June 15, 2018

Mr. David K. Paylor, Director
Virginia Department of Environmental Quality
1111 East Main Street
Richmond, VA 23219
Via email: NWP12InfoOnACP@deq.virginia.gov; NWP12InfoOnMVP@deq.virginia.gov

RE: Virginia State Water Control Board Request for Technical Information on Specific Wetland and/or Stream Crossings – Mountain Valley Pipeline (MVP) and Atlantic Coast Pipeline (ACP) Projects

Mr. Paylor:

Please accept these comments on behalf of Trout Unlimited ("TU") in response to the Virginia State Water Control Board's April 2018 request for information about the sufficiency of the U.S. Army Corps of Engineers (Corps) Nationwide Permit 12 (NWP 12) to protect specific Virginia aquatic resources from impacts of the construction of the Mountain Valley Pipeline and the Atlantic Coast Pipeline.

Trout Unlimited, representing 300,000 members and supporters across the country and 5,000 in Virginia, works to conserve, protect, and restore North America's trout and salmon habitat, with a goal of rebuilding naturally sustainable fisheries. Nationally, TU supports responsible energy development that meets the needs of the public while eliminating, minimizing, or mitigating impacts on coldwater fisheries. For several years, TU staff and volunteers in Virginia have worked to address the impacts of major pipeline construction on our coldwater resources across the Appalachians.

The Atlantic Coast Pipeline would require 889 wetland and waterbody crossings along a 307.1-mile route across Virginia, involving the temporary disturbance of 111,835 linear feet of streams. The Mountain Valley Pipeline would require 383 waterbody crossings along a 107.1-mile route in Virginia, involving a temporary disturbance of 28,677 linear feet of streams.

Construction of these two pipelines would have a significant impact on streams, wetlands and the fisheries they support in an area of the Appalachians that is home to robust, intact populations of wild brook trout. Trout streams are particularly sensitive ecosystems. Prime wild brook trout habitat tends to feature dense riparian buffers to shade the stream and protect the banks, undisturbed springs to cool the water, stable channels, and intact tributary systems.

All of these features are at least temporarily affected by pipeline development, and can be damaged long term if a project is not properly managed. In-stream construction, clearing of vegetation, regrading, and soil compaction near these trout streams increase the potential for sedimentation from storm-water runoff, and this can reduce levels of dissolved oxygen, smother trout spawning habitat with silt, hamper fish egg development, and destroy benthic macroinvertebrate populations. Stream crossings can damage riparian habitat, strip away protective buffers, destabilize banks, and alter streambeds.

These impacts can impair existing and designated uses of these streams and cause violations of Virginia water quality standards, including increases in water temperature and turbidity and decreases in dissolved oxygen (DO) concentrations, not just at the site of the crossings but also at downstream locations.

Given these potential harms, it is incumbent on Virginia DEQ to do its own thorough study of proposed stream crossings in the state. The general and regional conditions in NWP 12 are not sufficient to ensure that Virginia's wild trout streams are protected, and the state's certification of NWP 12 is not sufficient to ensure that construction of these pipeline stream crossings will not lead to violations of water quality standards. As described below, we strongly recommend that pipeline companies be required to take additional steps to protect high-value streams, such as using wider buffers, additional setbacks, enhanced erosion controls, and natural stream restoration techniques. While we have appreciated the opportunity to discuss these recommendations with Atlantic Coast Pipeline officials, we remain concerned that these projects will have significant impacts on our wild trout waters.

<u>High-priority wild trout stream crossings: Atlantic Coast Pipeline</u>

Last year, TU conducted a GIS study of wild brook trout habitat in the path of the ACP, relying on our recently completed Conservation Portfolio Analysis to assess stronghold populations of Virginia's only native trout. The streams in the Appalachians are strongholds for the eastern brook trout, a species whose range has been steadily diminished by a century of development. We found that 73 stream crossings in Virginia involved streams with stronghold brook trout populations, where the fisheries are likely to survive a changing climate. Another 77 crossings would affect other important native and wild trout waters.

