



Goals and Objectives from New York Sea Grant's Strategic Plan: 2000-2005

Appropriate topics for research under NYSG's Core Research Program will address one or more of the specific objectives listed under the goals below.

Research in many disciplines (e.g., biology, chemistry, geology, physical oceanography, and the social sciences) may be appropriate to address the wide range of topics.

***** It is very important to note that not all of the objectives may lend themselves to research as described in Section II of the Biennial Call. Since this is a Strategic Plan for NYSG's entire program, some objectives involve implementation, development, or demonstration projects to be conducted by NYSG's staff, and are not appropriate for research proposals under the Biennial Call. Please contact New York Sea Grant if you have any questions about this. *****

Preproposals may be submitted that address objectives other than the specific ones listed, but they will not receive top priority ranking for programmatic interest.

Economic Leadership Issues

Goal 1 – Increase The Competitiveness Of Coastal- Dependent Businesses

Objectives:

- A. Assist water-dependent businesses in improving management, operation programs, marketing strategies and responses to regulations and management policies to enhance business efficiency, effectiveness, cost competitiveness, and profitability.
- B. Design and evaluate approaches to enhance tourism and eco-tourism opportunities that help develop and/or promote environmentally-sustainable economically-stable tourism markets.
- C. Identify, assess and encourage the use of innovative techniques and technologies to prevent, control or reduce the environmental impact of marina operations, boating and other coastal-dependent businesses in a cost-effective manner.
- D. Identify and innovative strategies to minimize or reduce dredging impacts by reducing the need for dredging and reusing, recycling, and/or disposing of dredged material associated with recreational boating facilities.
- E. Assess the economic and environmental implications of innovative construction materials used in coastal areas.
- F. Help develop and initiate, in partnership with industry groups and federal, state, and local regulatory authorities, effective consumer education strategies that support wise growth and development of the seafood industry.
- G. Develop technical information on aquaculture organisms, systems and techniques to support rehabilitation or sustainability of aquatic populations and creation of economically sound business opportunities by overcoming current technological, marketing, regulatory or policy barriers to aquaculture development.
- H. Develop innovative, cost-effective technologies for processing seafood and bringing new products to market.

Goal 2 – Facilitate Sustainable Use Of Economically Important Coastal Fisheries

Objectives:

- A. Develop new or use existing tools to evaluate the effects of recent ecosystem changes on current and future sport and commercial finfish and shellfish fisheries and to identify harvesting and management policy responses to overcome barriers to sustainability.
- B. Identify and evaluate modifications that will maintain or restore fisheries health by reducing inadvertent fishing mortality in recreational fisheries, bycatch in commercial fisheries and overall gear effects on habitats.
- C. Develop information on how to control effort, how to identify sustainable effort, and how sanctuaries can contribute to fisheries sustainability.
- D. Identify factors influencing disease prevalence in fish and shellfish and how to identify them, assess their impacts and manage them to reduce pathologies.
- E. Develop capabilities to predict socio-economic responses of coastal communities to changes in fishery resources or accessibility.
- F. Examine the effects of various physiological and behavioral processes on the dynamics of fished populations and their predators.
- G. Develop a process understanding of population, system and community-level changes in ecologically or economically important living coastal resources.
- H. Develop models that link hydrodynamics and water quality to fish or shellfish biomass and production.

Coastal Ecosystem Health And Public Safety

Goal 3 – Improve The Quality And Safety Of New York State’s Commercial And Sport-Caught Seafood Products

Objectives:

- A. Coordinate efforts by the seafood industry and federal, state and local regulatory authorities to enhance the safety of seafood products and to successfully complete the transition to a state-of-the-art food safety control system (e.g., HACCP).
- B. Develop, test, and deliver new and innovative educational and training programs on seafood safety hazards and improved sanitation practices for consumers, the seafood industry and regulatory community as part of the national Seafood Education and HACCP (or other state-of-the-art system) Alliance.
- C. Identify the risks of contaminant burdens, pathogens and chemicals for seafood safety, develop cost-effective analytical techniques, and determine strategies for minimizing, eliminating or remediating potential impacts.
- D. Develop techniques to maintain or increase seafood quality during the period from catch to consumption.

Goal 4 – Prepare For And Respond To Coastal Hazards

Objectives:

- A. Use and demonstrate new information technologies (GIS, internet and web-based technologies, etc.) to help decision makers better quantify and evaluate the structural, social and economic impact of short- and long-term coastal hazards on communities and select effective potential mitigation measures.
- B. Demonstrate and foster the use of new sustainable approaches for mitigating coastal erosion hazard problems that incorporate structural and habitat-enhancing techniques.
- C. Provide technical assistance and advice to local, state, and federal partners in the development of large-scale and regional coastal hazard prevention or mitigation programs and projects.
- D. Develop the capability to proactively assist coastal landowners, public decision-makers, and marine contractors to deal with coastal high or low water, flooding, and/or erosion events.
- E. Focus or improve technologies to identify, predict and reduce the risk of natural hazards to structures, resources and users.
- F. Develop tools to use data on currents, circulation, sediment transport and other processes to predict the dynamics of filling and opening up of small, local harbors, bays, etc., as well as the dynamics of middle- and large-size coastal geographic areas.

