

Cover Page

These comments are submitted in response to the public notice posted on the Virginia Regulatory Town Hall on April 27, 2018 and entitled *Mountain Valley Pipeline (MVP) and Atlantic Coast Pipeline (ACP) Projects – State Water Control Board Request for Technical Information on Specific Wetland and/or Stream Crossings*. The parties submitting these comments are:

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Comments on Sufficiency of NWP 12 Permit for ACP Wild Virginia and the Dominion Pipeline Monitoring Coalition

Executive Summary

The State Water Control Board has asked for information from the public that is pertinent to a decision whether the Board will exercise the authority DEQ reserved to the State of Virginia, to require individual certifications for waterbody crossings associated with the Atlantic Coast Pipeline that are otherwise covered under the Corps of Engineers Nationwide Permit Number 12.

Wild Virginia and DPMC discuss herein factors that must guide the Board's decision and provisions of Virginia water quality standards that are not satisfied by compliance with the Corps permit. We have focused on a number of individual waterbody crossing points and on clusters of crossing points that lie within small watersheds and will exert combined impacts that must be considered together to ensure water quality standards can be met.

We note that many waterbody crossings for the pipeline right-of-way, access roads, or other pipeline-related activities are not included in the table DEQ provided to guide comments on this public notice. Given those omissions, we question whether any of those impacts can have been adequately assessed, if they were assessed at all.

Among the issues that are important at numerous crossing sites but are not adequately addressed through the Corps' reviews, are

- combined impacts in small watershed areas from multiple crossings,
- conformance with Virginia's antidegradation policy,
- likely temperature impacts, especially on streams inhabited by cold water species,
- impacts to both surface waters and groundwater in areas underlain by karst geology,
- impacts of crossings in areas with acid-bearing geologic formations,
- direct discharges to crossing sites from so-called "upland" pipeline activities, and
- impacts on recreation, aesthetic values, and other human uses.

Based on the above-described factors and others discussed below, we propose that at least the following crossings must be addressed by Virginia through individual Clean Water Act section 401 reviews.

- Townsend Draft cluster (ten crossings)
- Unnamed tributary to Back Creek (two crossings)
- Jackson River crossing
- Little Valley Run and tributary (two crossings)
- Dry Run cluster (six crossings)
- Cowpasture River crossing

- Stuart Run cluster (twenty-six crossings)
- Mill Creek cluster (twenty-two crossings)
- White Oak Draft cluster (6 crossings)

Introduction

These comments are submitted in accordance with the State Water Control Board (Board) order of April 12, 2018. That order commanded that the Department of Environmental Quality (DEQ) solicit public comments on the sufficiency of the U.S. Army Corps of Engineers (Corps) Nationwide Permit Number 12 (NWP 12) to ensure compliance with Virginia's water quality standards (WQS) for the Atlantic Coast Pipeline (ACP) and Mountain Valley Pipeline (MVP). This document is being submitted on behalf of Wild Virginia and the Dominion Pipeline Monitoring Coalition (DPMC). Contact information is listed on the cover sheet above.

In the Board's discussions about the degree of protection necessary to protect waterbodies affected by Corps-regulated activities, members cited specific classes or categories of waters that they considered to be of special concern. These included Tier 3 waters, impaired waters, and other classes of resources.

We believe this approach is useful and appropriate and have focused in these comments on individual crossings and clusters of crossings within relatively small watersheds. In each case, the waters we've chosen have characteristics that make them particularly sensitive to threats from the proposed pipeline activities and/or especially technically difficult or impossible to prevent water quality damages in both short and long terms.

Because many of the characteristics that have prompted our analyses in specific areas are common to other waterbodies, we believe that individual or group analyses conducted by DEQ under additional processes that supplement the Corps' reviews can be applied to other sites. Findings from these individual analyses by DEQ may properly lead the State of Virginia to insist that the Corps and ACP account for important factors in other places besides those specifically addressed here.

Action is Needed Urgently

Trees have been felled over major portions of the ACP's proposed route in Virginia, so significant impacts are already evident in some waters due to vegetation removal in uplands and riparian areas. Should permission be granted by the Federal Energy Regulatory Commission (FERC) for full construction to begin in the next month or two, great damage may occur through water crossing activities that are shown to be inadequately regulated.

DEQ has told members of the public that the Board will not meet until possibly August 21, 2018. The concerns some Board members have expressed and the

willingness of the majority of members to explore the need to conduct individual crossing reviews demonstrates that the Board takes these matters seriously. Therefore, the Board should see fit to meet and take whatever action is deemed appropriate and necessary within the very near future.

The urgency of this situation is illustrated by the destruction that is already being caused by construction on MVP in both West Virginia and Virginia. While West Virginia has issued notices of violation to stop serious erosion and runoff problems, DEQ has so far failed to do so. In response to more than a dozen documented problems over the length of the area so far affected by MVP construction, DEQ has been largely silent.

We learned through testimony by two DEQ officials in federal district court this past Tuesday that many serious complaints have not even been investigated. DEQ personnel repeatedly characterized problems presented to them as mere “maintenance issues,” though these problems resulted in large amounts of mud flowing onto lands owned by other parties and into state waters. When asked whether DEQ had ensured that these “maintenance issues” were resolved within the normal required time of 24 hours, officials were unable to say whether this had been done in any of the cases brought to their attention.

Virginians are counting on the State Water Control Board. In calling for this public comment period, you asked the public to bring solid evidence forward and we are doing so. This, despite the fact that DEQ has so far shown almost no evidence to the Board or the public to support the Department’s decisions to defer to Corps approvals for these pipelines. We are attaching a report recently released by the Dominion Pipeline Monitoring Commission entitled *The agency has no records . . . , DEQ’s Failure to Use Sound Science to Protect Virginians’ from Pipeline Threats* (Submitted as a separate attachment to these comments). As shown in the report, when asked for specific records in its possession to support its statements that NWP 12 is sufficient in these cases, in nearly every instance DEQ was forced to admit such records do not exist.

