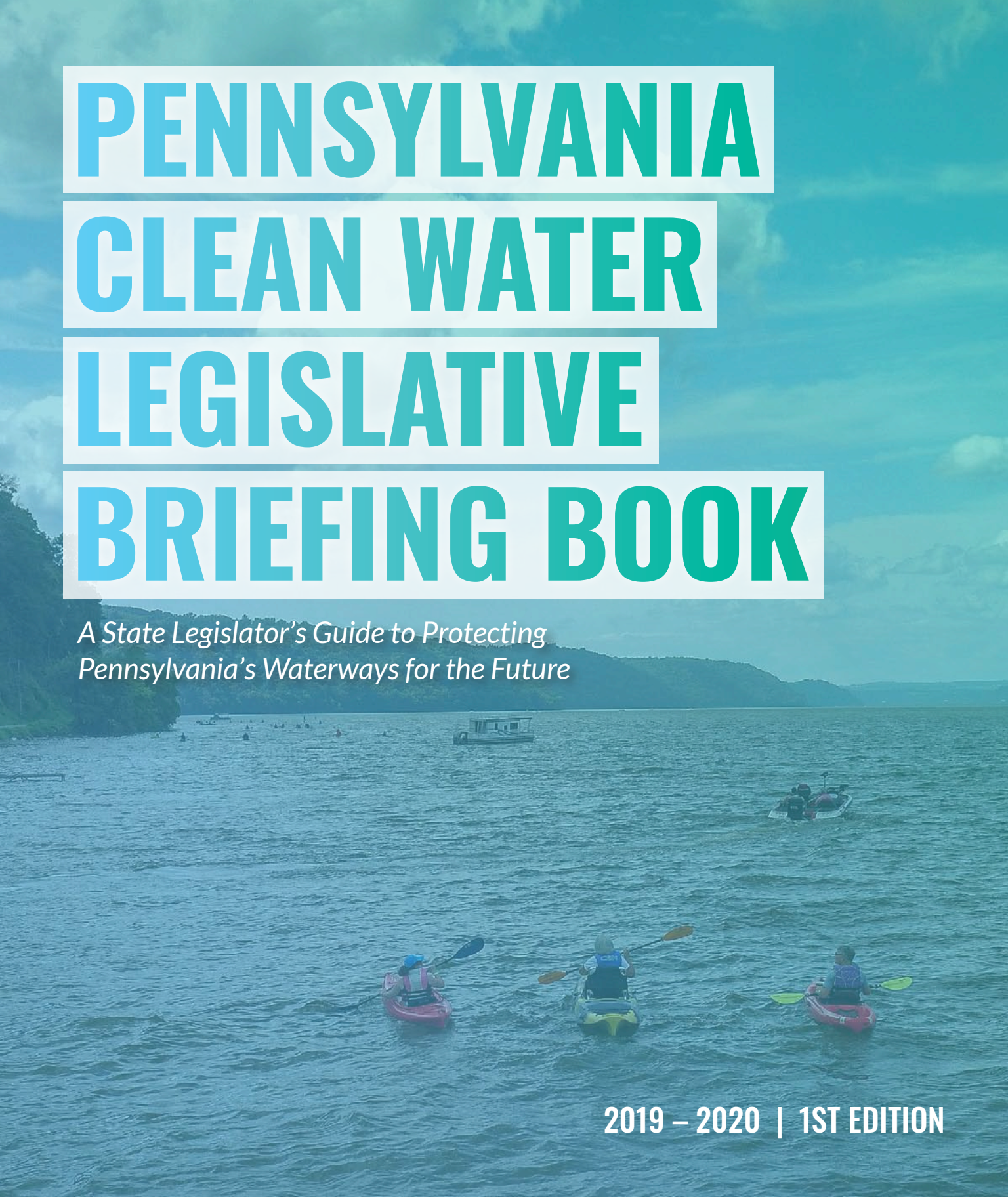

PENNSYLVANIA CLEAN WATER LEGISLATIVE BRIEFING BOOK

A State Legislator's Guide to Protecting Pennsylvania's Waterways for the Future

2019 – 2020 | 1ST EDITION

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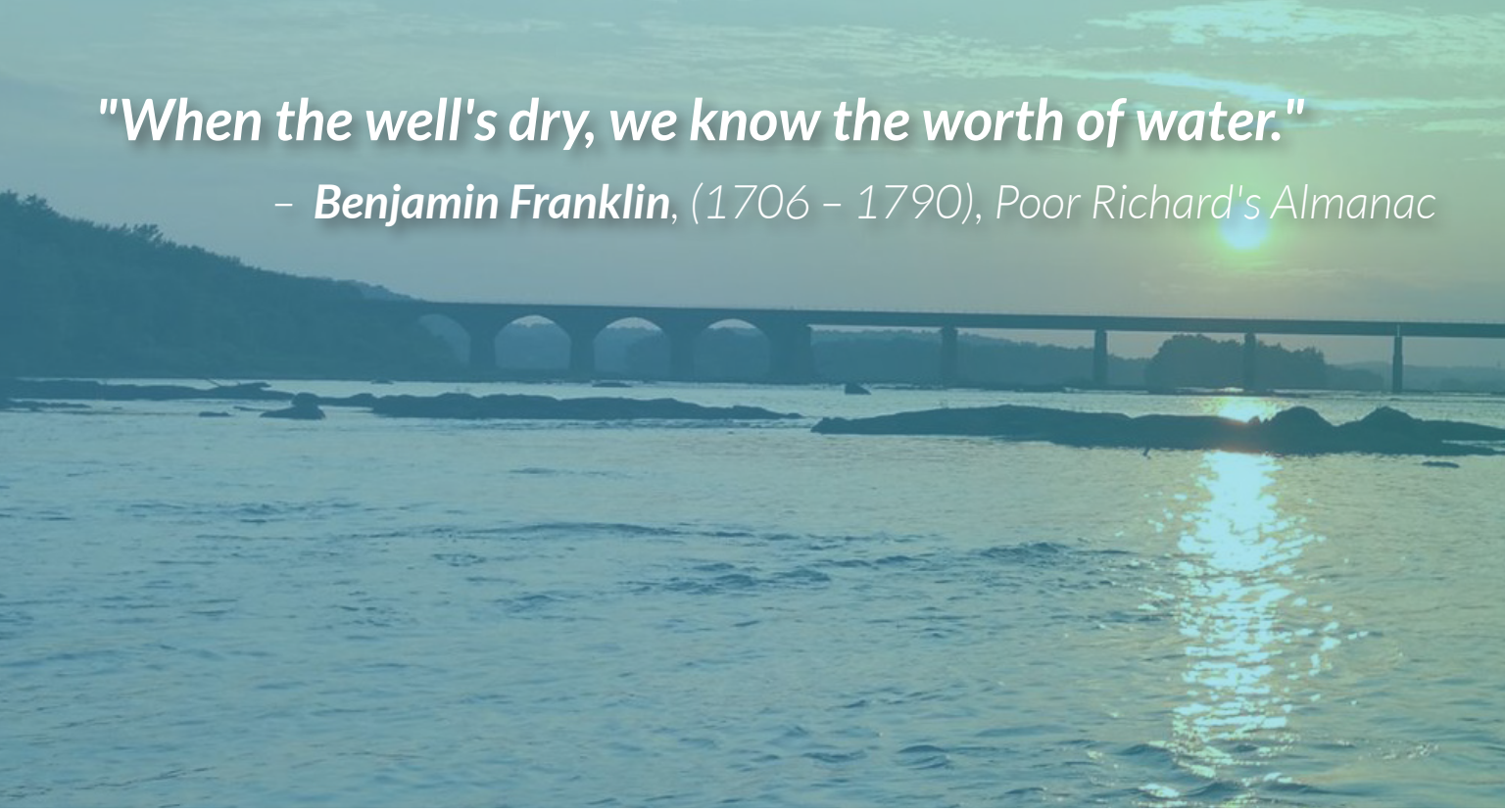
Front Cover Photo: Chesapeake Bay Foundation



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ABOUT

From the Delaware Water Gap's inspiring waterfalls to the Youghiogheny River's roaring rapids and the peaceful spring creeks feeding the Susquehanna, waterways touch the lives of every Pennsylvanian. These rivers, creeks, lakes, and wetlands serve as places of respite and recreation, sources of the water we drink, and historic settings for many of the nation's most iconic stories.

The state legislature plays an important role in protecting these critical water resources through the funding of the state resource agencies charged with their protection and passing and enhancing laws that help to steward them. This first edition of the Clean Water Legislative Briefing Book presents important information about the opportunities and threats facing Pennsylvania waterways, as well as explanations of bedrock clean water laws and the state's major watersheds. These issues are laid out in detail and with instructive guidance on legislative solutions.

Recent polling shows that most Pennsylvanians, whether from urban, suburban, or rural communities, support increased state investments in restoring and protecting rivers and streams.[1] Enacting the policy recommendations in this book will advance sustainable solutions to Pennsylvania's water challenges, maintain the integrity of the Commonwealth's natural systems, and promote public health while addressing the needs of municipalities, industry, agriculture, and business. By drafting

Photo: Chesapeake Bay Foundation

legislation to support these policy recommendations, legislators commit to upholding the desires and needs of their constituents, which are inextricably linked to the health of their waterways.

While Pennsylvania has the highest density of stream miles per acre out of any state in the continental United States, a quarter of those stream miles are listed as impaired and unsafe for their intended use. These intended uses range from drinking water supplies to recreation and sustenance fishing. Despite these challenges, the 86,000 miles of waterways that transect communities throughout the Commonwealth return billions of dollars in economic value to small businesses, agriculture, and the recreation and tourism industries. Pennsylvania is home to 121 state parks, 21 water trails, 20 state forests, 19 national parks, and three national wildlife refuges. These public lands — made more special by many of the state's treasured waterways flowing through them — are economic engines for surrounding communities, serve as the as the outdoor playground for a majority of Pennsylvania citizens,[2] and naturally filter the sources of the water we drink.

In addition to support from local conservation efforts, the state's waterways are protected by regulatory resource agencies, the Department of Conservation and Natural Resources, the Department of Environmental Protection, and the Department of Agriculture, as well as County Conservation Districts and Interstate River Basin Commissions. These agencies are charged with watershed protection, among other things, and need reliable and steady sources of funding. Consistent and sufficient funding levels will help state resource agencies support watershed management programs that take advantage of opportunities, address threats, and ensure compliance with state and federal clean water laws.

Facing challenges from steadily dwindling annual appropriations, resource agencies' core duties are made more complicated by:

- Increasingly extreme weather events and associated floods;
- Growing nonpoint source[3] pollution as populations increase; and
- Impacts from changing land-use and deforestation.

The salt line from the tidal estuary moves steadily up the Delaware River and closer to Philadelphia's drinking water intakes as downstream sea levels rise. Dangerous carcinogens from legacy pollution have seeped into drinking water supplies and caused severe health effects in large numbers. And, if pollution is not adequately mitigated and controlled, major pillars of the state's economy — which rely upon rivers with thriving wildlife; steady flow; and swimmable, fishable waterways — will suffer. Waterways and Pennsylvania's growing populations that depend on them require bold and swift action from the state legislature.

PENNSYLVANIA'S MAJOR WATERSHEDS

Each of Pennsylvania's major river basins is distinct from others in the state. Distinct characteristics include diverse geographic and geologic features, as well as major differences in historical settlement, economic and land use patterns. We urge lawmakers to support legislation that will protect the quantity and quality of water in each of Pennsylvania's watersheds.

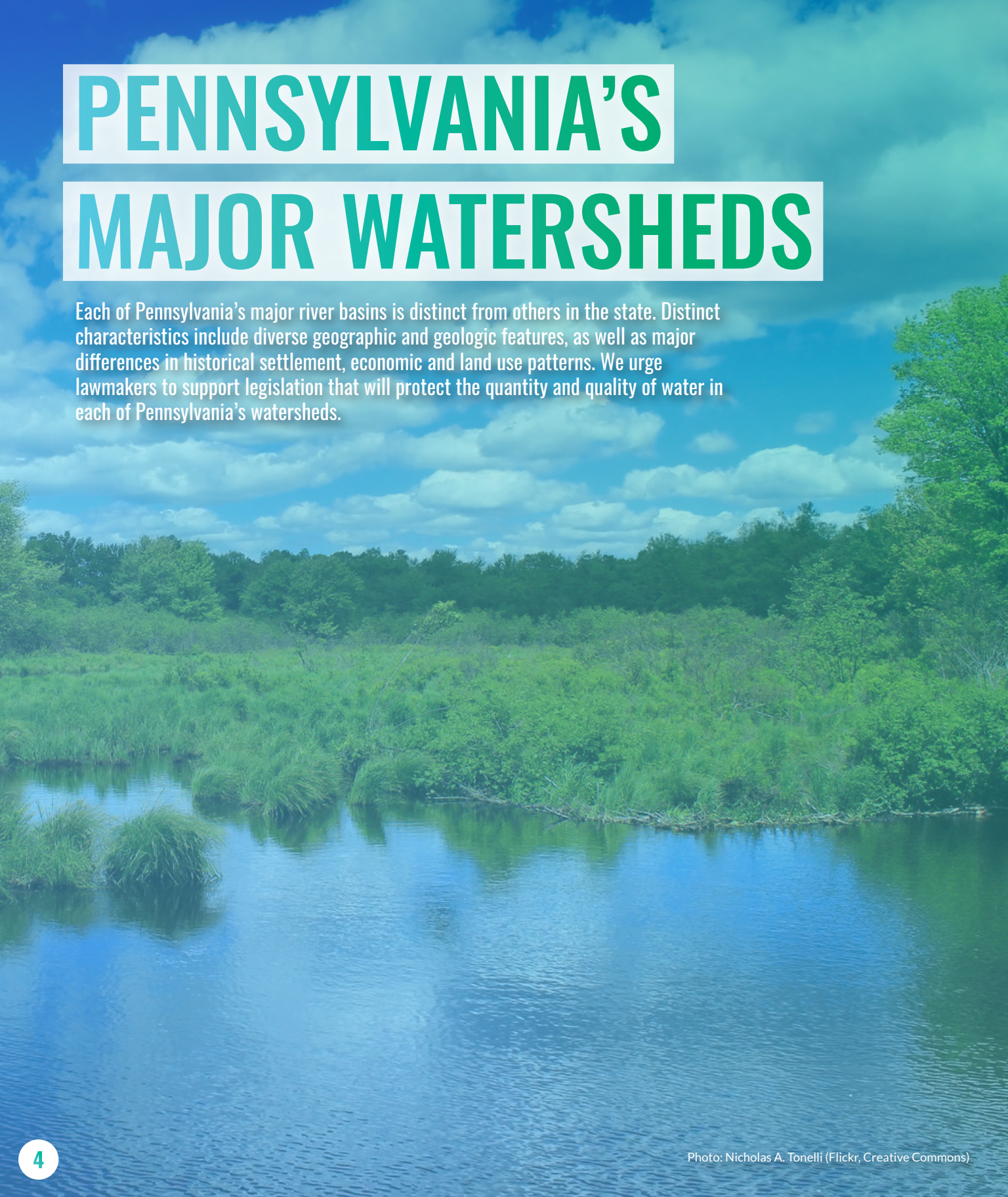
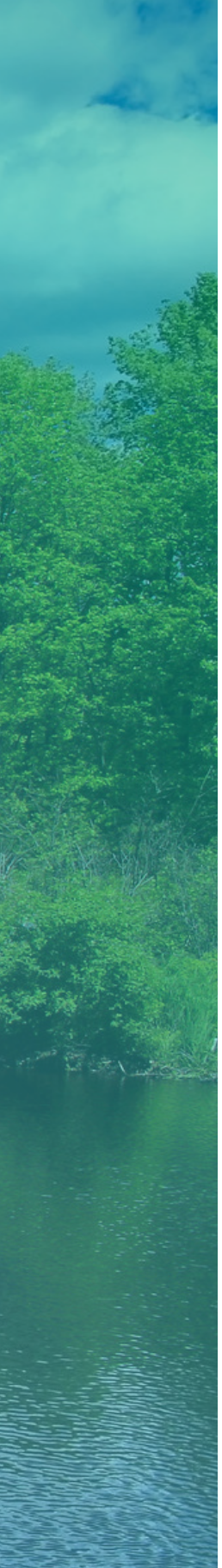


