

## Health and Restoration in Maryland

More than 9,000 square miles of Maryland sit within Chesapeake Bay watershed, and four of the state's major rivers—including the Choptank, Patuxent, Potomac and Susquehanna—flow into the Chesapeake Bay. The following outcomes of the [Chesapeake Bay Watershed Agreement](#) were updated in 2023 and the Chesapeake Bay Program is pleased to present specific data for Maryland.

### Oysters

**Outcome:** Increase finfish and shellfish habitat and the water quality benefits of restored [oyster](#) populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.

**Progress in Maryland:** Maryland has completed oyster habitat on four of five Chesapeake Bay tributaries chosen for restoration. As of late 2022, Maryland had restored a total of 941 acres of oyster habitat.

Tributary	Reef Construction and Seeding	Completed Acreage
Harris Creek	Complete	348/348
Little Choptank	Complete	358/358
Tred Avod	Complete	130/130
Upper St. Mary's	Complete	60/60
Manokin	In-Progress	45/441

### Submerged Aquatic Vegetation

**Outcome:** Sustain and increase the habitat benefits of [submerged aquatic vegetation](#) (SAV) in the Chesapeake Bay. Achieve and sustain the ultimate outcome of 185,000 acres of SAV Bay-wide necessary for a restored Bay. Progress toward this ultimate outcome will be measured against a target of 90,000 acres by 2017 and 130,000 acres by 2025.

**Progress in Maryland:** According to preliminary data, 39,760 acres of underwater grasses were mapped in Maryland's portion of the Chesapeake Bay in 2022. Across the entire Bay, 76,462 acres of underwater grasses were mapped. This is 59% of the Chesapeake Bay Program's 2025 restoration target of 130,000 acres and 41% of the partnership's 185,000-acre goal.

### Forest Buffers

**Outcome:** Increase the capacity of [forest buffers](#) to provide water quality and habitat benefits throughout the Chesapeake Bay watershed. Restore 900 miles of riparian forest buffers per year and conserve existing buffers until at least 70 percent of the watershed's riparian areas are forested.

**Progress in Maryland:** Maryland planted 20.1 miles of forest buffers in 2021, 10 fewer than in 2020.

### Tree Canopy

**Outcome:** Continually increase urban [tree canopy](#) capacity to provide air quality, water quality and habitat benefits throughout the watershed. Expand urban tree canopy by 2,400 acres by 2025.

**Progress in Maryland:** Maryland reported 6,501 acres of community tree plantings in 2021, but lost 13,804 acres of tree canopy between 2013/14 and 2017/18. [Click here](#) to see tree canopy gain/loss for individual Maryland counties.

## 2025 Watershed Implementation Plans

**Outcome:** By 2025, have all [practices and controls in place](#) to achieve applicable water quality (i.e., dissolved oxygen, water clarity/submerged aquatic vegetation and chlorophyll a) standards as articulated in the Chesapeake Bay Total Maximum Daily Load.

**Progress in Maryland:** Maryland has best management practices (BMPs) in place to achieve 60% of its pollutant reduction goal for nitrogen, 39% of its reduction goal for phosphorus and 100% of its reduction goal for sediment by 2025. BMPS put in place from 2021

to 2022 in Maryland are estimated to have lowered the amount of nitrogen and sediment flowing into the Bay by .3% and .4%, respectively, and increased the amount of phosphorus by 4.4%. In 2022, Maryland released 50.6 million pounds of nitrogen, 4 million pounds of phosphorus and 7,570.8 million pounds of sediment into the Bay.

## Water Quality Standards and Attainment

**Outcome:** Continually improve our capacity to monitor and assess the effects of the management actions being taken to implement the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) and improve water quality. Use monitoring results to report annual progress being made in [attaining water quality standards and trends](#) in reducing nutrients and sediment in the watershed.

**Progress in Maryland:** As of 2021, 28.1% of the Chesapeake Bay has attained water quality standards. This is a slight decrease from the previous assessment period, when the Bay was estimated to have attained 28.9% of water quality standards. Short-term trends (2012-2021) show the following for three of Maryland's largest rivers:

- Choptank River: Degrading for nitrogen, phosphorus and sediment.
- Patuxent River: Improving for nitrogen, phosphorus and sediment.
- Susquehanna River: Improving for nitrogen, phosphorus and sediment.

