

# **Recommendations for Consideration by the U.S. Commission on Ocean Policy**

**Provided by the  
Sea Grant Association  
October 10, 2002**

## **Executive Summary**

### **Introduction**

The Sea Grant Association (SGA) is pleased with the opportunity to offer recommendations to the U.S. Commission on Ocean Policy for its consideration. The SGA represents the combined capabilities of over 300 academic and research institutions nationwide that participate in the National Sea Grant College Program. The SGA enables these institutions to coordinate their activities, to prioritize action at the regional and national levels, and to offer a unified voice on critical coastal, ocean, and Great Lakes issues. Just as our nation's Land Grant institutions have revolutionized agriculture, so too are the Sea Grant Colleges steering our nation toward the productive and sustainable use of our coastal, marine, and Great Lakes resources, through integrated programs of scientific research, education and training, and technical assistance.

Recommendations of the SGA are organized in this document into three components:

1. Generating the "State of Knowledge" in Support of an Integrated U.S. Ocean Policy;
2. Fostering Program Integration within NOAA in Support of an Integrated U.S. Ocean Policy; and
3. Enhancing the Sea Grant Role within NOAA in Support of an Integrated U.S. Ocean Policy.

Each recommendation is followed by background and rationale statements and suggested strategies for implementation.

### **Recommendations "At-a-Glance"**

The SGA offers the following recommendations for consideration.

The U.S. Commission on Ocean Policy should:

- 1.1. Call for the development of a detailed biogeophysical assessment of the territorial sea and the Exclusive Economic Zone along the coasts of the United States and its territories.
- 1.2. Call for the development and implementation of a national coastal and ocean resource "audit."
- 1.3. Recommend the development of a multidimensional framework for the design and implementation of the nationwide coastal ocean observing system network.

- 1.4. Recommend the development of a national research and education plan for the nation's coasts, ocean, and Great Lakes to encourage the generation of high priority science-based information and educational materials for use by resource managers, decision-makers, educators, and the public.
- 2.1. Encourage NOAA to establish a cross-cutting administrative mechanism and foster agency-wide integrated programmatic planning and implementation of its research, education, and outreach functions.
- 2.2. Encourage NOAA to integrate and enhance its educational and outreach activities in partnership with the extramural community in support of balanced use and conservation of the nation's coastal, marine, and Great Lakes resources.
- 2.3. Encourage NOAA to coordinate and, where possible, consolidate its many advisory committees, boards, and commissions.
- 3.1. Recognize and promote Sea Grant as a unique and currently underutilized university-based program that can serve all of NOAA and its diverse clientele throughout the country.
- 3.2. Urge the Administration to formally support and maintain the current mission, structure, and function of the National Sea Grant College Program (NSGCP), and that NSGCP should presently remain a part of NOAA within the U.S. Department of Commerce.
- 3.3. Recommend that Sea Grant become the nation's *primary* extramural, university-based research, education, training, and technical assistance program in support of coastal, marine, and Great Lakes resource use, management, and conservation.
- 3.4. Formally request a doubling of authorization and appropriations levels for the National Sea Grant College Program to enable the program to meet the needs and expectations of its varied constituencies.

## **1. Generating the “State of Knowledge” in Support of an Integrated U.S. Ocean Policy**

The development and successful implementation of an integrated ocean policy for the United States will depend in large part on the development, analysis, and synthesis of information on the nature, status, and understanding of the nation’s coastal, ocean, and Great Lakes resources and on the issues and opportunities that will influence their use and conservation in the future. Possessing a sound, scientifically based “inventory” will provide policy and decision-makers with the tools they will need to ensure that critically important resources will be preserved, economically important resources will be sustainably consumed, and multiple resource uses will be accommodated.

The Sea Grant Association offers the following recommendations and suggestions in this area.

### **1.1. The U.S. Commission on Ocean Policy should call for the development of a detailed biogeophysical assessment of the territorial sea and the Exclusive Economic Zone along the coasts of the United States and its territories.**

**Background:** Although “mapping” the EEZ is mentioned several times in the summaries of Working Group activities, it is not in itself identified as a key need. The need to map the ocean region of the United States has been called for many times in the past; when the U.S. declared in 1983 its sovereignty over the EEZ and its resources and when it expanded territorial sea jurisdiction to 12 miles, to mention two instances. It goes without saying that if the United States is to develop a unified coastal and ocean policy framework that includes governance, stewardship, and investment components, it must acquire detailed knowledge of the biological, geological, chemical, and physical features of the ocean regions and the resources they contain. Nevertheless, there has yet to be developed a concerted, coordinated, and funded national effort to map and assess the nation’s coastal marine and ocean regions.

