

On the Wrong Track:

Moving Towards a Responsible Trail Economy
in Southwest Virginia



EXECUTIVE SUMMARY

Central Appalachia's outdoor economy is growing at an increasing rate. A 2017 report from West Virginia found that outdoor recreation accounts for \$9 billion in annual consumer spending in that state¹, while popular sites like Kentucky's Red River Gorge generate an estimated \$3.6 million each year². The development of outdoor activities across the region - including motorized and nonmotorized trails, river put-ins, and frontcountry attractions such as campgrounds and visitor centers - is a crucial component of Appalachian communities' transition away from a declining extractive economy.

Appalachian coalfield communities are investing heavily in the expansion of motorized vehicle trail systems. Four Appalachian states - Virginia, West Virginia, Tennessee, and Kentucky - have developed state government authorities or other public entities charged with constructing and maintaining off-road vehicle trail networks across thousands of square miles of rural mountain communities³. These trail networks total more than 1500 miles to date, including 600 miles in rural Southwest Virginia.

Many of the trail networks managed by Appalachia's public trail authorities overlap with some of the nation's most important watersheds in terms of imperiled aquatic wildlife. Southwest Virginia's Clinch and Powell Rivers, for example, are home to some of the highest levels of imperiled freshwater fish and mussel diversity in the temperate world⁴. In Southwest Virginia, state-run trail systems occur largely within the Clinch, Powell, Russell Fork, and New River systems, all of which have also been highlighted by researchers as critical watersheds susceptible to sedimentation and aquatic pollution⁵.

In Southwest Virginia, state authority-run trail networks are causing significant damage to aquatic resources at locations where regulatory officials have confirmed widespread potential regulatory violations. These impacts include several linear miles of the streambeds of public waterways converted into signed ATV travel routes and more than 15 potential regulatory violations related to water quality impacts highlighted by the Virginia Department of Environmental Quality (DEQ)⁶.

In spite of these impacts, **regulatory agencies in Virginia have historically allowed state-run trail networks to develop and operate outside of state and federal environmental regulations and permitting requirements.** Some publicly-funded ATV trail projects in Southwest Virginia totaling more than 100 miles in length have been developed largely without environmental permitting or independent review by major regulatory agencies, resulting in damage to wetlands, streams, and downstream water quality. And despite extensive findings of potential violations on these trail networks, state regulators have declined to formally require problem areas to be addressed.

Virginia's lack of oversight of publicly-funded off-road trail development efforts has created a "Wild West" scenario where almost anything goes in terms of damage to water quality and sensitive natural resources using taxpayer funding.

The continued development of outdoor recreation infrastructure is a vital piece of Southwest Virginia's economic puzzle. However, the trail systems we develop should be enhancing and protecting our natural resources, not degrading the environment. This is especially the case for taxpayer-funded trail systems within some of Appalachia's most economically distressed and underrepresented communities. The time is now for meaningful reform to Virginia's approach to publicly-funded trail development in order to ensure a sustainable economic future for us all.

OUR RECOMMENDATIONS

- 1.) Public funding agencies should clarify that recreational trail projects should adhere to existing state and federal environmental regulations** and require that funders provide evidence of coordination with relevant environmental agencies as a contingency of closing out grant and loan awards.
- 2.) Recreational authorities and other outdoor organizations should adhere to industry best practices for trail construction, particularly around streams and wetlands.** Bridges should be a preferred stream crossing method for motorized trails, with unavoidable wet crossings following best practices that minimize sedimentation and erosion from perpetual use.
- 3.) Public trail management organizations should seek public input prior to trail development** and develop water quality monitoring programs, led by qualified staff, to detect environmental concerns early.
- 4.) Virginia's regulatory agencies should commit to independently inspecting citizen complaints of environmental damage on motorized trail systems and taking enforcement action when warranted,** including immediate trail closures and required corrective actions to remediate environmental damage.



ATVs traveling an official, signed trail built through forested wetlands listed in the U.S. Fish and Wildlife Service's National Wetlands Inventory and located on Nature Conservancy-managed lands used as a portion of St. Paul, Virginia's Mountain View ATV trails.

I. ABOUT THIS REPORT

This report is the result of more than four years of work by The Clinch Coalition (TCC) to address widespread environmental damage on Southwest Virginia's publicly-funded off-road trail systems. Since 2018, TCC has been the recipient of a steady stream of complaints from trail users, nearby residents, and local government officials involving damage to water quality and natural resources on the Spearhead Trails system, a more than 600-mile network of off-road vehicle trails funded annually by the Virginia legislature.

Citizen complaints on the Spearhead Trails network have run the gamut from reports of flooding and runoff from the trails impacting downstream homeowners' properties to wetlands and public waterways being excavated and converted into play areas for ATVs. After visiting the trails to confirm many of these complaints, TCC sought information on past environmental permitting for the trails through trail officials and regulatory agencies, finding that despite the use of millions in public funds to develop the trails, most of the state-run trail network had been developed without permitting by major regulatory agencies.

Regulatory officials with Virginia DEQ have since confirmed widespread potential violations of several water quality laws on portions of the Spearhead Trails network. Despite more than three years of engagement with TCC and trail officials, however, DEQ has declined to undertake enforcement action to formally require these potential violations to be addressed, and large portions of the trail network that have triggered numerous pollution complaints remain uninspected by DEQ staff. Meanwhile, new public complaints continue at a steady pace, while some locations documented by DEQ inspectors have remained open to continuing damage for nearly two years following their discovery by the agency.

