

To: United States Forest Service, Department of Agriculture  
<https://cara.fs2c.usda.gov/Public/CommentInput?phase=4744>

From: Elizabeth Struthers Malbon, Ph.D.  
Montgomery County, Virginia

Re: Mountain Valley Pipeline (MVP) and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement (DSEIS) #50036

Date: January 25, 2023

I am writing this unique comment letter in response to the U.S. Forest Service's comment period for the Mountain Valley Pipeline (MVP) and Equitrans Expansion Draft Supplemental Environmental Impact Statement (DSEIS) #50036, which was created to address the Fourth Circuit Court's January 2022 ruling, new information, and changed circumstances such as new, federally-listed threatened and endangered species and critical habitat designations. **I urge the USFS to select Alternative 1 – No Action** because the Mountain Valley Pipeline is inconsistent with the Jefferson National Forest Plan and would require 11 changes to be made to re-issue a permit to the MVP. **I urge the USFS not to amend the Jefferson National Forest Plan, and not to provide concurrence to the Bureau of Land Management (BLM) for a Right Of Way/Temporary Use Permit (ROW/TUP).**

Here are some of my **general reasons** for my recommendation of Alternative 1 – No Action:

- The inadequacies of the 2017 and 2020 analyses are not sufficiently made up for in this DSEIS.
- The purpose of the DSEIS needs to be conservation of the Jefferson National Forest and adherence to the planning rule's substantive regulations, instead of a limited response to MVP's supplemental information.
- USFS has not provided sufficient information, including needed assessment reports, monitoring reports, etc.
- USFS should not limit their review to "issues identified by the Court."
- However, USFS must deal with the Court's substantive complaint that MVP's computer modeling does not replace the evidence of real-world consequences. In the Court's words: "evidence of the Pipeline's actual impacts indicates the modeling is unreasonable, and the Forest Service and the BLM did not address such evidence. The Forest Service and the BLM erroneously failed to account for real-world data suggesting increased sedimentation along the Pipeline route."
  - The real-world impacts include the fact that MVP's construction has resulted in improper and inadequate sediment and erosion control practices, leading to more than 500 water quality violations in Virginia and West Virginia.
  - Wild Virginia et al v. U.S. Department of Agriculture has also shown that sedimentation modeling does not accurately reflect real-world data (p. 14 et al.).

- Below I will submit some observational data of my own concerning these real-world impacts of MVP's inadequate erosion and sedimentation controls in the Catawba Valley in Montgomery County, Virginia.
- Amending the Forest Plan to allow MVP to cross the Jefferson National Forest (JNF) could threaten water resources and endangered species, including the candy darter.
- The USFS must consider the climate change impacts of the MVP and the climate disruption it would cause to the Jefferson National Forest.
- The DSEIS fails to provide adequate reasoning on how constructing the MVP through the Jefferson National Forest is consistent with the "Jefferson Forest Plan," since approving the project would require 11 changes to the plan's standards. The point of the Plan is to shape projects impacting the Forest for the good of the Forest; projects wishing to impact the Forest are not supposed to shape the Plan for their own good.
- Granting the MVP permission to cross the JNF does not comply with the 2012 USFS Planning Rule's mandate "to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area" (Wild Virginia et al v. U.S. Department of Agriculture, p. 28).
- The argument of MVP—and others who have bought into their argument (sometimes for reasons of political influence)—that the project is almost complete are false and misleading. MVP's current rosy estimate (<https://www.mountainvalleypipeline.info/>) that the pipeline is 94% complete, including 55.8% of the right-of-way "fully restored," is not defensible from the evidence on the ground, the greatly eroded ground.
- There are no known contingency plans for environmental protection for lands and waters already damaged by MVP if the limited liability company should walk off the job. Many of us have worried, since the establishment of MVP as a limited-liability company, not accidentally registered in a state whose laws protect individual investors from responsibility in the event of the bankruptcy of the company, that MVP was planning from the beginning to walk away from financial responsibilities if or when that is to its corporate advantage. These continuing concerns are, of course, more significant now that a declaration of bankruptcy is quite easy to imagine with MVP's precipitously falling stock value, the general downward trend in the prices being paid for fracked gas, and the current lawsuit filed in West Virginia against MVP by a contracted and unpaid construction company.

