1077-49-319   **Jon M. Conrad*** (`jmc16@cornell.edu`), Dyson School of Applied Economics and Managem, 431 Warren Hall, Cornell University, Ithaca, NY 14853, and **Martin D. Smith** (`marsmith@duke.edu`), A122 LSRC, Nicholas School of the Environment, Duke University, Durham, NC. *Non-Spatial and Spatial Models in Bioeconomics.*

Beginning in the 1960s, ecologists, mathematicians, and economists started developing a class of models which today are referred to as bioeconomic models. These early models started with a difference or differential equation describing the dynamics of a biological resource. To this equation one might add a second difference or differential equation describing the dynamics of "harvesting effort." Alternatively, one could formulate a dynamic optimization problem seeking to maximize discounted net benefit. These models provided important insights into the tragedy of the commons and policies that might promote optimal management. By the 1970s more complex models were developed incorporating multi-species interactions, age-structured populations, and models with stochastic growth. In the late 1990's, spatial bioeconomic models were developed in recognition of the importance of location when managing biological resources. The objectives of this survey are to (1) review some of the early models in bioeconomics, (2) present some of the key spatial models in bioeconomics that have been used to assess the value of marine (no-take) reserves, and (3) speculate on the direction of future research in spatial bioeconomics. (Received August 21, 2011)