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December 26, 2016

TO: **Joby Timm,** Forest Supervisor, George Washington & Jefferson National Forests
Jennifer Adams, Special Project Coordinator, George Washington & Jefferson National Forests
Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission (via e-filing)

RE: **ICWA Opposes the Proposed Amendments to the Jefferson National Forest Land and Resource Management Plan, Mountain Valley Pipeline, FERC Docket CP-16-10-000**

Indian Creek Watershed Association is a 501c3 non-profit organization based in Monroe County, West Virginia. Our mission is to preserve and protect Monroe County's abundant, pure water. Education that leads to citizens' involvement with watershed issues and local planning efforts are the key to Monroe County water protection.

As an organization that has operated for over 20 years, we are submitting comments on the proposed amendments to the Jefferson National Forest Plan.

Please file accordingly.

Respectfully,

Indian Creek Watershed Association Board of Directors
Judy Azulay, President; Scott Womack, Vice President;
Howdy Henritz, Treasurer; Nancy Bouldin, Secretary

Email: info@IndianCreekWatershedAssociation.org

CC: **US Environmental Protection Agency, Region 3**
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Comments from Indian Creek Watershed Association to the Jefferson National Forest Regarding Proposed Amendments to the Land and Resource Management Plan (LRMP) related to the Mountain Valley Pipeline Project, FERC Docket CP16-10-000

December 26, 2016

ICWA incorporates by reference comments concerning the impacts on water resources and on the Jefferson National Forest proposed amendments made by Save Monroe and Preserve Craig (Accession #20161222-5512) and Save Monroe (Accession #20161220-5013, 5014 and 5015). Additionally, ICWA is a signatory to comments made by Appalachian Mountain Advocates (20161223-5058) and by WV Rivers Coalition (20161222-5535).

In addition to comments contained in those submittals, ICWA offers the following comments which are based on the knowledge of our members and scientific experts about the threats to soil and water that would ensue from the MVP's proposed crossing of the Jefferson National Forest. We submit these comments out of concern both for negative impacts of these amendments on the health and mission of Jefferson National Forest and for potential effects from such amendments on the waters of Monroe County, West Virginia.

ICWA OPPOSES AMENDMENT 1. The LRMP would be amended to reallocate 186 acres to the Management Prescription **5C-Designated Utility Corridor** from current Rxs—providing for a 500-foot wide corridor, with exceptions for Peters Mountain Wilderness and the Appalachian National Scenic Trail.

1. Such a "utility corridor" would allow for—and in fact, encourage—the placement of additional gas pipelines or other utility lines through Monroe County, converging at this crossing of Peters Mountain.
2. The JNF and Monroe County have a unique relationship and shared stewardship of natural resources, given the extended boundary we share along Peters Mountain. Actions on one side of the boundary line have impacts—both positive and negative—on the other.
    a. The contamination of the Red Sulphur Public Service District's primary water source, linked to impacts from construction of the Columbia Line through the JNF to the Celanese plant, is a cautionary "canary in the mine". The details of this pollution event including maps, photos, and abatement reports are contained in the comment re pipeline/sinkhole pollution of Red Sulphur Public Water District drinking water. (Accession #20151127-5151)
    b. The proposed MVP crossing would pose an even greater environmental threat caused by the excavation and construction of a 42-inch pipeline through similar karst terrain, imperiling RSPSD source waters and private springs and wells. (See **Figure 1** attached which shows the MVP route and the RSPSD Zone of Critical Concern as the MVP ascends Peters Mountain to the top where it enters the Jefferson National Forest.)
    c. This threat will be multiplied by additional pipelines with the designation of a utility corridor in the proposed location.
3. The reduction in utility corridor width (i.e., bottleneck) that would be caused by the two exceptions to the width of the 500-foot corridor (for the Appalachian National Scenic Trail and the Peters Mountain Wilderness) would undermine the stated purpose of the corridor.

a. The restrictions would not obviate the later need for an additional corridor (one planned on the basis of a scientific determination of a suitable crossing area where there would be no need for exceptions to the plan).

b. If the JNF is genuinely interested in designating one wide utility corridor for the purpose of limiting the damage caused by multiple corridors, it should select a corridor that can be 500 feet wide *without* exceptions or bottlenecks.