TCC is publishing this report to draw attention to the situation on Southwest Virginia's publicly-run trail systems and call for increased oversight of and reform to state-funded trail development efforts.

In the following pages, we examine the state of the knowledge about the environmental impacts of off-road trail development in Appalachia, discuss state regulators' findings of potential violations on Virginia's trail network, and provide our recommendations for how Virginia's trail development efforts can be improved to benefit communities, the economy, and our environment.



Runoff from an active ATV trail (right side of image) clouds Tazewell County's Laurel Fork (center of image) during low-flow conditions during Fall 2021 – more than one year after being cited in state regulators' inspection reports and with no corrective action required by regulatory officials.

II. HOW TRAILS IMPACT WATER QUALITY

Trails of all types provide outdoor users with chances to access some of the nation’s most beautiful natural areas. When built correctly, trails can also provide a sustainable way for large numbers of users to visit natural areas while minimizing environmental impacts. When trails are built incorrectly or are mismanaged, however, they can create some of the outdoor world’s most severe and persistent environmental impacts, especially for water quality and wildlife in streams and wetlands.

Motorized trails, especially large off-road vehicle trail systems, are particularly susceptible to triggering environmental impacts due to their larger width than hiking or mountain biking trails and the impacts that naturally result from heavy vehicles traveling over unimproved natural surfaces. Many off-road vehicle parks also incorporate aquatic habitats as play areas for users, converting sensitive ecosystems such as streams and wetlands into areas for “creek riding” or “mudding” with vehicles.

A large body of research, much of it from central Appalachia, has highlighted the types of impacts that can result from even well-managed off-road vehicle trail systems. Erosion and sedimentation, or the release of mud, silt, and other sediment into waterways from trail runoff, are some of the most widespread and severe impacts that can result from off-road trail development. A 2003 study from southeastern Ohio, for example, found that off-road trails resulted in significantly higher sediment deposition into surrounding forests when compared to nearby trail systems open only to hiking or equestrian users⁷.

Impacts can become magnified when off-road vehicle trail systems cross streams. Detailed studies of a public off-road trail system on northern Georgia’s Chattahoochee National Forest found that stream crossings led to significant degradation in downstream water quality, with sediment levels remaining high even during periods where the trail system had been closed to limit impacts⁸. And these types of impacts can extend to aquatic wildlife. Studies of a separate off-road trail system in Virginia’s George Washington and Jefferson National Forest found that aquatic macroinvertebrates – a major indicator of stream health – were significantly less healthy downstream of stream crossings when compared to invertebrate communities upstream⁹. Similar water quality degradation and concerns about wildlife have even led some entire trail systems to be closed to public use, such as at North Carolina’s Tellico OHV system in 2009¹⁰.



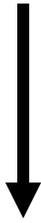
Growing damage to an isolated wetland over time at St. Paul, Virginia’s Mountain View ATV Trails in 2012 prior to the public trail system’s opening (left), in 2017 after several years of ATV use (center), and at the present day on lands now under management by The Nature Conservancy (right). Aerial imagery from Wise County, Virginia’s GIS Department.

In other cases, off-road vehicle trails can route users directly into sensitive habitats such as streambeds and wetlands, causing severe degradation that can even be seen from space. A 2021 study of Southwest Virginia's Original Pocahontas ATV Trails found damage to wetlands on that system that had been converted into ATV play areas was so visible it could be successfully detected by European Space Agency satellites orbiting miles overhead. When comparing these sites to nearby wetlands that had not been converted into ATV trails, researchers found that wetland soil and vegetation damage from tire rutting had nearly tripled since the trail system's opening¹¹.

These impacts collectively stress the need for off-road vehicle trail systems to be developed responsibly and using best practices that minimize environmental impacts. As we detail in the remaining sections of this report, however, Southwest Virginia's history of trail expansion has done anything but.

Trail Impacts By The Numbers

**3.9 cubic feet
per square foot**



Erosion rates
found to occur on
some off-road
trails in
Appalachian Ohio⁷

15 metric tons



Soil loss estimated
to occur annually at
some stream
crossings on
recreational trails⁸

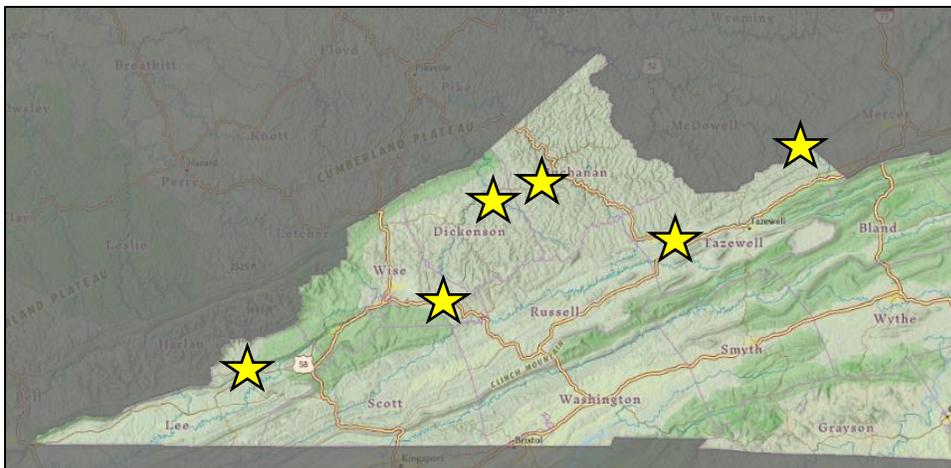
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The amount of
damage uncovered
by satellite imagery
at wetlands
converted into ATV
play areas versus
nearby undisturbed
wetlands¹¹

