

CHESAPEAKE MONITORING COOPERATIVE



CASE STUDY: PATAPSCO HERITAGE GREENWAY FROM DATA TO DIALOGUE



Groups conducts benthic macroinvertebrate sampling.

The Patapsco Heritage Greenway (PHG) manages the Patapsco Valley Heritage Area, preserving and celebrating the Patapsco River Valley's environment, history, and culture. As the managing entity of a certified Maryland Heritage Area, PHG leads collaborative efforts across communities, businesses, governments, and nonprofits to protect the region's ecological and cultural value.

In 2021, PHG expanded its mission into water quality monitoring through a partnership with the Chesapeake Monitoring Cooperative (CMC), creating a monitoring program that now covers 12 stations between Woodbine and Elkridge. Each month, volunteers collect chemical data using methods from the Alliance for the Chesapeake Bay's RiverTrends program. The parameters they measure include temperature, dissolved oxygen, pH, conductivity, nitrite, phosphorus, clarity, and E.

coli bacteria. Twice a year, volunteers also conduct biological assessments of benthic macroinvertebrate communities following the Izaak Walton League of America's Virginia Save Our Streams methods.

While raw data is essential for scientists and managers, it can be difficult for the general public to understand. Recognizing this challenge, PHG worked with the University of Maryland Center for Environmental Science (UMCES) to create the first Patapsco River Report Card in 2022. Each year since, PHG has published a new report card, translating technical monitoring results into clear, accessible grades and graphics for local communities.

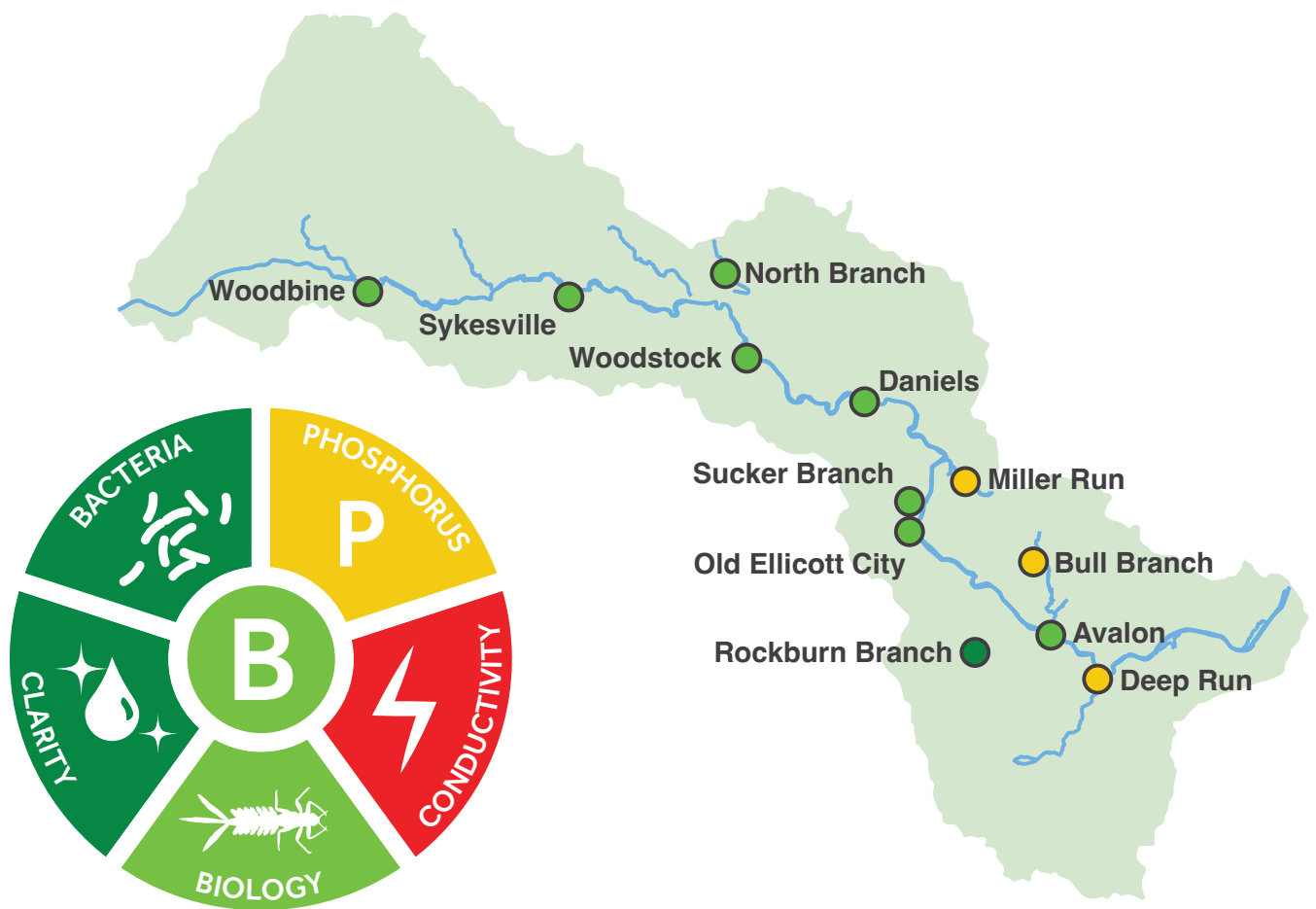
The report cards evaluate water clarity, bacteria, phosphorus, conductivity, and biology. They reveal consistent patterns: water clarity remains strong, but conductivity continues to score poorly due to decades of winter road salt use. Bacteria and