ICWA OPPOSES AMENDMENT 2: The LRMP would be amended **to allow construction of the MVP pipeline to exceed restrictions on soil conditions and riparian corridor conditions** as described in LRMP standards … provided that mitigation measures or project requirements agreed upon by the Forest Service are implemented as needed.

1. **Loosening the restrictions on soil and riparian corridor conditions would not result in MVP's "mitigation" of effects on the soil and water.** It would result in destruction of soil and water.

2. **MVP has not provided adequate information to assess its impact on soil and riparian conditions.** If JNF is seriously considering waiving such restrictions, it should consider reports such as those prepared by experts who have looked closely at potential impacts of MVP construction in the vicinity of Peters Mountain.

    a. Ernst Kastning, Ph.D., L.P.G., in his reports on the geological hazards of constructing the MVP in the Valley and Ridge region (Accession #20160713-5029 and #20161214-5049), notes:

        > Karst and associated hazards constitute a serious incompatibility with the proposed pipeline. The effect of these threats on the emplacement and maintenance of the pipeline, as well as the potential hazards of the line on the natural environment, renders this region as a 'no-build' zone for the project.

    b. Pamela C. Dodds, Ph.D., L.P.G., in "Hydrogeological Assessment of Karst Area Impacts Caused by Constructing The Mountain Valley Gas Pipeline Across Peters Mountain, Monroe County, West Virginia" (Accession #20161222-5540) summarizes:

        > Proposed construction activities will result in increased stormwater discharge and decreased groundwater recharge, thereby increasing flow to sinkholes and changing the groundwater flow patterns through caves. Blasting along the proposed MVP work corridor will degrade fragile cave systems by causing collapse as well as by causing changes in the groundwater flow and direction responsible for maintaining the moist cave conditions. (p. 4)

    c. For examples of the contrast between the DEIS and what is necessary for such an analysis see comment by Indian Creek Watershed Association, "MVP DEIS Ignores Significant Information and Lacks Analyses of Compound and Cumulative Hazards. ICWA provides spatial analysis examples and ITMS Map Collection" (Accession #20161222-5201).

3. **MVP has not provided sufficient information to assess the negative impacts of its Access Road construction within the JNF,** including its impact on headwater streams and aquatic life**.**

    a. ICWA has submitted additional reports by Pamela Dodds, Ph.D., L.P.G. on effects of the MVP on several subwatersheds in Monroe and Summer Counties in WV (Accession #20161221-5434). According to Dr. Dobbs, "…headwater areas are critically important to maintaining water quality, water quantities, groundwater recharge, and watershed functions in the river

continuum." One of the studies needed to protect the water resources in the JNF from construction and post-construction effects of the pipeline project must be an analysis of the effects on the headwater streams on the area of Peters Mountain contained within the forest.

b. The access road to the proposed route is approximately twice the length of the proposed MVP route through the JNF. While winding its way across significant territory that includes slope and soil issues, the access road crosses at least 10 first order headwater streams of Kimballton Branch, Curve Branch, Clendennin Creek, and unnamed tributaries of the New River. (See **Figure 2**.)

c. The DEIS does not adequately assess impacts of construction on aquatic life. In her analysis of the subwatersheds of Indian Creek cited above, Dr. Dobbs writes: "Access roads constructed in ravines are specified to have rights-of-ways 40 feet in width. At most locations, this would require filling of the stream itself, which would destroy the aquatic habitats, or excavation/blasting of the adjacent hill slopes, which would disrupt the flow of water from seeps and springs to the streams. When sediment is deposited in a stream bed, filling in the voids among cobbles and pebbles, aquatic habitats are destroyed. This is not a temporary impact. <u>The impact of increased sediment deposition in any stream is cumulative and permanent</u>." (emphasis added)

d. It is incumbent on the Jefferson National Forest to evaluate the effects of the access road on the aquatic resources of the headwater areas and their receiving streams.