For the purposes of these public comments, we have identified a subset of streams that are particularly deserving of a state-level, site-specific review.

Each of these streams are perennial waters that would be crossed by the pipeline. Twelve (12) crossings affect Virginia Division of Game and Inland Fisheries (VDGIF) designated wild trout streams. Thirty-one (31) are in watersheds TU has prioritized because they harbor important populations of wild trout. In another 14 cases, reports from local anglers demonstrate that these streams hold naturally reproducing trout populations. (See Table 1.)

It is important to note that there is significant potential for cumulative impacts:

- Highland County: Jackson River and its tributaries crossed seven (7) times over the course of two miles.
- Bath and Augusta counties: Calfpasture River and its tributaries crossed 42 times over a span of 13 miles. This includes Hodges Draft, Ramsey's Draft, and Broad Draft, which are designated VDGIF wild trout streams. All three streams appear to be misidentified on Atlantic Coast Pipeline waterbody tables; see notes in Table 1.
- Augusta County: Orebank Creek, Back Creek and their tributaries crossed 14 times.

High-priority wild trout stream crossings: Mountain Valley Pipeline

The Mountain Valley Pipeline would involve more than 20 crossings of perennial trout streams in Virginia. Stony Creek and Little Stony Creek are home to stronghold populations of native brook trout. Mill Creek, Bottom Creek and Green Creek are VDGIF designated wild trout waters. (See Table 2.) Cumulative impacts are a concern here as well:

- Giles County: Little Stony Creek and its tributaries crossed five time over the course of one mile starting at MP 202.5.
- Giles County: Sinking Creek and its tributaries crossed 10 times between MP 207.8-211 and MP 213.6-217.7.
- Roanoke County: Bottom Creek crossed just upstream of a Tier III exceptional section protected from degradation by state regulation.

NWP 12 is insufficient to ensure protection of trout streams

In 2017, Virginia granted a Section 401 water quality certification of the Corps' NWP 12, stating that there is a "reasonable assurance" that activities conducted under the permit would not violate state water quality standards. NWP 12, however, is insufficient to ensure protection of trout streams. While the NWP 12 includes general and regional conditions that are intended to be protective of trout waters—ensuring aquatic organism movement at crossings (General Condition 2), protection of spawning areas "to the maximum extent practicable" (General Condition 3), maintenance of sufficient water flows (General Condition 9)—it is not clear from the record whether the Corps had enough site-specific detail of each crossing to conclude that construction would meet these provisions. Other conditions of NWP 12 are clearly insufficient: For example, the permit merely requires that waterbodies be "restored to their preconstruction contours."

NWP 12 was designed for routine projects with minor impacts. The Corps considered each stream crossing as a "single and complete," and yet in many cases, the pipeline crosses streams and their tributaries many times, amplifying the potential for cumulative water quality impacts in an affected watershed. It is unclear what analysis the Corps undertook to make its determination, as required under NWP 12, that construction will not result in "more than minimal individual or cumulative adverse environmental effects."

By conducting its own site-specific investigation of crossings, Virginia can correct this deficiency and determine whether multiple crossings of a single river or stream system would intensify the effects on water quality and aquatic life in its natural reproduction trout streams, and what steps the companies should be required to take to avoid cumulative impacts.

TU strongly recommends that Virginia set additional permit conditions for crossings on the perennial wild trout streams highlighted on Tables 1 and 2 to ensure that aquatic resources are protected. As it stands, Virginia cannot be confident that construction of these stream crossings under NWP 12 will not violate state water quality standards.

Site-specific conditions to protect wild trout waters

Some of these high-priority streams run through sections of the Monongahela and George Washington National Forests. In extensive discussions with the Forest Service, Atlantic Coast Pipeline has agreed to take further steps to protect wild trout streams on these public lands. (See ACP's *Construction, Operations, and Maintenance Plan*.) In numerous cases, the ACP would pass just outside the boundaries of these forests, but due to the lack of additional protective measures, it is in these stretches that construction would have the most substantial potential impact on coldwater resources. By conducting its own site-specific review of wild trout waters along both the ACP and MVP, Virginia DEQ can assess whether similar protective steps are necessary to meet state water quality standards outside the national forests.