**Rationale:** Basically, it would extremely difficult to establish and implement an ocean and coastal policy framework and management regime for the nation’s territorial sea and EEZ without detailed knowledge of their bathymetry, biological, chemical, geological, and physical characteristics. This information is critical for both existing users (e.g., fishing, recreational, and oil and gas industries) and prospective ones (e.g., near shore and offshore aquaculture, sand and gravel, mineral extraction industries), and is essential to the federal government in its role in serving as the public steward of the nation’s coastal and ocean resources and balancing competing demands. Initiating an integrated and systematic survey of the U.S. ocean environment will provide that information.

**Implementation Strategy 1.1:** *The SGA encourages the Commission to recommend the development of an integrated strategy, implementation plan, and timetable for “mapping” the U.S. ocean region, and identify NOAA, U.S. Navy, and the U.S. Geological Survey – Coastal and Marine Geology Program as the primary agencies to conduct the surveys.*

### **1.2. The U.S. Commission on Ocean Policy should call for the development and implementation of a national coastal and ocean resource “audit.”**

**Background:** As is the case with EEZ mapping, there is no coordinated federal system to provide for or generate information on the overall environmental, economic, or socio-cultural condition of

the nation's coastal and ocean regions. Without such information, the nation cannot adequately assess (1) the "health" of the country's coastal and ocean resource base, (2) its value and contribution to the GNP of the country as a whole, nor (3) identify and, where appropriate, manage and protect the nation's important ecological, social, historic, and cultural resources. This lack of critically important information will continue to hinder the ability of the federal government to both serve as the steward for the nation's coastal and ocean resources and develop and implement a coordinated national ocean policy.

**Rationale:** The opportunity for designing a national coastal and ocean audit is timely, as there are under consideration or in preliminary development several initiatives that could provide the foundation upon which a comprehensive audit can be based. For instance, NOAA has begun to develop a "State of the Coast" report for the nation, researchers led by the University of Southern California are beginning to implement a National Ocean Economics Project, and a number of agencies, universities, and organizations have been engaged in the Ocean Exploration initiative. What is needed is the leadership necessary to develop a coordinated and ongoing effort that will provide the information needed to assess and monitor trends in the nation's coastal and ocean resource "stock." Taking the concept of a coastal and ocean audit and putting it into practice will require strong leadership and endorsement by the Commission.

**Implementation Strategy 1.2:** *The SGA encourages the Commission to consider and recommend that a national coastal and ocean environmental, economic, and socio-cultural audit be undertaken, and that it subsequently be updated every five years. NOAA should be considered as the lead agency for this effort.*

### **1.3. The U.S. Commission on Ocean Policy should recommend the development of a multidimensional framework for the design and implementation of the nationwide coastal ocean observing system network.**

**Background:** As the Commission is well aware, there exist several operational coastal ocean observing systems located around the country, and quite a number more either in development or being planned. It is the role and responsibility of OCEAN.US to ensure that this loosely knit array of systems join together as a coordinated and integrated network. While proposed as the means by which information on coastal ocean conditions can be gathered for monitoring and assessment purposes, there exists great potential in expanding the scope of the observing system network to do much more. Incorporating a multi-dimensional approach into coastal ocean observing plans should be done and used as the basis for both refining existing systems and developing and implementing new systems.

**Rationale:** An opportunity exists to ensure that the nation receives the highest payoff from its investment in the development and implementation of a coastal ocean observing system network. The design, development, and selection of platforms, sensors, and other technologies to be deployed as part of any coastal observing system will be dictated in large part by the goals and objectives established for the system. These goals and objectives should encompass all possible applications of the system from its initiation, and should reflect the information and data needs and requirements of prospective academic, government, and industry users and the public.