Photo: Nicholas A. Tonelli (Flickr, Creative Commons)



Central Pennsylvania | *part of the Chesapeake Bay Watershed*

POTOMAC + SUSQUEHANNA RIVER WATERSHEDS

INTRODUCTION

The Chesapeake Bay Watershed — comprised in Pennsylvania of the Potomac and Susquehanna River Basins — stretches 524 miles, from Cooperstown, NY to Norfolk, VA. In 2010, Pennsylvania and its fellow watershed jurisdictions (Maryland, Virginia, New York, West Virginia, Delaware, and the District of Columbia) committed to implementing 60 percent of the practices necessary for Bay restoration by 2017 and finishing the job by 2025. Achieving the Chesapeake Clean Water Blueprint (Blueprint) will ensure that nitrogen, phosphorus, and sediment pollution are sufficiently reduced in the Potomac, Susquehanna, and throughout the Chesapeake Bay Watershed.

The watershed is home to more than 18 million residents and large concentrations of our nation's livestock and agriculture. It possesses major industry and increasing development, all of which contribute pollution to rivers and streams that are ultimately carried to the Chesapeake Bay and onward to the Atlantic Ocean. Pollution carries excess nitrogen, phosphorous, and sediment, which create harmful algal blooms that cause and contribute to dead zones, areas so devoid of oxygen that flora and fauna cannot survive.

The health and vitality of Pennsylvania's rivers and streams in the Potomac and Susquehanna Watersheds directly and significantly influence the condition of the Chesapeake Bay. More than half of the Commonwealth lies within these watersheds. In fact, the Susquehanna River provides half of the 51 billion gallons of freshwater that flow into the Bay each day.

BACKGROUND

Pennsylvania and other Bay jurisdictions developed watershed implementation plans to meet science-based pollution limits set by the U.S. Environmental Protection Agency (EPA) in 2010. Those limits, plans, and milestones make up the Chesapeake Clean Water Blueprint, which is aimed at restoring and protecting Keystone State waterways.

Roughly 19,000 miles of the Commonwealth's rivers and streams are damaged by pollution. Achieving Blueprint goals remains the solution to Pennsylvania's clean water challenges and commitments.

Unfortunately, the Commonwealth did not meet its 2017 Blueprint goals for reducing polluted agricultural and urban/suburban runoff, and it is not on track to meet it 2025 benchmarks. Though, the good news is that efforts to reduce pollution from sewage treatment plants are ahead of schedule for 2025.

Achieving the Blueprint will ensure the reduction of nitrogen, phosphorus, and sediment pollution to levels that safeguard the health, economic, and recreational well-being of Pennsylvanians.

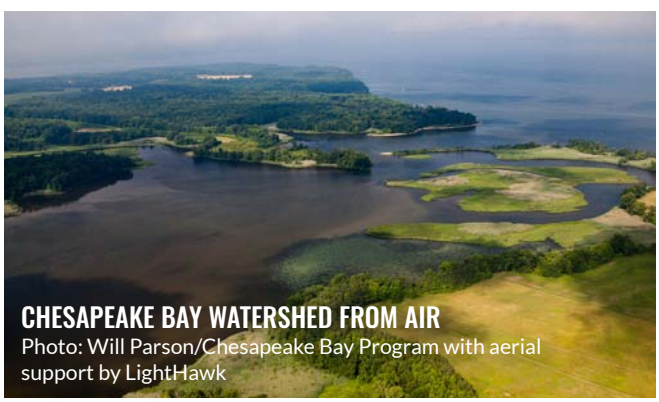
The 2014 economic analysis "*The Economic Benefits of Cleaning up the Chesapeake — A Valuation of the Natural Benefits Gained by Implementing the Chesapeake Clean Water Blueprint*," commissioned by the Chesapeake Bay Foundation, found that fully implementing Pennsylvania's Clean Water Blueprint will reduce flooding, make farms more productive, and benefit Pennsylvania's economy to the tune of $6.2 billion annually.

Saving the rivers and streams in the Susquehanna and Potomac Watersheds first is the key to saving the Bay. Adequate financial support of the Department of Environmental Protection, Department of Agriculture, Department of Conservation and Natural Resources and County Conservation Districts is vital to success, as it affects their abilities to assure public health and provide clean water that is the right of every Pennsylvanian. It is a legacy worth leaving future generations of Pennsylvanians.

CONCLUSION

Saving the Chesapeake Bay means saving Pennsylvania's rivers and streams that feed it. However, more must be done above the Mason-Dixon line if the Chesapeake Bay and its Pennsylvania tributaries are to continue to nurture diverse cultures and wildlife and contribute abundantly to local economies. Pennsylvania stands to gain tremendous local benefits by saving and protecting its own waters via full implementation of its Blueprint commitments.

*Researched and written by **B.J. Small** (Chesapeake Bay Foundation)*



CHESAPEAKE BAY WATERSHED FROM AIR
Photo: Will Parson/Chesapeake Bay Program with aerial support by LightHawk

Eastern Pennsylvania

DELAWARE RIVER WATERSHED

INTRODUCTION

The main stem of the Delaware River is the longest undammed river east of the Mississippi, traveling 300 miles from its headwaters in the Catskill Mountains down to the Delaware Bay Estuary. The watershed spans parts of New York, Pennsylvania, New Jersey, and Delaware through one of the most densely populated areas in the country. This national treasure is remarkable for its wealth of natural resources and the history that defines so much of our nation. However, it remains vulnerable to threats from over-development, habitat loss, polluted runoff, flooding, stream erosion, drought, and changing salinity levels due to sea level changes.

BACKGROUND

The vast river system of the Delaware River Watershed not only provides vital habitat for a rich variety of fish and wildlife species, but it is also home to more than eight million residents, provides drinking water to more than 15 million people, and is critical to the economic well-being of the region. The Delaware River Watershed provides drinking water to two of the five largest metropolitan centers in the country: New York City and Philadelphia. In total, the Delaware River supplies more than 40 percent of Pennsylvania's residents with drinking water, with only about 14 percent of the state's landscape.

Maintaining this system depends in part on the Delaware River Basin Commission's ability to monitor and control salinity of the estuary. The salt line's location is expected to fluctuate along the tidal river below Philadelphia and can be unduly influenced by drought and sea level rise. If the salt line encroaches on drinking water intakes, it will threaten public health, increase water treatment costs, and cause costly corrosion damage for industry.

Many rivers, creeks, and streams flow into the Delaware River, creating a watershed that spans 12,800 square miles of diverse landscape that includes rural agricultural areas and major urban centers. Significant ecological and recreational assets include:

- The Delaware Water Gap National Recreation Area, one of the country's most visited national parks;
- More than 400 miles of waterways designated under the National Wild and Scenic Rivers program;
- Six national wildlife refuges, including Cherry Valley and John Heinz in Pennsylvania; and
- The highly complex Delaware Estuary, which is one of the most important shorebird migration sites in the world.

This network of rivers, creeks, and streams powers a $20 billion economy that supports more than half a million jobs and sustains vibrant fishing, farming, and tourism businesses. Additionally, the watershed provides an estimated $21 billion in ecosystem services to the region, including water filtration and carbon sequestration, as well as habitats such as forests and wetlands.[4]

CONCLUSION

The health of the Delaware River system has improved over recent years as we have reduced toxic industrial pollution,[5] but we have more work to do. The Delaware River Watershed provides significant economic and health benefits to the region and is worthy of priority investments by decision-makers to protect and restore this natural resource.

*Researched and written by **Madeline Emde** (Coalition for the Delaware River Watershed)*

DELAWARE RIVER WATERSHED BOUNDARY
Photo: Delaware River Basin Commission

Western Pennsylvania

OHIO RIVER WATERSHED

INTRODUCTION

The Ohio River is a valuable economic and ecological resource used for transportation, recreation, and hydropower. It provides drinking water to more than 25 million people, and commodities worth $43 billion are transported along the river and its tributaries each year. Despite its economic and cultural value, the Ohio River Basin remains dangerously vulnerable to pollution. The basin is polluted by harmful algae and bacteria; legacy toxins from industry; and excess nutrients caused largely by improper wastewater and stormwater management, acid mine drainage, and excessive agricultural runoff. To improve water quality in the Ohio River Basin, the General Assembly must provide more resources for safe and effective wastewater and stormwater infrastructure and properly fund agricultural best management practice (BMP) programs to reduce the nutrient runoff.

BACKGROUND

Prior to the establishment of ORSANCO (the Ohio River Valley Sanitation Commission) in 1948, the Ohio River and its tributaries were subject to unmonitored and unrestricted pollution. Wastewater effluent has historically been the most significant water quality threat to the Ohio River Basin. By collaborating with Ohio River Basin states and the U.S. Environmental Protection Agency, the Commission reduced bacterial contamination, most notably E. coli. However, pollution from farm fields, urban runoff, and sewage overflows continue to be a major problem.

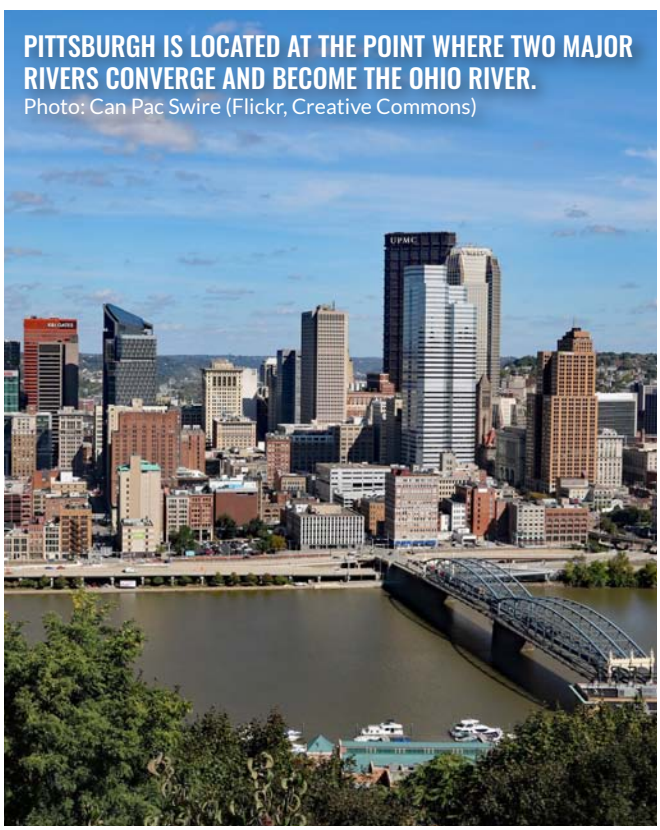
Presently, all municipal sewage treatment plants located along the Ohio River are required to comply with permit guidelines for effluent pollution. They must also administer primary and secondary treatment processes to their sewage waste. These improvements alone, however, cannot adequately address the Ohio River Basin's pollution woes. Considerable basin cleanup needs remain to achieve swimmable and fishable waters in much of the watershed.

Combined Sewer Overflows (CSOs) occur when rainwater from storm drains is carried to sewer lines and exceeds the volume capacity of those sewer lines. When carrying volume is exceeded, human waste and contaminated rainwater overflow the sewer lines into rivers. These CSOs contribute a significant amount of bacterial pollution to the Ohio River Basin. Nonpoint pollutants are a significant and growing threat to the Ohio River Basin. Legacy pollution, such as acid mine drainage (AMD) from abandoned coal mines, has contaminated more than 3,000 miles of streams and groundwater in Pennsylvania. AMD is one of the Commonwealth's most extensive water pollution problems. Because of the toxic concentrations of acidity, metals, and sediment, many of the streams polluted by AMD cannot support any life.

CONCLUSION

Bacteria, toxins, and excess nutrients enter waterways in the Ohio River Basin from point and nonpoint sources polluting our water. Increased resources for safe and effective wastewater and stormwater infrastructure will reduce bacterial pollution. Proper funding for agricultural BMP programs will reduce the excess nutrient pollution which can cause harmful algal blooms that, if left unabated, can cause dead-zones deplete of life.