III. THE STATE OF SOUTHWEST VIRGINIA'S TRAILS

Southwest Virginia is home to more than 600 miles of state-managed off-road vehicle trails on the Spearhead Trails system. Unlike other parts of the country where motorized trails are often housed on federal lands that tightly control environmental standards, Southwest Virginia's trail systems have been developed largely on private properties through land use agreements with the Commonwealth, including on several large parcels of land managed by The Nature Conservancy. In particular, the properties hosting the Spearhead Trails system are overwhelmingly former and current extractive lands owned or impacted by the coal, gas, and timber industries¹². Other properties hosting the trail system also belong to individual landowners, county/town governments, or state agencies such as the Virginia Department of Corrections¹³.



Locations of six major state-managed off-road vehicle trail systems across five Southwest Virginia counties (stars denote trailheads; west to east): Stone Mountain, Mountain View, Ridgeview, Coal Canyon, Jawbone, and Original Pocahontas.

The majority of the Spearhead Trails system has been developed on existing dirt and gravel haul roads used by extractive industries. These more well-maintained "trails" are often assigned with green or blue classifications through the trail system's color-scaled difficulty rating, indicating easy to moderate routes. However, the trail system has also either incorporated other abandoned roadbeds not originally built to handle heavy and sustained ATV use or actively constructed new ATV paths through previously undisturbed forests, wetlands, and streams as connector routes and "black trails," or routes assigned with a high rate of difficulty due to their unimproved condition and relative lack of environmental controls.

Many of these trails have historically become some of the more popular routes on the Spearhead Trails system due to them allowing ATVs to drive directly up the streambeds of public waterways for substantial distances, into and through large wetland habitats, or up excessively steep slopes susceptible to erosion - all features that are often prohibited on off-road trail systems developed on public lands such as national forests.

The aforementioned trails have been developed using several million dollars in public funds from Virginia and federal taxpayers. This includes nearly one million dollars in annual funding from the Commonwealth's budget¹⁴, as well as substantial grant and loan funding from the Virginia Coalfield Economic Development Authority, the Virginia Tobacco Region Revitalization Commission, and the Appalachian Regional Commission. Virginia DEQ also provided \$20M from its clean water loan program to purchase Nature Conservancy-managed lands hosting the trail system in Wise and Dickenson Counties. Many of these agencies have policies requiring funding recipients to follow environmental laws, and several trail projects have gone through National Environmental Policy Act reviews that reiterated the need for close coordination with and permitting by regulatory agencies¹⁵.

Despite this extensive use of public funding, TCC has only found existing environmental permits for two locations on the 600-mile Spearhead Trails system: a stormwater construction general permit from Virginia DEQ for a portion of the Original Pocahontas Off-Road Trail System in Tazewell County¹⁶, and a similar permit for an initial entry trail segment at the Stone Mountain Trail System in Lee County¹⁷. Both permits were originally obtained by county governments who led trail efforts before handing them over to state authority officials.

Virginia Marine Resources Commission staff - who regulate, review, and approve the construction of stream crossings in the Commonwealth - have also confirmed that they have no history of permits nor applications for permits on file for any stream crossings on the 600-mile trail system¹⁸.

Since early 2018, both TCC and Virginia DEQ have received a growing number of complaints about environmental damage on the Spearhead Trails network. These complaints, which have come from trail users, local government officials, and residents living near the trails, detail extensive damage to streams and wetlands listed in the U.S. Fish and Wildlife Service's National Wetlands Inventory¹⁹. In some cases, complaints have highlighted locations where natural streambeds have been signed as ATV routes, placing vehicles into waterways for more than half a mile. Other complaints document trail runoff impacting downstream properties and mudbogging areas being drained into nearby wetlands and streams.



Haynes Branch (New River watershed) in Tazewell County excavated into an ATV trail above Pocahontas, Virginia (top); a downstream portion of the streambed of the same waterway buried under sediment and runoff from the trail above (bottom).



Examples of areas on publicly-funded trail systems in Southwest Virginia initially reported in public complaints: (top) aerial view of damage to a large mine bench wetland converted into an ATV play area on St. Paul, Virginia's Mountain View ATV Trails; (middle left) runoff from Haysi, Virginia's Ridgeview Trail System entering Upper Camp Branch above Breaks Interstate Park; (middle right) severe rutting and erosion occurring in a tributary to Laurel Fork at Tazewell County, Virginia's Original Pocahontas Trail; (lower left) damage to a large isolated mine bench wetland habitat on lands managed by The Nature Conservancy at St. Paul, Virginia's Mountain View ATV Trails.

