



2016

Blueprint Progress: VIRGINIA

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

A healthy oyster reef, with red beard sponge attached, peeks out of the water during low tide at Goodwin Islands and Back Creek at the mouth of the York River in Virginia.

Carlos Roldan

Virginia'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.

AGRICULTURE



Program Milestone: Track and report the progress of the 100% funded stream exclusion initiative.

Virginia's agricultural sector has achieved steady progress, although efforts during this milestone period reflect full-goal achievement only for phosphorus, with nitrogen reductions less than 10 percent off-target, and sediment reductions approximately 10 percent off-target. The Commonwealth accelerated fencing cattle out of streams through a time-limited program to pay participating operators 100 percent of their costs. This program stimulated significant community participation leading to protection of 6.7 million linear feet of stream since fiscal year 2013. There is a backlog of 419 operators who await funding.



Program Milestone: Continue development of the Resource Management Program and promote adoption in coordination with industry partners.

Virginia's Resource Management Plan program encourages farmers to adopt and implement a plan to achieve a high level of conservation. In exchange, these farmers are shielded for nine years from future state regulations. The program was successfully launched, with the development of over 300 plans, covering more than 65,000 acres of cropland. However, implementation of virtually all of these plans is lagging.



Program Milestone: Project the necessary pace of agricultural BMP implementation needed to meet 2025 WIP reduction targets.

Progress in cover crop adoption is falling below targets despite significant financial investments, and implementation of forested buffers, a highly effective practice, is also off-track. Moving forward, a significant challenge will be ensuring stable and adequate cost-share funding for all of these practices. Another challenge is the substantial expansion of poultry production (with associated increases in nitrogen and phosphorus pollution) in the Shenandoah Valley and the Eastern Shore.

	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	On-track	Off-track by more than 10 percent
PHOSPHORUS	On-track	Off-track by less than 10 percent	On-track	N/A	On-track	Off-track by less than 10 percent
SEDIMENT	Off-track by less than 10 percent	Off-track by more than 10 percent	On-track	N/A	Off-track by less than 10 percent	On-track

RUNOFF



Program Milestone: Reissue six final MS4 permits and Phase II general permit.

Virginia's work in this sector continues to fall short of its milestone goals, with reductions to nitrogen and sediment pollution loads being more than 10 percent off-target and reductions to phosphorus loads being off-target by less than 10 percent. While the Commonwealth's 11 Phase I Municipal Separate Storm Sewer (MS4) permits and its Phase II MS4 general permit have all been issued with required reductions in nitrogen, phosphorus, and sediment pollution, the permits all contemplate a pollution-reduction schedule that will not meet the 2025 Blueprint implementation deadline.

Enforcement of stormwater management rules has been a concern since more stringent technical standards were put in place in 2014; however, stepped up enforcement efforts by the Department of Environmental Quality are beginning. Priorities going forward include ensuring adequate funding for these efforts through the Stormwater Local Assistance Fund ; issuance of a strong Virginia Department of Transportation MS4 permit; and implementation of effective action plans to meet the Bay Blueprint.

WASTEWATER



Program Milestone: Continue upgrades to wastewater treatment plants.

Continuing required upgrades to Virginia's wastewater treatment plants have enabled extensive nitrogen and phosphorus pollution reductions that exceed Virginia's milestone goals for this sector. This over achievement has allowed Virginia's overall pollution-reduction efforts to stay on track despite lagging efforts in other source sectors. The pollution-reduction advantage related to wastewater treatment plant upgrades is expected to diminish over time with growth in the population and the subsequent increase in wastewater pollution.

An innovative proposal by Hampton Roads Sanitation District will help offset these diminishing benefits by injecting treated wastewater from seven of its wastewater plants into the deep aquifer, virtually eliminating loads from these plants and significantly reducing the annual input of nitrogen and phosphorus pollution to the lower James River and lower Bay.

What's next?

