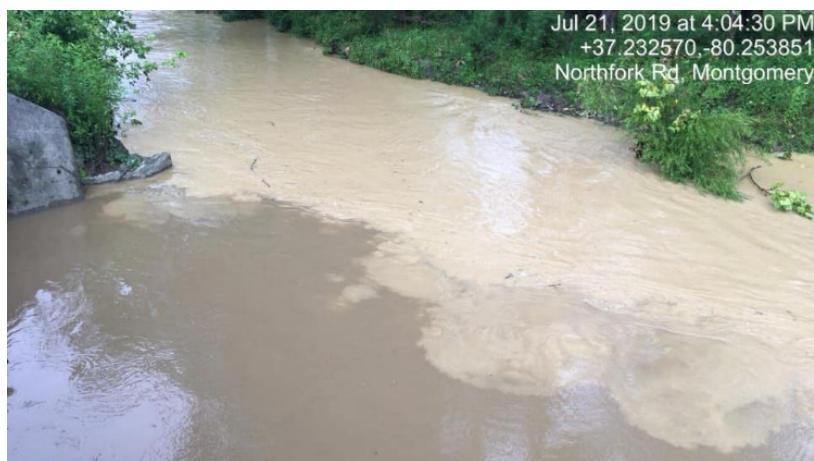
	Weekly Status Report No. 59  (Dec. 8-14, 2018)	Weekly Status Report No. 86  (June 15-21, 2019)	Weekly Status Report No. 91  (July 20-26, 2019) <sup>2</sup>
Clearing	58.08%	58.08%	68.08%
Prepare right-of-way	52.58%	52.58%	64%
Trenching	38.71%	40.44%	57.9%

<sup>1</sup> Dr. Angermeier’s comments from October 23, 2018, were not made available to the public until April 12, 2019.

<sup>2</sup> This weekly status report was made publicly available on the FERC docket on Aug. 8, 2019.

Both the citizen reports and Mountain Valley Pipeline, LLC's own weekly status reports confirm that this renewed construction activity is causing a marked increase in sedimentation problems. *See, e.g.*, Weekly Status Report No. 91 (Aug. 8, 2019) at 0009-14, 0016), attached as Exhibit 4 (describing numerous sedimentation events in mid- to late-July 2019).

As relevant here, clearing, grading, trenching, and other construction activities in upland areas are causing increased sediment loads in streams and rivers that contain Roanoke logperch habitat. For example, the photograph below was taken from North Fork Road, near the Bradshaw Creek confluence with the North Fork of the Roanoke River. According to the Service's Roanoke Logperch Recovery Plan, "[h]ighest priority should be placed on reducing the quantity of silt entering the North Fork Roanoke...."<sup>3</sup> The citizen observer who documented this sedimentation noted that over the course of 30 years, she has never observed this much sediment running into Bradshaw Creek.



According to the Service, "[m]ajor causes of [Roanoke logperch] decline include excessive stream sedimentation."<sup>4</sup> Loss of silt-free habitat is "among the most serious ongoing threats to logperch populations."<sup>5</sup> The Service has acknowledged that "[s]mall logperch populations *could go extinct with minor habitat degradation*," and that "[a]ll the populations are small."<sup>6</sup>

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<sup>3</sup> U.S. Fish and Wildlife Service, Roanoke Logperch (*Percina rex*) Recovery Plan, *available at* [https://www.fws.gov/northeast/virginiafield/pdf/PARTNERS/longleaf\\_pine/logperch\\_recovery\\_plan.pdf](https://www.fws.gov/northeast/virginiafield/pdf/PARTNERS/longleaf_pine/logperch_recovery_plan.pdf) (emphasis added).

<sup>4</sup> *Id.*

<sup>5</sup> James H. Roberts, Paul L. Angermeier, and Gregory B. Anderson (2016) Population Viability Analysis for Endangered Roanoke Logperch. *Journal of Fish and Wildlife Management*: June 2016, pp. 46-64, *available at* <https://fwspubs.org/doi/full/10.3996/032015-JFWM-026>.

<sup>6</sup> U.S. Fish and Wildlife Service, *Roanoke Logperch: Percina rex*. Attached as Exhibit 5 and *available at* <https://www.fws.gov/northeast/pdf/RoanokeLogperch.pdf> (emphasis added).

Notably, these severe sedimentation impacts are occurring during a period when Mountain Valley Pipeline, LLC is prohibited from crossing streams and wetlands. The pipeline developer has acknowledged that main threats to logperch populations include sedimentation due to *upland* land disturbances. *See* MVP, Supplemental Information to the Biological Assessment (July 26, 2017) at 39. Yet the Biological Opinion fails to describe or analyze such impacts, instead focusing narrowly on sedimentation effects from construction of a limited number of waterway crossings. *See* Exhibit 1 at 4-5, 7.

These impacts on endangered and threatened species also adversely affect the interests that the undersigned groups and their members have in protecting these species and their habitats. *See, e.g., Alaska Fish & Wildlife Fed’n & Outdoor Council v. Dunkle*, 829 F.2d 933, 937 (9th Cir. 1987). And protecting these species is unquestionably in the public interest. Notably, the Endangered Species Act “reveals a conscious decision by Congress to give endangered species priority over the ‘primary missions’ of federal agencies,” including FERC. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 185 (1978). Congress has declared that preserving endangered and threatened species has “incalculable value.” *Id.* at 188 (quotation omitted).

As noted above, we have not received a response from the Service to our May 1 Letter. The May 16, 2019 response from Mountain Valley Pipeline, LLC both misconstrues the May 1 Letter and ignores that, in the Endangered Species Act, “Congress [] spoke[] in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities.” *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978). Mountain Valley Pipeline, LLC insists that it should be allowed to plow ahead with pipeline construction that degrades and destroys endangered species habitat<sup>7</sup> while “the federal agencies are conducting additional analyses.” Letter from Todd Normane, Equitrans Midstream Corporation, to Kyla Hastie, FWS (May 16, 2019) at 4, attached as Exhibit 6. Unfortunately, it appears that the Service and FERC have thus far acquiesced in the pipeline developer’s preferred approach, despite the unacceptable risks it poses to threatened and endangered species. We urge the Service not to “los[e] sight of its mandate under the ESA: ‘to protect and conserve endangered and threatened species and their habitats.’” *Defs. of Wildlife v. U.S. Dep’t of the Interior*, No. 18-2090, 2019 WL 3366598, at \*21 (4th Cir. July 26, 2019) (quoting *Nat’l Ass’n of Home Builders*, 551 U.S. at 651).

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<sup>7</sup> Notably, the pipeline currently lacks several federal permits. *See Sierra Club v. U.S. Forest Serv.*, 897 F.3d 582, 606 (4th Cir.), *reh’g granted in part*, 739 F. App’x 185 (4th Cir. 2018) (vacating U.S. Forest Service and Bureau of Land Management authorizations); *Sierra Club v. U.S. Army Corps of Engineers*, 909 F.3d 635, 639 (4th Cir. 2018) (vacating Army Corps’ Nationwide Permit 12 verification). Because “FERC’s authorization for [MVP] to begin construction is conditioned on the existence of valid authorizations from” those federal agencies, MVP’s decision to “continue to proceed with construction” in the absence of those authorizations “violate[s] FERC’s certificate of public convenience and necessity.” *Sierra Club v. U.S. Dep’t of the Interior*, 899 F.3d 260, 285 n. 11 (4th Cir. 2018).

Accordingly, we reiterate our request that the Service vacate the Biological Opinion and Incidental Take Statement, or stay them pending judicial review.

Sincerely



Elly Benson  
Staff Attorney, Sierra Club  
elly.benson@sierraclub.org  
415-977-5723

*On behalf of Wild Virginia, Appalachian Voices, Preserve Bent Mountain/BREDL, Preserve Montgomery County VA, Preserve Franklin, Preserve Salem, Preserve Craig, Preserve Giles, Mountain Lakes Preservation Association, Preserve Monroe, Save Monroe, Sierra Club, Defenders of Wildlife, Center for Biological Diversity, Chesapeake Climate Action Network, New River Conservancy, and Protect Our Water, Heritage, Rights*

cc: Kyla Hastie (kyla\_hastie@fws.gov)  
Spencer Simon (spencer\_simon@fws.gov)  
John Schmidt (john\_schmidt@fws.gov)  
Cindy Schulz (cindy\_schulz@fws.gov)  
Paul Phifer (paul\_phifer@fws.gov)

# Exhibit 1



May 1, 2019

*Via First Class U.S. Mail and Electronic Mail*

Kyla Hastie  
Acting Assistant Regional Director  
Ecological Services  
U.S. Fish and Wildlife Service  
300 Westgate Center Drive  
Hadley, MA 01035-9589  
kyla\_hastie@fws.gov

Re: Mountain Valley Pipeline, U.S. Fish and Wildlife Service's Biological Opinion and  
Incidental Take Statement, FERC Docket CP16-10

Dear Ms. Hastie:

On April 12, 2019, the U.S. Fish and Wildlife Service ("FWS" or "the Service") sent a letter to the Federal Energy Regulatory Commission ("FERC") providing "a list of questions and information/data needs to assist FERC and the Service in determining how best to proceed under the [Endangered Species Act] regarding certain activities related to the Mountain Valley Project (MVP)."<sup>1</sup> The extensive list of "information/data needs" in the Service's letter, along with new information regarding the project's sedimentation impacts and Dr. Paul Angermeier's comments on Roanoke logperch,<sup>2</sup> make clear that the Service's 2017 Biological Opinion ("BiOp") and incidental take statement ("ITS") are based on incomplete information and flawed analyses.

Accordingly, the "best [way] to proceed" under the Endangered Species Act ("ESA") – indeed, the only lawful way to proceed – is to reinstitute consultation, which "is *required* and shall be requested by the Federal agency or by the Service ... [i]f new information reveals effects of the action that may affect listed species ... in a manner or to an extent not previously considered." 50 C.F.R. § 402.16(b) (emphasis added). *See Salmon Spawning & Recovery All. v.*

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<sup>1</sup> Letter from Kyla Hastie to Kimberly Bose, April 12, 2019 ("FWS 4/12/19 Letter").

<sup>2</sup> Attached to the Service's April 12, 2019 letter is an email from Dr. Angermeier that outlines "several important shortcomings" that led to "significant underestimates of potential MVP impacts on [Roanoke logperch]." *See* Email from Paul Angermeier to Cindy Schulz *et al.*, Oct. 23, 2018 ("Angermeier 10/23/18 Email"). Dr. Angermeier's position is Assistant Unit Leader, U.S. Geological Survey, Virginia Cooperative Fish and Wildlife Research Unit.

*Gutierrez*, 545 F.3d 1220, 1229 (9th Cir. 2008) (“The duty to reinitiate consultation lies with both the action agency and the consulting agency.”). The Service also must reinitiate formal consultation to consider impacts on the newly listed yellow lance. 50 C.F.R. § 402.16(d).

In addition, the Service must vacate its unlawful ITS, under which the amount of take anticipated for the Indiana bat and Northern long-eared bat is a “[s]mall percent of individuals” present in certain habitats. MVP BiOp at 41, 42. *See Sierra Club v. U.S. Dep’t of the Interior*, 899 F.3d 260, 279 (4th Cir. 2018) (vacating incidental take statement for gas pipeline project that limited take “to a ‘small percent’ of Indiana Bats within each geographic area”).

In sum, the Service must reinitiate consultation; update its analysis to account for new information regarding the manner and extent of impacts on imperiled species; and remedy its defective ITS. The deficiencies outlined herein make clear that the Service’s conclusion that the MVP “is not likely to jeopardize the continued existence” of these species is unsupported and not based on the best scientific data available. MVP BiOp at 38-39.

During this process, pipeline construction activities may not proceed. *See Mt. Graham Red Squirrel v. Madigan*, 954 F.2d 1441, 1451 (9th Cir. 1992) (“Reinitiation of consultation requires the Fish and Wildlife Service to issue a new Biological Opinion before a project may go forward.”).<sup>3</sup> Section 7(d) of the ESA precludes “any irreversible or irretrievable commitment of resources ... which has the effect of foreclosing the formulation or implementation of any reasonable and prudent measures” to avoid jeopardy “[a]fter initiation of consultation.”<sup>4</sup> 16 U.S.C. § 1536(d). Here, for example, the renewed analysis could lead to different jeopardy determinations, which may require route modifications or other changes to the project.

In addition, without an adequate biological opinion or valid ITS in place, any activities that result in incidental take of members of listed species are unlawful. 16 U.S.C. §§ 1538(a)(1)(B), 1536(o)(2). Anyone who undertakes or authorizes such activities may be subject to criminal and civil federal enforcement actions. *See id.* §§ 1538(g), 1540. *See also Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1108 (9th Cir. 2012) (“When reinitiation of consultation is required, the original biological opinion loses its validity, as does its accompanying incidental take statement, which then no longer shields the action agency from penalties for takings.”).<sup>5</sup>

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<sup>3</sup> *See also* MVP Certificate Order at ¶213 (“Environmental Condition No. 28 of this order prohibits construction of the MVP Project until Commission staff completes the process of complying with the Endangered Species Act.”).

<sup>4</sup> This requirement applies “[a]fter initiation or reinitiation of consultation.” 50 C.F.R. § 402.09. It “ensur[es] that the status quo will be maintained during the consultation process.” *Conner v. Burford*, 848 F.2d 1441, 1455 n.34 (9th Cir. 1988).

<sup>5</sup> *See also Ctr. for Biological Diversity*, 698 F.3d at 1127-28 (“an agency cannot meet its section 7 obligations by relying on a Biological Opinion that is legally flawed or by failing to discuss information that would



## **I. New Information Regarding MVP's Effects on Roanoke Logperch**

### **A. Sediment-loading is a “primary threat” to Roanoke logperch**

Roanoke logperch (“RLP”) is a stream fish that persists in seven isolated populations in Virginia and North Carolina.<sup>6</sup> “Major causes of decline include excessive stream sedimentation.”<sup>7</sup> *See also* MVP BiOp at 16 (noting “RLP decline in the action area is primarily the result of destruction and modification of habitat,” and “[p]rimary causes of RLP habitat degradation include ... siltation.”); *id.* at 9 (Roanoke logperch “conservation needs include ... maintaining the health and vigor of present populations by addressing sediment loading at the watershed level”). In sum, “the MVP’s primary potential impact on RLP is additional sediment-loading,” and “excess fine sediment in streams/rivers is a primary threat to RLP.” *Id.* at 6.

According to the Service’s Roanoke Logperch Recovery Plan, “[h]ighest priority should be placed on reducing the quantity of silt entering the North Fork Roanoke, Nottoway, and Pigg Rivers.”<sup>8</sup> The MVP pipeline route would cross the North Fork Roanoke River and Pigg River. MVP Final EIS at 4-232. The pipeline route would also cross the Roanoke River, which “is a VDGIF designated RLP threatened and endangered species waters.” MVP BiOp at 15.

### **B. MVP construction is causing substantially more sedimentation than contemplated in FERC’s Final EIS or the Service’s BiOp**

There is abundant evidence that the federal agencies’ assumptions regarding the efficacy of the pertinent erosion and sediment (“E&S”) control measures, as well as Mountain Valley Pipeline, LLC’s compliance with those measures, are unsupported and incorrect. These flawed assumptions undergird the agencies’ analysis of the extent and duration of sediment-loading caused by the project, and the concomitant impacts on endangered and threatened species such as the Roanoke logperch.

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undercut the opinion’s conclusions”); *Pyramid Lake Paiute Tribe v. U.S. Dep’t of the Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990) (an agency “cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species; its decision to rely on a FWS biological opinion must not have been arbitrary or capricious.”).

<sup>6</sup> <https://fwspubs.org/doi/full/10.3996/032015-JFWM-026>. *See also id.* (“Loss of silt-free habitat” is “among the most serious ongoing threats to logperch populations.”).

<sup>7</sup> [https://www.fws.gov/northeast/virginiafield/pdf/PARTNERS/longleaf\\_pine/logperch\\_recovery\\_plan.pdf](https://www.fws.gov/northeast/virginiafield/pdf/PARTNERS/longleaf_pine/logperch_recovery_plan.pdf). *See also* Angermeier 10/23/18 Email (attachment at 1) (noting that most of the risks to Roanoke logperch listed in the BiOp “are linked by their contributions to sediment mobilization from offstream sources and/or deposition on stream/river bottoms”).

<sup>8</sup> [https://www.fws.gov/northeast/virginiafield/pdf/PARTNERS/longleaf\\_pine/logperch\\_recovery\\_plan.pdf](https://www.fws.gov/northeast/virginiafield/pdf/PARTNERS/longleaf_pine/logperch_recovery_plan.pdf).

## 1. The Service's April 12, 2019 letter to FERC

The Service appears to recognize that it currently lacks information and data necessary to adequately assess MVP's impacts on endangered and threatened species. For example, in the "list of questions and information/data needs" in its April 12, 2019 letter, the Service includes:

- "Conduct and provide an analysis of the efficacy of MVP's current Erosion & Sediment (E&S) Control Plan to estimate past/current/future effectiveness of the Plan"
- "Conduct an analysis of, and provide copies of any other available/readily obtainable sedimentation model data from any source that addresses concerns about implementation and efficacy of sediment and erosion control measures"
- "Describe, in detail, any failed E&S controls or slips that resulted in any additional effects to any listed species or their habitat that were not analyzed in the November 21, 2017, Opinion."

