



# Rhode Island Sea Grant College Program

## IMPLEMENTATION PLAN 2006-2008

### Our Vision:

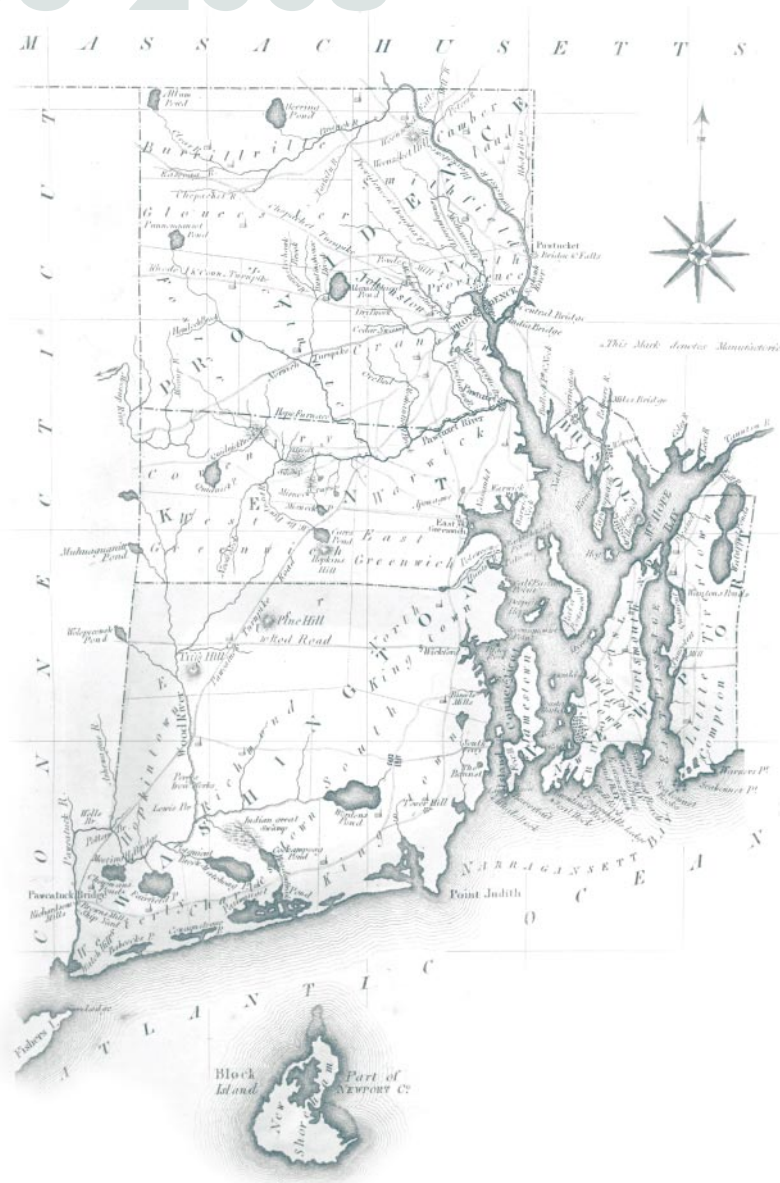
We envision a future where Rhode Island's coastal communities are recognized as stewards of the state's unique ecological, economic, and cultural assets. These coastal stewards enhance the Ocean State's intellectual capital in ocean and marine activities and nurture strategic partnerships that contribute to the state's marine economy, prosperity, and unique quality of coastal living.

### Our Mission:

Rhode Island Sea Grant implements integrated, systems-oriented research, education, and outreach strategies designed to foster leadership dedicated to the increased stewardship of marine ecosystems and their allied marine economies. Our core mission is to apply university-based talent to creating more sustainable and secure "coastal futures."

### Our Commitment:

Rhode Island Sea Grant is committed to national, regional, and local leadership in research, outreach, and environmental education programs that generate management-critical, place-based scientific knowledge that meets the urgent needs of the changing coastal communities, watersheds, and urban and coastal oceans of southern New England.



# INTRODUCTION

## Strategic Planning

Over a 14-month period in 2004–2005, Rhode Island Sea Grant worked with an external consultant and over 100 stakeholders to develop its *Rhode Island Sea Grant College Program Strategic and Organizational Development Plan, 2006–2010*. During this process, a comprehensive planning framework was developed, consisting of strategic and implementation planning—which defined (and refines) Rhode Island Sea Grant’s strategic goals, priorities, and objectives—and objectives and processes for organizational development planning (Lencioni 1998, 2000, 2002, 2004; Straub 2000; Ekeren 2001) (Table 1).

In early 2005, Rhode Island Sea Grant formally issued its strategic plan that puts forth detailed programmatic vision, mission, goals, and objectives, and articulates leadership processes and an evaluation framework for the pursuit of two thematic priorities—Sustainable Fisheries and Sustainable Coastal Communities and Ecosystems. In late 2005, Rhode Island Sea Grant issued its 2006–2008 Omnibus Proposal, detailing projects and programs to be funded during the omnibus period of March 1, 2006 to February 29, 2008. Rhode Island Sea Grant’s strategic plan and omnibus proposal form the basis for this Implementation Plan 2006–2008, which details how the goals and objectives of our strategic plan will be pursued in the 2006–2008 omnibus period.

We envision a future where Rhode Island’s coastal communities are recognized as stewards of the state’s unique ecological, economic, and cultural assets.

