



2016

Blueprint Progress: MARYLAND

Since 2010, the six Bay states and the District of Columbia have been working in earnest to implement the Chesapeake Clean Water Blueprint—

the science-based limits for nitrogen, phosphorus, and sediment needed to restore the Chesapeake Bay and its rivers, along with the state-specific clean-up plans to achieve those limits. The Bay jurisdictions agreed to full implementation by 2025 and set a goal of being 60 percent of the way there by 2017.

Across the region, the Blueprint is driving a range of actions from sewage treatment plant upgrades to wetland restoration. These efforts are starting to pay off. In the last 10 years, nitrogen pollution has significantly decreased at 54 percent of the region-wide monitoring stations, including 14 of 25 in the Potomac watershed.¹ In 2016, the acreage of underwater grasses was the highest on record.² The female crab population is up this year.³ And, recent analysis suggests the summer dead zone, the area of the Bay with low or no oxygen, has decreased by roughly 60 percent since the mid-80s.⁴ Like a patient in critical condition, the Bay is not out of the woods yet, but the vital signs are moving in the right direction. Now more than ever, the Environmental Protection Agency (EPA) and the Bay jurisdictions need to continue their efforts to reduce pollution.



Save the Bay
CELEBRATING
50 YEARS

Two blue crabs lie on a bed of eel grass. The female to the right is a sponge crab, carrying on average two million eggs. The color of the sponge indicates that the eggs are one to five days old.

Maryland's plan for clean water: Is it on-track?

The Chesapeake Bay Foundation analyzed the most recently available information (for 2016) to evaluate pollution-reduction progress. First, we compared 2016 progress⁵ to expected pollutant reduction targets to assess whether state-wide and source sector pollution reductions are on track to achieve the 60 percent by 2017 goal. This assessment is summarized in the table below.

Second, we looked at programmatic commitments the Bay jurisdictions made in their two-year milestones. The milestones describe the practices and programs that Bay jurisdictions commit to achieving every two years. They are a critical component of restoration efforts because they provide a method to gauge short-term progress toward long-term pollution-reduction goals. Programmatic milestones include the policies, programs, and funding that will lead to the implementation of pollution-reduction practices in the wastewater, agricultural, and urban/suburban stormwater sectors.

1 cbrim.er.usgs.gov/pdf_maps/ST_Trend/00600_Bars_v3.pdf

2 chesapeakebay.net/indicators/indicator/bay_grass_abundance_baywide

3 chesapeakebay.net/indicators/indicator/blue_crab_abundance_adults

4 Testa et al., 2017

5 2016 progress are model estimates of pollution loads assuming reported practices are implemented

6 epa.gov/chesapeake-bay-tmdl/chesapeake-bay-milestones

	AGRICULTURE	URBAN & SUBURBAN POLLUTED RUNOFF	WASTEWATER & CSO	SEPTIC	ALL SOURCES
NITROGEN	Off-track by less than 10 percent	Off-track by more than 10 percent	On-track	Off-track by more than 10 percent	Off-track by less than 10 percent
PHOSPHORUS	On-track	Off-track by more than 10 percent	On-track	N/A	On-track
SEDIMENT	On-track	Off-track by more than 10 percent	On-track	N/A	On-track

Off-track by more than 10 percent

Off-track by less than 10 percent

On-track

WASTEWATER



Program Milestone: Upgrade minor wastewater treatment plants using state grant/loan support.

Maryland's Bay Restoration Fund (BRF) is on track to fully finance Enhanced Nutrient Removal (ENR) upgrades to all of Maryland's 67 largest wastewater treatment plants. This allows for BRF funds to be available for other uses. The General Assembly has prioritized these funds to pay for upgrades to smaller wastewater plants and authorized state assistance to help these plants achieve ENR levels of treatment.



Program Milestone: Facilitate implementation of septic connections to already upgraded treatment plants. Review and expand a range of new, innovative, cost-effective, best-available nitrogen removal technologies to be available for upgrade of septic systems in Maryland.