Among "additional mitigation measures" on Forest Service lands that should be applied to other trout streams are requirements that stream channels be restored to their near-natural morphology; additional temporary work spaces be located at least 100 feet from the edge of a perennial stream; minimum buffers of 100 feet be protected where pipeline construction parallels a stream, increasing with the gradient of the slope; and additional erosion controls be in place when construction work is within 100 feet of a trout stream during time-of-year restrictions.

A key mitigation measure cited by the companies is avoiding in-stream work during trout spawning seasons. However, the companies have already requested, and in many cases received, waivers that will allow construction during these time-of-year restrictions. Virginia should reconsider these waivers for work in its trout streams. At the very least, the companies should be required to take additional steps when crossing a waterbody during spawning season. TU recommends that the companies be required to set back additional temporary work spaces 100 feet; use enhanced erosion and sedimentation controls, such as compost filter socks or heavy-duty Belted Silt Retention Fences, especially where construction occurs on slopes; and limit in-stream blasting.

Atlantic Coast Pipeline should also demonstrate, as Mountain Valley Pipeline has, that it has done the analysis necessary to justify a pipeline depth of five feet at stream crossings. This arbitrary depth does not account for potential streambed instability, and suggests that the company has not submitted site-specific scour depth analyses to show that erosion and/or movement of the streambed laterally could cause the pipe to be exposed by flooding.

Both companies have failed to provide site-specific restoration plans to demonstrate that streambeds will be returned to pre-construction conditions and that upstream and downstream reaches will be comparable in width, depth, slope, and materials.

Finally, the companies have not demonstrated at a site-specific level that the temporary structures put in place to conduct a stream crossing would be sufficient to handle spikes in stream flows to prevent erosion and sedimentation impacts during major storms. Given the major sedimentation events on the Mountain Valley Pipeline, we are already seeing that this is not the case.

TU appreciates your consideration of these comments. As Virginia cannot be confident that construction of these pipelines under NWP 12 will be sufficient to protect water quality in its trout streams, we strongly recommend that it conduct its own review and put in place stream-crossing conditions. Please do not hesitate to contact David Kinney, TU's Eastern Policy Director, at 856-834-6591 for additional information about the streams highlighted here.

Sincerely,

David Kinney
Eastern Policy Director
Trout Unlimited

Table 1: High-priority wild trout streams crossed by Atlantic Coast Pipeline route.

MP	Unique ID [1]	Feature Name	VDGIF wild trout	TU Patch [2]
85.0	shia407	UNT to Townsend Draft		
85.1	shia410	UNT to Townsend Draft		
85.4	shia409	UNT to Lick Draft		
85.5	shia408	Lick Draft		
87.2	shie061	Back Creek		
90.4	shia400	Peak Run		resilient
90.8	shia402	Stony Run	X	resilient
91.1	shic117	Morris Run		resilient
91.4	shix001	Morris Run		resilient
91.5	nhd_va_j_003	Jackson River		resilient
93.0	sbaa023	Little Valley Run	X	
94.1	sbaa004	Laurel Run	X	redundant
100.7	sbaa001	Stuart Run		
103.1	sbar008	Mill Creek		other
107.5	saur020	UNT to Hamilton Branch		redundant
107.5	saur011	UNT to Hamilton Branch		redundant
107.5	saur012	UNT to Hamilton Branch		redundant
107.7	saur016	UNT to Hamilton Branch		redundant
108.3	saur019	UNT to Hamilton Branch		redundant
108.4	sauf003	Hamilton Branch		redundant
110.1	sauc127	UNT to Calfpasture River		
110.7	sauc130	Tizzle Branch		resilient
110.8	sauc131	Benson Run		resilient
110.8	sauc132	UNT to Benson Run		resilient
110.9	sauc133	Tim's Draft		resilient
111.4	sauy004	Calfpasture River		resilient
111.4	sauy003	White Rock Branch		resilient
112.6	sauc125	UNT to Calfpasture River	X (Hodges Draft)	resilient
113.5	saua405	Calfpasture River	X (Ramsey's Draft)	resilient
113.9	saue303	UNT to Calfpasture River	X (Ramsey's Draft)	resilient
115.2	saua440	UNT to Cowpasture River	X (Ramsey's Draft)	resilient
115.2	saub103	UNT to Ramsey's Draft	X (Ramsey's Draft)	resilient
115.3	saub104	Ramsey's Draft	(Broad Draft)	resilient
116.3	saub109	UNT to Calfpasture River		redundant
117.1	saua416	Dowell's Draft		resilient
120.2	saua427p	Buckhorn Creek	X (White Oak Draft)	other
121.1	saua438	Stoutameyer Branch		other
122.5	saua421	UNT to Jennings Branch		other