**Table 1. Rhode Island Sea Grant Strategic Planning and Organizational Development Matrix**

Planning Types	Planning Approaches	Results Achieved
Strategic	Thematic	Align programming and investments along two priority themes
	Functional and Integrated	Integrated planning ongoing for the operations and programs in each of the four functional units
	“Glocal”	Planning for thematic areas that scope from local to international
Organizational Development	Team-Building, Facilitation, Mediation, Conflict Resolution	Sea Grant Leadership Team has adopted the “Making Meetings Work” and Outcome Mapping frameworks to plan/evaluate on a monthly, quarterly, and annual basis

## Organizational Structure

Rhode Island Sea Grant is composed of four functional units: Program Administration, which includes the Communications and Education programs, the Sustainable Coastal Communities and Ecosystems (SUCCESS) Extension Program, the Sustainable Fisheries Extension Program, and the Legal Program. Each functional unit, with coordination and oversight by Program Administration, performs a variety of functions, including strategic planning, grant administration, human resource management, proposal development, mentoring, advising, and self-evaluation.

Program Administration: With staff consisting of the director, associate director, communications director, program manager, and fiscal specialist, program administration is responsible for developing and implementing the biannual research agenda (via competitive proposal review and selection), program management, grants administration, education, and communications.

Outreach: Consists of two extension programs—SUCCESS and Sustainable Fisheries—each led by an assistant director who oversees three to five core staff. With outreach leadership and coordination provided by the assistant director for outreach, Rhode Island Sea Grant outreach develops and implements extension, applied research, and training in accordance with Rhode Island Sea Grant's two core themes.

Legal: Consisting of the director, a staff attorney, and a program assistant, the Rhode Island Sea Grant Legal Program is based at Roger Williams University's (RWU) School of Law. The Legal Program supports legal research, outreach, and education activities for the Rhode Island Sea Grant Program.

These functional units are based at five offices located throughout Rhode Island:

Program Administration  
Coastal Institute, URI Narragansett Bay Campus, Narragansett

Sustainable Fisheries Extension Program  
URI Fisheries Center, URI East Farm Campus, Kingston

SUCCESS Extension Program  
Coastal Resources Center, URI Narragansett Bay Campus, Narragansett

Rhode Island Sea Grant Legal Program  
Ralph R. Papitto School of Law, RWU, Bristol

Urban Coasts Initiative (Operated jointly by Program Administration and SUCCESS Extension Program)  
URI College of Continuing Education, Providence

Coordination and oversight of these functional units and offices is the responsibility of the Rhode Island Sea Grant Leadership Team, which consists of: The Rhode Island Sea Grant director and associate director, the assistant directors for outreach, communications, and education, the Legal Program director, and senior staff.

This implementation plan details activities that will further the development of Rhode Island Sea Grant's investments and programming on the basis of our themes and functional units. It also specifies the operational basis for the Sea Grant Leadership Team and articulates the organizations and operations of the Sea Grant University Advisory Committee (UAC) and Senior Advisory Council (SAC).

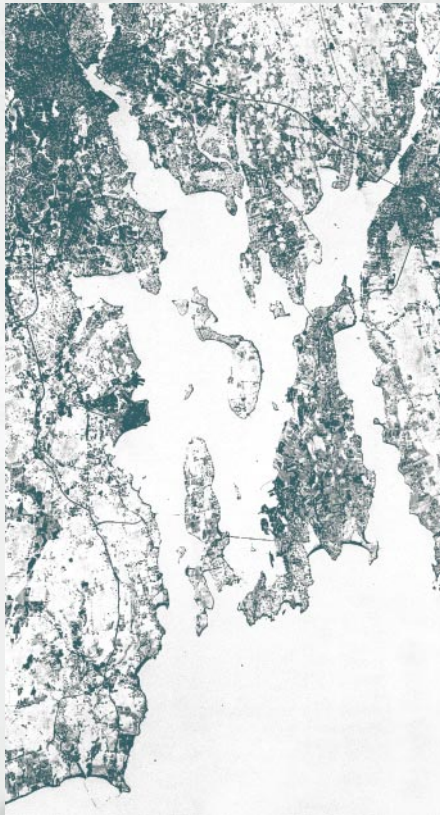
## Organizational Learning & Self-Evaluation

Rhode Island Sea Grant recently adopted a new strategic learning and evaluation framework called "Outcome Mapping" (Earl et al., 2001). The program's Outcome Mapping framework will be used in this implementation planning period to plan, track, and evaluate the organization's impacts and to facilitate internal learning processes to review and revise programmatic activities and investments. Accordingly, periodic strategic planning and evaluation sessions will be conducted to amend and update, as necessary, the strategic and implementation plans, as well as programmatic work plans, and to pursue responsive activities.

## **CULTIVATING RHODE ISLAND SEA GRANT'S ORGANIZATIONAL STRENGTHS**

Organizational and programmatic excellence requires continual reflection and improvement. This implementation plan will help Rhode Island Sea Grant to evolve organizationally by providing a framework for developing and maintaining robust internal alignment among Rhode Island Sea Grant's four functional units and their planned programs and projects.

Rhode Island Sea Grant values and actively cultivates "distributed leadership" among its program leaders and staff. As a university-based organization, we seek maximum transparency in the processes by which we design programs, make competitive investments, and evaluate outcomes in order to become a more effective "learning community." We will continue to pursue collaborative management processes that engage constituents, sharpen strategic planning, enhance organizational development, implement innovative programming, and assess and evaluate program outputs and outcomes. These efforts will enable Rhode Island Sea Grant to respond effectively to challenges we face in our university-based operating environments, in working with our partners in the pursuit of collaborative priorities in national and state coastal management and science, and in the priorities and expectations of those who fund us. Table 2 offers a framework that draws together Rhode Island Sea Grant's efforts in planning, management, evaluation, and organizational development.



