

Stronger EPA leadership needed to improve water quality in Mississippi River

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The US Environmental Protection Agency must take a more aggressive leadership role in implementing the Clean Water Act if water quality in the Mississippi River and the northern Gulf of Mexico is to improve, says a new report from the National Research Council. EPA has failed to use its authority under the act to adequately coordinate and oversee state activities along the Mississippi and ensure progress toward the act's goal of 'fishable and swimmable' waters, the report says.

In particular, greater effort is needed to ensure that the river is monitored and evaluated as a single system, said the committee that wrote the report. The 10 states along the river corridor all conduct their own programs to monitor water quality, but state resources devoted to these programs vary widely, and there is no single program that oversees the entire river, making it an "orphan" in terms of monitoring and assessment of its water quality, the report says. It recommends that EPA take the lead in coordinating these tasks along the river.

"The limited attention being given to monitoring and managing the Mississippi's water quality does not match the river's significant economic, ecological, and cultural importance," said committee chair David A. Dzombak, Blenko Professor of Environmental Engineering and director of the Steinbrenner Institute for Environmental Education and Research at Carnegie Mellon University, Pittsburgh. "In addressing water-quality problems in the river, EPA and the states should draw upon the useful experience in the Chesapeake Bay watershed, where for decades the agency has been working together with states surrounding

the bay to reduce nutrient pollution and improve water quality. EPA should demonstrate similar leadership for the Mississippi River."

The report evaluates efforts to implement the Clean Water Act along the Mississippi, which flows 2,300 miles from Minnesota's Lake Itasca to the Gulf of Mexico. The river is used by millions of people along a 10-state corridor for drinking water, commercial shipping, and recreation; it also is home to many valuable ecosystems, all of which depend on the river's water quality.

Measures taken under the Clean Water Act have successfully reduced much point source pollution, such as direct discharges from factories and wastewater treatment plants, the report says. But many of the Mississippi's remaining pollution problems stem from nonpoint sources -- mainly nutrients and sediments that enter the river and its tributaries through runoff, the committee said. Nutrients, such as nitrogen and phosphorous from fertilizers, create significant water-quality problems in the river itself and contribute to an oxygen-deficient "dead zone" in the northern Gulf of Mexico. Sediments present a more complex problem; in the upper Mississippi, they are too plentiful and considered a pollutant, while in the lower river, sediments are too scarce -- a shortfall that is contributing to losses of coastal wetlands in southern Louisiana.

Given that the Clean Water Act addresses nonpoint source pollution only in a limited manner, and that the Mississippi's water quality also is affected by physical structures which the Act cannot alter -- such as dams and levees -- the Clean Water Act cannot be the only means for improving water quality in the river and Gulf, the report says. Nevertheless, it can effectively address many aspects of pollution in these waters if the law's provisions are comprehensively implemented.

Currently, efforts to monitor and improve water quality in the Mississippi are complicated by the river's interstate nature. According to

the Clean Water Act, states are responsible for establishing water-quality standards and for monitoring water quality, but many states that are bordered by the Mississippi River devote few resources to monitoring and assessing the river, and there is little cooperation among states.

The Clean Water Act gives most authority for coordinating and overseeing interstate water quality to EPA, the report observes. Still, the dead zone in the northern Gulf of Mexico persists and clearly is not "fishable and swimmable." And currently, there are no water-quality standards for nutrients for most of the Mississippi River.

To diminish nutrient pollution, EPA should exert the federal leadership that the Clean Water Act allows and work with states to develop water-quality standards that protect the Mississippi River and the northern Gulf of Mexico, the report says. The agency also should work with states to develop a federal Total Maximum Daily Load (TMDL), or its equivalent, for nutrient pollutants for the river and northern Gulf. Mandated by the Clean Water Act, a TMDL is a numerical limit on the amount of a pollutant that a water body can accept and still meet its water-quality standards.

The states along the Mississippi River corridor need to improve their cooperative activities, the committee also said. In five states, the Upper Mississippi River Basin Association has promoted many cooperative water-quality studies and other initiatives; currently there is no similar organization for the lower-river states, which should strive to create one. EPA also should support better coordination among states, and among its four regional offices along the river corridor, the report says.

In addition, EPA and the U.S. Department of Agriculture should work together more closely to reduce harmful runoff from agriculture. USDA's conservation programs for protecting water quality should target areas that contribute higher levels of nutrient and sediment runoff to the

river, the committee said. Growing interest in biofuels -- which may increase crop production and therefore nutrient runoff from use of fertilizers -- makes improved EPA-USDA cooperation in the Mississippi River basin all the more urgent.

The study was sponsored by the McKnight Foundation of Minneapolis. The National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council make up the National Academies. They are private, nonprofit institutions that provide science, technology, and health policy advice under a congressional charter. The Research Council is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. A committee roster follows.

Source: The National Academies

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