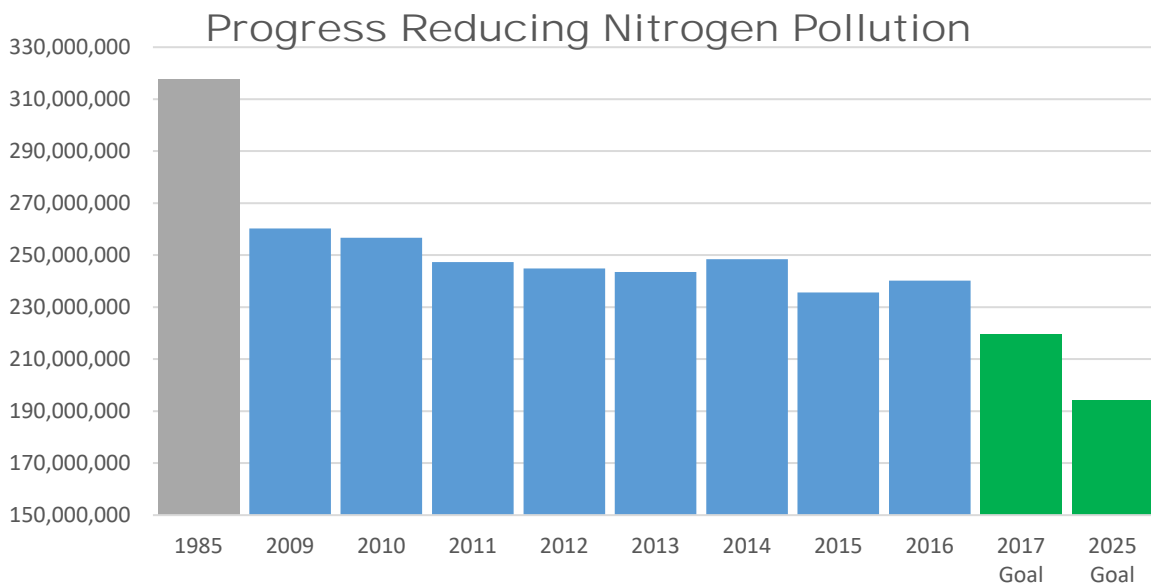


HOW PROGRESS WAS MADE IN THE CHESAPEAKE BAY

WHILE many people are familiar with the multi-state cleanup effort known as the Chesapeake Bay TMDL led by the federal-state Chesapeake Bay Program partnership, the restoration of this world-famous estuary began decades ago. The major Chesapeake states – Maryland, Pennsylvania, and Virginia – banded together more than 30 years ago around the same time that Congress conferred federal recognition for the watershed, leading to additional resources to turn around the horribly degraded condition of the Bay.

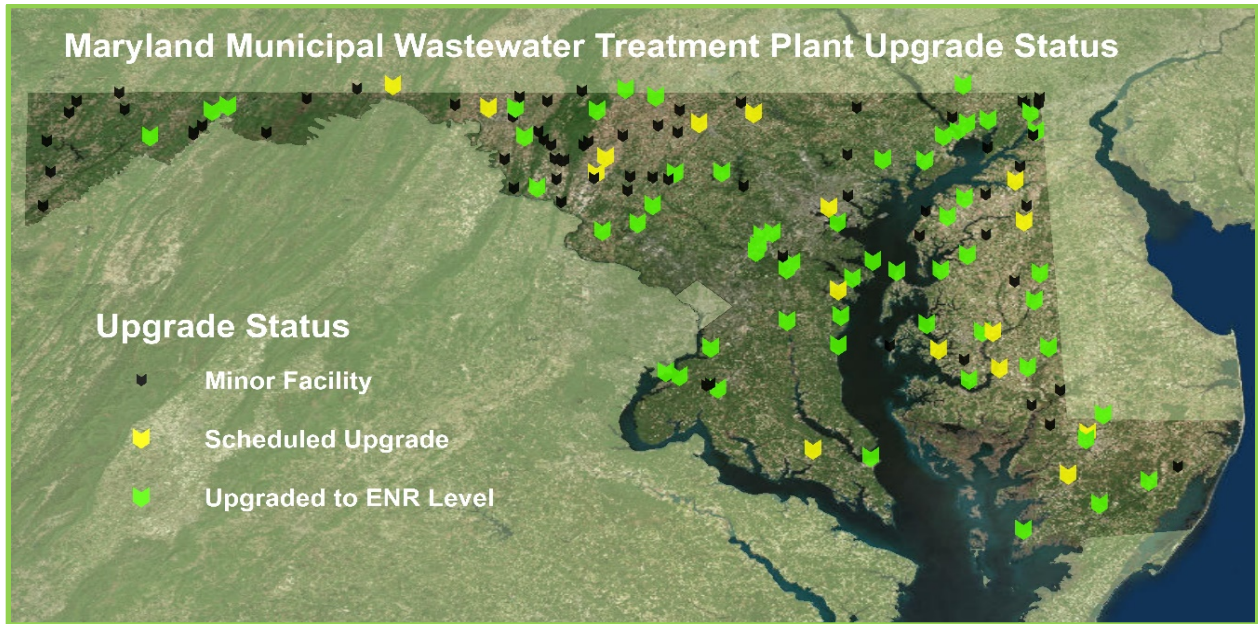
As a result of early efforts and the recent surge of activity under the Bay TMDL, nitrogen pollution has dropped by nearly one-fourth despite significant increases in human and animal populations in the watershed. In fact, the “nitrogen footprint” of watershed residents has fallen by 45 percent since 1985. Although pollution reductions are not keeping pace with what is necessary to achieve the TMDL targets, the level of historic progress in reducing nutrient pollution has been particularly impressive in some states.



