



Q & A - Pollution Issues and the Potomac River

Why is there a pollution problem in the Potomac River?

When the Potomac River and the streams that flow into it have excessive levels of nutrients (such as nitrogen and phosphorus, sediment, or bacteria) their waters can harm aquatic life and become unsafe to swim in.

The land has an enormous influence on the Potomac's water quality. Everything that happens on the land impacts the water flowing in our streams and the Potomac River. Harmful practices on our lands – both in rural and urban places – contribute pollution to local streams and creeks. In turn, pollutants flow downstream to the Potomac River and Chesapeake Bay.

Other types of pollution include: trash; heavy metals; wildlife, livestock, and pet waste; and emerging contaminants like hormone-disrupting chemicals.

To learn about different types of pollution and how they are changing over time, please click here:

<http://www.potomacreportcard.org/>

Is water quality improving?

Encouragingly, levels of nitrogen, phosphorus, and sediment have been decreasing in the Potomac River since 1985, with progress varying by source and state. Several sources of pollution are on the decline, including pollution from agriculture, wastewater treatment plants, and point sources (pollution coming from the end of a pipe such as industrial sites). While an overall decline in pollution levels is good news, polluted runoff is the *only* kind of pollution that is increasing in the Potomac River.

Polluted runoff is a problem, but why?

While an overall decline in pollution levels is good news, polluted runoff is the *only* kind of pollution that is increasing in the Potomac. And it happens every time it rains. Stormwater carries with it whatever is on the ground, including chemicals, oils, sediment, excess fertilizers, dog waste and trash. It even causes sewer overflows in older sewer systems. This polluted runoff is a growing challenge for our urban and suburban waterways. Because we have more paved streets, parking lots and rooftops than ever before in our region, the amount of stormwater being channeled into storm drains and from there into area waterways has continued to rise. This one source of pollution threatens to undo decades of restoration progress.

Learn more: <http://www.potomacreportcard.org/pollution/>

What's the deal with excess nutrients?

Nutrients are essential to the health, growth, and reproduction of plants and animals (including people!), but too many nutrients can cause problems. Nitrogen and phosphorus are commonly sprayed onto our lands as fertilizers for green lawns and to increase the yield of farm crops. If too much is applied or if they are incorrectly applied, these farms, residential yards, or commercial properties cannot absorb all of the nutrients and the excess flows off the land and into our local waterways. In our streams, excess

nutrients encourage excessive growth of algae and nutrient-hungry plants. When those plants later die, the tiny organisms that help decompose the dead plants use large amounts of oxygen in the water. This depletion of oxygen can become a “dead zone.” The no-oxygen condition in the water kills fish or forces them to move away, changing the whole underwater community.

What’s the problem with sediment?

Sediment pollution, caused by erosion, flows into our rivers and streams when land is disturbed such as when new developments or roads are built, or when trees and plants are removed from shorelines. Stream bank erosion is also propelled by large storm events. Erosion occurs naturally in river systems as water flows over the land, but excessive erosion poses a dangerous threat to water quality, fish health, and underwater vegetation.

For a swimmer, sediment makes the water appear murky and can coat the skin with grit. Excess sediment can prevent fish from laying eggs and make it hard for them to find food. A few years of those conditions, and fish populations are in trouble.

River-friendly development practices such as protecting existing trees, installing rain gardens, and planting vegetation can help capture and filter polluted runoff. Healthy, forested shorelines help prevent erosion and shield local streams from this kind of sediment pollution.

Is there sewage in the water?

In communities that have old waste water systems, bacterial pollution can come from broken pipes or stormwater overflows.

What is a combined sewer overflow event?

Older sewage systems sometimes have pipes and tunnels that can combine raw sewage with the water that flows on our streets and down storm drains during heavy storms. Combined sewers can cause serious water pollution problems when a significant amount of rain falls in a short period of time. In heavy storms, when the storm drains on our streets are collecting so much water that the flow exceeds the capacity of the storm water pipes, the pipes allow stormwater to combine with raw sewage. In these cases, the combined stormwater and raw sewage flow directly into a stream or river until the flow decreases with the end of the storm event. There are several of the older combined sewage systems in the Potomac watershed, including parts of Washington, DC and Alexandria, VA. Most of these jurisdictions are now engaged in building solutions, or have begun to discuss how they will address the problem. However, such solutions are expensive and take a long time to complete.

What’s being done to solve the pollution problem?

Potomac Conservancy is the region’s leading clean water advocate, combining the grassroots power of over 21,000 members and online activists with local land conservation and policy initiatives. Founded in 1993, Potomac Conservancy drives the region’s clean water movement by providing the tools that empower local landowners, activists, volunteers, partners, donors and river champions to lead the

charge for clean drinking water, healthy lands and safe access to the river. Together citizens and Potomac Conservancy are fighting to ensure the Potomac River is home to clean water and healthy lands.

