Title: COMPARATIVE ECOLOGICAL APPROACH TO ASSESS THE ROLE OF WATERSHEDS IN ESTUARINE CONDITION

Authors:
James S. Latimer, U.S. Environmental Protection Agency, Office of Research and Development, Narragansett, RI 02882
Christine Tilburg, Gulf of Maine Council's EcoSystem Indicator Partnership, Buxton, Maine 04093

Author list: Latimer, J. and Tilburg, C.
Contact author: J. Latimer (latimer.jim@epa.gov; tel: 401-782-3167)

Preference: Talk

Abstract: Estuarine condition is a function of the nature of the estuary, ocean, and atmospheric systems, and the upstream watershed. To fully understand and predict how an estuary will respond to drivers and pressures, each compartment must be characterized. For example, eutrophication effects on estuarine condition are generally well known; less understood is how the attributes of estuarine watersheds, and their spatial distributions, relate to estuarine conditions. The Gulf of Maine Council's EcoSystem Indicator Partnership (ESIP) and the Environmental Protection Agency's (EPA) Office of Research and Development have joined for a project designed to link watersheds to estuarine conditions. Specifically, the goal of this research program is to develop methods and indicators for mapping watershed integrity and aquatic condition in order to predict watershed condition. The analysis utilizes a common set of watershed spatial indicators and estuarine state/impact indicators. The study builds on past work in southern New England using relationships between land use characteristics and aquatic habitat extent metrics (e.g., eelgrass) and on ESIP's work in northern New England which has assembled a large database of watershed, contaminants, climate change, aquaculture, and eutrophication variables. The aquatic condition data are comprised of regional data sets including EPA's National Coastal Assessment. Watersheds are being characterized by a combination of indicators developed in other efforts or are under development regionally. The results will be used to develop methods, models, and data on estuarine condition and watershed characteristics that can ultimately be used to help protect watershed integrity across the United States and Canada.

Additional AV needs: none