“We have so many things wrong in the area I live in that the Spearhead trail has caused. Flooding is a major one. Flooding to the point where banks in people’s yards actually washed away. People have had to dig trenches in their yards, have to dig out the ditches beside the roads themselves and let’s not forget the mud and silt mess that we drive through daily...Not only is the property impacted, but the peacefulness of living here is slowly dying.”
-Public complaint submitted to TCC from local residents living downstream of the trails



Examples of waterways converted into ATV routes: (top) Barts Lick Creek (Russell Fork watershed) diverted out of its channel onto a trail on lands now managed by The Nature Conservancy at Dickenson County's Ridgeview Trail System; (middle) aerial view of trail directing ATVs up the streambed of a Honey Branch tributary (Clinch River watershed) for more than half a mile on lands now managed by The Nature Conservancy at St. Paul, Virginia's Mountain View ATV Trails; (left) an excavated portion of the streambed of Haynes Branch (New River watershed) signed as a state ATV route on Tazewell County's Original Pocahontas ATV Trails. Trails in top and middle images have since been closed to new ATV traffic, but physical damage to waterways remains unremediated.

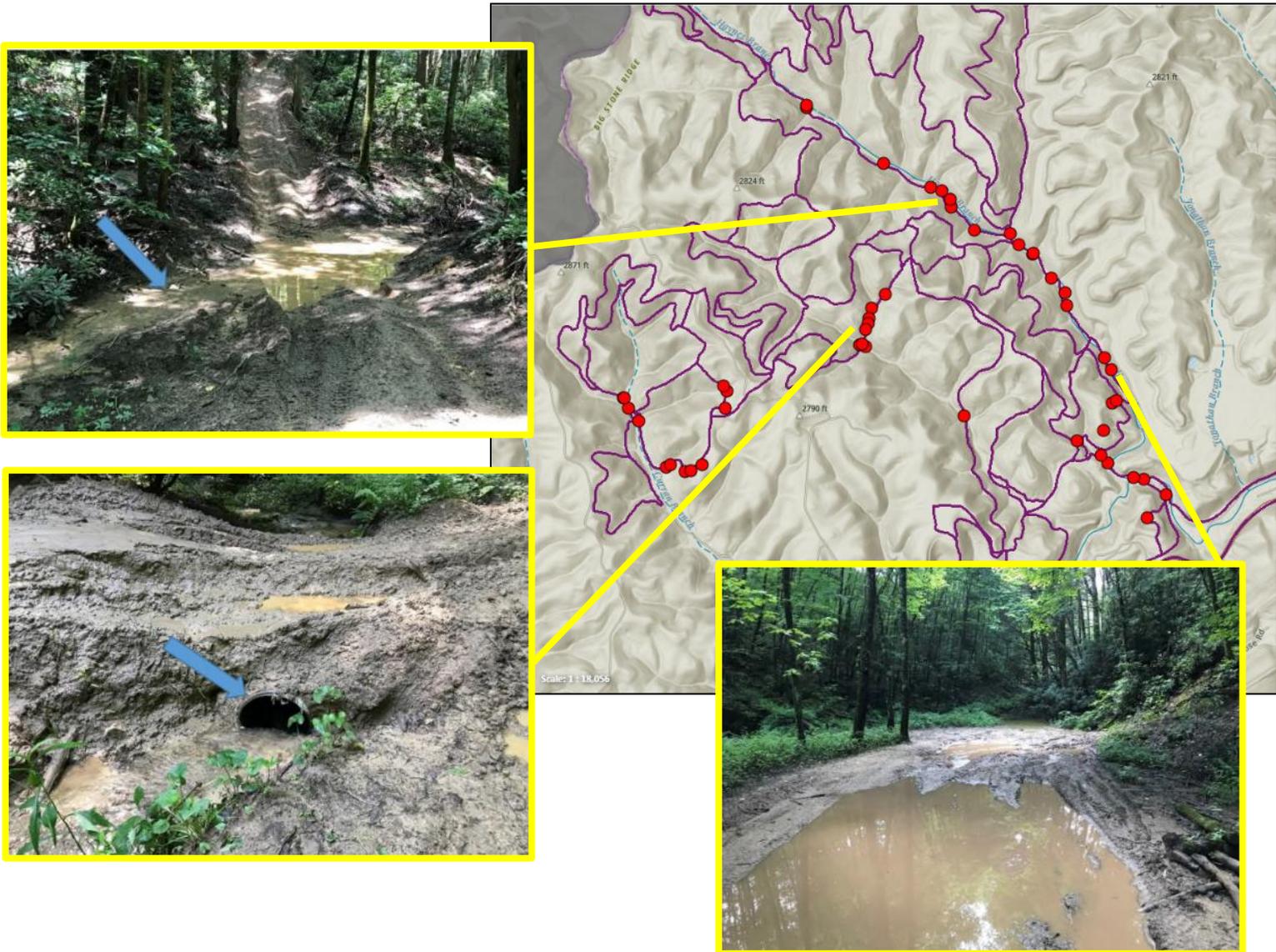
IV. REGULATORY FINDINGS

Following an initial set of meetings with trail officials to discuss citizen concerns, TCC passed public complaints about potential environmental damage on the Spearhead Trails network to Virginia DEQ officials in 2019. This prompted DEQ officials to perform on-site inspections of several locations on the Spearhead Trails system, most notably the Original Pocahontas Trail System in Tazewell County²⁰ and the Coal Canyon Trail System in Buchanan County²¹. Although DEQ staff initially communicated to TCC that existing environmental regulations did not apply to the trails²², public records requests later uncovered the documentation of numerous problem areas and potential violations on the trails in more than 45 pages of inspection reports and related memos recorded by DEQ inspectors.

