1011-92-372   **Louis J. Gross*** (`gross@tiem.utk.edu`), Dept. of Ecology and Evolutionary Biology, 569 Dabney hall - 1416 Circle Dr., University of Tennessee, Knoxville, TN 37996-1610. *Space: the final frontier of control theory in application to natural resource management.*

Environmental problems related to natural resource management span a wide variety of spatial, temporal and biotic hierarchy levels. Resource managers are charged with local, short-term decisions regarding controlling access and types of use for sub-areas within larger natural areas, as well as much longer-term planning for entire areas as large as many thousands of hectares. Similarly, regional-scale planning for water flows, hunting regulations, preserve allocation, and forest harvesting requires stakeholders to provide input to the process. Much of natural resource management can be viewed as problems in spatial control: what to do, where to do it, when to do it, and how to monitor and assess the success of the effort. The ready availability of computatational capability opens up a variety of new opportunities for spatially-explicit control methods to be made accessible for resource managers concerned with site-specific issues as well as with regional-level coordination of effort. I will describe efforts to develop spatial control as a general approach applicable to problems of invasive species management, hydrology planning, and endangered species conservation planning. I will also discuss educational issues associated with training resource managers in computational science. (Received August 30, 2005)