

State of the Chesapeake Bay Program



Nick DiPasquale
Director, Chesapeake Bay Program
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Today, I am very pleased to report that the state of the Chesapeake Bay is improving, that our efforts continue to restore the resilience of this ecosystem, but I must caution that there is still more work to be done.

Over the past 18 months, signs of resiliency have been noted throughout the watershed that have not been observed for some time. This is confirmation that our hard work is beginning to pay off, but our continued dedication and commitment is needed to further recover and restore this critical ecosystem.



In May, the University of Maryland Center for Environmental Science or UMCES, recorded the health of the Chesapeake Bay at 53%, or a grade of C, one of the highest scores ever recorded.

These signs of improvement can be attributed to a variety of factors – some of which include the role weather plays, to local government actions and to the implementation of best management practices.



In 2014, this distinguished Council signed the Watershed Agreement, laying out a collaborative path to advance the restoration, conservation and protection of the Chesapeake Bay watershed. Last year, we announced the release of 25 management strategies that outlined the specific plans for achieving the goals and outcomes of the Watershed Agreement. And earlier this year, Chesapeake Bay Program partners drafted two year work plans detailing the short-term actions, commitments and resources needed for success. Since that time, we have moved forward aggressively and enthusiastically with implementing these strategies and work plans.



I'd like to briefly touch on some of the encouraging indicators that have been observed throughout the watershed over the past 18 months. The Chesapeake Bay watershed is interconnected – from our waterways to our species to our inhabitants. Many of these indicators are mutually supportive and reinforcing – they create a positive feedback loop throughout the ecosystem.

As you know, clean water is the foundation for life in the Chesapeake Bay and reducing pollution is critical to restoring the watershed, as our fisheries, habitats and communities depend on it for survival.

In 2015, computer simulations showed that pollution controls put in place across the watershed since 2009 lowered nitrogen loads by eight percent, phosphorus loads by 20 percent and sediment loads by seven percent. This drop in pollution loads is attributed to several factors, most notably to significant reductions of nitrogen and phosphorus in the wastewater sector. From the period 1985 to 2015, nutrient pollution from the wastewater sector dropped 59 percent.

Actually, it is more significant than that – for the first time and ten years ahead of schedule, the Chesapeake Bay Program partnership as a whole has met its 2025 pollution reduction targets for the wastewater sector. This is a huge accomplishment, which should be attributed to the many efforts of our local, state and federal partners.



Another factor driving this drop in pollution loads is a decline in the atmospheric deposition of nitrogen. Between 1985 and 2015, nitrogen falling from the air onto the watershed fell more than 65 percent. This is due to Clean Air Act regulations and enforcement actions that have reduced emissions from power plants, industrial sources and vehicles. When nitrogen falls from the atmosphere into the water, it can fuel the growth of algae blooms, which block sunlight from reaching underwater grasses and create low-oxygen “dead zones”.

Water quality standards attainment and monitoring is the other method in which we track our progress toward clean water. During the period of 2013 to 2015, an estimated 37 percent of the Chesapeake Bay and its tidal tributaries met water quality standards, up more than 10% from the previous period and 17% from the preceding period. This is still far below the 100 percent attainment that is needed for clean water and stable aquatic habitat, but it does mark a significant improvement over two successive assessment periods.



Water quality is influenced by pollution loads and trends that enter the Bay through river flow. Between 2014 and 2015, nitrogen, phosphorus and sediment loads entering the Bay through river flow fell 25 percent, 44 percent and 59 percent, respectively. Our experts attribute this drop in pollution loads to dry weather and below average river flow, but note the role of local efforts to reduce pollution. This factor is especially significant as our UMCES partners note that 2015 was not, in fact, a drought year. Previously observed improvements in water quality have been linked to lower rates of river flow than those seen in 2015.

Dissolved oxygen, water clarity and chlorophyll a also are measures of water quality. Submerged aquatic vegetation, or SAV, is a strong indicator of vital habitats. A significant achievement was observed in 2015 when an estimated 91,621 acres of underwater grasses were observed in the Chesapeake Bay, surpassing the 2017 restoration target two years ahead of schedule and marking a nearly 50 percent achievement toward the partnership's 185,000 goal. This total is the highest amount ever recorded by the Virginia Institute of Marine Science aerial survey.





