House Environmental Resources & Natural Protection Committee

Public Hearing Agenda:

"Stream Impairment in Pennsylvania"
Monday, February 9th, 2026
10:00am – 12:00pm
G-50 Irvis Office Building, Harrisburg, PA 17120

10:00am – 10:15am	Call to Order Roll Call
10:15am – 10:30am	Jill Whitcomb Deputy Secretary, Office of Water Programs Pennsylvania Department of Environmental Protection
10:30am – 11:00am	Dr. John Jackson Senior Research Scientist Stroud Water Research Center Harry Campbell PA Science Policy & Advocacy Director Chesapeake Bay Foundation
11:00am – 11:15am	Julie Wheeler President Commissioner York County Commissioners
11:15am – 11:45am	Dr. Heather Hulton VanTassel Executive Director Three Rivers Waterkeeper Robert E. Hughes Executive Director Eastern PA Coalition for Abandoned Mine Reclamation
11:45am – 12:00pm	Closing Remarks
12:00pm	Adjournment

Environmental & Natural Resource Protection Committee

State Representative Greg Vitali
Democratic Chairman
30 East Wing • PO Box 202166 • Harrisburg, PA 17120-2166 • (717) 787-7647 • Fax: (717) 705-2089
1001 Darby Road • Havertown, PA 19083 • (610) 789-3900 • Toll-Free: (833) 787-5131 • Fax: (215) 560-4197

MEMORANDUM

DATE:	2/6/2026
TO:	House Environmental & Natural Resource Protection Members
FROM:	Representative Greg Vitali, Majority Chairman House Environmental & Natural Resource Protection Committee
RE:	Environmental & Natural Resource Protection Committee Public Hearing – Monday, February 9th 2026

Dear House Environmental Committee Members and Staff,

The House Environmental Committee will hold a public hearing on **Monday, February 9, starting at 10:00am in Room G50 Irvis Office Building, Harrisburg, PA 17120.**

The subject of this hearing is the "Stream Impairment in Pennsylvania".

Please contact Hayley Shupe at 717-787-7647 or hshupe@pahouse.net with any questions. If you are unable to attend this meeting, please submit an Official Leave of Absence Form prior to the start of the meeting. Members will have the option to attend virtually if you cannot be there in person.

Thank you,

GV/hs

Pennsylvania
Department of
Environmental Protection

Testimony of Jill Whitcomb

Deputy Secretary, Office of Water Programs

Department of Environmental Protection

House Environmental and Natural Resource Protection Committee

February 9, 2026

Chair Vitali, Chair Rader, and members of the House Environmental Resource and Natural Protection Committee, thank you for the opportunity to testify before you today. My name is Jill Whitcomb, and I am the Deputy Secretary for the Office of Water Programs at the Department of Environmental Protection (DEP).

Our mission is to protect Pennsylvania's air, land, and water resources and to provide for the health and safety of its residents and visitors, consistent with the rights and duties established under the Environmental Rights Amendment. We will work as partners with individuals, organizations, governments, and businesses to conserve and restore our natural resources and to address all current and future environmental challenges including climate change and environmental justice.

This mission is foundational to the work that we do as an agency and in the water programs. I will be discussing DEP's water quality monitoring, assessments, and standards; how DEP works with partners and landowners; and what we could do more of collectively to ensure clean water for all Pennsylvanians.

In this testimony, I will share details about Pennsylvania's 2026 Integrated Water Quality Report (IWQR), which significantly expands DEP's assessment of Pennsylvania 86,000 miles of rivers and streams—adding over 10,000 miles of streams and rivers and more than 18,000 acres of lakes—compared to previous reports. The IWQR employs precise segment-by-segment assessment and is recognized among the most rigorous reports prepared nationwide. As a result of the addition of many new miles of assessed streams, DEP added 852 miles of impaired streams to its list, which demonstrates both that we are more accurately characterizing waterways that were not previously included in our reporting, but also that we still have work to do.

In order to explain the detail to come, it's helpful first to describe some of the terminology used in this testimony. A "point source" is any source that can be visually identified, usually with a pipe or conveyance. An example of a point source is a Combined Sewer System (CSS), or simply, discharge of treated water from a sewage plant. A "nonpoint source" is any source that cannot be easily identified. An example of a nonpoint source is a farm field. Water Quality Standards are instream water quality goals that are comprised of protected uses, criteria developed to protect uses, and an antidegradation policy. Protected uses fall into five main categories: Aquatic Life, Water Supply, Recreation, Fish Consumption, and Special Protection. An "assessment" is the decision based on monitoring data and other information collected regarding the water body, including the chemical, biological (such as the presence or absence of macroinvertebrates), and physical (such as instream habitat or streambank) conditions. DEP collects surface water data to conduct assessments to determine if instream water quality is meeting surface water criteria developed for each protected use. If data indicate that criteria are not being met, the result of the assessment is that the surface water is impaired. For example, if bacteria concentrations are found to exceed criteria, the Recreation use will be listed as impaired. Assessments of multiple, different uses can result in impairments for one or more protected uses.

A source is the origin of pollutants and non-pollutants. Sources include agriculture, acid mine drainage (AMD), urban / stormwater, habitat modification, atmospheric deposition, rural land use, impervious roads, animal grazing in riparian areas, and crop production. The more specific sources are a result of more precision over time in determining the source of impairment. A cause is the pollutant or non-pollutant causing the impairment from the source: siltation (i.e. sediment), pathogens, mercury, metals, habitat alterations, flow regime modification, pH, E. Coli, and nutrients.

Water Quality Monitoring

The Pennsylvania Water Quality Network (WQN) is a statewide, fixed station water quality sampling system operated by the DEP Bureau of Clean Water. DEP invests approximately $4 million a year from the DEP Clean Water Fund (CWF) and DEP's share of the Environmental Stewardship Fund (ESF) in the statewide WQN. The Network assesses the quality of Pennsylvania's surface waters and the effectiveness of the water quality management program in major streams throughout the Commonwealth; selected reference waters; the major tributaries entering the Chesapeake Bay; and selected Pennsylvania lakes. There are 178 active WQN stations across Pennsylvania. This work is a collaborative between DEP, United States Geological Survey (USGS), and the Susquehanna River Basin Commission (SRBC).

In recent years, due to the importance of, and interest in, water quality monitoring data, DEP has expanded the array of water quality monitoring stations, upgrading or enhancing existing stations and deploying new stations, in order to more accurately and effectively measure water quality trends and loads. For example, DEP has partnered with the USGS to implement advanced data collection efforts at Marietta (Columbia/Wrightsville) to measure nitrogen, phosphorus, and

sediment in real time on the Susquehanna River. A similar effort is in place at Conowingo below the reservoir as a River Input Monitoring (RIM) station. This will allow us to determine the nutrient and sediment loads due to the historic load the reservoir compared to the load coming from the watershed above it.

The 2026 Integrated Water Quality Report (IWQR) includes a new interactive water quality trend tool that allows the public and interested stakeholders to view WQN information in a more user-friendly way. DEP is continuously enhancing and improving our data visualization tools to ensure transparency and to grow public engagement.

Water Quality Assessments

Pennsylvania has the most advanced assessment program in the country and is one of the only states that uses assessment decisions and real water quality data to inform permitted pollution limits.

A common misconception is that our Water Quality Standards, monitoring, assessments, and permitting programs prioritize aquatic life. However, human health is a priority, specifically related to drinking water, fish consumption, and water contact uses. Pennsylvania has the fourth largest drinking water program in the nation, behind only California, Texas, and Michigan. DEP ensures the safe and reliable supply of drinking water for more than 11 million Commonwealth residents and visitors through the regulation of approximately 8,000 Public Water Systems (PWS), as well as the permitting and regulation of upstream dischargers. Drinking water for nearly 80% of Pennsylvania residents is from surface waters, which are treated by PWS.

Pennsylvania maintains 220,000 assessment units across almost 86,000 miles of streams and rivers and 2 million acres of bays, lakes and wetlands; this is 10 times more than any other state. In other words, we use a targeted approach to assess our waters and base our decisions on data. DEP assesses uses on a segment-by-segment basis, using the USGS National Hydrography Dataset (NHD) rather than a larger watershed or sub-watershed scale. DEP develops and implements very precise assessment methods that identify specific sources and causes. This is especially important in areas with mixed land use, as it allows DEP to be able to determine more specifically the source and cause of impairment so that the impairment can be addressed at that very localized scale. Most other states employ a statistical approach which only allows assessments to be applied at a less targeted level, not at a segment scale.

DEP invests approximately $3 million per year to assess Pennsylvania surface waters. The IWQR is published biennially and submitted it to the United States Environmental Protection Agency (EPA) for approval as required by the Clean Water Act. Since 2004, DEP has recorded 1,099 miles of restored streams and 35,504 acres of restored lakes. The draft 2026 IWQR was published on November 29, 2025, for public comment with the goal of finalizing and submitting the final report to EPA in early April.

The 2026 IWQR expanded assessments for more than 10,000 miles of streams and rivers and more than 18,000 acres of lakes, with new assessments or updated assessments for any use. Thanks to stronger partnerships and increased communication with county conservation districts (CCDs), watershed associations, non-profit organizations, and others, DEP saw a three-fold increase in data submissions compared to previous reports. DEP also ensures that all submitted data are evaluated and used in some way. For example, data that cannot be used directly for assessments are incorporated into DEP's prioritization plans for future assessments.

The leading identified sources of stream impairment are agriculture, AMD, and urban/ stormwater runoff. These are nonpoint sources. The three leading causes of impairment are siltation, pathogens, and mercury, followed closely by metals. This demonstrates that nonpoint source pollution reduction and watershed restoration should remain a priority for statewide water quality improvement and restoration.

Restoration and Improvement of Impaired Waters

This year, one of the biggest success stories documented in the 2026 IWQR is restoration of the recreation use on Presque Isle Bay in Lake Erie. It took almost two decades of deliberate and targeted work and resources to reduce point source and nonpoint source pollution to achieve this restoration.

As noted above, focusing on the sources and causes of impairment allows for targeting attention to the specific problem. For example, if the source of impairment is AMD, and the cause of the impairment is metals, then focusing human and monetary resources to treatment of abandoned minelands (AML) in that watershed would lead to a restored use. One example of that is more than 30 miles of restored streams in the Bennett Branch Sinnemahoning Creek watershed, documented in the 2024 IWQR, where investments were made to reduce AMD pollution in that watershed. DEP Bureau of Abandoned Mine Reclamation's (BAMR) construction of AMD treatment systems have restored approximately 230 miles of Pennsylvania's streams. These projects include the soon to be completed Blacklick Creek AMD Treatment Plant in Cambria and Indiana Counties that will restore 25 stream miles. The estimated final cost of the Blacklick Creek plant is $28 million. DEP now operates and maintains 12 treatment plants to ensure cleaner water.

DEP partners with other state and federal agencies, County Conservation Districts, municipalities, farmers, and watershed and other non-governmental organizations. DEP allocates more than $3 million annually in ESF funding in support of all 66 CCDs so that they can employ and retain local Watershed Specialists. These Watershed Specialists assist with water quality sampling and monitoring efforts, watershed education and outreach, best management practice (BMP) design and implementation assistance, and grant administration and sponsorship. These positions are the "boots on the ground" to support local watershed restoration initiatives in their communities. In addition, DEP provides funding to support nonpoint source watershed restoration planning and implementation through CCD Watershed Specialist mini-grants, the

Chesapeake Bay Countywide Action Plan (CAP) implementation block grants, Growing Greener, EPA Section 319, the Conservation Reserve Enhancement Program (CREP) Rebate Program, and Act 167 Stormwater Management program. Aside from Act 167, all these funding programs are supported in whole or in part by ESF.

Under Section 319 of the Clean Water Act, DEP Bureau of Watershed Restoration and Nonpoint Source Management (BWRNSM) develops and implements the Nonpoint Source (NPS) Management Program. Between 1990 through 2023, DEP received approximately $141 million from EPA's Section 319 Grant Program. Most of these funds are for on-the-ground projects or Watershed Implementation Plan (WIP) development. We use ESF to meet the federally required match. Also as required by Section 319, DEP develops, submits, and publishes an NPS Annual Report, which highlights the status of programs, projects, and local WIPs as well as NPS Success Stories.

DEP also focuses efforts at the watershed scale through Total Maximum Daily Load (TMDL), Advanced Restoration Plans (ARPs), and WIPs These plans identify the land uses that are impacting water quality as well as proposed and existing BMPs that should be implemented and maintained to improve water quality, with the ultimate goal of restoration. In addition to the Chesapeake Bay Phase 3 WIP and the Chesapeake Bay TMDL, there are 45 local WIPs, 357 TMDLs and 7 ARPs across Pennsylvania. These local plans allow CCDs and watershed organizations to chart a path toward restoration and leverage state and federal funding to support implementation. A recent example is the Hungry Run watershed in Mifflin County, which has an approved WIP and received more than $1.4 million in Growing Greener and EPA Section 319 funding to implement conservation BMPs on agricultural operations Restoration has been achieved in some areas of the watershed and macroinvertebrate scores are showing steady improvement toward full restoration at many sampling locations.