3. **ICWA has repeatedly called on the JNF to perform hydrogeological studies of the water on Peters Mountain**.

a. Until such studies are completed, the JNF does not have an inventory of the water resources that could be affected by the pipeline route **and** the permanent access roads which are in fact longer than the route itself through the JNF. ICWA has been working to identify springs on the Monroe County side of Peters Mountain. The attached map shows the progress so far that volunteers have made as well as the "clouded" areas where the volunteers have not worked yet. (See **Figure 3**.)

b. Until such studies are completed, the JNF does not have enough information to determine the effect of the MVP on the forest water resources on the northeast flank of Peters Mountain under Forest Service management <u>*nor*</u> the private water resources on the southwest flank of Peters Mountain in Monroe County. The interconnection of the water simply is not known. ICWA has been pursuing a science-based analysis of the water on Peters Mountain and the following investigations are in progress:

- With a WVU Geology Department faculty member and graduate student: Multi-year study that includes characterizing the springs, identifying source waters, water availability and inter-connectivity and contamination potential in the complex geologic region of Peters Mountain. This study will create a master database of Peters Mountain waters, identify source waters, create a vulnerability matrix and determine a water budget to compute the water availability in the study area for use and consumption.

- With the USGS on their Borehole Geophysical Assessment program. This program will provide subsurface geologic and hydrologic data about the county. This type of

information is critical in determining aquifer flow zone characteristics, groundwater movement delineation and a potential water budget in the study area.

- With Trout Unlimited and West Virginia Rivers Coalition: Monthly stream monitoring at multiple locations in the county, including streams proposed to be crossed by the MVP.

c. The fact that a volunteer community-based organization can make the connections and harness the resources necessary to start these studies can serve as a model for the rudimentary information that would be necessary for the JNF to responsibly assess whether a permit should be granted to MVP or any industrial project that wishes to cross this fragile eco-system.

4. **Additional cumulative impacts of the MVP JNF crossing's effect on water in Monroe County must be considered by the JNF in making its determination.** MVP has not submitted information about cumulative and compound effects.

a. If JNF is seriously considering allowing such waiving of restrictions, it should consider the warning of Dr. Ernst Kastning:

> "It is important that all contributing potential hazards along every mile of the pipeline route, and their cumulative impact be taken into account during FERC deliberation process. Interacting, compound hazards are particularly troublesome and must be considered together as this may cause greater damage and dangers than would occur if they occurred individually." (p. 47, Accession #20161214-5049).

b. Dr. Dodds also discusses cumulative impacts of the MVP JNF crossing of Peters Mountain:

> It is stated in the MVP DEIS that, "Construction and operation of the Projects would likely result in only short-term impacts on water resources... These impacts, such as increased turbidity, would return to baseline levels over a period of days or weeks following construction." The findings provided herein support the conclusion that construction of the proposed MVP gas pipeline project across the karst area of Peters Mountain would result in cumulative adverse impacts to surface and groundwater resources. The increased stormwater discharge from the proposed construction areas would cause increased stream velocity downstream, with the result of increased downstream stream bank erosion, increased turbidity, and increased sedimentation in the stream beds, which adversely impacts aquatic habitats. This cumulative damage to aquatic habitats, through time, will not disappear, but rather, will cause the death of aquatic organisms and will reduce water quality. When the turbidity returns to baseline levels, the sediment remains. The degradation of water quality will also adversely impact the public water supplies within the Red Sulphur PSD.
>
> Increased surface water flow to sinkholes will cause warmer temperatures in karst environments, thereby adversely impacting cave-dwelling species. Reduced groundwater recharge will change moisture conditions in caves, thereby adversely impacting cave-dwelling species. (p. 5, Accession #20161222-5540)

c. Hydrostatic Testing. MVP proposes to take water from Indian Creek to use for hydrostatic testing in the JNF. It is not clear where and how post-hydrostatic test waters will be disposed of, where the hydrostatic water supplies will be obtained, or where storage containers for either of those processes will be located.