FWS 4/12/19 Letter at 1-2 ("Sediment Analysis" subheading). Specifically with regard to Roanoke logperch, the letter requests: "Using the information obtained under 'Sediment Analysis' above, provide an analysis of effects to RLP." *Id.* at 2. This request makes clear that the effects analysis in the BiOp, which undergirds the jeopardy analysis, is based on incomplete and outdated information.<sup>9</sup> Given the need for an updated assessment of effects on RLP, consultation must be reinitiated. This analysis must occur *before* construction proceeds. *See, e.g.*, 16 U.S.C. § 1536(d).

The Service's letter also states: "Using the results of this [sediment] analysis, provide an explanation as to whether effects to RLP from *upland sedimentation* were considered in the November 21, 2017, Opinion." *Id.* at 2 (emphasis added). The BiOp acknowledges that "near, in-stream, and tributary earth disturbance may result in increased sedimentation," which in turn will cause "the majority of RLP [to] experience decrease in fitness." MVP BiOp at Table 3, 24. But it fails to recognize the extent to which construction activities in upland areas cause sediment-loading that affects Roanoke logperch and other aquatic species. *See* Angermeier 10/23/18 Email (attachment at 3) ("A more instructive and reliable protocol for estimating sedimentation impacts would, a) recognize that the *entire length*[] of the ROW and any new or improved access roads are potential sources of significant additional sediment....") (emphasis in original); *id.* at 5

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<sup>9</sup> The Service appears to acknowledge that the incomplete information and flawed analysis that the 2017 BiOp relies on also undermines its effects analysis and associated conclusions regarding other species. *See, e.g.*, FWS 4/12/19 Letter at 2 ("Using the information obtained under 'Sediment Analysis' above, provide an analysis of effects to candy darter and its proposed critical habitat.").

(“long-term sediment-loading seems certain, given the tree-clearing, trenching, and grading that has occurred along the ROW, including portions with steep slopes and highly erodible soils.”).

Given these information/data gaps and substantiated concerns regarding the flawed assumptions and analyses undergirding the BiOp, the agencies must reinitiate consultation.

## **2. Virginia’s lawsuit against Mountain Valley Pipeline, LLC**

The BiOp states that “temporary and permanent controls [sic] measures such as silt socks, reinforced ‘super’ silt fence, slope breakers, trench breakers, trench drains, erosion control matting, and hydro-mulching will be put in place to minimize erosion and sedimentation.” MVP BiOp at 7. But grave doubts regarding the efficacy of these E&S control measures, and MVP’s compliance with them, have proven to be well-founded. Citizens have documented hundreds of examples of excessive sedimentation caused by MVP construction.<sup>10</sup>

In December 2018, Virginia Attorney General Mark Herring and the Virginia Department of Environmental Quality (“VADEQ”) filed a lawsuit against Mountain Valley Pipeline, LLC for violating “the Commonwealth’s environmental laws and regulations as well as MVP’s Clean Water Act Section 401 Water Quality Certification by failing to control sediment and stormwater runoff *resulting in impacts to waterways....*”<sup>11</sup> An inspection company contracted by VADEQ “to monitor MVP’s compliance identified more than 300 violations between June and mid-November 2018, mostly related to improper erosion control and stormwater management.”<sup>12</sup>

Notably, “*any* additional sediment-loading is inherently problematic for persistence of RLP populations.” Angermeier 10/23/18 Email (attachment at 1) (emphasis added). Accordingly, information regarding both the efficacy of the selected erosion and sediment control measures and MVP’s failure to comply with them – and consequent impacts on streams and rivers – constitutes “new information” that “reveals effects of the action that may affect” the Roanoke logperch and other imperiled species “in a manner or to an extent not previously considered.” 50 C.F.R. § 402.16(b).

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<sup>10</sup> See, e.g., December 2018 Report to Virginia Water Control Board, *available at* <https://www.newrivergeographics.com/mvw/reports/december-2018-report-to-virginia-water-control-board/>.

<sup>11</sup> <https://www.oag.state.va.us/media-center/news-releases/1341-december-7-2018-herring-and-deq-file-suit-over-environmental-violations-during-construction-of-mountain-valley-pipeline> (emphasis added).

<sup>12</sup> *Id.* See also Laurence Hammack, “Criminal investigation of Mountain Valley Pipeline underway, document shows,” *The Roanoke Times*, Feb. 15, 2019 (noting that since construction started, “crews have repeatedly run afoul of regulations meant to keep muddy runoff from contaminating nearby streams and rivers”).

### **3. Flawed assumptions regarding sediment containment**

Even if Mountain Valley Pipeline, LLC were to reverse course and fully comply with the applicable E&S requirements, the BiOp's analysis of sedimentation impacts (and thus impacts to the Roanoke logperch and other species) is fundamentally flawed. The MVP BiOp states that the duration of effects depends on avoidance and minimization measures (AMMs), "which are anticipated to reduce surface water runoff and sedimentation, *on average 79% sediment containment...*" *Id.* at 24 (emphasis added). The BiOp maintains that implementation of these AMMs "is expected to *significantly reduce* the likelihood of mortality or injury and reduce adverse effects from habitat alteration." *Id.* (emphasis added).

But these AMMs that are slated to play such a crucial role in protecting imperiled species are not as effective as the Service assumed. The Fourth Circuit recently concluded that the U.S. Forest Service acted arbitrarily and capriciously in adopting the sedimentation analysis in FERC's EIS, noting that the Forest Service had expressed "grave concerns about the sedimentation impact" and had "expressed nothing but skepticism of the 79% figure for more than three months" (before inexplicably reversing its position). *Sierra Club v. U.S. Forest Serv.*, 897 F.3d 582, 595 (4th Cir. 2018), *reh'g granted in part*, 739 F. App'x 185 (4th Cir. 2018). *See also id.* ("Forest Service proposed the 48% figure as a *ceiling...* for sediment containment") (emphasis added); *id.* at 592 (during a May 2017 meeting to discuss the Forest Service's concerns that 79% was a "vast overestimate" of containment, "MVP representatives expressed "concern[ ] that lowering the containment value from 79% to 48% ... *would have ramifications for the entire project analysis...*"") (internal citation omitted, emphasis in opinion). The Service has not analyzed "the likelihood of mortality or injury" to the Roanoke logperch or other species, or adverse effects from habitat alteration, under a scenario where the AMMs have an average containment value of 48% or lower, rather than 79%. *See also Forest Guardians v. Johanns*, 450 F.3d 455, 466 (9th Cir. 2006).

In sum, the BiOp substantially underestimates the MVP's sedimentation impacts, and thus underestimates effects on the Roanoke logperch, as well as other endangered and threatened species.<sup>13</sup> As a result, these imperiled species will be harmed in ways not contemplated in the BiOp or allowed under the incidental take statement.

### **4. Dr. Angermeier's comments on the Roanoke logperch portion of the BiOp further demonstrate that consultation must be reinitiated**

The Service's April 12 letter also requests "additional sediment analysis as outlined in the October 23, 2018, email and associated attachment (enclosed) from Dr. Paul Angermeier,

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<sup>13</sup> See MVP BiOp at 21 (noting, with respect to effects on the small whorled pogonia, that AMMs "are anticipated to reduce surface water runoff and sedimentation, on average 79% sediment containment...").

Assistant Unit Leader, U.S. Geological Survey Virginia Cooperative Fish and Wildlife Research Unit.” FWS 4/12/19 Letter at 1. In that email, Dr. Angermeier notes that the BiOp contains “several important shortcomings” that “led to significant underestimates of potential MVP impacts on RLP,” and that it “does not require implementation of a monitoring protocol that can provide scientifically credible estimates of take.” Angermeier 10/23/18 Email at 1.

The Service is under a clear statutory mandate to use “the best scientific and commercial data available” during the Section 7 consultation process. 16 U.S.C. § 1536(a)(2). But it failed to do so, and as a result “[c]rucial unanswered questions” remain regarding the MVP’s sedimentation impacts and the concomitant effects on the Roanoke logperch. Angermeier 10/23/18 Email (attachment at 2). Dr. Angermeier specifically identifies key weaknesses in four analytical choices that caused the agencies to significantly underestimate potential impacts of the MVP on the Roanoke logperch:

- 1) ***Narrow spatial focus on MVP crossings of five RLP streams.*** Dr. Angermeier notes that the analysis focused narrowly on five stream/river crossings, and that sediment-loading impacts were assumed to extend for only one kilometer at each of those crossings, even though the right-of-way “encompasses dozens of perennial-stream crossings, many more (not estimated) ephemeral-channel crossings, and hundreds of acres of severely disturbed land within the geographic range of RLP.” *Id.* at 2. *See also id.* at 3 (“narrowly focusing on a few stream crossings produces a distorted assessment of the actual impacts of the MVP on RLP populations.”). Consequently, the BiOp “greatly underestimates the overall potential contribution by the MVP to additional sediment-loading in RLP catchments and reaches,” and thus “under-emphasizes the risk to RLP posed by catchment-wide sediment-loading.” *Id.* at 2. The protocol outlined by Dr. Angermeier to estimate sediment impacts should be followed. *See id.* at 3. Because the project’s true sedimentation impacts and concomitant effects on Roanoke logperch have not been adequately assessed, consultation must be reinitiated and construction halted.
- 2) ***Under-estimates of RLP abundance.*** Dr. Angermeier explains that the omission of information regarding sampling effort and RLP sizes suggests that the abundance estimates in the BiOp are “unreliable.” *Id.* at 4. The methodologies he suggests for providing meaningful estimates of RLP abundance should be followed. *See id.* He also notes that dead specimens are “poor indicators of take” because “[t]he probability of finding a RLP killed via MVP activities is nearly nil except in fish-removal operations, which represent a tiny proportion of potential MVP impacts.” *Id.* Accordingly, “[a] more reasonable and reliable approach to assess take is to use a well designed scheme to regularly monitor habitat suitability and RLP abundance in areas downstream of MVP activities.” *Id.* These comments should be taken into account during renewed consultation.

- 3) ***Under-estimates of MVP effects on RLP fitness.*** Dr. Angermeier highlights several places where the Service has underestimated MVP's impacts on Roanoke logperch fitness. The Service must address these deficiencies before construction activities may continue. For example, during renewed consultation, the Service must address his point that time-of-year-restrictions "cannot address indirect and/or cumulative effects of MVP sediment loading on a) young-of-year growth and survival, which is *crucial to population persistence* or b) general habitat suitability, including for spawning, in subsequent seasons and years." *Id.* at 5 (emphasis added).
- 4) ***Optimistic expectations for erosion/sediment control and ecosystem recovery.*** The 2017 BiOp adopted an "overly optimistic view of the efficacy of erosion/sediment control measures" (as discussed above) as well as "the rates of ecosystem recovery following completion of MVP construction." *Id.* An assessment of the project's impacts on the Roanoke logperch must include credible estimates of sediment containment "based on models and/or field data representing site-specific sediment-loading and sediment-containment at stream crossings in RLP catchments." *Id.* at 5-6. In addition, the BiOp "should clarify that the RLP take associated with a months-long timeframe is likely to be much smaller than the take associated with a years-long timeframe, which would affect multiple reproductive seasons." *Id.* at 6. Importantly, "such differences in take have important implications for meeting the more general challenge of recovering RLP from its endangered status." *Id.*

In addition, in a section entitled "Monitoring and reporting needs," Dr. Angermeier describes key uncertainties germane to RLP management, and criticizes the BiOp for "frequently assert[ing] 'expected' or 'anticipated' outcomes based on scant data or previous experience." *Id.* He also points out that "the monitoring and reporting requirements laid out for the MVP in the [BiOp] are sorely inadequate to assess potential impacts on RLP or to suggest informed modifications to MVP activities to better protect RLP." *Id.*

The deficiencies outlined above are fatal because they go to "the extent and magnitude of impacts to RLP, as well as to rates and degrees of ecosystem recovery following MVP completion." *Id.* Dr. Angermeier outlines seven features that must be included in any "scientifically defensible assessment of potential MVP impacts on RLP – including acute, chronic, and cumulative effects." *Id.* at 7. No further construction may proceed unless and until these deficiencies are remedied, including the design and implementation of adequate monitoring and assessment protocols.

## **II. The Service Should Vacate its Unlawful Incidental Take Statement**

The rangewide status of the Indiana bat (“Ibat”) is declining, and “the degree of threat to the continued existence of the species is high.” MVP BiOp at 10. Virginia and West Virginia hibernacula surveys indicate that Indiana bat populations have decreased “at least 95%” since the discovery of white-nose syndrome. *Id.* at 19. *See National Wildlife Fed’n v. National Marine Fisheries Serv.*, 524 F.3d 917, 930 (9th Cir. 2008) (“even where baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm”). The BiOp recognizes that Indiana bat conservation needs include “offsetting adverse impacts to the species and promoting recovery.” MVP BiOp at 10.

### **A. The Service’s Incidental Take Statement violates the ESA**

“Take” is broadly defined to include killing, injuring, harming, and harassing species, or modifying its habitat in a way that harms wildlife by disrupting behavior patterns. 16 U.S.C. § 1532(19); 50 C.F.R. § 17.3. As part of consultation, the Service must provide “a statement concerning incidental take, if such take is reasonably certain to occur.” 50 C.F.R. § 402.14(g)(7). The ITS must “specif[y] those reasonable and prudent measures . . . necessary or appropriate to minimize” the take of listed species. *Id.* § 402.14(i)(1)(ii). Take of a protected species is a criminal violation under the ESA unless it complies with the limits of a valid ITS.

Accordingly, the ESA requires an ITS to set clear, enforceable limits. This serves to prevent excessive take of protected species and to trigger renewed consultation and analysis if impacts exceed projections. Whenever possible, the trigger “should be expressed as a specific number” of individuals that may be taken by the project. *Oregon Nat. Res. Council v. Allen*, 476 F.3d 1031, 1037 (9th Cir. 2007); *see also* Final ESA Section 7 Consultation Handbook, March 1998 at 4–50. The Service may use “a surrogate” trigger only if it is “not practical” to define a numerical limit, and only in compliance with additional requirements. 50 C.F.R. § 402.14(i)(1)(i). The surrogate “cannot be so indeterminate as to prevent the [ITS] from contributing to the monitoring of incidental take by eliminating its trigger function.” *Oregon Nat. Res. Council*, 476 F.3d at 1041.

Here, the Service’s ITS describes the amount of take anticipated for various types of Indiana bat habitat as a “[s]mall percent of individuals present” within that habitat. MVP BiOp at 41. This standard is so vague that it effectively grants the pipeline an unlimited license to take protected species. The Service did not demonstrate that a clear, numerical limit is not practical. Notably, when the Forest Service revised the land management plan of the Jefferson National Forest in 2003, FWS determined that take of Indiana bat would be “difficult to detect,” yet still

set a numerical limit on take of 10 Indiana bats.<sup>14</sup> Similarly, when the Forest Service revised its land management plan for the George Washington National Forest in 2014, FWS issued an ITS with a specific numeric limit of “up to 7 Indiana bats on an annual basis...”<sup>15</sup>

The ITS clearly violates the ESA. The Service’s incidental take statement for the similarly situated Atlantic Coast Pipeline (“ACP”) also “set take limits as a ‘small percent’ ... of the species within set geographic areas.” *Sierra Club v. U.S. Dep’t of the Interior*, 899 F.3d 260, 271 (4th Cir. 2018). The Fourth Circuit noted that “there is no clear and enforceable standard of take” because “it is impossible to know what a ‘small percent’ of bats is.” *Id.* at 279. The court concluded that “[b]ecause the Indiana Bat take limit is not a meaningful trigger, it violates the Endangered Species Act.” *Id.* at 280. Accordingly, the court vacated the ITS. *Id.* at 281. Because the ITS for MVP suffers the same defect and is patently unlawful, the Service should voluntarily vacate it.<sup>16</sup> Before construction may proceed, the Service must issue a new ITS that remedies the defects of the invalid statement.

## **B. Construction activities that occur after tree clearing will adversely affect the Indiana bat**

According to the MVP BiOp, the subactivities of the project that are likely to adversely affect the Indiana bat “all ... involve tree removal.” MVP BiOp at 25. MVP’s filings with FERC indicate that tree felling along the right-of-way is substantially complete.<sup>17</sup> But most construction activities – including grading, blasting, trenching, transportation of pipe segments to the right-of-way, welding, lowering-in, and backfilling – occur *after* tree removal. FERC has recognized that these pipeline construction activities negatively affect the Indiana bat:

- “Construction activities occurring within 5 miles” of Indiana bat hibernacula can “cause individuals to avoid these hibernacula, which could also reduce species fitness by interrupting breeding during fall swarming.” ACP Final EIS at 4-266.<sup>18</sup>

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<sup>14</sup> *Biological Opinion on the 2003 Revision of the Jefferson National Forest Land and Resource Management Plan* at 33-34 (Jan. 13, 2004).