Here are some of my **amendment-specific reasons** for my recommendation for NOT changing the Forest Service Plan to suit MVP:

- **There would be negative impacts to soil health.**  
(Amendments to: FW-5, FW-8, FW-9, FW-13, FW-14 and 11-003)  
Riparian zones should be protected because of their unique ability to buffer waterways from sediment and nutrient runoff, stabilize banks, shade and regulate stream temperatures, and provide much of the food sources for river ecosystems.

- **Old-growth forests should be protected.**  
(Amendment to: 6C-026, 6C-007)  
Removal of the few old-growth forests left in the Eastern United States eliminates a source of the creation of topsoil; more carbon and nitrogen are retained in old-growth forests than in younger forest stands, and their removal could harm vulnerable interior forest species by creating edge habitats, as well as adverse impacts to ecosystem diversity and ecosystem integrity.
- **Scenic Viewshed standards will be negatively impacted.**  
(Amendment to: 4A028)  
The DSEIS minimizes the severity of impacts on public resources; and noise, dust, and visual intrusions are more harmful than summarized.
- **The changes inappropriately allow a utility corridor and do not account for the pipeline's lack of need.**  
(Amendment to: FW-248)  
MVP wants to alter amendment FW-248 (utility corridors) of the National Forest Management Act by claiming that the economic benefit of the pipeline will balance out the damage done to our national forests, but MVP's purported need has not been demonstrated, and the environmental harm could be greater than what MVP is projecting (as mentioned above, MVP's construction has already led to more than 500 water quality violations in Virginia and West Virginia).
- **The plan creates an uncertain outcome for Scenic Integrity Objectives.**  
(Amendment to FW-184)  
Giving MVP five years after completion of the construction phase of the project to re-establish the existing Scenery Integrity Objectives does not account for the possibility of project incompleteness—a very real possibility given MVP's current economic status and its continuing difficulty in receiving and retaining required permits, as well as the current worldwide climate crisis.

To these general and amendment-specific reasons in favor of NOT adapting the Jefferson Forest Plan to meet the desires of Mountain Valley Pipeline, a private, out-of-state, limited liability corporation for transporting fracked gas that would mostly not be available in West Virginia or Virginia, the states it crosses, but would further contribute to the global climate crisis, I give here **my own observations and data about the real-world consequences** that the Fourth Circuit Court has determined the US Forest Service has ignored in its previous permitting of MVP.

The information below is based on my firsthand observations as a water monitor of the North Fork of the Roanoke River in the Catawba Valley of Montgomery County, Virginia since May 2018. During this time, Mountain Valley Pipeline was engaged in active construction, crossing streams under the auspices of a then-current Nationwide Permit 12, which has since been rescinded. As part of a team of water monitors trained by Trout Unlimited to take scientific measurements of water quality in streams and springs, I have monitored (among other sites) three sites on the North Fork of the Roanoke River as it runs through Catawba Valley, along Catawba Road, about 20 minutes from my home. Although I began my work as a monitor in early May 2018, I joined with another team of monitors, led by Robert (Bob) Massengale, who had been monitoring a site on the North Fork just below the MVP construction site since January 2017 and thus had significant longitudinal data on the water quality prior to the start of

MVP construction. All monitoring is done on private land with the explicit permission of the land owners. We monitored regularly two sites upstream from the MVP construction site and stream crossing (completed in 2018) and one site below the MVP site.