In addition to the EPA-approved plans identified above, the Chesapeake Conservancy has been working with Pennsylvania local and state partners in the Chesapeake Bay watershed to utilize our water quality monitoring data assessment decisions, as well as BMP implementation data to implement the Rapid Stream Delisting Strategy. This strategy was borne out of grassroots initiatives to target resources in areas that are agriculturally-impaired but just shy of water quality criteria and biotic scores to be considered restored. Currently, there are more than 55 small catchments identified (based on NHD segments or slightly larger) that are being targeted for this local funding. We are seeing incremental improvements in these areas as a result of focused landowner engagement and BMP implementation efforts. DEP has funded the locally-led Rapid Stream Delisting Strategy through CAP and Growing Greener grants. This data-driven initiative has accelerated local water quality improvements and led to additional momentum, demonstrating that strategic and targeted local investments yield real results.

Intense storm events, droughts, and heat waves have serious impacts on surface water quality. Intense storm events lead to exacerbated flooding issues, which carry pollutants like sediment

and bacteria into the receiving waters. More heat leads to higher water temperatures, affecting aquatic life and sometimes leading to harmful algal blooms (HABs). Increasing riparian cover through tree planting, improvement to upland areas through conservation practices, reconnection of flood plains, along with stream and wetland restoration can help flood waters dissipate, decrease water temperatures, and reduce the potential for pollution or property damage downstream. A whole-watershed approach is a comprehensive and holistic strategy that improves and restores water quality as well as the quality of life for our Pennsylvania residents.

Last month, DEP announced the more than $17 million 2025 Growing Greener Plus grant awards to 89 projects. Growing Greener is funded in whole by ESF. In 2025, DEP received 168 applications totaling more than $41 million in requested funds. This is similar to previous years, with DEP able to fund less than half of the total amount of requested funds and/or projects. There is much more work to be done and there is continued interest in Growing Greener as a primary funding source for watershed restoration.

I'd like to end on this final note. The cost of enhancing and maintaining our water quality monitoring network, conducting assessments, and restoring watersheds is only going to increase over time. Permitting decisions and strategic resource allocation and implementation should be completed using measurable data. The collection, compilation, and communication of that information is of utmost importance and is not without cost. Federal IIJA funding for the Chesapeake Bay watershed is expected to end in FY2027. As a result, we will need to work with the General Assembly on ensuring no interruption in the services we provide through our robust water quality monitoring program and increased BMP implementation. This will not only impact the Chesapeake Bay watershed, but the entire state, as we have utilized these federal dollars to supplement available ESF funding. The ESF is a critical tool in our attempts to ensure clean water for all Pennsylvanians.

Thank you for your interest in this topic and I look forward to responding to your questions.

STROUD
WATER RESEARCH CENTER

6 February 2026

House Environmental Resources & Natural Protection Committee
Public Hearing: "Stream Impairment in Pennsylvania"

Dear Honorable Chairman Vitali and Honorable members of the House Environmental & Natural Resources Protection Committee,

My name is John Jackson, Ph.D., and I am a senior research scientist at Stroud Water Research Center in Avondale, PA. The Stroud Center is a private, not-for-profit organization, and our mission is to advance knowledge and stewardship of freshwater systems through global research, education, and watershed restoration. Our staff consists of about 50 full-time employees, and another 10 to 25 part-time employees. My training and experience are in stream ecology and aquatic entomology, and my research over the last 36 years at the Stroud Center has focused on the effects of human activities on pollution-sensitive aquatic insects, and on long-term efforts to restore impaired streams. It is with that background that I come to speak to your Committee about the 2026 Draft Integrative Report, and the challenge of fixing impaired streams (i.e., removing streams from the Pennsylvania list of impaired streams).

WHAT DOES THE 2026 DRAFT INTEGRATED REPORT TELL US?

The Clean Water Act of 1972 protects all legitimate uses of our nation's streams, rivers, and lakes. We often summarize this as ensuring that the waters are swimmable, drinkable, and fishable. My expertise is in using aquatic life (i.e., macroinvertebrates, especially aquatic insects) to assess that aspect of stream health. This approach was first developed in the early 1900s and has been applied widely across the United States as well as in many other developed and developing countries. The methods used in the U.S. have been evolving since the 1950s, and in Pennsylvania there have been important developments and reevaluations over the last 25 years. One important aspect in both the development and reevaluation of the Pennsylvania monitoring methods is that the impairment classification starts with data from many reference sites – that is, Exceptional Value (EV) streams. Pennsylvania has 3,970 miles of EV streams, and these "Best of the Best" sites provide excellent, reproduceable starting points for defining and quantifying both degradation and restoration.

The Draft 2026 Integrated Report provides all sorts of insights into the state of Pennsylvania's water resources. Pennsylvania is literally a water world with about 86,000 miles of streams. Unfortunately, many (31,451 miles, or 37%) are classified as impaired for one or more protected uses. It is important to note that for aquatic life, the impaired classification means there has been a major loss of pollution-sensitive macroinvertebate species (i.e., 50-100% are missing from a sample). This is not a minor change: It means pollution pressure is intense and will not be easily reduced. PADEP is very transparent about what they did and found, and the web-based storybook format has made the information far more accessible. There are summaries as well as stream-specific information. It can still be challenging in find a specific result — because there is so much to find. Compared to the massive catalog that was produced 10 to 20 years ago, this report is far more informative and easily used.

Because the current stream assessment effort dates back only to the late 1990s, the Integrated Report cannot make an important point: Pennsylvania streams and rivers are generally cleaner and healthier today relative to before the Clean Water Act was signed in 1972. Unfortunately, we generally do not have data from 1940 to 1970 and only limited data between 1970 and 1990. However, we know progress has been made because we see, smell, and feel it — dead fish don't litter stream banks, pipe discharges don't reek of filth, and rivers don't burn. And when we have data, it often shows reductions in some chemical pollutants and increases for some pollution-sensitive species.

The Draft 2026 Integrated Report tells us that stream impairment in Pennsylvania primarily reflects people's use of land and water use in agricultural, urban, and mining landscapes. This observation has been consistent throughout many integrated reports, and it is common sense that pollution is a people problem. Obviously, if we are going to achieve our goal of cleaner, healthier streams, we need to reduce the pollutants impacting these streams by changing our use of land and water. The Draft 2026 Integrated Report highlights a relatively small number of stream miles that were added or removed from the impaired list. My interpretation of these changes is that they generally do not reflect significant declines or improvements in stream health, but rather classification changes as more data became available. Over the years, the most frequent success stories have been of streams impacted by abandoned mine drainage (AMD, more on this today from Robert Hughes of the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation). The stressors associated with AMD are well known, and effectively remediated. AMD remediations illustrate that aquatic life in streams can improve when stressors are removed.

Why are we not measuring more improvements among our impaired streams or seeing more streams removed from our list of impaired waters? Fixing degraded streams today is not easy, and Pennsylvania is not alone in this challenge. All states are struggling to find success in fixing streams. We did well in the 1960s through 1980s by focusing on pollutants that we knew were a problem at that time, often fixing thermal effluents with cooling towers on power plants or mixing towers on big dams, or by digesting or removing pollutants in wastewater treatment plants or by banning the use or discharge of toxic substances. Starting in the 1990s, we moved away from those thermal and chemical pollutants and pollution-reduction approaches and more often focused on how channels and floodplains looked. This involved reengineering and landscaping the stream corridor, which you might know as legacy sediment removal, natural stream channel design, or floodplain reconstruction/reconnection. The idea that stream impairments were an expression of changes in stream hydrology, hydraulics, and geomorphology was new in the 1990s, but two decades of science since then have found that this intervention has generally not fixed impaired streams. This is not to say channels or floodplains were in their natural condition. Rather, the lack of improvement following "restoration" of the channel and floodplain indicates that key stressors that were depressing or eliminating pollution-sensitive species were not associated with historical changes in stream channels and floodplains. If we are to get the results we are planning and paying for, we need to do some different things.

"The definition of insanity is doing the same thing over and over again and expecting different results."

Examples of studies that failed to measure positive ecological responses to channel and floodplain reengineering:

Bernhardt, E.S., and M.A. Palmer (2011). River restoration: the fuzzy logic of repairing reaches to reverse catchment scale degradation. *Ecological Applications* 21:1926–1931.

Hilderbrand, R.H., J. Acord, T.J. Nuttle, and R. Ewing (2020). Quantifying the ecological uplift and effectiveness of differing stream restoration approaches in Maryland. Final Report *Submitted to the Chesapeake Bay Trust for Grant #13141*.

Smith, Neideigh, Rittle, Wallace (2020) Assessing macroinvertebrate community response to restoration of Big Spring Run: Expanded analysis of before-after-control-impact sampling designs. *River Research and Applications* 36:79–90.

Stowe, E.S., K.N. Petersen, S. Rao, E.J. Walther, M. Freeman, S.J. Wenger (2023). Stream restoration produces transitory, not permanent, changes to fish assemblages at compensatory mitigation sites. *Restoration Ecology*, Vol. 31 (5): e13903.

HOW CAN WE GET MORE CLEAN STREAMS?

Based on my experience and the work of coworkers and colleagues at the Stroud Center and beyond, my recommendation is that we need **more projects, better projects, and aggregated projects** if we want to address the impaired streams problem in Pennsylvania.

We need **more projects** because we have many impaired streams and rivers, and these impairments reflect the land and water use choices of thousands of landowners across thousands of parcels in the watersheds that form these streams and rivers. For example, Pennsylvania has 52,000 farms and 7.3 million acres of farmland. If we implemented pollution-reduction best management practices (BMPs) on 1,000 farms per year (at 100 acres per farm), it would take 50 to 75 years to address them all. Similarly, about 5% of Pennsylvania is urbanized and this represents about 4,300 miles of urban streams. If we implemented pollution-reduction BMPs on the properties associated with 100 miles of urban streams per year, it would take 43 years to address them all. This approach treats every parcel as a potential source of pollutants over time, and is therefore part of the problem and the solution. In both cases (1,000 farms/year or 100 miles of urban streams per year), it would take decades to address our impaired streams even at these high rates of project implementation (relative to now).

We need **better projects** for both agricultural and urban streams because our pollutants and landscapes are complicated and our projects often fail to address all the pollution all the time. There are many different pollutants and pollution sources, and these can vary within a year, and among years and properties. Some are well-known like thermal stressors, wastewater effluents, and agricultural and urban runoff. Others are contaminants of emerging concern (i.e., they may be new or well-known, but they are unregulated, and we do not commonly monitor them, addressed below). So as a preventative measure, it is important to recognize and address all the pollutants and pollution sources. For example, if you reduce erosion and manure around a barnyard but do not address livestock in the stream, it is likely that the livestock are still contaminating and physically beating up the stream, and vice versa. Similarly, overland flow from a poorly managed crop field or pasture could overwhelm the benefits of a riparian forest buffer while a properly managed crop field or pasture does not replace the benefits of a riparian forest buffer. The Stroud Center's approach is to address the whole farm — from fields and pastures to barnyards and even roads. Much has changed over the decades and farmers now view their landscapes and options differently. That holds a lot of promise for the future, but it still requires work to get it all planned, implemented, and then maintained.

We need **aggregated projects** because it is the cumulative effort that should result in the most measurable results. If you work on 10 random farms out of 100 farms in a watershed, then in theory you have only addressed about 10% of the pollutant load, and there is nothing in the literature that would suggest that is an adequate long-term solution because the remaining 90% would still overwhelm any positive change. However, if those 10 farms are aggregated on a small tributary with 15 farms, then you have addressed about 67% of the potential pollution sources, and there is a much

better chance of measurable results. The key to success stories for landowners and the general public, and for delisting streams is measurable results. In practice, there will be a combination of aggregated and dispersed projects, but making aggregation a priority helps ensure more success stories over time.

As I already mentioned, we need to **avoid projects that do not work** when it comes to delisting streams, especially reengineering and landscaping stream channels and floodplains. There may be times and places where this is a viable option (e.g., protecting valuable infrastructure or historical sites, or beautifying public spaces), but the available studies suggest that this is a poor investment when delisting streams is the primary goal. Lessons from 1970 through 1990 suggest we need to return our focus to thermal and chemical contaminants as was done before 1990, and not prioritize how some perceive streams should look.

Finally, in addition to needing more projects, better projects, and aggregated projects, we need to better understand **emerging pollutants** and how they are presumably contributing to impairments. These are common products widely used across our landscapes, and they contribute to the chemical cocktail that reaches our streams. This includes new and old pesticides (i.e., herbicides, insecticides, fungicides), asphalt sealants (polycyclic aromatic hydrocarbons), road salt, pharmaceuticals, and most recently, tire-wear compounds (e.g., 6PPD-Q). Recent studies have found that these chemicals at toxic concentrations in stream water or sediments in both urban and agricultural settings. We cannot reduce pollutants that are stressing our streams if we are not measuring those pollutants. How would we know *if* they are a problem much less *where* and *when*?

Thank you for inviting me to contribute to this hearing.

Sincerely,

John K. Jackson, Ph.D.
Senior Research Scientist

STROUD
WATER RESEARCH CENTER

Testimony to the PA House Environmental Resources & Natural Protection Committee

Stream impairment in Pennsylvania

John K. Jackson | Monday, February 9, 2026

John K. Jackson, Ph.D.

