



New Jersey Sea Grant College Program

Implementation Plan

2004 - 2008

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INTRODUCTION

The *New Jersey Sea Grant College Program (NJSGCP)* adopted an updated *Strategic Plan* in the spring of 2004. This companion document, the *New Jersey Sea Grant Implementation Plan*, identifies actions for addressing key elements of the *Strategic Plan*. As outlined below, both documents require maximum flexibility in the face of rapidly changing coastal zone priorities. The dynamic nature of New Jersey's coastal economy and management of its resource base mirrors that of the nation. NJSGCP research also reflects national as well as New Jersey and regional priorities as identified by its stakeholder community:

- ✓ Ecosystems Research
- ✓ Environmental Models
- ✓ Coastal Zone Management
- ✓ Marine Research Technology and Development
- ✓ Biotechnology
- ✓ Fisheries and Aquaculture
- ✓ Socioeconomic, Legal & Policy Studies

These seven Thematic Areas are described in more detail in the *New Jersey Sea Grant College Program, Strategic Plan*. Through research, education and outreach, the New Jersey Marine Sciences Consortium (NJMSC) and the NJSGCP it manages, contribute to a sustainable New Jersey through balanced economic growth and stewardship of coastal resources. This document reflects the input of the Sea Grant Advisory Board (SGAB), a panel of multiple stakeholders from government and industry, as well as that of New Jersey legislators, the Governor's Office, and state and local government.

BACKGROUND

By the middle of this century, nearly 75% of the nation's population will reside within 80 km (50 miles) of a coast. New pressures on watersheds and coastal resources will result from accelerated development, and the conflict that often arises between humans and their environment. More than ever, *managing for growth* will depend on a delicate balance between economic vitality and stewardship of natural resources. Informed decision-making and an informed public are essential ingredients, as are consensus building and the development of science-based management policy.

New Jersey boasts one of the strongest coastal economies in the nation. Coastal revenues are one of the state's largest economic sectors, approaching \$50 billion partitioned among ports commerce (\$31 billion), coastal tourism (\$16 billion) and fisheries and aquaculture (\$3 billion):

Ports Commerce

International trade will nearly triple over the next two decades, and more than 90% of this commerce will move by water requiring much larger ports and services. The Port of New Jersey/New York is no exception to this trend. Located in the midst of the largest and most affluent consumer marketplace in North America, same day access is provided to more than 18 million consumers, and with its efficient inter-modal infrastructure, the Port provides second-day access to an additional 80 million customers in the US Midwest, Southeast and eastern Canada. As a multidimensional cargo center enjoying foreign-trade zone status, the Port of New Jersey/New York handles a wide range of waterborne cargos – containers, roll-on/roll off, bulk and project cargo. It is the third largest container port in North America and the largest container center on the East Coast, handling more than 2.83 million TEUs (20-ft equivalent container units) in 1999. It is the largest automobile port in the United States. More than 75 ocean carriers provide regularly scheduled service between the Port and all major trade routes worldwide. Thousands of trucking companies make more than 10,000 pick-ups/deliveries per day and more than one dozen inter-modal rail terminals serve the region. Shipping activities and ports commerce in New Jersey supports nearly 167,000 jobs.

Although individually smaller, New Jersey Ports along the Delaware River (Paulsboro, Camden, Gloucester, Salem, Eagle Point, Burlington, etc.) have a total import volume of \$17 billion. The Delaware River is the second largest petroleum center in the country with eight refineries and processing facilities. Delaware River ports also support high volumes of fruit, wood products, steel, paper, meat, cocoa and scrap metal. In total, Delaware River Ports generate \$3.5 billion in revenues and support over 30,000 jobs.

Coastal Tourism

New Jersey's flourishing tourism industry contributed more than \$31 billion in revenues to the state economy in 2001, supporting nearly 850,000 jobs and generating \$17.7 billion in wages. Tourism also contributed nearly \$3.8 billion to New Jersey's tax revenue base.