The state has increased emphasis on connecting septic systems to sewer lines by prioritizing these projects for BRF investments and providing technical assistance to local jurisdictions. Unfortunately, this approach is inadequate to address pollution from septic systems beyond the reach of public sewer. In 2014, the state committed to develop a septic implementation strategy for public review. As of 2017, a strategy has not been released. Furthermore, Maryland Department of the Environment (MDE) stopped requiring the use of nitrogen removal technology on new systems located farther than 1,000 feet from tidal waters, despite encouraging new technologies. The state should define a comprehensive strategy to reduce pollution from septic systems and describe how increased pollution from new septic systems will be offset.

RUNOFF



Program Milestone: Analyze Financial Assurance Plans for all local jurisdictions with an MS4 permit to determine if they meet specific criteria in Maryland law. Review, approve, and/or take appropriate enforcement actions on submitted Phase I MS4 Restoration Plans.

Over a five-year period, Maryland's Phase I Municipal Separate Storm Sewer System (MS4) jurisdictions are required to apply pollution-reduction practices that filter the rain running off 20 percent of a local jurisdictions' untreated impervious (paved or hardened) surfaces. The General Assembly required MS4 municipalities to write Restoration Plans and Financial Assurance Plans that describe how the local jurisdiction intends to achieve this goal. MDE has reviewed most of these plans; however, the agency has not taken action to correct plans that fail to identify sufficient funding or propose an adequate level of restoration activity.



Program Milestone: Issue tentative and final determinations for Phase II MS4 permits.

Stormwater in smaller urban areas is regulated by Phase II MS4 permits. MDE is currently in the process of developing the next version of Phase II permits, which will include additional communities not previously regulated. Unfortunately, the draft permit fails to require any restoration activities within the five-year permit term.

AGRICULTURE



Program Milestone: Phase in the Phosphorus Management Tool (PMT) through 2022.

Maryland Department of Agriculture (MDA) has been working diligently with Maryland's farmers to obtain phosphorus soil data in order to establish Phosphorus Management Tool implementation tiers. To fully implement the Phosphorus Management Tool, MDA must remain diligent in gathering complete reporting data from farms which may have high phosphorus saturation and must cease phosphorus applications. CBF is participating in the Delmarva Land and Litter Challenge to identify the amounts and locations of poultry litter that exceed local crop needs. Current programs to match excess manure with farms where it can be used safely and that provide cost share funding for transport may need to be expanded.

What's next?

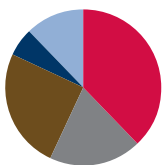
Maryland has taken significant steps to increase restoration activity. Much of this progress has been made possible by fully funding and effectively

targeting state clean-water investments, including the BRF and the Chesapeake and Atlantic Coastal Bays Trust Fund. The state should continue to target expenditures and leverage this funding with other sources, such as grants made available through the Chesapeake Bay Program, to accelerate restoration progress.

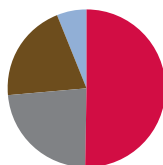
Unfortunately, new pollution from land development and expansion of animal agriculture threatens to undermine investments made to reduce pollution from existing sources. Maryland missed its 2016 pollution-reduction goals for urban polluted runoff by 15 percent and septic systems by 20 percent. New pollution sources will add to this deficit. The state has repeatedly submitted—and missed—milestones to track this new pollution and develop policies to offset it. The Chesapeake Bay Program is working to provide tools for the states to project future growth and account for new pollution. This is a top priority and Maryland needs to immediately define and implement an offset policy for new pollution sources.