DEQ's inspections confirmed many of the public complaints submitted to TCC and discovered a high number of similar locations that had not previously been disclosed to TCC and the public. Among the problem areas uncovered by DEQ staff were serious erosion and sediment control issues and the conversion of public waterways into ATV travel routes. According to DEQ staff's call notes, these findings collectively led DEQ to notify trail officials in late 2020 that "we believe violations to the Virginia Erosion and Sediment Control Act and attendant regulations, the Virginia Stormwater Management Act and attendant regulations, as well as the federal Clean Water Act through the Virginia Waters Protection Permit Program regulation are actively occurring" on the trails²³.

In a separate memo²⁴, DEQ provided Spearhead Trails with a complete list of the potential regulatory violations and related problems it had uncovered across the trail system. These included:

- Not obtaining erosion and sediment control plans and permits when required
- Not obtaining stormwater management plans and permits when required
- Not installing sediment trapping controls prior to land-disturbing activities
- Lack of erosion and sediment control maintenance
- Exceeding stabilization timeframes following land disturbance
- Lack of permanent vegetation establishment outside of perpetual riding lanes
- Cut and fill slopes not adequately stabilized to prevent or correct excessive erosion
- Cut and fill slopes not designed/constructed in a manner to minimize erosion
- Concentrated stormwater runoff not directed to an adequate receiving channel or converted to sheet flow
- Concentrated stormwater runoff directed down fill slopes and not contained within an adequate slope conveyance resulting in slope erosion and off-site sediment loss
- Lack of outlet protection and permanent ditch linings
- Inadequate trail closures allowing riders to access closed trails
- Lack of state and federal stream and wetland disturbance permits
- Improper culvert installation
- Sediment deposition onto downgradient properties
- Sediment deposition into potential jurisdictional streams



Problem areas and potential regulatory violations identified by Virginia DEQ inspectors (red dots) across just a portion of the Original Pocahontas Trail System in 2020. Purple lines indicate ATV trails at the time of DEQ’s inspection. Photographs and coordinates for the mapped locations above are taken from those included in DEQ’s inspection report²¹. DEQ officials have to date declined to undertake enforcement for potential violations or formally require repairs/remediation at any of these locations.

“Our office has documented significant stream impacts...Given the findings of our investigation, we believe violations to the Virginia Erosion and Sediment Control Act and attendant regulations, the Virginia Stormwater Management Act and attendant regulations, as well as the federal Clean Water Act through Virginia Waters Protection Permit Program regulation are actively occurring.” -Virginia DEQ Southwest Regional Office call notes (2020)²³

V. “THEY DO NOT WANT TO REGULATE US”

Inspection findings such as those described in the previous section of this report typically result in enforcement action, or changes required by regulatory authorities that bring locations with possible violations into compliance with state and/or federal laws. However, DEQ to date has not engaged in any formal enforcement action involving locations on the Spearhead Trails system, despite the widespread and severe environmental damage it uncovered during formal inspections in 2020.

Instead, public records show a years-long pattern of involvement by political officials and efforts to alter state law to exempt the Spearhead Trails network from having to follow major water quality regulations. Shortly after being contacted about problems on the trail system in 2019, for example, trail officials forwarded DEQ staff a proposed legislative amendment²⁵ that would rewrite Virginia's erosion and sediment control law – a foundational regulation protecting Virginia communities' water quality – to exempt recreational trail construction and use. That legislative amendment never found a sponsor, although emails released following a public records request²⁶ also show that trail officials petitioned staff in Governor Ralph Northam's office to develop a special exemption to remove Spearhead Trails from having to follow existing environmental laws designed to protect Virginia's waterways from pollution.

Those efforts continued following DEQ's 2020 notification of potential violations to Spearhead Trails. According to reporting by *The Virginia Mercury*, two state legislators forwarded then DEQ Director David Paylor a signed and post-dated memorandum of agreement (MOA) from Spearhead Trails in early 2021 that would have exempted much of Spearhead Trails' activities from regulatory liability²⁷. Rather than co-signing the agreement, DEQ staff presented a revised MOA that asked Spearhead Trails to make several voluntary changes to its operating procedures²⁸. That MOA was signed and enacted in May of 2021.

Since that time, numerous locations documented as potential regulatory violations by DEQ inspectors have either remained open to continuing damage by ATV use or have been voluntarily closed but not remediated, and DEQ staff have indicated that they do not expect to formally require Spearhead Trails to repair existing environmental damage on the trail network. Recent Spearhead Trails board minutes detailing a meeting with DEQ staff²⁹ and released to the public perhaps summarize the situation best: "They (DEQ) do not want to regulate us; they want to work with us."



Governor Ralph Northam being driven through a wetland area on St. Paul, Virginia's Mountain View ATV Trails during a guided VIP tour in 2019, two months after trail authority officials forwarded the Governor's Office language for a proposed legislative amendment that would exempt the Spearhead Trails initiative from water quality regulations²⁶.

While DEQ staff report that trail officials have taken voluntary steps to improve communications and environmental practices for future trail efforts since the signing of the 2021 MOA, DEQ has not undertaken any formal action to require Spearhead Trails to repair existing stream and wetland damage uncovered by inspectors across numerous Southwest Virginia communities. As of the time of writing, both TCC and DEQ continue to receive a steady stream of new complaints about ongoing environmental damage on the trails. DEQ staff also have declined to perform independent site inspections at numerous locations where pollution complaints have been reported by the public, citing access difficulties.