**Table 2. Framework for Strategic Planning, Organizational Development, and Evaluation**

Planning & Evaluation	Activity	Outputs and Outcomes
Strategic Planning—Part One	Establish long-term strategic vision, mission, and goals	Issue strategic plan articulating program vision, mission, boundary partners, strategic goals, and progress markers
Strategic Planning—Part Two	Establish strategies to accomplish strategic vision, mission, goals, and objectives	Omnibus proposal and implementation plan that specify, on a two-year basis, the strategies, activities, and corresponding progress markers intended to accomplish long-term strategic goals and objectives
Evaluate near-term program impacts organized by core theme and selected outcome challenges as generated by Sea Grant investments	Monitor and evaluate on-going strategies and activities	MONTHLY reporting by core programs (program administration, outreach, and legal) on strategies and activities pursued to achieve selected outcome challenges (as derived from strategic goals and objectives) and monitored via established progress markers ( <i>Outcome Mapping Form 1: Strategy Journal</i> )
Promote internal evaluation and learning	Monitor and evaluate current organizational practices and approaches to attain medium and long-term strategic goals and objectives	QUARTERLY reporting by core programs (program administration, outreach, and legal) on organizational practices utilized to achieve selected outcome challenges. ( <i>Outcome Mapping Form 2: Performance Journal</i> )
Internally evaluate single and multiyear progress toward long-term strategic goals and objectives	Monitor and evaluate progress to attain medium and long-term strategic goals and objectives	ANNUAL reporting by core programs (program administration, outreach, and legal) on progress toward all stated outcome challenges (as derived from strategic goals and objectives) and monitored via similarly established progress markers. ( <i>Outcome Mapping Form 3: Outcome Journal</i> )
Internally and externally evaluate single and multiyear progress toward long-term strategic goals and objectives	<p>1) Internally evaluate attainment of two-year implementation plan goals and long-term strategic plan goals</p> <p>2) Facilitate external evaluations from advisory councils and key constituents</p>	<p>1) BIENNIAL assessment report issued by program administration to National Sea Grant Office and the general public</p> <p>2) Program Assessment Team (PAT) overview developed every four years based on PAT evaluation system implemented by Sea Grant’s National Review Panel</p>

Our core mission is to apply university-based talent to creating more sustainable and secure “coastal futures.”

## **2006–2008 IMPLEMENTATION OBJECTIVES AND ACTIVITIES**

### **Program Administration**

Rhode Island Sea Grant Program Administration is responsible for overall program management and the development and implementation of communications, education, and research programs. The overall goal of Program Administration is to lead Rhode Island Sea Grant as a unified organization of committed professionals operating as a university-based “think tank” (Table 3). A key organizational goal for this implementation period is to transfer organizational advances and management skills garnered by the Leadership Team across all of Rhode Island Sea Grant’s core staff in order to cultivate leadership and to increase organizational unity and attainment of our broader vision.

### **Program Management**

Program Management coordinates the design and implementation, monitoring, and evaluation of all sponsored programs underwritten by the federal, state, and other funds administered by the Rhode Island Sea Grant College Program.

### **Communications**

Rhode Island Sea Grant Communications disseminates scientific and technical information on marine and coastal topics to help meet demands for accurate interpretation and synthesis of information and data by diverse government, business, and public audiences. Professionally designed publications, websites, audiovisual products, and news stories are the primary tools we use to inform people of the progress stemming from public investment in Rhode Island Sea Grant.

During the 2006 to 2008 planning period, the Communications Program will focus on the following activities:


- Publish high-quality print publications arising from our investments that are scientifically sound and easily understood by various audiences
- Enhance the design and functionality of the Sea Grant website and related pages to make information more easily available by topic and to incorporate improved navigation features.
- Strengthen Rhode Island Sea Grant’s regional and national on-line profiles via the Northeast Fisheries Extension Website.
- Further develop our news program, placing greater emphasis on communicating Sea Grant research and outreach activities to a broader audience.
- Engage other URI news outlets to help us tell those stories that have broader university impact.
- Build our connections with public relations and news professionals to make more marine-related information available to and through the media.
- Contribute articles and news briefs to newspapers, magazines, and other periodicals, provide reporters with tip sheets, think broadly about placement of stories, and monitor the hot issues in the news in order to target Rhode Island Sea Grant’s contributions.
- Develop communications products in partnership with and for other organizations whose missions and audiences dovetail with Sea Grant’s goals.

### **Education**

Because an increase in public understanding of marine resources is critical to their wise use and sound management, environmental literacy and training programs are integral to our work. The changes in behavior at the societal scale that are required by a stewardship ethic will demand inspired leadership from a generation of professionals with an unusual combination of skills and knowledge. Rhode Island Sea Grant sees the education of these agents of change as its most lasting contribution.