Coastal tourism comprises more than half of New Jersey's tourism industry with a market share largely derived from Philadelphia and New York City whose geographic province combined for more than 50% of overnight person trips in 2001. Coastal tourism also represents a healthy quality of life for New Jersey residents by serving the recreational, educational, and entertainment needs of individuals and families. These same "quality of life" factors are critical to sustain New Jersey as an ideal state in which to live, work and play.

Fisheries and Aquaculture

Nine fishing ports berthing more than 400 commercial vessels are located throughout the state. The largest, Cape May, has ranked first in the region in value per pound landed for more than 20 years. It provides about half of the state's commercial seafood economy of \$659 million, and contributes to substantial employment in the region. New Jersey ranks high among fishing ports on the East Coast, 4th in 2001, and in the same year, was the 10th largest port in the United States in both pounds landed and value. Other significant port facilities for the commercial fishing industry are located at Atlantic City, Point Pleasant, Highlands-Sea Bright and Belford-Port Monmouth. Diversity is the defining characteristic of the New Jersey fishing industry with more than 100 species of finfish and shellfish comprising the annual harvest. Commercial vessels ply waters as far north as Iceland and south to Puerto Rico.

Recreational anglers pursue game fish from shore and from more than 81,000 private boats and 400 charter vessels and party boats. In 1998, there were an estimated 800,000 recreational anglers fishing for salt-water species in New Jersey. Almost half of these anglers were from out of state. That year, more than 4.3 million fishing trips occurred in state salt waters. The economic value of recreational fishing ranks New Jersey third among 14 East Coast states.

Similarly, aquaculture ventures contribute substantially to New Jersey's fishing economy. Twenty-eight farms with a combined sales value of \$5.8 million annually rank New Jersey 5th among northeast aquaculture operations. Moreover, New Jersey ranks second in molluscan farms and 3rd in sales (from those farms) in the region.

STRATEGIC GOALS

It is an unalterable truth that coastal environments are largely human landscapes. Restoring ecosystem health to our coastal waters, therefore, requires not only consideration of ecosystem components (including watersheds), but also the continued vitality of the region's coastal economy. Sustaining New Jersey's coastal resources is the great challenge of the 21st century, and future success will rest in managing coastal resources in a matrix of ever expanding human influence, especially at the land water interface where some of the highest levels of coastal productivity are measured.

As set forth in its *Strategic Plan*, the NJSGCP has identified six Strategic Goals that form the basis of this *Implementation Plan*. These goals, along with management and administrative priorities described in the New Jersey Sea Grant Omnibus, form the basis for building a NJSGCP that is maximally responsive to New Jersey and the region:

Strategic Goal 1

Develop a coastal research agenda that addresses ecological, social, cultural, and economic issues built on the needs of marine industries, government, resource managers and the public; focus relevant research on stakeholder generated issues whose outcomes and products reach the broadest possible number of constituents

Why This Strategic Goal?

The missions of the *New Jersey Sea Grant College Program* and that of other state and federal resource agencies clearly overlap. To reduce redundancy, pool expertise, leverage available dollars, bring the resources of member institutions to bear on regional research needs, and address common issues in the coastal zone, New Jersey Sea Grant has participated in numerous advisory committees, roundtables and workshops with state/federal scientists and decision makers to establish a common research agenda for the region.

Strategic Goal 2

Identify relevant New Jersey coastal issues through a collective stakeholder process, and seek a balanced and objective response to addressing consensus issues through research, education and outreach

Why This Strategic Goal?

New Jersey is a coastal state, with 127 miles of shoreline and 17 of 21 counties bordering salt water. The highest population density in the United States is also found here. Consequently, competition for living space and natural resources is intense, and will intensify in the 21st century. New York/New Jersey Harbor and portions of Delaware Bay are highly industrialized and urbanized, and the less populated watersheds such as Barnegat Bay, are under increasing pressure from rapid development. "Common denominators" that affect ecosystem health in New Jersey bays and estuaries are land-use practices, degraded water quality and quantity, atmospheric deposition, aquatic habitat loss and alteration, eutrophication, harmful algal blooms, exotic species effects and multiple sources of contamination. Beach closures, health advisories for seafood, and water quality contraventions continue to plague the viability of New Jersey's coastal economy.