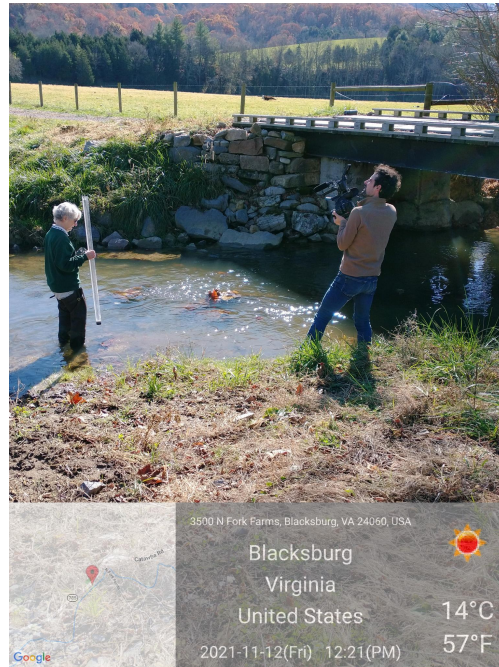
On July 19, 2018, Bob Massengale, responding to a call from the distressed landowner at the downstream site, captured video footage of the turbid, sediment-filled water of the North Fork of the Roanoke River approximately 1.12 miles downstream from where MVP, apparently on that day, dug through the stream and buried its 42-inch diameter pipe, under the auspices of the NWP12. He also captured video footage at our monitoring site just above the MVP construction area on the same evening, where the stream was running clear as usual. These two short, narrated, and contrasted videos (IMG\_7558.MOV and IMG\_7563.MOV) may be viewed here: [https://drive.google.com/drive/folders/1DHX18qDfQV2WQP4byRIGR6t4utWL\\_BbA](https://drive.google.com/drive/folders/1DHX18qDfQV2WQP4byRIGR6t4utWL_BbA).

On September 10, 2018, I submitted to FERC, as a registered intervenor for the MVP project (CP16-10-000), a report based on that evidence in light of a year's worth on turbidity data on that downstream site before MVP began construction. I am appending to this comment letter the two-page summary of that report. The Catawba Valley site is one that MVP now counts as "fully restored," but the North Fork shows it is not so—this is real-world evidence that MVP's erosion and sedimentation controls are inadequate to protect our streams and one of the many reasons MVP has lost its permits to cross streams and wetlands.

Since there has been no MVP construction in the areas that would contribute additional sediment to the North Fork at our monitoring sites in quite some time, one could hope that the river has now cleared up. This, unfortunately, is not the case. So much sediment was washed into the river during MVP's construction that it covers the river bed and its rocks with visible sediment deposits and also the banks of the river. When I walk in the water at our downstream site, each step creates a sediment plume, and when it is especially turbid I cannot even see my foot beneath water six inches deep. I do not expect in my lifetime to see the pristine mountain stream I first admired in 2018; it is gone.

One sign that the pipeline has caused this increase in sediment is that, upstream, the stream bed and banks are not so covered with sediment. Another sign is the difference between how the North Fork at our downstream site looked before MVP began construction and how it looks today. Then the rocks showed their different colors from various minerals as they glistened in the sun; now they all look the same dull color, covered as they are with sediment and slime. Since my childhood in Florida, where I learned to canoe on lakes and on rivers that tended to flow gently over sandy bottoms, I was entranced by water falling over rocks that I saw on our family vacations, and later Girl Scout hikes, in "the mountains" of North Carolina. When I moved to southwestern Virginia as an adult and had the opportunity to canoe and later kayak in Virginia's rivers, I had to pinch myself to believe that I was living—not just vacationing—in a place with such magical, rocky streams all around me. Thus, watching the transformation of the North Fork of the Roanoke River from one with glistening rocks to one with dull, silt-covered rocks embedded in sediment has been painful for me, week by week and month by month for over four years. I can only imagine what it has been like for the citizen who allows us access to the river across from his home to watch, after a lifetime of enjoying this stream in front of his home place. Certainly, the Roanoke log perch would have difficulty feeding and breeding in such water in its "home place" downstream in the Roanoke River—now and in the future. And one cannot but worry about what the increased sediment load does to the water supplies relied upon by the citizens of Salem and Roanoke. This is the real-world legacy of MVP.

I submit the following five photos (below and on the next two pages) as evidence of the current degraded state of the North Fork of the Roanoke River at this site approximately 1.12 miles downstream from where MVP dug through the river in 2018, more than four years ago. (The first photo below, showing me and videographer Matthew Pickett and taken by Lynda Majors, confirms the location and date of the November 2021 documentation.)