<sup>15</sup> *Update to the Biological Opinion on the 2014 Revision of the George Washington National Forest Land and Resources Management Plan* at 2 (April 21, 2014).

<sup>16</sup> Similarly, for the Northern long-eared bat, the ITS describes the amount of take anticipated as a “[s]mall percent of individuals present within 16.8 acres” that are within 0.25 mile of three known hibernacula in the action area. MVP BiOp at 42. *See Sierra Club*, 899 F.3d at 281 (“[I]t is impossible to know how many bats constitute a ‘small percent.’ Therefore, there is no clear and enforceable standard of take.... Because the Northern Long-Eared Bat take limit is not a meaningful trigger, it violates the Endangered Species Act.”). *See also* MVP FEIS at 4-230 (“general construction disturbance would affect northern long-eared bats”).

<sup>17</sup> [http://elibrary.ferc.gov/idmws/file\\_list.asp?accession\\_num=20190411-5035](http://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20190411-5035).

<sup>18</sup> These examples from the Atlantic Coast Pipeline Final EIS apply to MVP. *See, e.g.*, ACP Final EIS at 4-600 (noting that MVP is “1 mile or less from proposed ACP facilities”).



- “Noise emissions and vibrations resulting from construction activities or aboveground facility operation in proximity to hibernating or roosting bats could also wake up bats from hibernation, cause bats to avoid certain areas, or alter foraging behaviors and habitat use.” *Id.* (citation omitted).
- “[I]ncreased vehicular and heavy construction equipment along access roads [can] disturb hibernating bats.” *Id.* at 4-267
- Impacts to subsurface karst systems upstream of bat hibernacula can “cause changes to structure, hydrology, and/or hibernacula microclimate that could make bat hibernacula unsuitable, and/or disrupt hibernating bats, *leading to mortality.*” *Id.* at 4-267 (emphasis added).
- “Blasting could impact bats by causing rocks to fall or mines to collapse that would *injure, kill,* or trap hibernating bats, or causing bats to awaken during hibernation, decreasing their fitness by causing them to deplete their limited fat reserves prematurely.”<sup>19</sup> *Id.* (emphasis added).
- “Noise and lights associated with nighttime construction activities when bats are foraging (e.g., HDD, facility construction) may affect protected bat species, particularly in areas of limited habitat where bat colonies are already stressed.” *Id.* at 4-268.

Thus, although much of the tree clearing along the MVP route may have already occurred, other construction and operational activities that have not yet taken place would harm the Indiana bat. *See also* MVP Final EIS at 4-230 (“general construction disturbance would affect Indiana bats”); MVP BiOp at Table 4 (noting that stressor pathways associated with trenching include “loss or alteration of hibernacula, instream sedimentation & water flow disruption, human presence & noise”); FWS 4/12/19 Letter at 2 (“Describe, in detail, additional bat habitat within each habitat category that will be impacted as a result of restoration work not analyzed in the November 21, 2017, Opinion.”). Accordingly, there are still actions that can be taken or measures implemented to reduce harm, including death, to the Indiana bat.

In sum, the Service should vacate the unlawful ITS. Future construction activities threaten to harm, harass, injure and kill individual bats. Mountain Valley Pipeline, LLC and FERC cannot rely on a legally deficient ITS to provide a shield from penalties for takings.

### **C. The Service must take into account new information regarding sedimentation**

As described above in section I.B., there is substantial new information regarding the efficacy of the erosion and sediment control measures, as well as lack of compliance with those measures. As with the Roanoke logperch, there are associated adverse impacts to the Indiana bat that were not accounted for in the MVP BiOp. *See, e.g.*, FWS 4/12/19 Letter at 2 (“Describe, in

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<sup>19</sup> The MVP BiOp acknowledges that blasting may be used in areas where hard bedrock is close to the surface. MVP BiOp at 6.

detail, any failed E&S controls or slips that resulted in any additional effects to bats or their habitat that were not analyzed in the November 21, 2017, Opinion.”).

In addition, the BiOp stated that MVP’s NPDES permit (WV) and Project Specific Standards & Specifications Plan (VA) “are expected to limit the loss of aquatic invertebrates,” such that “any loss of Ibat forage will be minor and effects to Ibats will be insignificant.” MVP BiOp at Table 4. *See also id.* (“Impacts to stream biota will be temporary, limited, and localized and not expected to cause any noticeable decrease in Ibat foraging.”); *id.* (same for wetland biota). Under the ESA, take includes “harm,” which in turn includes “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, *feeding* or sheltering.” 50 C.F.R. § 17.3 (emphasis added).

During the renewed consultation process, the Service must analyze whether these impacts on the Indiana bat, including impacts from slips and effects on foraging, are more severe than contemplated in the 2017 BiOp.

### **III. During Renewed Consultation, the Service Should Evaluate Potential Effects on the Newly Listed Yellow Lance**

On April 3, 2018, the Service issued a final rule listing the yellow lance as threatened under the ESA. 83. Fed. Reg. 14,189 (April 3, 2018). Reinitiation of formal consultation is required when “a new species is listed . . . that may be affected by the action,” so long as “discretionary Federal involvement or control over the action has been retained or is authorized by law.” 50 C.F.R. § 402.16(d).

The MVP could affect yellow lance habitat: “The route for the MVP pipeline would cross Craig Creek . . . within the VADCR-designated Craig Creek-Johns Creek Stream Conservation Unit. This conservation unit contains habitat for yellow lance (*Elliptio lanceolate*), [and] Atlantic pigtoe (*Fusconaia masoni*)....”<sup>20</sup> MVP Final EIS at 4-198. Although “[m]ussel surveys for the MVP did not document yellow lance mussels at any of the waterbody crossings,” *id.* at 4-235, mussels are difficult to detect, and sedimentation caused by pipeline construction can affect individuals located downstream from crossings. Moreover, the yellow lance is a Forest Service Sensitive Species that is within or near portions of the Jefferson National Forest crossed by the MVP, and the Final EIS acknowledges that individuals may be impacted. *Id.* at 4-253.

\* \* \*

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<sup>20</sup> The Atlantic pigtoe, which the Final EIS acknowledges “could be affected by the MVP,” has been proposed for listing as threatened. MVP Final EIS at 4-248.

There is ample “new information” revealing effects of MVP “that may affect listed species ... in a manner or to an extent not previously considered.” 50 C.F.R. § 402.16(b). In addition, the take limits for the Indiana bat and Northern long-eared bat violate the Endangered Species Act. Accordingly, we respectfully request that the Service confirm that it will immediately reinstitute consultation and vacate the unlawful ITS.

Sincerely,



Elly Benson  
Sierra Club

*On behalf of Appalachian Voices, Sierra  
Club, and Wild Virginia*

cc: Spencer Simon (USFWS)  
Cindy Schulz (USFWS)  
John Schmidt (USFWS)  
Kimberly Bose (FERC)  
James Martin (FERC)  
Paul Friedman (FERC)  
William Walker (USACE)  
Timothy Abing (USFS)  
Jennifer Adams (USFS)  
Rene Hypes (VDCR-DNH)  
Ernie Aschenbach (VDGIF)  
Cliff Brown (WVDNR)

# Exhibit 2



625 Liberty Avenue, Suite 2000 | Pittsburgh, PA 15222  
844-MVP-TALK | [mail@mountainvalleypipeline.info](mailto:mail@mountainvalleypipeline.info)  
[www.mountainvalleypipeline.info](http://www.mountainvalleypipeline.info)

August 8, 2019

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE  
Washington, DC 20426

Re: Mountain Valley Pipeline, LLC  
Docket No. CP16-10-000  
Supplement to Variance Request No. A-78

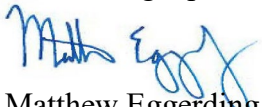
Dear Ms. Bose:

On July 29, 2019, Mountain Valley Pipeline, LLC filed Variance Request No. A-78. In this filing, Mountain Valley provides additional information regarding slide MVP-A-063 and MVP-A-064. The slide repair authorization requested in Variance Request No. A-78 would require tree clearing out of season at approximate milepost 1.50. Due to the unstable nature of this slide, Mountain Valley is requesting emergency authorization from the Federal Energy Regulatory Commission to cut trees necessary to repair the slide prior to November 15, 2019. This slide was identified on April 22, 2019 and was stabilized. Following a significant rain event on July 7, 2019, additional slide movement was observed on July 11, 2019. The progression of the slide caused additional area outside the limits of disturbance to destabilize, uprooted numerous large trees, has the potential to impact an aquatic resource, and has progressed to the point where a residence directly downslope is unsafe to be occupied. Mountain Valley Pipeline must stabilize the slide before it causes damage or injury to the landowners and resources located down-slope of the slide.

If you have any questions, please do not hesitate to contact me at (412) 553-5786 or [MEggerding@equitransmidstream.com](mailto:MEggerding@equitransmidstream.com). Thank you.

Respectfully submitted,

MOUNTAIN VALLEY PIPELINE, LLC  
by and through its operator,  
EQM Gathering Opco, LLC

By:   
Matthew Eggerding  
Assistant General Counsel

cc: All Parties  
Paul Friedman, OEP  
Lavinia DiSanto, Cardno, Inc.  
Doug Mooneyhan, Cardno, Inc.

# Exhibit 3



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

300 Westgate Center Drive  
Hadley, MA 01035-9589



In Reply Refer To:  
FWS/Region 5/ES

APR 12 2019

Ms. Kimberly Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, D.C. 20426

Attn: James Martin, Branch Chief

Re: Mountain Valley Pipeline, LLC; Docket Number CP16-10-000; Project #05E2VA00-2016-F-0880 and #05E2WV00-2015-F-0046

Dear Ms. Bose:

On November 21, 2017, the U.S. Fish and Wildlife Service (Service) provided you with a non-jeopardy biological opinion (Opinion) based on our review of the referenced project and its effects on the federally listed endangered Indiana bat (*Myotis sodalis*) and Roanoke logperch (*Percina rex*) and the threatened northern long-eared bat (*Myotis septentrionalis*), small whorled pogonia (*Isotria medeoloides*), and Virginia spiraea (*Spiraea virginiana*) in accordance with Section 7 of the Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA).

The Federal Energy Regulatory Commission (FERC) has not requested reinitiation of consultation on the referenced project; however, FERC requested that the Service provide a list of questions and information/data needs to assist FERC and the Service in determining how best to proceed under the ESA regarding certain activities related to the Mountain Valley Project (MVP). The questions and information/data needs are provided below by topic. Please do not include the information regarding landslide conditions provided by Mountain Valley Pipeline, LLC to FERC on March 29, 2019.

### Sediment Analysis

- Conduct and provide an analysis of the efficacy of MVP's current Erosion & Sediment (E&S) Control Plan to estimate past/current/future effectiveness of the plan. This plan serves as the foundation of any current/future sediment analysis.
- Conduct and provide additional sediment analysis as outlined in the October 23, 2018, email and associated attachment (enclosed) from Dr. Paul Angermeier, Assistant Unit Leader, U.S. Geological Survey Virginia Cooperative Fish and Wildlife Research Unit.
- Coordinate with U.S. Forest Service to determine what additional sediment analysis may be requested from MVP in response to the *Sierra Club, Inc. v. United States Forest Service*, 897 F.3d 582 (4th Cir. Jul. 27, 2018) Opinion. Provide any additional sediment analysis, including assumptions and methods used in the analysis.
- Conduct an analysis of, and provide copies of any other available/readily obtainable sedimentation model data from any source that addresses concerns about implementation and efficacy of sediment and erosion control measures. Especially useful would be any data regarding effects on aquatic species.

- Describe, in detail, any failed E&S controls or slips that resulted in any additional effects to any listed species or their habitat that were not analyzed in the November 21, 2017, Opinion. Include, at a minimum, the location, extent, and duration of the action (provide GIS shapefiles) and an analysis of effects to each listed species.

Candy Darter (*Etheostoma osburni*), federally listed endangered with proposed critical habitat)

- In Virginia, Stony Creek is occupied by candy darter and is proposed as critical habitat for candy darter. No instream work is proposed for the crossing of Stony Creek; the proposed crossing method is conventional bore. Provide additional review of the geotechnical analysis by a qualified individual to verify that the potential risks of the conventional bore technique are as minimal as described in the July 25, 2018, memorandum entitled “Stony Creek Bore Crossing, Summary of Electrical Resistivity (ER) Study,” from Billy Newcomb, Draper Aden Associates to Megan Stahl, MVP.
- MVP was provided candy darter location/survey data from the West Virginia Division of Natural Resources that was not included in FERC’s February 14, 2018, request to the Service for formal conference on the candy darter. Update the February 14, 2018, “Species Assessment to Address Potential Impacts to the Candy Darter” to include any available new information and analyses and provide to the Service.
- Using the information obtained under “Sediment Analysis” above, provide an analysis of effects to candy darter and its proposed critical habitat.

Roanoke Logperch (RLP)

- Provide confirmation that time-of-year restrictions for RLP as described in FERC’s MVP and Equitrans Expansion Project FEIS (2017) and BA (2017) for MVP and analyzed in the 11/21/2017 Opinion will continue to be implemented. If time-of-year restrictions will not be adhered to, provide an explanation of the reason, a detailed description regarding the time of year that project activities are proposed to occur, and an analysis of effects to RLP.
- Using the information obtained under “Sediment Analysis” above, provide an analysis of effects to RLP. Using the results of this analysis, provide an explanation as to whether effects to RLP from upland sedimentation were considered in the November 21, 2017, Opinion.

Indiana Bat/Northern Long-eared Bat

- Provide acres of tree removal and time of year the tree removal occurred within each bat habitat category (as defined in the November 21, 2017, Opinion) to date (e.g., X acres of unknown spring staging habitat was cleared in the month of X). Also provide this data as GIS shapefiles.
- Provide confirmation that time-of-year restrictions for tree clearing as described in FERC’s MVP and Equitrans Expansion Project FEIS (2017) and BA (2017) for MVP and analyzed in the November 21, 2017, Opinion will continue to be implemented. If time-of-year restrictions will not be adhered to, provide an explanation of the reason, a detailed description regarding the time of year that project activities are proposed to occur, and an analysis of effects to each bat species.
- Describe, in detail, any failed E&S controls or slips that resulted in any additional effects to bats or their habitat that were not analyzed in the November 21, 2017, Opinion. Include, at a minimum, the location, extent, and duration of the action (provide GIS shapefiles); the bat habitat category; and an analysis of effects to each bat species.
- Explain whether the slip/restoration estimates that MVP provided to the Service via email on December 2, 2018, include acreage amounts for future slip repair work. Provide a detailed explanation of how that amount was estimated and an analysis of effects to each bat species.
- Describe, in detail, additional bat habitat within each habitat category that will be impacted as a result of restoration work not analyzed in the November 21, 2017, Opinion. Include, at a minimum, the location, extent, and duration of the action (provide GIS shapefiles); the bat habitat category; and an analysis of effects to each bat species.



- Provide an analysis of how the results of MVP's Acoustic Bat Study Annual Report for PS-WV3-Y Mines, Greenville Saltpeter Cave, Canoe Cave, and Tawney's Cave, dated January 30, 2019, change any of the assumptions/determinations made in the November 21, 2017, Opinion.

Small Whorled Pogonia (SWP)/Virginia Spiraea (VASP)

- Provide an updated determination of effects to SWP since all surveys have been completed and no SWP was identified.
- Describe, in detail, any failed E&S controls or slips that resulted in any additional effects to SWP or VASP or their habitat that were not analyzed in the November 21, 2017, Opinion. Include, at a minimum, the location, extent, and duration of the action (provide GIS shapefiles), and an analysis of effects to each plant species.
- Describe, in detail, the amount of suitable SWP/VASP habitat that will be affected by restoration activities (provide GIS shapefiles) that was not analyzed in the
- November 21, 2017, Opinion and an analysis of effects to each plant species.

Stream Crossings/Route Alterations

- Provide confirmation that stream crossing locations and methods and route alignments and associated facilities, as described in FERC's MVP and Equitrans Expansion Project FEIS (2017) and BA (2017) for MVP and analyzed in the November 21, 2017, Opinion, have not changed and will continue to be implemented. If locations, methods, and/or alignments will not be adhered to, provide an explanation of the reason, a detailed description regarding the revised location, method, and/or alignment proposed, and an analysis of effects to each species analyzed in the November 21, 2017, Opinion.

Other Listed Species (species in the BA (2017) for MVP and the August 4, 2017 letter from the Service to FERC for which a "may affect, not likely to adversely affect" determination was made)

- Using the information obtained under "Sediment Analysis" above, provide an explanation of any change in effects analyzed for each of these species. If there is a change in effect to any species, indicate the revised Section 7 determination and the basis for that determination.
- Describe, in detail, any failed E&S controls or slips that resulted in any additional effects to these species or their habitats. If there is a change in effect to any species, indicate the revised Section 7 determination and the basis for that determination.
- Describe, in detail, if any of these species or their habitat will be affected by restoration activities (provide GIS shapefiles). If there is a change in effect to any species, indicate the revised Section 7 determination and the basis for that determination.