Senior Research Scientist

Stream Ecologist/Aquatic Entomologist

STROUD
WATER RESEARCH CENTER

STROUD
WATER RESEARCH CENTER

Independent, non-profit focused exclusively on the understanding and stewardship of freshwater systems.

HQ Avondale, Pa.

Global Freshwater Research
Watershed Restoration
Education

Since 1967.

Clean fresh water depends on unbiased research to help people care for land and water.

STROUD
WATER RESEARCH CENTER

Pennsylvania Integrated Water Quality Report

Two Questions

1. What does the Integrated Report tell us?

2. How can we move more streams off the impaired list?

IMPAIRMENT = Loss of 50-100% Pollution-sensitive Species

Ephemeroptera Mayflies

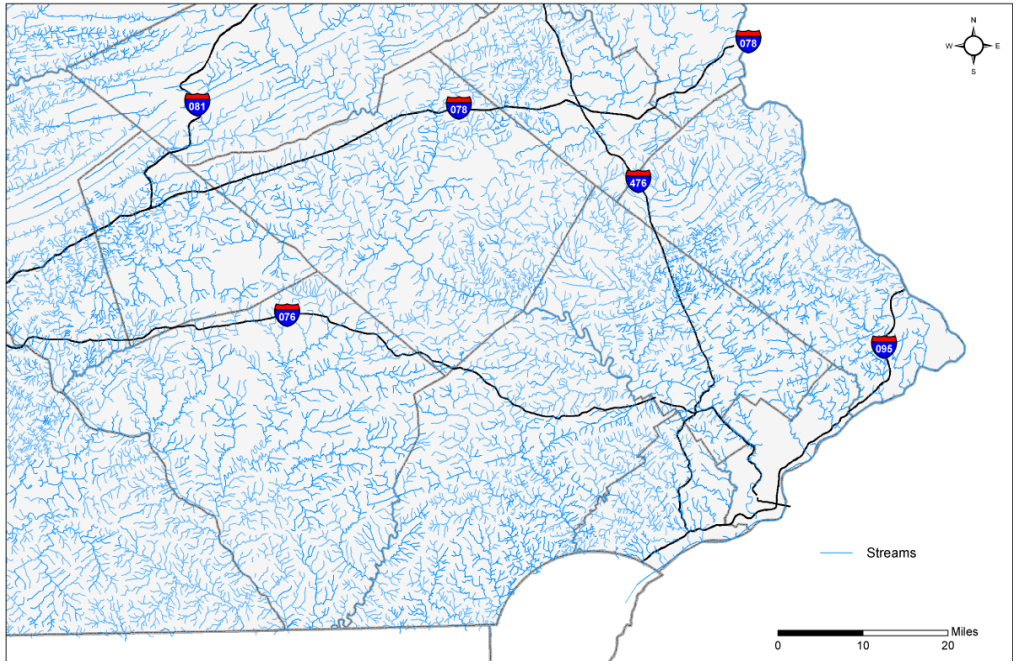
Plecoptera Stoneflies

Trichoptera Caddisflies

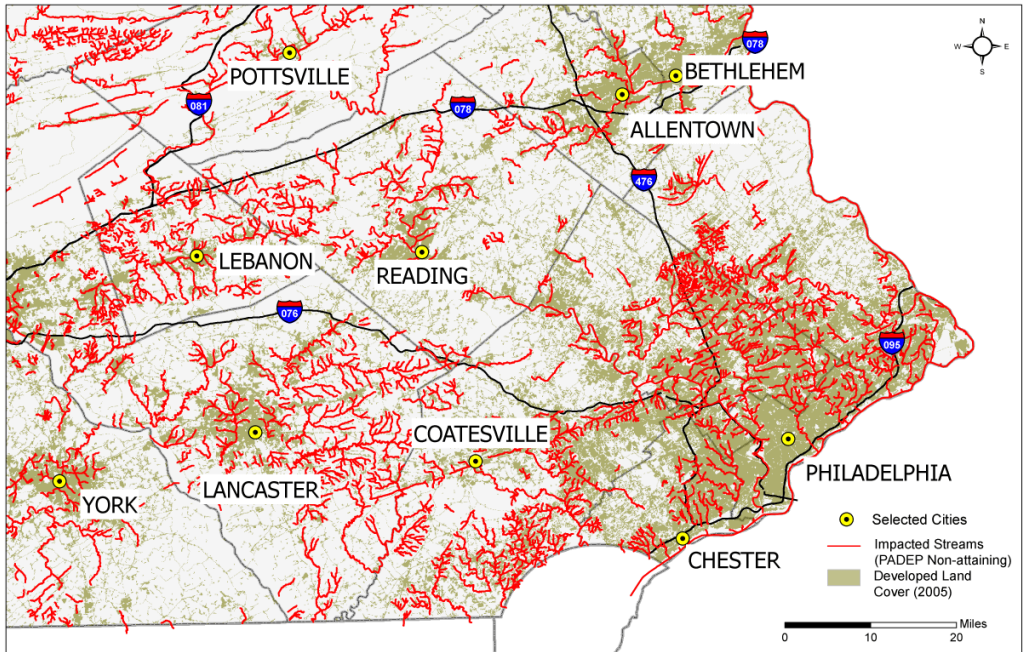
1. What does the Integrated Report tell us?

We live in a wet world with a lot of polluted streams.

85,474 miles of streams in Pa.

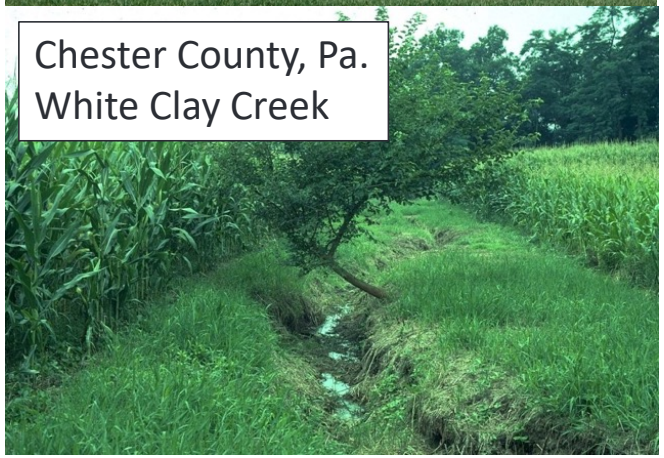


31,451 miles of impaired streams in Pa. (37%)

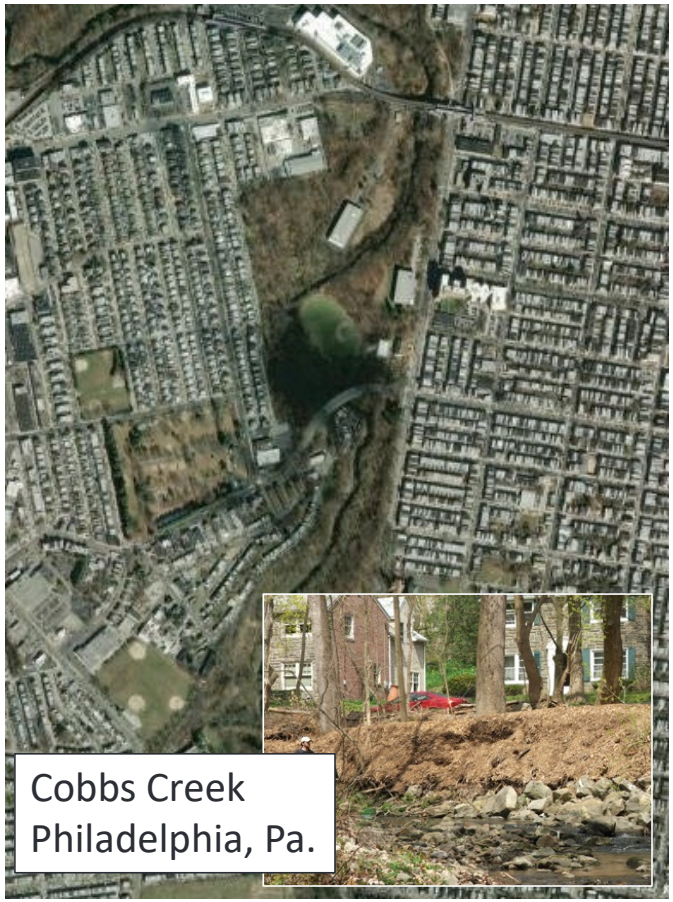


People are the source of pollution.

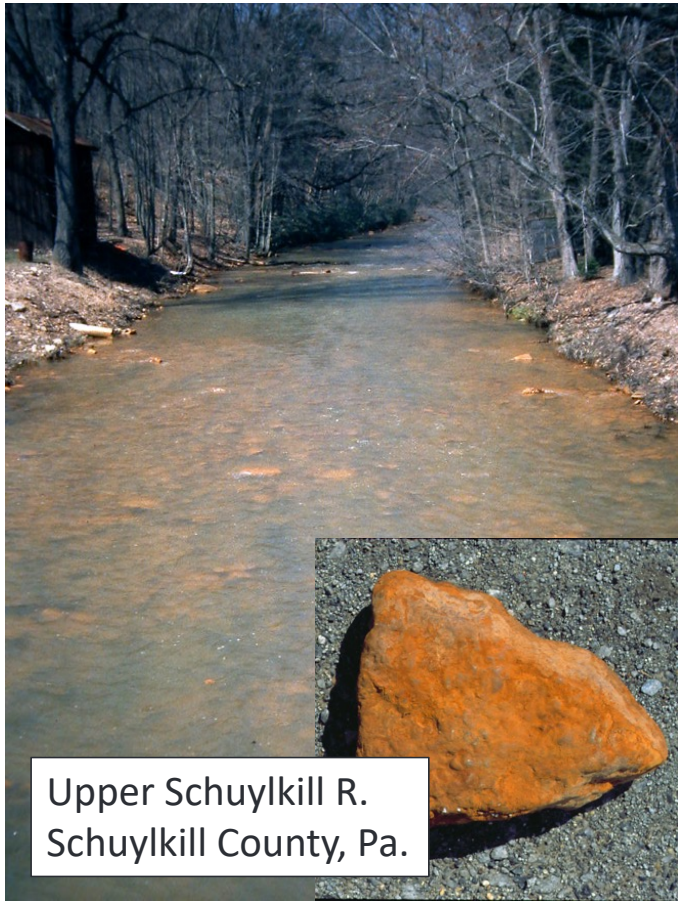
Agriculture



Urban



Mining



Streams are cleaner. You can see it, smell it, feel it.

Rivers are not burning.

Pipe discharges are not filthy.

Fish kills less common.

2. How can we move more streams off the impaired list?

More projects.

Better projects.

Aggregate effort to headwaters.

STROUD
WATER RESEARCH CENTER

More projects.

Pennsylvania 52,000 farms 7,300,000 acres

Address 100 acres per farm On 1,000 farms

50-75 years

More projects.

5% Urban 4,300 urban stream miles

Address 100 miles per year

43 years

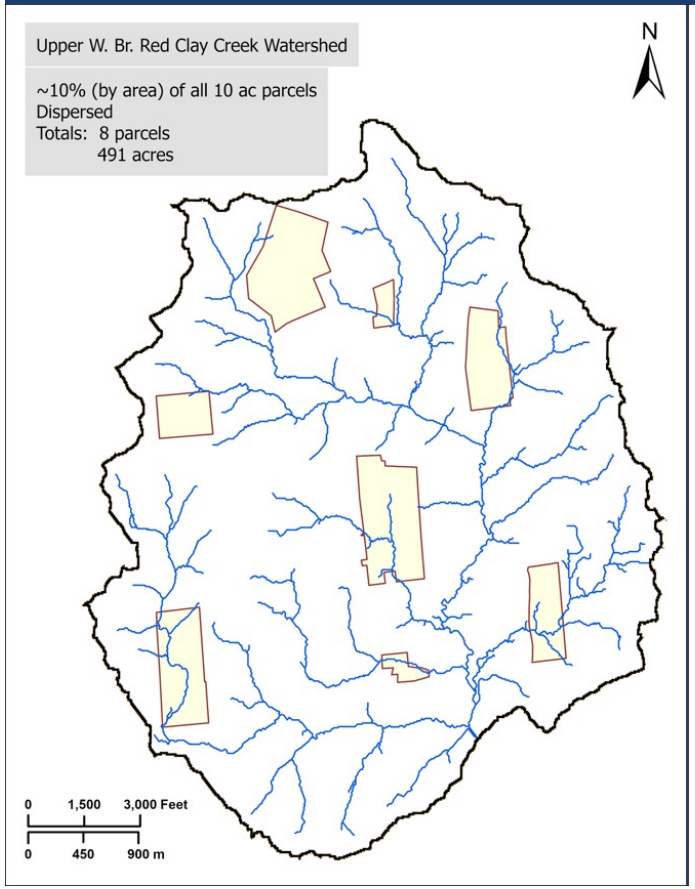
Photo by Chris Murray via Unsplash.

