

## Social-Ecological Systems (SES) Research at the University of Maine

**Jurisdiction:** Maine

**Name of Project Director:** David Hart

**Contact Information:** [david.hart@umit.maine.edu](mailto:david.hart@umit.maine.edu)

### *Please describe SES research that is currently taking place in your jurisdiction*

Associate Professor **Kathleen Bell** specializes in environmental and natural resource economics and spatial economic modeling. Much of her research addresses land-use decisions and the interactions between land-use change and environmental quality and spatial aspects of economic decisions. Bell's research interests in this area include the modification of conventional models of decisions to incorporate heterogeneity over space and the use of GIS to support environmental policy analysis. Current research projects include studies of land-use change, residential location decisions, risks to arsenic in drinking water, and the impacts of invasive forest pests on private and public landscapes. <http://www.umaine.edu/soe/faculty/bell.html>

Professor **Jim Wilson's** interdisciplinary research incorporates resource economics, fisheries ecology, anthropology and, lately, political science to answer the question "How do we build a social environment in which marine resources, especially fisheries, can be sustained?" Wilson's recent research addresses scientific uncertainty in exploited, complex natural systems such as marine fisheries, indicating that scientific uncertainty in complex systems creates a more difficult conservation problem than necessary because (1) we have built into our governing institutions a very particular and inappropriate scientific conception of the ocean that assumes much more control over natural processes than we might hope to have (i.e., we assume we are dealing with an analog of simple physical systems), and (2) the individual incentives that result from this fiction, even in the best of circumstances, are not aligned with social goals of sustainability.

[http://www.umaine.edu/marine/people/directory.php/profile/jamesjim\\_wilson](http://www.umaine.edu/marine/people/directory.php/profile/jamesjim_wilson)

[http://books.nap.edu/openbook.php?record\\_id=10287&page=327](http://books.nap.edu/openbook.php?record_id=10287&page=327)

Assistant Professor **Teresa Johnson's** research focuses on the human dimensions of marine fisheries, particularly the science and management processes in the Northeast U.S. Her research is concerned with the role of public participation and different forms of expertise, including scientists' research-based knowledge and fishermen's experience-based knowledge, in the policy-making process and the interactions between fisheries management and fishing communities. Her most recent research focuses on the implications of including fishermen in scientific research in what is known widely as cooperative or collaborative research. Johnson is also involved in an international comparative study of extended peer communities and other participatory approaches for dealing with risk and uncertainty in marine fisheries management.

[http://www.umaine.edu/marine/people/directory.php/profile/teresa\\_johnson](http://www.umaine.edu/marine/people/directory.php/profile/teresa_johnson)

Professor **James Acheson** is an anthropologist studying the social organization of Maine fishing communities, and the social science aspects of fisheries management. In recent years, much of Acheson's research has focused on using rational choice theory to understand the conditions under which people will constrain their own exploitive efforts in the common good and develop effective conservation institutions. Recently, he has devoted considerable time to understanding the social,

cultural and economic factors underlying the development of legislation in the Maine Lobster Industry. Currently he is Principal Investigator of a project entitled "Case Studies in Co-Management" sponsored by Sea Grant which is studying the implementation of the Maine Lobster Zone Management Law: one of the first true co-management laws in the United States.

[http://www.umaine.edu/marine/people/directory.php/profile/james\\_acheson](http://www.umaine.edu/marine/people/directory.php/profile/james_acheson)

***What are the SES areas of research that your state may be interested in moving toward or enhancing at this time?***

Landscape change drivers including urbanization, forest ecosystem management, and climate change.

***What are the SES areas of research that your state may be interested in pursuing in the future?***

Sustainable agriculture, alternative energy, legacy contaminants.

***Is there ongoing collaboration with other jurisdictions or neighboring states?***

Not at this time.

***Please list funding sources for this SES research.***

Maine's Sustainability Science Initiative, PI: Hart (Pending 2009-2014 NSF EPSCoR RII).

Predicting the Dynamics of Human Dominated Landscapes, Co-PI: Bell (SES-0119908).

Linking Human and Biophysical Processes in Coastal Marine Ecosystems, PI: Wilson (OCE-0410439).

***Does your jurisdiction have specific goals for SES research as defined by your State Science and Technology Plan or other statewide initiative?***

Maine's current S&T Plan (2005) does not include specific goals for SES research. The State S&T plan is under review and we anticipate a new Maine S&T Plan will be completed in 2010.