The NJSJGCP addresses these challenges through interactions with its SGAB, and with other state, private sector, and municipal agencies. Wherever possible, NJSJGCP interfaces its research, education and outreach agenda with that of its principal partners, including the New Jersey Department of Environmental Protection (NJDEP), the Office of Maritime Resources, the New Jersey Department of Agriculture and the NJ State Police Office of Emergency Management (OEM) to co-fund cooperative programs.

Strategic Goal 3

Expand the New Jersey Sea Grant College Program capabilities through local and regional private sector, municipal, and government partnerships

Why This Strategic Goal?

To have a meaningful impact in the marine affairs of New Jersey requires a proactive approach to increasing NJMSC's funding through competitive grants, and state, municipal and private sector partnership. By identifying common needs, NJSG has engaged resource partners to jointly address coastal issues related to watershed management, atmospheric deposition, wetland restoration, dredged material management, oyster disease and homeland security-emergency preparedness. Such efforts are critical to the future impact of the program unless new federal funds are forthcoming. An important example has been the co-funding of nearly \$1,500,000 in cooperative atmospheric emissions from dredged materials among the NJSG and the NJDOT's Office of Maritime Resources (OMR).

Strategic Goal 4

Build capacity in the New Jersey Sea Grant Extension Program (NJSSEP) to reach a state-wide audience in all programmatic areas through partnerships and external funding

Why This Strategic Goal?

The practical application of knowledge gained through research is an integral part of the Sea Grant model, and makes the program unique among marine science funding agencies. "Technology transfer" in Sea Grant takes many forms and operates at many levels ranging from facilitating technical discussions among scientists and the presentation of their research findings in a formal setting, or bringing scientists and managers together to develop science-based policy or to resolve coastal issues and conflicts, to working with stakeholders in developing new products or upgrading best management practices, and improving science literacy and decision making in the general public to effect behavioral change.

New Jersey's broad diversity in its coastal economy requires equally broad services in Sea Grant Extension. With its limited resources, New Jersey Sea Grant must depend on external partnerships to develop a balanced program that serves diverse groups of coastal stakeholders in the areas of ports commerce, tourism and fisheries/aquaculture. In an era of doing "more with less", New Jersey Sea Grant will continue to leverage its funds by seeking out university partners, and resource agencies with common interest in technology transfer to implement a state-wide program of extension services.

Strategic Goal 5

Forge strong ties with civic leaders, legislators, the media, and the public to ensure continued public support for marine science research and education

Why This Strategic Goal?

The future of Sea Grant rests in accountability and performance standards that meet taxpayer expectations. The NJSGCP must be a proactive partner with its public constituency to demonstrate its value-added skills in dealing with coastal issues. Public “buy-in” to New Jersey Sea Grant research, education and outreach is essential to the future impact of the program.

Strategic Goal 6

Provide and promote marine science literacy for all New Jerseyans and contribute to the development of a more scientifically literate citizenry in possession of the skills and knowledge to make informed decisions that bring about desirable change

Why This Strategic Goal?

The marine environment offers an unparalleled educational resource for the positive reform of education, including the establishment of a productive stewardship ethic. The harbors, bays, estuaries and ocean coastlines of New Jersey are important areas of scientific investigation and this investigation can (and should) become highly effective, multi-disciplinary areas of instruction for teachers, students and the general public statewide. Marine science education at all age and grade levels can support the realization of the core goals of education reform: science literacy, social responsibility, gender and ethnic equity, mathematical and technological power, and workplace readiness. At the same time, a stewardship ethic is established that will sustain these crucial environments for generations to come.

Scientific phenomenon, including marine-related topics are generally of initial great interest to students as well as to the public. These areas though, can be technically complex, often frustrating the average individual who might lose interest, leaving important concepts and issues poorly understood. In a recent study, the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) cited declines in student performance in science relative to their international peers. The FCCSET also identified a generally low scientific literacy among the American public. Too few citizens understand the scientific principles and developing technologies that are essential to making responsible decisions affecting the environment and influencing governmental policies that have global implications.

