

Current efforts are not enough in Chesapeake Bay cleanup, report says. New thinking is required

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When it comes to reducing pollution in the Chesapeake Bay, throwing more money at the problem may not be enough.

A new independent study suggests better tactics are needed in order to

improve the health of the bay and its estuaries.

For the past four years, the Scientific and Technical Advisory Committee, an independent entity that provides scientific advice to the regional Chesapeake Bay Program partnership, has reviewed and researched why meeting water quality goals has taken longer than anticipated.

The [report](#), released May 9, says some improvement has been made in the 40 years since the original Chesapeake Bay Agreement was signed. But it says recent progress to reduce pollutants have been lagging.

In 1983, the governors of Maryland, Pennsylvania and Virginia, the mayor of Washington and the U.S. Environmental Protection Agency administrator signed the first joint commitment to addressing the historical decline of the bay's health. Over the years, that mission has evolved and expanded, but the reduction of nitrogen and phosphorus in the watershed has always been central to that effort.

According to the report, watershed models estimated that nitrogen loads to the bay were reduced from 370 million pounds per year in 1985 to approximately 258 million pounds per year in 2021. Phosphorus loads were reduced from 29 million pounds per year in 1985 to approximately 15 million pounds per year in 2021.

"However, modeling and monitoring evidence indicates that current efforts to reduce [nutrient loads](#) will not meet the (total maximum daily load) targets," the report reads. "In addition, the (Chesapeake Bay Program's) ambient water quality monitoring program indicates that estuary water quality has been slow to respond to realized nutrient and sediment reductions in many regions of the Bay. The CBP has estimated that 27% of the Bay area met the water quality standards in 1985. By 2020, that figure had only risen to the mid-30% range. The

consequences for living resources have not been fully evaluated."

Specifically, improvement has been made in point sources, or [wastewater treatment plants](#), but progress in other areas like farms and developed land is "insufficient" for current goals. Water quality standards are measured by chlorophyll (an indicator of algae growth), underwater grass abundance (an indication of water clarity) and dissolved oxygen levels. This represents the conditions necessary to support the living resources, such as oysters or fish in the bay.

"Moving the needle on improving Bay water quality will require more than just money and effort—it will require new approaches to implementation," Dr. Kurt Stephenson, professor in the department of agricultural and applied economics at Virginia Tech, said in a statement. "We hope this report provides the Chesapeake Bay Program with ideas on how to improve nonpoint source programs and increase the potential of water quality management to improve living resources."

The report states that plant and animal species are not dependent on water quality standards alone. Instead, they will likely be affected by a variety of future conditions including disease, [water](#) temperature and salinity levels, commercial and recreational harvests and nearshore habitat. The reports says changing conditions—such as human population growth, land use and [climate change](#)—will make future restoration "more challenging."

"The Chesapeake Bay and its surrounding watershed are critical to the livelihood of all its 18 million residents, and changes in land use, [population growth](#), [economic development](#) and climate change mean that its past conditions cannot be recreated; the Bay of the future will not be the same as the Bay of the past," Denice Wardrop, research professor of geography at Penn State and executive secretary of STAC, said.

"However, significant opportunities exist to improve the effectiveness of our actions, achieving a Bay of equal vitality by building on the significant learnings of the past."

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