**Table 3. 2006–2008 Program Management Implementation Strategies and Activities**

Strategies	Activities
Strengthen the Rhode Island Sea Grant Leadership Team	<ul style="list-style-type: none"> <li>—Organize and conduct regular conference calls/monthly strategic meetings, quarterly meetings, and annual retreats</li> <li>—Cultivate leadership in all thematic and functional areas</li> <li>—Convene an organizational retreat that produces a formal retreat proceedings that is circulated among all Rhode Island Sea Grant staff and external and internal advisory structures</li> </ul>
Strengthen Rhode Island Sea Grant’s advisory structures and statewide collaborations	<ul style="list-style-type: none"> <li>—Revamp Rhode Island Sea Grant’s external SAC and internal UAC</li> <li>—Develop forums for SAC and UAC members to interact individually and in groups with Rhode Island Sea Grant</li> <li>—Cultivate state and university leaders to promote the Rhode Island Sea Grant-Land Grant state match legislation</li> <li>—Enhance relationships with GSO, College of the Environment and Life Sciences (CELS), CRC, and Coastal Institute, with “marine departments” in CELS and GSO, and with marine leaders at Brown University and RWU</li> <li>—Assist in the organizational development of the Rhode Island Commercial Fisheries Center by developing relationships among students, faculty, and staff at URI, other universities, and agencies</li> </ul>
Develop Rhode Island Sea Grant as a scholarly think tank	<ul style="list-style-type: none"> <li>—Develop and implement annual science symposia based upon the model of the 2004 and 2005 Rhode Island Sea Grant science symposia, alternating the thematic focus of the symposia between fisheries and coastal themes</li> <li>—Fund topical science syntheses on subjects important to Rhode Island</li> </ul>
Build more efficient administrative and management capabilities; institutionalize evaluation structures; enhance program-wide communications	<ul style="list-style-type: none"> <li>—Develop a unified program administrative structure consisting of research administration, program management, education, and communications</li> <li>—Enhance internal organizational communications to share activities, opportunities, and insights from Sea Grant-funded travel and conference attendances by developing monthly, program-wide electronic newsletters and calendars</li> <li>—Build a Rhode Island Sea Grant “Web Working Group”</li> <li>—Build a Rhode Island Sea Grant “Evaluation Working Group” to examine how to: a) incorporate NOAA’s Performance Measures into Rhode Island Sea Grant’s Outcome Mapping Framework; b) incorporate Outcome Mapping evaluations into planning and decision making; c) increase the impact and strategic value of periodic, external evaluations</li> </ul>
Initiate program development activities in regional and international programming	<p><u>Regional:</u></p> <ul style="list-style-type: none"> <li>—Develop the Providence-based Urban Coasts Initiative Office, initially as an outreach office for the SUCCESS Extension Program, then eventually to serve all thematic and functional areas of Rhode Island Sea Grant</li> <li>—Convene regional meetings on regional marine research, outreach, and marine law and policy</li> </ul> <p><u>International:</u></p> <ul style="list-style-type: none"> <li>—Work with URI’s Coastal Resources Center and other Sea Grant universities to assist in the development of Sea Grant International programs</li> <li>—Establish new collaborations with the World Fish Center, the International Council for the Exploration of the Sea, the World Bank, and the U.S. Agency for International Development</li> <li>—Join advisory boards to help plan the implementation of the new Sea Grant-Canada Memorandum of Understanding</li> </ul>



For the current implementation plan, Rhode Island Sea Grant will focus its efforts on the following education activities:

- Implement the “Narragansett Bay Plankton Time Series,”—a Web-accessible database engine that will allow educators and researchers access to a unique 40-year data set
- Provide professional development opportunities for graduate students supported via Sea Grant-funded research and outreach projects
- Commit funding to URI undergraduates in critically needed environmental sciences through the URI Coastal Fellows Program and the URI Provost’s Undergraduate Research Program
- Initiate a Rhode Island Sea Grant Graduate Research Fellows program by adapting a research-education model used by California Sea Grant
- Participate in the Sea Grant Knauss Marine Policy Fellowship Program, the National Sea Grant Industry Fellowship Program, and the National Marine Fisheries Service (NMFS)-National Sea Grant Fisheries Science Graduate Fellowship Program
- Work to expand the Rhode Island Sea Grant Legal Fellows Program in collaboration with the RWU Law School and URI’s marine affairs department
- Inaugurate a Sea Grant Diversity Fellows Program
- Continue the Rhode Island Sea Grant Visual Arts Program
- Continue Rhode Island Sea Grant’s public education efforts, especially the annual Coastweeks celebration and Summer Community Lecture Series



## Research

In developing its research agenda through a 10-month competitive review and proposal refinement process, Rhode Island Sea Grant sought to focus its funded research agenda for 2006 to 2008 on the needs and interests of Rhode Island’s marine and coastal communities based on its two strategic themes:

### Sustainable Coastal Communities and Ecosystems

- Characterize and quantify dynamics of change in coastal ecosystems
- Improve scientific understanding of acute and cumulative effects of physical, chemical, and biological contaminants on coastal ecosystems
- Develop innovative techniques and related science-based indicators to characterize the sources, pathways, and effects of nutrients, toxins, and bio-contaminants

### Sustainable Fisheries

- Elucidate the links between ecosystem-based management and fisheries management
- Elucidate emerging industry and consumer priorities regarding seafood
- Increase knowledge of biology and ecology of commercially and recreationally valuable species

The 2005 research agenda competitive review and development process resulted in a particularly useful and scientifically important set of research projects for 2006 to 2008. The specific objectives and activities of these research projects are summarized in their respective thematic area tables (Tables 5 and 6). Detailed information on research project methods and rationale is provided in the individual project descriptions incorporated into the Rhode Island Sea Grant 2006–2008 Omnibus Proposal.



## Rhode Island Sea Grant Legal Program

The Rhode Island Sea Grant Legal Program contributes to the development of innovative ocean and coastal laws and policies through interdisciplinary legal research, analysis, and education, enabling its stakeholders and clients to acquire relevant skills and knowledge to advance their development and that of society through the competent and ethical practice of law.

