

**Directory of
Sea Grant Activities in
Coastal Zone Management**

**NOAA Coastal Services Center
and
National Office of Sea Grant**

2000

Directory of Sea Grant Activities in Coastal Zone Management

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1.0 INTRODUCTION

1.1 The Sea Grant College Program

The 29 designated Sea Grant Colleges and Universities around the nation are partnerships of academia, government, and industry that focus on the wise use of coastal and marine resources. This university-based network conducts research, education, and outreach to help conserve and use coastal and marine resources for a sustainable economy and environment. To achieve this, each Program is active and involved in a wide variety of projects in the areas of aquaculture, fisheries, coastal hazards, coastal communities and economies, education and human resources, ecosystems and habitats, ocean and coastal technologies/biotechnology, urban coasts, and seafood science and safety. Programs pursue research, outreach and education activities in the topic areas using methods and strategies most appropriate and applicable for the community and geographical area that they serve; thus no two programs are identical.

The information generated by Sea Grant research is disseminated and applied, through the Marine Extension Program, to the sector(s) of the community where it is needed. Sea Grant extension agents serve as liaisons between coastal resource users and the academic research community. In many cases, the information and activities of Sea Grant are most useful to coastal resource managers—one of the many clients that Sea Grant serves. Extension agents educate and provide technical assistance to resource management agencies, as well as to residents, businesses, and coastal communities on managing coastal resources, creating sustainable coastal businesses, and understanding coastal and ocean ecosystems. Sea Grant Marine Extension Programs also provide an important mechanism for the coastal resource management community (and all of its constituent groups) to identify and communicate their research needs to the scientific community. The Sea Grant role as a conduit for the two-way exchange of information helps to ensure that research is directed toward obtaining the information that resource users and managers need.

1.1.a. Sea Grant and Coastal Resource Management

Sea Grant's role as a facilitator for information exchange and communication between academia and coastal resource managers is only one of the many and varied roles that Sea Grant plays in coastal zone management. Many Sea Grant activities are designed to increase the scientific and environmental awareness and literacy of the community at large. Sea Grant is involved in educating and training coastal resource users to increase their understanding of coastal processes, coastal zone management policies and regulations, and to increase their involvement in coastal zone management activities. These activities help coastal zone resource users and managers to better communicate, understand, and interact with each other, which ultimately leads to the increased effectiveness of coastal zone programs.

1.1.b. The “Directory of Sea Grant Activities in Coastal Zone Management”

This “Directory of Sea Grant Activities in Coastal Zone Management” is intended to serve as a quick reference guide to recent and ongoing Sea Grant projects and activities related to the Coastal Zone Management Act (CZMA). While virtually all Sea Grant activities can and do have some impact on the management of coastal resources, this directory identifies and lists those activities that are related to the Coastal Zone Management Act (CZMA) and/or each state's

Coastal Zone Management (CZM) Program. The projects are organized following the relevant sections of the CZMA and the Coastal Zone Act Reauthorization Amendments (CZARA).

The directory begins with a brief description of relevant CZMA sections. This includes identifying activities, projects, and/or research that are or could be applied to each section to assist or enhance the program and its effectiveness. Sea Grant Programs with projects related to the various sections of CZMA are then identified in a chart (Table 1). This provides an easy guide to Sea Grant Programs that have activities addressing a given section of the CZMA, and to help to identify where to go for more information. The directory then gives Program-by-Program descriptions of the Sea Grant CZMA-related activities, research, and projects indicated in the chart. Finally, contact information for each of the 29 Sea Grant Programs and the state CZM Programs is provided. This information is also available on the World Wide Web at www.csc.noaa.gov, click on publications, or at www.csc.noaa.gov/products/sgczproj.pdf.

1.2 The Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 (and as amended through P.L. 104-150, The Coastal Zone Protection Act of 1996) made it the policy of the United States “to preserve, protect, develop, and where possible, to restore or enhance, the resources of the nation’s coastal zone.” This is done through a program that assists and encourages the states to develop and implement management programs to achieve wise use of the land and water resources of the coastal zone. States with federally-approved CZM Programs are eligible to apply for and receive funding and technical assistance for such programs and activities. These programs must provide for, among other things, the protection of natural resources within the coastal zone and the management of coastal development.