As Bay grass beds provide food and shelter to fish and wildlife, it isn't surprising that we saw positive indicators in 2015 for both blue crab abundance and oysters, which outline progress toward the Sustainable Fisheries goal of the Watershed Agreement.

Between 2015 and 2016, the abundance of adult female blue crabs in the Chesapeake Bay increased 92 percent from 101 million to 194 million. This means the population of adult female blue crabs has nearly tripled since a critically low population was observed in 2014. Bi-state management of blue crabs have turned around a fishery from near collapse to one that is now sustainable.

Currently, six Chesapeake Bay tributaries have been selected for oyster restoration and each of these are in varying levels of progress. The initial reef restoration in Harris Creek – Maryland site – is now complete. Oyster restoration at the tributary level aims to increase oyster populations to provide the ecosystem functions that oyster reefs perform. Additionally, in formerly polluted tidal urban rivers where the practice of oyster aquaculture is thriving, significant harvests are being observed.



Beyond these outcomes in which we measure progress, we are also seeing some rather unexpected indicators of positive Bay health this year.


People were delighted this summer to spot dolphin pods swimming in the Bay. In fact, they were even witnessed in the waters right outside our offices in Annapolis. Their presence in the Bay indicates that their food sources here are rebounding.



Some people were less excited by the swarms of mayflies that have been appearing over the past 18 months. Mayflies are susceptible to water pollution, so the fact that we are seeing more of them is a positive sign.

As I mentioned earlier, bay grasses provide homes to a variety of species in the Chesapeake Bay – two of them – a type of sea horse and Bay scallops have seen an increase this year.





We are making good, substantial progress, but this is a cautionary tale. We must continue aggressive implementation of pollution control measures if this progress is to be sustained. There is still a great amount of work to do and any factor – such as extreme weather – can set us back again.

So, what's on our agenda over the next year? Well, first and foremost, the Bay Program is gearing up for the 2017 mid-point assessment, where we'll review each jurisdiction's progress toward meeting their pollution reduction goals.

The Chesapeake Bay Program also expects to release its Phase 6 Watershed Model – this will be the next iteration of the model that is used to project the amount of nutrients and sediments reaching the Bay and where they originate. This assessment will also involve improvements in the partnership planning and accountability tools. We are updating the watershed model with high resolution land cover, land use and elevation data which will substantially increase the precision of the information we rely on for local decision-making. Currently, local governments are spending tens of thousands of dollars to acquire this information, which will then be available to local governments and the general public for free and updated by the partnership on a regular basis. As far as we know, the partnership is the first to provide information at this scale on a geographic scope the size of the Chesapeake Bay watershed.

We are also evaluating the possibility of including local area planning goals into our Phase III Watershed Implementation Plan, or WIP, development. These local goals will help jurisdictions achieve their watershed implementation plans and local partners to better understand their expected contributions.

Our jurisdictions will also be working on and will submit their Phase III Watershed Implementation Plans within the next 18 months. These plans document how the jurisdictions will work with federal and local partners to achieve and maintain water quality standards.

These events will not be without its challenges. We will have to factor in several major science and policy issues that were not on the horizon in past years. These include climate change, the Conowingo Dam and results from the James River chlorophyll a study.

We'll have to take into account the benefit of new technologies that are informing Best Management Practices, or BMPs. 17 expert panels are currently underway to evaluate BMPs that the Chesapeake Bay Program will need to make a decision on by the end of this year.



I wouldn't be able to share this optimistic news with you today if it wasn't for the collaboration of our many partners. Every member of our Goal Implementation Teams, Workgroups and Advisory Committees are dedicated to building resiliency back to this ecosystem. I want to say a special thank you today to the many Coordinators and Staffers who work day in and day out to support the important work of our program. This past year, we welcomed Kristin Saunders to the Bay Program in the role of Goal Implementation Team Liaison. Kristin has worked tirelessly over the past year to bridge relationships between all of our goal teams, workgroups and partners. As interconnected as the Chesapeake Bay ecosystem is, so must be the people who are working to protect and restore it. That is what makes this partnership so unique and effective.

And finally, thank you to the Executive Council – for your continued support and commitment to meeting the goals and outcomes set forth in the Watershed Agreement. Through our continued collaboration and progress, I am confident that we will report to you one day that, “the state of the Chesapeake is a strong one.”