*Researched and written by **Taylor Nezat** and **Ezra Thrush** (PennFuture)*



PITTSBURGH IS LOCATED AT THE POINT WHERE TWO MAJOR RIVERS CONVERGE AND BECOME THE OHIO RIVER.
Photo: Can Pac Swire (Flickr, Creative Commons)

Smaller Pennsylvania Watersheds

GENESEE RIVER + LAKE ERIE WATERSHEDS

GENESEE WATERSHED

The Genesee River starts in the Allegheny Plateau of Northern Pennsylvania, encompassed entirely by Potter County and originating in Ulysses, PA. It then flows north for 11 miles before reaching New York State where it continues for 140 miles before draining into Lake Ontario at Rochester, NY. The Genesee River Watershed spans a total of 99 square miles of Pennsylvania. Many of the water quality challenges facing the Genesee River Watershed come from urban and industrial sources in the northern portion of the river in Pennsylvania and agricultural and other nonpoint sources within the largely rural areas upstream. The Genesee's headwaters in Pennsylvania are home to trout species and bring enjoyment to anglers from near and far. Boating, swimming, hiking, camping, fishing, and hunting are prevalent throughout the entire watershed. The Pennsylvania portion of the watershed is lightly populated and primarily a rural, agricultural area. Industrial use becomes much more prominent in New York near Rochester. A small population of residents get their drinking water directly from the Genesee River, though most residents in the Allegheny Plateau rely on ground water.

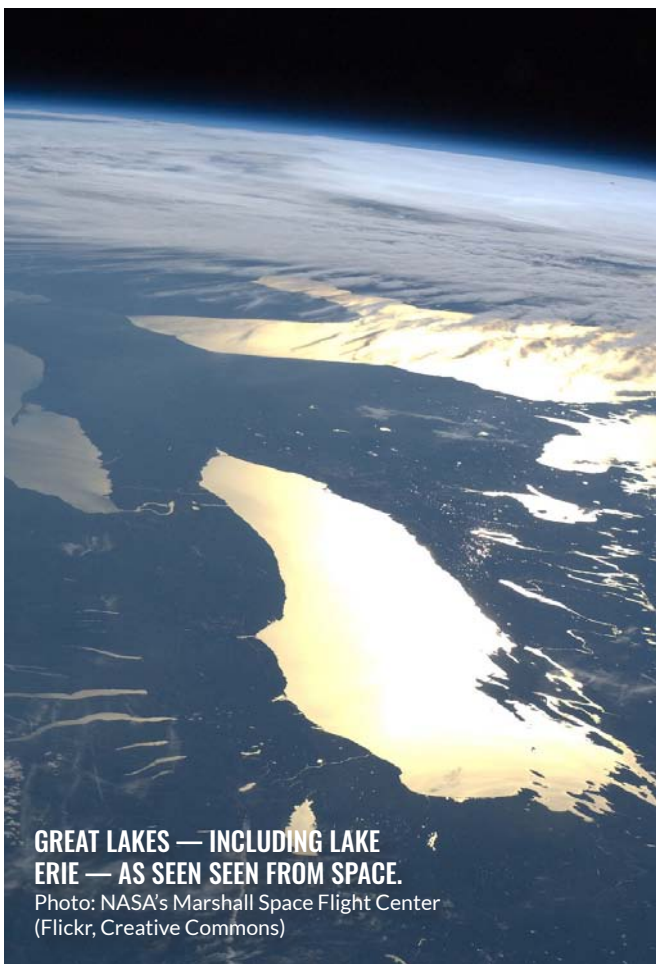
LAKE ERIE

Lake Erie touches four U.S. states — New York, Pennsylvania, Ohio, and Michigan — and the Canadian province of Ontario. Buffalo, NY is on the eastern end, and Toledo, OH is on the western end. Cleveland, OH and Erie, PA sit on the southern shore of the lake. Lake Erie is the fourth largest of the great lakes and is the 11th largest lake in the world in surface area. It is the shallowest of all the great lakes with the least amount of water, making it more prone to the impacts of pollution.

By the 1960s, Lake Erie had become the poster child for water pollution. Pollutants from factories, waste from sewers, and fertilizer and pesticides from farms made their way into the lake.[6] Levels of phosphorous and nitrogen increased, which led to significant algal blooms.[7] The toxic algae caused dead zones by depleting oxygen and dead fish littered the shoreline. In 1969, the Cuyahoga River — a tributary to Lake Erie — was so polluted that it caught on fire and prompted Congress to pass the federal Clean Water Act in 1972.

While water quality in Lake Erie has significantly improved, it continues to experience harmful algal blooms and parts of the lake still have dead zones where no aquatic life can survive. In 2012, Lake Erie saw the largest algal bloom in its history creating a thick green slime in large portions of the lake and, in some areas, affecting the water supply of 11 million people. Despite challenges, Lake Erie is home to one of the largest commercial freshwater fisheries in the world. It is the Walleye capital of the world, and anglers travel from all over the world to fish these waters for Walleye, as well as for salmon and steelhead trout. The Lake Erie fishery supports 10,000 jobs per year and contributes to local economies in multiple states by bringing in $1 billion per year annually.[8]

*Researched and written by **Amanda John Kimsey** (National Parks Conservation Association)*



GREAT LAKES — INCLUDING LAKE ERIE — AS SEEN SEEN FROM SPACE.
Photo: NASA's Marshall Space Flight Center (Flickr, Creative Commons)

LEGISLATIVE PRIORITIES FOR PENNSYLVANIA'S WATERWAYS

Photo: Chesapeake Bay Foundation

PROVIDE ADEQUATE FUNDING FOR STATE RESOURCE AGENCIES, PAGE 12

Since the 2002-03 fiscal year budget, the Pennsylvania Department of Environmental Protection, Department of Conservation and Natural Resources, and Department of Agriculture have each experienced significant budget cuts. While the modest increases in funding since 2013 were a step in the right direction, our state resource agencies are still operating with significantly reduced resources than are necessary to keep our air and water clean.

ESTABLISH A DEDICATED FUND FOR WATERSHED RESTORATION, PAGE 14

A dedicated fund for water quality and flood abatement efforts would make better use of state agency staff time and resources by promoting more consistent planning and leveraging local and private investments more efficiently. Yearly, inconsistent budget negotiations jeopardize the resources needed to restore and protect waterways.

RESTORE FAIR SHARE FUNDING TO RIVER BASIN COMMISSIONS, PAGE 16

River Basin Commissions are interstate, federal regulatory agencies that work to ensure that waterways split among several state jurisdictions are healthy enough to serve as sources of drinking water, recreation, and in some cases, transportation. These commissions are responsible for overseeing water quality, flood control, wildlife, water flow, water withdrawals, aquatic flora, and industrial runoff in their respective basin. Most states and the federal government have not contributed their fair share of funding in more than two decades.

PROVIDE ADEQUATE FUNDING FOR STATE RESOURCE AGENCIES

*Researched and written by **Taylor Nezat** (PennFuture)*

RECOMMENDATIONS

1

The legislature should call in state resource agency leaders for informational hearings before the committee of jurisdiction and use their stated needs as the basis for setting annual agency appropriations. Appropriations levels should meet the agencies' programmatic, staffing, and compliance needs; fulfill their missions; and support Pennsylvania's legal obligations under state and federal law.

2

The legislature should request summaries of the Department of Environmental Protection, Department of Conservation and Natural Resources, and Department of Agriculture's programmatic, staffing, and compliance needs and use the directions laid out by state resource agency leaders to guide their budget decision-making.

INTRODUCTION

Since the 2002-03 fiscal year budget, the Pennsylvania Department of Environmental Protection (DEP), Department of Conservation and Natural Resources (DCNR), and Department of Agriculture (PDA) have each experienced significant budget cuts. While there have been modest increases in funding since 2013 that were a step in the right direction, our state resource agencies are still operating with significantly reduced resources than necessary to keep our air and water clean.

Article I, Section 27 of the Pennsylvania Constitution states, "As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people." With expanded populations, development growth, and a range of environmental stressors on our waterways, increased investments in state resource agencies are critical. We encourage lawmakers to summon the state resource agency secretaries and expert staff for annual briefings on each agency's programmatic and compliance needs and to fully consider reports by state resource agency secretaries during budget hearings as basis for setting annual appropriations.

BACKGROUND

The following state resource agencies are charged with protecting Pennsylvania's rivers, streams, lakes, and wetlands by supporting a range of conservation and preservation programs, restoring polluted or degraded waterways, protecting wildlife and native ecosystems, and helping land managers like farmers comply with common-sense conservation practices that yield local returns.

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

The DEP's mission is to protect Pennsylvania's air, land, and water from pollution, thereby providing for the health and safety of its citizens. However, since 2002, state funding for the DEP has been cut by nearly 40 percent, leading to a reduction of 600 staff. With an increase from $148.8 million in the 2017-18 fiscal year to $153.3 million in the 2018-19 fiscal year, Pennsylvania took a step in the right direction for watershed protection. However, the funds received are still woefully behind 2002-03 fiscal year funding levels, which peaked at $246 million. The cuts to the agency are particularly dangerous as the DEP struggles to meet its minimum enforcement obligations, which threatens Pennsylvania's access to matching federal grants, federal pass-through dollars, and, in some cases, its ability to maintain state authority over its compliance and enforcement programs.

The DEP manages the Conservation District Fund Allocation Program for Conservation Districts to provide critical administrative and technical assistance to farmers, municipalities, and other landowners. Conservation Districts protect streams, provide financial and technical assistance for installing best management practices, and help farmers with their conservation plans. Each county in the state has a Conservation District — except for Philadelphia — and they are an important and trusted resource for farmers working to improve their conservation practices.

In 2016, the U.S. Environmental Protection Agency cited the DEP for failing to conduct the minimum number of sanitary surveys of water systems and for failing to meet required compliance rates.

SUSQUEHANNA RIVER
Photo: Nicholas A. Tonelli (Flickr, Creative Commons)

In the same year, the U.S. Department of the Interior's Office of Surface Mining Reclamation and Enforcement informed the DEP that it had an insufficient number of Surface Mining Compliance Inspectors, putting Pennsylvania's rivers, streams, and wetlands — as well as private water wells and springs — at risk. To protect Pennsylvania's citizens from harmful pollutants and preserve critical natural resources for future generations, the DEP needs sufficient resources. We strongly urge legislative committees of jurisdiction to open a dialogue with the DEP and its leadership prior to setting annual appropriation levels and to heed the advice of secretaries during budget hearings when setting funding levels. This is key to understanding the needs of the core programs that not only uphold a constitutional right to a healthy environment, but also ensure Pennsylvania's compliance with state and federal law.

PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DCNR's mission is to conserve and sustain Pennsylvania's natural resources for present and future generations' use and enjoyment. To do this, the agency is charged with maintaining and protecting 121 state parks, managing 2.2 million acres of state forestland, collecting information about the state's ecological and geological resources, and establishing community conservation partnerships with grants and technical assistance. These programs benefit rivers, trails, greenways, parks, open space, and natural areas. As with the DEP, General Fund support for DCNR has been drastically slashed over the last 15 years, declining from $108.8 million in 2003 to a low of $14.5 million in 2014-15. While there have been modest increases in the budget in recent years, the cuts experienced by DCNR to date threaten reduction or even elimination of services across the Commonwealth — most notably in our state parks and forests which welcome more than 40 million visitors each year. It could also lead to loss of agency support for public recreation projects across the state that support a $29 billion outdoor recreational economy.[9] In order to continue protecting our natural resources, it is essential the General Assembly increases funding for DCNR and heed the agency's annual budgeting need reports.

PENNSYLVANIA DEPARTMENT OF AGRICULTURE

The PDA is critical for encouraging, protecting, and promoting agriculture and working lands and related industries throughout the Commonwealth while providing consumer protection through inspection services. PDA programs support agricultural land preservation and keep farmers farming with assistance programs and education. Agriculture is one of Pennsylvania's top grossing economies and, as such, investment in agricultural preservation, assistance, and compliance via consistent and dedicated funding sources is essential to its continued prosperity. Overall, the PDA experienced a $7.49 million increase since the 2017-18 fiscal year budget, with a $1 million increase for general operation and a $3 million increase for spotted lanternfly control in the 2018-19 fiscal year. Regarding water quality in Pennsylvania, technical and financial assistance for farmers is key to implementing conservation practices on their properties. This will help reduce harmful nutrient pollution from agricultural runoff, which in turn will then protect farm resources from nutrient and sediment loss. The PDA budget reflects a commitment to preserving, protecting, and advancing agriculture in the Commonwealth; however, there is still work that needs to be done.

CONCLUSION

After more than a decade of cuts, we applaud the General Assembly's recent modest increases for these state agency budgets. However, the previous cuts were consequential. Past cuts reduced staffing by hundreds of positions. These staff reductions resulted in significant conservation setbacks and limited resources for efficient and effective permitting and other compliance processes. This jeopardizes the health of our waterways, which support our tourism economy, provides the water we drink, and promotes quality of life for local communities. Increased funding for state resource agencies that protect Pennsylvania's waterways is essential. With a litany of threats facing the Commonwealth's rivers and streams, time is of the essence for legislative action.

ESTABLISH A DEDICATED FUND FOR WATERSHED RESTORATION

*Researched and written by **Amanda John Kimsey***
(National Parks Conservation Association)

RECOMMENDATIONS

1

Establish a dedicated fund for watershed restoration and protection, complete with a sustainable revenue source(s). **Enabling legislation should:**

- Direct money solely to support water quality management activities, such as monitoring, planning, farmer cost-share programs, and on-the-ground restoration and protection activities for nonpoint pollution from stormwater and agricultural runoff, as well as to support existing water quality programs through state resource agencies.
- Given the long-term maintenance savings of investing in green infrastructure versus gray infrastructure,[15] prioritize funding of projects that use natural infrastructure to support greater return on investment. Green infrastructure investments will help reduce more pollution per dollar invested over the course of the project's life cycle.
- Provide matching funds to local governments for projects that address watershed management program goals. Prioritize investments for municipalities in the Chesapeake Bay Watershed so that they may help the state comply with U.S. Environmental Protection Agency requirements.

2

Legislators should consider and revisit revenue proposals from previous legislative sessions like water usage fee legislation (H.R. 20, 2017) and other revenue generation concepts, like a plastic bottle tax.

INTRODUCTION

A dedicated fund for water quality and flood abatement efforts would make better use of state agency staff time and resources by promoting more consistent planning and leveraging local and private investments more efficiently. Yearly, inconsistent and inadequate appropriations jeopardize the resources needed to restore and protect waterways. Correspondingly, the number of polluted river and stream miles in Pennsylvania has grown to 19,000, earning the Commonwealth the nation's top spot for reported impaired stream miles. Despite these challenges, our waterways are generating remarkable returns for communities; supporting more than 250,000 outdoor recreation jobs; driving $29 billion in consumer spending on outdoor recreation[10]; and bolstering tourism, the second leading state economic sector.

