

Costs for changing pollution criteria in Florida waters likely to exceed EPA estimates

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The costs to switch to numeric criteria for limiting nutrient pollutants in Florida waters are expected to exceed U.S. Environmental Protection Agency estimates, says a new National Research Council report. The committee that wrote the report questioned the validity of several assumptions in the EPA cost analysis and found that EPA did not adequately report on the uncertainties that could affect the cost of the rule change.

In 2009 EPA decided that numeric limits on the concentration of pollutants in water, such as nitrogen and phosphorus, were necessary in Florida to meet the requirements of the [Clean Water Act](#). These numeric criteria would replace existing state "narrative" criteria, which use words to describe [water pollution](#) limits. For example, the Florida narrative standard refers to not causing a population imbalance in aquatic flora and fauna, while the numeric standard would express specific allowable concentrations of nitrogen and phosphorus in water.

In its [economic analysis](#), EPA calculated the cost differential of switching from the narrative to numeric criteria. It considered only those waters that would be newly listed as "impaired" under the numeric criteria and estimated mitigation costs for a variety of sources of pollution that would affect these waters.

The committee concluded that EPA was correct in its approach to calculating the cost of the rule change. However, the agency underestimated both the number of newly impaired waters and the

mitigation costs for the stormwater, agricultural, septic system, and government sectors. Furthermore, there was significant uncertainty in the estimates for the municipal and industrial wastewater sectors, making it difficult to know whether the EPA underestimated or overestimated those costs, the report says. The committee also found that the costs of the rule change would be small relative to the total costs that will ultimately be required to restore Florida's waters.

Future cost analyses of rule changes would be improved if they explicitly described how a rule would be implemented over time and its impact on costs, the report says. If EPA had conducted such an analysis, it would have found that point sources -- such as municipal and industrial wastewater treatment facilities -- will face increased [costs](#) sooner under the numeric nutrient criteria than under the narrative process.

The report describes a more comprehensive approach for conducting these analyses and summarizes the differences between the narrative rule, numeric rule, and a proposed Florida rule that incorporates aspects of both narrative and numeric criteria. The committee did not produce its own cost estimate for implementing numeric nutrient criteria. It also did not assess the numeric criteria themselves or address the environmental or indirect economic effects of implementing the criteria.

The committee found that discrepancies in cost estimates by EPA and other stakeholders could be traced to different assumptions about how the rules would affect actions taken during the water quality management cycle, from listing water as impaired and establishing target nutrient concentrations to determining when the criteria have been met. If assumptions can be agreed upon, the new framework for future cost analyses could narrow the discrepancies in estimates, the report says.

Provided by National Academy of Sciences

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