

Rough Waters Ahead

The Impact of the Trump Administration's
EPA Budget Cuts on the Susquehanna River Basin



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Executive Summary

The Susquehanna River is critical to the health and welfare of our families, our communities, and wildlife. The Susquehanna River flows from tributaries in New York state and western Pennsylvania to the Chesapeake Bay, supplying drinking water to more than 6 million Pennsylvanians.

Today, the Susquehanna River basin's state parks and scenic rivers provide some of Pennsylvania's most cherished places to swim, boat and fish some of the nation's best smallmouth bass fisheries. However, the Susquehanna River's beauty masks historic and ongoing pollution problems. Industrial contamination and the legacy of coal mining have contributed to the degradation of the watershed, and agricultural pollution, wastewater treatment and urban runoff have emerged as major threats to clean water in the basin.

The U.S. Environmental Protection Agency (EPA) has been essential to efforts to clean up the Susquehanna River and restore the watershed to health – supporting and working with state and local efforts to keep pollution out of our waterways, hold polluters accountable, restore degraded waterways to health, and study and monitor the Susquehanna River basin to ensure its future health and safety.

That progress is now in jeopardy. The Trump administration has proposed deep and devastating cuts to the EPA's budget. Even if the president's proposed cuts are scaled back, they would still have profound, negative impacts on the agency's ability to deter pollution from industrial facilities, agriculture, sewage treatment plants, runoff and other sources, while undercutting efforts to restore iconic bodies of water such as the Susquehanna River.

America should not go back to the way it used to be, when the Susquehanna River was used as a dumping ground for coal tar, metals, sewage and many other pollutants without recourse. We need a strong EPA with sufficient resources to support local cleanup efforts and to partner with states and communities to protect and restore the Susquehanna River Basin.

The Susquehanna River basin is being protected and restored to health with funding and effort from the EPA. The EPA has worked to:

- **Clean up mine pollution in Miller Run in Huntingdon County:** In the 1990s, Miller Run, near Altoona in Huntingdon County, was so acidic and polluted with heavy metals from acid mine drainage that fish could only be found upstream of mine pollution sources.¹ The Shoup's Run Watershed Association received funding from the EPA and other sources to support their efforts to clean up the stream and restore Miller Run to a healthy native brook trout fishery.²
- **Support local initiatives to restore Piercesville Run in York County:** In the 1990s, Piercesville Run, a tributary of the South Branch of Codorus Creek, was found to be so polluted from agricultural runoff and damaged by livestock trampling that in 2002 the Pennsylvania Department of Environmental Protection (PA DEP) classified it as "impaired" – finding that it was too polluted to meet its designated use for aquatic life.³ The EPA provided financial support to the Izaak Walton League of America (IWLA) for its initial assessment of the South Branch of Codorus Creek and its tributaries' health in the 1990s and to then help restore Piercesville Run.⁴ Thanks to IWLA

and their partners' efforts, Pierceville Run's health is steadily improving, as both sediment and phosphorus loads have declined by at least 39 percent; by 2012, the state began to remove portions of the stream from its impaired waters list.⁵

- **Developed cleanup plans for the Chesapeake Bay that drive pollution reductions in the Susquehanna River:** The EPA has set basin-wide limits on nitrogen, phosphorus and sediment pollution as part of its work to restore the Chesapeake Bay; this program requires bay states, including Pennsylvania, to cut pollution – helping to save the bay while improving conditions in the Susquehanna River.⁶ Despite some signs of

progress, however, Pennsylvania is falling behind on its reduction targets, and further action is needed to fulfill its commitments.⁷

- **Provide tools that protect drinking water from chemical spills:** In June 2015, a fire at the Miller Chemical fertilizer plant in Adams County resulted in the discharge of flame retardant foam and fertilizer compounds into a tributary of Conewago Creek, from which the town of New Oxford draws its drinking water.⁸ Emergency response teams used a tool developed with EPA funding to track the spill's contamination and protect the residents of New Oxford, as well as other municipalities downstream.⁹

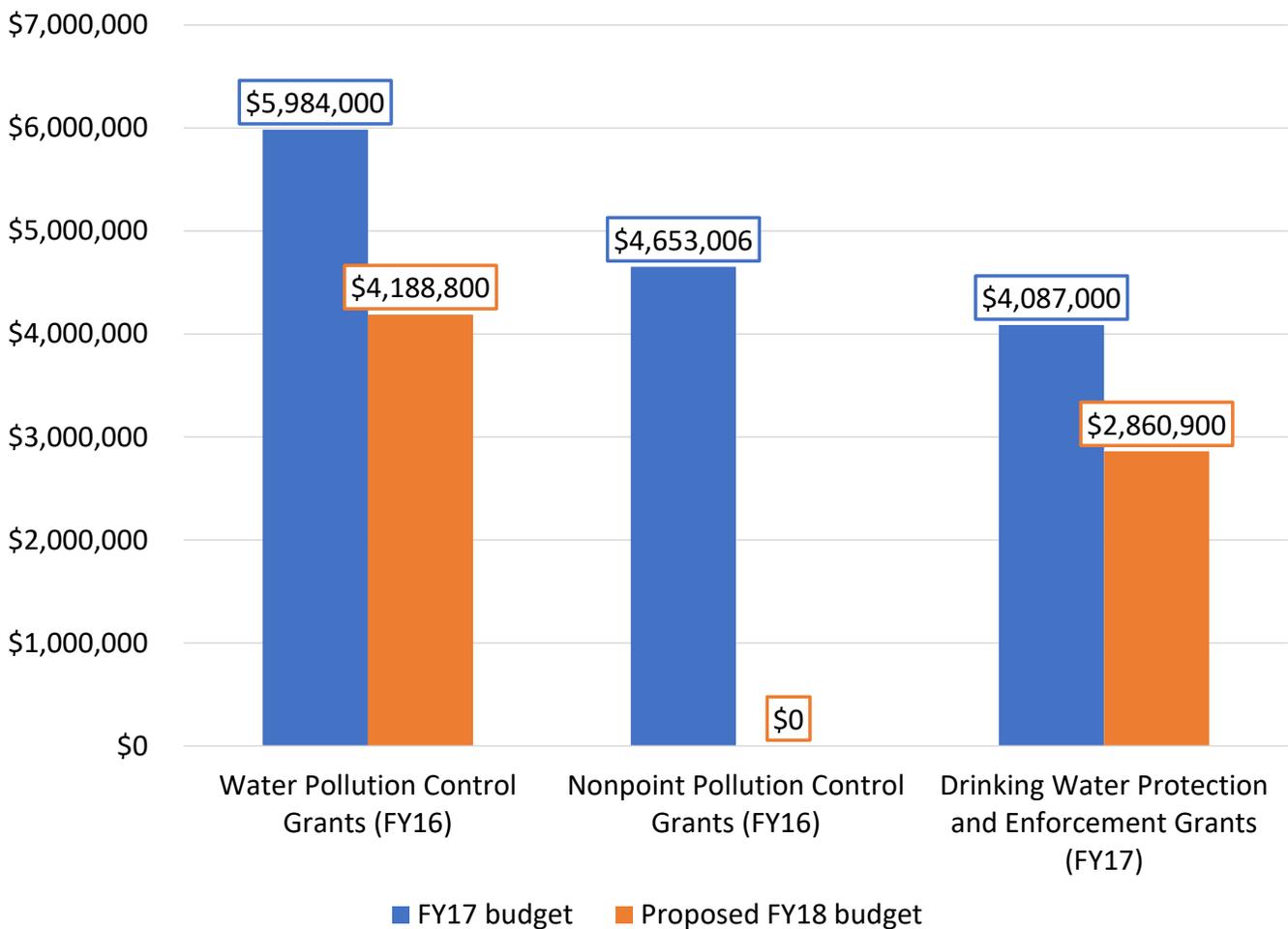
Table ES-1. How Clean Water in the Susquehanna River Basin Depends on the EPA