BACKGROUND

To protect their valuable water resources, neighboring states — Maryland, New Jersey, and New York — have better leveraged scarce resources by establishing a dedicated fund for clean water and/or for environmental protection more broadly. So doing helps protect hard-won watershed restoration progress from harm when budgets fluctuate. As a result, some tourism-focused states, such as New York and Colorado, have seen a $6 to $7 return on each $1 invested in restoration, driving job creation and diverse industry growth,[11] all while bringing new life to their waterways and the communities that depend on them.

Given that several of Pennsylvania's state resource agencies and River Basin Commissions manage valuable clean water programs, Pennsylvania may benefit from considering multi-agency management approaches like that of Minnesota's Clean Water Fund. This fund includes an Interagency Coordination Team (ICT) to guide the use of clean water funds and to ensure the efficient and effective delivery of those funds for the express purposes outlined in enabling legislation.[12]

A dedicated Clean Water Fund would solely support water quality management activities — such as monitoring, planning, and on-the-ground restoration and protection activities — and would bolster existing water quality programs managed by state resource agencies. The purpose of these investments would be to:

- Protect drinking water sources;
- Protect, enhance, and restore wetlands, forests, fish, game, and wildlife habitat;
- Support parks and trails; and
- Protect, enhance, and restore lakes, rivers, streams, and groundwater.

A dedicated Clean Water Fund would provide committed and continuous funding for watershed restoration, provide matching funds to local governments that create their own dedicated Clean Water Funds, and offer greater transparency of government spending for constituent taxpayers.

Many states provide dedicated funds to support conservation efforts through the following means:

- Bonds (New Jersey, California, Florida);
- General fund appropriations (Arizona, Indiana, Georgia);
- environmental license plate sales (Connecticut, Maryland, Pennsylvania);
- Real estate transfer taxes (Washington, Illinois, Delaware,

CHILDREN PLAY ALONG THE DELAWARE RIVER NEAR DELAWARE WATER GAP NATIONAL RECREATION AREA. A DEDICATED CLEAN WATER FUND COULD OFFER SIGNIFICANT BENEFITS TO ASSURING CONSISTENCY OF FLOW IN THIS TREASURED RIVER.
Photo: Sue Cooper

Maryland);
- Cigarette taxes (Minnesota, Texas, Nebraska);
- Sales taxes (Missouri, New Jersey, Arkansas);
- Gas taxes (Idaho, California),
- Lotteries (Maine, Oregon, Colorado); and
- Environmental penalty money (Alaska, Utah, Kentucky).

A few best practices help states leverage their dedicated funding investments. Local governments are important partners in successful watershed conservation efforts. State clean water programs should use incentives, such as matching grants, to leverage investment and encourage robust clean water conservation practices at the local level. Local governments should be encouraged to conduct comprehensive planning that incorporates the results of a stormwater management inventory and clearly defines high-priority areas for watershed conservation and restoration, along with areas for development.[13]

According to a 2017 poll, Pennsylvanians from urban, suburban, and rural areas predominantly support increased state investments to restore and protect local rivers and streams.[14] Faced with growing stormwater pollution, excess nutrient pollution from agriculture, legacy toxins, and extreme weather events, Pennsylvania's rivers and streams require increased investments in restoration, adaptation, and protection efforts. Yet, these investments are too often caught in political crosshairs, which result in environmental setbacks. A dedicated fund for clean water is a strategic and logical solution.

CONCLUSION

Setting money aside for watershed restoration and flood abatement provides greater certainty for protecting the sources of the water we drink, waterscapes where Pennsylvanians and visitors recreate and reflect, and unique landscapes that attract businesses and support jobs. The General Assembly has ample models from neighboring states to learn from as it works to establish a dedicated Clean Water Fund that meets Pennsylvania's unique needs. Clean water organizations and advocates throughout the state stand ready to support legislators in defining and implementing this strategic investment in Pennsylvania waterways.

RESTORE FAIR SHARE FUNDING TO RIVER BASIN COMMISSIONS

*Researched and written by **Emily Rinaldi** (PennFuture)*

RECOMMENDATION

1

Restore Full-Share Funding — as defined in each basin's compact — for all four Interstate River Basin Commissions that serve Pennsylvania's major watersheds.

INTRODUCTION

River Basin Commissions are agencies formed by interstate compact to serve state and federal government agencies that coordinate interstate waterway planning and management. The authority of each River Basin Commission varies but each may be responsible for overseeing water quality, flood control, wildlife, water flow, water withdrawals, aquatic flora, recreation, navigation, and industrial runoff in their respective basin. The health and prosperity of each river basin and its inhabitants rely on strong participation and supportive funding of member states in each River Basin Commission.

BACKGROUND

DELAWARE RIVER BASIN COMMISSION

Created in 1961, the Delaware River Basin Commission (DRBC) is a regulatory body operated by four states — Delaware, Pennsylvania, New York, and New Jersey — and the federal government through the U.S. Army Corps of Engineers. The DRBC monitors water quality, conducts comprehensive resource planning, and manages drinking water supplies for over 15 million Americans.

In 1988, the DRBC commissioners reached an agreement by which the states and federal government would appropriate sufficient funds in their annual budgets to support the functions of the Commission. The signatory party contributions to the DRBC budget should be — but are too often not — broken out by the percentages listed below and should, if fulfilled, differ in sum by fiscal year.

- Delaware – 12.5%
- New York – 17.5%
- New Jersey – 25%
- Pennsylvania – 25%
- Federal Government – 20%

Most states and the federal government have not contributed their fair share of funding in more than two decades, dramatically underfunding a key collaborative agency that protects the health and availability of Pennsylvania's water.

The DRBC is positioned to manage multi-state land-use planning decisions, like oil and gas development, that could cause undue and disproportionate harm to river health. The DRBC regularly monitors and studies the salt line on the Delaware River, which could threaten municipal drinking water intakes if not kept in check by adequate flows. The DRBC's research informs interstate and DEP policies on flow regime and guides decision-making that will ensure water supplies for generations to come in some of Pennsylvania's most populated areas.

There is some overlap, but also difference between, the DRBC and the Flexible Flow Management Program (FFMP) Delaware River Decree Parties. The Decree Parties are made up of New York State, New York City (NYC), New Jersey, Pennsylvania, and Delaware. They were formed through litigation, which led to the 1954 U.S. Supreme Court Decree which governs the water releases from NYC's reservoirs in the headwaters of the Delaware River. Through time, the Decree Parties have unanimously come to agreements under the Decree, such as the recent ten-year October 2017 Flexible Flow Management Program (FFMP2017). The DRBC mostly acts

as a host to the FFMP Decree Parties, and sometimes the DRBC will assign staff to Decree Party projects. For example, the DRBC assigned staff to act on the FFMP Decree Parties' Subcommittee on Ecological Flows (SEF). This subcommittee focuses on water temperature issues, salinity concerns, and erratic water releases in the Upper Delaware region. The DRBC's Regulated Flow Advisory Committee and SEF are now working with FFMP stakeholders to further improve reservoir release policies. By limiting high water temperatures and erratic water levels on the Upper Delaware, we can better protect an ecosystem that supports an economically significant wild trout fishery and other important aquatic species.

SUSQUEHANNA RIVER BASIN COMMISSION

The Susquehanna River Basin Commission (SRBC) guides the water resource management of the Susquehanna River Basin, which ranges from Cooperstown, NY to Havre De Grace, MD and spans 43 Pennsylvania counties. The SRBC was established by an interstate and federal Compact, adopted by the U.S. Congress and the General Assemblies of Maryland, New York, and Pennsylvania in 1970.

Under the Compact, the SRBC coordinates water resource management via implementation of structural and non-structural flood mitigation projects; evaluation and regulation of water withdrawals and consumptive use; allocation of water resources among the member states; restoration and preservation; and the monitoring and protection of water quality. The commissioners are the Basin state Governors or their designated alternates.

The SRBC enhances protections for the drinking water supply of more than 3.3 million Basin residents, preserving habitat for wildlife and ensuring river-based economies can continue to thrive. Pennsylvania should participate in basin commission activities and utilize its collaborative planning and basin research to inform policy.

INTERSTATE COMMISSION FOR THE POTOMAC RIVER BASIN

The Interstate Commission for the Potomac River Basin (ICPRB)'s mission is to protect and enhance the waters and related resources of the Potomac River Basin through science, regional cooperation, and education. For more than six million Americans, this river plays a vital role in their everyday lives as a source of drinking water, river-based recreation, and economic opportunity.

Originally authorized by Congress in 1940, the ICPRB is an advisory, non-regulatory agency of the District of Columbia, Maryland, Virginia, West Virginia, Pennsylvania, and the federal government. It was formed in response to the extreme pollution levels that required a regional, cooperative response by all jurisdictions. In 1970, amendments to the Compact empowered the ICPRB to address not only pollution issues but also water resource and related land issues affecting two or more jurisdictions. Although this has improved the river's water quality in many ways, various threats — such as population increases, land-use changes, increased impervious surfaces, contamination from legacy toxins, and nutrient and sediment pollution — require regional attention.

OHIO RIVER VALLEY WATER SANITATION COMMISSION

The Ohio River Valley Water Sanitation Commission (ORSANCO) was formed in 1948 as a multi-state and federal partnership amongst Illinois, Indiana, Kentucky, New York, Ohio, Virginia, West

THE UPPER BLACK EDDY – MILFORD BRIDGE ON THE DELAWARE RIVER IN BRIDGETON TOWNSHIP, PA
Photo: Emily Rinaldi, PennFuture

Virginia, Pennsylvania, and the U.S. Army Corps of Engineers. This collaborative effort improves water quality in the Ohio River Basin and ensures the river can be used for drinking water, industrial supplies, and recreational purposes, and can support a healthy and diverse aquatic community.

To improve water quality in the Ohio River and expansive tributary network, ORSANCO sets wastewater discharge standards, performs biological assessments, monitors basin waterways, and conducts watershed surveys and studies. ORSANCO establishes water quality standards for the mainstem of the Ohio River and each state chooses how to adopt these standards for discharges to the river. The Commission coordinates emergency response activities for pollution spills and accidental discharges into the river and promotes public participation in watershed protection.

GREAT LAKES COMMISSION

Since it was established in 1955 by the Great Lakes Basin Compact, the Great Lakes Commission has worked with its member states and Canadian provinces to address issues of common concern, develop shared solutions, and collectively advance an agenda to protect and enhance the Great Lakes region's economic prosperity and environmental health.[16] In Pennsylvania, this Commission is a critical player in protecting and restoring Lake Erie and its watershed for ecological and economic benefits.

CONCLUSION

Many polls conducted throughout the last decade have revealed overwhelming support from citizens in every county protecting and investing in clean water. But Pennsylvania's leaders are not doing nearly enough to safeguard and improve our water resources. A significant challenge is that the Commonwealth is failing to meet its fair share of contributions to the River Basin Commissions that work every day to properly manage and protect the great rivers and streams that make up Pennsylvania. Without properly funded and staffed Commissions, Pennsylvania's communities are increasingly at risk of more polluted waters, infrastructure issues, declining aquatic life, and irregular water supply. Pennsylvania should not short-change these essential institutions protecting such a vital resource.

ECONOMIC BENEFITS OF PENNSYLVANIA'S WATERWAYS

QUICK FACTS

CHESAPEAKE BAY WATERSHED (POTOMAC + SUSQUEHANNA WATERSHEDS)

Full implementation of the Chesapeake Bay Blue Print (Total Maximum Daily Load) would yield $6.2 billion annually, according to the Chesapeake Bay Foundation's 2014 Economic Report.[24]

DELAWARE RIVER WATERSHED

The Delaware Basin contributes more than $21.5 billion in annual economic activity from recreation ($1.2 billion), fish/wildlife ($1.5 billion), public parks ($1.8 billion), water quality ($2.5 billion), navigation ($2.6 billion), agriculture ($3.4 billion), water supply ($3.8 billion), and forest ($5.1 billion) benefits. This results in more than $8 billion in economic activity annually for Pennsylvania. *(University of Delaware, 2011)*[25]

GREAT LAKES

Pennsylvania's Lake Erie coastal region provides:

- A tourism and recreation industry that contributes more than $65 million to Pennsylvania's economy;
- Harbors and marinas that support a $71 million annual recreational boating industry; and
- A growing steelhead fishery that generates nearly $10 million in expenditures and $6 million in value-added activity in Erie County.[26]

OHIO RIVER BASIN

An estimated $43 billion in commodities are transported along the 2,582 miles of navigable waterways within the basin annually.[27]

— continued on next page —

Photo: Danny Navarro (Flickr, Creative Commons)

INTRODUCTION

Healthy watersheds possess intrinsic value. They also return a suite of ecosystem services to communities that offer public health benefits, economic value, and recreational enjoyment. In Pennsylvania, waterways are the foundation of the state's two principal economies: tourism and agriculture. Without clean water, neither would prosper. According to one study, watershed and forest restoration creates as many as 28.3 jobs for each $1 million invested, dramatically greater returns than those of some extractive industries.[17] Healthy waterways also support greater property values which, in turn, support greater tax revenues for local communities. Protecting healthy watersheds can reduce capital costs for water treatment plants and reduce damages to property and infrastructure due to flooding, thereby avoiding future costs.[18]

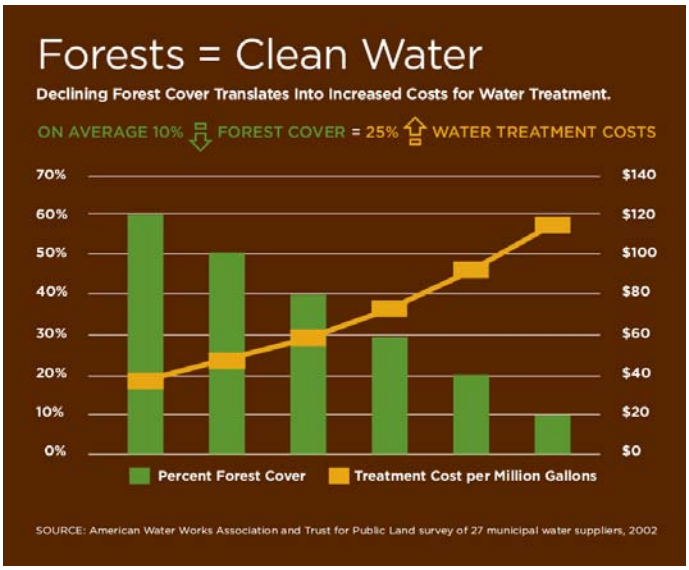
BACKGROUND

Historically, water resources have been essential to the many eras of Pennsylvania industry. In the future, the economic value of our natural resources may be rooted as powerfully in their ability to attract and hold business owners, high-quality employees, entrepreneurs, retirees, young families, and community leaders as it is in the value these resources hold as raw materials. As we forge the future of our Commonwealth, many Pennsylvanians are eager for economic development that maintains our traditions, enhances the natural beauty and ecological integrity of the landscape, and creates today's version of vitality from our small municipalities to our major metropolitan trade centers. By investing in and supporting watershed restoration efforts, Pennsylvania legislators can bolster the state's robust tourism and recreation economies and deliver a range of ecosystem services to their constituents. Healthy waterways support Pennsylvania communities in many ways, including:

- Clean water for drinking and domestic use;
- Water for maintaining public spaces (i.e. sports grounds and parks);
- Water for agriculture and industry (production of food and goods);
- Movement of water through the landscape for irrigation, drainage, and flood management;
- Commercial enterprise, such as tourism, transport of goods and passengers, fishing and aquaculture, and recreation industries (e.g. paddling and rafting);
- Pest control (e.g. mosquito larvae eaten by native fish); and
- Increased property values due to amenity, visual appeal, and views.