Included for comparison are the first two photos taken at our North Fork downstream site when it was first monitored on January 29, 2017. Those photos are posted on the CitSci.org website, where all our monitoring data is posted, under the observations for this site (NFROR1001) for the January 29, 2017 date by Stephen Ramage, who worked as a monitor with Bob Massengale. I took the two more recent photos in the same position at the downstream North Fork site, which we refer to as Hancock's Bridge for the landowner with whose permission we monitor. All four photos were taken from the bridge, looking upstream. One broader shot includes the cattle fence across the river, the other photo is taken looking straight down into the water on the upstream side of the bridge. The difference in the stream bed almost five years apart is striking. What was once a cobbled streambed is now embedded and clogged with sediment. This is a real-world consequence of MVP's work.



North Fork of the Roanoke River (A) at Hancock's Bridge, January 29, 2017.  
Photo posted on CitSci.org by Stephen Ramage.



North Fork of the Roanoke River (A) at Hancock's Bridge, November 12, 2021.  
Photo taken by Elizabeth Struthers Malbon.



North Fork of the Roanoke River (B) at Hancock's Bridge, January 29, 2017.  
Photo posted on CitSci.org by Stephen Ramage.



North Fork of the Roanoke River (B) at Hancock's Bridge, November 12, 2021.  
Photo taken by Elizabeth Struthers Malbon.

In addition, I am submitting this short video of my stepping into the North Fork at this site on November 12, 2021 (videoed by Matthew Pickett), showing the sediment plume created by simply walking in the water: <https://youtu.be/OZ1Du0gDElc> (1:11).

My nearest river, the North Fork of the Roanoke River, has been impaired—and that by the inadequate erosion and sedimentation controls and stream-crossing construction techniques of the Mountain Valley Pipeline working at the time under the auspices of a Nationwide Permit 12. MVP has shown it has no motivation to protect our environment. But that remains the responsibility of federal and state agencies, including the United States Forest Service. The Forest Service has been directed by the Fourth Circuit Court to take into consideration real-world consequences of the construction already carried out by MVP—not just computer modeling supplied by MVP to gloss over the real-world challenges they have already failed to meet. MVP has shown over and over again that they put profits before people and the environment. And time is running out to avoid the worst consequences of the climate crisis that is fueled by such fossil fuel companies. The USFS is tasked by law to manage our shared forests, including protecting them for future generations; the current Jefferson National Forest Plan was written with that in mind. To propose 11 amendments and exceptions to this plan simply in order to give MVP clearance to do the damage to our shared Jefferson National Forest as I have witnessed in the Catawba Valley is transparently corrupt. The Jefferson National Forest borders my residential neighborhood; it is closer to me than the ruined North Fork of the Roanoke River. I have a stake in trying to preserve this corner of our shared environment for my children and grandchildren—and so does the USFS.

**I urge the United States Forest Service to select Alternative 1 – No Action and NOT to make any changes to the Jefferson National Forest Plan or to the National Forest Management Act—in order to give the future a chance.**

Attachments:

- My letter to the USFS, October 30, 2020, re MVP's DSEIS #50036
- My two-page summary of my 21-page report to FERC, "Changes in Turbidity of the North Fork of the Roanoke River in Catawba Valley after the Start of Construction of the Mountain Valley Pipeline," September 10, 2018



1391 Breckenridge Drive  
Blacksburg, Virginia 24060

Jim Hubbard, Under Secretary U.S. Department of Agriculture  
c/o George Washington and Jefferson National Forests  
MVP Project  
5162 Valleypointe Parkway  
Roanoke, Virginia 24019

October 30, 2020

Dear Mr. Hubbard:

I am writing as a resident of the Preston Forest Subdivision of Blacksburg (Montgomery County), Virginia, to express my grave concern with the Mountain Valley Pipeline (MVP) and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement (SEIS) #50036 that proposes amendments to 11 crucial standards that are essential for protecting the Jefferson National Forest. I would argue that this Draft SEIS is in direct opposition to the stated mission of the U.S. Forest Service: “To sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations” (<https://www.fs.usda.gov/about-agency>). In fact, the proposed changes to standards for soil health, old-growth forest, forest edge, species competition, and scenic viewshed promise to bring significant harmful impacts to the Jefferson National Forest. However, these changes would serve as conveniences for Mountain Valley Pipeline, a private limited liability corporation (LLC), to the detriment of lands that are held in the public trust for present and future generations.

