Strategic Plan

2011-2013

New Hampshire Sea Grant

Sea Grant
New Hampshire

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A Message from the Director

The New Hampshire Sea Grant College Program is one member in a national network of 30 Sea Grant programs, which together have a primary mission to promote the wise use, conservation and sustainable development of marine and coastal resources. Sea Grant approaches this mission with an integrated program of research, extension, education and communications that focuses the expertise and capacity of our university systems with stakeholder engagement to address the most pressing needs of our coastal communities and the public.

The 2011-2013 New Hampshire Sea Grant Strategic Plan, developed in concert with our New Hampshire Sea Grant Policy Advisory Committee and local stakeholders, is somewhat different from our most recent strategic plans in that it is intended to meet a programmatic need to synchronize with the new National Sea Grant College Program four-year funding cycle that will begin in 2013 and to provide a 'bridging plan' that incorporates and focuses N.H. Sea Grant's activities on the highest priority issues facing the state of New Hampshire, the Gulf of Maine region and the nation. As such, this plan does not include the level of background information characteristic of our previous plans (please refer to the 2007-2011 New Hampshire Sea Grant Strategic Plan for more detailed background regarding the major areas of concern). While the previous background information is still relevant, it is important to note that we have made a deliberate decision, based on stakeholder input, to focus the goals, potential activities and desired outcomes outlined in this plan to a significantly greater degree than has been done in the past. This has been done to insure that our limited resources are applied to the most pressing state, regional and national needs.

The 10 goals outlined below fall into the four Focus Areas identified in the 2009-2013 National Sea Grant College Program Strategic Plan (Safe and Sustainable Seafood Supply, Hazard Resilience in Coastal Communities,

Healthy Coastal Ecosystems, and Sustainable Coastal Development) and a cross-cutting goal in Marine Literacy.

We look forward to addressing these priority areas through engagement with our academic, governmental, non-governmental and stakeholder partners and we encourage all interested partners to contact N.H. Sea Grant so that we can together work to develop sound science and assist our stakeholder, community and policy decision makers in the sustainable use and management of our vital coastal ecosystems and communities.

Jonathan Pennock
Director, N.H. Sea Grant College Program

Safe and Sustainable Seafood Supply

GOAL: A healthy domestic seafood industry that harvests, produces, processes and markets seafood responsibly to meet public demand.

Activities:

- Assess, develop and transfer strategies and technologies that reduce the impact of commercial fishing on marine habitats and fish populations and that improve the capacity for fishermen to access Annual Catch Limits.
- Enhance the capacity to manage marine and coastal fisheries using ecosystem-based management approaches.
- Develop and advance strategies that lead to improved energy and operational efficiencies and reduced environmental risk by commercial fishing operations.
- Develop and convey technologies that lead to sustainable production of marine aquatic species while minimizing environmental impacts.
- Assess, develop and communicate strategies that promote ecosystem services provided by cultured marine organisms.
- Develop and optimize restoration methods, and encourage community involvement that builds partnerships between scientists, environmentalists and coastal communities.
- Educate and inform consumers about the importance of ecosystem health and sustainable harvesting practices to the future of our domestic fisheries, the health benefits of seafood consumption, and the safety of the seafood products they buy.

Outcomes:

- Commercial fishermen choose conservation engineered fishing strategies and/or practices that result in decreased impact on marine habitat and fish populations.

- Fisheries managers, government agencies and marine policy makers make decisions regarding marine policy and fisheries regulations based on the best available science.
- State and local decision makers and the general public support marine aquaculture and sustainable fishing practices.
- Marine aquaculture production is increased.

GOAL: A resilient fishing community with the capacity to adapt to a dynamic regulatory environment and changing marine ecosystems.

Activities:

- Improve awareness and understanding about catch share and sector allocation programs among fishermen, regulators and the public.
- Measure and monitor baseline social, cultural, economic, policy and other human dimensions data on fisheries, coastal communities and the region.
- Develop marketing strategies and alternative enterprises that enhance the sustainability of fishing operations.

Outcomes:

- Resource managers are informed and consider socioeconomic impacts of changing regulations to coastal communities and businesses.
- A sustainable fisheries stakeholder community evolves and responds to changing regulations and ecosystems.

Hazard Resilience in Coastal Communities

GOAL: Coastal communities in New Hampshire improve their resilience to severe weather, sea level rise, flooding and other climate effects that pose risks to life, health, property and infrastructure.

Activities:

- Assess current and projected regional climate impacts on ecosystems, coastal resource sectors, community infrastructure and socioeconomic well-being.
- Assess actual and perceived risks associated with current and projected climate effects such as sea level rise, storm surges, drought and changes in intensity, frequency and type of precipitation.
- Develop tools, technologies and techniques to improve understanding of climate impacts, community vulnerabilities and potential solutions for reducing risks from climate effects on municipalities, enterprises, ecosystems and individual health and property. Promote improved understanding of climate impacts with civic, business, agency, academic and organizational leaders.
- Assess feasibility, appropriateness and effectiveness of implementing climate adaptation techniques including hard and soft shoreline stabilization (protection), redesign (accommodation) and planned relocation (retreat) for different places, times and situations.
- Assess barriers to adoption of climate adaptation strategies.
- Promote the use of regional climate assessments, risk and vulnerability assessments, climate-related tools, adaptation strategies and social processes to increase the capacity of municipalities, coastal resource sectors, environmental organizations and others to adapt effectively to a changing climate.