The CZMA provides the framework and necessary tools for implementing coastal management programs at the state and local levels. It addresses the numerous, complex issues that affect our coasts, provides for a comprehensive approach to coastal management, and relies on a unique partnership among federal, state, and local governments. This partnership is based on the recognition of the need to address problems where they are most able to be resolved—at the state and local levels—while also recognizing that there are important national interests in coastal areas. Within this framework, a CZM Program may use a wide variety of mechanisms, both regulatory and non-regulatory, to address coastal issues. Among these are stewardship, planning, permitting, education and outreach, technical assistance to local governments and permit applicants, policy development and implementation, and identification and advocacy of solutions to emerging issues.¹

The various sections of the CZMA and its subsequent amendments describe the process, activities, and intent of Congress on how to implement these policies. Participation in the Coastal Zone Management Program by any coastal or Great Lakes state is voluntary. Once a state has developed and implemented a CZM Program under CZMA/CZARA and it is approved by the National Oceanic and Atmospheric Administration (NOAA) Office of Ocean and Coastal Resource Management (OCRM), the state has a great deal of flexibility in specifically defining how it will achieve its objectives for coastal resource management. This is imperative for the program’s success since the needs, priorities, and capabilities of each state program vary widely

among states and/or regions. In virtually all cases, the state program must, by design, rely heavily on other state and local agencies and organizations to implement its plan. Sea Grant Programs provide one important and valuable link between a state's coastal program and the local governments and constituencies that the programs rely on for their success.

The sections of the CZMA that this report will examine with regard to Sea Grant projects, and examples of some activities that could fall under each, are given below. Detailed descriptions of what each Sea Grant Program is doing within the applicable CZMA sections can be found in the next section of this directory.

1.2.a. Section 306A: Coastal Resource Improvement Program

Coastal states with approved CZM Programs under Section 306 [16 U.S.C. § 1455] may apply for and receive coastal resource improvement grants. These grants are intended to help the state meet one or more of the following objectives:

- (1) The preservation or restoration of areas of particular concern (APCs) in the states' coastal zone;
- (2) The redevelopment of deteriorating and underutilized urban waterfronts and ports that are designated as APCs;
- (3) The improvement of access to public beaches and other public coastal areas and to coastal waters;
- (4) The development of a coordinated process among state agencies to regulate and issue permits for aquaculture facilities in the coastal zone.

Grants made under this section may be used for:

- The acquisition of fee simple and other interests in land;
- Low-cost construction projects such as paths, walkways, fences, parks, and the rehabilitation of historic buildings;
- The rehabilitation or acquisition of piers to provide increased public use, including compatible commercial activity;
- The establishment of shoreline stabilization measures including the installation or rehabilitation of bulkheads for the purpose of public safety or increasing public access and use;
- the removal or replacement of pilings where such action will provide increased recreational use of urban waterfront areas;
- The development of engineering designs, specifications, and other appropriate reports; and,
- The development and implementation of educational, interpretive, and management costs, and such other related costs.

The state may allocate to a local government, an area-wide agency, a regional agency, or an interstate agency a portion of any grant made under this section for the purpose of carrying out the activities described in this section. This includes the state's Sea Grant College Program. A number of Sea Grant Programs have assisted or partnered with their state CZM Program on

coastal resource improvement projects. Some examples of these include the development of management plans for APCs, including assistance with the public participation process for necessary hearings and comment periods on proposed actions; and public education and outreach to increase understanding of the purpose or need of actions taken under this section.

1.2.b. Section 6217: Protecting Coastal Waters

Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA) pertains to the development and implementation of a Nonpoint Source Pollution (NPS) Control Program to restore and protect coastal waters. This 1990 amendment to CZARA requires states and territories with approved coastal zone management programs to develop and implement coastal NPS Programs. These programs are implemented through changes to the state Nonpoint Source Program approved by the United States Environmental Protection Agency (U.S. EPA) under Section 319 of the Clean Water Act and through changes to the state CZM Program. NPS Programs follow the guidance measures set forth by the EPA for the control of nonpoint sources of pollution from agricultural runoff, urban runoff, forestry runoff, marinas, and hydromodification. Measures were also developed for wetlands, riparian areas, and vegetated treatment systems.

Although there is a great deal of flexibility in the specific mechanisms that a state may choose to employ in its NPS Program, they must contain the following components:

- (1) The identification of, and a continuing process for identifying, land uses which, individually or cumulatively, may cause or contribute significantly to a degradation of coastal waters;
- (2) The identification of, and a continuing process for identifying, critical coastal areas adjacent to coastal waters within which any new land uses or substantial expansion of existing land uses shall be subject to NPS management measures;
- (3) The implementation and continuing revision from time to time of additional management measures applicable to the land uses and areas identified above that are necessary to achieve and maintain applicable water quality standards under the Clean Water Act;
- (4) The provision of technical and other assistance to local governments and the public for implementing NPS control measures. This may include assistance in developing ordinances and regulations, technical guidance, and modeling to predict and assess the effectiveness of such measures, training, financial incentives, demonstration projects, and other innovations to protect coastal water quality and designated uses;
- (5) Opportunities for public participation in all aspects of the program, including the use of public notices and opportunities for comment, nomination procedures, public hearings, technical and financial assistance, public education, and other means; and,
- (6) The establishment of mechanisms to improve coordination among state agencies and between state and local officials responsible for land use programs and permitting, water quality permitting and enforcement, habitat protection, and public health and safety, through the use of joint project review, memoranda of agreement, or other mechanisms.