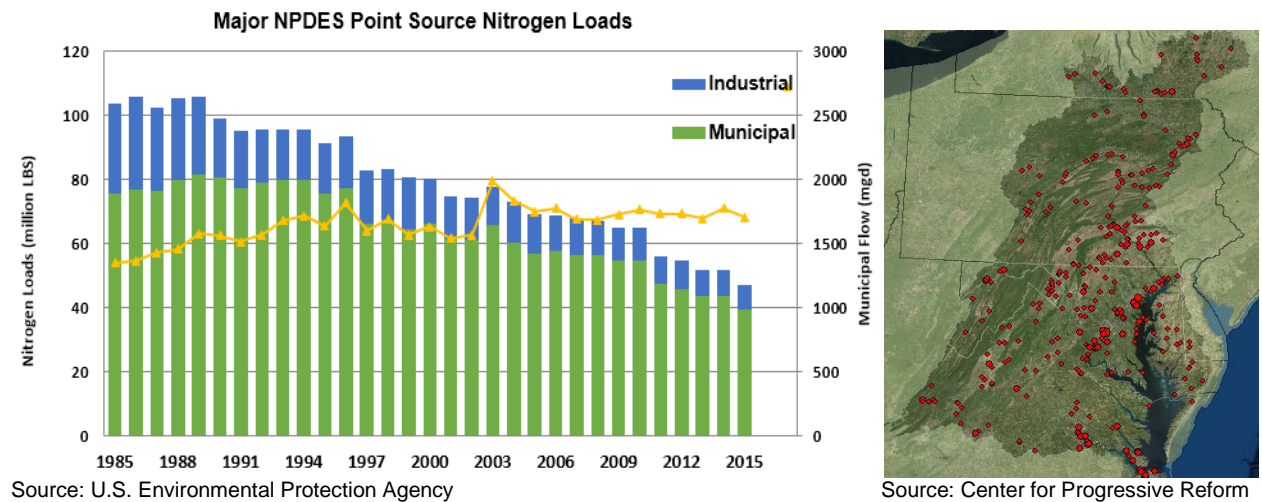
LOCAL news in the region is now replete with stories of smaller dead zones, emergent bay grasses, and recovering populations of some of our most iconic species, such as the blue crab, rockfish, and oyster. But the source of this progress is not as well understood as its extent. However, that has recently started to change.

For example, in Maryland, the former governor, the current Secretary of the Environment, and the County Executive of one of the largest counties held a press conference at the site of one of the state’s largest wastewater treatment plants. The three Republicans toured the newly upgraded facility and hailed the success of the law passed more than a decade ago, which established a small fee on most households and nonresidential users of these wastewater treatment plants.

With more than \$1 billion from Maryland's Bay Restoration Fund, the state will soon complete the last of the 67 wastewater treatment plant upgrades, ultimately reducing annual nitrogen pollution by more than 9 million pounds. Not bad for a \$5 monthly fee (phased-in from \$2.50 per month in the initial years).



