

Measuring the Benefits of Nutrient Management Strategies at North Carolina Reservoirs Using Linked Non-Market Valuation and Environmental Assessment Models.

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Abstract: The NC Environmental Management Commission is statutorily charged with protecting and restoring surface water quality statewide. Pursuant to this mandate, the NC Division of Water Quality (DWQ) has adopted two large-scale comprehensive nutrient management strategies, is currently adopting a third, and anticipates adopting additional nutrient management strategies in the near future. When developing these strategies, new guidelines from the Office of State Budget and Management require DWQ to conduct fiscal analyses of the proposed regulations' benefits and costs. Although DWQ has accumulated data and methods to estimate the costs of nutrient management strategies, it has little information, tools, or expertise with monetizing benefits. This research project aims to fill this void by assembling data platforms and valuation protocols to assess the non-market benefits of nutrient management strategies. The project leverages a recently funded multidisciplinary EPA project that examines the benefits of nutrient abatement policies in the Southeastern United States as well as WRRF-funded research projects by Phaneuf (2001) and Kinney, Reckow, and Arhonditsis (2007). The project deliverables include policy-relevant benefit estimates for Jordan Lake, a North Carolina reservoir where DWQ staff have recently proposed a nutrient management strategy, and Falls Lake, a reservoir where DWQ staff expect to propose a nutrient management strategy in 2008. In addition, the study's data and methods will be sufficiently generic to monetize benefits for future nutrient management strategies as well as total maximum daily load (TMDL) requirements at other North Carolina reservoirs.