This concern is echoed in the *Plan of Action for Environmental Education in New Jersey*, which acknowledges the need to help adults and children understand their role in the environment and attain the knowledge, attitudes, values, skills and behaviors needed to maintain, protect and improve it. To meet New Jersey's 21st-century goal of sustained economic development with balanced environmental stewardship will require a better-informed public. The NJSGCP will do its part to address these deficiencies in technology and information transfer to New Jersey citizens. This will include partnering with organizations with similar goals, such as the New Jersey Division of Fish, Game and Wildlife's Office of Information and Education.

While managing for growth is one of New Jersey's key challenges for a sustainable coastal economy in the 21st century, to be successful will require education at the most fundamental levels. M.R.C. Greenwood, former President of the American Association for the Advancement of Science (AAAS) clearly recognized this "...we are forced to learn from each other – those whose main interest is conservation and those whose main interest is commerce and those of us who believe our job is to help the young in this country, to help young minds understand that it is, in the final analysis, a *question of balance* [emphasis added]". This theme was reinforced time and time again at the National Ocean Conference held in Monterey, California was the "public need to know", and a call for heightened public awareness and education:

- "...the Panel discussed education and the need to bring a much higher level of understanding [and]...more information to the public is absolutely critical..."--- former *Vice President Al Gore*;
- "...most important of all to these efforts [managing our oceans] is engaging the public and honoring the public's right to know..." --- *Hon. Carol Browner, former Administrator, USEPA*;
- "The nation needs more ocean awareness and a more comprehensive, enlightened ocean policy..."--- *Dr. Jane Lubchenko, Oregon State University*; and
- "...ignorance is our greatest enemy..." --- *Elliot Norse, President, Marine Conservation Institute*.

Thus, only through improved science literacy and informed decision-making, will the public be able to profoundly influence the direction of future *science-based* management and policy approaches to sustaining coastal resources.

ACTIONS FOR THE NEXT FOUR-YEAR CYCLE (2004-2008)

To address these Strategic Goals, the NJSGCP identified numerous actions for the four-year cycle commencing in 2004, which are listed separately under Research, Education, Outreach and Communications. The availability of federal Sea Grant funds will dictate the extent to which these actions can be implemented.

Actions for Research

Long-Term (Ongoing):

- ✓ Broaden the base of competition and encourage multi-investigator, multidisciplinary research among NJMSC institutions to assure that the best and most comprehensive research is funded;
- ✓ Enhance Sea Grant–State Agency–Private Sector Partnerships to address substantive issues identified by SGAB, NJDEP, NJDOT and other resource agencies in the areas of dredged materials management, coastal processes and coastal hazard mitigation, non-point source pollution, fisheries and aquaculture and habitat restoration;
- ✓ Facilitate participation in state-of-the-art scientific conferences and workshops to present research findings and interpretations to other scientists, managers and resource agency personnel;
- ✓ Encourage Sea Grant researchers to include Sea Grant Extension Specialists and Agents in their research programs to facilitate technology transfer of research results;
- ✓ Encourage Sea Grant Researchers to be public advocates providing unbiased third party information for decision makers, and proactively participating in public meetings, citizen advisory panels and management conferences;
- ✓ Recruit Sea Grant researchers directly into the process of technology transfer to the user community by their participation on advisory panels and industry sponsored seminars/workshops; and
- ✓ Work proactively with Sea Grant researchers to incorporate their expertise and participation in outreach activities such as demonstrations of advanced technology at Sea Grant sponsored events

Short-Term (Annual):

- ✓ Convene an SGAB whose membership mirrors the broad constituency of New Jersey's coastal economy, and whose deliberations will result in a balanced spectrum of relevancy criteria for evaluating NJSG research (2004-2008);
- ✓ Develop at least one opportunity for the NJSGCP and local municipalities/counties to co-fund a project in a relevant area of Sea Grant research or outreach (2007);