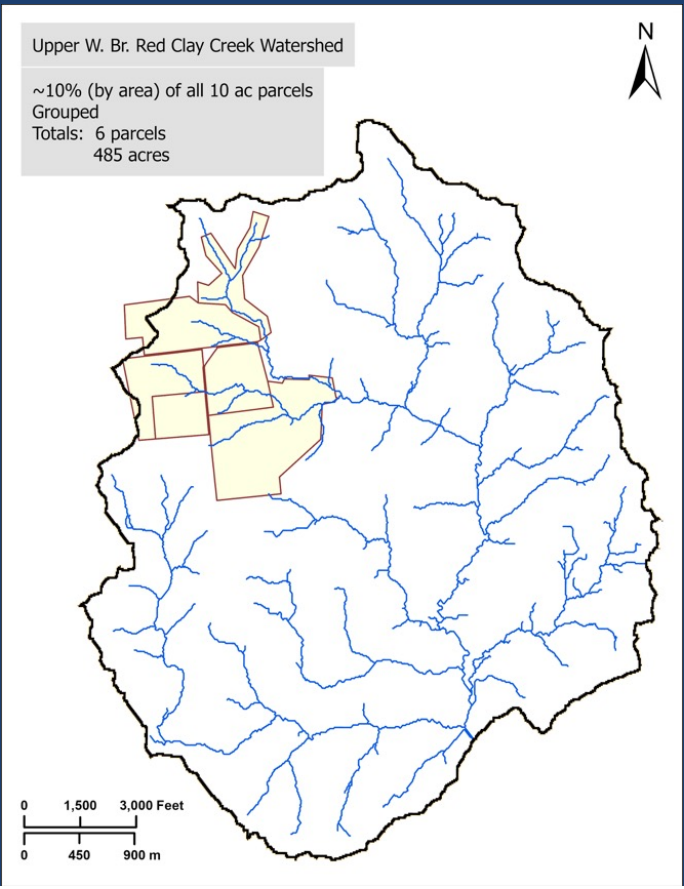
Better projects.

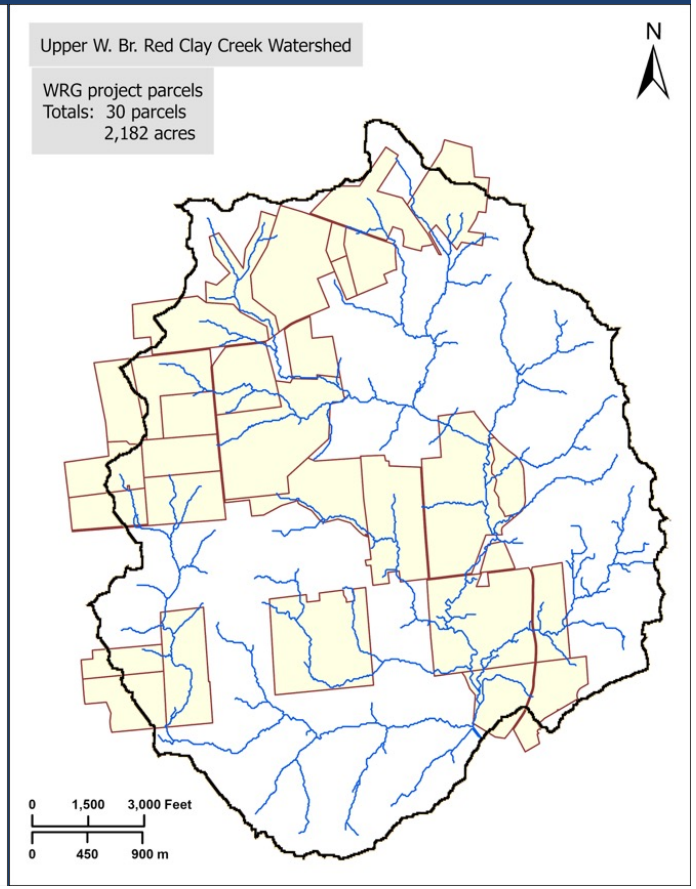
Whole Farm Approach

Aggregate projects, especially to headwaters.

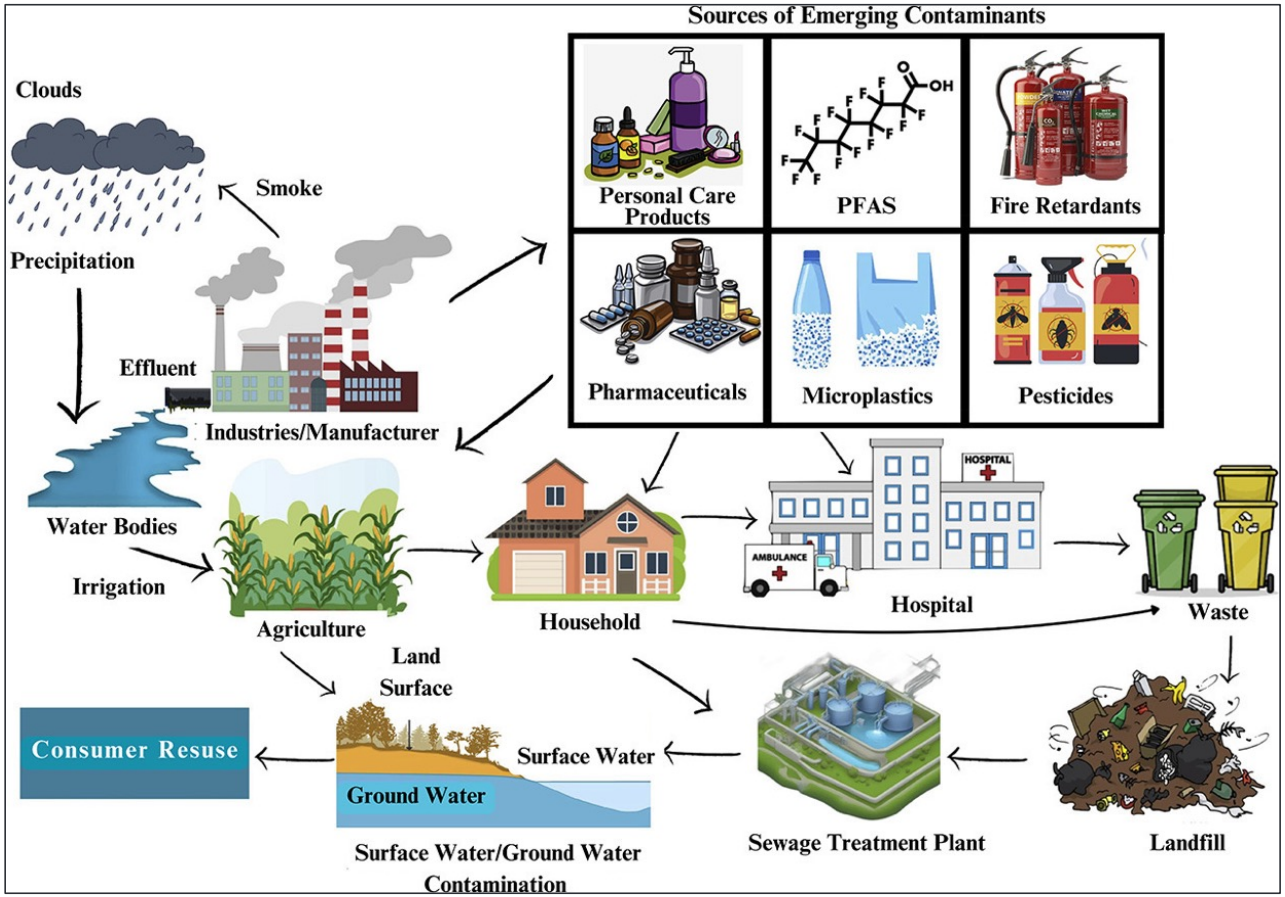
West Branch White Clay Creek, Chester County, Pa.







Recognize the role of emerging chemical pollutants.



Toxins:

- Salt
- Oils
- Metals
- Sealants
- Herbicides
- Insecticides
- Soaps

- Drugs
- Personal care
- Fertilizers

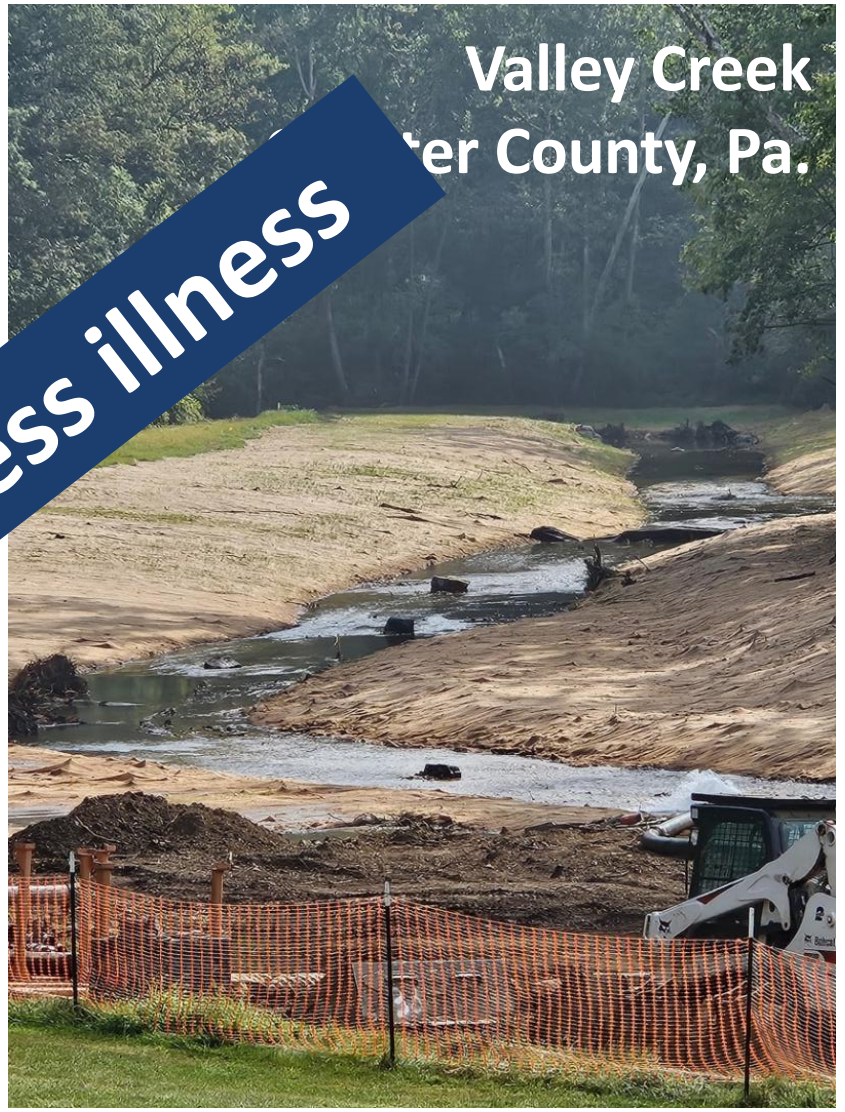
https://www.sciencedirect.com/science/article/pii/S2772416625001664

Avoid restoration projects that do not work.
Stream channels and floodplains can be reengineered for Chesapeake Bay or MS4 credits.

But repeatedly, research shows it does not fix impairment

Avoid restoration projects that do not work.
Stream channels and floodplains can be reengineered for Chesapeake Bay or MS4 credits.

But repeatedly, research shows it <u>does not fix impairment</u>



Rx does not address illness

SUMMARY

Integrative Report

- Important, comprehensive asset
- Demonstrates difficulty of delisting streams

Progress is possible

- more projects
- better projects
- aggregate work to headwater streams

Investigate pollutants beyond N, P, and sediment

Avoid ineffective projects that science has clearly shown do not work

Stay in Touch

jkjackson@stroudcenter.org

Subscribe to our monthly e-news for updates on freshwater research, environmental education, and watershed restoration.

Scan code or go to
stroudcenter.org/subscribe

Follow Us

CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

Pennsylvania's Integrated Waters Report—Knowledge to Action

Harry Campbell
Pennsylvania Science Policy and Advocacy Director
Chesapeake Bay Foundation

Testimony before the
Pennsylvania House Environmental and Natural Resources Protection Committee
9 February 2026

Chairman Vitali, Minority Chairman Rader, and members of the Committee, thank you for the opportunity to speak today about the Draft 2026 Integrated Waters Report ("IWR") and its significance for Pennsylvania's communities, environment, and economy.

My name is Harry Campbell, and I serve as the Director of Science Policy and Advocacy for the Chesapeake Bay Foundation (CBF). For nearly three decades, my work has centered on watershed assessment, restoration, and protection—across academic, government, private-sector, and nonprofit roles.

Since 1986, CBF's Pennsylvania team has worked hand-in-hand with state and federal agencies, local governments, conservation districts, community partners, and farmers. Our nationally recognized watershed resiliency program has helped thousands of farmers design and install conservation practices that protect soil, restore streams, and support local economies. Most recently, we celebrated the conclusion of the *Keystone 10 Million Trees Partnership*, an ambitious effort that—working with more than 300 partners—has already planted 8.7 million native trees with final numbers likely to surpass the 10-million-tree goal later this year.

At its core, Pennsylvania's IWR tells a story through data. Every two years it tells us whether our lakes, rivers, and streams are healthy. It tells us what is affecting their condition. And it is beginning to tell us whether the work undertaken by the Commonwealth and the conservation community is truly making a difference in protecting and restoring our waterbodies.