To let you know what is at stake for me in making this request and offering these comments, I am repeating here two paragraphs from my 2016 letter to Joby Timm, Supervisor of the George Washington and Jefferson National Forests concerning the four amendments to the Forest Plan for the Jefferson National Forest that were proposed in the Draft Environmental Impact Statement (FERC/DEIS-D0272; section 4.8.2.6, pages 4-259-267) of Mountain Valley Pipeline, LLC in order to route a proposed 42”-diameter pipeline for fracked gas through the Jefferson National Forest (FERC Docket #CP16-10-000).

“As homeowner in a subdivision that backs up to the Jefferson National Forest, I am aware of not only the great beauty and biodiversity of the area but also the steepness of its ridges and valleys, the thinness of its topsoil, and its overall rockiness—all conditions *not* conducive to the safe and environmentally sustainable construction of a 42”-diameter underground pipeline for

fracked gas by a company that has no history of success with such an endeavor and no track record (through its parent companies) of respect for environmental regulations.”

“In addition, my father earned a Master’s degree in Forestry. His plan to become a forest ranger was shifted by World War II, but he maintained that appreciation for the growth, development, and protection of trees in his family business as a citrus grower. During his college years, prior to the war, my father served in the Civilian Conservation Corps of the New Deal era, working to prevent erosion in the southeastern United States. Under my father’s tutelage, I grew up with an appreciation of trees, forests, and all natural habitats. My father left a legacy of hundreds of trees planted with Girl Scouts and Boy Scouts. It is not accidental that I have chosen to live in a forested neighborhood adjacent to the Jefferson National Forest, or that I practice a conservation ethic as a landowner of five acres of rocky, sloping, forested land with a seasonal creek. My father helped me construct our first brush dams here to slow the runoff of rain on our newly and minimally cleared paths for electric lines and sewer lines to our septic drain field. I have worked for years to mulch and establish ground cover on the two cuts required for the minimal terracing for our home. In this small environment, I have seen firsthand the threats to soil and water if great care is not taken to disturb the land as little as possible and then with careful planning and long-term commitment. This careful planning and long-term commitment is what I expect from those responsible for the Jefferson National Forest. “

In 2016, when I wrote the letter containing those two paragraphs, perhaps the Forest Service naively took MVP and FERC at their word concerning the minimal environmental damage their construction would create and the protection their sedimentation controls would provide. But in 2020, after hundreds of environmental violations, lost permits, lawsuits, and fines, the Forest Service can no longer keep up this pretense. And, in that time, the MVP has fallen two years behind schedule and grown \$2 million dollars over budget and is being sued for non-payment by a major contractor. In addition, the bottom has fallen out of the market for fracked gas while the price of non-fossil fuel energy has been significantly reduced. If MVP could not handle its responsibilities in 2016 when things were, at least, more promising, how do you expect them to handle their responsibilities now that they are stressed on every side!

And what about your responsibilities? The Forest Service is an independent agency of the U.S. government, not a rubber stamp of the Federal Energy Regulatory Commission. But, maybe, because FERC has become a rubber stamp for the fossil-fuel industry, the U.S. Forest Service has decided it might as well become a rubber stamp for FERC.

In addition, when the Forest Service submits to changes to its own rules—originally made, one hopes, thoughtfully and mindful of its mission to sustain forests for present and future generations, not corporations—it opens forest lands to future damage from additional corporations who want the same free pass to use public lands for private gains.