The Board’s Authority

We assert that the Board has authority to withdraw coverage for any number of waterbody crossings covered under Corps regulations, as long as it makes the finding described in the reserve clause contained in the general certification for NWPs. That language states:

The Commonwealth reserves its right to require an individual application for a permit or a certificate or otherwise take action on any specific project that could otherwise be covered under any of the NWPs when it determines on a case-by-case basis that concerns for water quality and the aquatic environment so indicate.

The State's opportunity to exercise the right described in this description arose at the time the Corps decided to cover ACP and MVP under NWP 12. If the Board takes action now, the additional reviews and any additional water protection requirements those reviews compel can be effective at protecting our waters.

A Summary of Crossings and Clusters Addressed

The individual crossings and clusters addressed in detail below include:

- Townsend Draft cluster (ten crossings)
- Unnamed tributary to Back Creek (two crossings)
- Jackson River crossing
- Little Valley Run and tributary (two crossings)
- Dry Run cluster (six crossings)
- Cowpasture River crossing
- Stuart Run cluster (twenty-six crossings)
- Mill Creek cluster (twenty-two crossings)
- White Oak Draft cluster (6 crossings)

Overarching Issues and Concerns

The approach the Corps has used to determine that NWP 12 and other applicable conditions are adequate to meet that agency's responsibilities under Clean Water Act (CWA) section 404 does not focus on and does not reflect the specific requirements that apply to state waters in Virginia under our water quality standards. We will note specific instances where that difference in focus and requirements leaves certain streams and groups of streams without sufficient protection under state law but believe it is useful to explain those issues more broadly at the outset.

Omission of Waterbody Crossings from Corps/DEQ Listings

One clear deficiency in the reviews so far conducted by the Corps and in DEQ's deferral to those reviews is the fact that numerous waterbody crossings are not listed in the tables supplied to the public by DEQ. We were led to believe that the listings provided were complete and accurate; this is simply not the case.

In fact, we have so far identified at least eighty-one crossings by the pipeline right-of-way (ROW) and by access roads and additional work areas that are not shown in Table B-1, entitled *Impact Table of Waters of the U.S. for the Atlantic Coast Pipeline within the U.S. Army Corps of Engineers – Norfolk District* and dated November 30, 2017. DEQ must explain to the Board how it has decided to accept the Corps' rulings on these sites when neither the Corps nor DEQ have apparently acknowledged their existence. A table of those missing sites is included in Appendix A to this report.

Combined Impacts in Small Headwater Drainages

First, we must recognize that headwater drainages containing relatively small streams are extremely rich and, at the same time, highly threatened aquatic environments in Virginia and in the eastern U.S. as a whole. Many of these streams provide important remnants of certain types of intact habitat that previously covered much larger areas in the central Appalachian region. Likewise, the numbers of certain species that rely upon these habitat types have drastically decreased and have been or are in danger of being extirpated from individual watersheds and broader areas. Others are listed as threatened or endangered by the federal government and/or the State of Virginia or as species of special concern.

Beyond the inherent values of these headwater drainages by themselves, these streams are vital and irreplaceable components of the larger stream systems of which they form significant parts. As Meyer et al. explain:

The diversity of life in headwater streams (intermittent, first and second order) contributes to the biodiversity of a river system and its riparian network. Small streams differ widely in physical, chemical, and biotic attributes, thus providing habitats for a range of unique species. Headwater species include permanent residents as well as migrants that travel to headwaters at particular seasons or life stages. Movement by migrants links headwaters with downstream and terrestrial ecosystems, as do exports such as emerging and drifting insects.¹

Below, we describe five separate groupings of waterbody crossings, characterized as “clusters,” each of which are proposed to impact relatively small headwater drainages in the Valley and Ridge physiographic province. In each case numerous crossings in watersheds and waterbodies pose serious threats, both individually and in combination.

It cannot be denied that multiple waterbody crossings will exert cumulative impacts on the stream systems examined. Despite this fact, the Corps’ analyses address most of the crossings as separate and distinct activities and fail to account for combined effects. For example, in every case, sediment discharges from individual crossings will combine in downstream reaches in addition to sedimentation impacts in individual streams and the analyses have so far ignored these downstream impacts. Further, the disruption of aquatic and riparian habitats in multiple locations in the same small drainage, elimination of native riparian vegetation, disruption of flows and species movements, even on relatively short-term bases, may have detrimental effects.

¹ Meyer, Judy L., David L. Strayer, J. Bruce Wallace, Sue L. Eggert, Gene S. Helfman, and Norman E. Leonard, *The Contribution of Headwater Streams to Biodiversity in River Networks*, Journal of the American Water Resources Association, Vol. 43, No. 1, February, 2007, p. 86.

Failure to Conduct Antidegradation Analyses

Antidegradation provisions are an integral component of state WQS. These provisions require different analyses for each of three classes of waterbodies, generally defined as Tier 1, 2, or 3 waters.

So-called Tier 2 waters are deemed to be of “high quality,” where current conditions are better than those minimum conditions specified by numeric or narrative criteria (“general criteria” in Virginia’s WQS regulations). To assess compliance with standards for Tier 2 waters, a three-step process must be conducted. DEQ’s normal assumption is that waters not designated as “impaired” are Tier 2 waters. Therefore, as a first step, DEQ must identify those high quality waters. Without question, hundreds of the waterbodies ACP proposes to cross are indeed of “high quality,” given that they have been largely unimpacted by pollution sources.

Second, wherever Tier 2 waters exist, DEQ is required to determine whether the crossing activities will predictably lower that quality to any degree. One source of degradation in these waters in every case will be some discharge of sediments. DEQ cannot credibly assert otherwise. Therefore, wherever sediments will be released, DEQ is obligated to determine whether those releases will worsen conditions in the subject waters. This applies to sedimentation and causing turbidity in the water column, which the WQS general criteria prohibit, and to the impairment of habitat and harm to species due to deposition, whether at the crossing site or at any point downstream.

The third step in Tier 2 antidegradation reviews to assess the economic and social costs and benefits in the area where the water quality would be lowered. Only if economic or social factors make it necessary to lower water quality may an activity be approved.