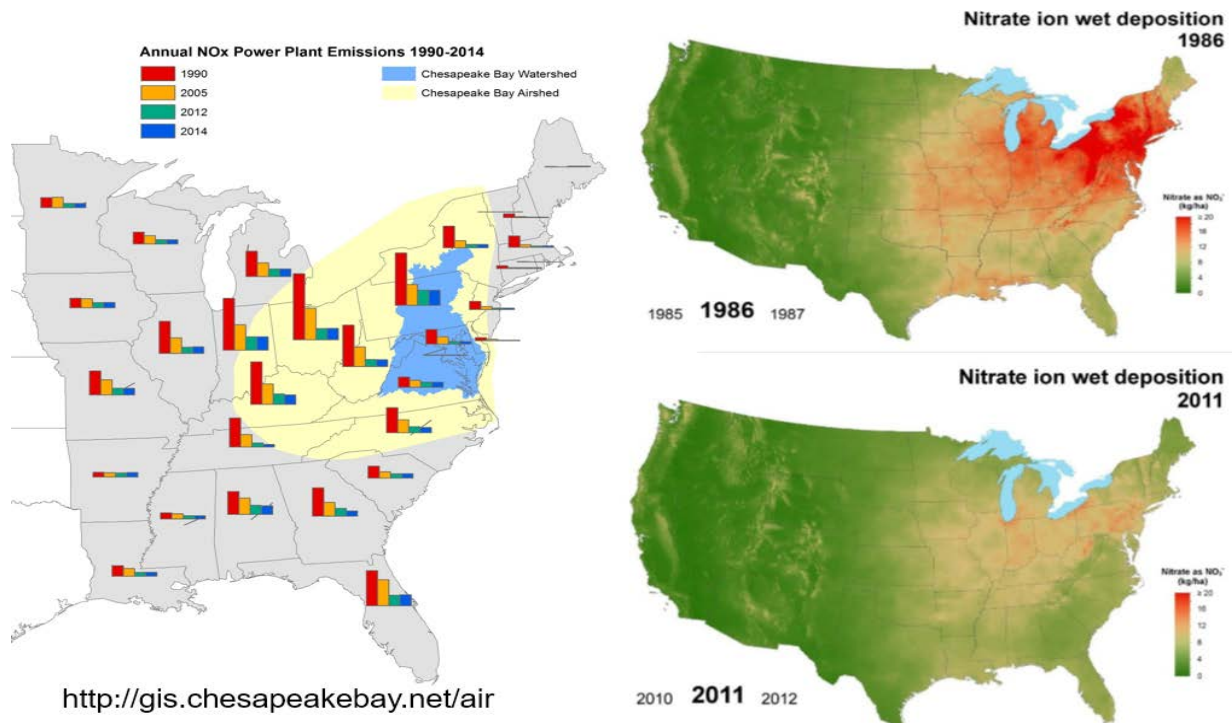
And the story is the same in many states around the watershed. Well before Maryland enacted the Bay Restoration Fund in 2004, Virginia had created its Water Quality Improvement Fund (WQIF) to provide cost-share grants for upgrading more than 60 large wastewater treatment plants in the Commonwealth. Leveraging other funds, the WQIF has provided more than \$1.6 billion to reduce nitrogen pollution from these major point sources. The District of Columbia, working with its suburban neighbors, completed the upgrade of its Blue Plains wastewater plant in 2014, which is the largest advanced wastewater treatment plant in the world. Even in Pennsylvania, the primary laggard in the Bay restoration effort, its General Assembly established a large fund in 1999 to support a variety of environmental projects, including wastewater treatment plant upgrades, with subsequent rounds of funding in 2002 and 2005. Bay-wide, nitrogen pollution from wastewater sources has fallen by 60 percent since 1985 even as flow has increased.



Essentially, the Chesapeake Bay restoration experience offers two main lessons. First, the surest way to substantially reduce nutrient pollution at a reasonable cost and in an easily verifiable way is to upgrade all major publicly owned wastewater treatment plants to the limits of technology. Second, the best way to ensure that these upgrades happen quickly is to create one or more state funds based on small annual fees to raise enough funds to upgrade plants in every community.

An added benefit of these funds is that they can also be used as a reliable source to address other sources and sectors of pollution as needed. Referring again to Maryland's experience, the Bay Restoration Fund is used not only to cover the debt service cost for upgrading the state's largest wastewater treatment plants, but also to upgrade more than 1,000 septic systems per year to Best Available Technology and to pay farmers to plant hundreds of thousands of acres of nitrate-absorbing cover crops each year (tiny Maryland leads the nation in cover crop plantings). With debt service costs for wastewater upgrades beginning to decline, the statute has been amended several times to allow the new capacity in annual revenues to be used for a variety of other purposes, such as paying for urban jurisdictions to install green infrastructure projects that control polluted urban runoff, for sewer system rehab, and for capitalizing a new "pay for performance" fund that purchases nitrogen reductions from innovative projects around the state.

Large funding sources dedicated to a variety of projects that address each major source of nutrient pollution have been critical to achieving progress in the Chesapeake Bay. With the exception of the Clean Air Act, which has provided a key tailwind in the form of reduced nitrogen deposition from coal-fired power plants, no other laws have done as much to turn around the health of the Chesapeake Bay than the statutes that established large environmental restoration funds in states around the Bay.



<http://gis.chesapeakebay.net/air>

Source: U.S. Environmental Protection Agency

Although the most cost-effective way to reduce nutrient pollution is to address the over-application of manure and chemical fertilizer on agricultural lands, the agricultural sector has not proven to be a reliable source of pollution reductions under current law. Worse yet, while the agricultural sector has at least been able to achieve moderate nutrient reductions, urban stormwater and septic system pollution has only risen over the previous decades, with no law able to suitably control sprawl. Any state that wants to address the public health and environmental scourge of nutrient-induced algal blooms and dead zones would be wise to create a funding source for the upgrade of major wastewater treatment plants.