As the Forest Service is aware, there are two alternatives: (1) no action, or (2) rewriting the rules. But only one of these alternatives is legitimate in terms of the Forest Service’s mission

and its public trust: (1) no action. In this case, no action would be an affirmative action FOR the public, now and in the future, rather than FOR a private fossil-fuel LLC.

I have no doubt that MVP has a contingency plan for declaring bankruptcy if the going gets too tough, that is, if their profit margins are not what executives and shareholders want. There is nothing in place to make MVP take responsibility for the harm they have already done and will continue to do to public and private lands. And the public, unfortunately, has no way to limit its liability. Personally, I will hold the U.S. Forest Service liable for the consequences of changing its own rules, constructed by knowledgeable professionals, under political and corporate pressure.

The Draft SEIS tries to claim that the economic benefit to MVP, a private corporation, balances the environmental disturbance on public land. How would a private gain balance a public loss? And what if the MVP never enters service? There are certainly lots of reasons to question its completion as inevitable (time delays, budget overruns, litigation, suits by contractors, etc.) What is the economic benefit then? Fracked gas production has finally slowed due to falling demand and falling prices. Will there ever be a need for such a pipeline? It would appear that MVP was eyeing international sales from the beginning, but fossil fuels are losing their appeal worldwide as the climate crisis becomes more obvious even to those trying to deny or ignore it.

Since 2018, I have served as a water monitor at six sites at two streams and two springs, including sites both upstream and downstream from the MVP construction site where the pipe has already pushed through the North Fork of the Roanoke River in Catawba Valley in Montgomery County, Virginia. Our longitudinal data on the hugely increased sediment load downstream from the crossing was filed with FERC in a 2018 report. Thus, it is clear to me what type of damage will be done to streams if the Forest Service changes its soil and riparian standards in the Jefferson National Forest plan (FW-5, FW-8, FW-9, FW-13, FW-14 and 11-003) for the convenience of MVP. And permanently altering these standards would extend that damage for the future generations the Forest Service is pledged to serve.

Clearly, MVP has no interest, and seeks no knowledge, of how to avoid such damage. If they did, they would follow the Kastning Report in realizing that karst areas are a “no build” zone for pipelines. MVP, and FERC, and apparently the U.S. Forest Service, can pretend that sedimentation controls can be effective—but it is a pretense, given what MVP has done and what experts have said. But who can pretend that demolishing areas of old-growth forest can be “mitigated”? Of course, MVP and FERC underestimate the damage; their expertise and personal stake is to develop the fossil-fuel industry. But the expertise and presumed stake of the U.S. Forest Service is “To sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” The U.S. Forest Service surely knows the value of old growth forests for soil production and water management and wildlife habitat and carbon sequestration. So what is your excuse?

And what about the visual damage to viewsheds? At least the amendment to 4A028 acknowledges that the project would have adverse impacts, but it incorrectly minimizes the severity of those impacts on public resources, including the Appalachian National Scenic Trail.

MVP is in no position to call these effects minor; that is for hikers and other recreational users of forest lands to say—and for the Forest Service to recognize. Instead, the amendment to FW-184 allows an alarming five-year window after completion of the construction phase for MVP to reach the current Scenic Integrity Objectives for the AT crossing. Who is to say MVP will not have had a major explosion and/or abandoned the project by then? MVP is looking for quick profits. The U.S. Forest Service is supposed to be looking out for the public for present and future generations.

Citizens in Virginia and West Virginia know that our naturally beautiful environment, our soil, and our water are far more valuable than access to fracked gas, which is not even offered for our use by MVP. Should MVP manage to be completed and transport fracked gas someday, this climate change-inducing fuel will travel through our region, not to it. We see no “public use and necessity” in that. What do you see? What are you enabling? What decisions can you live with when you remember your public mandate?

It is hard to see how the Forest Service’s willingness to grant exception after exception to MVP, the way FERC grants variance after variance to MVP, is anything other than corruption at the core of our supposedly independent regulatory agencies in our supposed democracy. Is that the role you choose to play in the history of the twenty-first century? Is that a story of your work and contributions you will be proud to tell your grandchildren?