During this implementation period the Legal Program will evolve from a *program development investment* to a *core investment*, building, over the long-term, programs and investments in legal research, education, and outreach. To meet these goals, the Legal Program hired a staff attorney (with substantial match being provided by the RWU Law School). And as the program moves forward, it will establish a Legal Program Advisory Board to help establish goals.

**Table 4. 2006–2008 Legal Program Implementation Strategies and Activities**

Functional Area	Strategies and Activities
Research	—Study how best to initiate a small grants program for the Legal Program
Education	—Develop the Institute for Graduate Environmental Leaders for university students to work with the Sustainable Fisheries and SUCCESS programs —Support new Sea Grant Legal Fellowships
Outreach	—Develop “Fisheries for the Bench,” an outreach initiative for judges about fisheries management and law. Develop a national curriculum for judges that can be made regionally relevant. Hold two pilot workshops (one on East Coast, one on West Coast) for federal judges who hear fisheries cases —Develop linkages between the new Rhode Island Sea Grant Urban Coasts Office and the SUCCESS Metro Bay Special Area Management Plan (SAMP) process * Develop a Rhode Island Sea Grant Legal Program Website * Develop a plan on how best to initiate a <i>Rhode Island Sea Grant Legal Reporter</i>

\* Denotes activities to be pursued in conjunction with Rhode Island Sea Grant Communications.



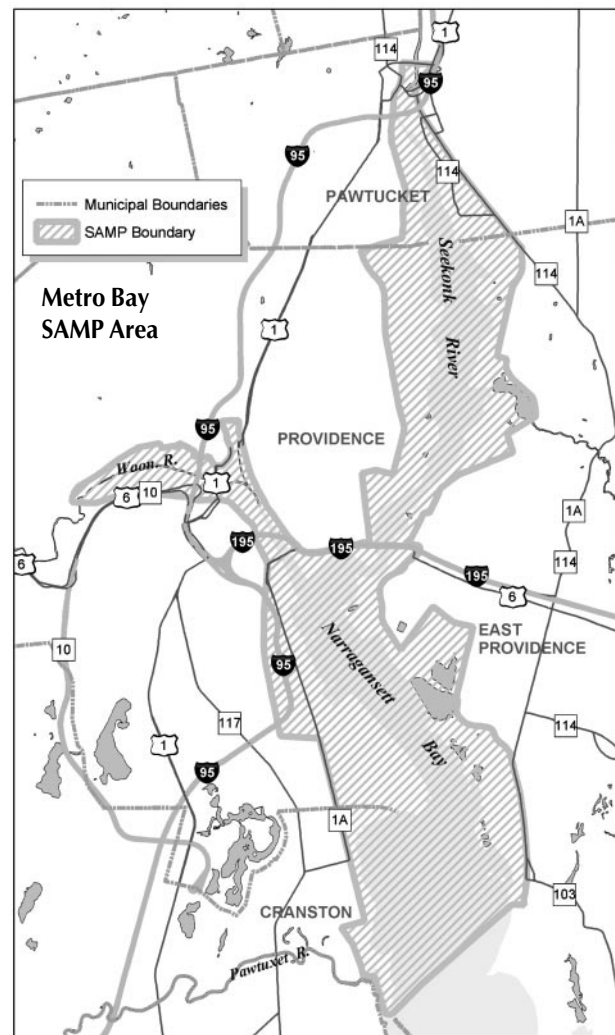


## SUCCESS Extension Program

The SUCCESS Extension Program seeks a future for coastal communities and ecosystems in which:

- Public awareness of environmental issues continues to rise, because Americans will be increasingly concerned about how healthy, productive, coastal ocean environments enhance quality of life and well being
- Ecosystem-based approaches for management of coastal and ocean resources are widely used in coastal ocean management and encourage growing public awareness of human impacts on the marine environment, including pollution and unsustainable consumption of resources
- Coastal scientists and managers will receive greater depth and breadth in their training, possessing skills in natural resource and social sciences, as well as greater skills in the legal and political aspects of environmental management
- Greater coordination of environmental management and resource allocation decisions among national, state, and local governments in the United States and between nations globally with increasing recognition that states cannot manage environmental issues unilaterally

In order to achieve these long-term goals, the SUCCESS Extension Program implements outreach and education programs designed to further ecosystem-based management and governance of coastal ecosystems. This mission encompasses the protection and restoration of living marine resources and their habitats, while considering user groups directly affected by and benefiting from advances in ecosystem-based management. The SUCCESS Extension Program emphasizes interdisciplinary approaches to coastal ecosystems science, governance, and education, and draws together social and natural scientists at URI and other Rhode Island universities with outreach teams and external partners to achieve desired outcomes at a range of spatial and governance scales.



