MARYLAND COASTAL BAYS 2024 REPORT CARD

B

GOLD STAR PARTNERSHIPS PROMOTE EDUCATIONAL AND OUTREACH PROGRAMS ACROSS THE REGION

Tern raft champions Tom and Karin Johnson in front of their raft. Photo by Kim Abplanalp.

Tom and Karin Johnson have been strongly supporting an important tern raft in Chincoteague Bay. This tern raft, which is an artificial nesting island, is an effort by Maryland Coastal Bays Program (MCBP), Maryland Department of Natural Resource's (MDNR) Wildlife and Heritage Program, and Audubon Mid-Atlantic to provide nesting habitat to state-listed endangered terns. From the beginning in 2020, Tom and Karin have generously donated their property in South Point to store the 2400ft² tern raft over the winter. They've gone above and beyond in ensuring the property is well-kept and that the MCBP and MDNR boats are secure. Each year, the Johnsons participate in the launch and removal of the tern raft, providing key machinery and assistance needed to move the individual rafts in and out of the water. This has become a family affair as their daughter, son, and son-in-law have all provided assistance and support for this project. Thank you to the Johnsons for their continued support!

Macky's Bayside Bar and Grill is located in Ocean City, Maryland.

Just west of **Macky's Bayside Bar & Grill** is Reedy Island, the only breeding island for laughing gulls in Maryland and a historic breeding ground for three State-listed endangered species: common and royal terns and the iconic black skimmer. Since 2022, Macky's has played a critical role in helping us restore and monitor part of a historic beach on Reedy Island for terns. They didn't hesitate to say "yes" when we asked to place 10 tons of crushed shell in their parking lot to offload onto a barge and carry it out to the location. In fact, they've supported us with just about everything we've asked—from storing a canoe for easy access to Reedy Island, to allowing our volunteers to count and rescue horseshoe crabs on their sandy beach for scientific monitoring. MCBP is grateful for their commitment to giving back to their community and supporting us in our efforts to protect and restore our watershed!

SuperFun Eco Tours is located on Assateague Island and provides kayak rentals.

Assateague Outfitters represents a truly unique and successful partnership between the Maryland Coastal Bays Program and **SuperFun Eco Tours**. We are grateful that SuperFun Eco Tours provides access to places in the Coastal Bays that many would otherwise not have the chance to explore. Their guided tours educate our local community and visiting tourists on the importance of our watershed and protecting our natural resources. Thanks to the dedication and vision of our partner, SuperFun Eco Tours, this collaboration continues to thrive and grow each year while providing essential financial support for MCBP projects that protect and enhance our Coastal Bays.

THE MARYLAND COASTAL BAYS CONTINUE TO IMPROVE

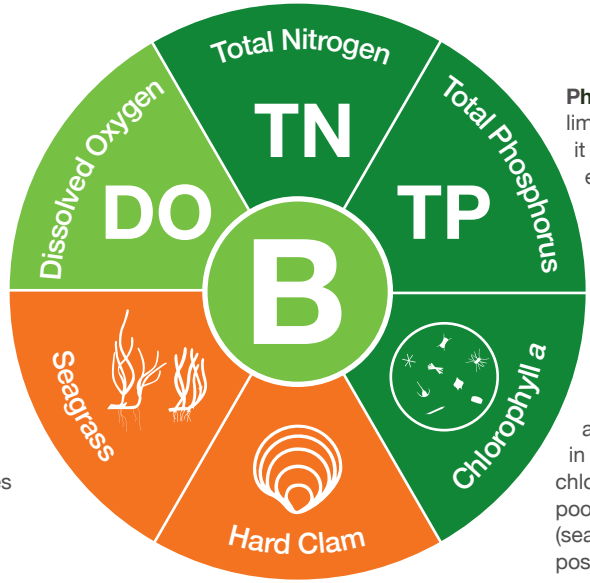
Coastal Bays health is defined as the progress of four water quality indicators (nitrogen, phosphorus, chlorophyll *a*, dissolved oxygen) and two biotic indicators (seagrass, hard clam) toward scientifically derived ecological thresholds or goals.

The Coastal Bays had an overall score of B (67%), which is the highest score the Coastal Bays have ever achieved. The letter grade increased from a B- to a B, an improvement of three points. Improvements were seen in total phosphorus and dissolved oxygen scores. While seagrass scores are still low, strong improvements were seen in Chincoteague Bay, Newport Bay, and Sinepuxent Bay, which is promising.

The total phosphorus score strongly improved from 71% to 82%, achieving an A- grade. Dissolved oxygen score (67%) and seagrass score (38%) both improved. The chlorophyll *a* score (98%) went up one point and hard clams score (26%) went down one point. The total nitrogen score (93%) remained steady. Strong improvements were seen in Chincoteague Bay, which is improving the overall Coastal Bays score due to its large area.