- ✓ Host Strategic Planning sessions and a Roundtable with member institutions, the SGAB and state resource managers to identify issues and focus research funds in the area of greatest need (2005 and 2007);
- ✓ Convene a *Scientific and Technical Advisory Council* (STAC) to advise the Sea Grant Director on national and regional research priorities and technology advances that may apply to New Jersey Sea Grant funded research (2005);
- ✓ Update New Jersey Sea Grant's *Research Directory* of Member Institution faculty to facilitate collaborations (2006);
- ✓ Host "Vineland III" (a Technical Conference and Workshop at Cumberland Community College, or similar venue) as a landscape level approach to invasive species ecology, control and management and publish a peer-reviewed proceedings (2006-2007);
- ✓ Conduct a regional research competition with other Sea Grant partners in the area of advanced technology related to the Global Ocean Observing System (GOOS) (2006-2008); and
- ✓ Solicit greater participation by social scientists, economists, anthropologists and related disciplines in New Jersey Sea Grant funded research

Actions for Education

Long-Term (Ongoing):

Education Reform:

- ✓ Establish and sustain collaborations and partnerships in education reform by contributing to multidisciplinary projects dedicated to the improvement of formal education;
- ✓ Initiate projects and products built upon marine science themes and topics that contribute towards the core goals of education reform: science literacy, social responsibility, gender and ethnic equity, mathematical and technological power, and workplace readiness; and
- ✓ Initiate programs and products dedicated to incorporating and enhancing marine science education in formal education settings

Public Education:

- ✓ Develop and deliver informal, marine-based outreach programs and products that are understandable as well as intriguing to the general public;
- ✓ Establish the NJSGCP as a source of information and education for interested laypersons;
- ✓ Collaborate with NJSG Extension Program Agents and Specialists to enhance their efforts, especially with K-12 student user-groups;
- ✓ Coordinate *COAST DAY NJ*, NJMSC's annual public outreach event.
- ✓ Collaborate with NJSG researchers and the SGEP to enhance education outreach materials for varied audiences from school children to formal educators and the public; and
- ✓ Collaborate with formal education institutions to ensure the incorporation of marine-based education and activities in their community outreach efforts

Short-Term (Annual):

Education Reform:

- ✓ Provide a minimum of six (6) core curriculum standards-based professional development workshops thematically based in the marine sciences to K-12 educators as a NJ Statewide Systemic Initiative partner and NJSSI designated specialty site (2004-2005);
- ✓ Annually work with a minimum of three (3) pre-service educators recruited from NJMSC member institutions for a minimum sixty (60) contact hours to provide them with marine education training and experience;
- ✓ Fulfill requests for customized services in marine-science education from New Jersey schools participating in the NJSSI. (2004-2005);
- ✓ Expand and promote the use of NJMSC web-based, K-12 resources such as on-line databases and lesson plans;
- ✓ Work with NJSG management to establish a Speakers Bureau and develop a directory of NJSGCP researchers and SGEP personnel available to visit schools. Add NJMSC web pages to enhance and support these services (2005);
- ✓ Seek corporate and legislative support for *A Partnership for Learning*, NJSGCP's minority outreach education program;
- ✓ Provide marine-science teacher training and student experiences for a minimum of twenty (20) predominately minority serving K-12 schools through *A Partnership for Learning*, NJSGCP's minority outreach education program. (2004-2005 school years);
- ✓ Through the introduction of "*All Hands On Deck*", provide resources that enable K-12 educators to teach marine commerce, maritime heritage, and harbor education themes to their classrooms (2004); and
- ✓ Annually provide training experiences for in-house education staff on current themes, trends and needs in education reform

Public Education:

- ✓ Offer an annual, field-based seminar program that showcases NJSG researchers as presenters and instructors;
- ✓ Develop appropriate K-12 educational materials that expand and enhance NJSG Extension Program efforts in rip-current awareness education (2004);
- ✓ Work with NJSG Extension Agents to establish recreational fishing and water safety badge programs to offer to Boy and Girl Scout groups;
- ✓ Prepare *COAST DAY NJ* exhibits that contribute to increased public knowledge of New Jersey's marine resources.
- ✓ Assist NJSG researchers and NJSGEP Extension Agents in preparing their exhibits for *COAST DAY NJ*; and
- ✓ Offer a minimum of fourteen (14) dates for weekend education programs for family groups (2004-2005)