The Corps does not conduct this type of antidegradation review. Note that when the State of West Virginia’s certification of MVP was challenged in federal court, the State voluntarily remanded the case to its water quality agency, specifically because it was forced to admit an antidegradation analysis had not been done. If the Corps’ review had met the same need, surely West Virginia would have asserted as much.

Application of Tiers 1 and 3 reviews and protections is also not within the Corps’ purview and DEQ has provided no evidence that it has conducted any analyses on these issues. Tier 1 provisions require that even for those waters that are impaired “existing uses” must be fully protected. One such existing use that DEQ must protect, recreation and aesthetic enjoyment has not been addressed in relation to the physical alterations to waterbodies and riparian zones. As noted below, even the Corps of Engineers has admitted that projects

built in accordance with NWP 12 will sometimes impair or even eliminate recreational uses.

Failure to Assess Temperature Impacts from Rights-of-Way Adequately

In many cases, the stream crossings proposed by ACP would affect cold water streams in the mountainous areas of the state. These waters are necessary habitat for Brook Trout and other trout species, as well as various other organisms that must have cold, clear water. The maintenance of intact riparian forest habitat is the most effective way to keep water temperatures low and prevent extreme fluctuations through time.

In all cases where ACP would cross such streams, the company will be required to remove all large woody plants along the banks of the streams and in an even wider band on the slopes leading down to those streams. This activity may well cause significant elevation of temperatures where even small increases may have detrimental effects on cold water species.

There appear to be relatively few research studies looking specifically at the impacts on temperature in streams from pipeline rights-of-way (ROW). One recent study though, commissioned by the Delaware Riverkeeper Network, shows that even well-maintained ROWs that meet all requirements imposed by the Corps and FERC can cause increases in stream temperatures from upstream stations to those at and downstream from the pipeline crossing sites. This study, entitled *Thermal Impacts to Exceptional Value Waterbodies in Pennsylvania Cut by Gas Pipeline Projects*, is submitted as a separate attachment to these comments.

It is well established that many trout streams in the Mid-Atlantic region are already of marginal value for surviving populations, due to a number of impacts that include higher temperatures. The loss of riparian trees due the Hemlock woolly adelgid infestations throughout the eastern U.S. have been shown to put great stress on cold water habitats and species. Both the loss of hemlocks and the removal of riparian forests already affect some of the watersheds ACP proposes to disrupt. These new sources of thermal input can only increase the problems.

Failure to adequately assess crossings in areas with acid-bearing formations

In its letter to FERC commenting on the Draft Environmental Impact Statement (DEIS) for ACP, DEQ suggested the following:

Include a requirement directing ACP, LLC to develop an Acid Soil Mitigation Plan and implement horizontal directional drilling (HDD) to the maximum extent practicable in areas containing acid soils. The Department of Environmental Quality (DEQ) cautions that exposing these soils to the atmosphere through open trenching

operations could result in acidic runoff, potentially resulting in environmental impacts.

As discussed below, a number of crossing sites for ACP would expose acid soils and geological features. And while the company has been required to prepare a mitigation plan to handle potential threats, neither the Corps, DEQ, nor FERC required the kind of alternatives analysis described in the above quote. That DEQ felt it appropriate to require that ACP to “implement horizontal directional drilling (HDD) to the maximum extent practicable in areas containing acid soils” clearly shows how serious the threat is. However, so far, those options have not been fully investigated or required to provide the greatest assurance of protection. Given that many of the waters that could be harmed by acidic effects are also some of our most sensitive and high-values streams, the Board should require that coverage under NWP 12 and DEQ’s general certification be removed and that a proper analysis be done at each of these sites.

Failure to Acknowledge and Assess Impacts of Direct Fill from Uplands

By artificially segregating the reviews of so-called “upland” areas from the in-stream and riparian areas regulated by the Corps, DEQ subverted a proper review of these stream systems, which must be taken as-a-whole. Some the areas where crossings will occur are bordered on one or both sides by extremely steep slopes, which are sometimes in very close proximity to the stream channel itself.

In these cases, the distinction between upland activities and those that contribute sediment directly to the stream disappears. The sediment discharges due to activities upslope in some places must be considered “fill” and within the Corps authority to regulate. However, the Corps has not acknowledged these situations or adequately assessed the possible impacts. The Corps’ and DEQ’s failure to do site-specific reviews of such threats, rather than applying broadly applicable standards leave state waters unprotected.

Predicted impacts on recreation, aesthetic values ignored

Virginia water quality standards define recreation as a designated use for all state waters. 9VAC25-260-10.A. This provision is intended to serve the objective of the CWA, which is to restore and maintain the chemical, physical, and biological integrity of the Nations waters.

When waterbodies are altered in any of these features, chemical, physical, or biological, they may thereby be impaired for certain uses, including recreation, aesthetic enjoyment, or any other protected human use, in addition to support of aquatic life. Without question, drastic changes to the bed, banks, and riparian borders of a stream may interfere with such protected uses (note that where these uses have been occurring since November of 1974, they are also “existing uses” under our WQS and the CWA).

We submit that in some cases the construction activity will impair or eliminate designated and existing recreational uses and we are aware that many individuals are providing evidence about this type of threat to their uses. These effects on recreation may be caused by increased sediment and turbidity in the waters, by alterations in flows, and in changes to habitats.

Even these possible shorter-term impacts violate the General Criteria (9VAC25-260-20) within the WQS which prohibit conditions that “interfere directly or indirectly with designated uses” and which states no time component that applies to this criterion. In other words, there is no basis for Virginia to allow such interferences with uses for *any* period of time. We note that it is hard to conceive of DEQ or anyone else attempting to hold that a sewage discharge that lasts no more than a few days will not violate standards by impairing human uses. The same reasoning must apply to pipeline impacts.

Longer-term impacts from the pipeline may also damage human uses. The physical character of many streams will be changed forever in ways that will inevitably discourage or eliminate recreational uses. Despite this obvious fact, DEQ has never acknowledged this issue in its pipeline reviews, despite the fact that it was raised repeatedly in comments to the agency and in comments to the Board.

