1077-91-459 **Michael G. Neubert*** (`mneubert@whoi.edu`), Biology Department, MS 34, Woods Hole Oceanographic Institution, Woods Hole, MA 02543-1049, and **Holly V. Moeller** and **Guillermo E. Herrera**. *Models for the Spatial Management of Transboundary and Straddling Stocks and their Bioeconomic Implications for Marine Protected Areas.* Preliminary report.

Marine protected areas (MPAs) can be established for either conservation or fisheries management purposes. The mathematical models that are currently used to design MPAs, and to understand their economic costs and benefits, assume that the stock is either under the exclusive control of a single owner, or that it can be exploited by anyone. However, the distributions of actual stocks often straddle the exclusive economic zones (EEZs) of a small number of states as well as the high seas. In this talk, we will demonstrate how to construct spatially-explicit bioeconomic models for transboundary and straddling stocks. Using a two-state model, we will: (1) show how to analyze such models using game-theoretic methods, (2) show the ecological and economic conditions under which closed areas are optimal, and (3) show how the economic and conservation costs of noncooperation between states depend on biological and economic conditions. (Received September 02, 2011)