**Implementation Strategy 1.3.1.** *The SGA encourages the Commission to recommend that an equally essential step in the development, design, and implementation of the nation's network of coastal ocean observing systems is the development of a strong outreach/feedback mechanism whereby prospective users (academia, government, industry, etc.) of coastal ocean observing*

*information and data are first identified and then queried to determine their information and data needs. With appropriate funding support, the national Sea Grant Extension Program can be tasked with identifying user needs.*

**Implementation Strategy 1.3.2.** *The SGA encourages the Commission to recommend that an essential step in the development, design, and implementation of the nation's network of coastal ocean observing systems is the preparation of operational plans that include how these systems can provide for and/or serve all the following elements: (1) monitoring, (2) assessment, (3) observation, (4) research, (5) education, (6) technology development, (7) prediction, and (8) resource management.*

**1.4. The U.S. Commission on Ocean Policy should recommend the development of a national research and education plan for the nation's coasts, ocean, and Great Lakes to encourage the generation of high priority science-based information and educational materials for use by resource managers, decision-makers, educators, and the public.**

**Background:** There are currently a host of federal departments and agencies that conduct and/or support scientific research and education programs dealing with coastal and marine resources and their uses. Also, a host of research and education plans continue to be developed while existing plans "sit on the shelf." Currently, there is no existing federal mechanism whereby these efforts can be jointly planned and undertaken in a coordinated or collaborative fashion. Additionally, many of the plans and activities do not take into account issues related to "scale." For example, how are the results of research and educational efforts undertaken at the national or regional level relevant to state and local needs and issues, the levels where most of the land use and resource management decisions are either made or applied? Further, scientists and educators from the federal government, academia, NGOs, and the private sector are all engaged in federally sponsored research and education efforts but, in many cases, there is very little collaboration among the organizations. The federal coastal and ocean science and education enterprise must be retooled to provide programmatic focus and direction, to utilize federal and non-federal expertise more efficiently, to provide the means by which scientific and educational information gets into the hands of decision-makers and users, and to encourage collaborative and cross-cutting efforts.

**Rationale:** The pressures on the nation's coastal and ocean resources continue to grow for many reasons. Decisions regarding the use and conservation of these resources at all levels of government are increasingly dependent on the availability and transferability of sound scientific information and a literate citizenry.

**Implementation Strategy 1.4.1.** *The SGA encourages the Commission to recommend a national framework upon which a coordinated coastal and ocean research and education agenda can be developed. This framework would consist of the identification of (1) the most pressing information needs that can be addressed through federally sponsored research and education, (2) the federal role in supporting and coordinating research and education efforts across agencies and in delivering results to target constituencies, (3) the means of engagement of intellectual resources found in the federal government, at the nation's universities, and elsewhere, (4) needs for research and education information at multiple scales (federal, regional, state, local), and (5) financial and intellectual capital that would be required to undertake these activities.*

**Implementation Strategy 1.4.2.** *The SGA encourages the Commission to review and incorporate, as appropriate, the topics and priorities developed by the leadership, staff, and*

*partners of the national Sea Grant network (of universities and laboratories) into its recommendations for research and education on coastal and ocean issues and opportunities. Priorities for research and outreach have been developed for aquaculture; fisheries; seafood science and technology; ecosystems and habitats; coastal natural hazards; coastal communities and economies; the urban coast; marine biotechnology; ocean and coastal technology; and education and human resources. [See Appendix I for the topical white papers, or view them at [www.seagrant.wisc.edu/communications/national/Theme\\_Teams/one-pager\\_links.html](http://www.seagrant.wisc.edu/communications/national/Theme_Teams/one-pager_links.html).]*

**Implementation Strategy 1.4.3.** *The SGA encourages the Commission to consider adopting the Sea Grant Extension Program as the primary means by which priority information and data needs can be identified and scientific information generated at federal, state, and university laboratories can be translated and delivered to federal and state resource management agencies, municipalities, business and industry, public and private schools, the interested public, and others, given the means to do so.*

**Implementation Strategy 1.4.4.** *The SGA encourages the Commission to explore the feasibility of establishing a coastal and ocean research and education extramural cross-cutting framework as a short-term method to focus attention and resources on priority needs and to encourage collaborative efforts among federal, state, and university scientists and educators. The existing National Ocean Research Leadership Council (NORLC) is an example of a mechanism that might be expanded or mimicked to address broader ocean, coastal, and Great Lakes research and outreach needs and opportunities, but should be expanded to include state, university, and constituent representation.*