(From the Dobbs report on Indian Creek subwatersheds): The MVP DEIS, Table 4.3.2-10 lists "Hydrostatic Test Water Sources and Discharge Locations for the Mountain Valley Project and the Equitrans Expansion Project". MVP proposes withdrawal of 4,904,330 gallons of water from Indian Creek at MP 181.9 for hydrostatic testing. Not only can water withdrawal from Indian Creek degrade the aquatic habitats, but also the underlying karst, which is integrated with the surface water and also provides conduit flow to areas that may extend beyond the Indian Creek watershed. The Indian Creek hydrology has not been determined. Without stream gage analysis, dye trace analysis, stream bank erosion analysis and stream bed scour analysis, there can be no meaningful evaluation of the degradation that would result from withdrawal of 4,904,330 gallons of water from Indian Creek." (Accession #20161221-5434)

ICWA OPPOSES AMENDMENT 3. The LRMP would be amended to allow the removal of old growth trees within the construction corridor of the Mountain Valley Pipeline.

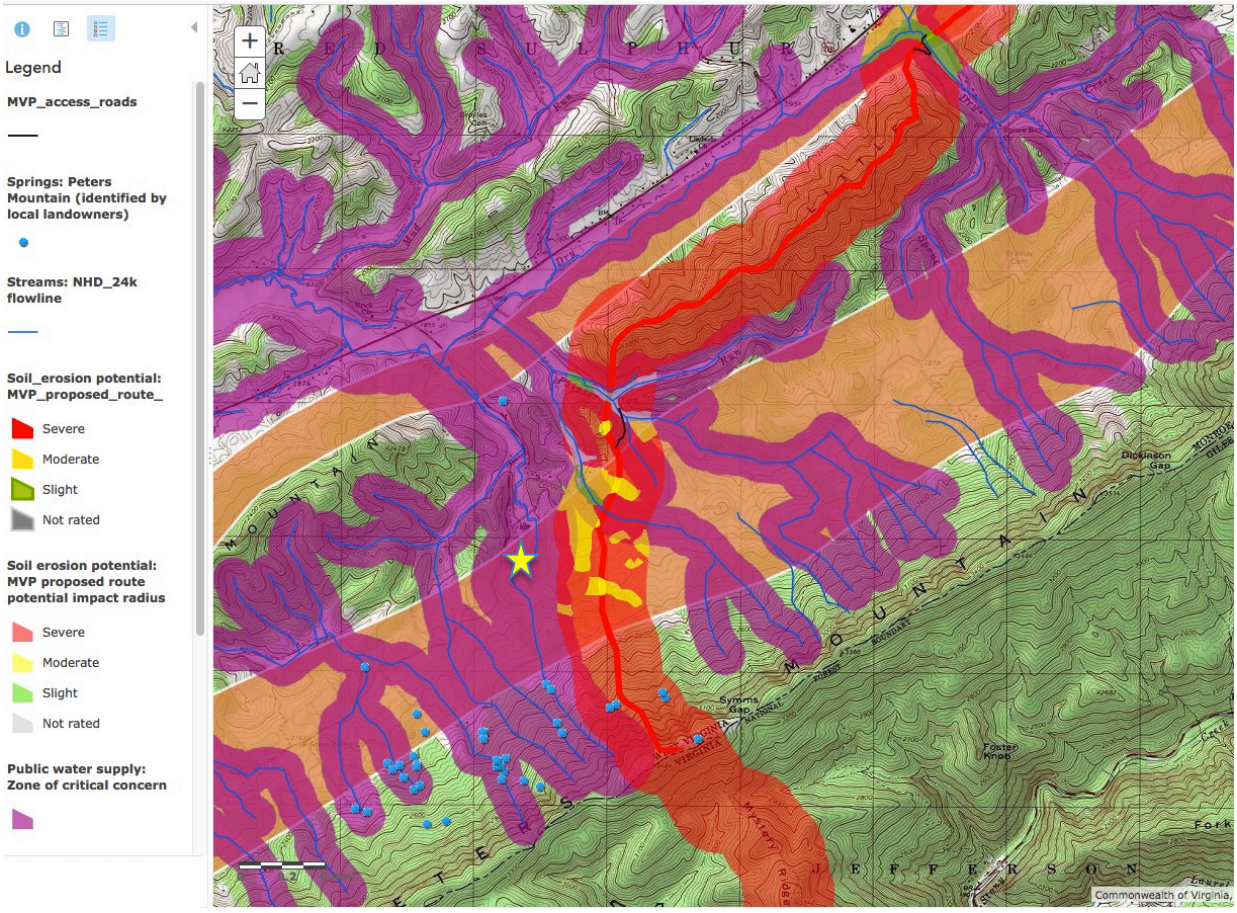
1. The fact that the LRMP would have to be amended is proof enough that the removal of old growth trees was **not** considered to be of benefit to the forest when the current plan was written. It is only being discussed as an isolated taking of the "people's resources" because of pressure from one soon to be dinosaur of energy production.
2. If a full analysis of the existing plan were done in preparation for a revised plan for the JNF, we predict that there would be an overwhelming call to expand the wilderness area, not to destroy the existing old growth resources that make it suitable to be one.
3. The Jefferson National FOREST should be preserved as a forest—not as an energy corridor.

