



Water Research Webinar Series

Valuing Aquatic Ecosystem Health at a National Scale: Modeling Biological Indicators Across Space and Time

Wednesday, September 29 from 2:00 to 3:00 pm ET

Optional Q&A
from 3:00 to 3:15

A certificate of attendance will be offered for this webinar

Registration: attendee.gotowebinar.com/register/4913402317422588432

EPA estimates the benefits of preserving aquatic resources using the water quality index (WQI). The WQI focuses on metrics related to human use, such as recreation, but fails to fully capture aspects important to nonuse values of aquatic ecosystems, such as existence values. Stated preference surveys can quantify the nonuse values of streams and lakes but require an appropriate index of biological health to be able to measure and compare biological condition.

In a recent effort, EPA researchers identified an appropriate biological health index to be applied in a forthcoming national stated preference survey that will estimate nonuse values of streams and lakes throughout the conterminous United States (CONUS). Through a literature review and focus groups, researchers compared two aquatic indices that are regularly used to quantify biological health by EPA's National Aquatic Resources Surveys: 1) multimetric indices (MMIs) and 2) the observed-to-expected ratio of taxonomic composition (O/E). This webinar will discuss this comparison, implications for estimating benefits of preserving aquatic resources, and forthcoming work to link O/E with water quality and habitat models, which would forecast changes in O/E resulting from future regulatory action.

About the Presenters:



Chris Moore , Ph.D.

Chris is an environmental economist in EPA's Office of the Administrator. His research interests and contributions to environmental policy include non-market valuation of ecosystem services, optimal management of forest resources, forecasting welfare impacts of climate change and ocean acidification, and estimating benefits of reducing health and mortality risks.



Jessie Doyle

Jessie Doyle is an Oak Ridge Institute for Science and Education research fellow in EPA's Office of Research and Development, Center for Public Health and Environmental Assessment where her research is focused on geospatial analysis and environmental science. Jessie holds an M.S. from California State University, Monterey Bay.

Ryan Hill , Ph.D.

Ryan is a geospatial aquatic ecologist in EPA's Office of Research and Development, Center for Public Health and Environmental Assessment. His research interests and recent contributions include community and landscape ecology, statistical modeling and machine learning to estimate aquatic conditions at unsampled locations, and the development of the StreamCat and LakeCat datasets.