The Service requests that all responses and related information/data be provided to:

Spencer Simon  
Deputy Assistant Regional Director, Ecological Services  
U.S. Fish and Wildlife Service  
300 Westgate Center Drive  
Hadley, MA 01035-9589  
Phone 413-253-8578  
[Spencer\\_simon@fws.gov](mailto:Spencer_simon@fws.gov)

John Schmidt  
Field Supervisor  
U.S. Fish and Wildlife Service  
West Virginia Field Office  
90 Vance Drive  
Elkins, WV 26241  
Phone 304-636-6586 x 16  
[John\\_schmidt@fws.gov](mailto:John_schmidt@fws.gov)

Cindy Schulz  
Field Office Supervisor  
Virginia Ecological Services  
U.S. Fish and Wildlife Service  
6669 Short Lane  
Gloucester, VA 23061  
Phone 804-824-2426  
[Cindy\\_schulz@fws.gov](mailto:Cindy_schulz@fws.gov)

If you have any questions regarding this request or our shared responsibilities under the ESA, please contact Kyla Hastie, Assistant Regional Director, Ecological Services at 413-253-8304 or via electronic mail at [Kyla\\_Hastie@fws.gov](mailto:Kyla_Hastie@fws.gov).

Sincerely,



ACTING

Kyla Hastie  
Assistant Regional Director  
Ecological Services

Enclosure

cc: Corps, Norfolk, VA (Attn: William Walker)  
FERC, Washington, DC (Attn: Paul Friedman)  
USFS, Atlanta, GA (Attn: Timothy Abing)  
USFS, Roanoke, VA (Attn: Jennifer Adams)  
VDACS, Richmond, VA (Attn: Keith Tignor)  
VDCR-DNH, Richmond, VA (Attn: Rene Hypes)  
VDGIF, Richmond, VA (Attn: Ernie Aschenbach)  
WVDNR, Elkins, WV (Attn: Cliff Brown)  
MVP, Pittsburgh, PA (Attn: Joseph Dawley)  
MVP, Pittsburgh, PA (Attn: Megan Stahl)

**From:** [Angermeier, Paul](#)  
**To:** [Cindy Schulz](#); [Troy Andersen](#); [Hoskin, Sumalee](#)  
**Subject:** [EXTERNAL] MVP impacts on RLP  
**Date:** Tuesday, October 23, 2018 10:46:09 AM  
**Attachments:** [Angermeier comments on BO re MVP impacts on RLP.docx](#)

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Dear Cindy, Troy, and Sumalee,

With all the recent renewed scrutiny of MVP environmental impacts, including some permits being vacated and/or revised, I decided to take a close look at the Roanoke Logperch portion of the BO you submitted to FERC on 21 Nov 2017. I did not see (and was not asked to review) the BO before it was submitted. The BO clearly represents a TON of work, which I imagine had to be done in a painfully short timeline and under significant duress. However, I've identified several important shortcomings (see attached) that I believe led to significant underestimates of potential MVP impacts on RLP, as summarized in the BO. More importantly, the BO does not require implementation of a monitoring protocol that can provide scientifically credible estimates of RLP take, whatever that turns out to be.

I don't know if my comments can be put to any particular use, as I'm unfamiliar with your political and bureaucratic constraints in the context of managing potential environmental impacts on RLP. Perhaps my comments and the BO are moot at this stage of the MVP project. Alternatively, perhaps you will have upcoming opportunities to re-engage with MVP proponents regarding impact monitoring and assessment – this is my hope. Or perhaps my comments can be useful in your management of the Atlantic Coast Pipeline, which I expect to have similar environmental impacts.

In any case, I welcome the opportunity to discuss my comments and/or their implications if you think that would be helpful.

Sincerely,  
Paul

Paul L. Angermeier  
Virginia Cooperative Fish and Wildlife Research Unit  
Dept. of Fish and Wildlife Conservation  
Virginia Tech  
Blacksburg, VA 24061-0321  
Phone: 540-231-4501; Fax: 540-231-7580

## **Angermeier Comments on RLP Portion of MVP Biological Opinion**

### **Partial list of acronyms used below**

BO – Biological opinion  
FERC – Federal Energy Regulatory Commission  
MVP – Mountain valley pipeline  
RLP – Roanoke Logperch  
ROW – right-of-way  
RRFRP – Roanoke River Flood Reduction Project  
RUSLE – revised universal soil loss equation  
SWAT – Soil and water assessment tool  
TOYR – time-of-year restriction  
USACE – U.S. Army Corps of Engineers  
USFWS – U.S. Fish and Wildlife Service  
VAFWIS – Virginia Fish and Wildlife Information Service  
VDGIF – Virginia Department of Game and Inland Fisheries

### **Fine-sediment impacts on RLP**

Excess fine sediment in streams/rivers is presumably a primary cause of imperilment and a primary obstacle to recovery for RLP. Specific mechanisms of impact are largely unknown; impairment of foraging is anecdotally expected. However, excess fine sediment probably adversely affects *all* RLP life stages, including eggs, larvae, juveniles, adults, and spawners. Sediment effects on RLP reproduction, growth, and survival – the main components of fitness – are cryptic and uncertain because they remain unstudied. Even so, most of the risks to RLP listed on page 9-10 of the BO (eg, dams, urbanization, agriculture, silviculture, channelization, roads, riparian loss) are linked by their contributions to sediment mobilization from offstream sources and/or deposition on stream/river bottoms.

Overall, sediment-loading to streams/rivers must be considered – and managed as – a widely dispersed, chronic, incremental, and catchment-wide threat to RLP status and recovery. Although quantitative relationships between sediment-loading and habitat suitability or between habitat suitability and RLP abundance have not been developed, any additional sediment-loading is inherently problematic for persistence of RLP populations. Moreover, impacts of fine sediment can be managed *only* via preventative measures; very few management options exist after sediment enters waterways.

The MVP's *primary* potential impact on RLP is additional sediment-loading to streams/rivers relative to present conditions. The MVP ROW is by far the greatest potential source of additional sediment; another significant potential source is new and/or improved access roads, especially where grading and/or culvert installation are involved. The threat of additional sediment-loading is especially high during the construction phase but will remain significant throughout the restoration and maintenance phases until/unless highly effective sediment-control measures are implemented. To my knowledge, credible estimates of additional sediment-loading (temporary or permanent) from any of these sources have not been developed.

Additional sediment-loading – and its concomitant effects on RLP – will *undoubtedly* occur because of the MVP. Crucial unanswered questions germane to this impact include: a) how much additional sediment will be loaded? b) where specifically will sediment be loaded? c) over what timeframes (seasonal and annual) will sediment be loaded? d) how effective will proposed sediment-control measures be? e) how will additional sediment-loading affect RLP habitat suitability? and f) how will alterations in habitat suitability affect RLP distribution, abundance, and population structure? I have not thoroughly reviewed the thousands of pages of documents submitted by MVP proponents regarding asserted environmental impacts and/or mitigation, but none of the documents I have seen address these questions in sufficient detail to assess objectively the likely impacts of the MVP on RLP. Such an assessment would need to be based on well designed pre-construction surveys and spatial modeling, followed by well designed post-construction monitoring and spatial modeling. Further, to be credible, this assessment would need to be conducted by an independent agent who lacked conflicts of interest in appeasing proponents of the MVP. I offer additional comments on monitoring needs below.

In general, analysis of sediment-loading is complex, requiring attention to a suite of catchment-wide components such as uplands, riparian zones, ephemeral channels, and perennial streams. Key features affecting sediment-loading include land cover, topography, soil type, streambank stability, and precipitation. Because of the cumulative downstream direction of sediment-loading, instream conditions observed at any given point reflect the integration of offstream and instream conditions at many other points (some remote) upstream. Thus, observed local impacts to reaches occupied by RLP could originate from many areas upslope or upstream in the catchment. Fortunately, there are multiple, widely available, standardized tools designed to estimate soil loss (eg, RUSLE) or sediment-loading (eg, SWAT), which can be used to characterize spatial variation, identify likely hot-spots, and assess efficacy of sediment-control measures. Sediment estimates can be derived for specific source areas (eg, sections of ROW) or for entire catchments to reflect cumulative effects. However, to my knowledge such analyses have neither been performed by MVP proponents nor requested in the BO. Thus, current assessments of MVP impacts on RLP seem to be based on little more than vague assertions and expert guesses. Alternative approaches to impact assessment are needed to inform management choices.

### **Underestimating RLP take**

In developing the BO, several analytical choices were made that seem to significantly underestimate potential impacts of the MVP on RLP. Below, I outline key weaknesses of four of these choices.

#### Narrow spatial focus on MVP crossings of five RLP streams

Although the MVP ROW encompasses dozens of perennial-stream crossings, many more (not estimated) ephemeral-channel crossings, and hundreds of acres of severely disturbed land within the geographic range of RLP, the analysis presented in the BO focuses narrowly on five stream/river crossings where RLP are likely to occur (Bradshaw Creek, Harpen Creek, North Fork Roanoke River, Roanoke River, and Pigg River). Sediment-loading impacts were assumed to extend for only 1 km at each crossing (200 m above and 800 m below). Based on stream/river lengths, these 5 km represent “0.32% of the total RLP potential habitat in the Roanoke River basin”. This narrow site-specific focus greatly underestimates the overall potential contribution by the MVP to additional sediment-loading in RLP catchments and reaches. In short, the BO over-emphasizes the risk to RLP posed by the take of individuals trapped behind cofferdams but under-emphasizes the risk to RLP posed by catchment-wide sediment-loading.

I suggest replacing the sediment-impact protocol described in the BO with one that more fully engages the scientific knowledge and tools available for assessing sediment impacts. A more instructive and reliable protocol for estimating sedimentation impacts would a) recognize that the *entire lengths* of the ROW and any new or improved access roads are potential sources of significant additional sediment; b) use models to estimate how much sediment will be mobilized from those sources; c) map the juxtaposition of sediment sources (in terms of water flow-paths) to all riparian zones, ephemeral channels, and perennial streams in RLP catchments; d) use a reasonable flow-attenuation factor to estimate how much of the initially mobilized sediment will eventually reach perennial streams over a 3-year timeframe; and e) assume that all additional sediment entering any perennial streams in RLP catchments will eventually enter (and adversely affect) RLP reaches. Such a protocol embraces the notion that sediment-loading to streams/rivers comprises widespread, diffuse, cumulative, and long-term processes. Moreover, I expect an analysis similar to that described above to show that far more than 0.32% of the RLP habitat in the Roanoke River basin will be adversely affected by the MVP.

The narrow focus on five stream crossings underpins the USFWS's decision to exclude certain MVP activities from consideration regarding their potential impacts on RLP. In particular, Table 3 shows that activities related to trenching, pipe stringing, regrading, and access roads were assigned NE or NLAA ratings. Although these activities intuitively seem likely to involve mobilization of additional sediment, they were excluded because they will be associated with cofferdams at stream crossings. However, these activities will extend far beyond stream crossings and are likely to contribute to additional sediment-loading (albeit dispersed), as discussed above. I suggest these activities be considered more fully as potential sources of additional catchment-wide sediment and included in the more comprehensive sediment-impact analysis described above.

The narrow focus on five stream crossings also underpins the BO's limited discussion of MVP impacts on RLP individuals and populations (page 33-34). The discussion implies the main impacts will be centered around stream crossings and cofferdams. However, given that significant additional catchment-wide sediment-loading is likely (as explained above), MVP impacts on RLP foraging and reproduction are likely to extend far beyond the focal stream crossings. Even incremental impairment of foraging could reduce growth, survival, and/or reproductive success of individual RLP, which could collectively threaten population persistence. RLP can disperse great distances (as described on page 13) but little is known about the spatial distribution of key source-habitats for recruitment. We do know, however, that catchment-wide processes influence local abundances. Thus, narrowly focusing on a few stream crossings produces a distorted assessment of the actual impacts of the MVP on RLP populations. That said, the severity and precise spatial distribution of such impacts is impossible to estimate without more specific knowledge of the spatiotemporal dynamics of sediment-loading from the MVP.

#### Under-estimates of RLP abundance

The BO applies a protocol that seems to under-estimate RLP abundance at and near focal stream crossings. For example, the abundance estimates for Bradshaw Creek, Halpern Creek, and Pigg River (page 15-16) are based on RLP occurrences documented in VAFWIS within a set fluvial distance from each crossing (6 km, 6km, and 24 km, respectively). Two important types of information – sampling

effort and RLP sizes – are missing from the BO’s analysis. Together, these omissions suggest the abundance estimates are unreliable.

The sampling extents of the specific collections that reported these occurrences are not described in the BO but it seems highly unlikely that the collections involved continuous, targeted surveys for RLP in all suitable habitat throughout the set fluvial distances. Rather, these collections probably are haphazardly located relative to all suitable habitat within the set fluvial distances and, so, represent only a small proportion of suitable habitat and the RLP living there. To provide meaningful estimates of RLP abundance near the stream crossings, counts from VAFWIS collections would need to be pro-rated to account for the area of suitable habitat actually sampled via a protocol targeting RLP. Other sampling protocols, such as those typically used in fish surveys, are likely to greatly under-estimate RLP abundance. Further, pro-rated counts of collected RLP would need to be extrapolated across all suitable habitat within the set fluvial distances from the crossings. I expect RLP abundance estimates calculated in this way to be much greater than those appearing in the BO.

The lengths of RLP reported in the VAFWIS collections are not described in the BO but it seems highly likely they were adults and/or subadults. Younger RLP (eg, larvae and young-of-year) live in different habitats and are rarely collected via standard fish-survey methods. Patterns of distribution and abundance of young RLP are scarcely documented but we do know their numbers swell each spring, probably reaching abundances at least 10 times those of adults. Further, suitable spawning habitat may occur in streams smaller than (but connected to) those where adults typically occur during post-spawning periods. Because young RLP are also sensitive to fine sediment, I suggest they not be ignored in assessments of MVP impacts. Thus, any estimates of the numbers of RLP likely to be affected by MVP activities should account for large seasonal pulses in abundances of young RLP.

On page 44, the BO describes reporting requirements for dead RLP “to enable the Service to determine if take is reached or exceeded”. Although dead specimens may be of interest in some contexts (eg, forensic investigations), they are poor indicators of take. The probability of finding a RLP killed via MVP activities is nearly nil except in fish-removal operations, which represent a tiny proportion of potential MVP impacts. Moreover, in my 29-year experience of working with RLP, I have never heard of anyone finding a dead young RLP, even though deaths of young RLP are certainly far more common than deaths of adults. Thus, reporting of dead RLP, even by competent searchers, is a sorely inadequate basis for assessing take. A more reasonable and reliable approach to assess take is to use a well designed scheme to regularly monitor habitat suitability and RLP abundance in areas downstream of MVP activities.

#### Under-estimates of MVP effects on RLP fitness

Several places in the BO suggest MVP impacts on RLP fitness (ie, reproduction, growth, and/or survival) have been under-estimated. For example, the BO recognizes in multiple contexts that increases in sediment/turbidity may impair RLP foraging and/or force them to “move to areas with cleaner substrate” (page 24), which “will cause decreased fitness to the majority of RLP that moved”. However, this view fails to mention two key aspects of such forced migration. First, foraging costs also apply to RLP living outside the newly degraded habitat, as they will need to share scarce food resources with the RLP migrants. That is, the migrants are not the only RLP that suffer MVP impacts on fitness. Second, impaired foraging does not mean that RLP simply get by with less food. Rather, impaired foraging for

individuals translates into reduced growth, survival, and reproductive capacity, which translates into reduced population density. Importantly, the degree of these impairments/reductions will remain unknown because no one is being required to measure them.

Further, the protective benefits of TOYRs are over-estimated. On page 34, the BO asserts “A TOYR ... to protect RLP during their spawning season will be implemented, which will minimize the potential for effects from sedimentation.” TOYRs are valuable but affect *only* the sediment mobilized during the (restricted) period of interest. Sediment mobilized during the rest of the year can still damage RLP habitat and reduce fitness during the year it is mobilized, as well as in subsequent years as it is transported through the ecosystem. Thus, TOYRs can minimize immediate direct effects of construction activities on RLP spawning and larval stages but TOYRs cannot address indirect and/or cumulative effects of MVP sediment-loading on a) young-of-year growth and survival, which is crucial to population persistence or b) general habitat suitability, including for spawning, in subsequent seasons and years.

#### Optimistic expectations for erosion/sediment control and ecosystem recovery

Multiple statements in the BO suggest an overly optimistic view of the efficacy of erosion/sediment control measures and the rates of ecosystem recovery following completion of MVP construction. For example, in discussing the potential impacts of instream structures (page 24), the BO states “After removal of structures and a return to baseline turbidity conditions, we anticipate that RLP will resume use of crossings.” Although no timeframe is specified, the wording implies that habitat recovery and resumed use by RLP will occur in <1 year – that is, within the lifespans of the migrants forced to leave because of reduced habitat suitability. However, instream sediment conditions need not return to baseline immediately after local additional sediment-loading stops. Sediment dynamics are complex and can take decades to return to baseline, especially if some additional sediment-loading continues indefinitely. For the MVP, such long-term sediment-loading seems certain, given the tree-clearing, trenching, and grading that has occurred along the ROW, including portions with steep slopes and highly erodible soils. Further, sediment mobilized in portions of RLP catchments upstream of RLP occurrences may easily take decades to find its way to RLP-occupied habitats. Finally, RLP population responses to MVP impacts are also highly complex and uncertain. In short, the timeframes for stream/river recovery from MVP impacts are impossible to estimate without clearer answers to the questions posed above (page 2 of this document): a) how much additional sediment will be loaded? b) where specifically will sediment be loaded? c) over what timeframes (seasonal and annual) will sediment be loaded? d) how effective will proposed sediment-control measures be? e) how will additional sediment-loading affect RLP habitat suitability? and f) how will alterations in habitat suitability affect RLP distribution, abundance, and population structure?