The Susquehanna River Basin Is Cleaner Because the EPA:	The EPA Continues to Protect Clean Water by:
Funded a local association's efforts to clean up acid mine drainage in the Miller Run watershed in Huntingdon County	Supporting local partnerships that restore the health of the Susquehanna River basin's waterways
Funded the restoration of Pierceville Run and the South Branch of Codorus Creek from the effects of agricultural runoff in York County	Funding restoration of streams and creeks across the region
Set limits on nutrient and sediment pollution to Chesapeake Bay from its tributaries, including the Susquehanna River	Enforcing pollution limits and encouraging best management practices in the Susquehanna River basin to clean up the Chesapeake Bay
Funded the development of a tool that helped protect the drinking water of New Oxford in Adams County from contamination during the Miller Chemical spill on Conewago Creek	Funding projects to prevent pollution and supervise public water systems
Ordered a Lancaster County farm to stop discharging manure and wastewater from an egg-laying and dairy farm to a tributary of Chiques Creek without a permit	Ensuring compliance with pollution standards to limit releases of nitrogen, phosphorus and pathogens to waterways
Reduced discharges of raw sewage into the Susquehanna River from municipal treatment plants	Ensuring compliance with planned infrastructure upgrades to limit releases of raw sewage
Supported research to understand the potential impacts of resource extraction in Susquehanna County and three other Pennsylvania counties on drinking water and newborns' health	Supporting research into new pollution control methods and the effects of water pollution on human health

- **Stop agricultural pollution in Lancaster County:** The EPA found that an egg and dairy farm in the Manheim area was discharging raw manure and contaminated water to a tributary of Chiques Creek without a permit.¹⁰ The EPA ordered the farm to comply with its obligations under the Clean Water Act and fined the farm.¹¹
- **Reduce pollution from raw sewage in the Susquehanna River:** From 2007 to 2013, the City of Harrisburg dumped 8 million gallons of raw

sewage into the Susquehanna River and Paxton Creek, potentially endangering public health and creating unhealthy river conditions.¹² The EPA and PA DEP reached a settlement with the city and its sewage utility that will help renew Harrisburg’s aging sewage infrastructure and stem the flow of pollution, as the sewer utility invests \$82 million to improve system operations, upgrade its wastewater treatment plant for the first time since 1976, and develop green stormwater infrastructure practices, like rain gardens, to help reduce stormwater runoff.¹³

Figure ES-1. Estimated EPA Grant Funding Losses to Pennsylvania if Trump Administration’s Proposed Budget Is Enacted (Figure Shows Cuts to Selected Programs Based on Most Recent Year for Which Data Are Available)



Note: Estimates are calculated assuming EPA budget cuts affect states by the same percentage. Reductions are based on grants from most recent fiscal year. “Water pollution control grants” are Section 106 grants, slated for a 30 percent cut. “Nonpoint pollution control grants” are Section 319 grants, cut entirely in the administration’s proposed budget. “Drinking water protection and enforcement grants” are Public Water System Supervision grants, cut by 30 percent.

- **Support research to understand the human health effects of water contamination due to fracking:** The EPA is funding a team of Yale researchers to investigate the relationship between water contamination due to fracking and adverse birth outcomes, such as preterm births or birth defects, in Susquehanna County, as well as five other counties in Pennsylvania and Ohio.¹⁴ The team will ultimately create a tool to help local health officials identify which homes may be more vulnerable to drinking water contamination and target interventions to ensure their access to safe drinking water.¹⁵

The Trump administration’s proposed cuts to the EPA budget put these and other critical functions in danger – threatening the future health of the Susquehanna River.

- Under the administration’s proposal, water-related programs run directly by the EPA would be slashed by 34 percent, hobbling efforts to prevent runoff pollution, monitor water quality, establish pollution limits, protect watersheds and wetlands, and pursue polluters.¹⁶
- In addition, many federal grants from the EPA to state governments for clean water would be slashed by 30 percent or more, including water pollution control grants that help fund the Susquehanna River Basin Commission, an interstate agency that coordinates the efforts of Maryland, New York, Pennsylvania and the federal government to manage the basin’s water resources.¹⁷ The proposal

would also end grants to state governments and tribal agencies to address pollution from farms, stormwater runoff and other dispersed sources – making it more difficult for already cash-strapped state agencies to do their jobs and delaying important locally led cleanup efforts.¹⁸

- Research and development funding would be cut by 47 percent, limiting support for scientists, residents and local communities trying to understand the ever-changing threats facing their waterways.¹⁹ For instance, the EPA’s Safe and Sustainable Water Resources research program, which supports science and technology research to protect drinking water, would be cut by a third.²⁰
- Overall, the EPA budget would be reduced by 31 percent.²¹

Even if Congress makes some of these budget cuts less drastic, the Susquehanna River basin will still suffer without full funding of EPA programs.