phosphorus levels fluctuate with rainfall and seasons, while biological assessments highlight the sensitivity of aquatic life to pollution. Over three years, the report cards have shown the Patapsco River holding steady in “moderate” health. Elevated conductivity throughout the watershed remains the largest challenge, indicating continued influence from nonpoint source runoff such as road salts and other dissolved pollutants. Tributary sites including Sucker Branch, Bull Branch, Miller Run, and Deep Run often record higher pollutant levels than mainstem sites, highlighting opportunities for targeted action.

Beyond data translation, the report card has become a powerful outreach and advocacy tool. Its spotlight-style color scheme and simple grading scale make the bi-fold format easy for nearly all audiences to understand. Each geographic area receives an overall

grade and individual parameter scores, allowing users to quickly see which parameters consistently perform well or poorly. To extend accessibility even further, PHG developed a half-sheet postcard version of the report card that is inexpensive and easy to hand out during fieldwork or community events. A QR code links directly to the full digital report card, which includes explanations of each parameter and recommendations for actions residents can take to improve local water quality.

The report card has also become a gateway for youth and community involvement. Its visual, place-based format helps schools and Scout troops understand where monitoring occurs and where gaps exist. A local Scout group in Howard County has adopted a stream and now monitors it monthly. From this partnership, several Eagle Scout projects have emerged, including building an accessible



A Very Good 100–80%	B Good 79–60%	C Moderate 59–40%	D Poor 39–20%	F Very Poor 19–0%
-------------------------------	-------------------------	-----------------------------	-------------------------	-----------------------------