Pennsylvania's Outdoor Recreation Industry supports more than $29 million in consumer spending annually.[19] This is just a fraction of the economic return that Pennsylvania's waterways provide. And with additional investments in restoration and access, they can yield much more.

During 2016, there were more than 390,000 jobs supported by outdoor recreation activities in Pennsylvania. More Pennsylvania jobs were supported by outdoor recreation than the production of durable goods (about 356,000 jobs).[20] Special places like Pennsylvania's 19 national park sites generated more than $478



million in consumer spending in 2017.[21] The visitors who patronize these national parks expect to experience healthy waterways that live up to the significant natural integrity and historic landscape these places are meant to interpret. The wildlife recreation industry in the state totals $2.8 billion, according to a 2016 U.S. Fish and Wildlife Service survey.[22] More than $1.2 million of that came from people watching wildlife in the state and their related expenses. The hunting and angling and associated industries contributed almost nearly $2.3 million to the state, according to a 2018 report and has been known to collectively, via several revenue streams, contribute up to $1 billion to the Commonwealth annually.[23]

CONCLUSION

From recreation and tourism spending to increased property values, healthy waterways offer Pennsylvania significant economic value. Investments in watershed protection will ultimately invite visitors to patron the small businesses in the quaint towns of the Poconos and spend a week ice fishing on Lake Erie for years to come. In a changing economy, preserving the natural resources that make the Commonwealth unique is what will make it economically viable for the future.

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*Researched and written by **Amanda John Kimsey** (National Parks Conservation Association)*

IMPORTANT ISSUES AFFECTING PENNSYLVANIA'S WATER

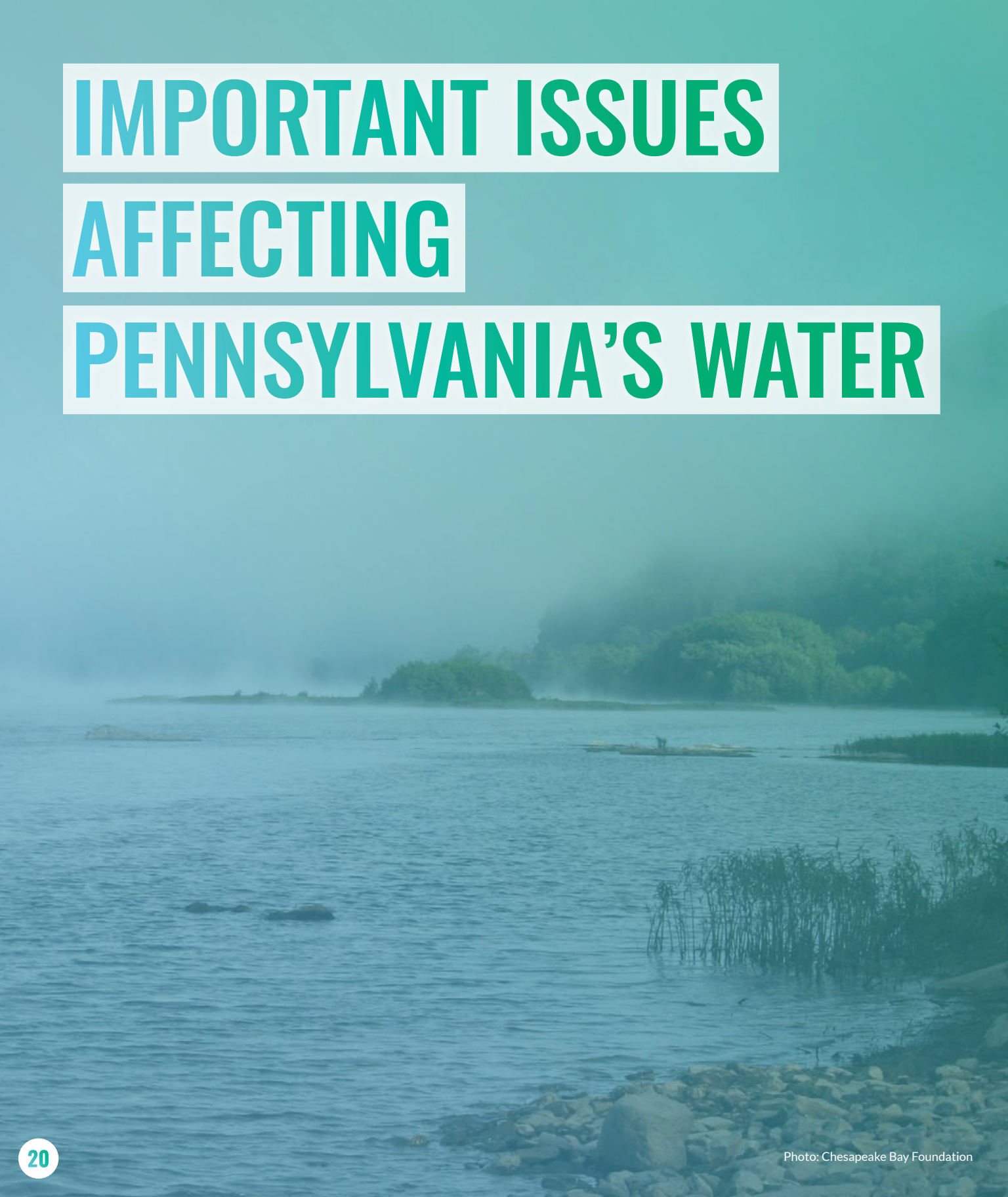
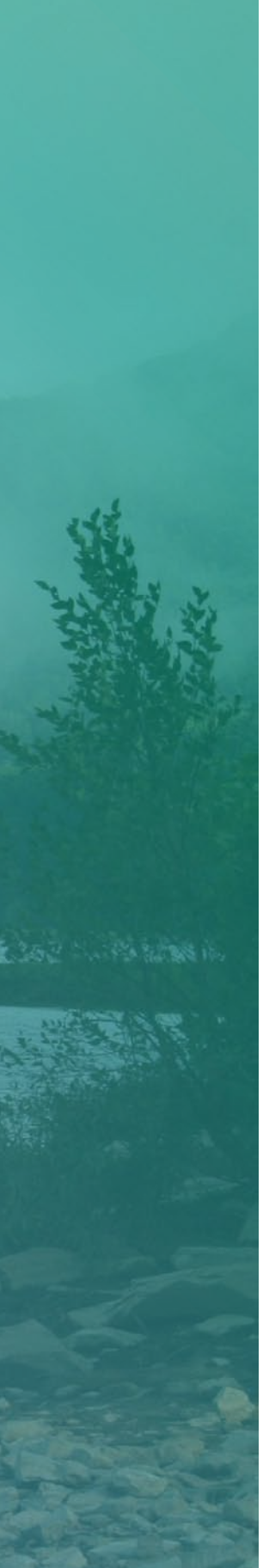


Photo: Chesapeake Bay Foundation



HELPING FARMS THRIVE BY PROTECTING WATER AND SOIL

*Researched and written by **Kelly O'Neill** (Chesapeake Bay Foundation)*

RECOMMENDATIONS

1

Increase funding for the following:

- Cost-share programs to help farms invest in conservation practices and provide conservation easements, especially in watersheds impaired by agriculture;
- Available Resource Enhancement and Protection tax credits to $12 million annually;
- Conservation Districts, conservationists, land trusts, and private sector conservation and nutrient management planners to provide technical assistance to farms establishing conservation practices; and
- The Department of Environmental Protection to adequately enforce state laws.

2

Restrict Clean and Green preferential tax savings to landowners meeting all state and federal regulations.

3

Restrict livestock access to streams through applicable legislation.

4

Provide more resources to support forested buffers and tree plantings.* Trees are among the most cost-effective tools for reducing polluted runoff into our rivers and streams.

INTRODUCTION

Pennsylvania's 58,000 farms produce $7.4 billion worth of crop and livestock products on 7.6 million acres.[28] This represents only a fraction of the economic benefits — food manufacturing, support services, and related businesses generate approximately $135.7 billion in total economic impact annually, maintaining 579,000 jobs with $26.9 billion in earnings throughout the Commonwealth.[29]

In addition to the economic impacts, what happens on this farmland directly impacts our communities and, most importantly, our local water quality. Pennsylvania's 6,798 stream miles that are impaired by the results of agricultural activities — especially nutrient runoff, soil erosion, and unrestricted livestock access[30] — need improved environmental stewardship on farmland.

BACKGROUND

Most farmers are working diligently on land and water stewardship, but often need technical and financial help. Agricultural producers are squeezed by low prices for their products and steep increases in the cost of fuel, real estate, and other operating costs, making conservation investments difficult to bear on their own. Federal farm conservation programs only meet a fraction of the annual need, so additional resources are imperative to help farms invest in conservation.

For almost 40 years, Pennsylvania laws have required farms to develop and implement plans to manage manure and other nutrient sources, and to prevent erosion and sediment loss. In addition to reducing water pollution, these plans improve crop utilization of nutrients and keep top soil in place to sustain long-term production. However, measures to ensure that farms have and follow these plans only began in earnest after 2010 with limited resources, so significant gaps remain.

Many farms are now focusing on production systems that reduce tillage intensity to maintain soil structure, responsibly incorporate manure, and sustain a cover of living plants to improve soil health and reduce water pollution. This increases water infiltration, retains soil moisture for periods of drought, and reduces stormwater runoff and soil erosion during heavy rains. Soil and nutrients stay in agricultural fields for production, rather than degrade local streams. When adopting new production methods, farms often need technical advice adapted to their soil, terrain, climate, and production goals.

CONCLUSION

A thriving agricultural economy and healthy waters are dependent on increased financial and technical assistance to farms. Limited resources should be focused on the most cost-effective practices benefiting both the environment and farm profitability, including no-till cropping systems, cover crops, nutrient management, feed management, livestock exclusions from streams, riparian forested buffers, and improved pasture management.

COVER CROPS AND NO-TILL CULTIVATION HELP IMPROVE BOTH WATER QUALITY IN NEARBY STREAMS AND FARM PRODUCTIVITY.
Photo: Kelly O'Neill, Chesapeake Bay Foundation

* *For example, a Keystone Tree Fund bill would create a voluntary $3 checkoff on online driver's license and vehicle registration forms and support adding trees to Penn's Woods.*

EMPOWERING MUNICIPALITIES TO REDUCE THE IMPACTS OF POLLUTED RUNOFF

*Researched and written by **Liz Deardorff** (American Rivers), **Renee Reber** (American Rivers), **Alice Baker** (PennFuture), and **Sean Jackson** (American Rivers)*

RECOMMENDATIONS

1

Implementation of Pennsylvania's stormwater management programs at the local level depends on the renewal of Act 167 planning funds — critical support needed by local governments for compliance.

2

Grant authority for all local governments to enact and collect a stormwater fee without creating a new stormwater authority, the governing body that municipalities would currently be required to create to oversee stormwater management and fee collection. This additional local revenue would help to ensure that municipal stormwater management programs are able to meet local needs.

3

Avail new resources and support to municipalities to bolster implementation of best management practices at the local level and encourage and facilitate multi-municipal planning activities to cost-effectively manage stormwater.

INTRODUCTION

The impacts of storm events include stream, roadway, and basement flooding from intense precipitation, as well as pollution carried from urban/suburban landscapes to waterways and water treatment facilities. Municipalities must manage stormwater so that streams are not impaired, water treatment costs do not escalate, and clean water provides for quality of life and recreational opportunities. Our recommendations would provide pathways for the state legislature to help municipalities advance best management practices (BMPs) and fund stormwater programs.

BACKGROUND

Rain and snowmelt pick up debris and contaminants, such as pet waste, oil and grease, pesticides and herbicides, and trash. In most cases, rain and snowmelt runs off and carries these pollutants over land or through underground pipes that drain into streams without any treatment.

Pennsylvania has two municipal stormwater management programs that are authorized by state and federal law respectively:

1. Stormwater Management Act (Act 167) (32 P.S. §§ 680.1, et seq.; 25 Pa. Code Ch. 111)
2. Municipal Separate Storm Sewer System (MS4) (33 U.S.C. Section 1251 et seq., 40 CFR 122 et seq. and 35 P.S. Section 691.1 et seq.)

The Stormwater Management Act of 1978, known as Act 167, requires counties to adopt a stormwater management plan for each watershed, which is supposed to be reviewed, and updated as necessary, every five years. In turn, municipalities adopt ordinances and local regulations consistent with their county's Act 167 plan.

The federal MS4 program is authorized under the Clean Water Act and implemented in all 50 states. In Pennsylvania, authority is delegated to the Department of Environmental Protection for administration and enforcement. The MS4 program includes approximately 1,000 small urban/suburban Pennsylvania municipalities required to apply for coverage under the stormwater management permit, also known as the MS4 permit. Each municipality with MS4 permit coverage is required to install BMPs to control stormwater and thereby reduce nutrients and sediment from impaired streams. BMPs include rain gardens, riparian forest buffers, and other infiltration or retention techniques.