Why the Integrated Waters Report Matters

At its heart, the IWR is far more than a legal requirement. It is the scientific lens that tells us whether Pennsylvania's waters are healthy, what is degrading them, and whether our restoration and protection efforts are making measurable progress.

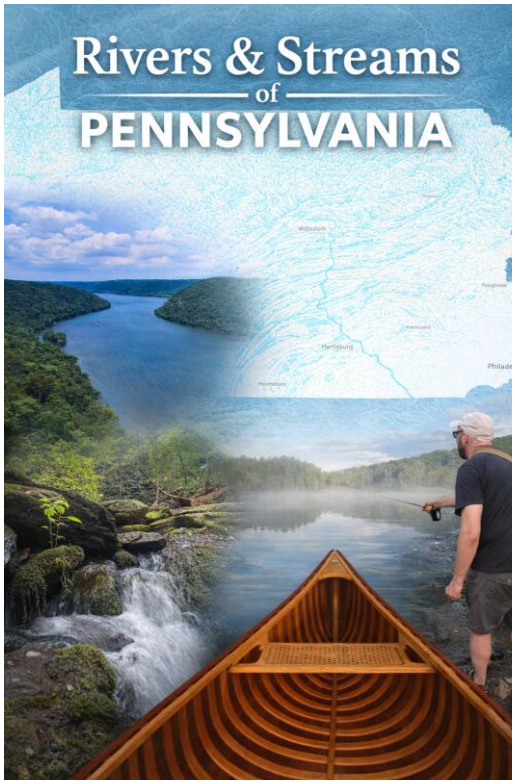


Figure 1. *Iconic rivers and streams of Pennsylvania—showcasing the Commonwealth's diverse waterscapes, from pristine headwaters and forested gorges to wide recreational waterways—highlighting the ecological, scenic, and cultural value of the state's freshwater resources.*

With more than 86,000 miles of rivers and streams and 161,500 acres of lakes, Pennsylvania is one of the most water-rich states in the nation (Figure 1). These waters do far more than define our landscape. They anchor local economies, sustain agriculture and forestry, filter drinking water, support diverse ecosystems, and deliver recreation and tourism dollars to communities statewide. They cool our towns, recharge our groundwater, absorb storm flows, and shape the character of every region of the Commonwealth.

Because these waters are so essential—and so extensive—understanding their condition is not optional. It is foundational. The IWR gives us the data clarity needed to distinguish healthy waters from stressed ones and to see precisely where and why change is occurring.

Origins & Evolution

The IWR combines the state's Clean Water Act obligations under Sections 305(b) and 303(d): assessing water quality statewide and identifying waters that fail to meet designated uses.[1] Over the past two decades, EPA and Pennsylvania have moved from static PDF reports to modern, interactive, geospatial tools. Today's StoryMap based-based format is a major step forward—improving transparency, usability, and the ability to target restoration actions with precision.

PADEP's scientists, policy staff, and IT professionals deserve real credit for transforming a once impenetrable document into a tool that local officials, conservation partners, and citizens can actually use.

[1] United States Environmental Protection Agency. Guidance for 303(d) Listing and Integrated Reporting (Office of Water 2003–2017).

What the 2026 Draft IWR Tells Us

The findings are clear: 31,451 miles of Pennsylvania's rivers and streams—about 37 percent—are listed as *impaired*.

Figure 2. *Total Impaired Stream Miles in PA*

Impairment results from a wide range of identified *sources*[2,3] , but a few dominate. Agricultural activities are the largest identified source, followed by the legacy of coal mining in the form of acid mine drainage, and stormwater runoff from developed areas (Table 1).

These sources reflect the combined influence of historic impacts, current land use practices, and development pressures.

Table 1. *PA Stream Impairment Sources by Designated Use and Total, Top 5*

Impairment Source	Designated Use*					Total
	AL	*PWS*	*SP*	*Rec*	*FC*	(miles)
Unknown	890	40	102	9,866	4,342	15,240
Agriculture	6,008	48	1,353	2,757	0	10,166
Acid Mine Drainage	5,107	139	413	0	0	5,659[4]
Urban Runoff/Storm Sewers	3,320	0	537	679	0	4,536
Habitat Modification	2,237	0	468	0	0	2,705

**AL: Aquatic Life; PWS: Potable Water Supply; SP: Special Protection; Rec: Recreation; FC: Fish Consumption*

[2] The origin or activity responsible for introducing an cause of impairment—such as agriculture, abandoned mine drainage, or stormwater runoff. Adapted from the USEPA's description of impaired waters and pollutant loads that cause a waterbody to fail to meet water-quality standards. Definition adapted from USEPA. Impaired Waters and Stormwater. https://www.epa.gov/tmdl/impaired-waters-and-stormwater.

[3] The "Source Unknown" category makes up the largest identified source with 15,240 miles. "Source Unknown" means has confirmed that a stream is impaired and has identified the pollutant or stressor causing the impairment, but available stream bioassessment monitoring and land use data are not sufficient to determine the specific activity or origin responsible.

The leading *causes*[5] of impairment—siltation, pathogens, mercury, metals, and habitat alterations — paint an equally important picture (Table 2). Sediments continue to smother aquatic habitat. Pathogens threaten public health and recreation. Metals and mercury impair aquatic life and trigger fish consumption-consumption advisories. Physical degradation alters stream structure and reduces ecological resilience.

***Table 2**. PA Stream Impairment Causes by Designated Use and Total, Top 5*

Impairment Cause	Designated Use					Total
	AL	*PWS*	*SP*	*Rec*	*FC*	(miles)
Siltation	9,813	1,818	0	0	2	11,633
Pathogens	0	0	0	10,251	38	10,289
Mercury	0	0	4,898	0	0	4,898
Metals	4,246	400	50	0	8	4,704
Habitat Alterations	2,841	639	0	0	0	3,480

**AL: Aquatic Life; PWS: Potable Water Supply; SP: Special Protection; Rec: Recreation; FC: Fish Consumption*

***Figure 3.** Examples of leading causes of stream degradation in Pennsylvania watersheds, including livestock access and associated streambank erosion (left), stormwater outfalls delivering sediment- and nutrient-laden runoff that destabilizes banks (center), and acid mine drainage impairing water quality and coating streambeds with iron precipitate (right).*

Informed Action—How IWR Data Is Used

The IWR's influence extends far beyond assessment. Its data now underpin major state and federal water-quality programs and drive how Pennsylvania prioritizes investments.

For example:

- NPDES permits, wastewater discharge limits, MS4 Pollution Reduction Plans, and Total Maximum Daily Load (TMDL) establishment all rely on IWR listings;
- The Agriculture Conservation Assistance Program (ACAP) uses the number of agricultural-impaired stream miles as part of its funding formula—ensuring resources go where they are most needed; and

[5] The pollutant or stressor (e.g., sediment, nutrients, pathogens) that directly results in a waterbody failing to meet water-quality standards. Definition adapted from USEPA. Impaired Waters and Stormwater. https://www.epa.gov/tmdl/impaired-waters-and-stormwater.

- Watershed Implementation Plans, Alternative Restoration Plans, Growing Greener grants targeting, and other programs all depend on the IWR's information to some degree.

The IWR—along with the Clean Streams Fund (CSF) and the Agriculture Conservation Assistance Program (ACAP)—plays a central role in how Pennsylvania fulfills its obligations under the Chesapeake Bay TMDL[6], including the newly revised *Chesapeake Bay Watershed Agreement* ("CBWA").[7]

Pennsylvania's IWR aligns most directly with the CBWA's Clean Water goal, especially its outcomes aimed at reducing excess nutrients and sediment in the Commonwealth's rivers and streams; assessing toxic and emerging contaminants; and evaluating water-quality standards, attainment, and long-term monitoring. These are the very functions the IWR provides through its impairment listings, designated-use assessments, and monitoring networks.

The IWR also supports the CBWA's Thriving Habitat, Fisheries and Wildlife outcomes. Many of these goals—such as improving stream health and restoring fish habitat—depend on the same biological assessments, aquatic life evaluations, and abandoned mine drainage data that drive Pennsylvania's impairment determinations.

Related outcomes under Healthy Landscapes, including land-use planning, riparian-buffer establishment, and forest conservation, indirectly reinforce IWR priorities by addressing major sources of impairment like agricultural runoff, stormwater, and habitat degradation.

Finally, the CBWA's Engaged Communities goal mirrors the IWR's role in strengthening local government leadership, public stewardship, and environmental literacy. By making water-quality conditions understandable and accessible, the IWR enhances the ability of communities to act on impairment data, support local restoration efforts, and accelerate measurable water-quality improvements across the watershed.

The IWR has also shaped how Pennsylvania communicates its progress toward "Saving the Bay." Decades of public-opinion research consistently show that residents respond most strongly to the environmental issues they encounter close to home.[8,9,10] Because most Pennsylvanians rarely visit the Chesapeake Bay, communicating through the

---

[6] United States Environmental Protection Agency, Region 3. Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment. U.S. Environmental Protection Agency, 29 Dec. 2010, https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-document.

[7] Chesapeake Bay Program. Chesapeake Bay Watershed Agreement: 2025 Interim Version. Chesapeake Bay Program, 2025, https://www.chesapeakebay.net/files/documents/CBWA-2025-IV-Final-Facing.pdf.

[8] University of Pennsylvania, Penn Program on Regulation. "What Behavioral Strategies Motivate Environmental Action?" Penn Program on Regulation, https://web.sas.upenn.edu/pcssm/news/what-behavioral-strategies-motivate-environmental-action/

[9] "Measuring Environmental Attitudes and Behaviors." SpringerLink, https://link.springer.com/chapter/10.1007/978-3-030-85796-7_2

[10] Rare. The Science of Changing Behavior for Environmental Outcomes. Rare, 2020, https://behavior.rare.org/wp-content/uploads/2020/12/Final_Rare-Literature-Review.pdf

condition of local rivers and streams is a far more effective pathway to building awareness and support.[11] In this way, the IWR provides the science-based foundation for elected officials, agencies, and community partners rely on to inform policy decisions, set priorities, and demonstrate progress to their constituents.

How CBF Uses the IWR

The IWR is central to CBF's work in the Commonwealth as part of our *Pennsylvania Watershed Resiliency Planning Program*. IWR helps identify nonpoint-source impaired watersheds where targeted restoration can deliver measurable improvements. Our plans in Halfmoon Creek and Pequea Creek[12,13]—and new plans in various stages of completion for the Upper Conestoga, Marsh Creek, Little Fishing Creek, and Columbia Manor River Tributaries—use IWR data to focus efforts and track progress. These plans have already attracted federal investment and catalyzed local action, demonstrating how data-driven restoration accelerates recovery.

Figure 4. *CBF's 5P Framework for Coordinated Watershed Resiliency in Pennsylvania*

These plans are an integral component to our 5P Framework which brings this work together through five interconnected pillars (Figure 4):

- *Plans* provide comprehensive, science-based roadmaps shaped by local knowledge to help prioritize action where it matters most.

---

[11] Chesapeake Bay Program. "Pennsylvania." Chesapeake Bay Program, https://www.chesapeakebay.net/files/documents/FactSheet_Pennsylvania.pdf.

[12] Chesapeake Bay Foundation. Halfmoon Creek Watershed Implementation Plan. July 2021, https://files.dep.state.pa.us/Water/BWEW/Watershed%20Management/WatershedPortalFiles/NonpointSourceManagement/ProgramInitiatives/ImplementationPlans/Halfmoon_319_WMP_Plan_JUL2021.pdf.

[13] Chesapeake Bay Foundation Pequea Creek Watershed Implementation Plan. https://files.dep.state.pa.us/Water/BWEW/Watershed%20Management/WatershedPortalFiles/NonpointSourceManagement/ProgramInitiatives/ImplementationPlans/Pequea_Creek_Watershed.pdf.

- *Places* identify the high-impact geographies where targeted investment yields the greatest ecological and community benefit.
- *Practices* put proven methods on the ground—on farms, in stream corridors, and in communities—to generate measurable ecological gains.
- *Partners* amplify impact by bringing together landowners, agencies, nonprofits, and community leaders across local, state, and regional levels.
- *Policy* creates the enabling environment for durable success, translating science and on-the-ground experience into effective local, state, and federal initiatives.

Together, these pillars form a coordinated approach that aligns people, resources, and policy to deliver lasting improvement to Pennsylvania's rivers, landscapes, and the communities that depend on them.

Emerging Pressures

Even as the IWR remains central to Pennsylvania's efforts, emerging challenges are stretching our capacity—and our understanding of the factors influencing the health of the Commonwealth's waters, the life they support, and the people who depend on them.