122.8	saua422	UNT to Jennings Branch		other
129.2	saua413	Jennings Branch		
130.4	saua070	Middle River		
139.1	saua442	Folly Mills Creek		
139.6	saup002	UNT to Folly Mills Creek		
148.6	sauc113	South River		
152.9	saua052	Mills Creek		
153.4	saua067	Orebank Creek		resilient
153.6	saua068	UNT to Back Creek		resilient
153.7	saux004	UNT to Back Creek		resilient
153.8	saux005	Back Creek		resilient
158.9	snea021	South Fork Rockfish River	X	other
162.4	snex009	Spruce Creek	X	other
163.1	snex006	Spruce Creek	X	other
163.7	snee501	South Fork Rockfish River		

[1] Unique ID: Crossing identification number drawn from ACP waterbody crossing tables.

[2] Trout Unlimited's Conservation Portfolio Analysis of Eastern Brook Trout Joint Venture data identified priority habitat "patches" as (1) resilient, i.e. harboring large, stronghold native brook trout populations capable of weathering climate change; and (2) redundant, i.e. harboring secondary brook trout populations in smaller high-value habitat patches. "Other" patches have geographically or genetically distinct wild trout populations. For more information, see https://www.tu.org/ebt-portfolio-rwa.

Table 2: High-priority wild trout streams crossed by Mountain Valley Pipeline in Virginia.

MP	Unique ID [1]	Feature Name	VDGIF wild trout	TU Patch [2]
198.9	S-Q13	Kimballton Branch		
200.3	S-S5	Stony Creek	X	Resilient
203.5	S-G35	UNT to Little Stony Creek		Resilient
203.8	S-Z9 thru S-Z11	UNT to Little Stony Creek		Resilient
204.3	S-Z13	Little Stony Creek	X	Resilient
207.8	S-E24	UNT to Sinking Creek		
207.9	S-E25, S-RR5	UNT to Sinking Creek		
211.0	S-NN17	Sinking Creek		
211.7	See Note 3	Greenbrier Branch		
212.9	TTVA-S-R22	UNT to Grass Run		
213.6	S-MM17	UNT to Sinking Creek		
214.8	S-NN9, S-KL43	UNT to Sinking Creek		
216.5	S-0013, S-0014	UNT to Sinking Creek		
217.7	S-PP3	UNT to Sinking Creek		
217.7	S-QQ2	Sinking Creek		
222.4	TTVA-S201	Mill Creek	X	
227.2	S-G36	North Fork Roanoke River		
241.5	S-EF32	Bottom Creek	X	
245.1	S-IJ43	Mill Creek		
246.9	S-H1	Green Creek	X	
249.8	S-D8	North Fork Blackwater River		

[1] Unique ID: Crossing identification number drawn from MVP waterbody crossing tables.

[2] Trout Unlimited's Conservation Portfolio Analysis of Eastern Brook Trout Joint Venture data identified priority habitat "patches" as (1) resilient, i.e. harboring large, stronghold native brook trout populations capable of weathering climate change; and (2) redundant, i.e. harboring secondary brook trout populations in smaller high-value habitat patches. "Other" patches have geographically or genetically distinct wild trout populations. For more information, see https://www.tu.org/ebt-portfolio-rwa.

[3] Listed in Appendix F-5 of MVP FEIS; no crossing listed on waterbody table.