For the reasons stated above, and many more left unsaid here, I ask that the U.S. Forest Service select Alternative 1, “No Action,” and reject the 11 proposed amendments to prevent unnecessary damage to Jefferson National Forest and to stay true to its own mission.

Sincerely,



Elizabeth Struthers Malbon, Ph.D.

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Electronic Copy:  
FERC Online <https://www.ferc.gov/ferc-online/overview>  
Docket #CP16-10-000

# Changes in Turbidity of the North Fork of the Roanoke River in Catawba Valley after the Start of Construction of the Mountain Valley Pipeline

## SUMMARY

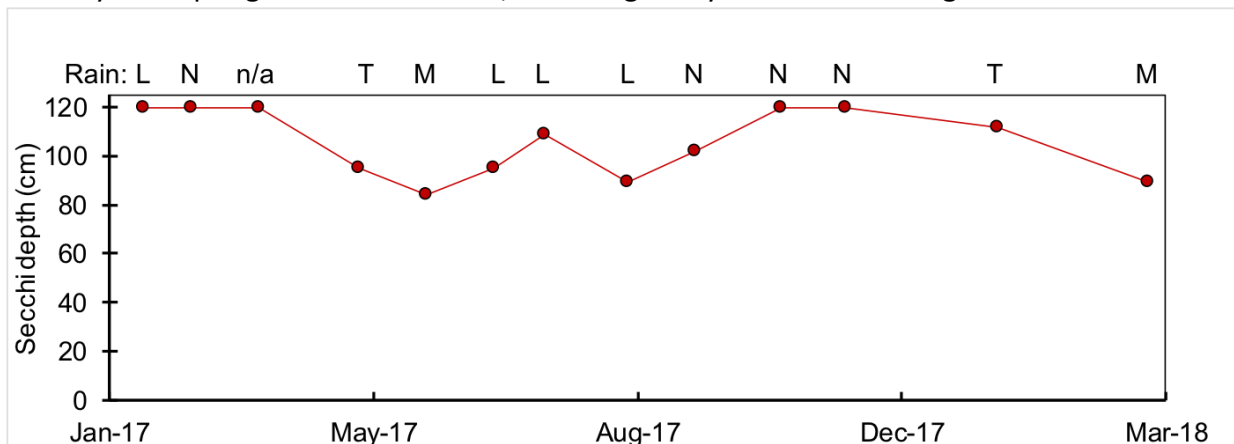
Elizabeth Struthers Malbon  
September 10, 2018



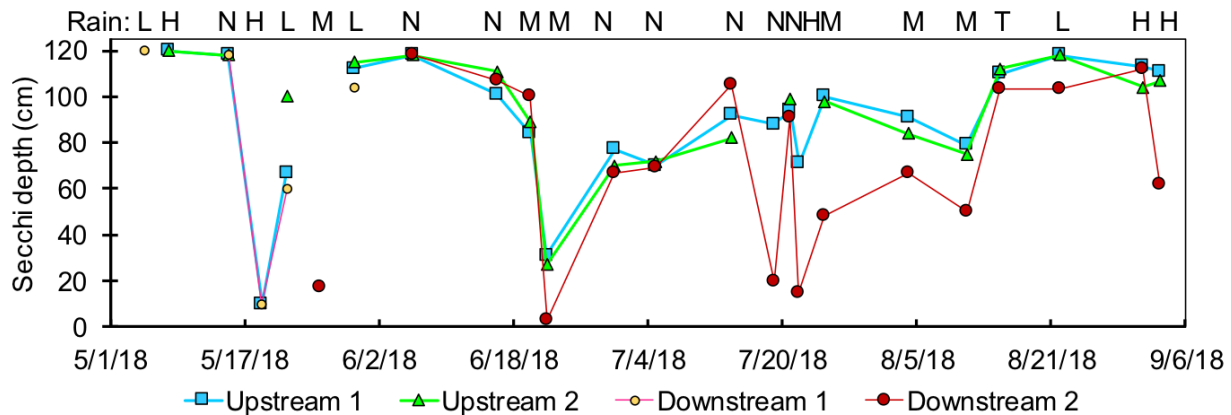
From January 2017 to the present (and continuing), seven water monitors, four trained by Trout Unlimited, have been monitoring (among other sites) the North Fork of the Roanoke River at a site just below Mountain Valley Pipeline’s construction site on Catawba Road in Montgomery County and two sites just above the MVP site. One of our most significant measurements is of turbidity, which is a measure of water clarity—i.e., how much the material suspended or dissolved in the water decreases the passage of light through it. Greater turbidity can cause harm to fish and macroinvertebrates, as well as having negative impacts on human health. The North Fork of the Roanoke River runs through the historic Catawba Valley, where Dry Run and Mill Creek bring their waters down from Brush Mountain. The North Fork, merging with the South Fork, forms the Roanoke River, which contributes to the drinking water for Roanoke and Salem.