Sea Grant can and has provided technical assistance to its states' NPS Programs to implement the above program components. Most Sea Grant Programs have been very actively involved in their state's NPS Programs. Among other activities, they have assisted with the development of NPS monitoring, education, and evaluation programs. Sea Grant researchers have developed methods for assessing water quality impacts associated with coastal land uses; for assessing the cumulative water quality effects of coastal development; and to predict and assess the effects of coastal land use management measures on coastal water quality and designated uses. Sea Grant has also been extensively involved in the development and evaluation of Best Management Practices (BMPs) for NPS control, as well as in the outreach and education to the community and resource users of how and why to use these. Sea Grant research has provided quantitative and qualitative determinations of nonpoint sources of pollution, and of pollution reduction due to the implementation of BMPs.

1.2.c. Section 309: Coastal Zone Enhancement Grants

Coastal Zone Enhancement Grants were added to the CZMA in 1990 to meet the mounting public concern for the nation's coastal resources given the increasing pressure on these resources due to rapid coastal development. This section provides grants for projects in nine areas of national significance:

- Wetlands protection
- Coastal hazards
- Public access to the coast
- Marine debris
- Cumulative and secondary impacts of development
- Special-area management
- Ocean governance
- Government and energy facility siting
- Aquaculture and mariculture facility siting

The ninth category, "Aquaculture and mariculture facility siting," was added to this section in 1996 in recognition of the increasing importance of this area to many coastal state economies and the impacts it can have on coastal resources.

As part of the Section 309 grant process, coastal programs must periodically develop assessments of each of these areas. The assessments provide a comprehensive review of activities previously performed by the CZM Program (with particular emphasis on Section 309 funded efforts), identify specific impediments or needs, and present a general characterization of the adequacy of the state's management framework for that area. The assessments conclude with a ranking of each area as high, medium, or low, based on its importance in the state; an assessment of the need to improve the state's ability to manage the area; and the suitability of using the Section 309 program as the means to address it. The state coastal program will address those issues ranked as high priority for Section 309 purposes. In this report, Sea Grant activities that address Section 309 issues, including those that the state CZM Program did not give a high priority to, are also included as "indirectly-related" projects.

Sea Grant has been involved in each of these areas to varying extents and in a number of ways—from education and information dissemination to research. Sea Grant may either directly support Section 309 programs by working in partnership with the state, or provide indirect support of low-priority 309 issues that the state does not address (in some cases this may be because Sea Grant is adequately addressing the issue through its activities.)

1.2.d. Section 310: Technical Assistance

The CZMA provides for a program of technical assistance and management-oriented research to support the development and implementation of state coastal management programs. Section 310 allows for the coordination of technical assistance, studies, and research activities with any other such activities that are conducted by or subject to the authority of the Secretary of Commerce. Sea Grant, as a NOAA office, is one of the agencies that can provide such technical assistance to coastal resource managers. Although the relationships developed under this section are generally informal, i.e., not funded by the state coastal program or the federal government, the support given to the state coastal program by other NOAA line offices plays an important role in the effectiveness of coastal programs.

A few examples of studies and research activities that fall under the category of “Technical Assistance” in which Sea Grant has been involved in are: the development of geographic information systems (GIS) maps for state coastal programs; GIS training; and, participation on technical advisory boards and committees.

1.2.e. Section 311: Public hearings

Many activities, projects, and proposed rules and regulations under the CZMA require public hearing. Sea Grant agents and specialists may offer technical information or other input at these hearings, assist with announcing the hearings, encourage attendance and participation by their constituents, or in other ways be involved in the public hearing process.

1.2.f. Section 312: Review of performance

State Coastal Zone Management programs are subject to performance reviews that include a written evaluation with an assessment and detailed findings concerning the extent to which each state has implemented and enforced its program. These program evaluations are conducted in an open and public manner, and provide full opportunity for public participation. Sea Grant staff may help with publicity and encouraging participation in this process; they may offer comments or otherwise actively participate in the review, and can assist with disseminating the review findings to their constituents

1.2.g. Section 315: National Estuarine Research Reserve System

The National Estuarine Research Reserve System (NERRS) was established by the CZMA to promote and coordinate estuarine research. The Act requires that NOAA, in conducting or supporting estuarine research, give priority consideration to research that uses the system and consult with other federal and state agencies to promote use of one or more reserves within the system by such agencies when conducting estuarine research.