Actions for Extension

Long-Term (Ongoing):

Cross-Cutting Topics:

- ✓ Actively seek to develop partnerships with local and regional government agencies, non-profit organizations and the private sector to enhance coastal outreach capabilities;
- ✓ Strengthen regional ties with the other mid-Atlantic Sea Grant Extension Programs to build a regional constituency;
- ✓ Utilize *Coast Day NJ* as the primary vehicle to showcase NJSGCP coastal research, commercial/recreational fishing industry, ports commerce and coastal tourism, and publicly disseminate coastal information and engage the public through hands-on exhibits and demonstrations;
- ✓ Participate in professional meetings, conferences, workshops and committees to ensure continued public exposure and support for marine science research and education; and
- ✓ Provide timely and relevant research results to coastal regulators, managers, legislators and the public to facilitate informed science-based decisions on pressing coastal issues

Coastal Processes:

- ✓ Expand Coastal Processes Advisory Committee to include a more diverse representation of the coastal community;
- ✓ Strengthen ties with New Jersey Department of Environmental Protection, New Jersey Office of Emergency Management, New Jersey Office of Travel and Tourism, the Jersey Shore Partnership and the National Weather Service to enhance coastal outreach capabilities;
- ✓ Develop network and database of state and regional contacts within the government and private sectors for the distribution of timely and relevant coastal research results capable of providing an immediate impact for coastal stakeholders;
- ✓ Develop an awareness and appreciation of natural coastal features and resources among coastal stakeholders; and
- ✓ Improve the integration of bayshore coastal community interests, including coastal fishery and aquaculture interests, into the near- and long-term research and outreach priorities

Commercial Fishing and Aquaculture:

- ✓ Demonstrate and provide technology transfer of techniques to limit effluent discharge from marine aquaculture facilities to environmentally acceptable levels;
- ✓ Develop best agricultural management practices for total quality control of aquaculture products ("egg to table") that integrates aquaculture production with regional food system (retailers) ; and
- ✓ Provide technology transfer for innovative shellfish and finfish production

Marine Recreational Fishing:

- ✓ Develop a *Boating and Fishing Guide to New Jersey* that will promote the recreational fishing and boating industry in New Jersey and the region;
- ✓ Host a *Fishing Tournament* for children from urban areas;
- ✓ Work with the New Jersey Sea Grant Education to expand *Scout Services* in areas related to recreational fisheries;
- ✓ Conduct HACCP for training party/charter boat owners and operators;
- ✓ Work with Sea Grant researchers to help educate managers and anglers on the benefits of *Ecosystem Based Fisheries Management*;
- ✓ Develop a *Water Works Wonders* coupon booklet for distribution to New Jersey anglers and other stakeholders;
- ✓ Encourage marinas that are not meeting the goals of the *New Jersey Clean Vessel Act* to actively participate in the program; and
- ✓ Address the human health risks of *Subsistence Fishing in Urban Areas*

Harbor Estuary Program (Urban Estuaries):

- ✓ Provide support to the NY-NJ Harbor Estuary Program (HEP) Technical Committees and HEP Office and seek to integrate key elements of the HEP and Sea Grant Strategic Plans;
- ✓ Provide support to selected HEP Technical Committees in the development of “white papers” on environmental indicators and other special projects including oral presentations to harbor stakeholders;
- ✓ Prepare and/or oversee the preparation of articles for HEP’s newsletter, *Tidal Exchange*;
- ✓ Serve as a member of HEP’s Education and Outreach Work Group including HEP Mini-Grants and National Estuary Day events;
- ✓ Provide technical input to the HEP outreach coordinator for preparation of fact sheets, brochures, and other media;
- ✓ Work with HEP stakeholders and the *New Jersey Sea Grant College Program* to provide technical support for projects such as conferences and workshops, and to report annual progress or address issues of special concern (2004-2008); and
- ✓ Provide technical support to the Harbor-wide Monitoring Planning effort