On page 24, the BO cites reports by MVP proponents to assert that erosion/sediment control measures “are anticipated to reduce surface water runoff and sedimentation, on average 79% sediment containment”. Given the steep slopes and erodible soils associated with much of the MVP ROW, this level of sediment containment seems intuitively unrealistic. I am very skeptical of this efficacy estimate, and my skepticism is supported by the MVP’s frequent violations of water-quality permits over the past few months (not to mention the many complaints by nearby landowners about offstream sediment deposition). Credible estimates of sediment containment would need to be based on models and/or field data representing site-specific sediment-loading and sediment-containment at stream crossings in



RLP catchments. This sort of science-based evidence of the efficacy of erosion/sediment control measures does not appear in the BO or any other MVP documents that I have seen.

Regardless of the eventual (and uncertain) timeframe for RLP recovery from MVP impacts, the BO should clarify that the RLP take associated with a months-long timeframe is likely to be much smaller than the take associated with a years-long timeframe, which would affect multiple reproductive seasons. Moreover, such differences in take have important implications for meeting the more general challenge of recovering RLP from its endangered status.

### **Conclusions section**

Some conclusions asserted on page 38 of the BO seem unjustified relative to what is needed to advance general recovery of RLP. In particular, based on what is presented, “the potential for cumulative effects in the action area” was superficially assessed. Further, concluding that “These types of effects of the proposed action are not currently considered primary factors influencing the status of the species” seems to contradict the well-supported notions that a) the MVP’s primary potential impact on RLP is additional sediment-loading and b) excess fine sediment in streams/rivers is a primary threat to RLP.

### **Monitoring and reporting needs**

Well designed monitoring and assessment protocols are the main scientific approaches to informing management decisions in the face of uncertainty. The potential impacts of the MVP on RLP involve many forms of uncertainty, with some potential impacts being severe enough to impede RLP recovery. Key uncertainties germane to RLP management include a) which MVP activities are most/least impactful; b) how MVP activities will affect instream habitat suitability; and c) how shifts in habitat suitability will affect RLP distribution and abundance. Relations among these factors are far too complex and uncertain to infer or assume outcomes based on what is now known about MVP activities. Even so, the BO frequently asserts “expected” or “anticipated” outcomes based on scant data or previous experience. These expectations apply to the extent and magnitude of impacts to RLP, as well as to rates and degrees of ecosystem recovery following MVP completion. Overall, this situation suggests a focused and effective monitoring plan is crucial protecting RLP. However, the monitoring and reporting requirements laid out for the MVP in the BO are sorely inadequate to assess potential impacts on RLP or to suggest informed modifications to MVP activities to better protect RLP. Below, I summarize key shortcomings of the proposed monitoring.

The BO’s main reference to monitoring is on page 7-8, including the following text: a) “environmental inspectors (EIs) will be employed to ensure that construction complies with construction and mitigation plans”; b) “a third-party compliance monitoring program will be funded to provide daily environmental monitoring services during construction”; and c) “monitoring of all disturbed upland areas will be conducted for at least the first and second growing seasons”. These monitoring efforts seem to be narrowly focused on upland disturbances within the ROW, with no attention paid to sediment transported out of the ROW (eg, into streams) or to its ecological consequences for habitat suitability or RLP populations. As described in the BO, the monitoring plan has no capacity to assess MVP impacts on a) instream habitat suitability for RLP or b) population responses of RLP, in terms of distribution and/or abundance. However, as explained above, these are the main ecological signals that need to be monitored to meaningfully assess MVP impacts on RLP.

A scientifically defensible assessment of potential MVP impacts on RLP – including acute, chronic, and cumulative effects – would include the following seven features: 1) spatiotemporal design amenable to before-after-control-impact analyses; 2) accurate characterization of pre-construction conditions to establish baselines; 2) spatiotemporal extent commensurate with the spatiotemporal extent of potential impacts and recovery (in this case, across multiple catchments and years); 3) monitoring frequency capable of detecting seasonal ecological responses; 4) dual focus on responses by instream habitat and RLP populations; 5) pre-determined criteria for what degrees of impact are acceptable; 6) pre-determined criteria for what degrees of recovery are acceptable; and 7) pre-determined procedures for altering MVP activities if unacceptable outcomes are observed. However, few of these features are clearly articulated in the BO. Page 44 alludes to “a RLP survey and habitat assessment at North Fork Roanoke River, Bradshaw Creek, Roanoke River, Pigg River, and Harpen Creek crossings 6 months the to assess the status of the RLP”, but too little information is provided to show that such data can be meaningfully interpreted to assess MVP impacts.

Another factor affecting the scientific defensibility of assessments is the choice of agents engaged to conduct monitoring and/or assessment. Page 44 of the BO implies that any “qualified surveyor(s) with a valid VDGI Permit” will suffice. However, I suggest that only independent agents (ie, those with no conflicts of interest to appease MVP proponents) are likely to produce objective, credible assessments. Further, I think it is unreasonable to expect USFWS to conduct (or pay for) the surveys and analyses needed to support reliable assessments of MVP impacts on RLP. However, it does seem reasonable for USFWS to request (require?) MVP proponents to pay for such work via independent agents.

The BO ignores the uncertainty associated with the effectiveness of potential restoration actions, thereby discounting the importance of monitoring their outcomes. Page 34 states “funds will be provided to continue and expand restoration efforts along the North Fork Roanoke River ... that tangibly benefits the RLP”. I certainly favor effective restoration efforts, but I know of no restoration study that shows ‘tangible benefits’ to RLP. The BO goes on to correctly state “restoration activities can provide a multitude of environmental and economic benefits including ... improved water quality; augmentation of habitat diversity; re-establishment of critical watershed functions; increased property and aesthetic values; and reduction of flood damages and riparian property loss.” Although all the mentioned benefits are plausible (and largely presumed), none can be measured or demonstrated without proper monitoring. To ensure restoration efforts are cost-effective, scientifically sound monitoring designs need to be set up *before* additional funds are invested in restoration actions. Such designs can ensure that restoration success is assessed objectively and that managers learn valuable lessons to apply to future restoration efforts. Finally, the BO offers a caveat: “the nature and extent of that benefit is not determinable at this time.” I agree, and suggest that benefits of restoration actions will never be ‘determinable’ unless proper monitoring of outcomes is implemented regularly.

### **Procedural issues**

The main source of my experience with how potential impacts of large construction projects on RLP are assessed and managed is my 27-year engagement with the RRFRP. Notably, I worked closely with the USFWS throughout the RRFRP. Thus, I am puzzled by the striking differences in assessment approach adopted by the USFWS for of these two projects. In particular, the BO for the RRFRP required the USACE

to monitor RLP abundance and habitat conditions for a multi-year period that included pre-construction, construction, and post-construction phases. However, my reading of the BO for the MVP suggests a much more lax approach regarding potential impacts on RLP, with minimal monitoring requirements and practically no statistical capacity to assess potential impacts. I think this disparity is unjustified, as the MVP is likely to a) affect more river km of suitable RLP habitat and b) cumulatively generate more additional sediment-loading. Although much of the MVP disturbance will occur farther from surface waters than the RRFRP disturbance, the steeper terrain of the former suggests the potential for greater erosion and transport of fine sediment, with much of it (basically not estimated) eventually entering riparian zones, ephemeral channels, and/or perennial streams. Thus, I am keen to hear the USFWS's rationale for the differences in their approach regarding these two projects.

I am also puzzled by why I was not consulted in any substantive way during the development of the BO for the MVP regarding potential impacts on RLP. Key advantages to engaging with me to help develop the BO include 1) my long history (35 yrs) of work on fish-habitat associations; 2) my long history (29 yrs) of RLP work, including 10 peer-reviewed papers; 3) my extensive experience monitoring potential impacts of construction on RLP; 4) my ongoing partnerships with the USFWS related to RLP conservation; 5) my recent work on relations between sediment-loading and instream habitat quality; and 6) my position as a federal scientist. In retrospect, I believe my involvement in developing the BO could have significantly improved its scientific foundation for assessing impacts of the MVP on RLP.

Document Content(s)

20190412\_letter\_Service to FERC\_MVP.PDF.....1-13

# Exhibit 4



625 Liberty Avenue, Suite 2000 | Pittsburgh, PA 15222  
844-MVP-TALK | mail@mountainvalleypipeline.info  
www.mountainvalleypipeline.info

August 8, 2019

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street NE  
Washington, DC 20426


Re: Mountain Valley Pipeline, LLC  
Docket No. CP16-10-000  
Weekly Status Report No. 91

Dear Ms. Bose:

On October 13, 2017, the Federal Energy Regulatory Commission issued an order granting a Certificate of Public Convenience and Necessity to Mountain Valley Pipeline, LLC ("Mountain Valley") for the Mountain Valley Pipeline Project in the above-identified docket. On October 31, 2017, Mountain Valley submitted its Implementation Plan for the Project. In compliance with Environmental Condition Nos. 8 and 14, Mountain Valley submits its status report for the week ending July 26, 2019.

If you have any questions, please do not hesitate to contact me at (412) 553-5786 or meggerding@equitransmidstream.com. Thank you.

Respectfully submitted,  
MOUNTAIN VALLEY PIPELINE, LLC  
by and through its operator,  
EQM Gathering OPCO, LLC

By:   
Matthew Eggerding  
Assistant General Counsel

Attachments

cc: All Parties  
Paul Friedman, OEP  
Lavinia DiSanto, Cardno, Inc.  
Doug Mooneyhan, Cardno, Inc.

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**FEDERAL AUTHORIZATIONS**

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Mountain Valley continues discussions with applicable agencies regarding permits.

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**CONSTRUCTION STATUS**

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Construction activities and progress are included in Appendix A.

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**WORK PLANNED FOR NEXT REPORTING PERIOD**

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Spreads A-F and H continue construction deliverables.

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**SCHEDULE CHANGES**

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There are no required schedule changes for waterbody crossings or work in other environmentally sensitive areas.

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**ENVIRONMENTAL ISSUES**

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The table in Appendix B summarizes problem area reports (PAR) and noncompliance reports (NCR) issued for the Project during the reporting period, as well as corrective actions taken to resolve each of the issues.

In the event Mountain Valley receives correspondence from other federal, state, or local permitting agencies concerning instances of noncompliance during the reporting period, Mountain Valley will include or reference such correspondence, as well as Mountain Valley's response thereto, in Appendix C.

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**LANDOWNER RESOLUTIONS**

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The table in Appendix D includes information regarding landowner concerns and how they were resolved.

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**VARIANCE CONDITIONS**

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In the event Mountain Valley is required to provide supplemental documentation as a condition to a variance request granted by the Federal Energy Regulatory Commission, Mountain Valley will include or reference such variances, as well as the required reporting, in Appendix E.

## Appendix A Construction Status

Docket No. CP16-10-000  
Weekly Report No. 91  
Report Period: 07/20/19- 07/26/19

Activity Name	Activity Status	% Complete
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### Compressor Stations

#### Bradshaw

Bradshaw Civil - Tree Felling	Completed	100%
Bradshaw Civil - Road Construction	Completed	100%
Bradshaw Civil - Site Construction	Completed	100%
Bradshaw Civil - Post Site Construction/Reclamation	Completed	100%
Bradshaw Mechanical - Office Building Area	Completed	100%
Bradshaw Mechanical - Discharge Filter Area	Completed	100%
Bradshaw Mechanical - Auxiliary Equipment Area	Completed	100%
Bradshaw Mechanical - Blowdown Silencer Area	Completed	100%
Bradshaw Mechanical - Gas Cooler Area	Completed	100%
Bradshaw Mechanical - Compressor Building Area	Completed	100%
Bradshaw Mechanical - Suction Filter Area	Completed	100%
Bradshaw Mechanical - Launcher/Receiver Area	Completed	100%
Bradshaw Mechanical - Produced Fluids Area	In Progress	99.24%
Bradshaw Mechanical - Site Work Area	In Progress	83.92%
Bradshaw Mechanical - Commissioning	Not Started	0%

#### Harris

Harris Civil - Tree Felling	Completed	100%
Harris Civil - Road Construction	Completed	100%
Harris Civil - Site Construction	Completed	100%
Harris Civil - Post Site Construction/Reclamation	Completed	100%
Harris Mechanical - Office Building Area	Completed	100%
Harris Mechanical - Auxiliary Equipment Area	Completed	100%
Harris Mechanical - Blowdown Silencer Area	Completed	100%
Harris Mechanical - Gas Cooler Area	Completed	100%
Harris Mechanical - Compressor Building Area	Completed	100%
Harris Mechanical - Suction Filter Area	Completed	100%
Harris Mechanical - Launcher/Receiver Area	Completed	100%
Harris Mechanical - Produced Fluids Area	Completed	100%
Harris Mechanical - Site Work Area	Completed	100%
Harris Mechanical - Commissioning	Not Started	0%

#### Stallworth

Stallworth Civil - Tree Felling	Completed	100%
Stallworth Civil - Road Construction	Completed	100%
Stallworth Civil - Site Construction	Completed	100%
Stallworth Civil - Post Site Construction/Reclamation	Completed	100%
Stallworth Mechanical - Office Building Area	Completed	100%
Stallworth Mechanical - Auxiliary Equipment Area	Completed	100%
Stallworth Mechanical - Blowdown Silencer Area	Completed	100%
Stallworth Mechanical - Gas Cooler Area	Completed	100%
Stallworth Mechanical - Compressor Building Area	Completed	100%
Stallworth Mechanical - Suction Filter Area	Completed	100%
Stallworth Mechanical - Launcher/Receiver Area	Completed	100%
Stallworth Mechanical - Produced Fluids Area	Completed	100%
Stallworth Mechanical - Site Work Area	Completed	100%
Stallworth Mechanical - Commissioning	Not Started	0%



## Appendix A Construction Status

Docket No. CP16-10-000  
Weekly Report No. 91  
Report Period: 07/20/19- 07/26/19

Activity Name	Activity Status	% Complete
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### Interconnects

#### Mobley

Mobley Civil - Tree Felling	Completed	100%
Mobley Civil - Road Construction	Completed	100%
Mobley Civil - Site Construction	Completed	100%
Mobley Civil - Post Site Construction/Reclamation	Completed	100%
Mobley Mechanical - GC Building Area	Completed	100%
Mobley Mechanical - CV Building Area	Completed	100%
Mobley Mechanical - Meter Building Area	Completed	100%
Mobley Mechanical - Filter Area	Completed	100%
Mobley Mechanical - Launcher/Receiver Area	Completed	100%
Mobley Mechanical - Site Work Area	Completed	100%
Mobley Mechanical - Commissioning	Not Started	0%

#### Sherwood

Sherwood Civil - Tree Felling	Not Started	0%
Sherwood Civil - Road Construction	Not Started	0%
Sherwood Civil - Site Construction	Not Started	0%
Sherwood Civil - Post Site Construction/Reclamation	Not Started	0%
Sherwood Mechanical - GC Building Area	Not Started	0%
Sherwood Mechanical - CV Building Area	Not Started	0%
Sherwood Mechanical - Meter Building Area	Not Started	0%
Sherwood Mechanical - Filter Area	Not Started	0%
Sherwood Mechanical - Launcher/Receiver Area	Not Started	0%
Sherwood Mechanical - Site Work Area	Not Started	0%
Sherwood Mechanical - Commissioning	Not Started	0%

#### WB

WB Civil - Tree Felling	Completed	100%
WB Civil - Road Construction	Completed	100%
WB Civil - Site Construction	Completed	100%
WB Civil - Post Site Construction/Reclamation	Completed	100%
WB Mechanical - GC Building Area	Completed	100%
WB Mechanical - CV Building Area	Completed	100%
WB Mechanical - Meter Building Area	Completed	100%
WB Mechanical - Filter Area	Completed	100%
WB Mechanical - Launcher/Receiver Area	Completed	100%
WB Mechanical - Site Work Area	Completed	100%
WB Mechanical - Commissioning	Not Started	0%

#### Transco

Transco Civil - Tree Felling	Completed	100%
Transco Civil - Road Construction	Completed	100%
Transco Civil - Site Construction	Completed	100%
Transco Civil - Post Site Construction/Reclamation	Completed	100%
Transco Mechanical - GC Building Area	Completed	100%
Transco Mechanical - CV Building Area	Completed	100%
Transco Mechanical - Meter Building Area	Completed	100%
Transco Mechanical - Filter Area	Completed	100%
Transco Mechanical - Launcher/Receiver Area	Completed	100%
Transco Mechanical - Site Work Area	Completed	100%
Transco Mechanical - Commissioning	Not Started	0%