Act 167 and the MS4 program are valuable tools for managing stormwater. However, to implement these programs more fully, municipalities need resources for planning and to invest local funding which, with stretched budgets, may require additional resources and support. This support could include the following with assistance from the state legislature:

- Renew Act 167 planning funds, which would help municipalities access the resources they need to implement local stormwater plans.
- Authorize municipalities to collect local stormwater fees directly. This action will enable Act 167 stormwater management plans, MS4 permit requirements, and municipal stormwater management to maintain the funds needed to sustainably address the growing impacts of runoff.
- Support state resource agencies' pass-through efforts and municipalities with the resources needed to acquire expertise, facilitation support, and coordination to share stormwater management activities. This will result in more impactful and cost-effective stormwater reduction strategies.
- Set aside dedicated state funding, such as a dedicated Clean Water Fund, to help municipalities and state resource agencies implement BMPs that will clean local waterways and reduce the impacts of flooding.

CONCLUSION

The legislature has an important role to play in providing municipalities with the resources they need to manage stormwater. Namely, state resource agencies need increased funding to provide technical and financial support to municipalities, which will empower them to reduce pollution and limit the impacts of flooding. Investing state resources in the stormwater solutions described above will help protect our waterways and the many benefits they offer communities throughout the Commonwealth.

CLEANING UP ABANDONED MINE DRAINAGE TO RESTORE FISH POPULATIONS

*Researched and written by **David Kinney** (Trout Unlimited)*

RECOMMENDATIONS

1. Advocate for the reauthorization of the federal Title IV Abandoned Mine Land Program in 2021 to ensure that this critical trust fund is available going forward.

2. Support existing state-level programs that fund Abandoned Mine Drainage (AMD) cleanup, such as Growing Greener.

3. Authorize new clean water funding to accelerate the pace of AMD remediation in the state.

INTRODUCTION

In Pennsylvania, more than 5,600 miles of streams are impaired by billions of gallons of water pollution from abandoned mines, a legacy that has left formerly thriving trout streams in coal regions devoid of all aquatic life. In coldwater streams that now run bright orange, native Eastern brook trout have been eliminated. Working together, government and conservation organizations across the Commonwealth are cleaning up the mess and restoring trout populations. Planning and implementing mine drainage treatment projects can take years, and given the scope of the problem, ongoing funding — particularly for the long-term operation and maintenance of treatment systems — is critical to restoring polluted waterways.

BACKGROUND

Abandoned Mine Drainage (AMD) is generally characterized by acidic water containing iron, aluminum, and other metals that render the streams deadly to aquatic life. AMD is a legacy of coal mining practices prior to the 1977 Surface Mining Control and Reclamation Act, when mining companies were not required to address the impacts to land and water resources. Along with agriculture, AMD is one of the top two sources of pollution to Pennsylvania's waterways.

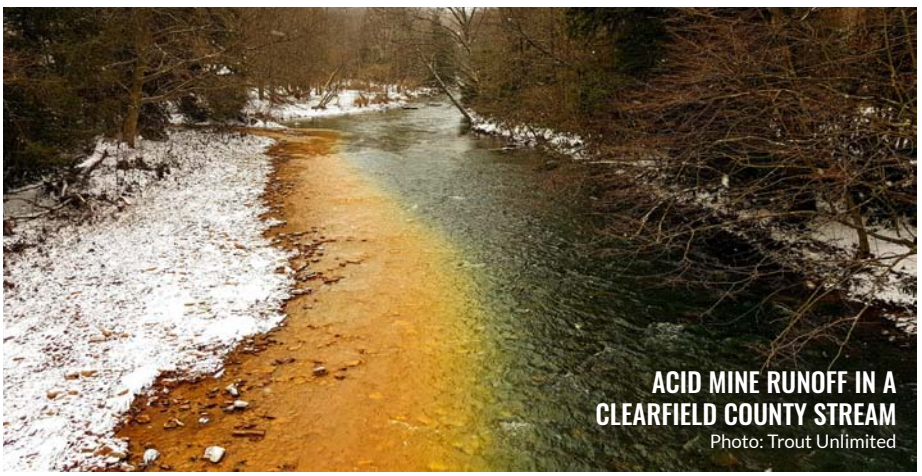
To address mine drainage, passive treatment systems (gravity-fed ponds that use limestone and other natural materials to "filter" acid and metal-laden waters) or active treatment facilities (using chemical additives that usually require electricity to treat polluted water) are utilized. Once pH in a stream is suitable for aquatic life, fish populations can be restored. Trout Unlimited succeeded in returning a thriving trout population to a tributary of Kettle Creek in northcentral Pennsylvania that had been lifeless for decades due to AMD.

Bringing an AMD stream back to life is quite expensive. According to an estimate by the U.S. Geological Survey, the cost across the Commonwealth could reach $15 billion. Partners are chipping away at the problem with help from public funding leveraged with state and private philanthropic dollars. Reauthorization of the federal Title IV Abandoned Mine Land Program in 2021 will be critical — Pennsylvania has received more than $1.3 billion from the trust fund to finance cleanup.

At the same time, the Commonwealth also needs to make more investments to address mine drainage. Additional funding for this work has been provided by the Growing Greener Environmental Stewardship Fund, but new resources dedicated to clean water are needed.

CONCLUSION

With support from federal, state, private, and other funding programs and years of experience designing and implementing AMD treatment practices, Pennsylvania is making some headway in addressing its signature legacy water pollution problem. Still, the scope of the problem is enormous, demanding that the Commonwealth commit to a lengthy cleanup and a significant investment of additional resources.



ACID MINE RUNOFF IN A CLEARFIELD COUNTY STREAM
Photo: Trout Unlimited

MITIGATING THE IMPACTS OF FLOODING IN PENNSYLVANIA

*Researched and written by **Taylor Nezat** (PennFuture)*

RECOMMENDATIONS

1

Pass legislation similar to the 2017-18 legislative session's House Bills 913-916 introduced by Representative Garth Everett (R-Lycoming, Union), which seeks to empower different kinds of municipalities by giving them the ability to enact stormwater fees. This funding will be crucial for municipalities to meet their clean water goals and combat flooding by installing best management practices and conservation projects.

2

Develop and pass legislation to provide technical and financial assistance for municipalities to design and install a range of flood adaptation strategies with preference for projects in riverine riparian zones.

3

Pass legislation requiring municipalities to factor flood zone adaptation into their comprehensive plan updates.

INTRODUCTION

Pennsylvania is suffering from a severe flooding problem. Recently, the Commonwealth has endured an unprecedented number of significant rainfall events that have flooded communities and seriously degraded the quality of local infrastructure. In recent years, floods have caused road closures, stranded vehicles, and even claimed the lives of several Pennsylvanians. This is due to an increase in the number of unusually intense rainfall events, which scientists attribute to climate change, as well as inadequate stormwater infrastructure in many parts of the Commonwealth.

The effects of Pennsylvania's flood problem are two-fold:

1. Water pollution occurs as a result of significant runoff carrying toxins like waste, pesticide, fertilizers and motor oils into streams and from eroded sediments; and
2. Property damage and safety concerns.

As precipitation rates in our region increase, it is paramount that local communities are prepared with the resources they need for future flooding events by investing in floodplain adaptation projects.

BACKGROUND

Recent rainfall rates in Pennsylvania are well in excess of historical trends. Heavy rainfall and flash flooding cause uncontrolled runoff of stormwater containing a surplus of nutrients, chemicals, sediments, and bacteria. These pollutants, collected in high-velocity runoff, inevitably enter Pennsylvania's waterways and degrade water quality, making water bodies unsafe for fishing and swimming. Additionally, flooding causes expensive property damage, like collapsing roofs, injuries, and even deaths. Intense velocity and volume of flood waters erode streambanks, causing sediment to cloud waterways. This inhibits photosynthesis of underwater grasses, which produce oxygen for all other aquatic species to survive. The depletion of dissolved oxygen can cause major fish kills and disrupt the balance of the entire ecosystem and even result in dead zones where no life can exist.

Aging, improper, or absent stormwater management infrastructure is doing little to control Pennsylvania's flood situation. The combined effects of increasing frequency and intensity of rainfall and ineffective or lacking stormwater infrastructure are the two major contributors to Pennsylvania's flood crisis. The legislature should take critical action steps to address this worsening crisis by supporting improvements to municipal stormwater management plans and providing increased funding for stormwater infrastructure improvements and installation.

Legislators are encouraged to make proactive investments and improvements for stormwater management and flood adaptation projects so that communities are better prepared for flood threats. While climate change is a global concern with many harmful threats to communities near and far, there are also simple steps the Pennsylvania legislature can take to reduce the Commonwealth's fossil fuel emissions. By contributing to climate change mitigation efforts, the Pennsylvania legislature can help to quell the larger cause of increased flooding throughout our region. Legislation that supports carbon-neutral energy production and energy efficiency in the home, workplace, and transit systems are important steps.

CONCLUSION

To combat the risks of flooding, we ask the General Assembly to pass a package of bills that allow local governments to adopt their own stormwater fee ordinances and other funding mechanisms so that they may implement more stormwater best management practices. As flooding becomes an increasing issue in many parts of the country, especially on the east coast, there are many flood plain adaptation models for Pennsylvania to emulate. It is critical that the Pennsylvania legislature act to establish policy solutions that protect local communities, our waterways, and essential infrastructure.

RESTORING AND RECONNECTING STREAMS TO IMPROVE WATER QUALITY AND REDUCE FLOODING

*Researched and written by **David Kinney** (Trout Unlimited)*

RECOMMENDATIONS

1

Support or expand existing funding programs that invest in stream restoration work, including the Keystone Fund; the Growing Greener Environmental Stewardship Fund; and the Dirt, Gravel & Low Volume Road Program.

2

Approve new clean water funding so that resources reflect the scale of the challenges ahead for the Commonwealth.

INTRODUCTION

Pennsylvania is home to 86,000 miles of rivers and streams. Among these are more than 16,000 miles of wild trout streams — but also many thousands of miles of streams that are impaired, fragmented, or otherwise degraded by historic and ongoing development and resource extraction. By restoring streams and reconnecting habitat, the Commonwealth can improve water quality, protect local communities from damaging floods, and support a $29 billion outdoor recreational economy.

BACKGROUND

From urban and suburban development to agriculture, mining, and drilling, community and economic development has taken its toll on Pennsylvania's waterways. More than 19,000 stream miles are impaired by agricultural nutrient loading and sedimentation, urban and suburban runoff, abandoned mine drainage, and other factors. Pennsylvania is trailing far behind in cleaning up the Commonwealth's streams and rivers in the Chesapeake Bay Watershed and is not on track to meet Chesapeake Bay nutrient and sediment reduction goals. Meanwhile, flooding continues to be a problem for local communities, exacerbated by thousands of undersized stream culverts where storm waters can pile up debris, wash out roads, and inundate upstream areas.

Restoring in-stream habitat, stabilizing stream banks, and installing streamside buffers can reduce pollution and sedimentation, improve water quality, and lower stream temperatures to better support coldwater species like trout. Replacing faulty culverts allows flood waters to pass safely underneath roads, reduces bank erosion and streambed scour, and reconnects aquatic species to upstream habitat they need to feed, spawn, and thrive. The Commonwealth is making investments in projects like these, but more is needed. Programs like the Keystone Fund, Growing Greener, and the Dirt, Gravel & Low Volume Road program support stream restoration, riparian buffer work, and culvert improvements; however, a fresh infusion of funding for clean water programs is critical.

CONCLUSION

Restoring and reconnecting Pennsylvania's streams is essential to protecting our aquatic life, not least the wild trout that are the crown jewel of the Commonwealth's $1 billion fishing economy. This work will also improve drinking water quality, address pollution, and help communities avoid costly flood damage. Investing in this work should be a Pennsylvania priority.

POORLY CONSTRUCTED CULVERTS PREVENT TROUT AND OTHER MIGRATORY FISH FROM ACCESSING UPSTREAM HABITAT. DURING MAJOR PRECIPITATION EVENTS, THESE FAULTY CULVERTS MAY ALSO BECOME BLOCKED, LEADING TO DEVASTATING FLOODS, PROPERTY DAMAGE, AND INCREASED SEDIMENT POLLUTION.
Photo: Trout Unlimited

PROTECTING WILD TROUT AND EXPANDING PROTECTIVE STREAM DESIGNATIONS

*Researched and written by **Rob Shane** (Trout Unlimited)*

RECOMMENDATIONS

1. Enact legislation to approve a license fee increase for the Fish and Boat Commission.

2. Provide necessary funding for the Department of Environmental Protection as defined in the priority recommendations earlier in this document.

3. Establish new revenues for the Growing Greener Environmental Stewardship Fund, which supports state agencies, municipalities, and conservation organizations in implementing on-the-ground projects to conserve and restore these high value trout streams.

INTRODUCTION

The Unassessed Waters Initiative was launched in 2010 by the Pennsylvania Fish & Boat Commission (PFBC) to document and protect populations of wild brook, brown, and rainbow trout. Thanks to this program, the Commonwealth now boasts more than 16,000 miles of designated wild trout streams, many of which are home to Pennsylvania's state fish, the Eastern brook trout. Wild trout require cold, clean water to survive and reproduce, and these waters are given special protections under state regulation.

BACKGROUND

The presence of wild trout in a coldwater stream does not simply provide recreational opportunities for anglers. It also means that those waters qualify for regulatory protections that translate into cleaner water for other forms of recreation, drinking water supplies, and businesses.

Coldwater streams found to contain sizable naturally-reproducing trout populations by the PFBC or partners like Trout Unlimited are awarded Wild Trout designations or Class A designations (for the best of the best). These designated Wild Trout or Class A streams earn a higher level of protection from the Department of Environmental Protection (DEP). If a stream is on the state list of Wild Trout Waters, wetlands in its floodplain are classified as Exceptional Value. Class A streams are designated High Quality. To ensure water quality is not degraded in these special designation subwatersheds, the DEP may limit wastewater discharges, add permit conditions before allowing residential or commercial development, and require protection of streamside buffers.

The PFBC and its partners employ a science-based approach to assessing streams for wild trout, with a goal of ensuring that these coldwater resources receive the protections required to remain the cleanest of Pennsylvania's streams. Likewise, the DEP dedicates a small staff to assessing stream designation upgrade candidates and upgrading those that qualify. Special protections apply to only the most pristine streams: just 2 percent of Pennsylvania's streams are designated as Exceptional Value, while 23 percent meet High Quality standards. However, funding uncertainties limit the ability of both agencies to continue this important work in an efficient and appropriate manner.