ICWA OPPOSES AMENDMENT 4. The LRMP would be amended to allow the Mountain Valley Pipeline to cross the Appalachian National Scenic Trail on Peters Mountain. The Scenic Integrity Objective for the Rx 4A area and the Trail will be changed from High to Moderate. This amendment also requires the SIO of Moderate to be achieved within five to ten years following completion of the project.

1. As the Appalachian National Scenic Trail travels through Giles and Monroe Counties it offers the through and day hikers magnificent views of unbroken landscape.
    a. The approach to the trail in Monroe County is through the Groundhog Trail. As people prepare to ascend Peters Mountain to join the trail from the Monroe County side, their view of "the Mountain" is part and parcel of that experience. This introduction would be irreparably harmed by the swath cut by the MVP permanent right-of-way. (See **Figure 4**.)
    b. From the Trail along the ridge of Peters Mountain looking north, hikers would see the miles-long construction scar winding its way south, scalping the ridgetops of Monroe County.
2. No mitigation is possible to repair the permanent scar that would be left by MVP, affecting views of and from the ANST.
3. We agree with objections voiced by the Appalachian Trail Conservancy (Accession #20161215-0009).

Indian Creek Watershed Association strongly urges the Forest Service not to adopt the proposed Amendments to its LRMP. Given the serious deficiencies of the MVP application and the FERC DEIS, as well as the clear environmental risks and hazards presented by the proposed route, **we further call on the Forest Service to recommend the "No Action" alternative for the Mountain Valley Pipeline.**

EXCERPTED FROM THE ICWA ITMS MAP COLLECTION
Water District Zone of Critical Concern, Karst, and Severe Erosion Potential (with some locally mapped springs on and near Peters Mountain)*
Little Mountain to Peters Mountain Crossing
Milepost 191 to Milepost 195.6