Surprisingly, even the Corps has acknowledged what DEQ has refused to recognize. In its Decision Document for Nationwide Permit 12, prepared as part of its NEPA review, the Corps admitted

[a]ctivities authorized by this NWP may change the recreational uses of the area. Certain recreational activities, such as bird watching, hunting, and fishing may no longer be available in the area. Some utility line activities may eliminate certain recreational uses of the area

We can conceive no clearer example of a water quality standards violation - one which the Corps explicitly admits may result from activities that conform to the requirements of NWP 12.

An illustration of impacts on the use of a stream for recreation is provided by the photograph shown in Figure 1 (all Figures are being submitted through separate document submittals). This photo depicts a pipeline right-of-way in Pennsylvania that crosses a trout stream. Clearly, the upstream and downstream reaches of this stream run through forest, which has been removed to allow the pipeline’s construction and ongoing maintenance. We have no reason to believe that this crossing violates NWP 12 in any way but this type of alteration in certain waters, such as highly valued Brook Trout fisheries, would definitely degrade the uses.

Failure to Limit the Types and Range of Variances the Corps May Grant
The Corps' NWP 12, the regional conditions applied by the Corps' Norfolk District, and the individual coverage of ACP under NWP 12 all leave considerable room for the Corps to grant variances to general permit conditions. Such variances are not constrained by DEQ's general certification of NWP 12 and certain types of variances may conflict with Virginia's standards. Wherever this flexibility is retained by the Corps, DEQ must determine whether access to those variances can adequately protect water quality. Some of the bases for variances expressed by the Corps are not allowable under Virginia's Water Protection Permit regulation or WQS.

Failure to Characterize Crossing Sites Accurately or Completely

In addition to the omission of sites from Table B-1, we note that the brief characterizations of many of the crossing sites that were listed are inaccurate, incomplete, or misleading. Examples of these issues include:

- The notations in the table indicate that the choice of crossing method to be used at many sites is still uncertain in hundreds of cases. In four hundred and seventy-one cases the table list the "construction method" as "dam and pump or flume."

The failure to specify which of these methods is to be used makes it impossible to assess the true impacts on these waterbodies. These two methods of construction are not interchangeable and the pipeline company should be required to disclose which is to be used so regulators can accurately judge the impacts that will result.

For example, where damming and pumping water around the construction sites is to be conducted, the placement of pumps upstream of the dam is an important consideration and the proper methods to prevent trapping organisms on screens at the inlets to those pumps is crucial. The choice of which method is to be used should not be left to the company or to regulators in the field but must be made before the crossing is allowed.

- Under the table heading "state designation class" on Table B-1, the notation "WQS not assessed" is included in hundreds of instances. Though the table does not specify, we believe "WQS" to stand for "water quality standards." Neither the table nor any of the plans we have reviewed explain what this notation means. Water quality standards are established for all state waters, as they must be under Virginia's regulations and the CWA.

By failing to acknowledge this fact, it appears that the Corps did not consider the particular standards that must be met in each of these cases. This is not surprising, since the Corps does not claim to have judged these activities in light of WQS compliance. That duty is left to the State of

Virginia and is the reason why Congress designed the CWA review processes to include both federal and state reviews. Since this specific information was omitted by the Corps, we must ask whether DEQ filled that gap. We have been provided no information by DEQ that would indicate that this was done.

Townsend Draft and Tributaries

Either the pipeline right-of-way (ROW) or access roads (ARs) cross waterbodies in the Townsend Draft watershed ten separate times. These crossing points are depicted on Figure 2. The designations for each in Table B-1 in the column "Feature ID" are as follows: shia 407, shia 408, shia 409, shia 410, shia 411, shia 412, shia 414, shia 415, whia 406f, whia 407f.

The main body of Townsend Draft (sometimes also referred to as Warwick Run) is a brook trout stream and would be crossed by the ACP's ROW. Each of the four tributaries that would also be crossed, by the pipeline itself or access roads, either are designated Brook Trout streams or flow directly into designated segments. In addition to these direct crossings of streams, the watershed would be traversed by more than a mile of the pipeline, plunging down slopes that are sometimes as much as 120%.

Figure 3 is an aerial photograph of the areas around one of the crossings of the tributary designated shia 407. The upper portion of the photo shows the approach to the stream from the west, where trees have been cut to within about 100 - 150 feet from the stream. On the other side of the stream, to the bottom of the picture, the trees have yet to be cleared off the mountainside. Here, the toe of the slope is within 10 -15 feet of the stream and rises at a steep angle for more than 450 feet to the top of the ridge.

This is a prime example of a place where sedimentation from the mountainside will discharge directly to the stream, becoming "fill," by the definition of CWA section 404. The fact that the soils on this slope have an erodibility rating of "severe," is especially concerning. This watershed is currently more than 97% forested. Even the amount of land converted for the ROW and roads would be a very significant change.

The section of the pipeline route that includes the Townsend Draft crossings was designated a "high-hazard" area by the U.S. Forest Service. Accordingly, the Forest Service had demanded that ACP provide greatly expanded analysis and proof that the pipeline could be built in this watershed, which is prone to landslides and has shallow soils over bedrock, without major damage to the environment. We see no evidence that the Corps or DEQ considered such factors in relation to these crossings. It is also notable that for at four of the ten Townsend Draft crossings, ACP may blast through the bedrock bottoms of the streams with dynamite and attempt to replace that rock with concrete.

The streams in the Townsend Draft drainage are prime locations for fishing, hiking, and enjoying the beauty and excellent qualities of these streams. A slash across the ridges, such as that shown in Figure 3, will eliminate those values for these streams. Any increases in sediment or drastic changes in the physical environment will imperil fish stocks.

Further, most of these streams, due to current forest cover and their placement in steep valleys are very rarely exposed to direct sunlight, even in winter. Summer exposures in the shallow streams will almost certainly have detrimental impacts.