Goal 5 – Assess And Enhance Coastal Water Quality

Objectives:

- A. Design non-point source water quality education programs that will assist existing federal, state and municipal water quality coordinating committees and water body management programs, lake associations, local governments and estuary programs in protecting and enhancing the quality of New York's coastal waters.
- B. Design and deliver best management practices for pollution prevention programs for non-point sources to property owners, municipalities, industries and businesses.
- C. Determine the processes and rates of transport, fate and effects of point and non-point source anthropogenic contaminants and pathogens (e.g., MTBE, fertilizer, sewage) and develop appropriate models to assess their impacts on developed coastlines.
- D. Design and deliver educational and outreach programs that meet the goals of the Lake Erie and Lake Ontario Lakewide Management Plans.
- E. Develop techniques to assess the effects of water quality on the alternative uses of coastal resources and provide information to coastal residents so they can evaluate policies intended to prevent or reduce impacts on water quality.
- F. Develop and support techniques to cost-effectively maintain high water quality in aquaculture effluents.
- G. Provide information to assist state and municipal drinking water treaters, public health officials, and local governments in protecting and better treating public and private drinking water for bad taste and odor and cyanobacterial toxin.

Goal 6 – Protect Or Enhance Coastal Habitats

Objectives:

- A. Educate community groups, professionals and agencies about the benefits of and techniques for improving the quality (structure or ecosystem function) of threatened, degraded or compromised coastal habitats (e.g., Areas of Concern).
- B. Develop and promulgate educational programs that estimate human carrying capacity and manage human access to coastal areas.
- C. Use small grants programs, endowments and public involvement to provide support for coastal habitat restoration.
- D. Develop or refine techniques to determine the ecological value of coastal habitats, to examine the effect of human activities on habitat quality and/or habitat fragmentation, to determine if or when habitats have been degraded, and to identify and evaluate the effectiveness of remediation techniques to restore those habitats.
- E. Develop tools to support manipulation for long term maintenance of wetland habitats threatened by sea level rise.
- F. Develop, collect and disseminate research-based information about essential fish habitat that will assist managers, communities, and the fishing industry in managing finfish and shellfish resources.

Goal 7 – Control The Spread And Mitigate The Impact Of Non-Indigenous Species (NIS) And Aquatic Nuisance Species (ANS) In New York's Coastal Waters

Objectives:

- A. Educate the public and other stakeholders throughout North America about ANS introduction, spread, control and impact (industry, drinking water tastes and odors, ecosystem components) mitigation via traditional methods, as well as operation of the National Aquatic Nuisance Species Clearinghouse and World Wide Web searchable database.
- B. Determine the causes of initiation and cessation of ANS such as harmful algal blooms (e.g., brown tide), in order to develop strategies for prevention or mitigation.
- C. Improve our understanding of how human activities influence exotic species (including diseases and parasite introductions) distributions and impacts.
- D. Determine the impacts of introduced species and harmful micro-organisms and develop effective response, detection, and control mechanisms.

Education And Human Resources Issues

Goal 8 – Develop The Capacity Of New Yorkers To Participate As Partners In Coastal Issues

Objectives:

- A. Work with Marine and Great Lakes educators to integrate new technologies and Sea Grant resources into K-12 classrooms.
- B. Prepare the next generation of coastal science professionals and decision-makers by supporting Sea Grant Scholars, by using New York's colleges and universities to transfer Sea Grant-developed information and by supporting Sea Grant Extension educators' service as adjunct faculty in selected courses and institutions.
- C. Develop a New York State undergraduate internship program.
- D. Develop and distribute educational materials to Congress, state legislators, and stakeholders on the principles and theory of resource management and uncertainties in current methods for making predictions and management decisions.
- E. Provide non-formal education on Sea Grant issues and techniques to groups such as scouts, 4-H groups, etc.
- F. Develop and use new communications techniques and strategies (including publications, the internet and the media) to aid outreach to stakeholders and to the general public in order to foster an educated citizenry.

Goal 9 – Develop New Partnerships

Objectives:

- A. Initiate a Sea Grant urban extension outreach effort in New York City.
- B. With the University of Vermont develop a comprehensive Lake Champlain Sea Grant program.
- C. Develop a comprehensive coastal and aquatic outreach effort with New York's Native Peoples, in concert with Cornell's American Indian Program, to aid them in managing and utilizing their aquatic resources.
- D. Maintain and improve positive relationships between the NYSG and existing and potential host institutions.