Short-Term (Annual):

Cross-Cutting Topics:

- ✓ Convene a separate (non-Omnibus) meeting of the *SGAB* to identify and prioritize coastal issues of importance and relevant outreach products necessary to improve marine science literacy (2004);
- ✓ Conduct workshops with coastal stakeholders to identify relevant ecological, social, cultural and economic coastal issues (2004-2005);

- ✓ Prepare a separate SGEF *Work Plan* with assistance from the SGAB that incorporates coastal issues identified by stakeholders into an overall comprehensive and balanced outreach program (2004); and
- ✓ Meet with Sea Grant funded researchers to promote the use of extension agents for the development of public education and outreach material based on the results of Sea Grant funded research (2004-2005)

Coastal Processes:

- ✓ Convene a meeting of the Coastal Processes Advisory Committee to review and prioritize coastal issues of importance and desired outcomes and impact of action items and outreach products needed to address each issue (2004);
- ✓ Conduct a regional conference in conjunction with the *Northeast Shore & Beach Preservation Association* focused on the restoration and value of natural coastal resources (2004);
- ✓ Host a workshop focused on natural and man-made coastal dunes, their value to coastal ecology and storm protection, and society's view of dunes (2004);
- ✓ Host a workshop in conjunction with the Bureau of Coastal Engineering of the New Jersey Department of Environmental Protection and the US Army Corps of Engineers on regional sediment management (2005);
- ✓ Develop proceedings, fact sheets and bulletins highlighting the significant outcomes of each conference and workshop (2004-2005);
- ✓ Establish a working group focused on soliciting input from potential end users of real-time coastal ocean observations and identifying the demand and challenges associated with providing useful coastal observation products (2004); and
- ✓ Provide bi-annual evaluations of the coastal wave climate and shoreline change for the issuance of objective and timely notices and reports of coastal protection levels and potential impacts of future storm events for distribution among all coastal stakeholders (2004-2005)

Commercial Fishing and Aquaculture:

- ✓ Provide HACCP training and certification for the commercial fishing industry and retail food distributors (2004-2006);
- ✓ Develop a model aquaculture system for classroom use that is integrated into New Jersey's Core Curriculum Content Standards (2004);
- ✓ Implement an annual stakeholder symposium in conjunction with the New Jersey Agricultural Convention (2004-2006);
- ✓ Develop a regional partnership with Delaware State University to enhance services to Delaware Bay region stakeholders (2004);
- ✓ Expand aquaculture outreach and training into the New Jersey Correctional system (2004-2006); and
- ✓ Partner with the New Jersey Department of Agriculture to publish a *Guidebook to Aquaculture in New Jersey* (2004-2006)

Marine Recreational Fishing:

- ✓ Update NJSG's *Catch and Release: A Guide to Ethical Angling* brochure (2004);
- ✓ Partner with New Jersey Department of Environmental Protection to mass-produce the *Catch and Release: A Guide to Ethical Angling* insert on 2004 sport fish regulations (2004-2005);
- ✓ Develop a fact sheet(s) using the results of scientific research on hooking mortality and the use and effectiveness of circle hooks that can be widely distributed (2004);
- ✓ Partner with the National Marine Fisheries Service at Sandy Hook to develop a presentation to fishing clubs, tournament directors and other associations that follows the recommendations of the Atlantic States Marine Fisheries Commission Special Report No. 77 Circle Hook Definition and Research Issues (2004-2005);
- ✓ Meet with *Jersey Coast Anglers Association* and the *New Jersey Department of Environmental Protection Division of Fish and Wildlife* to discuss existing youth fishing efforts and possibility of becoming involved in the future (2004-2005);
- ✓ Develop a data base of youth fishing programs in New Jersey and become involved with existing programs (*Hooked on Fishing, Not on Drugs; Water Works Wonders* and others) (2005)