**Implementation Strategy 1.4.5.** *For the long-term, the SGA encourages the Commission to recommend the establishment of a permanent mechanism by which the disparate units of the federal government that focus on coastal and ocean research and education can be brought together. While recognizing that the establishment of, say, a formal U.S. Department of the Oceans may be difficult to achieve, a similar such mechanism should seriously be considered by the Commission.*

## 2. Fostering Program Integration within NOAA in Support of an Integrated U.S. Ocean Policy

The role of the National Oceanic and Atmospheric Administration (NOAA) as the nation's primary "oceans" agency places it at the nexus of any discussion of a re-evaluation of the nation's ocean policy framework. Created as one outcome of the work of the Stratton Commission in the late 1960s, NOAA essentially remains an amalgamation of numerous agencies, programs, and offices that have yet to be fully assimilated into one "whole." NOAA has undergone a number of external and internal evaluations and reorganizations over the last 30 years, and has recently completed yet another internal program review upon which policy options for program integration and possible reorganization are currently being evaluated.

The Sea Grant Association thus offers the following recommendations regarding NOAA as the nation's primary "oceans" agency in the context of its current self-evaluation.

### 2.1. The U.S. Commission on Ocean Policy should encourage NOAA to establish a cross-cutting administrative mechanism and foster agency-wide integrated programmatic planning and implementation of its research, education, and outreach functions.

**Background:** Of the issues identified by NOAA's Program Review Team in its internal review, the need for integration and cross-cutting of NOAA's research, education, and extension enterprises stands out. Currently, these three functions are dispersed throughout the agency, with no mechanism to ensure shared priority setting or program execution. Additionally, NOAA proposes to commit 50% of any new research funds to the extramural community.

**Rationale:** Establishing a Program Planning and Integration line office presents NOAA with an excellent opportunity to integrate strategic planning and implementation both within and across all NOAA components and missions, including research, education, and extension initiatives. To be successful, this office must be located between the Office of the Administrator and across the five program Assistant Administrators to serve as a cross-cutting hub. The lead Program Manager for NOAA research and outreach should be housed in the Program Planning and Integration cross-cutting office. This office should seek to raise the stature of NOAA's extramural funding efforts in research and outreach and establish standards and outcomes that are a model for engagement of the best available talent found in the nation's universities. In addition, NOAA should formally apply the model used by agencies such as NSF and NIH to involve the extramural-university community in workshops and other forums to discuss and generate NOAA priorities for research AND education AND extension in key programmatic areas. This would ensure that NOAA's programmatic priorities accurately reflect both the current state-of-knowledge of coastal, marine, and Great Lakes resource issues and the real needs of NOAA's constituencies, and would vest the extramural community in seeing that the priorities are addressed.

**Implementation Strategy 2.1.1.** *The SGA encourages the Commission to recommend that NOAA's proposed Line Office for Program Planning and Integration be realigned to cut across rather than parallel the five established line offices, and that NOAA's extramural research, education, and extension programs, including Sea Grant, be placed within the proposed LO for Program Planning and Integration.*

**Implementation Strategy 2.1.2.** *The SGA encourages the Commission to urge NOAA to enhance its engagement of the extramural community in establishing its research, education, and extension priorities and action agendas.*

**2.2. The U.S. Commission on Ocean Policy should encourage NOAA to integrate and enhance its educational and outreach activities in partnership with the extramural community in support of balanced use and conservation of the nation’s coastal, marine, and Great Lakes resources.**

**Background:** Interaction and regular contact with external constituencies contribute to NOAA’s identification of critical coastal, marine, and Great Lakes issues and to its effectiveness in delivering information and products to its “client” base. Numerous studies<sup>1</sup> have recognized the NOAA-university partnership as one of the principal means to connect with these constituencies.

**Rationale:** The structure and function of the National Sea Grant College Program can serve as a key component in NOAA’s education and extension strategy, and Sea Grant should be given the challenge, responsibility, and resources to assist in identifying constituent needs and transferring research findings and general information generated throughout NOAA to the appropriate user base.