The job of cleaning up and protecting the Susquehanna River basin is not done. Continuing pollution from agriculture, industry and mining – along with the emergence of new pollution threats from new classes of industrial and household chemicals – call for continued vigilance and action. Only a well-funded EPA can continue the region’s legacy of progress in cleaning up the Susquehanna River basin and ensure that its streams and rivers are healthy and safe for us and future generations to enjoy.

The Susquehanna River Provides Drinking Water for Millions of Americans

The Susquehanna River is the source of drinking water for more than 6 million people and provides recreational opportunities for the region.²² Part of the Chesapeake Bay region, it flows from tributaries in New York state and western Pennsylvania, across central and southeast Pennsylvania, to the Chesapeake Bay. The Pennsylvania portion of the Susquehanna River basin, which covers approximately one-third of the state and includes 61 state parks and 110.5 miles of designated “scenic” rivers, provides visitors and residents with places to swim, boat, canoe, hunt, watch birds and fish in one of the nation’s best smallmouth bass fisheries.²³

The Susquehanna River is essential for drinking water, agriculture and tourism, yet the river and its watershed have suffered and continue to suffer serious and, in some cases, lasting damage.

- Coal mining in the Susquehanna River basin has scarred the landscape and causes water pollution. There are almost 64 square miles of abandoned mine lands in the Susquehanna River basin, resulting in more than 2,000 miles of impaired streams.²⁴ The acidic water that flows from abandoned mine sites, slag piles and mine pools kills fish and wildlife and threatens the drinking water of Pennsylvanians living downstream from abandoned mine lands.²⁵
- More than 4,200 miles of streams in the Susque-

hanna River basin are impaired by sediment and/or nutrient pollution, resulting in algal blooms and poor habitat for aquatic life.²⁶ Agricultural activities are a primary cause of nutrient and sediment pollution in the Susquehanna River, including from five counties – Lancaster, York, Franklin, Cumberland and Adams – that were identified by the Chesapeake Bay Foundation as top contributors of agricultural pollution.²⁷

- Agricultural pollution has driven the decline of fish populations, including smallmouth bass.²⁸ In 2014, the U.S. Geological Survey found fish with intersex characteristics in the Juniata River and Swatara Creek, attributed to exposure to estrogenic chemicals from sources like animal waste, biocides and municipal sewage.²⁹ In December 2015, the Pennsylvania Department of Environmental Protection released a study that determined that mutant smallmouth bass in the Susquehanna River were likely caused by endocrine-disrupting compounds and herbicides.³⁰

Pollution in the Susquehanna River also contributes to the degradation of the Chesapeake Bay. The Susquehanna River is the largest tributary of the Chesapeake Bay, and pollution from Pennsylvania accounts for approximately three-quarters of the nitrogen and half of the phosphorus that enters the upper portion of the bay.³¹ Excess levels of nitrogen in the bay



The two branches of the Susquehanna River meet in Northumberland, PA.

have led to an increase in harmful algal blooms over the past 20 years, which can reduce the amount of oxygen in the water and asphyxiate aquatic organisms, resulting in fish kills and altering food webs.³²

The creation of the EPA in 1970, the passage of the Clean Water Act in 1972 and other subsequent clean water measures enabled efforts to protect and clean up the Susquehanna River. The EPA was granted tools, funding and enforcement authority to compel industrial, agricultural and municipal polluters to reduce pollution; clean up mining sites or ensure that polluters do so; limit runoff pollution; and restore water quality to protect the natural environment and the families of Pennsylvania.

But the Susquehanna River still faces serious pollution threats, including agricultural and urban runoff, contamination from current and aban-

doned mines, and discharge from wastewater treatment plants. Although progress has been made since the Clean Water Act first passed, more than 4.5 million pounds of toxic metals flow through the Susquehanna River each year, along with nutrient and sediment runoff from agriculture and other sources.³³ And thousands of miles of the basin's rivers and streams are impaired, threatening the public's ability to fish, swim or access safe drinking water.³⁴

The EPA budget proposed by the Trump administration would cut funding for clean water protection, enforcement, restoration and research in Pennsylvania, impeding the ability of local, state and federal officials to prevent pollution and restore the Susquehanna River and other Pennsylvania waterways to health.

Budget Cuts Would Hobble the EPA's Work to Protect Our Waterways

The Trump administration's proposed fiscal year 2018 budget, released in May 2017, cuts funding for the Environmental Protection Agency by 31 percent, from \$8.2 billion in fiscal year 2017 to \$5.7 billion in fiscal year 2018.³⁵ That would return the agency's budget to 1970s levels, adjusted for inflation, despite the EPA's vastly expanded congressionally mandated responsibilities and the continued severe threats facing our waterways.³⁶

In September 2017, the House of Representatives passed its own version of an EPA spending bill, H.R. 3354, which proposes to slash the agency's budget by 7 percent, taking it back to 2006 spending levels.³⁷ The Senate will likely modify the House's budget, but, even if the proposed cuts are scaled back, they could still have disastrous impacts on the EPA's ability to protect our waterways.

The Environmental Protection Agency plays a vital role in ensuring that the nation has clean water for drinking and recreation, and for sustaining fish, plants and wildlife. The EPA works directly to ensure the requirements of the Clean Water Act, the Safe Drinking Water Act and other laws protecting water quality are met, and also supports the work of states in implementing and enforcing those laws. The budget cuts proposed by the Trump administration would weaken the EPA's efforts on both fronts.

Cuts Would Slow Efforts to Prevent Pollution and Clean Up Contamination

The Trump administration's budget cuts would limit the EPA's support for the work that state and local governments do to protect water quality. Many state assistance grants for clean water are slated to be reduced by 30 percent or more.³⁸

The Trump administration's proposed budget eliminates entire programs that have helped states to protect water quality. The budget would:

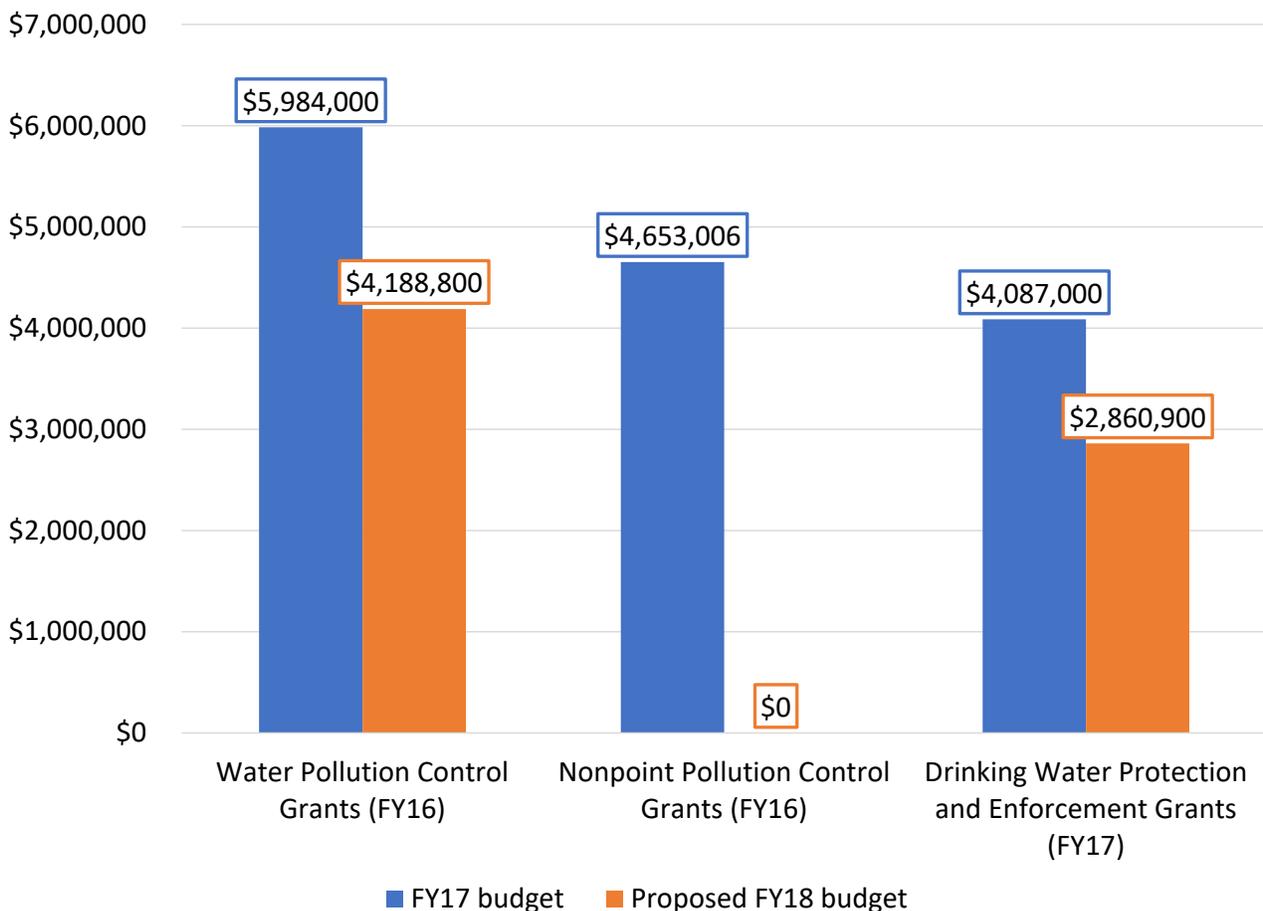
- End grants to state governments and tribal agencies to address pollution from farms, storm-water runoff and other dispersed sources.³⁹
- End the Leaking Underground Storage Tank (LUST) Prevention program that helps local governments identify and clean up underground storage tanks that may be leaking oil or other hazardous pollutants into groundwater.⁴⁰
- End regional programs to address pollution in the Chesapeake Bay, Puget Sound, the Great Lakes, the Gulf of Mexico, and other large water bodies.

Other aspects of EPA's budget that affect water quality are also slated for cuts. For example, funding

for efforts to clean up hazardous waste sites, which have the potential to pollute water, is in jeopardy. Figure 1 shows potential funding losses in Pennsylvania, where most of the Susquehanna River basin is located, for selected programs in the Trump administration’s proposal. Notably, water pollution control grants, which contribute to the funding of the Susquehanna River Basin Commission, would be cut by 30 percent. These budget cuts to EPA’s national work and its support of state and local action would harm water quality in the Susquehanna River basin.

The September 2017 House spending bill, while less drastic than the Trump administration’s May 2017 proposal, would still severely affect the EPA’s ability to function. The House bill would cut state and tribal assistance grants by 9 percent, rather than 30 percent, and does not eliminate all of the EPA’s waterway-specific programs. Funding for those programs, however, comes at the expense of the EPA’s core staff and functions.⁴² In the House plan, the EPA’s environmental programs and management – which covers two-thirds of the agency’s workforce and

Figure 1. Estimated EPA Grant Funding Losses to Pennsylvania if Trump Administration’s Proposed Budget Is Enacted (Figure Shows Cuts to Selected Programs Based on Most Recent Year for Which Data Are Available)⁴¹



Note: Estimates are calculated assuming EPA budget cuts affect all states by the same percentage. Reductions are based on grants from most recent fiscal year.

supports the agency's core functions – would be cut by 27 percent; the EPA has already lost more than one-eighth of its workforce since 2014, but the House's proposal would force the agency to choose between funding critical state and regional programs and preserving its own essential functions of regulation development, monitoring, oversight and enforcement.⁴³

Cuts Would Affect Human Health and Hamper Scientific Research

Dramatic budget cuts also mean that the EPA would be less able to protect clean water and hold polluters accountable across the country. The Trump administration's proposed budget indicates that the EPA would need to reduce its staff by nearly one-quarter.⁴⁴

Environmental programs run by the EPA and related to water are slated for a 34 percent reduction.⁴¹ This would make it harder for the EPA to reduce runoff pollution, monitor waterways for contamination, and protect watershed lands and wetlands that are critical to keeping our waterways clean and healthy. The EPA's resources for pursuing polluters and enforcing water quality protections would also be slashed, with a proposed 24 percent budget cut.⁴⁶

Funding for research and development by the EPA is slated for a 47 percent reduction, a larger research and development cut than for any other agency.⁴⁷ Budget cuts proposed for the Office of Science and Technology that would harm water quality include:

- A 36 percent budget cut for the Safe and Sustainable Water Resources program, which provides the science and technological research to protect water for drinking and wildlife.⁴⁸
- A 40 percent cut in funding for the Human Health Risk Assessment program, which seeks to understand how environmental contaminants affect human health.⁴⁹
- A 31 percent cut for the Chemical Safety for Sustainability program, which studies the potential health and environmental impacts of manufactured chemicals throughout their life cycle and seeks to develop faster analytical tools to more quickly identify risks.⁵⁰
- A 61 percent cut to the Sustainable Healthy Communities program's research in support of better cleanup technologies for Superfund sites.⁵¹
- A 38 percent cut to the Homeland Security Research Program, which includes efforts to understand how to decontaminate water supplies in the event of a chemical, biological or radiological attack.⁵²
- A 23 percent cut to the Forensics Support program, which documents sources and types of pollution to help EPA's enforcement actions against polluters.⁵³