By hitting nearly every separate stream within the drainage with multiple impacts, trout populations could be deprived of the ability to move, to seek refuge during droughts or other periods of stress. Research shows that trout sometimes travel significant distances within watersheds for just such purposes.²

If we add together the combination of all factors listed above, it is simply not credible to assert that there would be no lowering of water quality in the streams of this watershed. Given that those streams are now of high quality and require Tier 2 treatment under the antidegradation policy, the only way quality can be degraded to any degree and for any period of time is for the state to find that the lowering of quality “is necessary to accommodate important economic or social development in the area in which the waters are located.” 9VAC25-260-30.2. The Corps does not undertake such analyses and DEQ has not done so.

DEQ has not done any site-specific assessment of the threats to the streams in the Townsend Draft watershed. Further, DEQ has no evidence that the Corps did any real characterization of the environments here or any assessment of potential impacts. The Department’s response to a records request proves these assertions to be true.

As described in the report referenced above and submitted with these comments (*The agency has no records . . . , DEQ’s Failure to Use Sound Science to Protect Virginia’s from Pipeline Threats*), citizens requested the following:

²See e.g.: Hansbarger, Jeff L., J. Todd Petty, and Patricia M. Mazik, *Brook Trout Movement Within a High-elevation Watershed: Consequences for Watershed Restoration*, Proceedings from the Conference on the Ecology and Management of High-Elevation Forests in the Central and Southern Appalachian Mountains, p. 74 - 84; Petty, J. Todd, Jeff L. Hansbarger, Brock M. Huntsman, and Patricia M. Mazik, *Brook Trout Movement in Response to Temperature, Flow, and Thermal Refugia within a Complex Appalachian Riverscape*, Transactions of the American Fisheries Society, p. 1060 - 1073, June 26, 2012.

- 1) “Any site-specific records that DEQ has created or reviewed in the course of its decisional process in relation to its Clean Water Act (CWA) section 401 responsibilities for the proposed crossing sites” including “site-specific descriptions or characterizations of the physical, chemical, or biological characteristics of the sections of waterbodies associated with any one of the crossings or of any combination of the crossings and should include but not be limited to data, photographs, drawings, or narrative descriptions.”
- 2) “Any records that describe site-specific analyses performed by DEQ or reviewed by DEQ as to the potential for proposed project-related activities at any of the individual sites listed . . . to cause or contribute to violations of Virginia water quality standards (WQS) for either surface waters or groundwater, either at crossing sites or in other portions of the waterbody or watershed that may be affected by the crossing activities.”
- 3) “Any records that describe waterbody-specific or watershed-specific analyses performed by DEQ or reviewed by DEQ as to the potential for proposed project-related activities at any or all of the listed sites to cause or contribute to cumulative impacts and the potential for those cumulative impacts to violate Virginia WQS, for either surface waters or groundwater.”

Note that the request was for evidence or analyses created *or reviewed* by DEQ. Thus, if the Corps had done any of the data-gathering or review in this area necessary to know the water quality impacts, such that DEQ had a valid reason to defer to the Corps, then that material should have been provided.

DEQ’s answer to this request: “The agency does not have any . . . records that would be substantive to your requests submitted.”

Unless these individual streams and this unified set of crossings is assessed for compliance with all WQS, including antidegradation, any claim that there’s an assurance that standards won’t be violated is not credible. The Board must insist that the science be heeded and the regulations enforced and withdraw coverage for the Townsend Draft crossings from NWP 12 and the general certification.

Unnamed tributary to Back Creek crossing

The designation for a crossing in this area in Table B-1 is shia 405. In addition, another crossing is planned but not shown on the Table. This omission demonstrates first that we cannot know whether the Corps or DEQ have looked at the stream not listed on Table B-1, either in the field or through databases.

It also calls into question the diligence with which DEQ has carried out the Board’s order to hold a comment period that truly serves both the Board and

the public. If citizens had not painstakingly assembled the data and maps and spent countless hours in tracking and analyzing the proposals, these gaps would have never come to light. Does the Board expect the public to carry the weight of making sure the regulations are implemented, based on accurate information and up-to-date analyses?

This area provides a shocking demonstration of a serious threat to a water supply used by area residents and the disregard that has been shown by ACP and the regulatory agencies. Figure 4 shows the pipeline path crossing an area through which two separate dye trace paths crosses. In the area, the ROW passes very near numerous sinkholes and a sinking stream that is crossed by the pipeline path disappears into Crawdad Ponor, as shown in Figure 5. Drainage from the karst throughout this area flows directly to Devers spring, also shown on Figure 4, which is owned and used by a local farmer. The spring has proven so reliable that other area residents depend on it as a backup water supply when other wells and springs become depleted.

To risk this spring and the other resources in this area without a detailed, site-specific review of these waterbody crossing would be extremely reckless. It must be remembered that the construction activities can affect groundwater supplies in two important ways. Any sediments or pollution can be carried to springs or wells some distance away and very quickly and can threaten the viability of cave organisms. Also, water flows through karst can be changed or diminished due to construction activities. Therefore, both the quantity and quality of groundwater supplies are at risk and there can certainly be no assurance that groundwater quality standards will be met without site-specific assessment in this area.

Jackson River Crossing

The designation for this crossing in the column “Feature ID” is DKSQ_VA_002. Note that the ID and the data in Table B-1 provided by the Corps shows that a “desktop” analysis was conducted. Such an approach could only be acceptable as a preliminary step in the regulatory review. To stop at a mere review computer data when deciding whether a major industrial project may be allowed to cross this important resource is outrageous. For DEQ to meekly rely on that approach by the Corps and claim to the public and the Board that the regulators have done their jobs is appalling.

The Jackson River is one of the largest and most popular trout fisheries in Virginia, including both private and public waters. Sections of the river both upstream and downstream of the proposed crossing are managed for commercial fee fishing. A public special-regulation (catch and release) area is further downstream in the George Washington National Forest.

Sedimentation associated with the proposed crossing would degrade both the aquatic habitat of the river and its use as a recreational fishery. Although the

river is subject to periodic extreme high flows, no information concerning the stability of the stream bed and adjacent wetland areas were examined in the NWP12 review. This poses risks of stream bed destabilization and habitat impairment, as well as risks to the integrity of the pipeline.