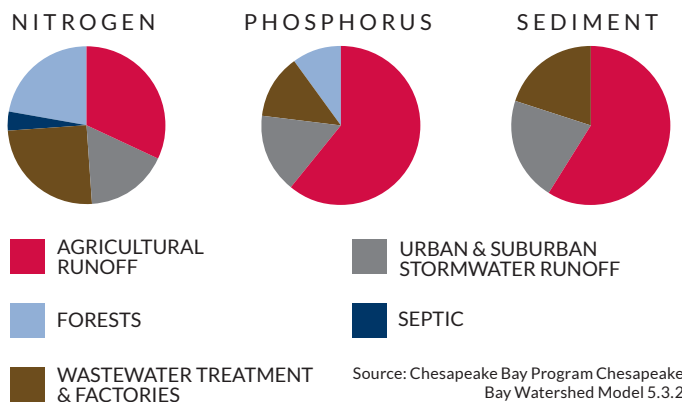
The Chesapeake Clean Water Blueprint is our best hope to restore the Bay and its tributaries. Widespread participation in this effort—by businesses, farmers, and communities—will continue to be essential for meeting the necessary nitrogen, phosphorus, and sediment pollution reductions.

Virginia's notable success in cleaning up pollution from its wastewater treatment plants should serve as a model for how the Commonwealth should proceed in the next eight years to address the challenging agricultural and urban stormwater pollution sectors.

For agriculture, Virginia must especially ensure adequate and stable cost-share funding for broader adoption of fencing livestock out of streams, planting forested buffers, and implementing other effective conservation practices.

For stormwater, after dedicating several years to developing and establishing stormwater regulations and first-level MS4 permits, Virginia must ensure the program achieves substantial reductions through reliable and adequate funding by the Stormwater Local Assistance Fund or other programs. There must be Blueprint consistency in reissued MS4 permits and other new permits (reissued construction general permit and Phase II MS4 general permit), and effective enforcement on the ground. In this effort, Virginia needs to enlist local and regional participants through local area planning goals that outline specific and effective steps.

Chesapeake Bay Watershed Water Pollution in Virginia by Type and Source



Source: Chesapeake Bay Program Chesapeake Bay Watershed Model 5.3.2

- 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

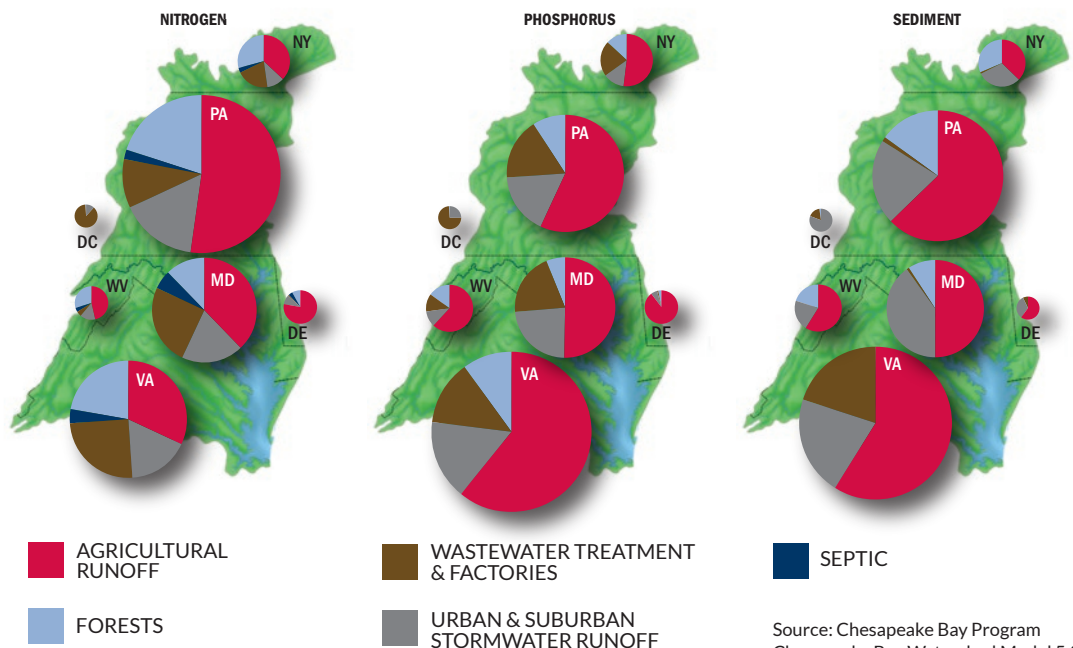
CHESAPEAKE BAY WATERSHED MILESTONES AT-A-GLANCE:

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



Source: Chesapeake Bay Program
Chesapeake Bay Watershed Model 5.3.2



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