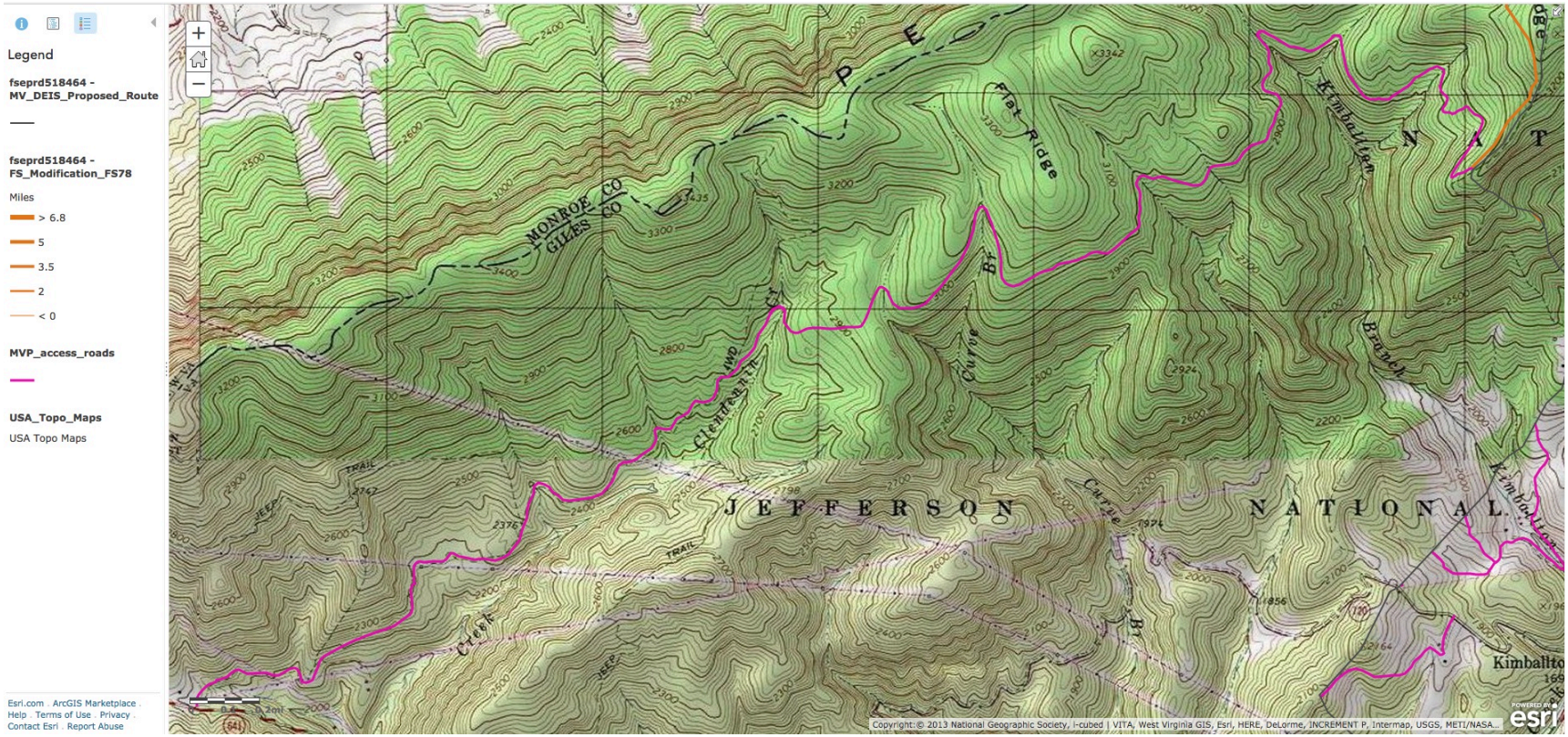


* *Springs identified by local residents do not represent all springs in the area. Mapping of springs on Peters Mountain mainly focused on the original 2014 route which MVP later moved northeast.*

Representative MVP risks and impacts not adequately addressed in the DEIS:

- Pipeline construction hazards are compounded by the location of the MVP in the Red Sulphur Public Service District zone of critical concern (purple).
- Rich Creek and the Rich Creek spring is the backup source water for the RSPSD, which serves close to 5,000 residents, including schools, nursing homes and businesses. Private wells and springs are also at risk, with no public service along Peters Mountain.
- An *unmapped* karst complex lies at the base of Peters Mountain. Rich Creek Spring and Cave (star) are nearby with the cave heading *toward* the pipeline. DEIS Appendix L-3, MP 194.6, notes risks, but "construction recommendations" are woefully inadequate.
- Dr. Ernst Kastning's expert report on geo-hazards of this Valley and Ridge region sites this area in Monroe County as an example of the compound threats of karst, steep slopes, weak unstable soils, and seismic activity that make this a "no-build" zone. ICWA concurs!