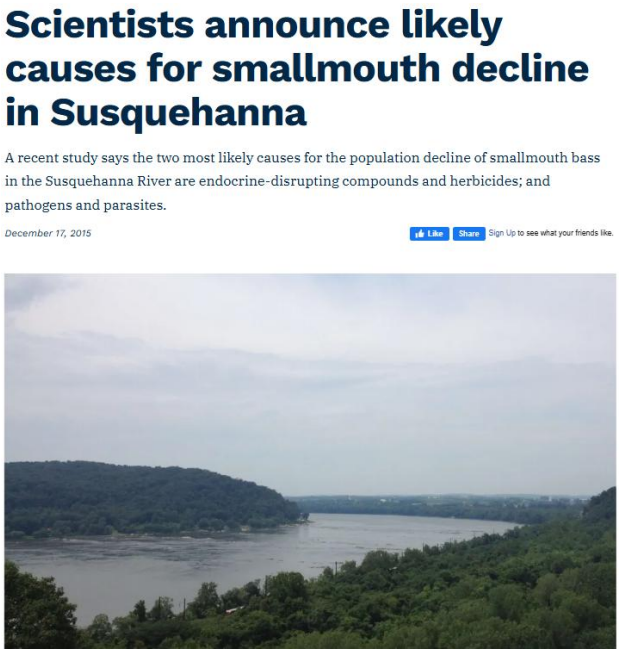


Figure 5. *Headline from Bassmaster summarizing research on endocrine-disrupting chemicals and disease in Susquehanna River smallmouth bass. 17 Dec 2015.*

Non-traditional pollutants

Ten of thousands of chemicals in use in the United States lack ecological safety data.[14] PFAS contamination is now documented across the state. Pharmaceuticals and personal-care products appear in streams upstream and downstream of major drinking-water intakes throughout the Commonwealth. They, along with other endocrine-disruption compounds causing and contributing to intersex characteristics in smallmouth bass populations in the lower Susquehanna River, underscore potential risks to both aquatic life and human health.[15,16,17]

[14] California Department of Toxic Substances Control. "Chemicals of Emerging Concern." dtsc.ca.gov, https://dtsc.ca.gov/emerging-chemicals-of-concern/.

[15] Chesapeake Bay Program. Intersex Fish Found in Three Pennsylvania River Basins. Chesapeake Bay Program, https://www.chesapeakebay.net/news/blog/intersex-fish-found-in-three-pennsylvania-river-basins

[16] Pennsylvania Fish & Boat Commission. Susquehanna River Smallmouth Bass Disease Investigation. PFBC, 2013, https://pfbc.pa.gov/images/reports/2013bio/gsSusqR_smb_2010.pdf.

[17] "Fishing for Answers: Study Analyzes Blotchy Bass Syndrome in Commonwealth and Its Cause." Williamsport Sun-Gazette, https://www.sungazette.com/news/outdoors/2025/01/fishing-for-answers-study-analyzes-blotchy-bass-syndrome-in-commonwealth-and-its-cause/

Thermal Pollution

Across Pennsylvania, our rivers and streams are warming at a pace that is alarming water-quality scientists and fisheries experts alike. Recent research shows that rivers nationwide—including those in Pennsylvania—are experiencing significant temperature increases, with a Penn State–led study finding that 87 percent of nearly 800 monitored rivers are warming.[18] These changes imperil cold-water species like brook trout and hellbenders and can mobilize pollutants already present in sediment, such as phosphorus.

Increasing Salinity

Road-salt use and urban development are raising chloride levels even in watersheds with limited development pressure[19,20]. Elevated salinity harms aquatic life, including Pennsylvania's state fish and amphibians—the eastern brook trout and eastern hellbender. It also mobilizes metals, degrades roads and bridges, and contaminates agricultural soils.[21,22] Research by the Stroud Water Research Center documents repeated exceedances of USEPA thresholds in Pennsylvania streams, while rural streams with minimal road-salt exposure maintain near-background chloride levels—underscoring the strong link between urbanization, impervious surfaces, and salt pollution.[23] These conditions harm sensitive aquatic life, including eastern brook trout and hellbenders, mobilize toxic pollutants, and undermine restoration investments, indicating an urgent need for improved road-salt management amongst public and private applicators.[24]

***Figure 6**. Excess Road Salt Application. New Cumberland, PA, 22 Jan. 2022 (CBF)*

Micro and Nanoplatics

Across Pennsylvania, microplastics—and even smaller nanoplastics—are now widespread in rivers, lakes, and streams, raising alarms among water-quality scientists and public-health experts. Recent studies have revealed the depth of the problem: statewide sampling detected microplastics in 100 percent of more than 50 waterways

---

[18] Penn State University. "Rivers Rapidly Warming, Losing Oxygen; Aquatic Life May Be at Risk, Study Finds." psu.edu, https://www.psu.edu/news/research/story/rivers-rapidly-warming-losing-oxygen-aquatic-life-may-be-risk-study-finds

[19] Rossi, Marissa L., et al. "Long-Term Impacts of Impervious Surface Cover Change and Roadway Salt." Environmental Monitoring and Assessment, 2022.

[20] "Land Development and Road Salt Usage Drive Long-Term Changes in Major-Ion Chemistry of Streamwater in Six Exurban and Suburban Watersheds, Southeastern Pennsylvania, 1999–2019." Frontiers in Environmental Science, 2023.

[21] U.S. Geological Survey. Road Salt Elevates Salinity above Background Levels in Freshwater Streams. USGS Chesapeake Bay Activities, 2024, https://www.usgs.gov/centers/chesapeake-bay-activities/science/road-salt-elevates-salinity-above-background-levels.

[22] Frontiers in Environmental Science. "Freshwater Salinization Syndrome Limits Management Efforts to Improve Water Quality." Frontiers in Environmental Science, 2023, https://www.frontiersin.org/articles/10.3389/fenvs.2023.1106581

[23] Stroud Water Research Center. Road Salt and Fresh Water. Stroud Water Research Center, 2024, https://stroudcenter.org/salt/

[24] Road Salt Pollution – Moving from Monitoring to Action." Penn State Extension, n.d. https://extension.psu.edu/road-salt-pollution-moving-from-monitoring-to-action

tested, including some of the Commonwealth's most iconic and highest-quality streams.[25] Additional research shows that microplastic contamination has increased steadily since the 1950s, mirroring global plastic production trends and accumulating in freshwater sediment across multiple Pennsylvania watersheds.[26]

These plastics pose risks to aquatic organisms through ingestion, chemical exposure, and physical harm.[27] As research advances, scientists warn that nanoplastics may represent an even greater challenge: too small to detect with standard monitoring tools, capable of crossing biological membranes, and potentially affecting not only aquatic ecosystems but human health as well.[28]

Resource Uncertainties

Unfortunately, major proposed cuts to EPA's FY 2026 budget could challenge the basic federal–state partnership that supports Pennsylvania's core monitoring functions. Reductions to programmatic grants and could slow chemical sampling, biological surveys, impairment evaluations, and the updating of the IWR itself.[29,30,31]

At a time when emerging contaminants and new technologies demand more data—not less—Pennsylvania's monitoring program faces the prospect of doing more with significantly fewer resources. Without reliable federal support, the Commonwealth risks making decisions based on incomplete or outdated information.

An Integrated Approach

The Clean Water Act's vision—restoring and maintaining the chemical, physical, and biological integrity of our waters—remains as urgent today as in 1972. Achieving it requires a strategic, integrated, watershed-based approach anchored in the IWR's data.

Figure 7*. Forest Riparian Buffer, Pre-Post Planting period of 12 years. (CBF)*

[25] PennEnvironment Research & Policy Center. Microplastics in Pennsylvania. Environment America, https://environmentamerica.org/pennsylvania/center/resources/microplastics-in-pennsylvania/.
[26] Hess, Karl. "Microplastics Lurk in Freshwater Environments across Pennsylvania." Pennsylvania Capital-Star, https://penncapital-star.com/energy-environment/microplastics-lurk-in-freshwater-environments-across-pennsylvania/.
[27] Liu, Jian, and Changchao Li. "Impact of Microplastics on Aquatic Ecosystems." Water, vol. 17, no. 14, 2025, p. 2124. https://doi.org/10.3390/w17142124.
[28] Isaac Carachilo, Colby Starr, Rachel Foster, Monica M. Arienzo & Christopher J. Grant (2025) "Quantifying and classifying microplastics and microparticles across aquatic heterotrophs from headwater streams in central Pennsylvania", Journal of Freshwater Ecology, 40:1, 2579096, DOI: 10.1080/02705060.2025.257909.
[29] Holland & Knight LLP. "EPA Proposes Significant Budget Reduction for Fiscal Year 2026." Holland & Knight, 2025, https://www.hklaw.com/en/insights/publications/2025/06/epa-proposes-significant-budget-reduction-for-fiscal-year-2026.
[30] "FY 2026 Proposed EPA Budget Includes Deep Cuts to Enforcement and State Grants." EHS Leaders, 2025, https://ehsleaders.org/2025/07/fy-2026-proposed-epa-budget-includes-deep-cuts-to-enforcement-and-state-grants/.
[31] Environmental Defense Fund. "New Analyses: Clean Air and Water Funding Faces Severe Cuts and Total …" EDF Action, https://www.edfaction.org/news-resources/new-analyses-epa-budget/.

By understanding the health of our local rivers and streams and applying tools and technologies to identify where pollutants originate and pairing that information with precision conservation—riparian forested buffers, wetlands, reforestation, abandoned mine drainage treatment, agricultural conservation through programs like ACAP—we can dramatically improve stream health while maximizing the return on public investment.

A comprehensive approach that emphasizes "ecological uplift"[32] through nature-based solutions offer physical filtration, biological processing, habitat resilience, and cost-effective long-term performance. When paired with robust and purposeful monitoring, they deliver the clearest proof of progress: cleaner water, healthier streams, and revitalized communities.

Conclusion

Pennsylvania's IWR has evolved far beyond a diagnostic tool—it has become a true roadmap for renewal. It illuminates where our streams are strained, where they are thriving, and the forces shaping both. That insight is the compass guiding state, federal, and private investments to the places where they can deliver the most immediate benefits and the strongest long-term gains. And when monitoring, science, and community action move together, ecological recovery is no longer hypothetical—it's within reach.

If we continue to listen to the science, care for our watersheds, and champion the restoration strategies we know deliver results, Pennsylvania's rivers and streams will rise again—renewed, resilient, and life-giving. They can become an enduring gift to every Pennsylvanian today and to all who will follow.

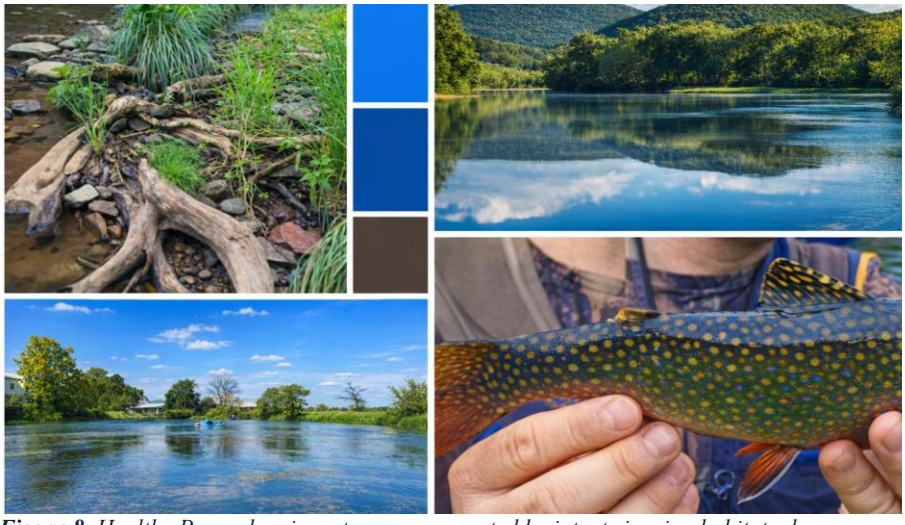


***Figure 8**. Healthy Pennsylvania waterways supported by intact riparian habitat, clean flowing rivers, and robust native fish populations—highlighting the ecological benefits of protected and well-managed stream systems.*

[32] Ecological uplift refers to the measurable improvements in ecosystem function, habitat quality, and biodiversity that result from intentional restoration activities. Definition adapted from EnviroScience, Inc. "Ecological Uplift: Coldwater Stream & Habitat Restoration." EnviroScience, https://www.enviroscienceinc.com/ecological-uplift-coldwater-stream-habitat-restoration/.

Written Testimony

Julie Wheeler
President Commissioner
York County Board of Commissioners

Presented to:

Pennsylvania House Environmental Resources & Natural Protection Committee
Public Hearing on Stream Impairment in Pennsylvania

Monday, February 9, 2026

Good morning. Thank you, Chairman Vitali and Chairman Rader, and honorable members of the House Environmental Resource and Natural Protection Committee members of the committee, for inviting me to speak to you today on the important topic of water quality protection here in Pennsylvania.

My name is Julie Wheeler, and I serve as President Commissioner on the York County Board of Commissioners. Today, I wanted to share York County's story regarding our first-of-its-kind Water Quality Monitoring Program.

This initiative is the result of an incredible amount of hard work, dedication and partnership between York County, the York County Planning Commission, the United States Geological Survey, the Susquehanna River Basin Commission, the York County Farm Bureau, the York County Conservation District and many other stakeholders.

We started this work after the Pennsylvania Department of Environmental Protection reported that York County was the second-highest contributor of nitrogen, phosphorus, and sediment to the Susquehanna River and Chesapeake Bay.

To be honest, we were surprised by the DEP's reporting, and we wanted to see the data behind it. Having spent some 30-plus years in leadership roles in the healthcare technology sector, I believe data is essential to making informed decisions.

When we inquired with DEP regarding the data behind their reporting, we learned the results were developed using computer-based modeling. There was no real-time data from the source to back up the reporting from the state.