The site specific geophysical and engineering studies that need to be completed prior to permitting have not been done. It is important to note that these are just the kinds of data DEQ staff asked for in comments on the DEIS. In those comments submitted April 6, 2017, state experts wrote that FERC should:

[a]dd a recommendation to direct Atlantic to conduct preimpact characterizations of proposed stream and wetland crossings to include sufficient evidence that the system will be able to maintain its original functions indefinitely after restoration. DEQ is concerned that the proposed temporary impacts could result in a permanent alteration of the impacted systems post construction. Pre-impact characterizations should include stream surveys and subsurface investigations at temporary stream and wetland impact areas to establish the feasibility of restoring the systems post-construction and hydrologic assessments, including piezometers, to establish pre-impact hydrologic conditions at temporary wetland impact areas.

Despite what must be read as a dire warning that additional information was necessary to show that “the system will be able to maintain its original functions indefinitely after restoration” and that “DEQ is concerned that the proposed temporary impacts could result in a permanent alteration of the impacted systems post construction.”

In the face of these pleas for adequate data and analyses by DEQ technical staff, the Corps’ approach has been to rely on a “desktop” assessment. Therefore, we sought information from DEQ to see how it had followed-through on its staff’s concerns. We asked for

[a]ny records describing or discussing pre-construction investigations such as those described in staff comments to FERC that have been conducted by any party and reviewed by DEQ and any results of such investigations incorporated into DEQ analyses or used to decide that individual waterbody crossing reviews by DEQ are not necessary.

Yet again, DEQ’s answer: “There are no records regarding [the request.]”

David Sligh raised this exact issue in written comments to DEQ and before the Board in both December and April. DEQ has yet to provide any explanation as to why the results staff warned of (loss of system functions) would not be a

violation of WQS, which require all uses to be maintained. It is difficult to imagine how aquatic life use could be fully supported if the physical and hydrologic structures and systems that support those uses could be permanently destroyed.

At the April 12 meeting when Board member Wayland cited Mr. Sligh's evidence and suggested it might support further reviews of waterbody crossings, DEQ Director Paylor's reply was not informative. He simply stated that those staff comments were part of the EIS process, which had already been stated. He did not, however, provide any rationale as to why the issues are not directly pertinent to the Board's duty, to find that all WQS would be met. He gave no reason why staff concerns deemed valid in the federal review were not also a necessary basis for decisions in the 401 process.

Little Valley Run and Tributary

A designation is included in Table B-1 for only one crossing in this area and is listed as sbaa 023. There is an additional crossing that was not included in the table.

Little Valley Run is a Brook Trout stream and lies on karst terrain. Figure 6 shows the great concentration of identified sinkholes and springs in this area. Little Valley Run is a "sinking stream," meaning it sometimes disappears into the underlying strata and is intimately connected to the groundwater. ACP proposes to blast the bedrock bottom to install the pipeline through the stream. This plan is extremely risky, given that there are numerous sinkholes and a dye trace showing that water flows from the north, directly through the area where the pipeline work would occur, and feeds a spring approximately one mile to the south. That spring apparently feeds a tributary to Little Valley Run as well. It is also especially important to remember that the occurrence of and threats to subterranean species, such as rare cave arthropods in these areas, are not well studied and that site-specific protections for groundwater quality and flows can be reliably assured only through individual study.

As in every other case we've examined, we find no indication that DEQ has conducted an antidegradation analysis and the requirements imposed by the Corps under NWP 12, the regional conditions, and the approval for ACP's coverage all allow for minimization of pollution and grant variances for protections were protective measures are not deemed "practicable." It is unclear in many cases whether the determination of practicability is left to the pipeline company or is made by the Corps. The definition of what it means to minimize pollution is never given by the Corps. In any case, the degrees of latitude NWP 12 and related conditions grant to the company or the Corps make it impossible for the Board to ascertain whether WQS compliance will be assured.

The Board should require that an individual certification be required for the Little Valley Run crossings so that springs, geologic features, and associated human and animal uses are fully protected.

Dry Run Cluster

The designations for each crossing in this cluster in Table B-1, in the column “Feature ID,” are as follows: sbaa 028, sbaa 029, sbaa 030, sbay 008, wbaa 010s, wbaa 003s. These crossing sites and other features are shown on Figure 7.

This combination of crossings is of extreme importance, both because of direct impacts to segments of Dry Run and because there are proven, direct connections between activities in the karst areas here with groundwater resources and, through those groundwater connections, to streams many miles away. This situation illustrates the great danger in DEQ reliance on the Corps’ process. The federal authority under CWA reaches waters of the U.S. and the CWA does not require groundwater quality standards.

On the other hand, the State of Virginia has groundwater standards that are very protective. The antidegradation provisions for groundwater require that wherever water is of high quality, levels of pollutants may not be increased by any amount. If any groundwater criterion is exceeded, no further increases in subject pollutants may be made.

The straight lines passing through the Dry Run area on Figure 5 depict paths of groundwater flow that were discovered by dozens of dye testing events. Note that while the waterbody crossings all lie within the Dry Run surface watershed, the groundwater in this area uniformly runs toward the Bullpasture River, its tributaries, and contributing springs. The longest dye trace appears to run nearly five miles from the place substances entering the groundwater can be expected to re-emerge to surface waters.

Cowpasture River

This crossing is listed in Table B-1 under “Feature ID” as sbaa 015.

The Cowpasture River is recognized as one of Virginia's cleanest and most ecologically intact free-flowing rivers. It supports a diverse and productive fishery, including cold and warm water species. It supports rare aquatic species, including the endangered James River Spiny and Yellow Lance mussels.

Sedimentation associated with the proposed crossing would degrade both the aquatic habitat of the river and its use as a recreational fishery. Although the river is subject to periodic extreme high flows, no information concerning the stability of the stream bed and adjacent wetland areas were examined in the NWP12 review. The poses risks of stream bed destabilization and habitat

impairment, as well as risks to the integrity of the pipeline. As explained for the Jackson River, the site specific geophysical and engineering studies that need to be completed prior to permitting have not been done, despite agency staff's warnings about their importance.