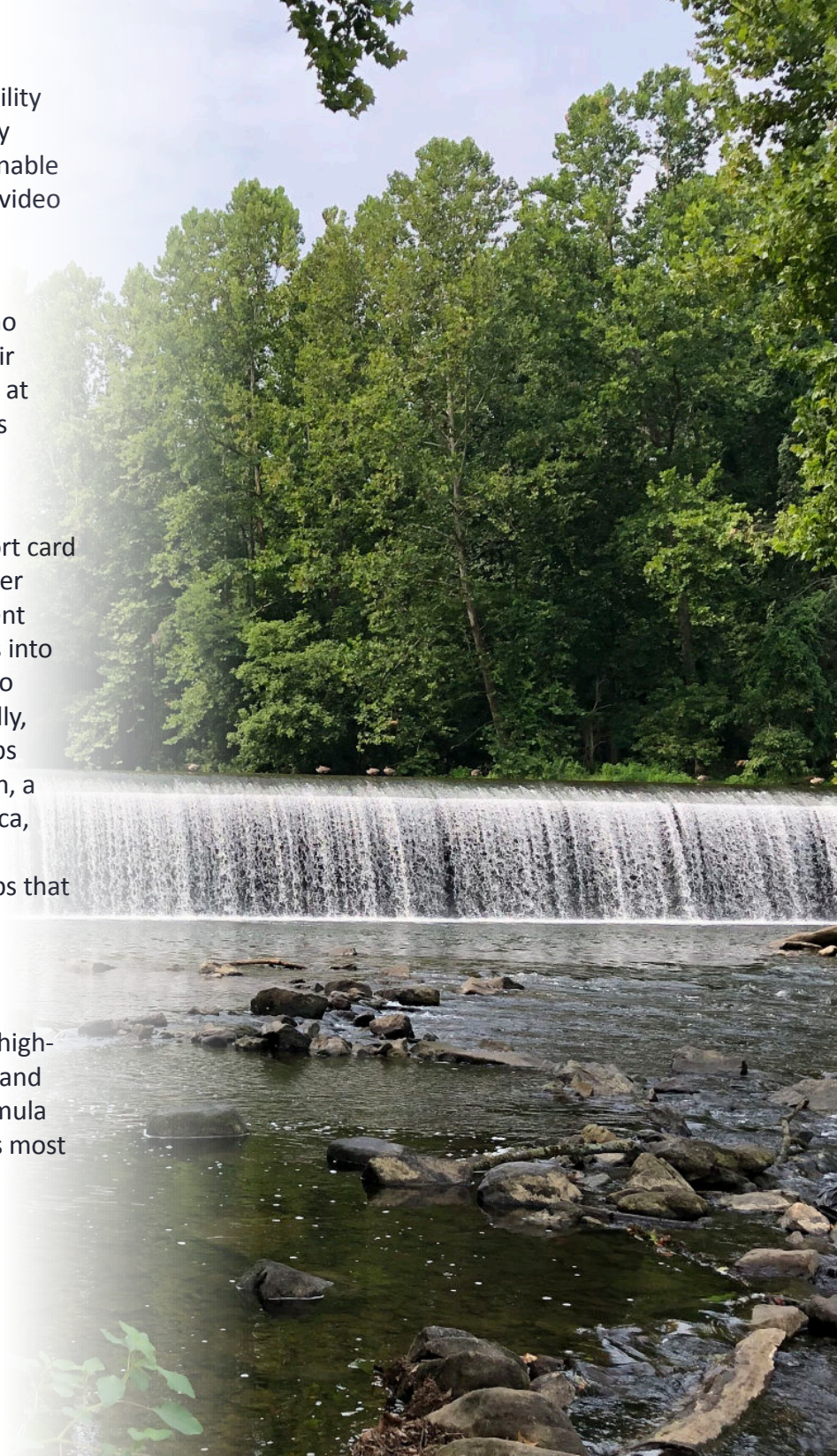
Results from the Patapsco River 2025 report card. This is the third iteration of the report card.

Stream Discovery Table for students with mobility challenges, installing a continuous conductivity and temperature sensor, and creating a sustainable biological monitoring program complete with video documentation.

Through these connections, PHG has built a community of devoted volunteer stewards who not only collect data but also advocate for their local waterways. Volunteers are now speaking at community meetings and with elected officials about the importance of healthy streams and informed management.

In addition to empowering residents, the report card demonstrates how PHG's data supports broader environmental goals. The Maryland Department of the Environment incorporates PHG's results into its biennial Integrated Report to the U.S. EPA to help assess Clean Water Act compliance. Locally, PHG uses the findings to guide stream cleanups and, target chloride testing through Salt Watch, a program by the Izaak Walton League of America, to raise awareness about road salt pollution. Additionally, PHG hosts Smart Salter workshops that teach best practices for reducing salt use.

Looking ahead, PHG will continue to refine its monitoring and reporting while deepening community engagement. The combination of high-quality data, accessible communication tools, and local advocacy is proving to be a powerful formula for protecting and restoring one of Maryland's most iconic river valleys.



Dickinson



A group conducts benthic macroinvertebrate sampling.



This project has been funded wholly or in part by the United States Environmental Protection Agency under Page 20 of 29 assistance agreement CB96334901 to the Alliance for the Chesapeake Bay. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.