## Appendix A Construction Status

Docket No. CP16-10-000  
Weekly Report No. 91  
Report Period: 07/20/19- 07/26/19

Activity Name	Activity Status	% Complete
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### Spreads (Pipeline)

#### Spread A

Spread A - Tree Felling	Completed	100%
Spread A - Clearing	Completed	100%
Spread A - Prepare right-of-way	Completed	100%
Spread A - Trenching	Completed	100%
Spread A - Stringing	Completed	100%
Spread A - Welding	Completed	100%
Spread A - Coating & Wrapping	Completed	100%
Spread A - Backfilling & Tying-in	In Progress	88.72%
Spread A - Internal Cleaning	Not Started	0%
Spread A - Final Restoration	In Progress	32.86%

#### Spread B

Spread B - Tree Felling	Completed	100%
Spread B - Clearing	Completed	100%
Spread B - Prepare right-of-way	Completed	100%
Spread B - Trenching	In Progress	95.72%
Spread B - Stringing	Completed	100%
Spread B - Welding	Completed	100%
Spread B - Coating & Wrapping	Completed	100%
Spread B - Backfilling & Tying-in	In Progress	80.55%
Spread B - Internal Cleaning	Not Started	0%
Spread B - Final Restoration	In Progress	25.69%

#### Spread C

Spread C - Tree Felling	Completed	100%
Spread C - Clearing	Completed	100%
Spread C - Prepare right-of-way	In Progress	99.89%
Spread C - Trenching	In Progress	53.37%
Spread C - Stringing	In Progress	91.46%
Spread C - Welding	In Progress	69.73%
Spread C - Coating & Wrapping	In Progress	62.39%
Spread C - Backfilling & Tying-in	In Progress	49.02%
Spread C - Internal Cleaning	Not Started	0%
Spread C - Final Restoration	In Progress	19.6%

#### Spread D

Spread D - Tree Felling	Completed	100%
Spread D - Clearing	Completed	100%
Spread D - Prepare right-of-way	Completed	100%
Spread D - Trenching	Completed	100%
Spread D - Stringing	Completed	100%
Spread D - Welding	Completed	100%
Spread D - Coating & Wrapping	In Progress	97.19%
Spread D - Backfilling & Tying-in	In Progress	71.51%
Spread D - Internal Cleaning	Not Started	0%
Spread D - Final Restoration	In Progress	15.08%

#### Spread E

Spread E - Tree Felling	Completed	100%
Spread E - Clearing	Completed	100%
Spread E - Prepare right-of-way	Completed	100%
Spread E - Trenching	In Progress	94.81%

## Appendix A Construction Status

Docket No. CP16-10-000  
Weekly Report No. 91  
Report Period: 07/20/19- 07/26/19

Activity Name	Activity Status	% Complete
Spread E - Stringing	In Progress	99.64%
Spread E - Welding	In Progress	98.47%
Spread E - Coating & Wrapping	In Progress	95.51%
Spread E - Backfilling & Tying-in	In Progress	76.58%
Spread E - Internal Cleaning	Not Started	0%
Spread E - Final Restoration	In Progress	32.43%
<b>Spread F</b>		
Spread F - Tree Felling	Completed	100%
Spread F - Clearing	In Progress	97.03%
Spread F - Prepare right-of-way	In Progress	92.9%
Spread F - Trenching	In Progress	84.63%
Spread F - Stringing	In Progress	84.63%
Spread F - Welding	In Progress	84.63%
Spread F - Coating & Wrapping	In Progress	83.76%
Spread F - Backfilling & Tying-in	In Progress	81.47%
Spread F - Internal Cleaning	Not Started	0%
Spread F - Final Restoration	In Progress	32.89%
<b>Spread G</b>		
Spread G - Tree Felling	Completed	100%
Spread G - Clearing	In Progress	64.08%
Spread G - Prepare right-of-way	In Progress	43.82%
Spread G - Trenching	In Progress	19.48%
Spread G - Stringing	In Progress	33.86%
Spread G - Welding	In Progress	21.67%
Spread G - Coating & Wrapping	In Progress	20.03%
Spread G - Backfilling & Tying-in	In Progress	19.48%
Spread G - Internal Cleaning	Not Started	0%
Spread G - Final Restoration	In Progress	5.89%
<b>Spread H</b>		
Spread H - Tree Felling	In Progress	99.7%
Spread H - Clearing	In Progress	68.08%
Spread H - Prepare right-of-way	In Progress	64%
Spread H - Trenching	In Progress	57.9%
Spread H - Stringing	In Progress	56.18%
Spread H - Welding	In Progress	47.79%
Spread H - Coating & Wrapping	In Progress	45.62%
Spread H - Backfilling & Tying-in	In Progress	40.07%
Spread H - Internal Cleaning	Not Started	0%
Spread H - Final Restoration	In Progress	10.81%
<b>Spread I</b>		
Spread I - Tree Felling	Completed	100%
Spread I - Clearing	Completed	100%
Spread I - Prepare right-of-way	Completed	100%
Spread I - Trenching	Completed	100%
Spread I - Stringing	Completed	100%
Spread I - Welding	Completed	100%
Spread I - Coating & Wrapping	Completed	100%
Spread I - Backfilling & Tying-in	In Progress	82.29%
Spread I - Internal Cleaning	Not Started	0%
Spread I - Final Restoration	In Progress	5.03%



## Appendix A Construction Status

Docket No. CP16-10-000  
Weekly Report No. 91  
Report Period: 07/20/19- 07/26/19

Activity Name	Activity Status	% Complete
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### Contractor Yards

#### West Virginia Locations

MVP-LY-013	Completed	100%
MVP-LY-003	Completed	100%
MVP-LY-031	Completed	100%
MVP-LY-057	Completed	100%
MVP-LY-068	Completed	100%
MVP-LY-059	Completed	100%
MVP-LY-038	Completed	100%
MVP-LY-069	Completed	100%
MVP-LY-027	Completed	100%
MVP-CY-002A	Completed	100%
MVP-CY-002	Completed	100%
MVP-LY-030	Completed	100%
MVP-LY-025	Completed	100%
MVP-LY-022	Completed	100%
MVP-LY-005	Completed	100%
MVP-LY-004	Completed	100%
MVP-LY-021	Completed	100%
MVP-LY-001A	Completed	100%
MVP-LY-017	Completed	100%
MVP-LY-001	Completed	100%
MVP-RD-001B	Completed	100%
MVP-LY-051	In Progress	95%
MVP-LY-050	In Progress	55%
MVP-LY-070	In Progress	50%
MVP-LY-058	In Progress	10%
MVP-LY-052	Not Started	0%
MVP-LY-065	Not Started	0%
MVP-LY-037	Not Started	0%
MVP-LY-016	Not Started	0%
MVP-AP-002	Not Started	0%
MVP-SA-001	Not Started	0%
MVP-LOG-001	Not Started	0%
MVP-AP-001	Not Started	0%
MVP-RD-001A	Not Started	0%
MVP-LY-024	Not Started	0%
MVP-LY-002	Not Started	0%

#### Virginia Locations

MVP-LY-046	Completed	100%
MVP-LY-048	Completed	100%
MVP-LY-1019	Completed	100%
MVP-LY-028	Completed	100%
MVP-LY-026	Completed	100%
MVP-LY-034	Completed	100%
MVP-LY-033	Completed	100%
MVP-LY-032	Completed	100%
MVP-PY-006	In Progress	99%
MVP-LY-029	Not Started	0%
MVP-LY-035	Not Started	0%

## **APPENDIX B**

### **ENVIRONMENTAL COMPLIANCE**

The following table summarizes problem area reports (PAR) and noncompliance reports (NCR) issued for the Project during the reporting period, as well as corrective actions taken to resolve the issue (including the cost and effectiveness of the corrective actions).

<b>Compliance</b>	<b>Spread</b>	<b>Location</b>	<b>Description and Date</b>	<b>Correction and Date</b>
PAR	A	201+00	6/22/2018 - Slip began on ROW and overwhelmed and removed diversion berm. Material left the LOD.	Pending – Variance A-32 was approved on 3/29/2019. Trees are felled and stabilization efforts continue.
PAR	A	117+00	9/26/2018 - Return sediment from slipped area.	Pending approval of a variance request (A-31).
PAR	A	AR 13	2/13/2019 - Slip from ROW impacted stream S-A117.	Pending - The work is being monitored daily to avoid impacts to resources and a vac truck is being used to remove materials from the ECD's. Pending variance request approval (A-57).
PAR	A	475+00	4/15/2019 – Slip went off LOD at 475+00.	Pending – ECD's have been installed to prevent impacts to resources. Pending variance request (A-57).

Compliance	Spread	Location	Description and Date	Correction and Date
NCR	D	Access Road AR158	3/11/2019 – Survey crew did not properly stake the LOD. LOD stakes approximately 20 feet offset from actual LOD causing crews to install ECDs (ground disturbance) off LOD.	5/18/19 – Environmental crew moved silt fencing to LOD stakes on 3/11/2019. Temporarily mulched the area disturbed off LOD. Bridge was readjusted 5/18/19.
PAR	E	7235+60	10/3/2018 - A large culvert needs to be installed in W-M23 and matted over. ST 7223+50 holding water, water bar needs to be moved to allow this water to drain into the existing sump.	Pending NWP permits.
PAR	E	6789+40	10/3/2018 - Stream/wetland sinking over where pipe was installed.	Pending NWP permits.
PAR	E	6812+98	10/10/2018 - Seeded 4 weeks ago and seed never took. Area in wetland is subsiding.	Pending NWP permits.
PAR	E	6888+60 to 6895+50	7/23/2019 – Sediment travelled off ROW due to recent heavy rain events.	7/25/19 – Enviro crew recovered off ROW sediment and stabilized area.
PAR	E	7650+00	7/23/2019 – Sediment travelled off ROW due to heavy rain events.	7/24/19 – Enviro crew recovered off ROW sediment and stabilized area.
PAR	E	7678+00 to 7690+00	7/22/2019 – Subsoil was pushed against topsoil in several areas causing small areas of mixing between the two materials.	Pending – Contractor was notified 7/22/19.

Compliance	Spread	Location	Description and Date	Correction and Date
PAR	E	7693+60 to 7719+00	7/23/2019 – Sediment travelled off ROW due to recent heavy rain events.	7/24/19 – Enviro crew recovered off ROW sediment and stabilized area.
NCR	E	7770+00	7/23/2019 – Sediment built up and over off the installed ECDs and into W-L19 and S-L30 due to heavy rain events.	7/26/2019 – Enviro crew removed sediment from resources immediately. ECDs and SSF were replaced and area stabilized 7/26/19.
NCR	E	7725+00	7/22/2019 – Equipment was staged overnight within 100' buffer of W-L17.	7/22/2019 – Equipment was moved for staging outside of the resource buffer.
PAR	E	7753+00 to 7769+00	7/23/2019 – Sediment travelled off ROW due to recent heavy rain events.	7/24/19 – Enviro crew recovered off ROW sediment and stabilized area.
PAR	E	7776+36 to 7881+50	7/23/2019 – Sediment travelled off ROW due to heavy rain events at 7776+36, 7880+50, and 7881+50.	7/23/2019 – Enviro crew began cleanup off sediment off ROW and stabilized area immediately.
PAR	E	8005+00 to 8007+00	7/23/2019 – Sediment travelled off ROW due to heavy rain events at 7776+36, 7880+50, and 7881+50.	7/24/19 – Enviro crew recovered off ROW sediment and stabilized area.
NCR	F	MVP-LY-31	7/17/2018 - Pavement was added but was not mentioned in the variance. Need to write an after the fact variance for the pavement.	Pending approval of a variance request.

Compliance	Spread	Location	Description and Date	Correction and Date
NCR	F	9840+00	2/19/2019 - Off ROW disturbance while pulling back slip material.	Pending – Issue an after the fact variance.
NCR	F	MVP-MO-213	4/1/2019 - Contractor has placed ECD's and rock off LOD of the access road.	Pending – Land agent spoke with L/O and received permission to leave the rock. A variance will be submitted.
PAR	G	11797+00	7/10/2019 – Silt fence perimeter undercut resulting in sediment off ROW.	Pending – Perimeter silt fence repaired 7/10/2019. Pending landowner permission to retrieve off ROW sediment and stabilize area.
NCR	G	11407+61 to 11409+00	6/21/2018 - Livestock fence installed off ROW.	Pending – Fence will be moved to LOD following approval of variance request G-11. Landowner approval pending.
PAR	G	10955+74	8/9/2018 - No RCE in place at road crossing.	Pending – Will be installed once stop work order is lifted and work in this area resumes.
PAR	G	VA-MO-5526	6/3/2019 - Isolated thunderstorms hit ROW which overwhelmed perimeter controls resulting in sediment off ROW.	Pending – Temporary water bars and end treatments were installed upslope and maintenance was performed on ECD's on 6/4/19. Pending landowner approval to recover off ROW sediment.



Compliance	Spread	Location	Description and Date	Correction and Date
PAR	G	VA-MO-3370	6/6/2019 - End treatment undercut resulting in sediment off ROW.	Pending – End treatment repaired on 6/7/19. Landowner approval pending to recover off ROW sediment.
PAR	H	12007+00 to 12013+97	7/16/2019 – Flash flood waters displaced timber mats in the travel lane adjacent to stream S-G36, washing gravel from access road into a hayfield, displaced ECDs at bridge crossing, and shifted timber mats on the bridge over AR 268.01.	7/22/2019 – With landowner permission, timber mat bridge was reset, mats outside of LOD were retrieved, gravel was removed from hayfield, and priority 1 silt fencing and CFS was reinstalled.
PAR	H	12076+50	7/17/2019 – Flash flood waters overwhelmed ECDs at stream bridge S-MM15 damaging CFS, bridge side rails, and depositing sediment in stream channel 75' off ROW.	7/22/2019 – With landowner permission, sediment was retrieved from stream, side rails were reinstalled on bridge, and ECDs were reinstalled.
PAR	H	12078+00	7/17/2019 Flash floodwaters overwhelmed CFS end treatment on a slope breaker during a 3.4" flood event. Sediment was deposited approximately 380' off ROW.	7/22/2019 – CFS outlet repaired, sump cleaned out and armored with stone, and a fill slope drain pipe has been installed to reduce stormwater contact with loose soils. sediment retrieved off ROW after landowner permission was granted.

Compliance	Spread	Location	Description and Date	Correction and Date
PAR	H	12086+56	7/17/2019 – Stormwater overtopped SSF in the corner of the ROW boundary at stream S-MM14 during a 3.4" flash flood event. Sediment deposited 50' off ROW in stream channel.	7/22/2019 – SSF was maintained and with landowner permission, sediment was removed from stream SSF was maintained.
PAR	H	12098+44	7/17/2019 – Stormwater undermined SSF during a rain event and sediment was deposited into S-MM13. Sediment deposited 20' off ROW.	7/26/2019 – SSF was repaired and sediment was removed from the portion of S-MM13 within the ROW on 7/18/19. Landowner permission was acquired and sediment was removed from off ROW on 7/26/2019.
PAR	H	12071+80	7/17/2019 – Stormwater overtopped CFS turn-out and deposited gravel 100' off ROW via a drainage feature that parallels the AR during a 3.4" flash flood event.	7/22/2019 – CFS turn-out was cleaned and repaired and with landowner permission, gravel was removed from the drainage feature and replaced on AR.

Compliance	Spread	Location	Description and Date	Correction and Date
PAR	H	12292+00	7/22/2019 – SSF was overtopped during a rain event. Sediment and stumps washed 100' off ROW.	Pending – Landowner permission to retrieve sediment and stumps off ROW pending.
PAR	H	12331+00	7/17/2019 – During a 0.75" storm event, stormwater overtopped a CFS water bar end treatment and SSF and deposited sediment 380' off ROW.	Pending – A slope pipe was installed across the fill slope and the plunge pool end treatment was cleaned out on 7/18/19. Landowner permission to retrieve sediment off ROW pending.
PAR	H	12544+06	7/23/2019 – Sediment laden water overtopped interim slope breakers during a 2" rain event, depositing spoil in access road MVP-MN-278.01. Sediment laden water travelled down access road approx. 50' and deposited sediment off ROW and in S-EF20a and W-EF5-PFO.	Pending – Protesters attempted to block clean-up efforts by placing logs across the access road. The crew removed the logs and continued to remove sediment from the access road and install perimeter controls. Landowner permission to retrieve sediment off ROW pending.

Compliance	Spread	Location	Description and Date	Correction and Date
PAR	H	12958+00	10/14/2018 - Excessive flood waters from Hurricane Michael washed road base material and gravel out into ag field and stream S-Z17 on access road (MVP-RO-287). Some gravel existed in this area before the installation of the air bridge.	Pending – Landowner permission pending for gravel retrieval. ECD's were repaired and air bridge rock approaches were re-established on 10/14/18. Perimeter control was upgraded to SSF. Pending authorization for off ROW repairs.
PAR	H	12958+00	06/10/2019 - Flood waters washed road base material and gravel out into stream (S-Z17) and wetland (W-IJ62) located along access road MVP-RO-287. Some gravel existed in this area before the installation of the air bridge.	Pending – Landowner permission pending to retrieve gravel outside of the LOD. ECDs were repaired and air bridge rock approaches were re-established on 06/11/19.
PAR	H	12974+29	06/10/2019 - Flood waters washed road base material and gravel out into stream (S-Q20) and wetland (W-Q11) located along access road MVP-RO-288. Some gravel existed in this area before the installation of the air bridge.	Pending - Landowner permission pending to retrieve gravel outside of the LOD. ECDs were repaired and air bridge rock approaches were re-established on 06/11/19.