Nitrogen is often a limiting factor in plant growth, but excess nitrogen can cause algal blooms.

Dissolved oxygen (DO) is vital for the survival of animal species such as crabs, fishes, and mollusks.



Phosphorus can limit plant growth if it is not abundant enough, or it can cause algal blooms when in excess.

Seagrass growth is another indicator of water quality. Seagrasses are sensitive to changes in water quality.

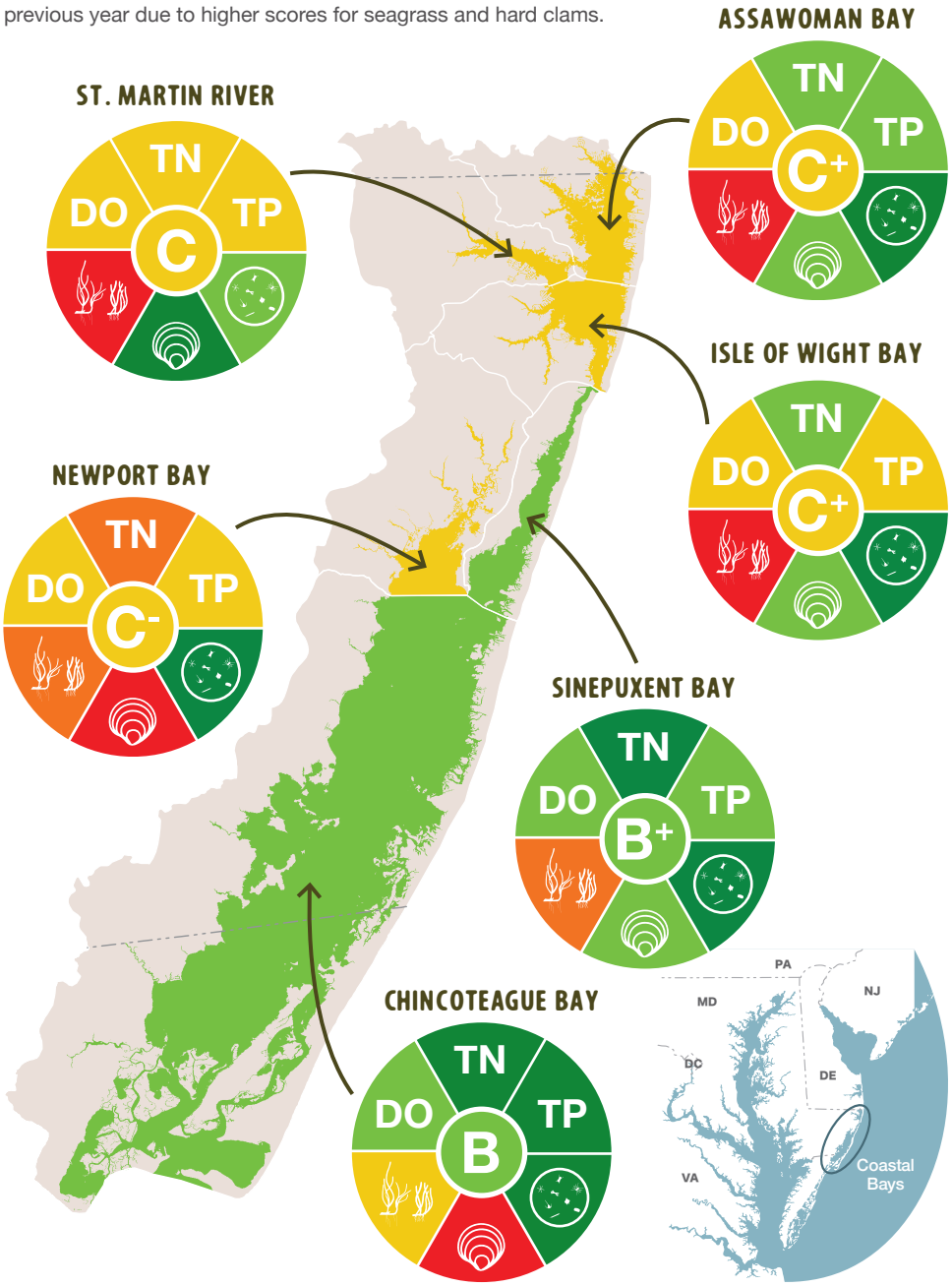
Chlorophyll *a* is a measure of the amount of algae in the water. High chlorophyll indicates poor water quality (seagrass shading and possible dead zones).

Because they are filter feeders, **hard clams** are good indicator species: species whose health reflects the health of the ecosystem.