**Table 5. 2006–2008 SUCCESS Implementation Strategies and Activities**

Functional Area	Strategies and Activities
Research	<ul style="list-style-type: none"> <li>—Map the seafloor and bottom habitats and document the historic cultural landscapes of Narragansett Bay</li> <li>—Complete an in-depth examination of human interactions with the marine environment in Rhode Island</li> <li>—Build on existing hydrodynamic models to focus on the Providence River, Greenwich Bay, and upper Narragansett Bay</li> <li>—Conduct experimental studies of benthic-pelagic coupling in Narragansett Bay</li> <li>—Determine the extent of biodiversity changes in the phytoplankton of Narragansett Bay</li> <li>—Complete integrated numerical modeling and field observations of groundwater flow in southern Rhode Island coastal lagoons</li> <li>—Investigate whether shoreline developments trigger consumer control of New England salt marsh production</li> </ul>
Education	<ul style="list-style-type: none"> <li>—Conduct public education workshops and community meetings as part of the Metro Bay SAMP</li> </ul>
Outreach	<ul style="list-style-type: none"> <li>—Work with state policy leaders to deliver a R.I. Marine Resources Development Plan</li> <li>—Complete a SAMP for the Metro Bay area that investigates buffer policy, access, hazards mitigation in a floodplain, land conservation strategies, brownfields redevelopment, and water dependent uses for adoption by the cities and the R.I. Coastal Resources Management Council (CRMC) <ul style="list-style-type: none"> <li>• Organize a Metro Bay Summit (early 2007)</li> <li>• Develop and implement a regional natural disaster strategy for the urban coastal zone of the four cities in northern Narragansett Bay</li> <li>• Ensure adoption of the CRMC urban coastal greenway policy by working with the four municipalities, R.I. Department of Environmental Management (RIDEM), and the R.I. Economic Development Corporation</li> <li>• Participate on the planning committee for Sea Grant Coastal Community Development at the 5th Annual New Partners for Smart Growth, plus participate in the New Urbanism Conference in Providence, The Coastal Society Conference, and Coastal Zone '07</li> </ul> </li> <li>—Work with the Aquidneck Island Planning Council to facilitate implementation of the EPA Smart Growth Technical Assistance Program for Aquidneck Island communities <ul style="list-style-type: none"> <li>• Mentor local leaders through the Smart Growth Ambassadors Program on community-based projects, such as shoreline access, redevelopment of excess Navy lands, and marine-dependent business development</li> <li>• Evaluate lessons learned from the Smart Growth Ambassadors and initiate actions to replicate in the Metro Bay SAMP</li> </ul> </li> <li>—Develop a package of coastal smart growth tools and lessons in collaboration with Grow Smart Rhode Island, the CRMC, RIDEM, and other local and state agencies</li> </ul>
Activities to foster linkages between research and outreach	<ul style="list-style-type: none"> <li>—Involve Sea Grant-funded researchers in technical committees for urban coastal greenways, hazard mitigation, coastal access, recreational use, brownfields redevelopment, and smart growth as part of the Metro Bay SAMP</li> <li>—Build linkages among researchers, agencies (U.S. Army Corps of Engineers, U.S. Geological Survey, Environmental Protection Agency), nongovernmental organizations (Salt Pond Coalition, Washington County Regional Planning Council), and URI Cooperative Extension for water quality improvements, groundwater assessments, and habitat restoration as part of the implementation of the Salt Pond Region SAMP</li> <li>—Link social science researchers with Grow Smart Rhode Island, the Governor's Growth Commission, Economic Policy Council, and the CRMC to improve coastal management in Rhode Island</li> </ul>

## Sustainable Fisheries Extension Program

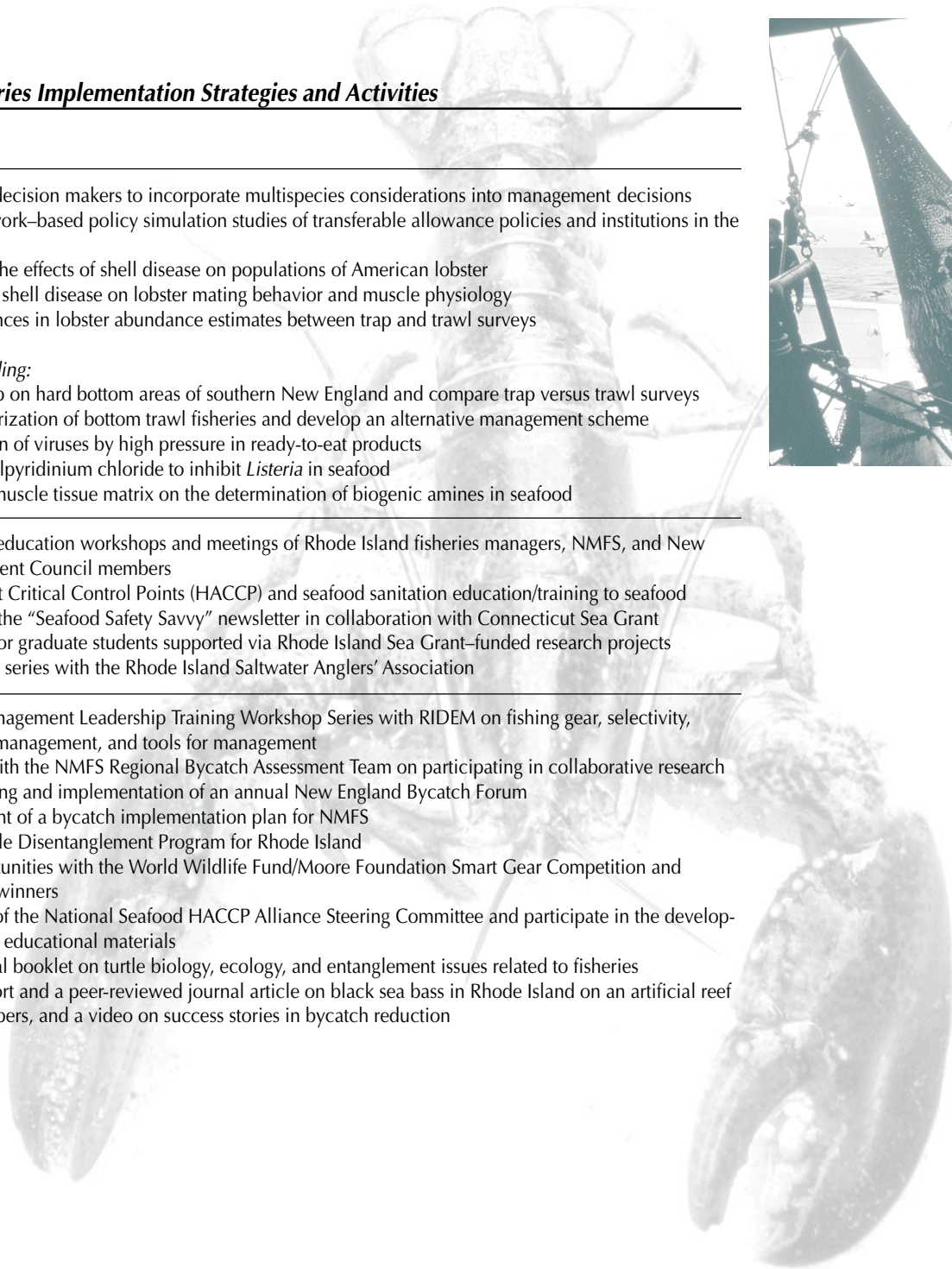
The Rhode Island Sea Grant Sustainable Fisheries Program strives to be a leader in developing the knowledge and the skills needed for the sustainable future of fishery resources. In doing so, the Sustainable Fisheries Program engages stakeholders to play critical roles in the science and management of marine fisheries, creates opportunities and options for decision makers, brings forward innovative ideas and technologies, cultivates respect for differences among fisheries management stakeholders, and offers a neutral, scientifically informed forum for the discussion and collaborative assessment of key issues including:

- Developing seafood markets in which consumers demand and pay a premium for seafoods that are produced in an ecologically sustainable way
- Increasing recognition that states cannot manage marine fisheries unilaterally, resulting in collective action on issues such as overfishing, habitat degradation, erosion of biodiversity, and pollution
- The growing importance of the United Nations (UN) Convention on the Law of the Sea, the Convention on Biological Diversity, the Food and Agriculture Organization Code of Conduct on Responsible Fishing, and the UN Convention on Straddling Stocks and Highly Migratory Species
- Widespread adoption of rights-based methods and co-management, with stakeholders actively conducting research and implementing community-based management of local fisheries and other marine resources
- Growing demand for fisheries and aquaculture researchers and managers who possess both depth and breadth in their training, ranging from the natural resource sciences and social sciences to the legal and political aspects of management
- The emergence of new technologies and tools for research, reduction of fish-processing waste, multi-species ecological modeling, acoustics, and satellite-based navigation



**Table 6. 2006–2008 Sustainable Fisheries Implementation Strategies and Activities**

Functional Area	Strategies and Activities
Research	<ul style="list-style-type: none"> <li>—Create tools for fishery decision makers to incorporate multispecies considerations into management decisions</li> <li>—Conduct computer network-based policy simulation studies of transferable allowance policies and institutions in the lobster fishery</li> <li>—Collect information on the effects of shell disease on populations of American lobster</li> <li>—Research the impacts of shell disease on lobster mating behavior and muscle physiology</li> <li>—Analyze data on differences in lobster abundance estimates between trap and trawl surveys</li> </ul> <p><i>With New Leveraged Funding:</i></p> <ul style="list-style-type: none"> <li>—Complete survey of scup on hard bottom areas of southern New England and compare trap versus trawl surveys</li> <li>—Conduct catch characterization of bottom trawl fisheries and develop an alternative management scheme</li> <li>—Research the inactivation of viruses by high pressure in ready-to-eat products</li> <li>—Research the use of cetylpyridinium chloride to inhibit <i>Listeria</i> in seafood</li> <li>—Research the effects of muscle tissue matrix on the determination of biogenic amines in seafood</li> </ul>
Education	<ul style="list-style-type: none"> <li>—Organize and facilitate education workshops and meetings of Rhode Island fisheries managers, NMFS, and New England Fishery Management Council members</li> <li>—Offer Hazard Analysis at Critical Control Points (HACCP) and seafood sanitation education/training to seafood processors, and distribute the “Seafood Safety Savvy” newsletter in collaboration with Connecticut Sea Grant</li> <li>—Develop opportunities for graduate students supported via Rhode Island Sea Grant-funded research projects</li> <li>—Develop an educational series with the Rhode Island Saltwater Anglers’ Association</li> </ul>
Outreach	<ul style="list-style-type: none"> <li>—Develop a Fisheries Management Leadership Training Workshop Series with RIDEM on fishing gear, selectivity, bottom impacts, fisheries management, and tools for management</li> <li>—Organize a workshop with the NMFS Regional Bycatch Assessment Team on participating in collaborative research</li> <li>—Participate in the planning and implementation of an annual New England Bycatch Forum</li> <li>—Assist in the development of a bycatch implementation plan for NMFS</li> <li>—Lead the NMFS Sea Turtle Disentanglement Program for Rhode Island</li> <li>—Pursue extension opportunities with the World Wildlife Fund/Moore Foundation Smart Gear Competition and interact with competition winners</li> <li>—Continue as a member of the National Seafood HACCP Alliance Steering Committee and participate in the development and enhancement of educational materials</li> </ul> <ul style="list-style-type: none"> <li>* Develop an informational booklet on turtle biology, ecology, and entanglement issues related to fisheries</li> <li>* Produce a technical report and a peer-reviewed journal article on black sea bass in Rhode Island on an artificial reef</li> <li>* Create articles, white papers, and a video on success stories in bycatch reduction</li> </ul>