Many Sea Grant programs have worked with the NERR site in their state(s) in education, outreach, and research activities. The extent of these collaborations ranges from the joint publication of information and brochures to conducting workshops and long-term research projects together.

1.2.h. Section 317: Rules and Regulations

Although Sea Grant is neither a rule-making, nor an enforcement organization, they can and often do assist their states' CZM programs to disseminate information on coastal resource management rules and regulations, convene workshops and seminars to discuss, educate on or obtain public party input into the rulemaking process. Sea Grant may also provide information and expertise to the state coastal management agency in the process of adopting regulations.

1. NOAA. 1999. *Sustaining America's Coastal Communities and Resources*. Prepared by the Coastal Programs Division and the Coastal States, Territories, and Commonwealths.

2.0 SEA GRANT PROJECTS IN COASTAL ZONE MANAGEMENT

The various projects and activities that Sea Grant Programs are involved in related to coastal zone management may be directly related to their states' CZM Program, or they may have an indirect relationship to the state program. Direct relationships include: CZM Program funding of a project; partnered programs or projects with the costs shared by CZM and Sea Grant; or, projects and activities that Sea Grant undertakes at the request of the state CZM Program, but with no funding provided by that program. The CZM Program may make a request to Sea Grant for information or assistance with no formal agreement or arrangement for the collaboration. These latter, informal but direct relationships are very common, although not always obvious or easy to document.

Sea Grant is also involved in CZM-related projects indirectly. Indirect CZM projects that Sea Grant is involved in are those that are not funded by, partnered with nor requested by the CZM Program, but that do benefit that program or are applicable to the program or the CZMA in some way. Indirect projects may include activities such as workshops for a user-group that are intended to make that group better coastal stewards. Such a workshop may indirectly benefit the state CZM Program by increasing understanding of and compliance with CZM regulations. Because of Sea Grant's mission, virtually every Sea Grant activity and project may indirectly impact its state's CZM Program.

The following table of Sea Grant Projects in Coastal Zone Management specifies those activities that are done directly for or with (by request, funding or other formal and informal arrangement) the state CZM Program with a **D**. Activities and projects that indirectly benefit or support the CZM Program are indicated with an **I**.

Table 1: Sea Grant Projects in Coastal Zone Management

| Topic/Area: Sea Grant Program: | §306A Coastal Resource Improvement Program | §6217 Protecting Coastal Waters (Nonpoint Source Pollution Program) | §309 CZ Enhancement Grants | §310 Technical Assistance | §311 Public Hearings | §312 Program Performance Review | §315 NERRS (participation, assistance and/or support) | §317 Promulgation of rules & regulations | Other support or assistance |
|---------------------------------------|--|---|----------------------------|---------------------------|----------------------|---------------------------------|--|--|-----------------------------|
| ALASKA | I | I | I | I | | | | I | I |
| CALIFORNIA | I | D, I | D, I | D, I | | | | | D, I |
| So. CALIFORNIA | D | D, I | D, I | | | | | I | D, I |
| CONNECTICUT | | D, I | D, I | I | | | | | D, I |
| DELAWARE | D, I | D, I | D, I | D | | D | D, I | I | D, I |
| FLORIDA | | I | D, I | | | | D, I | | I |
| GEORGIA | | I | | | | | | | |
| HAWAII | D, I | D, I | I | | | | | | I |
| INDIANA-ILLINOIS | | I | I | I | | | | | D, I |
| LOUISIANA | D, I | D, I | D, I | I | | | | | D, I |
| MAINE | D, I | | D, I | | | | D, I | | |
| MARYLAND | | D, I | I | | | | | | |
| MASSACHUSETTES | D, I | | D, I | D, I | | | | | D, I |
| MICHIGAN | | I | I | | | | | | I |
| MINNESOTA | D | D, I | D, I | I | | | | | D, I |
| MISSISSIPPI-ALABAMA | | D, I | I | D, I | | | D, I | I | I |
| NEW HAMPSHIRE | | I | | | | | D, I | | D |
| NEW JERSEY | | I | | I | | | | | I |
| NEW YORK | | D, I | I | | | | D, I | | |

“D” indicates projects that are directly related to the state’s Coastal Zone Management Program. This can be through funding by, in partnership with, or at the request of the CZM Program.