**Implementation Strategy 2.2:** *Effective education and extension programming is critical to NOAA’s mission and must be identified as core missions for NOAA and the U.S. Department of Commerce. Sea Grant, with additional resources, can assist NOAA in enhancing its educational and extension efforts.*

**2.3. The U.S. Commission on Ocean Policy should encourage NOAA to coordinate and, where possible, consolidate its many advisory committees, boards, and commissions.**

**Background:** Currently, NOAA and its line offices engage a variety of advisory mechanisms to oversee the development and operations of their programs. For example, there is the NOAA Science Advisory Board that serves the NOAA Administrator’s Office, and the National Sea Grant Review Panel, a FACA panel authorized by legislation, to oversee the operation of the National Sea Grant College Program. Multiple advisory groups have the potential to contradict and confound, as well as waste human and financial resources. They are also countercurrent to the concept of one NOAA, rather than five or more NOAA “parts.” The issue of advisory panels is only partially addressed by the NOAA Program Review, which recommends that membership on NOAA’s Science Advisory Board be modified to include a diversity of expertise, experience, and perspectives.

**Rationale:** NOAA should expand the definition of its primary advisory board to embrace and support the research, education, and extension components of its mission. NOAA should also specifically define the charge and role of its “advisory” structures and clearly establish their relationship to NOAA’s management structure. There should be only one NOAA-wide advisory

---

<sup>1</sup> National Research Council’s 1994 review of the National Sea Grant College Program; NASULGC Board on Oceans and Atmosphere 2001 white paper on NOAA in the 21<sup>st</sup> Century; President’s Council on Ocean Exploration (2001); Sea Grant Review Panel 2001 report *A Mandate to Engage Coastal Users*; and NOAA & Academic Partnership Building Conference Report of 2001.

board so as to minimize the potential for mixed and possibly contradictory messages coming from external “experts.”

**Implementation Strategy 2.3.** *NOAA should consider establishing an agency-wide Advisory Board that reflects the breadth of both its missions and the constituencies it serves. Existing (and new) sub-agency (Line Office and Program level) advisory panels should perhaps be organized as “extensions” of the NOAA Advisory Board, with appropriate Advisory Board representation, leadership, and guidance, to provide for consistency and effective communication throughout the agency.*

### **3. Enhancing the Sea Grant Role within NOAA in Support of an Integrated U.S. Ocean Policy**

The National Sea Grant College Program was created in 1966. Sea Grant was created to mimic the land-grant model specifically to “focus a broad array of academic talent on issues related to the sea.” In just 35 years Sea Grant has created a remarkable track record. Sea Grant conducts priority-driven research, transfers scientific results to the public, provides educational opportunities from K-12 to graduate degrees, and conducts successful outreach programs. Sea Grant is a partnership among academia, government, and the private sector. It uses a combination of research, education and extension. It focuses on maximizing the economic, environmental, and social potential of the nation’s coastal, marine, and Great Lakes resources. Sea Grant peer-reviewed science is the key to generating intellectual capital. Sea Grant serves a broad constituency. Sea Grant solves national problems and creates national opportunities. Sea Grant is “Science Serving America’s Coasts.”

The Sea Grant Association continues to encourage NOAA to invest in programs with a proven track record of success. The Sea Grant enterprise can and should be empowered to meet the needs of both NOAA and its constituencies through an expansion of its role and responsibilities and the provision of additional resources.

Congress has placed Land Grant and Sea Grant programs in the appropriate stewardship agencies; that is, the Department of Agriculture, which supports agricultural research and education programs in Land-Grant universities, and the National Oceanic and Atmospheric Administration (NOAA), which supports the National Sea Grant College Program and its network of some 300 universities. However, to date, Sea Grant universities have not achieved the synergy with NOAA that has been achieved by Land-Grant universities with USDA (and other agencies), and consequently has been unable to reach its full potential to serve the needs of the nation’s coasts, oceans, and Great Lakes.

The Sea Grant Association offers the following recommendations to address the question: How can the National Sea Grant College Program be empowered to meet the needs of NOAA and the nation, and the increasing demands for information and services coming from multiple constituencies?