The House bill, which does not detail program-specific cuts, would slash funding for science and technology, including research and development activities, by 16 percent.⁵⁴

Proposed Budget Cuts Threaten Water Quality in the Susquehanna River

The EPA plays a critical role in protecting clean water in the Susquehanna River. The EPA works with the state to establish and enforce limits on pollution, clean up pollution and restore damaged streams and rivers, identify parties responsible for pollution and compel their participation in remediation, and pursue research and provide technical assistance to better understand threats to clean water. The budget cuts proposed by the Trump administration will greatly weaken the EPA's ability to ensure that water in the Susquehanna River basin is clean enough for drinking, swimming and fishing.

Stalled Restoration of Polluted Waterways

After centuries of development and pollution, restoring the Susquehanna River is key to ensuring that it will be able to continue to provide communities with safe drinking water and recreational opportunities. Restoration work can mean cleaning up the most polluted areas. It can also mean implementing upstream land and watershed protections to prevent pollution in the future. The EPA helps restore water quality in the Susquehanna River watershed by funding the efforts of local watershed groups.

EPA Grant to Watershed Association Helps Clean Up Acid Mine Drainage in Miller Run

Coal mines near Miller Run, a tributary of Shoup's Run located near Altoona in Huntingdon County, had operated since the early 1900s, and predated federal regulations that required that coal mines limit their environmental im-

Photo: Jakec via Wikimedia Commons, CC BY-SA 4.0



Acid mine drainage affects thousands of miles of streams and creeks in the Susquehanna River basin.

pacts.⁵⁵ Following abandonment of the mines, acid mine drainage dumped highly acidic, metal-heavy water into Miller Run.⁵⁶ By the 1990s, Miller Run had high levels of metals and acidity, to the point that fish could only be found upstream of the most significant acid mine drainage impacts.⁵⁷

Starting in 1998, the newly founded Shoup's Run Watershed Association received grant funding from sources including a state-administered EPA fund to clean up Miller Run.⁵⁸ The association installed passive treatment systems, including limestone ponds and wetlands, to decrease the acidity of runoff and help the heavy metals to settle out of the water naturally.⁵⁹ In total, since the late 1990s approximately \$500,000 – including \$300,000 through the EPA's 319 Grant Program – were spent on 11 projects to clean up Miller Run, which have restored the health of the stream.⁶⁰ In 2012, the state assessed water quality in Miller Run and found that it met standards for aquatic life, recreation and fishing.⁶¹ Indeed, more than a decade of restoration work also helped to revive the native brook trout fish population, which is one of the last remaining populations of wild brook trout in the Broad Top area in Huntingdon County.⁶²

EPA-Supported Project Restores Pierceville Run and the South Branch of Codorus Creek in York County

Pierceville Run, located in the headwaters of Codorus Creek in York County, helps provide vital spawning habitat for wild trout.⁶³ But cropland and pastureland in York County contributed high sediment and nutrient loads to Pierceville Run and the South Branch of Codorus Creek.⁶⁴ Moreover, livestock had trampled and damaged stream banks along the lower main stem of Pierceville Run, forming unstable banks that were eroding at the alarming rate of 1.5 feet per year.⁶⁵ By 2002, the stream was so damaged that PA DEP added it to its list of "impaired" waterways, finding that the creek was too polluted to meet its aquatic life designated use.⁶⁶ Agriculture is one of the most prevalent causes of impairment across the Codorus Creek Watershed.⁶⁷

The EPA granted the Izaak Walton League of America (IWLA) nearly \$500,000 to assess the South Branch of Codorus Creek and its tributaries' health and to help restore the Pierceville Run.⁶⁸ IWLA's original assessment led to Pierce-

Photo: Bob Forrest via Geograph, CC BY-SA 2.0.



The Izaak Walton League of America used EPA funding to collaborate with York County and PA DEP, fencing pasture areas and restoring natural channels along Pierceville Run to restore the wild trout stream.

ville Run receiving its impaired designation, after which set limits on sediment and phosphorus loads in 2003 and finalized a restoration plan in 2007.⁶⁹ IWLA, York County and PA DEP then collaborated to restore natural stream channels and re-establish forested buffer zones along Pierceville Run, working with local landowners to ensure the restoration project's success.⁷⁰ The partners graded and stabilized 2,272 linear feet of streambanks and installed in-stream rock structures to restore a natural flow to Pierceville Run, replanted riparian vegetation, and fenced pasture areas to prevent livestock from trampling the newly restored streambanks.⁷¹ Thanks to their efforts, the run's health is steadily improving, cutting sediment and phosphorus loads by 39 percent; by 2012, the state began to remove portions of the stream from its impaired waters list.⁷²

Impacts of EPA Budget Cuts

The Trump administration's proposed budget cuts would limit the EPA's ability to support the efforts of state, regional and local actors working to restore Susquehanna River waterways like Pierceville Run. The Trump administration's EPA budget would eliminate a key grant program that funds projects to improve upstream protections, including the revival of the native brook trout fishery in Miller Run.⁷³

In spite of hard-won successes in cleaning up some of the Susquehanna River watershed's most polluted sites, many of its waterways remain polluted and in need of EPA funding to spark state and local cleanup efforts. More than percent of assessed Pennsylvania rivers and streams still fail to provide healthy habitat for aquatic life.⁷⁴ Slashing EPA budgets will slow down cleanup and restoration of the Susquehanna River basin.