Functional Area	Strategies and Activities
Outreach (cont.)	<p><i>Implementation Plan for the Sea Grant Regional Fisheries Extension Initiative</i></p> <ul style="list-style-type: none"> <li>—Conduct one regional fisheries educational workshop per year, with the topic decided by the regional fisheries extension committee, and publish the proceedings</li> <li>—Develop a regional fisheries extension project on “Capturing the data: Incorporating knowledge of fishermen and others as a baseline to direct research on ecosystem dynamics”</li> <li>—Develop a searchable database of research and outreach projects completed to date on bycatch, gear technology, and fish behavior</li> </ul> <p><i>With New Leveraged Funding:</i></p> <ul style="list-style-type: none"> <li>—Initiate a new outreach activity for judges called “Fisheries for the Bench” (see Legal Program plan)</li> <li>—Develop a strategic plan for a regional <i>ad hoc</i> gear conservation group</li> <li>—Develop standardized analysis and reporting procedures for all trawl-caught species for all New England states</li> <li>—Develop a manual for the standardization of methodology and analysis of gear-related projects</li> <li>—Develop international proposals to work with local communities to use for turtle excluder devices in shrimp trawl fisheries</li> <li>—Serve as outreach leader for the Rhode Island Large Whale Conservation Plan</li> <li>—Develop an internet training program in sanitation, goods manufacturing, and hygienic practices for food processors, wholesalers, and warehouses</li> <li>—Utilize on-line survey techniques to aid in developing the best outreach message for consumers on the safe handling and utilization of seafood and seafood products</li> </ul>
Activities to foster linkages between research and outreach	<ul style="list-style-type: none"> <li>—Conduct collaborative research with fishing communities on bycatch and gear conservation engineering (trawl design)</li> <li>—Facilitate connections between the fishing industry and Rhode Island Sea Grant research projects on lobster trap transferability options and on multispecies modeling</li> </ul>

\* Denotes activities to be pursued in conjunction with Rhode Island Sea Grant Communications.



## SELF-EVALUATION AND MANAGEMENT VIA OUTCOME MAPPING

Outcome Mapping is a participatory and dynamic methodology developed by a team of Canadian evaluators (Earl et al. 2001) that introduces monitoring and evaluation considerations at the planning stage of a program and offers self-evaluative approaches to facilitate organizational learning and programmatic effectiveness. The basis for this approach is the view that effective self-assessment is a prerequisite to continuous learning and enhanced programmatic and staff performance (the so-called “action-learning” cycle). Outcome Mapping offers a practical and rigorous method for setting goals for optimal impacts and adaptive learning and for measuring progress in achieving those goals, particularly as it pertains to changes in behavior of a program’s target audiences and partners. Outcome Mapping focuses on assessing the impact of a program away from changes in state, such as changes in policy or management practices, and toward changes in behaviors of the people, groups, and organizations with whom a program works directly (defined as the program’s “boundary partners”).

Outcome Mapping is divided into three stages: The first stage, Intentional Design, helps a program establish consensus on the macro-level changes to be brought about and plan the strategies it will use. The second stage, Outcome and Performance Monitoring, establishes monitoring and evaluation priorities and provides a framework for ongoing monitoring of those strategies and boundary partners’ progress towards the achievement of outcomes. The third stage, Evaluation Planning, helps the program set evaluation priorities and develop an evaluation plan. In Outcome Mapping, planning, monitoring, and evaluation are not discrete events but are designed to be cyclical, with one feeding into the other.

These three stages take a program from reaching consensus about the macro-level changes it would like to support to developing a monitoring framework and an evaluation plan. The process is participatory so that once members of the program articulate their intentions, decide on strategies, develop a monitoring system, and identify evaluation priorities and data collection needs together, they will share ownership and commitment for the entire enterprise and can integrate it into their daily programming activities and management.

As a whole, Outcome Mapping helps program leaders and staff think more holistically and strategically about how they intend to achieve results and cultivate beneficial changes in the behavior of key decision makers and organizations. It provides tools for a program to develop “performance narratives” by monitoring in three key areas:

- Changes in behavior of “boundary partners”
- Strategies and activities utilized to foster these changes
- Ways in which the program itself functions as an organizational unit



**Outcome Mapping Framework**

*Source: Earl et al. 2001*



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These data collection tools, which are adapted and customized for each program, are the:

- Outcome Journal to monitor progress towards goals (“outcome challenges”)
- Strategy Journal to monitor strategies and activities being used
- Performance Journal to monitor a program’s own organizational practices

With regular use and application over the next several years, Rhode Island Sea Grant will collect and organize valid information on the results of its work with its key partners and constituents that will provide the basis needed to reflect carefully on and improve its performance in future years.

Self-assessment is an integral element of Outcome Mapping. By actively engaging a program team in a monitoring and evaluation process, Outcome Mapping empowers them to articulate, with accurate and reliable data, both what they do to support outcomes and the depth of change in their partners. In essence, it tries to implant the passion and enthusiasm of programming into the assessment process. Outcome Mapping moves away from the notion that monitoring and evaluation are “done” to a program, and, instead, actively engages the team in the design of a monitoring framework and evaluation plan that promotes self-assessment.



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