#### **3.1. The U.S. Commission on Ocean Policy should recognize and promote Sea Grant as a unique and currently underutilized university-based program that can serve all of NOAA and its diverse clientele throughout the country.**

**Background:** Sea Grant is a unique partnership between federal, university, state, and private sector interests. As such, the Sea Grant network can significantly contribute to NOAA initiatives on climate, human resource development, and watershed dynamics, all of which have nationwide importance and applicability. To affirm the importance of the ocean to the very existence of all living organisms — including those that live in inland states — Sea Grant funding should be substantially increased to accommodate Sea Grant network growth in all 50 U.S. states. Because there is a progressive path for a university to become a Sea Grant College — single project → coherent project → institutional program → Sea Grant College — funding increases could be phased in over time. *Currently, however, the National Sea Grant College Program (NSGCP) Network is an underutilized NOAA and national asset.*

**Rationale:** Sea Grant, like Land Grant, is inclusive in its mandate, even though it is currently perceived as exclusive to only coastal and Great Lakes states. Balanced use and conservation of marine and coastal resources is a national priority and NOAA is the lead federal agency with the mission to achieve this goal. Enhanced ocean literacy across this nation's population is critical for NOAA to be successful — further reinforcing the notion of Sea Grant involvement in all 50 states. Sea Grant is an established, well-respected state-based program that can serve as the nation's conduit to the states and their citizenry.

SGA firmly believes that excellence in the National Sea Grant College Program network has been strengthened through the adoption of a rigorous and well-defined program evaluation and improvement process. The Sea Grant peer review process occurs initially during biennial project selection at the university level and is carried out by the Sea Grant Program management teams distributed throughout the network of universities. The peer review process employed for this distributed review is directly analogous to that carried out by NSF, both of which draw from a national pool of peer reviewers. This distributed management concept provides many opportunities for Sea Grant programs to leverage the federal investment with support from non-federal partners that invest real cash in the Sea Grant enterprise. In addition, Sea Grant solicitations for national strategic initiatives are also peer-reviewed using an NSF-like model.

**Implementation Strategy 3.1.** *The SGA requests that the Commission recognize Sea Grant as a model program for engaging the extramural community in the nation's coastal and ocean programs, and recommend to NOAA that Sea Grant be designated the "go-to" agency for its extramural research and outreach functions.*

**3.2. The U.S. Commission on Ocean Policy should urge the Administration to formally support and maintain the current mission, structure, and function of the National Sea Grant College Program (NSGCP), and that NSGCP should remain a part of NOAA within the U.S. Department of Commerce.**

**Background:** The current Administration has proposed the transfer of funding for the National Sea Grant College Program from NOAA to the National Science Foundation beginning in FY03. This would eliminate the strong state and university-based nature of this successful program, terminate its outreach function, and destroy its effective transfer of new scientific knowledge to coastal citizens, industries, and governments. Reauthorization legislation currently under consideration by the U.S. Congress (HR3389) for the National Sea Grant College Program is pending in Congress. This bill would continue the program for five years based on its current structure, conduct, and performance, and maintain its presence within NOAA. The SGA believes that no change should be considered in mission, structure, and function of the Sea Grant program, and the location of the National Sea Grant College Program.

**Rationale:** Congress passed Public Law 105-160 in 1998 to authorize the National Sea Grant College Program through FY2003. This legislation was passed with the unanimous consent of Congress. Over 100 members of the House of Representatives and over 20 members of the Senate co-sponsored the legislation. The bi-partisan support for this legislation continued Sea Grant as a part of NOAA within the U.S. Department of Commerce. Sea Grant, moreover, has linked more closely with other NOAA offices to increase the accountability, effectiveness, and efficiencies of its and all of NOAA's programs.

Sea Grant's university base has enabled it to be a partner with NOAA (and before that NSF), and with other federal resource and environmental units, state and local governments, business and industry, and conservation groups. For Sea Grant to be successful it requires a host in government that allows for partnerships among academia, the private sector and government, that allows for the combined use of research, education and outreach, and that focuses on education, the economy and the coastal environment. It also must be positioned in that host unit at an adequately high position to enhance its effectiveness and efficiency. No purely government program has the depth and breadth of partnerships that exist in Sea Grant.