Stuart Run and Tributaries

The designations for crossing Table B-1 in the column "Feature ID" are as follows: sbaa 001, sbaa 002, sbaa 002e, sbaa 013, sbaa 025, sbaa 026, sbae 201, sbaf 001, sbar 009f, sbar 010e, sbar 011, sbar 013, sbar 014, sbar 017, sbar 018, sbar 019e, sbar 019p, sbar 020, sbar 021, sbar 022, sbay 005, sbay 006, wbae 201e, wbae 001e, wbae 001f. One additional crossing is not shown on Table B-1.

The ACP crosses Stuart Run at MP 100.7 and continues north along Deerfield Road to cross tributaries and wetlands of Stuart Run another 24 times within 1.7 miles. Stuart Run (sbaa 001), together with its major tributary, Bolshers Run, has a significant portion of its drainage area in steep, mountainous terrain and is subject to frequent flooding. Flood scour and the potential for channel changes in extreme flood events pose a threat to pipeline integrity for the ACP.

The Millboro Formation black shale occurs in the Stuart Run watershed and the ACP will cross 6 tributaries where the Millboro is bedrock. This shale has local concentrations of iron pyrite and can produce an acid mine drainage effect when broken up and placed in fills with exposure to oxygen and fluctuating water levels. The low pH can harm aquatic organisms.

A total of 15 of the Stuart Run tributaries or wetlands will require blasting in the streambed for construction and at least 7 crossings may require concrete armoring due to flood scour.

There are 2 tributaries which have adjacent steep slopes of 40% or more. This will increase the likelihood of normal erosion or slides washing sediment directly into the streams. These tributaries, sbaa 025 and sbae 201 also have steep slopes at least 500 feet long above portions of the streams. Activities in these steep-slope areas will contribute fill to the streams directly due to their proximity to the waterbodies and are therefore regulated under both CWA 404. Therefore, analyses of potential impacts at these crossing sites must be assessed in relation to the upland activities.

Stuart Run is identified to be within the range for the roughhead shiner, a very rare federally and state listed species. Therefore, the crossing activities here must be limited in a way that will fully protect this species. This watershed has a Time of Year Restriction of March 15 to June 30 due to this fish. While this restriction prohibits construction activities during the spawning season for this fish, no evidence has been provided that this condition alone is adequate to

protect these sensitive organisms. Increases in sediment in these waters may well impact the Roughhead Shiner, even when discharges are of relatively short duration. Further, deposition of sediments may damage or destroy habitat for the shiner as well as organisms on which the fish feeds.

The Mill Creek and Tributaries

There are a total of twenty-two waterbody crossings in this small watershed. Two of these are not listed in the table provided by DEQ. The others are listed there under the heading “Feature ID” as: sbaa 031, sbaa 032, sbaa 033, sbaa 034, sbaa 039, sbaa 040, sbaa 041, sbar 002, sbar 003, sbar 004, sbar 005, sbar 006, sbar 008, sbar 009, wbaa 011f, wbaa 012f, wbaa 014f, wbaa 015f, wbar 003e, wbar 004e.

Mill Creek (sbar 008) is in a George Washington National Forest priority watershed because of the presence of 4 Threatened or Endanger, sensitive, or locally rare species. These include the James spiny mussel and Atlantic pigtoe mussel and result in a Time of Year Restriction for construction of May 15 to July 31. Mill Creek is also a stockable trout stream and enhanced erosion control measures and coordination with Va. DGIF is required prior to construction.

The ACP will cross 16 tributaries of Mill Creek which flow upon the Millboro Shale Formation and are thus vulnerable to low pH acidic leachate impacting aquatic species. Only one of these tributaries is not subject to blasting, which will break up the shale and increase the acidic leachate potential. The pipeline itself will be armored with concrete at the Mill Creek crossing and possibly others.

The application of concrete onsite increases the chance of harmful spills impacting stream chemistry and species. Acidic water contributed by the Millboro Shale may interact with the concrete structure and weaken its integrity. Further, the concrete “plug” may cause differential erosion around this structure, both on the adjacent banks and in the stream bed. Such impacts would

White Oak Draft Cluster

The designations for each crossing in this cluster are sau4 425, sau4 426, sau4 427e, sau4 427p, sau4 428, wau4 409s.

White Oak Draft and its tributary, which would be crossed by the pipeline path and access roads, is a wild trout stream and lies within the George Washington National Forest. Nearby trails and the natural beauty of the stream and its surroundings cannot be replaced. Figure 9 shows one view of this segment. Even a well-executed effort to “restore” the ROW adjacent to the stream and through the nearby forest will irreparably degrade uses. Recreation is without

question a very popular “existing use,” which the State of Virginia may not allow to be destroyed or impaired.

As described in other sections of this report, the potential impacts on temperature in White Oak Draft, its tributary, and even on downstream trout waters have not been assessed. The Board must require an individual assessment of these crossings. The surroundings found here are of course unique but the methods that would be needed to continue to fully support all uses in this stream would also be needed in many other places along the proposed pipeline route. If those challenges cannot be met, Virginia must not allow these activities to proceed.

Conclusion

We thank the members of the State Water Control Board for creating this opportunity to provide information. As you can see from the information provided herein, our groups have worked ceaselessly to gather the types of information that should inform the pipeline review processes. We are sorely disappointed that DEQ’s process has not led to a thorough and transparent review, as we have a right to expect. It seems that in many instances, we have more and better information at our disposal than does DEQ. Even more disturbing, as shown in several sections of this document, DEQ management has ignored the evidence of its experts and betrayed them and the trust of the public.

A proper review for each of these pipelines would have involved DEQ’s preparation of the kinds of supporting documents the Department provides the Board in every other case where individual permitting decisions or other serious regulatory actions are to be taken. This has not been done here. We must depend on the devotion of the Board members to their heavy responsibility to bring a renewed sense of trust and reliability to these pipeline review efforts.