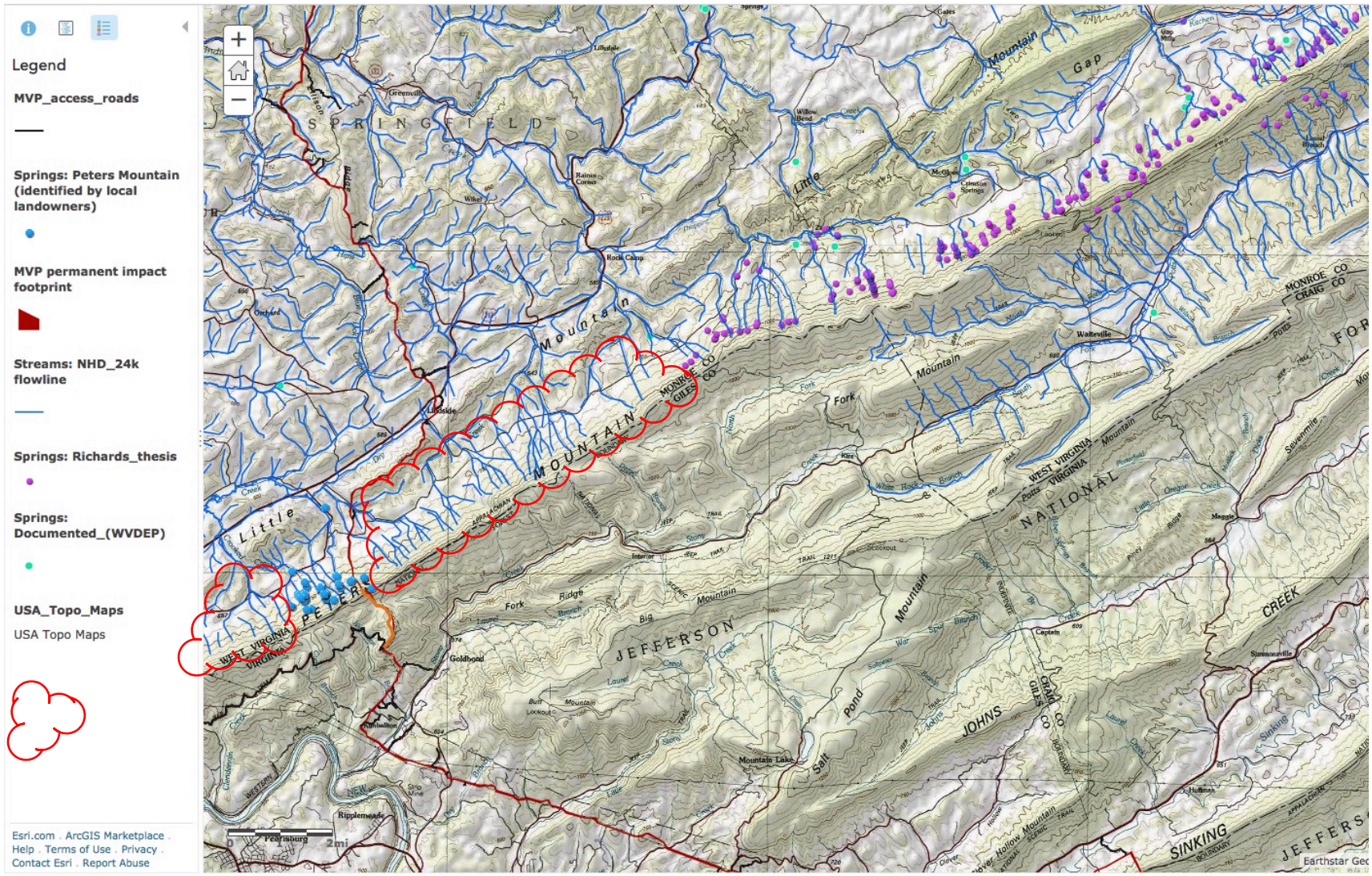
MVP ACCESS ROAD IN THE JEFFERSON NATIONAL FOREST SHOWN CROSSING HEADWATER SPRINGS