More Pollution in the Susquehanna River

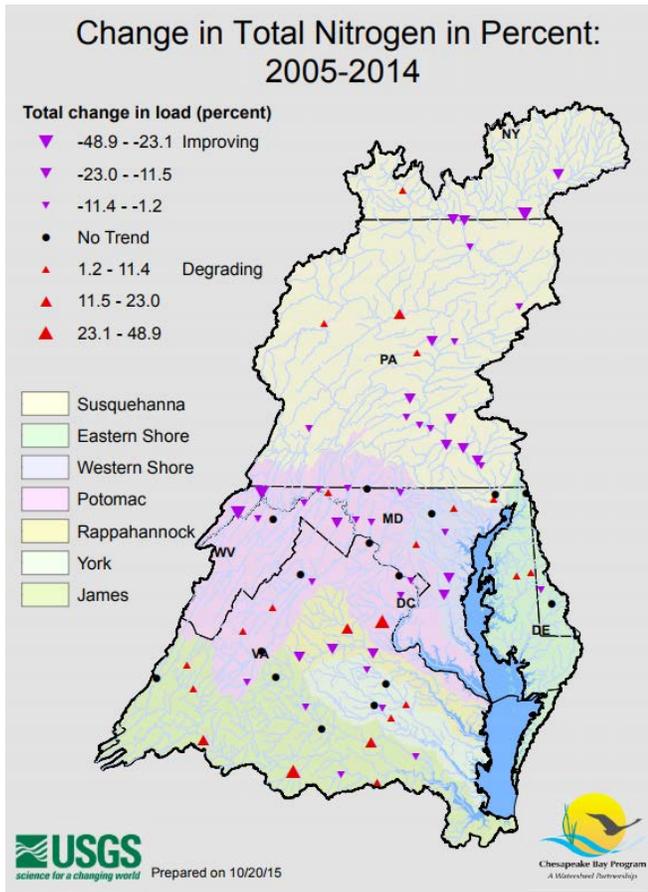
The most important task in protecting the Susquehanna River is preventing pollution from reaching and contaminating the waterways. Sometimes that means setting limits on what polluters can release to the river and its tributaries. Other times, it means taking decisive action to eliminate long-standing threats.

The EPA Set Limits on Pollution from the Susquehanna and Other Rivers to the Chesapeake Bay

Agricultural runoff, urban stormwater and wastewater treatment plant discharge to the Susquehanna River have caused the river to become the largest contributor of pollution to the Chesapeake Bay. The Susquehanna River accounts for approximately a third of sediment pollution, a quarter of phosphorus pollution and 46 percent of nitrogen pollution that enters the bay and contributes to the bay's dead zone.⁷⁵ Within the Susquehanna River, nutrient and sediment pollution may make water unfit for human consumption and can negatively affect aquatic wildlife; a 2013 study cited nutrient pollution as a big threat to the river's ailing smallmouth bass population, favoring the rapid growth of fish parasites and causing large algal blooms that create dangerous low-oxygen dead zones.⁷⁶ The 2013 study is driving further research to understand what is causing the smallmouth bass decline.

In 2010, the EPA put the Chesapeake Bay on a "pollution diet" to clean it up by 2025, setting limits on the total amounts of nitrogen, phosphorus and sediment that may be discharged into the bay from its tributaries, including the Susquehanna River.⁷⁷ To do its part, Pennsylvania developed a

Figure 2. Loadings of Total Nitrogen per Acre of Assessed Drainage Basins in the Susquehanna River Have Declined over the Past Decade⁸¹



cleanup plan to reduce nutrient and sediment loads to the Susquehanna River from urban and agricultural runoff and from wastewater treatment plants.

Pollution loads have decreased over the past decade, according to data collected by the U.S. Geological Survey, as shown in Figure 2.⁷⁸ Sewage treatment infrastructure improvements have helped reduce overall nitrogen loads from the Susquehanna River to the bay by more than half and phosphorus by three-quarters.⁷⁹ To help reduce urban runoff, PA DEP has also required that all municipalities in the Chesapeake Bay watershed that must obtain permits through the state stormwater permitting program, which is required by the Clean Water Act and overseen by EPA, to submit new pollution reduction plans

by September 2017; PA DEP is currently reviewing those plans.⁸⁰

However, pollution loads are not decreasing fast enough for Pennsylvania to reach its 2025 pollution reduction goal, due in large part to persistent agricultural and urban stormwater pollution.⁸² Animal production in the Susquehanna River basin still produces more than 5.4 million tons of manure and chicken litter each year, large amounts of which run off into nearby waterways when it rains.⁸³ While Pennsylvania has made strides to reduce wastewater treatment pollution, the commonwealth is not on track to meet its 2017 targets for actions taken to reduce agricultural pollution and urban runoff, which account for a large proportion of the remaining pollution.⁸⁴

The Chesapeake Bay program, in setting limits on pollution and making funding available to implement best management practices in the Susquehanna River basin, is helping to clean up the river, and EPA funding and enforcement is critical to the success of the restoration effort. To help Pennsylvania farmers reduce runoff, the EPA made \$3 million in grants available through the Chesapeake Bay program in Pennsylvania for farmers to implement best management practices and to help conservation districts reduce runoff pollution.⁸⁵ The Chesapeake Bay grants have also funded municipal stormwater projects; in June 2017, Governor Tom Wolf announced 17 municipal stormwater projects would receive funding to reduce nutrient and sediment loads from local waters to the Susquehanna River and the bay.⁸⁶

But more work is needed to address agricultural pollution and restore aquatic habitat in the Susquehanna River, for the wellbeing and benefit of residents who boat and fish on the river and depend on it for drinking water, and to assist the recovery of the river's iconic smallmouth bass. The Trump administration's proposal to eliminate the Chesapeake Bay program could prevent the EPA and state agencies from increasing protections for the Susquehanna River, as well as jeopardize hard-won pollution reductions.⁸⁷

Officials have called the Miller Chemical fire of June 2015, which billowed smoke above Hanover, resulted in a massive fish kill on Conewago Creek, and shut down drinking water intakes downstream for weeks, one of the largest disasters southcentral Pennsylvania had ever seen.