CONCLUSION

Expanding and enhancing Pennsylvania's Wild Trout and Class A designated waters benefits not just trout and recreational anglers, but downstream users and other wildlife, as well. The PFBC is supported by fishing and boating fees which should be raised regularly by the legislature to keep pace with expenses and the national average. Also, providing sufficient funding to the DEP will allow it to conserve, protect, and restore waterways in Pennsylvania.

THE EASTERN BROOK TROUT IS THE ONLY TROUT SPECIES NATIVE TO PENNSYLVANIA. BROOK TROUT CAN BE FOUND IN THE HEADWATER STREAMS OF ALL THREE MAJOR RIVER BASINS; HOWEVER, THEIR NATIVE RANGE HAS BEEN GREATLY REDUCED DUE TO RISING WATER TEMPERATURES AND POLLUTION.
Photo: Trout Unlimited

KEEPING CHILDREN SAFE FROM LEAD IN SCHOOL DRINKING WATER

*Researched and written by **Stephanie Wein** (PennEnvironment)*

RECOMMENDATIONS

1

While Act 39 was a first step in the right direction, there are several places where we need to go further to protect children's health. Districts can avoid testing by discussing the matter at a district meeting, the action level of 15 parts per billion is higher than the recommendations of health experts, and by saying that alternative water source must be made available, it allows districts to side-step remediation by providing bottled water, which is both expensive and generates waste. We recommend passing policy that: **a) tests** the water, **b) tells** parents the condition, and **c) treats** any problems (*see next page for more information*).

2

In the 2017-2018 legislative session, legislation (H.B. 2025) was introduced that would have required these simple steps to be taken, gathering more than 70 bipartisan cosponsors. We recommend a reintroduction and passage of similar legislation in this session. Once complete, we urge legislators to dive deeper on drinking water contamination by lead in communities across the Commonwealth and enact legislative solutions.

INTRODUCTION

There are no federal or state standards for lead in drinking water in our schools. Furthermore, no federal or state level requirements currently exist requiring schools identify or report lead contamination in drinking water at Pennsylvania schools using municipal water. As schools across the state are uncovering lead in water, we need health-based guidelines for our school districts to protect our children.

BACKGROUND

In the wake of the Flint, MI drinking water disaster, many communities across the country are discovering that there is lead in the water coming from their faucets. Few places have been in the national spotlight on this issue as much as Pennsylvania, with the state's aging infrastructure making it particularly vulnerable. From cities like Philadelphia, Pittsburgh, and Allentown to suburban towns and rural communities in Lancaster and Butler County, lead in drinking water continues to be found in buildings across the Commonwealth. In a 2012-2015 survey of federal data, Pennsylvania had the greatest number of schools with elevated levels of lead in their drinking water.

Currently, no federal or state-level requirements exist around testing, reporting, or maximum-allowable-levels of lead from water outlets in school buildings. While public water systems themselves are tested, lead contamination happens in the building itself, distinguishing it from other sources of pollution. Schools on municipal water systems are not compelled to test for lead, leaving them vulnerable to contamination by their own infrastructure.

The health risks from lead exposure are well known: lead is a highly potent neurotoxin, with long-term exposure — even at very low levels — causing permanent damage to the brain, kidneys, and other organs. Children are particularly vulnerable to the effects of lead harming their learning, development, and behavior. Recent research has estimated that lead toxicity accounts for an annual estimated total loss of 23 million IQ points among U.S. children, and the American Association of Pediatrics states that there is no safe level of lead in drinking water.

In the 2018 legislative session, Act 39 amended the School Code to encourage — but not require — schools to test for lead, and to provide safe sources of water when lead was in excess of 15 parts per billion.

CONCLUSION

The solutions for tackling the threat of lead in our schools' drinking water are already available today. This includes health-based testing for lead presence; disclosing all test results to parents, teachers, and community leaders; and addressing the lead contamination via filtration and/or lead pipe removal.

OTHER DRINKING WATER SAFETY CONCERNS IN PENNSYLVANIA

Beyond the clear legislative opportunity to address lead in drinking water, there are a variety of problems facing tap water across the Commonwealth. Some of those include:

- **Aging Infrastructure** — Failure to invest in infrastructure has compromised drinking water. Beyond the risk from lead pipes, infrastructure failure has resulted in bacterial contamination and "boil water" advisories from Pittsburgh to Bucks County. According to U.S. Environmental Protection Agency data, the state will need to spend nearly $17 billion over the next two decades to meet its clean water obligations.
- **PFAS Contamination** — This class[31] of contaminants, used in industrial processes and fire suppression, is being found in drinking water in southeast Pennsylvania, most notably in Bucks and Montgomery County. Emerging research indicates links between this family of contaminants and thyroid disruption, cancer risk, and immune system dysfunction.
- **Natural Gas Development** — The expansion of unconventional natural gas extraction in the Commonwealth has posed risks associated with well integrity, subsurface migration of natural gas,[32] and poorly treated wastewater and wastewater spills, all off which threaten well water.[33]

Photo: Tsayrate (Flickr, Creative Commons)

KEEPING CHILDREN SAFE FROM LEAD IN SCHOOL DRINKING WATER

a

TEST: Schools should test all water outlets used for cooking or drinking annually for lead and set a maximum allowable level of lead at five parts per billion. Schools should use testing standards established by the U.S. Environmental Protection Agency, testing the first and second draw of water from outlets after the water system has not been used for eight or more hours.

b

TELL: Parents have a right to know if there is a health risk in their child's school. Schools should post all testing results online within 15 days of getting the results, regardless of what the results are.

c

TREAT: Ultimately, wherever there is lead infrastructure, there will be a risk of contamination, so the long-term solution is to replace lead pipes and fixtures. However, we first need immediate action. Schools should be able to ensure that our kids have safe drinking water right away, taking the contaminated tap offline within 24 hours and providing an alternative. This means installing lead-certified filters on drinking fountains and sinks — or even providing bottled water as a stop-gap measure — while ensuring that schools have a plan in place for long-term solutions to fully address the threat of lead in drinking water.

ENSURING THAT WASTEWATER PERMITS ARE UP-TO-DATE

*Researched and written by **Thomas Y. Au***
(Sierra Club PA Chapter)

RECOMMENDATIONS

1

Allocate sufficient funds in the Department of Environmental Protection's budget to hire staff and secure the resources to review National Pollution Discharge Elimination System permits and Water Quality Management Permits.

2

Increase funding for Pennsylvania's sewage treatment infrastructure to the $18 billion figure suggested by the U.S. Environmental Protection Agency (EPA) in the 2008 Clean Watersheds Needs Survey. According to the EPA, nearly half of this amount is needed to address the combined sewer overflow issue.

WHEN COMBINED SEWERS EXCEED CAPACITY DURING HEAVY RAINFALL, UNTREATED WASTEWATER AND SEWAGE IS CARRIED DIRECTLY TO WATERWAYS AND SEVERELY DEGRADES WATER QUALITY.
Photo: Water Alternatives (Flickr, Creative Commons)

INTRODUCTION

Wastewater is used water from any combination of domestic, industrial, commercial or agricultural activities; stormwater runoff; and any sewer inflow or sewer infiltration. Various types of wastewater include: domestic wastewater from households, municipalities (sewage), or industrial activities. Wastewater may be conveyed in a sanitary sewer which transports only sewage, or it can be moved through a combined sewer, which includes stormwater runoff and industrial or municipal waste. When these combined sewer systems take on a surplus of rain and wastewater, they reach max capacity and overflow into waterways untreated. These are known as Combined Sewer Overflows (CSOs).

Wastewater, treated or otherwise, comes out of a point source, a traceable and controllable location like a pipe or sewer outfall. The Clean Water Act made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. These permits are known as National Pollutant Discharge Elimination Systems (NPDES) and Water Quality Management (WQM) permits and are administered in Pennsylvania by the Department of Environmental Protection (DEP). They regulate discharges from sewage, industrial waste, municipal and industrial stormwater facilities, and other activities including the application of pesticide.

BACKGROUND

Due to recently tightening budgets, the DEP staff has been unable to keep pace with updating water quality management permits for large industrial wastewater and stormwater discharges. Major sources of industrial pollution have been operating under decades-old NPDES and WQM permits and, as such, are not required to meet up-to-date pollution reduction standards. As a result, Pennsylvania's rivers and streams that receive discharges from outdated pollution sources are not benefiting from modern improvements in pollution reduction requirements.

The U.S. Environmental Protection Agency requires that permits are updated every five years to ensure that discharges are managed with the best available technology and information. As permits conclude their five-year term, states are required to review and reissue wastewater discharge permits that reflect best available technology and more protective effluent limits.

Unlike other sources, industrial and sewage wastewater treatment plants (WWTPs) in the Potomac and Susquehanna Watersheds have made considerable progress, most notably for reducing excess nitrogen. Upgrades and operational efficiencies at WWTPs throughout the Chesapeake Bay Watershed have resulted in steep reductions in excess nutrient pollution.

Wastewater point source discharges are subject to two significant and important parts of the Clean Water Act:

1. Water quality protection rules based on the chemical, physical, or biological condition of streams and wetlands; and
2. Protection measures based on treatment technology requirements for facilities that discharge effluent, pollutants, sewage and industrial waste, or other substances into water bodies.

Among these facilities are large power plants, which discharge pollutants like ammonia, boron, arsenic, mercury, and strontium. The DEP's failure to update permits saves companies discharging pollutants from having to upgrade their facilities. However, this places the responsibility of cleaning up our rivers and streams on other users, such as public water suppliers, municipalities, and farmers. Industrial polluters can and should do more to clean our rivers and streams, and legislators can set policy and appropriations levels that will allow the DEP to encourage increased compliance.

CONCLUSION

The federal Clean Water Act mandates that states will undertake continuous improvement in water pollution control technologies to improve water quality. To do this, the DEP needs to add staff to fulfill its responsibilities under the federal Clean Water Act and the Pennsylvania Clean Streams Law.

ADVANCING ENVIRONMENTAL JUSTICE

*Researched and written by **Mariah Davis** (Choose Clean Water Coalition)*

RECOMMENDATIONS

To address a legacy of injustice, we recommend that the Pennsylvania General Assembly:

1. Evaluate state policy and funding decisions with consideration for disproportionate impacts or harm to underserved communities.

2. Appoint environmental justice liaisons in all applicable agencies and establish an interagency working group.

3. Expand the Office of Environmental Justice to include one staffer and one director in each of the six regional offices.

4. Analyze each state grant program to determine how they contribute to environmental justice.

INTRODUCTION

The guiding principle of environmental justice is that everyone — regardless of race, color, national origin, or income — is entitled to equal protection from environmental harms and risks. In 2015, the Department of Environmental Protection (DEP) identified 851 environmental justice communities. This is defined as communities in which at least 20 percent of residents live in poverty and/or at least 30 percent of people are ethnic minorities disproportionately burdened by negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.[34]

BACKGROUND

Our most vulnerable populations, living near natural gas pipelines, oil refineries, power plants, and other polluting facilities, suffer from exacerbated health consequences. These health impacts are the result of toxic pollutants in the air and the sources of our drinking water from industrial discharges/emissions. In 2016, the DEP received a letter from the U.S. Environmental Protection Agency (EPA) outlining the state's failure to enforce safe drinking water standards due to inadequate staffing and issuing a warning that this could have "serious public health implications." In the letter, EPA staff warned that these threats to public health could also cause the state to lose access to millions of dollars in federal funding.

By establishing an Environmental Justice Advisory Board, the Commonwealth has begun to demonstrate its understanding of the need to confront the disproportionate pollution impacts that legacy and present pollution has on underserved and underrepresented communities. However, the legislature can and must do much more to provide oversight of the decision-making process that threatens clean air and water for these Pennsylvanians. Since 1999, the DEP has led efforts to address environmental justice concerns through a statewide Environmental Justice Work Group (EJWP), which was reconstituted in 2015 to form the present-day Office of Environmental Justice. The primary goal of the Office of Environmental Justice is to increase communities' environmental awareness and involvement in the DEP's permitting processes.[35] This office is critical to creating opportunities for public engagement, which provide local communities more agency and say in polluting (or potentially polluting) activities. The Environmental Justice Advisory Board consists of Governor-appointed members tasked with reviewing permit applications, making recommendations for DEP management, and providing a forum for stakeholders to share environmental concerns in their communities.

Since the Environmental Justice Advisory Board lacks formal decision-making authority, it is imperative that elected officials develop stronger policies that protect the health of all people regardless of their socioeconomic status.

CONCLUSION

Written into the Commonwealth's constitution is a promise for all Pennsylvanians. Yet, some Pennsylvanians have borne the undue burden of disproportionate pollution hazards that affect their health, limit their economic opportunities, and eliminate opportunities for safe recreation. All state residents deserve equitable rights to Pennsylvania's natural resources, including clean air and clean water.

INDUSTRIAL POWER PLANT
Photo: Jason Blackeye (Unsplash)

BEDROCK CLEAN WATER LAWS

*Researched and written by **Trisha L.R. Salvia** (Chesapeake Bay Foundation)*

State legislators should consider a suite of state and federal laws, as well as local authority, when deliberating the many water challenges in Pennsylvania and potential opportunities, such as funding levels for the state resource agencies charged with implementing statutory requirements. Pennsylvania should provide specific funding levels to several cooperative environmental commitments, such as the federal Chesapeake Clean Water Blueprint, in order to receive federal grants and supplemental match. The following state and federal water laws are critical for state legislators to understand as they set the background for cleaner waters for all Pennsylvanians to enjoy recreationally and economically, as well as for public health and safety.

ENVIRONMENTAL RIGHTS AMENDMENT

Article I, Section 27 of the Pennsylvania Constitution is known as the Environmental Rights Amendment (ERA). The ERA was ratified by the citizens of the Commonwealth in 1971. Most recently, the self-executing ERA has been utilized in numerous environmental legal challenges in which the Pennsylvania Supreme Court and subsequent lower courts have been changing the guidelines while reinvigorating the ERA.[36] Article I, section 27 of the Pennsylvania Constitution provides as follows:

"The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

FEDERAL WATER POLLUTION CONTROL ACT (CLEAN WATER ACT): 33 U.S.C. §§ 1251, et seq.