Compliance	Spread	Location	Description and Date	Correction and Date
PAR	H	13061+00	7/26/2019- Sediment entered S-RR18 as a result of timber mat movement due to construction traffic. Sediment travelled approx. 20' off ROW.	Pending – Landowner permission to retrieve sediment off ROW pending.
PAR	JNF	11584+02	6/25/2018 - Runoff undermined silt fence along the LOD and allowed sediment to migrate off ROW at 11584+02.	Pending – The silt fence was backfilled, but sediment cannot be retrieved until variance request from the USFS is received.
PAR	JNF	11620+62	9/18/2018 - End treatment failed allowing small amount of sediment to migrate beyond LOD.	Pending – ECD's were repaired on 9/18/2018. Pending variance approval to retrieve sediment off LOD.
PAR	JNF	11649+00	09/24/2018 - End treatment failed allowing sediment to migrate beyond approved LOD.	Pending – ECD's were repaired on 9/26/18. Variance from USFS to retrieve sediment requested.
PAR	JNF	MVP-GI-232 142+96 and 143+30	4/17/2019 - Sediment migrated beyond the LOD of Pocahontas Road (MVP-GI-232).	Pending – CFS was installed along the edge of Pocahontas Road to filter runoff and contain sediment to area within the LOD. Work was completed on 4/18/2019. Sediment beyond LOD (less than 5 gallons) was not retrieved. Pending approval from USFS to retrieve.

Compliance	Spread	Location	Description and Date	Correction and Date
PAR	JNF	10412+25 and 10442+00	4/29/2019 - End treatments for water bars at two locations along access road MVP-GI-231 failed. A small amount of sediment migrated beyond LOD at both locations.	Pending – ECD's were repaired on 4/29/19. Sediment to be raked into surface, seeded and mulched. Waiting for USFS approval to complete.
Note: PAR – Problem Area Report; NCR – Noncompliance Report.				

**APPENDIX C****AGENCY CORRESPONDENCE AND RESPONSES****Spread D**

MVP received an NOV from the WVDEP for Spread D. NOV No. W19-51-018-JTL is associated with the partial inspection of the right-of-way completed on June 19, 2019 in Nicholas County, West Virginia.

MVP provided a response to the WVDEP on July 18, 2019. A copy of Nov. No W19-51-018-JTL and a copy of the response letter is included in Appendix C.

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
WV OIL AND GAS CONSTRUCTION STORMWATER PERMIT**

<b>FACILITY NAME:</b>	Mountain Valley Pipeline Project		<b>REG. #</b>	<b>EXPIRE DATE:</b>
<b>PERMITTEE</b>	MOUNTAIN VALLEY PIPELINE, LLC		WVR310667	5/13/2018 Extended: 6/31/2018
<b>ADDRESS/PHONE:</b>	Attn: MATTHEW HOOVER 625 LIBERTY AVE, ST 1700 PITTSBURG, PA 15222 7248733645			
<b>LOCATION:</b>	Spread D		<b>Entry Date/Time:</b>	06/19/19 9:30am
<b>COUNTY:</b>	Nicholas		<b>Exit Date/Time:</b>	06/19/19 2:00pm
<b>Site Representative /Phone</b>	Matt Parsons/Brad Swiger		<b>PHOTOS</b> <input checked="" type="checkbox"/>	
<b>CO-PERMITTEE:</b>			<b>ADDRESS:</b>	
<b>SITE OPERATOR:</b>			<b>ADDRESS:</b>	
<b>PERMITTED ACREAGE</b>	4311	<b>WEATHER:</b>	Sunny	<b>LAST INSPECTION:</b> 6/5/19
<b>RECEIVING STREAM(S)</b>	Jim's Creek			<b>NOV: 1</b>
<b>Regular Mail</b> <input type="checkbox"/> <b>Certified Mail</b> <input checked="" type="checkbox"/> <b>Tracking #</b>				
<b>OVERALL FACILITY RATING:</b>	Unsatisfactory		<b>COMPLIANCE OUTCOME</b>	Not Immediately Corrected

**PERMIT / SITE EVALUATION**

S-Satisfactory	U-Unsatisfactory	N/A-Not Applicable	N/O-Not Observed	N/D Not Determined	M-Marginal	Y-Yes	N-No
1. PERIMETER CONTROLS	S	9. HOUSEKEEPING/SOLID WASTE	S	17. CONCRETE WASHOUT	N/A		
2. DIVERSIONS/DITCH CHECKS	S	10. RECORDS, REPORTS & PLANS ON SITE	N/D	18. PUBLIC NOTICE SIGN	N/D		
3. SEDIMENT TRAPS/BASINS	N/A	11. STABLE CONSTRUCTION ENTRANCE	S	19. SEDIMENT LADEN WATER LEAVING SITE	U		
4. OUTLET MARKERS	N/A	12. MUD ON ROADWAY/DUST	S	20. CONDITIONS NOT ALLOWABLE	No		
5. WASTE/BORROW SITES	N/A	13. APPROPRIATE BMP'S IMPLEMENTED	S	21. SWPPP/ GPP/PERMIT COMPLIANCE	S		
6. OPERATIONS & MAINTENANCE	S	14. FILL SLOPE PROTECTION	S	22. ORDER COMPLIANCE	N/A		
7. WATER BARS	S	15. DEVICES INSTALLED IN TIMELY MANNER	S	23. OTHER:			
8. STABILIZATION PRACTICES	S	16 DROP INLET PROTECTION	N/A	24. OTHER:			

**COMMENTS DEFICIENCIES AND RECOMMENDATIONS**

**Comments:**

A partial inspection of MVP Right of Way (ROW) was conducted for Spread D on 06/19/19 in Nicholas county, WV. MVP ROW was inspected from station No.'s 6587+00 through 6531+00. MVP ROW throughout these station numbers had recently been maintained. Waterbars had been reworked and regraded. Waterbar outlet controls had been maintained, reinforced, and enhanced. However, at station No. 6587+00 where CR18 intersects the MVP ROW there was evidence that several Waterbar outlet controls had failed and a significant amount of sediment deposits were observed past the LOD and above Stream S-L38. These controls had recently been maintained with sections of P1 Silt fence added downslope of the original outlet controls. Scouring of leaf litter was present and evidence that Run-off had entered Stream S-L38 was observed. Stream S-L38 had sediment present both upstream of the MVP



ROW and downstream of where the leaf litter and debris were transported to the bank of this stream. It couldn't be determined if Sediment Laden Water had impacted Stream S-L38 on the day of inspection.

**Areas inspected included:**

- From Station No.'s 6587+00 through 6531+00
- Access Roads MVP-NI-157, MVP-NI-158
- Streams S-L38 and S-L141

**Deficiencies:**

1. (19) Above stream S-L38 evidence was observed that sediment laden water (SLW) had left the site at station No. 6587+00. Sediment deposits were observed below these controls approximately 75 feet towards stream S-L38.

INSPECTOR:  Jason Liddle Telephone: 304-859-4399  
Modified: 10-15-2017 JHH

STATE OF WEST VIRGINIA  
Department of Environmental Protection  
Environmental Enforcement  
NOTICE OF VIOLATION

Violation No **W19-51-018-JTL**

To the Operator or Agent of:

Facility Name: **Mountain Valley Pipeline Project** Permit No. **WVR310667**

Permittee or Individual: **MOUNTAIN VALLEY PIPELINE, LLC**

Located at or near: **CR 18 ROW crossing at Station No. 6587+00** in **Nicholas** County

Representative: **MATTHEW HOOVER** Date: **6/19/19** Time: **12:00pm**

Address / phone number: **625 LIBERTY AVE, ST 1700, PITTSBURG, PA 15222 / 7248733645**

Whereas, an inspection of the above-named operation by the undersigned, duly authorized agent of the Secretary, at which the following described condition or practice exists, in violation of Chapter **22**, Article **11**, Section(s) **1 et. Seq.** of the Code of West Virginia and/or Section(s) of the Rules and Regulations and/or Section(s) **G.** of the Permit referenced above promulgated thereunder in that you:

**Have violated the following terms and conditions of WV General Water Pollution Control Permit No. WV0116815, Registration No. WVR310667:**

**Section G.4.e.2.A.ii.j-Permittee has allowed sediment laden to leave the site without going through and appropriate device: At station No. 6587+00 evidence was observed that sediment laden water had left the site due to sediment deposits being present past controls and the LOD above Stream S-L38.**

The following corrective measures were discussed with you at the time of this inspection:

**Take measures to correct the aforementioned violations.**

Within **20** days provide a written response to the inspector named below, at the address indicated, detailing the actions taken to abate this violation.

Received by:

**Sent Certified Mail--70182290000083446194**

Signature

Title



Duly Authorized Agent /  
Inspector

**304-859-4399**  
Telephone

**Jason.T.Little@wv.gov**  
E-mail

**Send Response to the Inspector at the address indicated below:**

WV Department of Environmental Protection  
Environmental Enforcement / WW  
1159 Rahall Greenway, Fayetteville, WV 25840



Waterbar Outlet and primary controls at Station No. 6587+00 facing towards Additional Workspace and CR 18.



Waterbar Outlet with enhanced secondary controls added at Station No. 6587+00.





Downslope of Waterbar outlet controls at Station No. 6587+00. Arrow depicts Sediment Deposits.



Downslope of Waterbar outlet controls at Station No. 6587+00. Arrow depicts Sediment Deposits.





Sediment deposits present above Stream S-L38.



Sediment deposits above Stream S-L38. Arrow depicts stream location.





Scouring of stream bank below where sediment deposits were observed above Stream S-L38.



Sediment deposits below scouring on stream bank of S-L38 and below controls approximately 75 feet downslope of Station No. 6587+00. Arrow depicts sediment deposits.





Stream S-L38 facing downstream at MVP ROW crossing.



Stream S-L38 facing upstream at MVP ROW crossing.





Facing South at Access Road 157 at Station No. 6549+60.



Facing North towards Access Road 155 and Jim's Creek (Stream S-L141) Crossing at Station No. 6531+00.



July 18, 2019

Mr. Jason Liddle  
West Virginia DEP - Environmental Enforcement/WW  
131 Peninsula St  
Wheeling, WV 25304

**Re: Mountain Valley Pipeline Project (Permit No. WVR310667)  
Response to Notice of Violation No. W19-51-018-JTL**

Dear Mr. Liddle:

This letter is in response to Notice of Violation (NOV) No. W19-51-018-JTL issued to Mountain Valley Pipeline, LLC (Mountain Valley) by the West Virginia Department of Environmental Protection (WVDEP). The inspection was completed on June 19, 2019 along portions of Spread D in Nicholas County.

Mountain Valley investigated accordingly and completed the following corrective actions to address and abate any alleged issues within NOV No. W19-51-018-JTL:

**Corrective Actions**

- The off-site sediment was returned to the right-of-way and these areas were temporarily stabilized with straw mulch.

The attached photographs illustrate the actions that have been incorporated into the project area.

\*\*\*

Mountain Valley believes the issues listed in the NOV have been fully addressed and resolved. If you have questions or need additional information, please do not hesitate to contact me at (724) 873-3009 or via email at [mhoover@equitransmidstream.com](mailto:mhoover@equitransmidstream.com).

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Hoover".

Matthew S. Hoover  
Equitrans Midstream - Sr. Environmental Coordinator

CC: Project File

**Attachment A**  
**Corrective Action Photos**



Photo 1: Photo illustrates the temporary stabilization that has been installed near Station 6587+00.



Photo 2: Photo illustrates the temporary stabilization that has been installed near Station 6587+00.



Photo 3: Photo illustrates the temporary stabilization that has been installed near Stream S-L38



Photo 4: Additional photo illustrating the temporary stabilization near Stream S-L38.



Photo 5: Photo illustrates the upstream reaches of Stream S-L38.



Photo 6: Photo illustrates the downstream reaches of Stream S-L38.



Photo 7: Additional photo of Stream S0L38's downstream reach.

## APPENDIX D

### LANDOWNER CONCERNS

The following table includes information regarding landowner concerns and how they were resolved.

Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
WV-WE-5831	Spread A	4.8	11/13/2018	Pending	<p><b>Issue:</b> L/O called the agent requesting his water source be tested. There has been a noticeable bad taste of water coming out of their faucets.</p> <p><b>Resolution:</b> Environmental has been contacted so water testing can be done.</p> <ul style="list-style-type: none"> <li>• <b>12/12/2018-</b> Water source was tested. Waiting on results.</li> <li>• <b>3/22/2019-</b> The test results have been mailed to the L/O. Environmental is recommending additional retesting.</li> <li>• <b>5/3/2019-</b> The second water test has been completed and the results are pending.</li> <li>• <b>7/22/19</b> – Results sent to the landowner via certified mail.</li> </ul>
WV-BR-046.02.001	Spread C	76.9	7/25/2019	Pending	<p><b>Issue:</b> Rocks need cleaned up from property</p> <p><b>Resolution:</b> Agent is discussing the removal with construction</p>

Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
WV-NI-3521	Spread D	119.4	5/14/2019	7/26/2019	<p><b>Issue:</b> L/O reported cracks in the foundation after blasting. Agent documented photos.</p> <p><b>Resolution:</b> A meeting was scheduled with the L/O, a representative from the blasting company, and an industrial engineer.</p> <ul style="list-style-type: none"> <li>• <b>5/21/2019-</b> Agent and the project manager of Vibra-Tech assessed the foundation cracking. The project manager said a report will be compiled in about a month.</li> <li>• <b>6/14/2019-</b> Waiting for the report to be compiled.</li> <li>• <b>6/21/2019-</b> Agent confirmed the report is still being compiled.</li> <li>• <b>7/19/19</b> – Report will be provided to landowner upon scheduling of appointment.</li> <li>• <b>7/26/2019</b> - Report indicated that blasting did not cause cracks in the foundation</li> </ul>

Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
WV-SU-5334	Spread F	158.9	9/27/2018	Pending	<p><b>Issue:</b> Pellets used to stabilize the ROW for the winter and rainfall were distributed off the LOD.</p> <p><b>Resolution:</b> Agent tried to follow up with the landowner, but now the L/O is being represented by an attorney</p> <ul style="list-style-type: none"> <li>• <b>10/12/2018-</b> Landowner complaint received about pellets dropped on the property. This tract is to be handled through legal and agents are to have no further contact with the L/O.</li> <li>• <b>11/12/2018-</b> L/O's attorney communicated to MVP a request of compensation for damages due to felled trees from MVP's construction activities.</li> <li>• <b>11/15/2018-</b> Damage compensation and documents mailed to attorney for L/O to sign.</li> <li>• <b>4/17/2019-</b> Construction and agents met with the L/O to answer questions.</li> <li>• <b>5/3/2019-</b> Check was mailed for crushed items during construction.</li> <li>• <b>7/16/2019</b> – Landowner has concerns for their organic farm and contaminated water from wash station and equipment destroying farm. Landowner to meet with MVP to discuss on 7/30/19.</li> </ul>



Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
VA-GI-4249	Spread G	213.8	6/28/2019	Pending	<p><b>Issue:</b> Landowner's goats are getting onto the ROW; landowner wants thistle removed from ROW but does not allow herbicides</p> <p><b>Resolution:</b> Documents signed by landowner state that the temporary fence installed to contain goats would be electric; there is not electric fencing installed and the goats are getting thru the barbed wire. Land agent to investigate; inspector to investigate the removal of thistle on the ROW without the use of herbicides.</p> <ul style="list-style-type: none"> <li>• <b>7/16/2019</b> – Agent inspected electric fencing that was installed to contain goats; electric was not working. Crews were notified to fix the fence and remove the thistle from the ROW.</li> <li>• <b>7/26/2019</b> – Landowner addressing issue with thistle himself. Electric fence issue pending.</li> </ul>
VA-GI-4250	Spread G	215	7/3/2019	Pending	<p><b>Issue:</b> Landowner wants thistle removed from ROW before spreading onto his property.</p> <p><b>Resolution:</b> Inspector to identify means to eradicate thistle. If herbicides are used, landowner wants to know exactly what will be used.</p> <ul style="list-style-type: none"> <li>• <b>7/16/2019</b> – Crews on site removing thistle. Silt was found off ROW and crews awaiting permission to retrieve.</li> <li>• <b>7/26/2019</b> – Contractor removing thistle by hand; permission to retrieve sediment pending.</li> </ul>

Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
VA-MO-5528	Spread G	224	6/4/2019	Pending	<p><b>Issue:</b> Silt was off the ROW in several locations. L/O is concerned about sediment in the hayfield and is worried he will not be able to sell the hay in August due to sediment being in it. The L/O signed sediment retrieval documents.</p> <p><b>Resolution:</b> ECDs were repaired or replaced. This will continue to be monitored but the L/O has asked to be compensated.</p> <ul style="list-style-type: none"> <li>• <b>6/13/2019-</b> Meeting was held with the L/O.</li> <li>• <b>6/15/2019-</b> Agent and L/O drove around the property. Most of the silt has washed out of the hayfield from the rains. The L/O pointed out that the sump has a five-inch hole in the bedrock where water runs into. Agent reported this to the karst specialists that will need to inspect.</li> <li>• <b>6/27/2019</b> – Land agent informed the land owner that the karst report will be provided upon finalization.</li> <li>• <b>7/12/2019</b> – Land agent confirmed that the issue has dissipated and there is no remaining trace of silt.</li> <li>• <b>7/17/19</b> – Due to heavy rain, more sediment off ROW. Landowner recently deceased, another part-owner signed documents to retrieve sediment. Land agent to follow up with landowner to confirm issues are resolved.</li> </ul>

Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
VA-FR-050	Spread H	259.2	3/26/2019	Pending	<p><b>Issue:</b> Agent reached out to the L/O about sediment retrieval. L/O is requesting additional payment for not being able to utilize their land for another year due to issues with permits being held up. L/O wants compensated for the delay in the project on their lands before discussing sediment retrieval.</p> <p><b>Resolution:</b> Agent and lead agent are to meet with the L/O to discuss issues in the upcoming weeks.</p> <ul style="list-style-type: none"> <li>• <b>4/11/2019-</b> Agent and L/O viewed the area of concern for sediment retrieval.</li> <li>• <b>4/26/2019-</b> L/O is holding off on signing sediment retrieval documents until the fencing is fixed.</li> <li>• <b>7/5/19</b> – After several attempts, the agent spoke with L/O, negotiating additional L/O requests</li> </ul>

Tract ID	Spread / Facility	Station/ MP	Date of Concern	Date of Resolution	Issue and Resolution
VA-FR-076.01	Spread I	262.4	12/1/2018	Pending	<p><b>Issue:</b> L/O has several issues. Someone has trespassed and put caution tape and cones outside the LOD, timber mats have floated off the LOD and damaged a quarter mile of fencing, and timber has been stolen from the property.</p> <p><b>Resolution:</b> Agent and construction are meeting with the L/O on 12/6/18.</p> <ul style="list-style-type: none"> <li><b>1/25/2019-</b> Construction confirmed that the mats did float off from a storm. They have been waiting on the L/O's approval to retrieve the mats. As soon as the L/O approves the removal, they will be retrieved. If any damage occurs from the retrieval process, then construction will repair the damage. The timber that was in question, was moved from the property to an ATWS. The trees were located and moved back to the property.</li> <li><b>3/1/2019-</b> L/O has denied permission to retrieve the mats off the LOD.</li> <li><b>4/19/2019-</b> The legal group is now handling the case. The attorney for the L/O has the information and the request to retrieve the timber mats.</li> <li><b>7/19/2019-</b> L/O's attorney denied MVP's request to retrieve the timber mats. MVP will continue working with the L/O's attorney.</li> </ul>

**APPENDIX E**  
**VARIANCE CONDITIONS**

None.

# Exhibit 5

# Roanoke Logperch

## *Percina rex*

### Description

This species presently occurs in five populations in widely separated segments of the upper Roanoke, Pigg, Smith, Nottoway, and Meherrin Rivers. This small fish can grow up to 4.5 inches in length. Its back is dark green and its sides are greenish to yellowish, both with dark markings; the belly is white to yellowish.

### Life History

The logperch typically inhabits medium-to-large, warm, usually clear streams and small rivers of moderate to low gradient. Adults usually inhabit the main body of stream pools, runs, and riffles and select areas with exposed, silt free gravel substrate. In the Roanoke and Pigg Rivers, adults were found primarily in runs and riffles. In the Nottoway River, adults were found primarily in pools. Young are usually found in slow runs and pools with clean sandy bottoms. Spawning occurs in April or May in deep runs over gravel and small cobble and logperch typically bury their eggs with no subsequent parental care. This species commonly lives five to six years. Logperch actively feed during the warmer months by flipping over stones with their snout and ingesting the exposed prey that consists of bottom-dwelling insects.

### Conservation

The Roanoke logperch was listed as an endangered species on August 18, 1989. It appears that massive habitat loss associated with the construction of the large impoundments of the Roanoke River Basin in the 1950s and 1960s (Roanoke Rapids, Gaston, Kerr, Leesville, Smith Mountain, and Philpott Reservoirs) was the original cause of significant population declines of this species. These reservoir systems resulted in major disruptions in the ability of this species to move throughout its

historic range. The populations in the Roanoke and Nottoway basins probably represent remnants of much larger populations that once occupied much of the Roanoke and Nottoway River drainage upstream of the fall line. All the populations are small and no genetic exchange occurs among them because they are separated by large impoundments and wide river gaps. Each population is vulnerable because of its relatively low density and limited range. Current threats are nonpoint source pollution and spills and accidents associated with chemical releases and destruction and degradation of habitat. Small logperch populations could go extinct with minor habitat degradation. Water withdrawals may pose a serious threat to the species in the future as the human population of the Roanoke River basin increases.

### What you can do to help

If you own property that borders a stream or other waterway, avoid using chemicals or fertilizers. To help control erosion and reduce runoff, maintain a buffer of natural vegetation along the stream bank. Install fencing to prevent livestock from entering the stream, this will reduce siltation and input of waste products.

To find out more about the Roanoke logperch contact:

**Virginia Department of Game and Inland Fisheries**  
**P.O. Box 11104**  
**Richmond, Virginia 23230**  
**804/367 1000**

### References

Jenkins, R.E. and N.M. Burkhead. 1993. Freshwater fishes of Virginia. American Fisheries Society, Bethesda, Maryland.  
Rosenberger, A.E. 2002. Multiscale habitat use patterns of Roanoke logperch (*Percina rex*) in Virginia



Noel Burkhead  
USGS

rivers: a comparison among populations over ontogeny. Dissertation submitted to the Dept. of Fisheries and Wildlife Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Simonson, T.D. and R.J. Neves. 1986. A status survey of the orangefin madtom and Roanoke logperch. Report to Virginia Commission of Game and Inland Fisheries, Richmond, Virginia.

U.S. Fish and Wildlife Service. 1992. Roanoke logperch (*Percina rex*) recovery plan. Newton Corner, Massachusetts.

**U.S. Fish and Wildlife Service**  
**Virginia Field Office**  
**6669 Short Lane**  
**Gloucester, Virginia 23061**  
**804/693 6694**

**Federal Relay Service**  
**for the deaf and hard-of-hearing**  
**1 800/877 8339**

**U.S. Fish & Wildlife Service**  
**1 800/344 WILD**  
<http://www.fws.gov>

October 2010



# Exhibit 6





May 16, 2019

Kyla Hastie  
Acting Assistant Regional Director  
Ecological Services  
U.S. Fish and Wildlife Service  
300 Westgate Center Drive  
Hadley, MA 01035-9589  
kyla\_hastie@fws.gov

**Re: Response to Sierra Club's May 1, 2019 Letter to U.S. Fish and Wildlife Service;  
Docket No. CP16-10-000, Accession No. 20190501-5307**

Dear Ms. Hastie,

On May 1, 2019, Sierra Club sent a letter to the U.S. Fish and Wildlife Service (USFWS or the Service) and entered that letter on the Federal Energy Regulatory Commission's (Commission) docket for the Mountain Valley Pipeline Project. Mountain Valley Pipeline, LLC (Mountain Valley) appreciates Sierra Club's support for the federal agencies completing their ongoing work to update the project's biological opinion (BiOp) and incidental take statement (ITS) as appropriate. That work is underway, and Mountain Valley agrees with Sierra Club that it is important to conclude those activities as soon as possible.

As discussed below, however, Sierra Club's letter offers no new information for the Service or the Commission to consider. It simply repackages information that the agencies previously have considered or are currently considering. Nevertheless, Mountain Valley responds to Sierra Club's letter because its characterization of that information is misleading or inaccurate in many respects. In addition, Sierra Club's contention that Mountain Valley must stop all remaining authorized construction activities is wrong both legally and factually. Accordingly, the Service and the Commission should continue their ongoing collaboration on the BiOp/ITS, while Mountain Valley continues its authorized construction activities on the project.

**I. The Federal Agencies Already Are Considering the Information Summarized by Sierra Club**

Sierra Club's letter summarizes information about potential impacts to listed species that it contends the USFWS must account for in the BiOp and/or ITS. In particular, Sierra Club says that the USFWS must evaluate information about the Roanoke logperch provided in a letter from Dr. Paul Angermeier, consider the Commission's responses to the USFWS's April 12, 2019 request for information, revise the BiOp and ITS to quantify impacts to listed bat species in response to the U.S. Court of Appeals for the Fourth Circuit's ruling in *Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260, 279 (4th Cir. 2018), and reanalyze potential species impacts from sedimentation. The Service and the Commission already are considering this information to the extent it is available and relevant, and Sierra Club identifies no new information for the agencies

to consider. That said, Sierra Club mischaracterizes the information and the Section 7 consultation process in several significant ways that are important for Mountain Valley to address.

Sierra Club summarizes the details of Dr. Angermeier's letter concerning the Roanoke logperch and claims that the USFWS must rely on it as "the best scientific and commercial data available" to revise the project's BiOp/ITS. Sierra Club at 6-8. Sierra Club's position relies on two contradictory assumptions: (1) that the Service and the Commission are not already evaluating Dr. Angermeier's letter; and (2) that the USFWS has concluded that Dr. Angermeier's letter presents new information that meets the "best scientific and commercial data available" standard required under Section 7 of the Endangered Species Act (ESA). Neither assumption is correct.

The USFWS is actively considering Dr. Angermeier's letter, but it has not determined whether the information in that letter meets the requirements of Section 7 of the ESA. That provision requires the Service to base Section 7 consultations only on "the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2). In other words, unless and until the USFWS determines that the information is in fact the best available, it need not consider it under Section 7. The Service's review is underway, but it has not made such a determination yet.

As demonstrated by the USFWS's April 12, 2019 request for information to the Commission, the Service is assessing whether Dr. Angermeier's letter points to any new information and, if so, the quality of that information. To that end, the Service has requested additional sedimentation information, as well as related information about the Roanoke logperch and the timing of Mountain Valley's activities. USFWS at 1-2. FERC and Mountain Valley are still compiling the requested information and performing further analysis to provide to the Service, however, and it is too early to draw any conclusions. Because the USFWS has not had an opportunity to evaluate the information being developed, the ESA's best available data standard has not been met, and any suggestion that the Service must incorporate that information into the project's BiOp/ITS is premature.

Similarly, Sierra Club's claim that the Service must revise the BiOp and ITS simply because the agency requested additional information about the project is illogical. *See* Sierra Club at 4-5. The USFWS asked the Commission for that additional information just last month. At the Commission's request, Mountain Valley is working to prepare detailed responses, and that work is ongoing. As a result, the Service has not had an opportunity to consider that information. Sierra Club's proposed sequencing is exactly backwards.

Finally, the Sierra Club intimates that the USFWS is not responding to the Fourth Circuit's decision in *Sierra Club v. U.S. Dep't of the Interior* by revising Mountain Valley's ITS to add quantification to its impact assessment for listed bats or evaluating whether additional sedimentation analysis is warranted. Neither is the case.

Following the Fourth Circuit's decision, the Service began reviewing the available information for purposes of quantifying the existing bat impact assessment in Mountain Valley's ITS. The Service will determine how it will supplement the corresponding qualitative impact assessments for those species that already are in the ITS. Mountain Valley stands ready to assist the Service however needed in that regard.

Likewise, the USFWS is working with the Commission to further analyze sedimentation as warranted. As Sierra Club's letter acknowledges, the Service included a number of questions and requests to the Commission and Mountain Valley about this issue. Again, detailed responses to those requests are being developed and will be submitted to the USFWS once finalized. In that vein, Mountain Valley has performed additional sedimentation modeling to confirm or augment the existing analysis in the BiOp. Once submitted, the Service will be able to determine whether the responses contain any new information that satisfies Section 7's "best scientific and commercial data available" standard or whether those responses further support the existing sedimentation analysis.

## **II. Formal Consultation on the Yellow Lance is Not Required**

Sierra Club asserts that the federal agencies must perform formal consultation on the yellow lance, which the USFWS listed as threatened last year, because it believes "[t]he MVP could affect yellow lance habitat" and may affect individual mussels within Jefferson National Forest. Sierra Club at 12. These assertions are incorrect and misleading. While Mountain Valley is providing additional information about the yellow lance in its response to the USFWS's April 12, 2019 request for information it would be premature to draw any conclusions before all the relevant facts are considered. We respond briefly here for the limited purpose of addressing Sierra Club's misstatements in order to correct the record.

Sierra Club itself concedes that Mountain Valley already performed mussel surveys for the yellow lance at each of the project's stream crossings and that each of those surveys were negative. In other words, the species does not occur there. In fact, as the Final EIS clearly states, "[t]he closest known population of yellow lance mussel to the MVP is within a portion of Craig Creek *about 36 miles downstream* of the MVP pipeline crossing." Final EIS at 4-235 (emphasis added). Accordingly, the Final EIS concluded that "the MVP is *not likely to adversely affect* the yellow lance mussel." *Id.* (emphasis in original).

Sierra Club attempts to avoid this conclusion by pointing to language in the Final EIS summarizing the Regional Forester's Sensitive Species determination for the yellow lance as "May Impact – Is Not Likely to Cause a Trend Toward Federal Listing or Loss of Viability." Sierra Club at 12 (citing Final EIS at 4-253). Sierra Club's assertion is misleading. The Regional Forester's determination, which originates under the National Forest Management Act, serves an entirely different purpose than effects analyses under Section 7 of the ESA, and they rely on completely different standards. As the Final EIS explains, "[t]he effects on Regional Forester's Sensitive Species are defined differently than for federally listed threatened and endangered species." FEIS at 4-252. The Sensitive Species determination therefore is irrelevant to consultation under the ESA. MVP will continue to support the Service's further review of the yellow lance and will address any revisions to the BiOp as appropriate.

## **III. Mountain Valley's Authorized Construction Activities May Continue**

Mountain Valley may continue its authorized construction activities while the federal agencies complete the ongoing analyses discussed above. Sierra Club's reliance on Section 7(d) of the ESA to suggest otherwise misconstrues both the law and the facts.

Section 7(d) of the ESA provides that, after Section 7 consultation has begun, the federal action agency and the project applicant “shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection (a)(2) of this section.” 16 U.S.C. § 1536(d). But this does not mean that Mountain Valley must stop all authorized construction work during Section 7 consultation on the project. Rather, it means only that Mountain Valley should not undertake any activities involving an “irreversible or irretrievable commitment of resources” if those activities risk jeopardizing a federally listed species. *See North Slope Borough v. Andrus*, 486 F. Supp. 332, 357 (D.D.C. 1980) (“[T]he ESA does not require that the government halt all activities” before a BiOp is issued; “[r]ather, the ESA permits non-jeopardizing activities, so long as the [Section] 7(d) mandate is not violated.”), *aff’d in part, rev’d in part on other grounds, North Slope Borough v. Nat’l Wildlife Fed.*, 642 F.2d 589, 610-11 (D.C. Cir. 1980) (Section 7(d) “not violated in that ESA permits the non-jeopardizing activities planned here”). Those circumstances are not present here.

Mountain Valley’s continuation of its authorized construction activities<sup>1</sup> poses no risk of jeopardizing any listed species or any species proposed for listing. As Sierra Club concedes in its letter, Mountain Valley already has completed the bulk of the work that the USFWS determined would pose a risk of take, including approved tree felling work for the project.<sup>2</sup> *See* Sierra Club at 10-11. As a result, although the federal agencies are conducting additional analyses described above for purposes of the BiOp and ITS, there is no information in the record – and Sierra Club points to no new information – that suggests that Mountain Valley’s authorized activities are anything other than “non-jeopardizing.” Section 7(d) of the ESA therefore does not preclude Mountain Valley from continuing work on the project.

Sincerely,



Todd Normane  
Deputy General Counsel  
Equitrans Midstream Corporation  
(412) 553-5931  
TNormane@equitransmidstream.com

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<sup>1</sup> In light of the suspension/vacatur of Mountain Valley’s Clean Water Act permits under NWP 12, Mountain Valley may not perform any stream crossing or other construction activities requiring such permits. Accordingly, they are not at issue here.

<sup>2</sup> While Mountain Valley recently requested authorization to perform additional tree felling and related activities to address the impacts from several landslides that have occurred along the project corridor, that request fully complied with Section 7(d). The Commission authorized Mountain Valley to perform that work only after the USFWS concluded that the emergency Section 7 consultation process should be used to evaluate those activities. *See* Letter from J. Martin to T. Lennon, *ESA Emergency Consultation Procedures* (Mar. 29, 2019); *see also* Email from S. Simon to A. Mardiney, *MVP ESA Emergency Consultation* (Mar. 29, 2019).

Document Content(s)

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