We decided computer modeling wasn't good enough. We needed to know the truth about our waterways, backed up by hard data. So, in 2020 we partnered with the United States Geological Survey to begin what is now a ten-year program to understand what's really happening with York County's waterways.

We are the first county in Pennsylvania and – in fact –the entire nation to undertake this kind of innovative water quality monitoring initiative.

Through this innovative partnership, we have been able to capture accurate data from six state-of-the-art water quality monitoring stations along the county's eastern boundary.

The monitoring stations capture data from Fishing Creek at Goldsboro and Craley, the Conewago Creek, Codorus Creek, Kreutz Creek and Muddy Creek. The stations capture data round-the-clock and year-round, providing an accurate real-time and long-term picture of the water quality at each station.

The water quality monitors provide a density of data which provides greater accuracy in water quality measurement. The data is gathered in real time, every 15 minutes, 24 hours day, every day. This is much more rigorous compared to computer modeling for water quality, which is based on a gross level of data that covers every area, but in turn sacrifices accuracy.

The water quality monitoring program York County is conducting provides greater efficiency in collecting the data and greater accuracy in the results.

Today, I am pleased to share that York County's waterways are significantly cleaner than what had originally been reported by the state. In fact, in some cases, the data released by the Pennsylvania Department of Environmental Protection overstated our pollutant levels by exponentially greater levels than what we now know are the accurate levels from our monitoring stations.

Our partnership with the USGS is now just beyond its halfway point – providing critical real-time data that can now be used to help measure the county's ongoing progress at reducing pollutants into the waterways. And perhaps more importantly, we can now use this data to develop targeted solutions in those areas of our watershed that have been identified to have higher pollutant levels.

York Countians pride ourselves on being responsible stewards of our precious land and waterways. That is why we have partnered with the USGS to develop this program. Because thoughtful, effective decision-making requires us to have accurate information.

Armed with better data, we can make better decisions for the benefit of the people of York County. And that's what we have through this initiative. In York County, we are data-driven and solution-focused. Our waterways are a precious resource, and we all have a shared responsibility to keep them clean.

I will end with a note that we have had positive discussions with our colleagues at DEP regarding our program and have offered to share how we've developed the program with other counties.

Our goal is to work together with all stakeholders – local and state government, the farming community, the business community, and local residents – to develop targeted and effective solutions that will help improve our overall quality of life in York County and across the Commonwealth of Pennsylvania.

As our Water Quality Monitoring Program shows, collaboration and innovation are the keys to success.

Thank you.

Three Rivers Waterkeeper
800 Vinial Street, Suite B314
Pittsburgh, PA 15212
www.3RWK.org

February 9, 2026

RE: Comments on the Draft 2026 Pennsylvania Integrated Water Quality Report

Dear Honorable Chairman Vitali and Honorable members of the House Environmental & Natural Resources Protection Committee,

My name is Dr. Heather Hulton VanTassel, and I am the Executive Director of Three Rivers Waterkeeper. I appreciate the opportunity to provide my oral comment on the 2026 Pennsylvania Integrated Water Quality Report on behalf of Three Rivers Waterkeeper. Three Rivers Waterkeeper was founded in 2009 and has a mission to protect the water quality of Allegheny, Monongahela, and Ohio Rivers and their tributaries in Southwestern PA. These waterways are critical to the health, vitality, and economic prosperity of our region and communities. We are both a scientific and legal advocate for the community, working to ensure that our three rivers are protected and that our waters are safe to drink, fish, swim, and enjoy.

Three Rivers Waterkeeper first recognizes several improvements and strengths reflected in the report since 2024. The report expanded assessment coverage, continued investment in public-facing tools, included the Environmental Justice screening tool, and recognized climate change and extreme heat as cross-cutting stressors affecting water quality conditions statewide. For that, we recognize the DEP's continued efforts.

Nevertheless, there continues to be an increase in the number of waterways being classified as impaired from the 2024 report. Between the 2024 and 2026 reports, 2,845 miles of streams previously not assessed are now classified as impaired, and 852 miles previously listed as "supporting" are now reclassified as "impaired".

Sediment and siltation remain among the most pervasive causes of impairment across Pennsylvania watersheds, particularly in Southwestern Pennsylvania. While the Integrated Report acknowledges sediment as a leading pollutant, it does not adequately assess whether existing erosion and sediment control practices are reversing impairment trends at a watershed scale or are not adequately protecting our waterways. Many streams in our region are listed as impaired due to siltation or sediment-related causes, while others suffer from sediment as a compounding stressor even when not identified as the primary cause. Without explicit trend analysis or adaptive management requirements tied to documented outcomes, reliance on existing practices risks perpetuating impairment rather than resolving it. Three Rivers Waterkeeper reiterates that erosion and sediment control policy and restoration strategies must be informed by documented impairment trends and demonstrated results, not assumptions of effectiveness, which is an issue we have raised in prior DEP rulemakings and policy reviews.

THREE RIVERS WATERKEEPER®

Three Rivers Waterkeeper
800 Vinial Street, Suite B314
Pittsburgh, PA 15212
www.3RWK.org

We also remain concerned by the persistent number of waters classified as Category 3 due to insufficient data. While the Report appropriately highlights data solicitation efforts and data acceptance protocols, ongoing limitations in monitoring capacity continue to delay both protective actions and timely restoration planning. Prolonged data gaps can leave waters vulnerable to continued degradation while postponing regulatory responses that would otherwise be triggered by impairment determinations.

In regions such as Southwestern Pennsylvania, where legacy industrial pollution, abandoned mine drainage, and ongoing development pressures intersect, these data gaps disproportionately affect communities already experiencing cumulative environmental burdens. To address these concerns, DEP should prioritize targeted monitoring in high-risk and environmental justice communities, and establish clear timelines for reassessing waters that have remained in Category 3 for extended periods. Strengthening these components could improve the responsiveness and effectiveness of the Integrated Reporting process.

Emerging contaminants not addressed in this report are also a major concern. While DEP acknowledges emerging contaminants in Pennsylvania's waters, we are concerned that the report does not substantively assess available data related forever chemicals often referred to as PFAS chemicals in surface waters, sediments, or fish tissue, nor does it evaluate whether documented PFAS contamination interferes with designated uses under Pennsylvania's water quality standards. This omission undermines theReport's core function under Clean Water Act Sections 305(b)[1] and 303(d)[2], which require a comprehensive assessment of whether waters support their designated uses and identification of waters where technology-based controls are insufficient to meet water quality standards.

The continued classification of waters with known or suspected PFAS contamination as unassessed or data-limited risks delaying necessary protective actions. Where PFAS monitoring data indicate persistent contamination or the potential for bioaccumulation, the Integrated Report should trigger targeted follow-up monitoring, including fish tissue and sediment sampling, rather than deferring assessment indefinitely. Prolonged data gaps in this context may obscure designated-use impairments and postpone regulatory responses that would otherwise be required under the Clean Water Act.

Accordingly, Three Rivers Waterkeeper urges DEP to explicitly evaluate available PFAS data in the Integrated Report; assess PFAS impacts using narrative water quality criteria and designated-use analyses; initiate targeted monitoring of fish tissue and sediments where surface water PFAS detections occur; and clearly articulate how PFAS contamination will be addressed within impairment listing decisions, restoration prioritization, and TMDL development frameworks.

Another area of improvement is regarding environmental justice communities and related impacts. In the report, Environmental Justice considerations remain largely descriptive rather than operational within the current framework. Both the federal Clean Water Act and Pennsylvania's Clean Streams Law establish a clear obligation to protect and restore water quality in a manner that safeguards public health, ecological

[1] CWA 305(b).
[2] CWA 303(d).

Three Rivers Waterkeeper
800 Vinial Street, Suite B314
Pittsburgh, PA 15212
www.3RWK.org

integrity, and designated uses for all communities. Impairment listings, restoration prioritization, and delisting decisions should therefore more explicitly account for cumulative impacts, particularly where communities face overlapping burdens from water pollution, legacy contamination, and climate-driven stressors.

We encourage DEP to more directly integrate Environmental Justice screening tools into core decision-making processes. This may include the identification of restoration priority watersheds, the selection of waters for Category 5r designation, and the allocation of restoration funding and technical assistance. Such actions are to ensure that implementation of the Integrated Report advances both water quality objectives and the statutory intent of the Clean Water Act[3] and the Clean Streams Law[4].

Three Rivers Waterkeeper supports the continued evolution of Pennsylvania's Integrated Water Quality Report and recognizes the substantial effort required to produce it. At the same time, our recommendations outlined throughout my testimony require significant investment in resources for the DEP to adequately assess our water quality across the state and address the impairments through restoration, remediation and policy change. We ask that this effort is seen as a major resource and tool that can be used to improve our waterways rather. Thus, this requires an increase in the department's resources to improve the integrative assessments, fill in the gaps of the analysis, and work towards meaningful change through remedication and systemic change.

Thank you for your time and consideration.

Sincerely,

Heather Hulton VanTassel, PhD
Executive Director, Three Rivers Waterkeeper
Heather@threeriverswaterkeeper.org

[3] Clean Water Act Sections 303(d) and 305(b): (33 U.S.C. §§ 1313(d), 1315(b)).
[4] Pennsylvania Clean Streams Law (35 P.S. §§ 691.1–691.1001).

Eastern PA Coalition for Abandoned Mine Reclamation

Robert "Bobby" E. Hughes
EPCAMR Executive Director
101 South Main Street
Ashley, PA 18706
Phone: (570) 371-3523
rhughes@epcamr.org
Website: www.epcamr.org

January 27, 2026

House Environmental & Natural Resource Protection Committee
Hearing-Stream Impairment in PA
Testimony provided by the Eastern PA Coalition for Abandoned Mine Reclamation (EPCAMR)

Dear Honorable Chairman Vitali and Honorable members of the House Environmental & Natural Resources Protection Committee,

My name is Bobby Hughes, and I serve as the Executive Director of the Eastern PA Coalition for Abandoned Mine Reclamation (EPCAMR), a nearly 30 year old, regional non-profit environmental organization located in Ashley, PA, dedicated to the reclamation of abandoned mine lands, restoration of watersheds impacted by abandoned mine drainage (AMD), and economic redevelopment of abandoned mine lands impacted by past mining practices throughout the Anthracite and Bituminous Coal Fields of Northeastern and Northcentral PA. We work across dozens of watersheds that are impacted by legacy abandoned mines in both the Chesapeake and Delaware watersheds on a variety of projects, programs, events, and educational opportunities in the coalfield communities across our region to restore lands, waterways, and watersheds impacted by past mining practices with our Coalition partners.

Our mission is to advocate for the reclamation of these abandoned mine lands, improve water quality from the polluted abandoned mines, revitalize the often underserved coalfield communities through restoration projects, environmental education and outreach, community environmental action and cleanup projects, watershed monitoring, and abatement and stream, habitat, and wildlife improvement projects with a myriad of partners from local municipal governments, regional non-profits, coal companies, utilities, local businesses, conservation organizations, academic and high school/colleges, schools, and private industries.

PA Abandoned Mine Land Campaign Joint Letter Recommendations

EPCAMR has signed on to a joint comment letter with the Pennsylvania Abandoned Mine Land Campaign, chaired by Andy McAllister-of the Western PA Coalition for Abandoned Mine Reclamation (WPCAMR), to the PA Department of Environmental Protection on the Draft 2026 Pennsylvania Integrated Water Quality Monitoring and Assessment Report (Integrated Report) prepared by the Pennsylvania Department of Environmental Protection (DEP).

Together, our organizations represent a broad coalition working to restore waters degraded by abandoned mine drainage (AMD) and to support communities across 43 countries in PA's coalfield regions. We've also co-coordinated 27 annual conferences on abandoned mine reclamation in PA. (www.treatminewater.com)

The 2026 Integrated Report provides a strong, data-driven framework for identifying impaired waters and tracking progress toward Clean Water Act goals. We commend PA DEP's continued leadership on biological, chemical, and habitat assessments and the expansion of transparency around impairment causes. We also applaud the development of the interactive Integrated Report Viewer, which improves public access to assessment results and helps stakeholders better understand the 303(d) and 305(b) programs.

AMD remains one of Pennsylvania's most pervasive and persistent sources of impairment. As outlined in the report, AMD remains the second largest known impairment, preventing nearly 6,000 stream miles from attaining their designated use. The 2026 Report lists 5,663 miles of AMD impaired streams. Many AMD impaired streams have known sources and proven remedies, yet they remain on the non-attainment list year after year without a clear pathway toward restoration.

It would be really helpful to show a summary of AMD in the report, being that it has been the second-largest source of water pollution in PA.

For example, from 2024 to 2026:

- 16.7 miles were reclassified as Supporting Use. (Uses include Aquatic Life & Special Protection.)
- 72 miles were reclassified as Impaired. (Combined previously supported, use not previously assessed, and reassessed as impaired. Uses include Potable Water, Aquatic Life, & Special Protection.)
- That's a net gain of 55.3 Impaired stream miles.

It just supports the need for an AMD Summary Subsection in the Report.

- 402.5 stream miles restored from AMD impairment since 2003. That's a great number to highlight. (*See the Exhibit A- PA DEP 2026 Restored Streams Excel File in the 2026 Report to the Restored Streams spreadsheet with records since 2003*).