Access road crosses at least 10 first order headwater streams

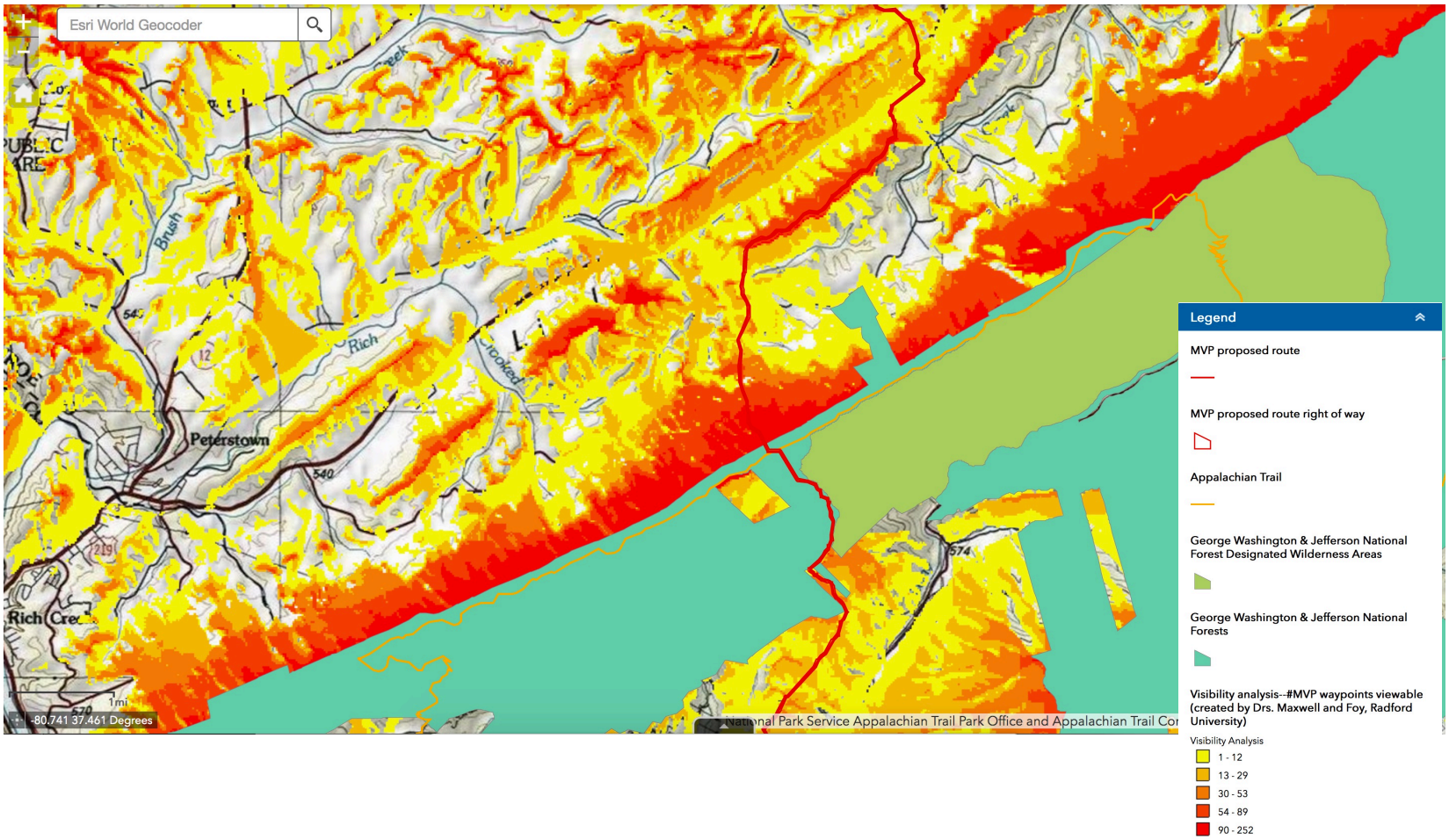
Notes
1. MVP mileposts reference September 2016 DEIS map files.
2. ICWA notes that this map and this information does not include all significant risks.
3. Map source: ICWA Environmental Map. Technical development and hosting by Downstream Strategies, LLC.

SPRINGS ON PETERS MOUNTAIN (mapped and unmapped areas)



Note -streams in WV only
The density and prevalance of the mapped areas on Peters Mountain are an indication that several more unmapped springs would be affected
Source: ICWA ITMS map collection. Technical development and hosting by Downstream Strategies, LLC.

MVP PROPOSED ROUTE VISIBILITY ANALYSIS MONROE COUNTY PETERS MOUNTAIN
Showing Jefferson National Forest, Peters Mountain Wilderness, Appalachian National Scenic Trail



Notes
1. MVP mileposts reference September 2016 DEIS map files.
2. ICWA notes that this map and this information does not include all significant risks.
3. Visibility analysis--#MVP waypoints viewable (created by Drs. Maxwell and Foy, Radford University)