Recent water quality improvements in the Potomac are the result of years of effort from non-profits, communities, government partners, and individuals. Some of these efforts include:

Green infrastructure and nature-based solutions

Trees, rain gardens, bioswales (plantings in roadside depressions), and other nature-based strategies (also called “green infrastructure”) can protect our community waters by serving as natural filtration systems that soak up and treat excess rainwater. They can counteract the damage done by deforestation and some types of development that increase the levels of polluted runoff – the fastest growing contributor of pollution to the Potomac. Each time it rains, chemicals, toxins, and sediment flow into our waters from the lands, parking lots, roads, and rooftops in our communities. Green infrastructure solutions help the rain to soak in where it falls, and keep pollution out of streams.

Potomac Conservancy promotes local land use policies that safeguard and enhance urban tree canopy and green infrastructure, offering both natural solutions and economic opportunities for our communities. Learn more at <https://potomac.org/advocacy>

Smart growth and river-friendly development

Census projections predict our region will grow by an additional 2 million people in the next 20 years, further straining our waterways and resources. Local communities have a say in how and where they grow. Using comprehensive and strategic planning processes, Potomac Conservancy encourages river-friendly development that prioritizes green space, limits sprawl, and protects our local creeks and streams. Learn more at <https://potomac.org/advocacy>

Best Management Practices on farms and rural landscapes

Home to working farms and lively communities, our region's rural lands are an important part of our cultural heritage and our economy. Potomac Conservancy advocates for robust state and federal investment to support the implementation of conservation practices on farmland, also known as Best Management Practices. In this way, we are helping to ensure our well-managed family-owned farms are both productive and river-friendly. Learn more: <https://potomac.org/best-management-practices>

Volunteer river clean ups and tree plantings

Each year, Potomac Conservancy works with hundreds of volunteers of all ages and backgrounds to restore shorelines, raise awareness, and inspire residents to make a difference. Removing trash and planting trees help improve water quality. Clearing trash also helps improve wildlife habitat and parks and trails along the riverside. Planting trees along the water's edge helps control erosion, filter pollution, and improve wildlife habitat. Learn more: <https://potomac.org/communityconservation>

Diverse Coalitions

Change doesn't happen on its own - it takes the collective voices and actions of a diverse community to drive progress. To leverage our impact, Potomac Conservancy actively pursues partnerships among diverse interests including national parks, community groups, businesses, faith organizations, and local decision-makers. We promote active and consistent civic engagement, encouraging citizens to make clean water a priority issue for their elected representatives. Learn more: <https://potomac.org/partners>

Legal action against polluters

While Potomac Conservancy does not pursue legal actions or lawsuits against polluters, we partner with other organizations who use this approach. Please visit Potomac Riverkeeper's website for more information on the importance of litigation as a tool for clean water:

<http://www.potomacriverkeepernetwork.org/>

Will I get sick if I swim in the Potomac River?

While many do not give it a second thought, others wonder about the safety and cleanliness of the water in the Potomac River and its tributaries. Safety can change day-by-day depending on rain, temperature, and other factors so it is important to check conditions before you enter the water.

Bacteria are the main concern for direct water contact recreation (such as swimming, wading, and water skiing). While bacteria are integral parts of any natural system, some types in sufficient numbers, can cause gastrointestinal or respiratory illnesses or skin and ear infections.

Weekly bacteria water testing is conducted at many areas designated as bathing beaches, or at parks where wading or swimming is officially allowed. These tests involve examining a water sample for indicator bacteria that signal conditions conducive to the growth of harmful types of bacteria.

Information on water quality is not available for all parts of the Potomac. Some areas, including many of the Potomac's tributary rivers and streams, may not have a water quality monitoring station.

Here are ways to limit your risk when recreating in or near the Potomac

- Do not enter the water for several days after a significant rainstorm. Storm flows spike bacteria levels, which decrease with time.
- Do not swallow river water.
- Do not enter the water if you have cuts or open sores. These are pathways for bacteria to enter your body.
- Wash after swimming.
- People with immuno-suppressive diseases should avoid direct contact with river water.
- Avoid algae blooms (brightly colored water) and trash in the water.

To learn more about current conditions and potential health risks from swimming, please visit:

<https://www.potomacriver.org/potomac-basin-facts/is-it-safe-to-swim/>

What is the current like in the Potomac River?

The Potomac's current varies widely throughout the course of the river. Storm events and rainfall change the current, too. Please use common sense and caution at all times when on or near the river. Several websites track river conditions, including temperature and current, in real-time:

https://waterdata.usgs.gov/md/nwis/uv?site_no=01646500

<http://water.weather.gov/ahps2/hydrograph.php?gage=brkm2&wfo=lwx>