**Implementation Strategy 3.2.** *The SGA encourages the Commission to (a) endorse HR3389, a bill to reauthorize the National Sea Grant College program, (b) urge the U.S. Congress to pass HR3389 prior to adjournment this year, and (c) recommend to the Administration and OMB that the integrity and mission of Sea Grant be maintained.*

**3.3. Sea Grant should become the nation's primary university-based, extramural research, education, training, and technical assistance program in support of coastal, marine, and Great Lakes resource use, management, and conservation.**

**Background:** NOAA has historically been concerned that the strong state and local connections that are the foundation of the Sea Grant Program threaten its influence over the program. As a result, NOAA has often looked to other structures and programs to accomplish tasks that could more efficiently fall within the Sea Grant purview. Sea Grant's network should be perceived for what it truly represents, an excellent resource to the federal government, the Congress, and this nation's citizens in helping meet their coastal, marine, and Great Lakes objectives. Sea Grant is successful because it combines the functions of quality peer reviewed research with fact-based public education.

**Rationale:** Sea Grant has been successful in addressing common property resource issues because it has close ties and partnerships with federal, regional, and local governments and with many affected constituencies. Sea Grant has access to the best intellectual capital in the nation because of its university base, and has brought innovative approaches to longstanding issues. Without its issue orientation, its peer-reviewed science, and its established and trusted ties to business, government, and citizen constituencies, Sea Grant could not be successful. To be successful, Sea Grant needs the commitment, financial resources, and a host agency that understands that, especially for issues involving both the development and conservation of public resources. Many of the marine and coastal issues facing the nation are affected by decisions that are made nationally, regionally, and locally. The impacts of these decisions many times reach across state borders; thus, there is a strong national interest.

**Implementation Strategy 3.3.** *The SGA encourages the Commission to recommend that ensure Sea Grant receives both the resources from and status within the federal government to ensure that the success of the Sea Grant program not just measured within the context of its own agency mission, but also in its success in contributing to the national agenda as expressed in legislation shared by other agencies.*

**3.4. Authorization and appropriations levels for the National Sea Grant College Program should be significantly increased to enable the program to meet the needs and expectations of its varied constituencies.**

**Background:** The issues to be addressed in coastal, marine, and Great Lakes resource management are immense and the investment in Sea Grant has not been commensurate with the demands for science-based information created by increased growth in coastal population and development. Yet the 1994 National Research Council (NRC) review of the National Sea Grant College Program pointed out that Sea Grant has been virtually the only source of funding in the U.S. for marine policy research and a major contributor to the fields of marine aquaculture, coastal and estuarine research, marine fisheries management, seafood safety, marine biotechnology, marine engineering, and coastal technology development. And this list is not exhaustive.

Several independent studies have concluded that Sea Grant has not realized its potential because of limited funding. As far back as 1981, the Heritage Foundation evaluated the Department of Commerce and concluded: *“Sea Grant has an impressive record of success, primarily because it is based largely on local priorities and needs ... Sea Grant funding should be increased 10 percent per year in real terms for the next five years.”* In its 1994 review of the National Sea Grant College Program, the NRC was emphatic in stating: *“A steady increase in funding is necessary if the program’s potential contributions to the Nation’s economic and environmental health are to be realized.”* The Board on Oceans and Atmosphere (BOA) of the National Association of State Universities and Land Grant Colleges (NASULGC) echoed these findings when it stated in 2000: *“The Sea Grant Program represents NOAA’s largest university-based research, extension and education activities. This program represents a unique opportunity for the Agency to engage constituencies that will be increasingly important to its evolving mission. We would urge that the...Administration develop an agenda to specifically utilize and expand the resource base of this program so as to better engage university capabilities in helping the Agency fulfill its responsibilities.”*

**Rationale:** Sea Grant is built on the Land Grant model, its highly successful counterpart. Although 54% of the U. S. population lives on the coast, funding for Sea Grant is only 3% of equivalent federal funding for university Land Grant programs. Sea Grant’s enabling legislation envisioned other federal agencies accessing university expertise through the Sea Grant administrative structure, but Sea Grant’s “pass-through” capabilities have been underutilized by other agencies. Funding limitations have contributed significantly to the difficulty of creating strong interagency partnerships.

The general case for growth is compelling, but despite an unprecedented high demand for coastal and ocean science and information and Sea Grant’s unique ability to provide solutions to coastal problems, funding has not kept pace with demand for services. In fact, the Sea Grant budget has not kept pace with inflation over the last two decades, much less expanded to meet the wealth of new challenges and opportunities that face our country. Sea Grant’s appropriations are over 20 percent below the buying power of its 1980 appropriation. From fiscal year 1986 to fiscal year 1999, Sea Grant’s program-wide staff size declined 25 percent.