Outcomes:

- Communities of decision makers, municipal staff members, planners, development professionals, businesses, environmental organizations and others learn about current and projected climate conditions and related tools and techniques, and use them to incorporate climate considerations into decision-making and actions.

Healthy Coastal Ecosystems

GOAL: Coastal communities effectively plan for the future and mitigate existing problems associated with coastal development and deleterious natural events.

Activities:

- Develop early warning systems for the ecosystem impacts of climate change and sea level rise.
- Develop methods to distinguish between anthropogenic impacts to coastal ecosystems and variability caused by natural processes.
- Work with local and state agencies to provide clear information on the potential impacts of, appropriate planning for, and response to increased incidence and severity of storm water runoff and natural disasters.
- Determine the relative costs and benefits of all approaches for mitigating effects of land-use impacts and wastewater/storm water runoff treatment strategies on the health of coastal ecosystems.

Outcomes:

- Coastal communities and environmental agencies have the tools to diagnose, predict and manage the cumulative effects of climate change, population growth and land-use change on the health of the Gulf of Maine and coastal watersheds.

GOAL: Critical coastal habitats and their ecosystem function are restored.

Activities:

- Develop new techniques for restoring and monitoring the effectiveness of restoration in critical habitats.
- Develop models to predict trends in properties and critical processes within critical coastal habitats.

- In collaboration with local and state management agencies, develop outreach programs to transfer critical habitat knowledge and restoration technologies to public officials and citizenry.

Outcomes:

- Governmental agencies and coastal communities have the capacity and knowledge of technical approaches for effective restoration of critical habitats in the Gulf of Maine and regional estuaries.

GOAL: Coastal waters are safe for recreation and locally harvested seafood is safe for consumers.

Activities:

- Develop methods for identifying sources of fecal-borne microbial pathogens in beach and shellfish-growing waters.
- Identify sources, track the fate, and determine the impacts of toxic contaminants on aquatic coastal ecosystems.
- Determine the incidence and locally relevant causes of naturally occurring pathogens and toxin-producing algae.
- Support the development of new technologies for monitoring, assessing and predicting the effects of pollutants of concern in coastal ecosystems.
- Support new and cost-effective approaches to prevent and mitigate coastal pollution.

Outcomes:

- Anthropogenic pollutants, naturally occurring pathogens and toxin-producing algae in the region's estuaries are detected, their sources and causes identified, and their impacts timely and effectively mitigated.

Sustainable Coastal Development

GOAL: Coastal communities in New Hampshire's coastal watersheds employ strategies that protect ocean and coastal resources from degradation associated with the built environment and growing demands on coastal resources.

Activities:

- Identify and evaluate impacts of land cover, different land care practices, site design standards, and conventional and low-impact development options on coastal water quality and quantity.
- Evaluate economic and social impacts of various land uses and development practices in relation to water and other natural resources.
- Develop tools, technologies and techniques that can be used to reduce harmful effects of or improve decision making related to different land uses on water and other natural resources.
- Assess barriers to adoption of effective natural resource protection strategies.
- Promote proven strategies including land conservation, maintaining and enhancing riparian buffers, minimizing effective impervious cover, and incorporating low-impact development techniques with community-based audiences.

Outcomes:

- Communities of decision makers, municipal staff members, planners, development professionals, environmental organizations and others learn about best practices, tools and techniques for coastal resource protection and take action to incorporate them into land use planning, regulation, policies and activities.

Marine Literacy

GOAL: An environmentally literate and engaged public supported by formal and informal education and outreach opportunities in ocean, coastal and climate sciences.

Activities:

- Assess the most effective approaches to convey marine science to educators and students.
- Continue to develop and offer UNH Marine Docent formal and informal ocean, coastal and climate education programs that utilize the latest scientific research and educational best practices.
- Strengthen collaborative relationships with UNH and other researchers to develop K-12 and teacher professional development programs.
- Strengthen collaborative relationships with regional informal marine education organizations and develop new delivery methods and expanded audiences.
- Develop correlative educational programs with N.H. Sea Grant and regional extension staff to enrich the educational impact of extension programming.

Outcomes:

- Participants in informal and formal programs increase their ocean, coastal and climate literacy and make informed decisions regarding society's impact on the ocean and the Earth's climate.

GOAL: Formal and informal educators utilizing ocean, coastal and climate curriculum and programming grounded in nationally supported standards and principles.

Activities:

- Collaborate with regional environmental education organizations to increase and strengthen interactions between researchers and in-service educators.
- Develop and implement Web- and distance learning-based professional development in ocean, coastal and climate principles and standards.
- Develop collaborative relationships with existing formal education professional organizations to encourage and implement professional development in ocean, coastal and climate principles and standards.

Outcomes:

- Increased number of formal and informal educators who sufficiently understand ocean, coastal and climate literacy principles and standards to utilize them in programming.

GOAL: A workforce skilled in science technology, engineering and other disciplines critical to the resolution of ocean, coastal and climate issues.

Activities:

- Develop and support graduate and undergraduate grants and fellowships in ocean, coastal and climate studies.
- Support the development and implementation of undergraduate courses in new and emerging fields.
- Encourage researchers to utilize undergraduate and graduate students in research and outreach.

Outcomes:

- Increased number of qualified applicants for ocean, coastal and climate related career opportunities.

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