Local Partnership Uses an EPA Tool to Track Spills in Real-Time

In June 2015, a fire at a Miller Chemical warehouse in Conewago Township in Adams County broke out.⁸⁸ Fire-retardant foam, used to extinguish the fire and protect the residents of Conewago, and fertilizer compounds from the facility ran off into Slagle Run and Conewago Creek, threatening the drinking water source of the borough of New Oxford.⁸⁹ The contamination killed thousands of fish, causing an ecological disaster, and threatened public health in downstream municipalities that draw drinking water from the creek, as fire-retardant compounds, called PBDEs, have been linked to cancer and developmental issues.⁹⁰

The South Central Pennsylvania Emergency Response Team used a tool developed by the EPA and USGS and customized by the Susquehanna River Basin Commission, to track the spill, estimate how quickly the chemicals traveled downriver, and protect New Oxford's residents from potential water contamination.⁹¹ The tool, called ICWater, allowed the Emergency Response Team to advise the New Oxford Municipal Authority in its response to the spill, closing Conewago Creek intakes and using alternative supplies until the water was safe for drinking water use.⁹² The response team continued to use ICWater to keep the town and the state appraised as contaminants dispersed.⁹³

Impacts of EPA Budget Cuts

The Trump administration has proposed cutting funding for programs that have helped protect water quality in the Susquehanna River, like the ICWater tool or the Chesapeake Bay cleanup plan. For example, funding for water pollution control, which helps fund the Susquehanna River Basin Commission, would be cut by 30 percent.⁹⁴ What's more, PA DEP, which is responsible for implementing and enforcing the Clean Water Act and the Safe Drinking Water Act, is chronically underfunded and depends heavily on EPA grants, receiving a third of its annual budget from the EPA.⁹⁵ Slashing EPA support undermines the ability of PA DEP and the Susquehanna River Basin Commission to address existing and emerging threats and to ensure Pennsylvanians living in the Susquehanna River watershed have access to clean water.

Less Accountability for Polluters

Clean water protection depends on limiting how much pollution industrial and municipal actors can produce and making sure that everyone is playing by the rules. Enforcing federal laws that protect clean water means keeping an eye on pollution levels, inspecting sites to check that polluters are abiding by the conditions of their pollution discharge permits, and enforcing those conditions when polluters fail to

meet them. The EPA, PA DEP and local partners work together to enforce clean water laws, prevent pollution from reaching dangerous levels, and keep communities and the environment safe from harm.

EPA Ordered Manheim-Area Farm to Stop Discharging into Stream Without a Permit

In April 2010, the EPA inspected an egg-laying and dairy farm in the Manheim area in Lancaster County, and found that it had been discharging animal manure and milkhouse washwater into a tributary of Chiques Creek, which later flows to the Susquehanna River, without the permit required under the Clean Water Act.⁹⁶ State permits include specific provisions to limit discharge pollution to levels that are safe for the receiving body of water, based on how much pollution the waterway can assimilate without degrading its health or preventing other uses, like recreation or fishing. The waste from the farm's 36,000 hens and 80 dairy cows contributed to nitrogen and phosphorus pollution in the Susquehanna River and downstream in the Chesapeake Bay. This type of runoff can also load surface water with pathogens such as *E. coli*.⁹⁷ The EPA ordered the farm to stop degrading the river and to obtain a Clean Water Act permit that June, and fined the owners \$6,000.⁹⁸

The EPA is also working with the state and other partners to clean up the watershed. Agricultural pollution is the primary driver of pollution in the Chiques Creek watershed, causing approximately 60 percent of the watershed's streams to be too polluted for recreational use or for aquatic life.⁹⁹ In 2014, the EPA, PA DEP and others started to develop a cleanup plan (also known as a total maximum daily load, or TMDL) for the watershed.¹⁰⁰ PA DEP carried out an assessment to determine the state of the watershed in 2015. Using that baseline, PA DEP is developing wasteload allocations for discharges, including chicken, dairy and pig farms, and nonpoint sources, subject to EPA approval, in order to restore the Chiques Creek watershed to health.¹⁰¹

Proposed budget cuts would hinder the EPA's ability to enforce the Clean Water Act and to supervise the development of pollution control measures by PA DEP to clean up the Chiques Creek watershed and other polluted waterways throughout the basin.

EPA Enforcement Is Stemming the Flow of Raw Sewage into the Susquehanna River

The City of Harrisburg dumped 8.3 million gallons of raw sewage into the Susquehanna River and Paxton Creek from 2007 to 2015 before transferring owner-

Concentrated animal feeding operations must filter wastewater from dairy and chicken operations to waste lagoons for treatment to reduce nutrient pollution.



Photo: Steve Droter/Chesapeake Bay Program via Flickr, CC-BY-NC 2.0



Combined sewers carry both sewage and stormwater and represent a public health risk when they overflow.

ship of its wastewater management system to Capital Region Water.¹⁰² The city's antiquated sewage and stormwater infrastructure, designed over a century ago, overflowed during heavy rainstorms or snow melting events, and became the single-largest point source of nitrogen pollution in the Susquehanna River.¹⁰³ Sewer overflows represent a health risk for people who may be exposed to raw sewage, and lead to unhealthy river conditions, including "dead zones" where oxygen levels are so low that most aquatic life cannot survive.

The EPA and PA DEP inspected the city's sewage and stormwater management systems in 2010 and 2012, and found that the city had failed to implement basic control measures or remove biological nutrients in compliance with its discharge permit, and that Capital Region Water had not implemented its 2006 plan to address combined sewer overflows.¹⁰⁴ The EPA and PA DEP filed a joint complaint against the city and Capital Region Water, alleging multiple Clean Water Act violations and seeking civil penalties and a court order to address the violations.¹⁰⁵ In recognition of the city's financial difficulties, the EPA and PA DEP negotiated with the defendants to reach a settlement in 2015 that will help renew Harrisburg's aging sewage infrastructure and stem the flow of pollution.¹⁰⁶ Capital Region Water agreed to invest \$82 million to improve system operations, upgrade its wastewater treatment plant for the first time since 1976, develop a new long-term control plan to reduce stormwater

runoff, and assess green stormwater infrastructure, like rain barrels or tree trenches, for potential inclusion in their plan.¹⁰⁷ Since the settlement, Capital Region Water has completed wastewater treatment plant upgrades that have reduced nitrogen pollution by 90 percent and suspended solids by nearly half, and will submit a new long-term control plan by April 2018 to resolve its combined sewage overflow issues.¹⁰⁸

The EPA has worked to address untreated sewage overflows throughout the Susquehanna River basin in Pennsylvania, inspecting wastewater treatment plants and sewer systems to ensure compliance with clean water standards. The EPA has uncovered Clean Water Act violations at several major wastewater treatment plants and sewer systems in the Susquehanna River basin, including violations in Lancaster in 2017, Wilkes Barre in 2016, and Williamsport in 2016, and major violations in Scranton in 2012 that led to a \$340,000 settlement in 2013.¹⁰⁹

Though the EPA's enforcement actions have already begun to reduce pollution from sewage treatment facilities, continued funding for the EPA is essential for the agency to ensure that cleanup plans are enforced. In addition, aging infrastructure throughout the basin raises continued concerns about potential pollution of streams and rivers with disease-causing pathogens. The EPA has a critical role to play in enforcing pollution limits and requiring utilities to work toward the elimination of raw sewage releases.