Sea Grant is at heart a science-based program that engages the university community through partnership in providing consistently high-quality and relevant research, ranging from highly focused projects that develop innovative solutions for immediate and pressing needs to more forward-looking activities that anticipate the needs of society five to ten years hence. Over the past few years, the review process has been streamlined and improved to increase the ability of Sea Grant to support research projects most critical to mission objectives. However, each of our state and national competitions continues to receive many times more highly-rated projects than could possibly be supported. For example, the 1999 fisheries habitat research competition received requests for almost 20 times the available funds, and the requests for the aquaculture

competition were about 50 times the available funds. Clearly the capacity is there for Sea Grant to provide much more useful science-based information than current funding levels allow.

Finally, as science becomes increasingly more complex, professional outreach staff are needed more than ever to synthesize and promulgate needed information. With its established extension network, Sea Grant is uniquely positioned to be the two-way conduit between the providers and users of information. Indeed, Sea Grant's greatest asset may be the trust that has been developed and nurtured through 35 years as an "honest broker" of scientific information. Sea Grant's science is credible and its outreach staff is trusted because Sea Grant is university-based, neutral, and objective. Yet, an external review of the Sea Grant Extension Program conducted in 2000 concluded that Sea Grant's current work force of 300 extension specialists "is insufficient to address adequately the issues raised along the extensive reaches of the nation's coastlines."

Congress has recognized the continued success of Sea Grant and in December 2000 introduced H.R.3389 to reauthorize the program at significantly higher levels for an additional five years. Sea Grant has not achieved significant increases in appropriations like other science programs -- for example, in the National Science Foundation. However, it appears that Congress and the federal government are both recognizing that inadequate funding is a problem, and are taking steps to support the National Sea Grant College Program at an elevated level. This bill substantially increases the authorized level of appropriations for Sea Grant and consolidates several university-based NOAA programs under Sea Grant as a way to achieve increased efficiencies, and enhances the effectiveness and application of the nation's coastal, marine, and Great Lakes research and outreach programs.

**Implementation Strategy 3.4.** *The SGA encourages the Commission to recommend to the U.S. Congress and the Administration that funding for the National Sea Grant College Program be doubled within five years, commensurate with the recommendations of the National Research Council and NASULGC, for three purposes: (a) to enhance the Sea Grant network's existing capabilities in generating and delivering science-based information to its constituencies, (b) to expand Sea Grant's role throughout the country, and (b) to adequately address nation's most pressing coastal, ocean, and Great Lakes resource issues and opportunities.*

**Implementation Strategy #3.5.** *The SGA encourages the Commission to call on NOAA to offer competitive funding opportunities to Sea Grant College Programs in order to restore and enhance their capabilities to deliver services and assistance to their constituencies. Furthermore, SGA encourages NOAA to provide maximum flexibility in the use of extramural grant funding to derive full "value-added" in leveraging matching funds and in optimizing the use of the enormous talent and expertise found in our nation's universities.*

## **APPENDIX I:**

### **SEA GRANT TOPICAL WHITE PAPERS ON:**

**MARINE AND AQUATIC SCIENCE LITERACY:  
EDUCATING THE 21ST CENTURY WORKFORCE**

---

**SCIENCE SUPPORTING SUSTAINABLE MARINE AQUACULTURE**

---

**RESEARCH AND OUTREACH ADDRESSING  
THE NATION'S FISHERIES PROBLEMS**

---

**HEALTHY COASTAL ECOSYSTEMS  
FOR A HEALTHY ECONOMY**

---

**SCIENCE HELPING COASTAL COMMUNITIES  
AND ECONOMIES BUILD A SUSTAINABLE FUTURE**

---

**URBAN COASTS FACE MULTIPLE CHALLENGES**

---

**REDUCING THE NATION'S VULNERABILITY  
TO COASTAL NATURAL HAZARDS**

---

**RESEARCH AND OUTREACH IN MARINE BIOTECHNOLOGY:  
SCIENCE PROTECTING AND CREATING NEW VALUE FROM THE SEA**

---

**THE DIGITAL OCEAN: OUR OCEANS ON A MICROCHIP**