VI. A ROADMAP FOR REFORM

The Clinch Coalition supports outdoor recreation development, including multi-use trails, as a strategy for assisting in the growth of Southwest Virginia's economy. However, TCC believes that trail development efforts should proceed in a manner that follows appropriate stewardship principles and does not degrade our sensitive and shared natural resources. We also believe that publicly-funded trail development efforts of all types should follow the same environmental laws and regulations that other Southwest Virginians are required to follow and that regulatory agencies should not treat publicly-funded trail programs and their host landowners differently under those regulations.

Specifically, we believe that the following actions would result in significant and productive reforms to Southwest Virginia's trail economy and lead to current problems being sufficiently addressed:

1.) Public funding agencies should clarify that recreational trail projects funded by their programs must adhere to existing state and federal environmental regulations.

Many of Southwest Virginia's off-road trail systems have been developed using substantial funding from Virginia taxpayers in the form of loans and grants from the Virginia Coalfield Economic Development Authority, the Virginia Tobacco Region Revitalization Commission, and others. Virginia DEQ itself even provided a \$20M loan of public funds through its clean water program to purchase Nature Conservancy-managed lands that host trail systems in Wise and Dickenson Counties. Many agencies already require that grant and loan awardees adhere to existing environmental laws and regulations with their projects, although it is clear that many of the region's existing trail projects have developed without coordination with major environmental regulatory agencies and with little accountability by funders for doing so.

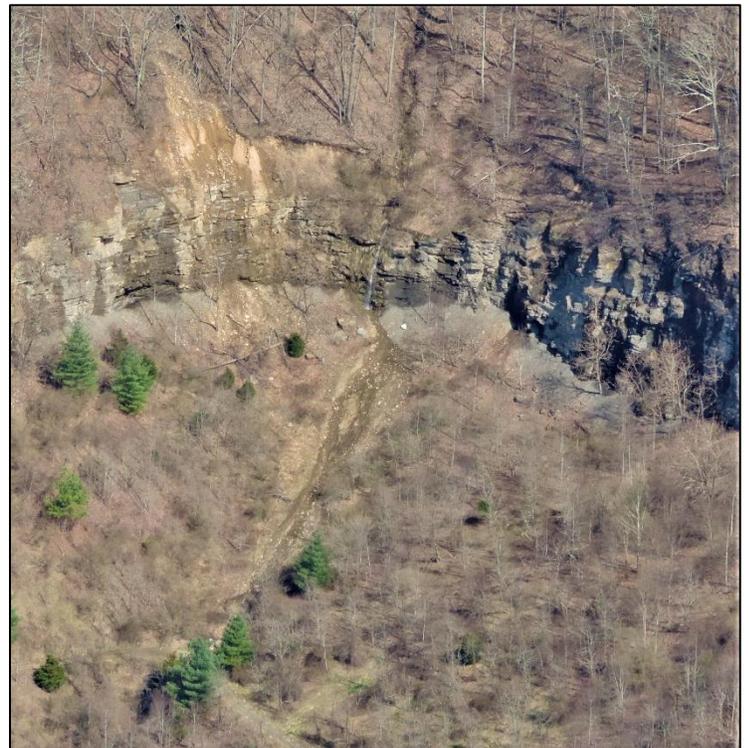
Virginia's public funding agencies are in a unique position to prevent costly environmental issues on regional trail systems from occurring before they ever begin by simply holding funders to existing environmental regulations. Those agencies should make it clear to grant and loan awardees that state and federal environmental laws should be followed during agency-funded projects and require funding recipients to acknowledge those requirements in funding agreements. Agencies should also require documentation of appropriate environmental permitting (or confirmation of permit exemptions) as part of routine grant compliance procedures and hold awardees accountable by taking action against projects that do not follow existing regulatory structures, regardless of those projects' reported economic benefits.

2.) Recreational authorities and other outdoor organizations should adhere to industry best practices for trail construction, particularly around streams and wetlands.

Appropriate trail design and management procedures are not mysteries of the outdoor recreation world. Best practices for motorized trail development have already been assembled by a number of public agencies, researchers, and even off-road industry groups. While best practices published by different sources may vary in terms of specifics, nearly all stress that proper erosion and sediment control structures, an avoidance of wetland habitats, and bridging stream crossings – all features that have historically been absent on Southwest Virginia’s publicly-funded trail systems – are essential components of responsibly-managed off-road vehicle trails.

TCC believes that bridges should be a preferred stream crossing method for motorized trails, with unavoidable wet crossings following best practices that minimize sedimentation and erosion from perpetual use, such as crossing streams at 90-degree angles and using bank stabilization measures. Most water quality concerns can also be avoided by simple coordination with public regulatory agencies and adherence to those agencies’ permitting procedures during the planning phases of a trail project. Virginia’s environmental agencies – including Virginia DEQ, the Virginia Marine Resources Commission, the Virginia Department of Conservation and Recreation, the Virginia Department of Wildlife Resources, and the Virginia Natural Heritage Program – should all be key partners given a seat at the planning table for every publicly-funded trail system in the Commonwealth and should not learn about environmental impacts on state-funded trail systems years after they have opened to users.

