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Indicators of Bay health continue to show improvements

Annual Chesapeake Bay Program report includes information on climate impacts for the first time

Annapolis, MD – The efforts of the many partners of the Chesapeake Bay Program to restore the nation's largest estuary continue to yield promising results. The partnership's annual science-based snapshot, *Bay Barometer: Health and Restoration in the Chesapeake Bay Watershed 2017 – 2018,* reports encouraging signs of resilience throughout the ecosystem and continues to build upon our high standards of science and data by tracking new indicators of environmental health.

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- Bay Barometer: Health and Restoration in the Chesapeake Bay Watershed (2017 – 2018)
- Fact sheets:
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For the first time, the Chesapeake Bay Program is tracking the impacts of a changing climate throughout our watershed. This year's *Bay Barometer* includes observations on air temperature, stream temperature and sea-level rise to help us better understand how these shifting environmental conditions can influence our ability to restore and protect the Bay.

Decades of data show air and stream temperatures across the watershed are growing warmer. For example, at least one third of stream monitoring sites throughout the region show a statistically significant increase of approximately two degrees Fahrenheit since 1960. Additionally, monitoring stations in the Bay that have been tracking data since 1960 report a rise in sea-level of one-eighth to approximately one-sixth of an inch each year.

The resiliency of the Chesapeake Bay watershed is revealed by 19 indicators of environmental health, restoration and stewardship in the *Bay Barometer*. Experts observed positive trends in many of the indicators that were updated in 2017 and 2018, including:

- **Underwater Grasses (Submerged Aquatic Vegetation, or SAV):** For the first time since monitoring began over 30 years ago, underwater grass abundance exceeded 100,000 acres, reaching 104,843 acres to meet 57 percent of the outcome to achieve and sustain 185,000 acres of underwater grasses in the Bay – including 130,000 acres by 2025.
- **Fish Passage:** Over 100 percent of the outcome to restore historical fish migration routes by opening 1,000 additional stream miles to fish passage has been achieved.
- **Protected Lands:** Approximately 1,364,000 acres of land throughout the Chesapeake Bay watershed has been permanently protected from development since 2010, achieving 68 percent of the goal to protect an additional two million acres of land by 2025.
- **Water Quality Standards Achieved:** Preliminary data indicate that 42 percent of the Chesapeake Bay and its tidal tributaries met water quality standards between 2015 and 2017, the highest amount ever recorded since tracking began over 30 years ago.

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Facts

The Chesapeake Bay Program is a regional partnership of federal, state and local governments, academic institutions and non-governmental organizations that leads and directs the restoration and protection of the Chesapeake Bay. Guided by the *Chesapeake Bay Watershed Agreement*, Chesapeake Bay Program partners use ten interrelated goals and 31 outcomes to collectively advance the protection and restoration of the Chesapeake Bay ecosystem and its watershed.

The majority of these outcomes have related indicators, goals and deadlines that allow the Chesapeake Bay Program to track progress toward environmental restoration, protection and stewardship. Data and information used to track this progress come from a range of trusted sources, including government agencies, academic institutions, nongovernmental organizations and direct demographic and behavior surveys.

Issues

Determining the health of the Chesapeake Bay is as complex as the ecosystem itself. Across the watershed, rainfall, temperature and other conditions vary from month to month and year to year, which impact the surrounding environment. 2018 brought record rainfall to the entire watershed, leading to high river flows and extreme flooding events. Some of the results from this weather were already evident by the end of the year – a higher amount of freshwater in the Bay, fewer jellyfish, finfish moving to new areas and a lingering "dead zone". 2019 will show us the real impacts of these events when we see how underwater grasses, blue crabs and oysters have fared.

Thanks to the efforts of local governments, private landowners and watershed residents, nutrient and sediment pollution entering local waterways and the Bay have declined, but agricultural and urban and suburban runoff continue to be a challenge. As the population of the watershed grows, urban and suburban development pressures can fragment habitat, harden shorelines, increase impervious surfaces and push pollution into rivers and streams.

However, these land use pressures can also open opportunities for dialogue and decision-making to protect ecologically and culturally vulnerable lands or mitigate damage when impacts are impossible to avoid. Continued engagement and policy with private landowners, local governments and watershed residents are key for restoration successes.

Importance

The data found in the *Bay Barometer* reflect the health of the Chesapeake Bay watershed over the course of many years, and in some cases, decades. The publication offers a snapshot of the best available information from 2017 and 2018 on ecological health and our efforts to protect and restore the nation's largest estuary.

Quotes

"Chesapeake Bay Program partners are embracing science, pollution prevention and community resilience as the climate impacts of warmer, wetter and wilder weather intensify. It's more important than ever to measure our progress and treasure our assets, with steady stewardship and innovation."

- Ben Grumbles, Chair, Chesapeake Bay Program Principals' Staff Committee and Secretary, Maryland Department of the Environment

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“Residents of the entire Chesapeake Bay watershed are dealing with the impacts of a changing climate every day. These climate resiliency indicators are vital for us here at the Bay Program to really understand and observe how air and water temperature, precipitation, flooding and sea level rise will impact not only our work in restoring and protecting the Bay, but also in how it will impact the daily lives of those who live and recreate in our watershed.”

- Mark Bennett, Chair, Chesapeake Bay Program Climate Resiliency Workgroup and Director, Virginia and West Virginia Science Center, U.S. Geological Survey

“Those of us living upstream from the Chesapeake Bay have a vested interest in tracking its restoration progress. As the water quality of the Bay improves, it means our local waterways are growing healthier as well. This is, in large part, due to the many actions taken by local governments, watershed stewards, communities and individuals to improve the rivers and streams in their own backyards. While projects and improvements are undertaken locally, they fit into the larger picture of Bay restoration by helping to meet the goals and outcomes of the *Chesapeake Bay Watershed Agreement*. This serves as an important reminder as to how critical the support of local governments is to the cleanup of the Chesapeake Bay.”

- Ann Simonetti, Chair, Chesapeake Bay Program Local Government Advisory Committee and former Councilmember, Marysville Borough, Pennsylvania