The 2026 Integrated Report demonstrates that AMD remediation currently provides the clearest, fastest pathway to water quality attainment. With unprecedented IIJA AML resources available, known pollutant sources, and proven engineering solutions, AMD projects consistently translate into biological recovery.

The Blacklick watershed is a prime example of a stream's biological recovery after an AMD active treatment system came online. (See Blacklick Creek Watershed Association's website) By contrast, sediment impairments are driven by diffuse agricultural sources and have shown limited status change despite rigorous investment.

A balanced strategy that increases attention to AMD solutions and investments will deliver measurable, watershed-scale results quickly. It is imperative that PA DEP add AMD impacted watersheds to its priority watersheds. Given the level of assessment, planning and active public engagement, many AMD

impacted watersheds would classify for the 5r classification. Yet, NONE of the 2024 Restoration Priority Watersheds are impaired by AMD.

Here are our recommendations to rapidly improve significant stream miles from impairment by addressing AMD:

Prioritize AMD TMDL Restoration

- DEP must prioritize TMDL development and implementation for AMD-impacted watersheds where restoration feasibility is high and where complementary funding is available. Many AMD-impaired streams have well-understood pollutant sources and proven treatment solutions, making them excellent candidates for accelerated attainment.

- Despite improvements in assessment and data availability, AMD-impacted waters persist on the Integrated Report's impaired waters list year after year. The Integrated Report should more explicitly operationalize TMDL development and implementation as a restoration roadmap. The "Restoration Priorities" section of the report and mapping tools can and should be used to identify and elevate watersheds where AMD TMDLs are needed and restoration feasibility is high.

We encourage DEP to:

- Elevate AMD-impacted watersheds for expedited TMDL development and implementation; Given the level of assessment, planning and active public engagement, many AMD impacted watersheds would classify for the 5r classification. Yet, NONE of the 2024 Restoration Priority Watersheds are impaired by AMD.

- Use the Integrated Report to identify clusters of AMD impairments that can be restored strategically rather than project-by-project.

- Use the Integrated Report to rank AMD waters based on restoration feasibility, ecological benefit, and community impact. This strategy helps nonprofits, conservation organizations, county and state agencies to collaborate and move projects forward more quickly.

- Ensure TMDLs move beyond analysis and into a coordinated and well-communicated strategy that is funded. IIJA funds can be used for assessment, planning, development and construction.

- Encourage Bureaus within PA DEP to collaborate and set comprehensive strategy together -- and in partnership with the nonprofits, local governments, and conservation districts leading AMD restoration at the community scale.

- Include an infographic in the "Rising to the Challenge" section featuring AMD impacted streams and where restoration efforts are occurring.

- Update AMD progress in the "Measuring Progress" section, including updated list of all projects funded and load reductions. Currently, only Growing Greener, County Action Plans, and EPA 319 funds are listed, but not any PA DEP BAMR AMD AML grants.

When expedited AMD TMDLs are paired with funding and partners, they become powerful tools for stream recovery, rather than static regulatory documents and data tables.

Leverage IIJA and AML Funding

The Infrastructure Investment and Jobs Act (IIJA) has dramatically expanded funding for Abandoned Mine Land (AML) reclamation, creating a once-in-a-generation opportunity to pair land reclamation with water quality restoration. Federal AML funding has already begun to flow into Pennsylvania, with significant allocations aimed at reclaiming legacy coalfield pollution and stimulating economic activity in impacted regions.

To fully realize these benefits, we urge DEP to:

- Intentionally coordinate within DEP and across agencies (PA DCNR, PA DEP BAMR, PA F& BC) for AML project planning with water quality goals articulated in the Integrated Report. Projects that address both land and water impacts simultaneously offer amplified benefits for stream health and local economies.

- Incorporate considerations of recreational access and economic outcomes into project selection and evaluation prioritization, particularly where improved water quality can support fisheries, boating, trail development, and tourism.

- Track water quality outcomes from AML investments and incorporate these into Integrated Report progress metrics so that return on investment can be demonstrated across multiple state and federal program goals.

- Provide adequate water quality monitoring funding to NGOs and local governments for monitoring water quality improvements and track water quality outcomes from AML investments. Pressure transducers, flow meters, photometers, field testing kits and funding for lab monitoring are all necessary supplies to obtain new, current, relevant water quality and quantity data sets to help establish a baseline for measuring environmental results when loading calculations are made.

- Defend the IIJA funds. Recent Congressional bills have stripped PA DEP of 6.7% of their annual IIJA allocation for AML remediation. Data and mapping on where projects are planned and being implemented, along with their significant water quality improvements, would help defend the funds from being raided in the future and tell the story as to WHY these funds are essential.

- Identify and map AMD-impaired watersheds where AML construction projects are being built, planned or are needed -- showing where attainment will be possible over the next 14 years of remaining IIJA funding.

The PA AML Campaign advocated for many years to bring these much-needed funds to Pennsylvania. Without the State stepping up to defend these funds, we're concerned Congress will continue to raid funds promised for Pennsylvania.

By intentionally aligning IIJA AML funds with AMD TMDL goals, Pennsylvania can move toward measurable stream recovery and delisting quickly. We have 14 years remaining of IIJA AML funds. DEP must double down on strategy to best utilize resources while they are available. Watersheds once thought 'too complicated to fix' or 'too polluted to fix' now have a chance at attaining their designated use. It's truly a watershed moment for the coalfield communities in Pennsylvania. DEP MUST prioritize investments in AMD remediation.

Set a Clear AMD Restoration Strategy

The PA AML Campaign recommends the following strategies to strengthen AMD restoration outcomes through the Integrated Report process in partnership with DEP Bureau of Abandoned Mine Reclamation (BAMR):

- Implement watershed-scale restoration and mapping integrating passive and active treatment systems that are in planning, design, and construction.

- Strengthen coordination with watershed associations, nonprofits, municipal governments, and conservation districts to ensure long-term operation and maintenance of infrastructure, but also to assist with monitoring and evaluation needs as AMD projects come online.

- Better link impairment sources to restoration actions in the Integrated Report viewer, including anticipated TMDLs and areas of focus for future AMD projects and restoration plans. PA DEP BAMR recently presented where many of its IIJA investments are located.

- Highlight case studies where AMD cleanup has supported recreation and economic recovery in coalfield communities, also showing how quickly a stream can recover and meet attainment when treatment systems come online.

- Expand and expedite use of watershed-scale implementation plans tied to the Integrated Report's impairment data in AMD impaired waters. Prioritize watersheds where passive and active treatment systems can restore biological integrity quickly.

- Incorporate AMD implementation projects into Practice Keeper.

- Invest in project development capacity at the nonprofit and local government level so engineering and design keep pace with available construction funding.

- Highlight case studies where restoration has supported recreation and economic returns, reinforcing the value proposition of water quality investments in Coalfield Communities to decision-makers and the public.

- Prioritize AMD abatement in watersheds where it is feasible to prevent clean water from entering mine pools and where floodplain reestablishment (and other sediment reduction strategies) would help accomplish Bay Agreement goals.

- Encourage partnerships between DEP, nonprofits, watershed associations, conservation districts, and local governments to accelerate implementation.

The PA AML Campaign views the 2026 Integrated Report as not only an assessment document, but also a strategic restoration tool. With targeted AMD TMDL prioritization and coordinated use of IIJA AML funds, Pennsylvania can make significant, measurable strides toward water quality attainment. From a performance standpoint, AMD restoration produces clearer, faster, and more defensible Clean Water Act success per dollar invested. With unprecedented resources, proven solutions, and ready partners, now is the time for Pennsylvania to double down on AMD restoration.

Funding and Support for our PA Abandoned Mine Reclamation Community Partners

Some recommendations as to how to reduce the percentage of stream miles impaired are to:

- Continue to support all the state funding sources we need for implementation (ESF, ACAP, CAP, etc.) and not take from them

- Advocate and strongly encourage our federal government to keep the federal funds flowing (BIL, NFWF, EPA, Section 319, Farm Bill, etc.)

- Increase funding for Conservation District staff (Watershed Specialists, Ag Techs, Erosion & Sediment Control Techs, AMD Watershed Outreach Specialists, Regional Community Watershed Organizations, Non-Profit Governmental Organizations, and State-wide Technical Assistance Providers since they are the organizations leading local conservation and know their county needs explicitly and are the foundations of the local partnerships that are developed to successfully assess, plan, recommend, design, permit, and construct on the ground projects

- Maintain or better yet, increase funding for PA DEP to help the funding programs run more smoothly with ample organizational capacity

- Maintain permitting rules for active construction projects, not weaken them, in a desire to speed up the completion of them since they are in place for a reason to try to prevent further degradation

PA streams & rivers have been polluted with AMD for many decades. Some for more than 100 years. Additional AMD pollution stopped/significantly slowed in the late 1960's with the amendment of the Clean Streams Law and PA Surface Mining Control and Reclamation Act of 1977 that required coal companies to treat the AMD they create. Angling revenue has been adversely impacted this entire time.

Recreational Revenue Loss Value Needs Updating

Using the PA Fish & Boat Commission's Annual Angler Revenue Loss due to AMD, one can put a number on the adverse financial impacts of AMD. If one would start with 1970 through today, we would have 55 years of such loss. One could multiply the Pa Fish & Boat Commission Lost Angler Revenue numbers by 55. We do not have the current PA Fish & Boat Commission Angler Use Survey Data, however. AMD and abandoned mine lands have caused billions of dollars of lost revenue in coal country and beyond. We urge the House Environmental & Natural Resource Protection Committee to request that the PA Fish & Boat Commission update these numbers for current inflation since the last report to the State-wide Water Resources Committee was in July 2021 with data from 2018 and for the PA DEP to utilize them to show recreational value loss since a number of the streams are on public PA Game Commission State Game Lands and PA Department of Conservation and Natural Resources Public Forestry and State Park lands. (*See Exhibit B- PA Fish & Boat Commission Aquatic Resource Impacts Due to Legacy LandPAFBCJuly2021 PowerPoint*).

The 2020 PA DEP Integrated Water Quality Report [303 (d) List,] (miles of impaired streams, along with the 25 PA Code § 93.9 (designated projected water quality use), and the PA Fish & Boat Commission Angler Survey and Use data provided us with the Estimated Use Loss Recreational Value. Two different approaches were taken to come up with the estimates of recreational loss use value (all impaired streams in a watershed [$19 M ($16 M - $23 M)] and only the named streams in a watershed [$29 M ($24 M - $35 M)]. Projected uses were either Trout Stocked Fisheries (TSF), Wild Trout (WT-Cold Water Fishery), and Warm Water Fishery (WWF). Although all Wild Trout streams are considered Coldwater Fisheries, not all Coldwater Fisheries are Wild Trout streams. Wild Trout streams often have additional classifications [e.g., High Quality (HQ) or Exceptional Value (EV)], due to their self-sustaining populations. The pollutants listed are a combination of pH, metals, sulfates, and Total Dissolved Solids (TDS). (*See Exhibit C- PA Fish & Boat Commission Excel File of Recreational Use Loss Values, 2018; Exhibit D- PA Fish & Boat Commission Excel File of Recreational Use Loss, 2018; and Exhibit E- 2018 PA Fish & Boat Commission Excel File of Integrated List Non-Attaining AMD Impaired Recreational Use Loss Values Master 5.6.19*).

The attainment of the streams that are eventually removed still need to be managed in some way. For AMD, it is through the establishment of a trust fund for long-term operation and maintenance. Watershed management goals would lead to an understanding that periodic funding is still needed in these legacy mining-impacted watersheds to ensure the restoration gains remain in-place.

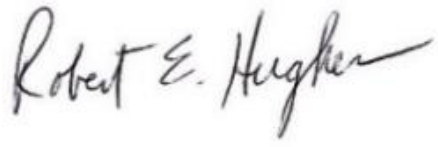
Abandoned coal communities have been and continue to be devastated by AML and AMD. We are perplexed why our PA leadership would allow for nearly $169 Million dollars be repurposed to the western US instead of remaining here in Appalachia states and Northern Appalachia where PA coalfield communities are immersed in and surrounded by these legacy land and water legacies that perpetuate the loss of billions of dollars?

The Abandoned Mine Land (AML) fee created by Congress in 1977 has been cut by 40% by Congress. These cuts benefit coal companies and corporate officers at the expense of the people of coal country in these impacted communities across the Commonwealth. Restoration of land and water slowed. Jobs in our abandoned coal communities were again lost. Hope was restored when Congress passed the Infrastructure Investment and Jobs Act in 2021, that would create jobs for the next 20 years to restore abandoned mine land to productive use and to restore our streams and rivers.

15 years ago, the leadership at that time revived the Deficit Reduction Act. That law required federal funds to be reduced by several percent each year, ostensibly to reduce the federal deficit. Sequestration was what it was called. Many millions of AML funds were withheld from the states and Tribes, including PA. What is ironic is that the withholding of these AML fee funds did not reduce the deficit, but increased it. Had these AML fee funds not been withheld, they would have created jobs and income taxes that could have lowered federal deficit spending and cleaned up many more miles of streams and lands that are still in need of reclamation.

Thank you for the opportunity to provide comments at this important hearing.

Respectfully submitted,



Robert “Bobby” E. Hughes-EPCAMR Executive Director