

Abstract:       Measuring the Economic Value of Water Quality Improvements on the  
Chesapeake Bay: An Application to Recreational Fishing

The main objectives of my research are to develop a random utility model of recreational fishing on the Chesapeake Bay and to use the model to estimate the dollar value of water quality improvements to Chesapeake Bay anglers. The model would be estimated using data from the National Marine Fisheries Service, the Chesapeake Bay Program, the US Environmental Protection Agency, and additional site data I collect. The model predicts where and when an individual goes fishing as a function of fishing site characteristics (location, water quality, ease of access, etc.) and individual characteristics (age, income, etc). As a subproject, I would use the same data to analyze trends over time and location covering both angler demographics and fish caught.

The valuation work could be used as part of economic criteria for evaluating water quality improvement policies, with model simulations being tailored to fit the specific needs of a given implementing agency. Results would be useful for regulatory impact analysis, benefit-cost analysis, and in damage assessment cases conducted by EPA, NOAA, or state environmental agencies. The model could serve as a prototype for water quality benefit estimation in other estuaries. The analysis of demographic trends would be useful for better understanding the role of recreational anglers in fisheries management and in the development of outreach projects for specific user populations. The demographic analysis methodology would also be transferable to other coastal areas.

#### Outline

- A. Intro
- B. Policy Significance
- C. Objectives
- D. Research Design
- E. Data Sources & Issues