F very poor 0–20%	D poor 21–40%	C moderate 41–60%	B good 61–80%	A very good 81–100%

REGION SCORES WERE MODERATE TO GOOD IN 2024

The highest-scoring region was Sinepuxent Bay, with a B+ grade. Chincoteague Bay continued to improve, with a B grade for 2024. This was due to strong improvements in total phosphorus and dissolved oxygen scores. Assawoman Bay received a C+ score, which is slightly lower than last year. Despite a large increase in the hard clam score, total nitrogen and dissolved oxygen scores declined. Isle of Wight also received a C+, a decline driven largely by a decreasing hard clam score. St. Martin River received a C grade, with strong improvements in total nitrogen. The lowest-scoring region was Newport Bay, with a C-. This was a slight improvement from the previous year due to higher scores for seagrass and hard clams.



UPDATING THE PLAN FOR COASTAL BAYS MANAGEMENT

Each National Estuary Program (NEP) works within its community to develop a Comprehensive Conservation and Management Plan (CCMP) designed to protect water quality, habitat, and living resources within its watershed. The CCMP is uniquely tailored to the local environmental conditions and is based on input by local, city, state, federal, private, and non-profit stakeholders, thereby supporting local priorities.

In 2024, MCBP worked tirelessly alongside our partners and community members to create a document that provides a long-term framework for action. Actions within the CCMP that inform the annual MCBP workplan specify partners responsible for successful implementation. The Plan also names periods for completion, range of potential costs, milestones for completion and performance measures to provide intended results. In addition, the CCMP includes critical components for monitoring along with strategies for Finance, Habitat Protection/Restoration, and Communication/Outreach. The EPA describes the CCMP as a critical part of the NEP model of adaptive management, suggesting a continual process of integrating new data and results. The 2025–2035 CCMP is the third of its kind since the Program began in 1996.

Maryland Governor Wes Moore signs the new Comprehensive Conservation and Management Plan for the Coastal Bays.

CONVERTING CROPLANDS TO WETLANDS PROVIDES BENEFITS

This 15-acre agriculture field (inset below) was difficult to crop in many years due to its very wet nature. It was converted to wetlands (below) with funding through the Agriculture Conservation Easement Program and the Infrastructure Investment and Jobs Act. Conversions such as these compensate landowners for loss of production, can improve water quality, provide wildlife habitat and re-establish wetland hydrology on former cropland. Some of the birds that have been observed feeding or loafing in the shallow pools include great egrets, snowy egrets, greater yellowlegs, glossy ibis, white ibis, and willets. In fact the roseate spoonbill, a first for Worcester County, was spotted in one of these ponds. This bright pink bird, whose range is southeastern US, was a very unusual but welcome visitor to the newly restored habitat.

The inset photo above shows an agricultural field prior to restoration. Once reclaimed as wetland, as in the larger photo, the land improves water quality, provides habitat, and re-establishes hydrology.

ENVIRONMENTAL LITERACY FOR THE COASTAL BAYS

Environmental literacy provides the knowledge, skills, and motivations for lifelong watershed stewardship. This endeavor is interdisciplinary, as it identifies intersections between scientific, cultural, and civic systems that create and sustain environmental phenomena.

MCBP hired an Environmental Literacy Specialist, Andrea García, in 2024 to manage environmental literacy opportunities. This includes classroom learning with experts and the Lower Shore Environmental Literacy Network. The Network practices peer learning and coordinates environmental literacy initiatives. Improved environmental literacy benefits our watershed by increasing knowledge, awareness, access, and appreciation for the Coastal Bays.

The MCBP Environmental Literacy program engages local students. Photo by Caitlin Daw.

THE WATER'S EDGE IS MOVING UP

Seas are rising throughout the Coastal Bays. Tidal salt marshes are eroding along the edges and dying in the interiors. Drowned marshes are less able to store carbon, buffer storms, or provide habitat for fishes, shellfish, or birds. Bird populations provide an early warning sign for threatened marshes. Island nesting birds like black skimmers, royal terns, and common terns have drastically declined. Marsh nesting birds such as the saltmarsh sparrow and black rail have also dramatically declined in recent years.

Salt marshes like this one are migrating inland as sea levels rise.

Shoreline and marsh restoration techniques include beach replenishment, waterway dredging, upland disposal, dredge disposal islands, shoreline bulkheading, and living shorelines. Organizations including Audubon Mid Atlantic, the Nature Conservancy, the U.S. Fish and Wildlife Service, Assateague Island National Seashore, and MCBP are exploring new techniques and funding mechanisms to mitigate the effects of sea level rise. Techniques such as beneficial dredge use, dredging for restoration, shallow runnels, ditch remediation, and thin layer placement are planned throughout the watershed.

ACKNOWLEDGMENTS

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UMCES Integration and Application Network — 100 YEARS OF SCIENCE

VIMS William & Mary — Virginia Institute of Marine Science

Maryland Coastal Bays Program

Maryland Department of Natural Resources

United States Environmental Protection Agency

National Park Service

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