The U.S. Environmental Protection Agency (EPA) has delegated authority in Pennsylvania to the Department of Environmental Protection (DEP) to enforce Clean Water Act requirements, including the issuance of National Pollutant Discharge Elimination Systems (NPDES) permits and the enforcement of water-related environmental regulations. NPDES permits are the main permits needed to potentially discharge into waters of the Commonwealth. The DEP accomplishes this goal through the Clean Streams Law and its applicable regulations.

CLEAN STREAMS LAW: 35 P.S. §§ 691.1, et seq.

25 Pa. Code Ch. 91 – General Provision
25 Pa. Code Ch. 92a – NPDES
25 Pa. Code Chs. 93 and 96 – Water Quality Standards
25 Pa. Code Ch. 102 – Erosion and Sediment Control

The Clean Streams Law was created in 1937 to regulate the discharge of sewage, industrial waste, or any substance which causes or contributes to pollution into the waters of the Commonwealth of Pennsylvania. The law was amended several times, including in the 1960s to add water quality standards. Water quality standards are the combination of water uses to be protected and the water quality criteria needed to protect those uses. In the late 1970s and 1980, the Clean Streams Law was amended to align its requirements more closely with the federal Clean Water Act. The DEP is given authority to address and adopt regulations concerning potential pollution. The DEP has adopted rules for erosion and sedimentation control, pollution control, and prevention of pollution at agricultural operations. The DEP issues discharge permits, construction permits, stormwater discharge permits for industrial or construction operations, and tests and monitors water quality of High-Quality waters (those waters that have been monitored as exceptionally clean).

Photo: Chesapeake Bay Foundation

DAM SAFETY AND ENCROACHMENT ACT: 32 P.S. §§ 693.1-693.27

25 Pa. Code Ch. 105

The Dam Safety and Encroachment Act gives the DEP authority to regulate construction, operation and maintenance of dams, and other water obstructions and related activities. This act also establishes the legal basis for Pennsylvania's regulation of activities affecting wetlands.

FLOOD PLAIN MANAGEMENT ACT: 32 P.S §§ 679.101, et seq.

25 Pa. Code Ch. 106

Adopted in 1978, the Flood Plain Management Act mandates that each municipality which has been notified by FEMA that it has an area(s) which is subject to flooding shall participate in the National Flood Insurance Program.

MINING LAWS:

Surface Mining Conservation and Reclamation Act, 52 P.S §§ 1396.1, et seq.
Bituminous Mine Subsidence and Land Conservation Act, 52 P.S. §§ 1406.1, et seq.
Noncoal Surface Mining Conservation and Reclamation Act, 52 P.S. §§ 3301, et seq.
Land and Water Conservation and Reclamation Act, 32 P.S. §§ 5101, et seq.
25 Pa. Code Chs. 77, 86, 87, 88, 89, 90, 208, 209a

Mining has long been a part of Pennsylvania's history, culture, and environment. There are different laws and regulations that oversee the different operations of mining, such as abandoned mine reclamation, surface mining, noncoal mining, mine safety, and more. Noted above are some of the relevant laws, along with the Clean Streams Law, that help manage water issues related to mining activities.

NUTRIENT AND ODOR MANAGEMENT ACT: 3 Pa. C.S. §§ 501-522

25 Pa. Code §§ 83.201, 83.501, 83.701

The Nutrient and Odor Management Act's purpose, in part, is "proper utilization and management of nutrients on farms to prevent the pollution of surface water and groundwater." The law requires concentrated animal operations to devise a nutrient management plan to control animal waste runoff.

— continued on next page —

OIL AND GAS ACT (ACT 13): 58 Pa. C.S. §§ 2301-2704, 3201-3274, 3301-3309, 3501-3504

25 Pa. Code Chs. 78 and 78a.

Passed in 2012, the Oil and Gas Act updated the previous 1984 act that regulates activities related to oil and gas extraction, including water withdrawals and setbacks for development near water. In 2016, regulations were promulgated under the act for unconventional oil and gas development. The act also provides for the imposition of an unconventional gas well fee (also called an impact fee) and the distribution of those funds to local and state governments. The act also contains provisions regarding how the impact fee may be spent. A significant portion of the funds collected are distributed directly to local governments to cover the local impacts of drilling. Also, several state agencies receive funding to be used for a variety of other purposes.

PENNSYLVANIA SAFE DRINKING WATER ACT: 35 P.S. §§ 7212.1, et seq.

25 Pa. Code Ch. 109

The Safe Drinking Water Act, passed in 1984, allows Pennsylvania to assume primary enforcement responsibility under the federal act and regulates Pennsylvania's drinking water.

SEWAGE FACILITIES ACT: 35 P.S. §§750.1, et seq.

25 Pa. Code Chs. 71, 72, and 73

The Sewage Facilities Act was passed in the 1960s and requires all municipalities to develop and maintain an up-to-date sewage facilities official plan (Official Plan) to protect public health from diseases, prevent future sewage treatment problems, and protect the quality of the state's surface water and groundwater. As part of an Official Plan Update, the municipality should consider developing a sewage management program (SMP). Such a program to ensure the operation and maintenance of on lot sewage systems should be established before malfunctions are widespread in an area.

STORMWATER MANAGEMENT ACT (ACT 167): 32 P.S. §§ 680.1, et seq.

25 Pa. Code Ch. 111

Enacted in 1978, the goal of the Stormwater Management Act is to prevent or mitigate the effects of stormwater runoff. It requires counties, in consultation with its municipalities, to create watershed-based stormwater management plans.

WATER RESOURCES PLANNING ACT (ACT 220): 27 Pa. C.S. §§ 3112, et seq.

25 Pa. Code Ch. 110.

The Water Resources Planning Act requires certain entities that are subject to registration to monitor, maintain records, and submit to the DEP periodic reports regarding the source, location, and amount of water withdrawals and/or uses from surface and groundwaters. This act also established the State Water Plan, which is to be updated every five years. The State Water Plan provides planning tools and guidance for those who make decisions that affect the Commonwealth's water resources or make decisions based on adequate quantity and quality of water. This act does not regulate the actual use of water.

WASTE MANAGEMENT LAWS:

Solid Waste Management Act, 35 P.S. §§ 6018.101, et seq.
Waste Transportation Safety Act, 27 Pa.C.S. §§ 6201, et seq.
Municipal Waste Planning, Recycling and Waste Reduction Act, 53 P.S. §§ 4000.101, et seq.
Waste Tire Recycling Act, 35 P.S. §§ 6029.101, et seq.
Covered Device Recycling Act, 35 P.S. §§ 6031.101, et seq.
25 Pa. Code, Subpart D, Article VII – Hazardous Waste Management
25 Pa. Code, Subpart D, Article VIII – Municipal Waste
25 Pa. Code, Subpart D, Article IX – Residual Waste Management

Residual, Municipal, and Hazardous Waste Laws have many provisions designed to protect human health and safety, as well as the environment. Above are some of the different laws and regulations that help oversee the protection of water sources related to the different waste operations and disposals.

WATER RIGHTS LAW: 35 P.S. §§ 631, et seq.

The Water Rights Law requires all public water supply agencies to obtain prior approval (water allocation permit) before withdrawing waters. The 1939 act abolished the prior eminent domain system for individual municipal water allocations and vested the authority in the DEP. There are no accompanying regulations.

ACKNOWLEDGMENTS

A team of clean water advocates from the following ten organizations contributed to the content development, drafting, editing and design of this inaugural Clean Water Legislative Briefing Book.

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REFERENCES

1 Lake Research Partners, Jonathan Voss - Choose Clean Water Pennsylvania Polling

2 "Pennsylvania Outdoor Recreation Economy Report." Outdoor Industry Association, Outdoor Industry Association, 26 July 2017, outdoorindustry.org/resource/pennsylvania-outdoor-recreation-economy-report/.

3 EPA Definition of Nonpoint Source Pollution: NPS pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. NPS pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants – like fertilizers, pesticides, insecticides, oil/grease, animal waste, sediment, and road salts - finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters. Point Source pollution comes from a specific source like an industrial pipe.

4 Kaufman, Gerald. "Economic Value of the Delaware River Basin." Water Resources Center, University of Delaware, 2013, www.wrc.udel.edu/research/watershed-economics/economic-value-of-the-delaware-river-basin/.

5 Csebestyen. Delaware River Water Quality: A Brief Recap, NJ Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information Systems (BGIS), www.state.nj.us/drbc/quality/.

6 Rotman, Michael. "Lake Erie." Cleveland Historical, clevelandhistorical.org/items/show/58.

7 National Oceanic and Atmospheric Administration Definition of Harmful Algae Blooms: Harmful algal blooms, or HABs, occur when colonies of algae — simple plants that live in the sea and freshwater — grow out of control and produce toxic or harmful effects on people, fish, shellfish, marine mammals and birds.

8 "Lake Erie Tourism Economic Impact in Ohio." Economy, Lake Erie Foundation, www.lakeeriefoundation.org/about-lake-erie/economics/.

9 "Pennsylvania Outdoor Recreation Economy Report." Outdoor Industry Association, Outdoor Industry Association, 26 July 2017, outdoorindustry.org/resource/pennsylvania-outdoor-recreation-economy-report/.

10 "Pennsylvania Outdoor Recreation Economy Report." Outdoor Industry Association, Outdoor Industry Association, 26 July 2017, outdoorindustry.org/resource/pennsylvania-outdoor-recreation-economy-report/.

11 Gilbert, Tom. The Economic Benefits Of New York's Environmental Protection Fund. The Trust for Public Land, cloud.tpl.org/pubs/local-ny-economic-benefits-rpt2012.pdf.

12 Lotthammer, Shannon, and Celine Lyman. "Clean Water Fund." Minnesota Pollution Control Agency, 8 Oct. 2018, www.pca.state.mn.us/water/clean-water-fund.

13 "Establish Dedicated State Funding for Land Conservation." Smart Growth America, old.smartgrowthamerica.org/guides/smart-growth-at-the-state-and-local-level/natural-resources-environment/establish-dedicated-state-funding-for-land-conservation/.

14 Voss, Jonathan. "Findings and Messaging Recommendations from a Dial Survey of 900 adults in Maryland, Pennsylvania, and Virginia." LakeResearch.com, Lake Research Partners & Spitfire Strategies. 16 Feb. 2017, lakeresearch.com

15 EPA Description of Green Infrastructure in comparison to Gray Infrastructure: Green infrastructure is a cost-effective, resilient approach to managing wet weather impacts that provides many community benefits. While single-purpose gray stormwater infrastructure—conventional piped drainage and water treatment systems—is designed to move urban stormwater away from the built environment, green infrastructure reduces and treats stormwater at its source while delivering environmental, social, and economic benefits.

16 Darren, Nichols. "About." Great Lakes Commission, 2018, www.glc.org/about

17 Gilbert, Tom. "Pennsylvania's Return on Investment in the Keystone Recreation, Park, and Conservation Fund." Trust for Public Land, Trust for Public Land, cloud.tpl.org/pubs/benefits-pa-keystone-roi-report.pdf.

18 "Benefits of Healthy Watersheds." EPA, Environmental Protection Agency, 5 Mar. 2018, www.epa.gov/hwp/benefits-healthy-watersheds#economic.

19 "Pennsylvania Outdoor Recreation Economy Report." Outdoor Industry Association, Outdoor Industry Association, 26 July 2017, outdoorindustry.org/resource/pennsylvania-outdoor-recreation-economy-report/.

20 "The Power of Outdoor Recreation Spending in Pennsylvania." Theodore Roosevelt Conservation Partnership, Southwick Associate. November, 2018

21 "Visitor Spending Effects." National Parks Service, U.S. Department of the Interior, 2017, www.nps.gov/subjects/socialscience/vse.htm.

22 "2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation." US Fish & Wildlife Service, US Fish & Wildlife Service, 2016, wsfrprograms.fws.gov/subpages/nationalsurvey/nat_survey2016.pdf.

23 "The Power of Outdoor Recreation Spending in Pennsylvania." Theodore Roosevelt Conservation Partnership, Southwick Associate. November, 2018

24 "The Economic Benefits Of Implementing The Blueprint In Pennsylvania." Chesapeake Bay Foundation, CBF.org, Oct. 2014, www.cbf.org/document-library/cbf-reports/0929-Final-PA-fact-sheet12d2.pdf

25 http://udspace.udel.edu/bitstream/handle/19716/9773/DelEstuaryValueReport.pdf

26 Eder, Tim. "Great Lakes Restoration at Work in Pennsylvania." Great Lakes Commission, Great Lakes Commission, Mar. 2017, www.glc.org/wp-content/uploads/2017/03/GLC-Pennsylvania-GLRI-Fact-Sheet-2017-Final-20170303.pdf.

27 http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20031262.pdf

28 USDA National Agricultural Statistics Service, 2017 State Agriculture Overview.

29 Team Pennsylvania, Pennsylvania Department of Agriculture, Econsult Solutions and Temple University's Fox School of Business, May 2018, Pennsylvania Agriculture: A Look at the Economic Impact and Future Trends.

30 Pennsylvania Department of Environmental Protection, 2016 Final Pennsylvania Integrated Water Quality Monitoring and Assessment Report: Clean Water Act Section 305(b) Report and 303(d) List.

31 Office of Ground Water and Drinking Water, Drinking Water Protection Division. "Drinking Water Infrastructure Needs Survey and Assessment, Sixth Report to Congress." EPA Office of Water, US Environmental Protection Agency, 2015, www.epa.gov/sites/production/files/2018-10/documents/corrected_sixth_drinking_water_infrastructure_needs_survey_and_assessment.pdf.

32 "Basic Information on PFAS." EPA, Environmental Protection Agency, 6 Dec 2018. www.epa.gov/pfas/basic-information-pfas.

33 "Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (Final Report)." EPA, Environmental Protection Agency, 15 Nov, 2017. Cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990

34 Hopey, Don. "State, Allegheny County Differ When It Comes to Identifying Areas That Need Help with Environmental Impacts." Pittsburgh Post-Gazette, www.post-gazette.com/news/environment/2017/11/24/Allegheny-County-Environmental-Justice-index/stories/201711230012.

35 "Environmental Justice." EPA, Environmental Protection Agency, 19 Nov. 2018, www.epa.gov/environmentaljustice.

36 See, Robinson Township v. Commonwealth, 83 A.3d 901 (Pa. 2013); Pennsylvania Environmental Defense Foundation v Commonwealth, 161 A.3d 911 (Pa. 2017); Center for Coalfield Justice v. DEP & Consol, EHB No. 2014-072-B (August 15, 2017).