Appendix A
 Crossings Identified through ACP Submittals but Omitted from
 Tables Supplied by the Corps and DEQ

Name	COUNTYNAME	HUC_8	Longitude	Latitude
Route - 5/26 VA	Nelson	2080203	-78.79733491	37.81113789
Route - 5/26 VA	Nelson	2080203	-78.76201762	37.6935246
Route - 5/26 VA	Nelson	2080203	-78.85809899	37.85579616
Access Road	Augusta	2080202	-79.44306554	38.17937282
Access Road	Augusta	2080202	-79.35445325	38.22927143
Access Road	Augusta	2080202	-79.31634335	38.27736412
Access Road	Augusta	2080202	-79.28873624	38.28416632
Access Road	Augusta	2070005	-79.18132796	38.27739482
Access Road	Augusta	2070005	-79.15215345	38.23169437
Access Road	Nelson	2080203	-78.94788388	37.89682347
Access Road	Nelson	2080203	-78.93094405	37.8859847
Access Road	Nelson	2080203	-78.92700609	37.87776883
Access Road	Nelson	2080203	-78.92785735	37.87850289
Access Road	Nelson	2080203	-78.85681543	37.85657032
Access Road	Nelson	2080203	-78.85836418	37.85572222
Access Road	Nelson	2080203	-78.83417087	37.8583634
Access Road	Nelson	2080203	-78.79605338	37.80908869
Access Road	Buckingham	2080203	-78.62295642	37.54932661
Access Road	Bath	2080202	-79.48759883	38.13188233
Access Road	Highland	2080201	-79.70232211	38.26923927
Access Road	Highland	2080201	-79.6991771	38.27427662
Access Road	Highland	2080201	-79.70065129	38.27197679
Access Road	Highland	2080201	-79.67736191	38.2764382
Access Road	Highland	2080201	-79.69468889	38.27716236
Access Road	Highland	2080201	-79.70532522	38.26796972
Access Road	Highland	2080201	-79.67483248	38.27874525
Access Road	Highland	2080201	-79.71168527	38.25162524
Access Road	Bath	2080201	-79.69496226	38.21714087
Access Road	Bath	2080201	-79.69263248	38.21648907
Access Road	Bath	2080202	-79.49841442	38.11582454
Access Road	Bath	2080202	-79.49938123	38.11614771
Access Road	Augusta	2080202	-79.33605754	38.24522318
Access Road	Augusta	2070005	-78.98112087	37.9153579
Access Road	Nelson	2080203	-78.97203359	37.9054288
Access Road	Buckingham	2080203	-78.5984125	37.53348893
Access Road	Highland	2080201	-79.72687503	38.27314806
Access Road	Highland	2080201	-79.72285407	38.26959321
Access Road	Augusta	2070005	-78.9850697	37.91531473

Access Road	Nelson	2080203	-78.7890764	37.72372316
Access Road	Highland	2080201	-79.70774668	38.24195597
Access Road	Bath	2080201	-79.69664585	38.21066893
Access Road	Bath	2080201	-79.54088725	38.1010462
Access Road	Augusta	2080202	-79.4540638	38.169966
Access Road	Augusta	2080202	-79.39916982	38.1992316
Access Road	Augusta	2070005	-78.95400043	37.96399578
Access Road	Augusta	2070005	-78.95276313	37.96461738
Access Road	Augusta	2070005	-78.97785119	37.91309299
Access Road	Nelson	2080203	-78.96523986	37.90565338
Access Road	Nelson	2080203	-78.9352459	37.89182992
Route - 5/26 VA	Highland	2080201	-79.73562344	38.27148694
Route - 5/26 VA	Bath	2080201	-79.52662871	38.09798527
Route - 5/26 VA	Bath	2080202	-79.49829437	38.11335945
Route - 5/26 VA	Bath	2080202	-79.49736243	38.11470201
Route - 5/26 VA	Bath	2080202	-79.49602998	38.1168882
Route - 5/26 VA	Bath	2080202	-79.49317096	38.12152468
Route - 5/26 VA	Bath	2080201	-79.61787153	38.13404756
Route - 5/26 VA	Augusta	2070005	-79.15550881	38.17302894
Route - 5/26 VA	Augusta	2070005	-79.14587608	38.13591809
Route - 5/26 VA	Augusta	2070005	-79.01141272	38.02769355
Route - 5/26 VA	Augusta	2070005	-79.145206	38.21867597
Route - 5/26 VA	Augusta	2080202	-79.44279228	38.17896188
Route - 5/26 VA	Augusta	2070005	-79.14857126	38.19378637
Route - 5/26 VA	Augusta	2070005	-78.96237775	37.96777409
Route - 5/26 VA	Augusta	2070005	-79.15453092	38.17073886
Route - 5/26 VA	Augusta	2070005	-79.1458411	38.22630205
Route - 5/26 VA	Augusta	2070005	-79.14629667	38.23918855
Route - 5/26 VA	Augusta	2070005	-79.14996092	38.15028221
Route - 5/26 VA	Augusta	2070005	-79.14736451	38.19616034
Route - 5/26 VA	Augusta	2070005	-78.98000087	37.91471084
Route - 5/26 VA	Augusta	2070005	-79.15736946	38.18211974
Route - 5/26 VA	Augusta	2070005	-79.14970443	38.15402921
Route - 5/26 VA	Augusta	2070005	-78.98558246	37.92296848
Route - 5/26 VA	Augusta	2070005	-79.16843176	38.27199663
Route - 5/26 VA	Augusta	2070005	-78.97830143	38.0031646
Route - 5/26 VA	Augusta	2070005	-79.14663446	38.14867774
Route - 5/26 VA	Augusta	2070005	-79.11851595	38.10908836
Route - 5/26 VA	Augusta	2070005	-79.03966572	38.05675826
Route - 5/26 VA	Augusta	2070005	-79.1445737	38.22100507
Route - 5/26 VA	Augusta	2070005	-79.1487944	38.2040287
Route - 5/26 VA	Augusta	2070005	-79.15544509	38.18812522
Route - 5/26 VA	Augusta	2080202	-79.36291003	38.21866061