## Toxic Contaminants

**Outcome:** Continually improve practices and controls that reduce and prevent the effects of [toxic contaminants](#) below levels that harm aquatic systems and humans. Build on existing programs to reduce the amount and effects of polychlorinated biphenyls (PCBs) in the Bay and watershed. Use research findings to evaluate the implementation of additional policies, programs and practices for other contaminants that need to be further reduced or eliminated.

**Progress in Maryland:** Thirty-eight percent of Maryland's portion of the Bay was considered to be impaired by toxic contaminants in 2020. Seventy-eight percent of the entire Bay was considered to be impaired in 2020, a decrease from 83% in 2018.

## Land Use Methods and Metrics

**Outcome:** Continually improve our knowledge of [land conversion](#) and the associated impacts throughout the watershed.

**Progress in Maryland:** Sixty-one percent of Maryland's land is covered by 5% or less impervious surfaces, 19.3% is covered by 5-10% impervious, 12.8% is covered by 10-25% impervious and 7% is covered by over 25%. In Maryland, areas with 10-25% impervious surface cover grew by .27% between 2013/2014 - 2017/2018 (the highest among all Bay jurisdictions).

## Protected Lands

**Outcome:** By 2025, [protect an additional two million acres of lands](#) throughout the watershed—currently identified as high-conservation priorities at the federal, state or local level—including 225,000 acres of wetlands and 695,000 acres of forestland of highest value for maintaining water quality.

**Progress in Maryland:** According to data collected through 2022, nearly 1.64 million acres of land in the Chesapeake Bay watershed have been permanently protected since 2010. Within the watershed, Maryland has about 1.7 million acres of protected lands total as of 2022.

## Public Access

**Outcome:** By 2025, add 300 new [public access](#) sites to the Chesapeake Bay watershed, with a strong emphasis on providing opportunities for boating, swimming and fishing, where feasible.

**Progress in Maryland:** Between 2011 and 2022, 284 boat ramps, fishing piers and other public access sites were opened on and around the Chesapeake Bay. Maryland has opened 71 of these sites.

## Environmental Literacy Planning

**Outcome:** Each participating Chesapeake Bay jurisdiction should develop a comprehensive and systemic approach to [environmental literacy](#) for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy goals and outcomes of the Watershed Agreement.

**Progress in Maryland:** In 2022, 24 local education agencies (LEAs) from Maryland responded to the Chesapeake Bay Program's Environmental Literacy Indicator Tool (ELIT) that measures the degree of environmental literacy preparedness among school districts across the watershed. Of the LEAs that responded to the survey, 67% reported being well-prepared, 25% reported being somewhat prepared, 0% reported being not prepared and 8% did not report a status.

## Student

**Outcome:** Increase [students'](#) age-appropriate understanding of the watershed through participation in teacher-supported Meaningful Watershed Educational Experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle and high school depending on available resources.

**Progress in Maryland:** ELIT survey responses captured the extent to which Meaningful Watershed Educational Experiences (MWEEs) were available at schools. In Maryland, 5% of LEAs reported offering no MWEEs, 9% reported offering some MWEEs and 86% reported offering system-wide MWEEs in at least one grade level.

## Climate Monitoring and Assessment

**Outcome:** Continually [monitor and assess](#) the trends and likely impacts of changing climatic and sea level conditions on the Chesapeake Bay ecosystem, including the effectiveness of restoration and protection policies, programs and projects.

**Progress in Maryland:** When compared to a 100-year baseline (1901-2000), total annual precipitation in 2021 increased in all eight climate divisions within Maryland, ranging from 4.1% increase in the Northeastern Shore to 10.8% increase in Northern Central. When compared to the same 100-year baseline range, average air temperature also increased in all of Maryland's climate divisions, ranging from an increase of 1.2°F per century in the Allegheny Plateau to an increase of 2.4°F per century in the Northern Central division.

## Bay-Wide Outcomes

In addition to the above, the following outcomes were updated in 2023 and their Bay-wide data and information can be found on ChesapeakeProgress.com:

- [Blue Crab Abundance](#)
- [Wetlands](#)
- [Stream Health](#)
- [Local Leadership](#)
- [Diversity](#)