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Chesapeake Bay Program
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Annual Bay Barometer Shows Mixed Recovery of Chesapeake Bay Ecosystem

The Chesapeake Bay Program releases annual assessment of Bay health

Annapolis, MD – Each year, the Chesapeake Bay Program takes the pulse on the health of the Chesapeake Bay restoration effort through its annual *Bay Barometer: Health and Restoration in the Chesapeake Bay Watershed 2019 – 2020*. This year's report continues to show an ecosystem in recovery from short-term weather impacts and long-term water quality degradation occurring from excess nutrients and sediment.

The resiliency of the Chesapeake Bay watershed is revealed through the 31 outcomes of environmental health, restoration and stewardship found in the *Chesapeake Bay Watershed Agreement*. Of these 31 outcomes, 19 have indicators whose data and information are drawn from a range of trusted sources, including government agencies, academic institutions, non-governmental organizations and direct demographic and behavior surveys. The *2019-2020 Bay Barometer* contains updates for 12 outcomes:

Improvement from previous assessment period:

- **Blue Crab Maintenance**: An estimated 17% of female blue crabs were harvested in 2019. For the 12th consecutive year, this number is below the 25.5% target and 34% overfishing threshold. The blue crab stock in the Bay is not being depleted or overfished.
- **Diversity**: In 2019, the most recent diversity survey indicated a slight increase (13.7% to 14.6%) in the percentage of Chesapeake Bay Program partners who self-identified as people of color. The survey results also showed an increase in the percentage of people of color in Chesapeake Bay Program leadership positions from 9.1% to 10.3%.
- **Environmental Literacy Planning**: In 2019, 27% of the local education agencies that responded to a Chesapeake Bay Program survey self-identified as "well-prepared" to deliver high-quality environmental literacy programming to their students. Of the remaining respondents, 52% identified as somewhat prepared and 22% identified as not prepared. This marks an increase in environmental literacy preparedness since the pilot Environmental Literacy Indicator Tool (eLit) survey was distributed in 2015.
- **Oysters**: Ten tributaries have been selected for large-scale oyster restoration and are in various stages of progress. As of 2019, Maryland has completed 788, and Virginia 539 acres of oyster reefs.
- **Protected Lands**: Data collected between 2016 and 2018 show that nearly 1.36 million acres of land in the Chesapeake Bay watershed have been permanently protected since 2010. This marks an achievement of 68% of the outcome and brings the total amount of land protected in the watershed to 9.16 million acres.
- **Public Access**: Between 2010 and 2019, 194 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. This marks a 65% achievement of the goal to add 300 new access sites to the watershed by 2025.
- **Student**: In 2019, 32% of the 132 local education agencies that responded to a Chesapeake Bay Program survey reported providing Meaningful Watershed Educational Experiences (MWEEs) to at

least some of their elementary school students. At the middle school level, this number rose to 38% and at the high school level, it rose to 43%. Data collected through the eLit in 2019 for elementary and middle school grades show the proportion of districts with system wide MWEEs has not increased, and that there has been only a slight increase in the high school level. However, the 2019 survey includes districts who had previously not responded, and the data suggests that these new districts are not as far along in their programming. When comparing the districts that responded in both 2017 and 2019, the number of districts with system wide MWEEs increased from 45% to 52% in elementary school, 51% to 55% in middle school and 33% to 48% in high school—indicating substantial improvement.

Decrease from previous assessment period:

- **2025 Watershed Implementation Plans**: As of 2019, conservation practices to reduce pollution are in place to achieve 39% of nitrogen reductions, 49% of phosphorus reductions and 100% of sediment reductions needed to attain applicable water quality standards when compared to the 2009 baseline established in the Chesapeake Bay Total Maximum Daily Load.
- **Blue Crab Abundance**: Between 2019 and 2020, the abundance of adult (age 1+) female blue crabs in the Chesapeake Bay decreased 26% from 191 million to 141 million. Despite the decrease, this number remains above the 70 million threshold which is considered a sustainable level for female blue crabs in the Bay.
- **Forest Buffers**: Between 2018 and 2019, 83 miles of buffers were planted, falling short of the annual target by 817 miles. Overall, 9,190 miles of buffers have been planted across the watershed since 2010.
- **Underwater Grasses**: In 2019, 66,684 acres of underwater grasses were mapped in the Bay; achieving 52% of the target of 185,000 acres. This is a 38% decrease from 2018 when it was estimated that the Bay may have supported up to 108,078 acres of underwater grasses.
- **Water Quality Standards Monitoring and Attainment**: Thirty-eight percent of the Bay and its tidal tributaries met water quality standards during the 2016-2018 assessment period. This is a 4% decrease from the previous assessment period of 2015-2017.