TCC also believes that public trail management organizations should develop and implement responsible practices for closing and remediating environmental problem areas along trails. At a minimum, these practices should involve the immediate closure of trail segments deemed to be potentially violating state or federal environmental laws and the implementation of proper remediation measures to restore damaged resources along those trails to their pre-disturbance condition. Under no circumstances should trail segments be left open to continued damage for months or even years after potential violations are discovered, as has occurred on portions of Southwest Virginia’s state-run trail systems.



Damage to Meade Creek (Clinch River tributary) from ATVs using the streambed as a travel route on a closed but unremediated trail segment at St. Paul, Virginia’s Mountain View ATV Trails and on lands managed by The Nature Conservancy. Photo courtesy of SouthWings.

3.) Public trail management organizations should seek public input prior to trail development and adopt transparent operating practices.

Publicly-funded trail systems should be informed by and developed in partnership with the public. Most of the 600-mile Spearhead Trails network has been developed without formal public meetings or the public release of draft trail plans with solicitations for public comment, despite the use of millions of dollars in taxpayer funding to design and build the trails. Local residents represent “boots on the ground” that can be valuable partners in catching potential problem areas before trail development ever occurs, and their input should be a major consideration during the trail planning process. Trail organizations and host landowners such as The Nature Conservancy should publicly release draft construction plans for new trails and proposed trail improvements and solicit public comment as a means to equitably and responsibly plan trail projects. TCC also supports the development of independent citizen advisory boards that can gather public input and engage with trail officials as a means to involve the public in trail oversight.

In addition, publicly-funded trail organizations should adopt transparent management practices to ensure maximum involvement by the taxpayers who make their efforts possible. At a minimum, this should include publicly announcing board meetings and posting meeting minutes publicly online. Trail organizations should also publicly release detailed annual financial reports and audit statements – not just reports of estimated economic impact for individual projects – and routinely share detailed financial information with local government bodies in localities that host and fund trail systems.

4.) Virginia's regulatory agencies should adopt clear policies about the regulatory applicability of recreational trail construction and use, commit to independently inspecting citizen complaints of environmental damage, and objectively enforce existing regulations.

Virginia DEQ's existing approach of oversight for trail projects – allowing trail officials and host landowners to self-inspect citizen complaints without trained regulatory staff on-site and encouraging only voluntary actions to address potential regulatory violations – is an unacceptable and inequitable means of addressing what the agency has itself documented as significant environmental damage from a taxpayer-funded state initiative. Virginia DEQ and other regulatory agencies should commit to performing independent inspections, using qualified and trained agency staff, to assess public reports of pollution and potential violations on publicly-funded trail networks throughout the Commonwealth. These inspections should involve actual on-site visits to locations of concern by agency personnel.

Regulatory agencies should also not be relying on verbal assurances from responsible parties that sites with violations have been sufficiently addressed or allowing such sites to go unremediated following their discovery by agency inspectors. Agencies should instead adopt clear policies about the regulatory applicability of recreational trail construction and use that are consistent with existing laws and internal agency memos and let these practices guide their oversight of publicly-funded trail efforts. When violations are discovered, agencies should require – not encourage – immediate trail closures, corrective actions, and appropriate environmental remediation through enforcement or other formal, non-voluntary channels.

HOW YOU CAN HELP

Local residents and others can help improve the sustainability of trail development of all types in Southwest Virginia in several ways:

1.) Report Areas of Concern

If you see a potential problem area on any regional trails, let the appropriate authorities know. Examples of possible environmental issues can include runoff from trails entering wetlands or waterways, severe rutting or erosion in wetlands or streams, construction equipment operating within streams, or motorized vehicles operating directly within a wetland or stream. The photos featured earlier in this report provide great examples of the types of issues to look for.

You can report concerns to Virginia DEQ at <https://portal.deq.virginia.gov/prep/Report/Create>, or you can send concerns to TCC using our online “Leave A Tip” public concern reporting program at <https://www.clinchcoalition.org/leave-a-tip>. Both forms allow members of the public to submit concerns anonymously.

2.) Advocate for Sustainable Trails

Most large trail systems in Southwest Virginia are public efforts constructed and maintained using taxpayer funding. The Spearhead Trails system, in particular, is run by a public state authority overseen by a board whose members are appointed by each regional county government. Become civically engaged by contacting your local and state elected representatives and advocating for local government bodies to require their board appointees to push for improved sustainability in trail development, as well as more effective regulatory oversight of publicly-funded trail projects. Advocating for publicly-funded projects to follow state and federal environmental laws can be especially helpful, as can advocating for publicly-funded trail organizations to regularly release public financial statements involving their activities.

3.) Educate Others on the Importance of Water Quality

Lastly, become an advocate for protecting and improving water quality in your community. Educate others on the importance of healthy waterways, and support activities that manage our natural resources in ways that create both economic and environmental benefits. TCC and other local environmental groups regularly host events and other opportunities for citizens to become engaged with water quality-related topics and learn more about issues facing regional communities. You can learn more about TCC events at our website (<http://clinchcoalition.org>) and by following us on social media at the accounts below:

Facebook: <https://www.facebook.com/theclinchcoalition>

Twitter: <https://twitter.com/ClinchCoalition>

REFERENCES

- 1.) Outdoor Industry Association. 2017. West Virginia Economic Impact Statistics. <https://outdoorindustry.org/state/west-virginia/>
- 2.) Maples, J.N., B.G. Clark, R. Sharp, B. Gillespie, and K. Gerlaugh. 2016. Economic Impact of Rock Climbing in the Red River Gorge, Kentucky. 16 pp.
- 3.) Barton, E. 2020. How ATVs Are Reviving a Forgotten Region of Appalachia. *Outside Magazine*.
- 4.) Master, L.L., S.R. Flack, and B.A. Stein. 1999. Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity. The Nature Conservancy, Arlington, Virginia. 77 pp.
- 5.) Price, J.E., C.E. Zipper, J.W. Jones, and C.T. Franck. 2014. Water and Sediment Quality in the Clinch River, Virginia and Tennessee, USA, over Nearly Five Decades. *Journal of the American Water Resources Association*. 50:837-858.
- 6.) Virginia Department of Environmental Quality. 2020. Memorandum: Land disturbance associated with Spearhead Trails. 13 pp.
- 7.) Sack, D. and S. da Luz. 2013. Sediment Flux and Compaction Trends on Off-Road Vehicle (ORV) and Other Trails in an Appalachian Forest Setting. *Physical Geography*. 24:536-554.
- 8.) Miniati, C.F., P.P. Clinton, and L.K. Everage. 2019. The Effects of Off-Highway Vehicle Trails and Use on Stream Water Quality in the North Fork of the Broad River. *Transactions of the ASABE*. 62:539-548.
- 9.) Kidd, K.R., W.M. Aust, and C.A. Copenhaver. 2014. Recreational Stream Crossing Effects on Sediment Delivery and Macroinvertebrates in Southwestern Virginia, USA. *Environmental Management*. 54:505-516.
- 10.) USDA Forest Service. 2009. Decision Memo: Forest Supervisor's Orders for the Upper Tellico Off-Highway Vehicle System. 6 pp.
- 11.) Smith, W.H. 2021. Remote Detection of Disturbance from Motorized Vehicle Use in Appalachian Wetlands. *Virginia Journal of Science*. 72:1-20.
- 12.) Southwest Regional Recreation Authority. 2021. Spearhead Trails Implementation Plan. 177 pp.
- 13.) Virginia Department of Corrections. 2013. License Agreement with Southwest Regional Recreation Authority. 18 pp. (Released to public via Virginia Freedom of Information Act; <https://bit.ly/3OPLiL>)
- 14.) Virginia General Assembly. 2022. Budget Bill – HB30.
- 15.) Friends of Southwest Virginia. 2018. Haysi to Breaks Trail Environmental Review. 219 pp.
- 16.) Virginia Department of Environmental Quality. 2014. Construction General Permit #VAR10D395.
- 17.) Vaughn and Melton. 2012. Stone Mountain Trail System, Phase 1 Pre-Construction Activities. 48 pp.
- 18.) Virginia Marine Resources Commission. 8 July 2019 email to The Clinch Coalition. (<https://bit.ly/3RsQqEW>)

- 19.) United States Fish and Wildlife Service. 2022. Wetlands Mapper. <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>
- 20.) Virginia Department of Environmental Quality. 2020. Spearhead Trails Original Pocahontas Trail, Complaint Investigation Photo Log. 32 pp.
- 21.) Virginia Department of Environmental Quality. 2020. Spearhead Trails Coal Canyon at Grundy (Leetown Section), Complaint Investigation Photo Log. 14 pp.
- 22.) Virginia Department of Environmental Quality. 1 February 2019 email to The Clinch Coalition.
- 23.) Virginia Department of Environmental Quality. 2020. SRRA Call Notes. (Released to the public via the Virginia Freedom of Information Act; <https://bit.ly/3yjfkxU>)
- 24.) Virginia Department of Environmental Quality. 2020. Memorandum: Land Disturbance Associated with Spearhead Trails. 13 pp.
- 25.) Southwest Regional Recreation Authority. 2019. Southwest Regional Recreation Authority – DEQ Concerns. 2 pp. (Released to the public via the Virginia Freedom of Information Act; <https://bit.ly/3OQJ78l>)
- 26.) Southwest Regional Recreation Authority. 28 August 2019 email to Virginia Deputy Secretary of Natural Resources Joshua Saks. (Released to the public via the Virginia Freedom of Information Act; <https://bit.ly/3AsSh6y>)
- 27.) Adams, M. 2022. Make it more environmentally sound: Citizen group takes on popular Southwest Va. trail network. The Virginia Mercury.
- 28.) Virginia Department of Environmental Quality. 2021. Memorandum of Agreement between Virginia Department of Environmental Quality and the Southwest Regional Recreation Authority. 6 pp.
- 29.) Southwest Regional Recreation Authority. 2022. May 2022 Board Minutes.

ABOUT THE CLINCH COALITION

Founded in 1998, the mission of The Clinch Coalition is to “protect and preserve the forest, wildlife, and watersheds of our National Forest and surrounding communities for present and future generations.”

Our focus is the High Knob Massif, a 4,223-foot mountain mass that spans the three westernmost counties in far southwestern Virginia. High Knob is in the Clinch Ranger District of the George Washington and Jefferson National Forests in the heart of the Clinch Valley Bioreserve. The Bioreserve is a 2,200 square mile area designated by The Nature Conservancy as one of the Last Great Places in the World.

The Clinch Coalition is committed to creating a welcoming, inclusive, and equitable community. Undergirding this commitment is the conviction that all human beings are interconnected, not just with one another, but with all of nature.