Harbor Estuary Program (Urban Estuaries):

- ✓ Track HEP's Comprehensive Conservation and Management Plan (CCMP) actions and develop and implement an annual tracking report for these actions (2003-2004)

Actions for Communications

Long-Term (Ongoing):

Information Gathering:

- ✓ Determine marine and coastal issues of importance and topics of interest to stakeholders through surveys conducted at special events, in the *Jersey Shoreline* magazine and on www.njmssc.org; and
- ✓ Solicit input from the SNJSGES staff regarding priority marine and coastal issues that need to be addressed to develop more effective outreach services and resources for their constituencies

Media:

- ✓ Increase the accessibility of information and resources available to both the press and the public on the NJMSC web site through improved design and navigation;
- ✓ Develop at least one high-profile event per program year to include as many event co-sponsors and partners as appropriate (e.g. the *2003 State of the Beach* pre-summer press conference);

- ✓ Strengthen communication links between NJ Sea Grant and local, state and federal legislators through continued publication of the *COASTodian* quarterly newsletter and create new mechanisms to update elected officials about program activities, events and relevant coastal and marine issues affecting the state and the region;
- ✓ Maintain electronic quarterly contact with NJSGEP and Principal Investigators to review project status and update needs for NJ Sea Grant Communications services;
- ✓ Improve the quality of the *Jersey Shoreline* and other special publications by increasing the diversity of research and topical articles from researchers, state officials, and leaders of the stakeholder community; and
- ✓ Document the quality of *New Jersey Sea Grant College Program* research and outreach resources through a periodically published listing of peer-reviewed articles, books and monographs and annually distribute the listing to appropriate audiences

Cooperative Partnerships:

- ✓ Collaborate more closely with colleagues in the Sea Grant Mid-Atlantic region and expand the participation of NJ Sea Grant in regional and national partnership projects whenever possible; and
- ✓ Work to develop potential funding partnerships with the private sector for special projects and events

Short-Term (Annual):

Media:

- ✓ Work with Principal Investigators during the early implementation phase of their research to design at least one communications or media based activity related to their project (2004);
- ✓ Complete the *2004 Ecotourism Calendar for NJ* to strengthen NJMSC and NJ Sea Grant's leadership role in promoting the conservation and sustainable uses of natural and cultural resources activities throughout the state (2004);
- ✓ Publish a media page on www.njmssc.org to include press releases, research project profiles and images, special events and activity updates readily available on line (2005); and
- ✓ Work with legislators and their key staff to establish a mechanism and schedule for reporting information about the status of marine and coastal related legislation affecting the state and the region and make that information available on www.njmssc.org and elsewhere (2005)

EXPECTED IMPACTS FROM STRATEGIC PLAN IMPLEMENTATION

- ✓ NJSGCP-funded research and outreach efforts are increasingly applied in practical ways by coastal stakeholders and decision makers;
- ✓ *Coast Day NJ* becomes a statewide venue for linking NJMSC/NJSGCP activities to sustaining New Jersey's \$50 billion coastal economy;
- ✓ Communities, resource agencies and the general public are increasingly aware of the capabilities of the NJMSC and its NJSGCP. NJMSC's pool of expertise is rapidly becoming a statewide resource for addressing coastal problems;
- ✓ NJMSC is increasingly visible as a partner and participant in addressing coastal issues: dredged materials management, coastal processes, coastal hazard mitigation, watershed management, habitat restoration, contaminant reduction, fisheries ecology, and shellfish aquaculture;
- ✓ NJMSC faculty and staff become state-wide leaders in minority education outreach, promoting sustainability through K-12 and adult education, and contribute substantively to improved science literacy and informed decision making in New Jersey;
- ✓ State legislators, municipal government, the media and multiple-stakeholders increasingly call upon NJMSC and its resource base for information and technical assistance in addressing regional coastal issues;
- ✓ NJMSC and its NJSGCP contribute substantively to science-based management, policy and coastal sustainability planning in the region; and
- ✓ NJMSC faculty and staff are increasingly visible as active partners in local, state, and national education reforms

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