

UEBL Projects

Project: Effects of salinity derived from road salt and suspended sediments on yellow perch (*Perca flavescens*) egg and larval survival in the Severn River, Mattawoman Creek, and Choptank Rivers, Maryland. (Funded by US Fish and Wildlife Service)

Summary: This study represents a three way partnership between Chesapeake Bay Field Office of the U.S. Fish and Wildlife Service, University of Maryland Wye Research and Education Center, and Towson University. The goal of the proposed study was to analyze the impacts of salinity (as altered by the addition of road salts) and exposure to suspended sediments on the survival of yellow perch eggs and larvae. Both salinity and suspended sediments have been increasing in freshwater stretches of Bay tributaries as urbanization increases. The study has two key objectives. The first objective was to characterize the tidal and non-tidal spawning habitats of these three watersheds with respect to salinity, conductivity, specific ion concentrations, toxic metals, and total suspended solids. The three watersheds have varying levels of urbanization and impervious surface and a key factor in influencing water quality. These characterization studies will be conducted over two spawning seasons. The second objective was to test the survival of eggs and larvae by conducting laboratory toxicity tests with eggs and larvae in an environmentally realistic protocol. This protocol (i.e., salinity/road salt levels) was determined based on the first year of field work and the laboratory trials. The primary responsibility of Towson was sample collection and chemical analysis to support the first objective of this study with some analytical support for the toxicity tests; the toxicity tests were performed at Wye Research and Education Center.

Products:

Water quality monitoring for the effects of road salt and suspended sediment on Yellow Perch (*Perca flavescens*) in three tributaries of the Chesapeake Bay. A. Whiting**, A.E. Pinkney, R.E. Casey, D.R. Ownby. Poster. Chesapeake-Potomac/Hudson-Delaware regional SETAC Meeting 2011.

Effects of salinity derived from road salt and total suspended solids on yellow perch eggs and larvae from two Chesapeake Bay tributaries. G. Ziegler, D. Fisher, D. Ownby, R. Casey, A.E. Pinkney. Poster. SETAC North America Meeting 2011.