The annual Bay Barometer also provides highlights on work accomplished toward meeting the targets of the additional 19 outcomes over the past year.

Facts

The Chesapeake Bay Program is a regional partnership of federal, state and local governments, academic institutions and non-governmental organizations that lead and direct 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.

Many 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.

Indicators are updated real-time on ChesapeakeProgress throughout the year. ChesapeakeProgress is the Chesapeake Bay Program's one-stop shop for the most current information on the progress made toward the goals and outcomes of the *Chesapeake Bay Watershed Agreement*.

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. Impacts from record rainfall in 2018 continued to impact Bay health in 2019 and 2020.

Thanks to the many efforts of local governments, private landowners and watershed residents, nutrient and sediment pollution entering local waterways and the Bay have declined, but agricultural, 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 2019 and 2020 on the ecological health of and our efforts to protect and restore the nation's largest estuary.

Quotes

"Governor Northam has made restoring the Chesapeake Bay a cornerstone of his administration and his actions will bring continued improvements in water quality, fish and wildlife, and local communities. As chair of the Chesapeake Executive Council, the Governor has prioritized advancing the partnership's work on diversity, equity, inclusion and justice and the escalating threats to a healthy Bay from climate change. While the Bay Barometer demonstrates we are making progress, strong leadership will be key to achieving the region's goals by 2025."

> Matthew Strickler, Secretary, Department of Natural Resources, Commonwealth of Virginia and Chair, Chesapeake Bay Program Principals' Staff Committee

"Chesapeake Bay health, resiliency and diversity are increasing overall, but more is needed at a greater pace and scale to achieve our ambitious goals. The Hogan Administration will continue to lead with science, record-setting investments, robust conservation and innovative regulation, while pressing all of our federal and state partners to step up in the cleanup and protection of this national treasure."

> Ben Grumbles, Secretary, Department of the Environment, State of Maryland

"Pennsylvania is at an unprecedented turning point in the watershed. Our agricultural and wastewater nitrogen and phosphorus reductions in 2019-2020 were significantly improved, and a bigger picture of transformation has begun. Specifically, eight counties with the most nutrient and sediment pollution have

completed and begun carrying out Countywide Action Plans to reduce their local pollutant levels. Twenty-six more counties agreed to develop their plans in 2021 and implement them. This means all 34 counties that were asked to develop and carry out plans have signed on to do so. It's impossible to overstate the significance of this change. Although we face considerable challenges, the local, state, and sector partners in Pennsylvania are committed and forging ahead together to accelerate progress in the watershed and the Bay."

Patrick McDonnell, Secretary, Department of Environmental Protection, Commonwealth of Pennsylvania

"The Bay Barometer report offers an optimistic outlook of the overall environmental health and ongoing recovery of the Chesapeake Bay and its watershed. The Barometer provides valuable feedback on the efficacy of DEC's programs and policies and will help inform future restoration efforts to achieve the goals set forth in the *Chesapeake Bay Watershed Agreement*. In addition to the good news, the 2019-2020 report identifies opportunities for improvement to build on the progress we've made to protect the Chesapeake Bay Watershed for future generations."

Basil Seggos, Commissioner, Department of Environmental Conservation, State of New York

"West Virginia is working really hard to improve our local waters and the Chesapeake Bay. From stream restoration and riparian protection to nutrient management and land conservation, our landowners, local governments, state agencies and non-profits are consistently and voluntarily stepping up to do our part."

Harold Ward, Secretary, Department of Environmental Protection, State of West Virginia

"The District applauds the Chesapeake Bay Program's commitment to incorporate diversity, equity, inclusion and justice into all aspects of the partnership. The District is steadfastly working to ensure restoration and stewardship programs are equitable and give all residents the opportunity to enjoy and benefit from healthy streams and rivers."

Tommy Wells, Director, Department of Energy and Environment, District of Columbia