Chesapeake Bay Watershed Water Pollution in Maryland by Type and Source

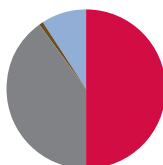
NITROGEN



PHOSPHORUS



SEDIMENT



AGRICULTURAL RUNOFF

URBAN & SUBURBAN STORMWATER RUNOFF

FORESTS

SEPTIC

WASTEWATER TREATMENT & FACTORIES

Source: Chesapeake Bay Program Chesapeake Bay Watershed Model 5.3.2

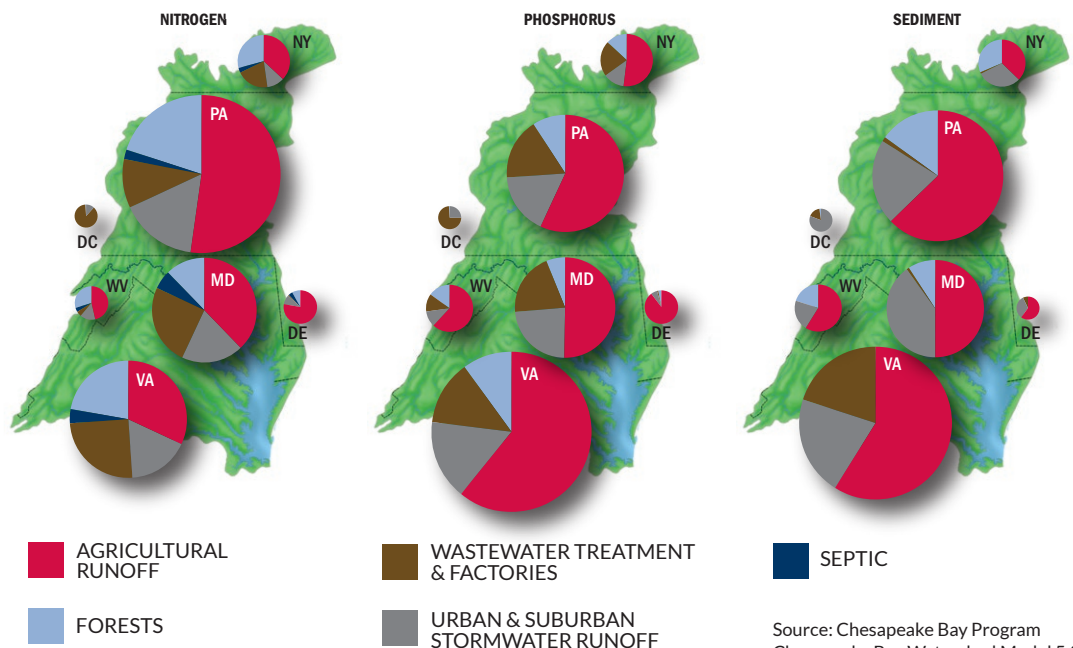
CHESAPEAKE BAY WATERSHED MILESTONES AT-A-GLANCE:

Are we
on-track
to achieve
the 2017
pollution-
reduction
goals?

- Off-track by more than 10 percent
- Off-track by less than 10 percent
- On-track

		AGRICULTURE	URBAN & SUBURBAN POLLUTED RUNOFF	WASTEWATER & CSO	SEPTIC	ALL SOURCES
DE DELAWARE	NITROGEN					
	PHOSPHORUS				N/A	
	SEDIMENT				N/A	
DC DISTRICT OF COLUMBIA	NITROGEN	N/A			N/A	
	PHOSPHORUS	N/A			N/A	
	SEDIMENT	N/A			N/A	
MD MARYLAND	NITROGEN					
	PHOSPHORUS				N/A	
	SEDIMENT				N/A	
NY NEW YORK	NITROGEN					
	PHOSPHORUS				N/A	
	SEDIMENT				N/A	
PA PENNSYLVANIA	NITROGEN					
	PHOSPHORUS				N/A	
	SEDIMENT				N/A	
VA VIRGINIA	NITROGEN					
	PHOSPHORUS				N/A	
	SEDIMENT				N/A	
WV WEST VIRGINIA	NITROGEN					
	PHOSPHORUS				N/A	
	SEDIMENT				N/A	

Chesapeake Bay Watershed Water Pollution by Type, State, and Source



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CBF

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