Impacts of EPA Budget Cuts

The Trump administration has proposed slashing a fifth of the EPA's environmental enforcement budget, severely curtailing EPA's ability to enforce the law and to investigate and address violations that threaten water quality in the Susquehanna River basin.¹¹⁰ Though pollution from industrial facilities, wastewater treatment plants and other sources has fallen sharply from its peak, if the EPA has less funding to grant PA DEP for monitoring pollution levels and enforcing limits, unscrupulous actors may choose to pollute illegally rather than take the steps needed to reduce or eliminate pollution.

Compounding the problem, the Trump administration has shown that even when its EPA does take action against a polluter, it is less diligent in seeking penalties that hold that polluter accountable and discourage others. Over the first six months of the Trump administration, the EPA has collected 60 percent less in civil penalties than had previous administrations.¹¹¹ The EPA will not be able to carry out its critical monitoring and enforcement responsibilities as effectively with a fifth of its enforcement budget slashed, preventing it from taking decisive action against polluters and cleaning up the watershed.

Less Research and Education on Threats and Solutions

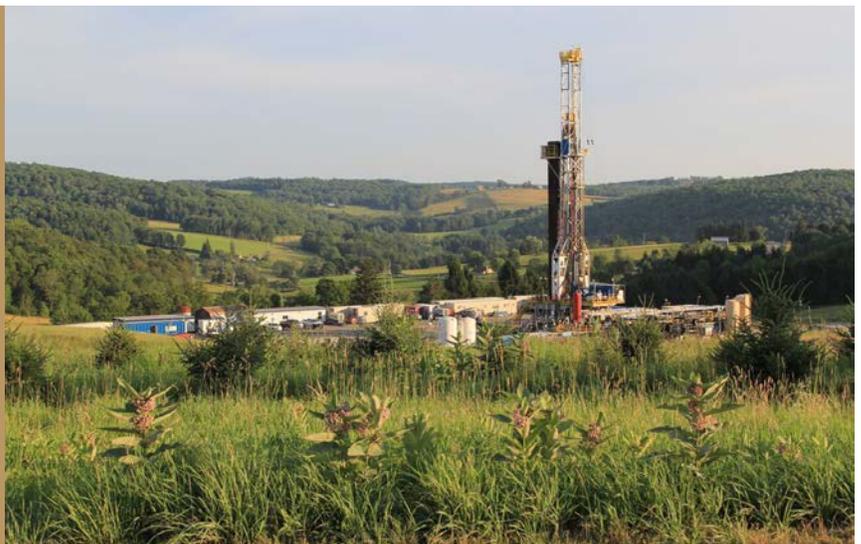
Emerging threats pose new challenges to restoring the Susquehanna River basin and protecting its residents. Research generates knowledge and tools that help water agencies and treatment plant operators understand the impacts of various threats to water and develop new strategies and tools to effectively safeguard this precious natural resource. Proposed budget cuts would eliminate important research programs and limit research grants that support clean water in the Susquehanna River basin for drinking, fishing and recreation.

EPA-Funded Research Studies the Impacts of Resource Extraction in the Appalachian Basin on Drinking Water and Newborns

Over the past decade, the Susquehanna River basin has experienced rapid expansion of fracking. Fracking uses more than 1,000 different chemicals, at least 150 of which can affect human development or reproduction, and more than 750 of which have not yet been analyzed to determine their toxicity to humans.¹¹²

Photo: staff photo

**Frack drilling operation
in the Susquehanna River
Basin.**



To better understand the health implications of fracking in the Appalachians, the EPA is funding a \$2 million grant from 2017 to 2020 for a team of Yale researchers to investigate the relationship between potential water contamination due to fracking and adverse birth outcomes, such as preterm births and birth defects.¹¹³ The research team will use data from Susquehanna County, where there have been nearly 3,000 unconventional well starts since 2006, as well as five other counties in Pennsylvania and Ohio.¹¹⁴ Based on the study's results, the team will ultimately create a tool to help local health officials identify which homes may be more vulnerable to drinking water contamination and target interventions to ensure their access to safe drinking water.¹¹⁵

Impacts of EPA Budget Cuts

The administration's budget proposal slashes the EPA's overall research and development budget by nearly half.¹¹⁶ The Safe and Sustainable Water Resources research program would lose a third of its funding.¹¹⁷ The key grant program under which the EPA supports university research programs for better environmental science and management, called "Science to Achieve Results," would not receive any funding.¹¹⁸

Reducing research and education limits the capacity of the EPA to support scientific research programs adapted to the Susquehanna River's needs. The administration's budget proposal jeopardizes water quality and health by delaying the development of innovative tools to preserve water quality and preparing for the future to ensure clean water for all.

The Health of the Susquehanna River Depends on a Strong EPA

Water quality in the Susquehanna River basin has improved in recent years. The EPA – along with state and local government, citizens, academics, and philanthropic and business partners – has been critical to this effort. The EPA has established and enforced limits on pollution, helped to restore waterways, and supported research and education about the threats to the Susquehanna River and solutions that can return the river to health.

The job is not done, however. Existing sources of pollution – from mining and farm runoff to industrial facilities and sewage treatment plants – continue to

imperil water quality and human health, requiring continued vigilance and action. New threats and sources of pollution, meanwhile, may add to the region’s water quality problems.

Now is not the time to hobble the essential work of protecting and restoring the Susquehanna River. To build on the progress of recent decades and ensure that our waterways are safe for swimming, fishing and other uses, funding for the EPA and the state and local efforts it supports should be *increased*, not cut. For example, aging drinking water and sewage infrastructure across the nation are in need of replacement, at a cost of \$600 billion over the next 20 years.¹¹⁹

Continued progress in cleaning up existing sources of pollution and addressing new sources of contamination requires increased funding for the EPA’s clean water efforts. The agency needs resources to establish pollution limits that protect human health and to make sure that polluters abide by those pollution standards. The agency needs money to continue its critical role in supporting cleanup of past pollution and restoring damaged rivers and streams so that they can provide clean water. The EPA also needs funding to help it identify and respond to future threats to clean water. Ensuring that people who live, work and play in and around the Susquehanna River have access to clean water requires full funding for the EPA.

Photo: Nicholas A. Tonelli via Flickr, CC BY 2.0.



View of the Susquehanna River meandering near Asylum Township from the Marie Antoinette Overlook in Bradford County.

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