Turbidity is measured using a 120 cm (47.244 inches, nearly 4 feet) Secchi tube. A Secchi tube is a cylindrical plastic tube marked in centimeters on the outside edge, with a Secchi disk (a circular disk with alternating quadrants of black and white) on a string that can be easily moved up and down inside the disk. Turbidity is measured by filling the tube with stream water from the middle of the water column of the stream, then looking straight down the tube, through the collected water, to note how far down the black and white disk can be seen. In crystal clear water, one can see the disk plainly at the bottom of the tube, giving a measurement of 120 cm. With extremely muddy water, one might only be able to see the disk 10 cm down, giving a measurement of 10 cm. Thus, the larger the number of centimeters, the clearer the water; the smaller the number of centimeters, the muddier the water.

Our monthly data from a monitoring site on the North Fork just below the MVP construction site goes back to January 2017 and shows the normal annual pattern of turbidity prior to MVP’s construction work: crystal clear water in the winter months, followed by somewhat increased turbidity with spring and summer rains, returning to crystal clear water again in the fall.



However, our weekly data from May 2018 forward, that is, after the beginning of MVP’s construction activities, shows a significant contrast between the water quality upstream and downstream from MVP’s construction site in the Catawba Valley. Upstream 1 (blue) and 2 (green) have, since May 2018, shown a pattern similar to the recorded pattern of Downstream 2 (red) in 2017 (graph above)—that is, good water clarity, lessened by rain, but fully recovering afterwards. However, in 2018, Downstream 2 (red below) has showed lower lows in terms of water clarity and slower and less full recovery from such lows than Upstream 1 and 2. What is different in 2018? MVP has conducted severe land- and stream-disturbing activities just upstream from Downstream 2, and, as seems obvious from our data, MVP has not met the requirement that all disturbed sediment be kept on the construction site. Sediment has consistently appeared in the water samples at Downstream 2 at rates measurably greater than at Upstream 1 and 2. Note how the red line (Downstream 2) generally stays below the blue and green lines (Upstream 1 and 2).



Letters above each graph represent precipitation during the 48 hours prior to each monitoring event: N = none; T = trace; L = light; M = moderate; H = heavy; n/a = not available.

Thus, although spring and summer rains increase the turbidity of water both upstream and downstream, the increased turbidity is significantly higher downstream of MVP’s construction. Rain is not the issue. Note that upstream and downstream differences increased dramatically after July 19, 2018—when there had been no rain in two days. Evidence suggests that this was the day MVP breached the North Fork of the Roanoke River at its Catawba Road construction site. In addition to the increased turbidity measurements of the downstream water that are reported in our data, observers have filed reports of increased sedimentation in the streambed downstream of MVP’s construction. **This evidence clearly shows that MVP has failed to keep the disturbed sediment from its construction activities within the designated limits of disturbance (LOD) as required and this increased sediment load is entering the North Fork of the Roanoke River regularly.**

In addition to the degradation this means for the farm at the Downstream 2 site, the sediment load and degradation is carried on downstream to the next farm, to the next residence, to the Roanoke River, and to the drinking water supply of the citizens of Roanoke and Salem.

For an electronic copy of the complete report, including photos and complete data tables, email Elizabeth Struthers Malbon at [malbon@vt.edu](mailto:malbon@vt.edu).