

CHALLENGES AND REWARDS OF TRANSDISCIPLINARY COLLABORATION TO SUSTAIN ECOSYSTEM SERVICES

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This research project examines the barriers to transdisciplinary research in the context of a national system of marine protected areas, the National Estuarine Research Reserve System (NERRS). The Sustaining Coastal Landscapes and Community Benefits project based at the Wells, Maine NERR, developed and tested approaches to valuing ecosystem services associated with riparian buffers as a model for collaborative research that increases the impact of science on decision-making and policy. Ecological, economic, mental modeling methods and a communication audit were integrated with a multi-stakeholder engagement process to model a new approach to research in the NERRS. The NERRS is uniquely positioned to test, implement and evaluate the application of transdisciplinary research that integrates quantitative information on ecosystem service values and tradeoffs at a scale appropriate to improve decision-making. Although the sensitivity of ecosystem services to changes in riparian land use is unquestioned, the use of resulting information to guide policy is often hindered by methodological gaps between economic approaches through which ecosystem services are defined and valued and ecological paradigms through which ecosystem processes are modeled. This model of collaborative research was developed to address these challenges. This research project was conducted collaboratively with a diverse group of local stakeholders whose management objectives for conservation and restoration include sustaining riparian ecosystem services. The local, state and federal agencies, watershed groups and land trusts in this stakeholder group approach their work through a predominantly biophysical lens with incomplete understanding of the theories, methodologies and frameworks applied by ecological economists. This research opened that lens to include an economic perspective. At a national scale this research builds upon the ecological and communication strengths of the NERRS and addresses gaps in the application and integration of socio-economic approaches to improve the impact of NERRS science on decision-making for riparian and wetland area management, including policy processes and decisions influencing land use, habitat and nonpoint source pollution. Challenges and benefits associated with integrating economic frameworks and methodologies within the dominantly ecological perspectives of the NERRS and local stakeholders will be the focus of this presentation.