“I” indicates projects that relate to a CZMA topic, but are done independently of the state CZM Program.

| Topic/Area: | §306A Coastal Resource Improvement Program | §6217 Protecting Coastal Waters (Nonpoint source Pollution Program) | §309 CZ Enhancement Grants | §310 Technical Assistance | §311 Public Hearings | §312 Program Performance Review | §315 NERRS (participation, assistance and/or support) | §317 Promulgation of rules & regulations | Other support or assistance |
|------------------------------|--|---|----------------------------|---------------------------|----------------------|---------------------------------|--|--|-----------------------------|
| Sea Grant Program: | | | | | | | | | |
| NORTH CAROLINA | | I | D, I | D, I | D, I | | D, I | D, I | D, I |
| OHIO | D, I | I | I | | | | D | | D, I |
| OREGON | | I | D, I | I | | | D | I | D, I |
| PENNSYLVANIA | D | | D | D, I | | | | I | D, I |
| PUERTO RICO – VIRGIN ISLANDS | D | D, I | D, I | D, I | D, I | I | D, I | D, I | D, I |
| RHODE ISLAND | D, I | D, I | D, I | D, I | D, I | | D | | D, I |
| SOUTH CAROLINA | I | D, I | D, I | D, I | | | D, I | | I |
| TEXAS | I | D, I | D, I | I | I | I | | I | D, I |
| VERMONT—NY LAKE CHAMPLAIN | | I | | I | | | | | I |
| VIRGINIA | | | | | | | D | | I |
| WASHINGTON | I | D, I | | | | | | | D, I |
| WISCONSIN | | I | D, I | D, I | | | | | |

“D” indicates projects that are directly related to the state’s Coastal Zone Management Program. This can be through funding by, in partnership with, or at the request of the CZM Program.

“I” indicates projects that relate to a CZMA topic, but are done independently of the state CZM program.

2.1 Project Descriptions

The following are descriptions of Sea Grant projects and activities related to the CZMA by state.

Alaska

§ 309: Coastal Zone Enhancement Grants

- Video Program: topics selected based on needs (as indicated by constituents) and available funding. Topics include intertidal ecosystems, tsunamis (hazards), Sea Week/River Week (marine debris).
- Sea Grant leads the Future Farmers of America Marine Technology Program. Alaska Sea Grant also provides technical assistance to the aquaculture industry. They have participated and assisted with site selection, facility design and planning for the state's first shellfish hatchery and Mariculture Technical Center. Alaska Sea Grant published the "Manual of Oyster Biology in Cold Water" and "Aquaculture Site Selection" booklets. They also assisted with the Sixth Aquaculture Conference, designed to address important issues facing the industry. This was a cooperative effort between industry, University of Alaska School of Fisheries and Ocean and Science, and state and federal regulatory agencies. These activities indirectly supports 309 aquaculture programs, as well as Sections 306 and 310.
- Produce and disseminate regulation updates using brochures, public service announcements (PSAs) and fliers on marine mammal-related issues, including disentanglement.

Other support or assistance

- The Charter Log – an industry newsletter to keep the Alaskan charter boat industry informed of legislation, management, resource, and economic issues that affect them (also relates to Sections 317 and 6217).
- Alaska Resource Issues Forum – a one-hour television show featuring moderated discussion/debate by the principal spokesperson for various sides of important, timely resource issues. This program serves as an important source of information on marine and coastal issues for voters.
- Alaska Sea Grant is also involved in a multi-agency project to develop a broader, more in-depth understanding among the Alaska public, industry and policy-makers of the significant problems and potential solutions in optimizing the use and conservation of Alaska's marine resources. This effort is aimed at finding ways to sustain the health and vitality of Alaska's marine ecosystems. The project's ultimate goal is to develop a 5-year Marine Conservation Plan for Alaska (also related to Sections 309 and 310).

California

§ 306A: Coastal Resource Improvement Program

- Coordinate the Monterey Bay National Marine Sanctuary (MBNMS) Management Plans. California Sea Grant coordinated the multi-agency efforts to develop the Water Quality Protection Plan for the MBNMS. This relates to a number of CZMA Sections, including 306A, 309, 6217, and 310.
- Coastal Waterfront Economic Revitalization. California Sea Grant facilitated the Pacific Coast Congress of Harbor Masters and Port Managers Waterfront Workshop (jointly with the Washington and Oregon Sea Grant Programs).

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution (NPS) Program)

- Coastal Ecosystem Health: Reducing Boating Impacts on Water and Sediment Quality. Education and outreach program for boaters, marinas and the marine industry on pollution prevention, NPS,

marine debris, and other related topics. The program provides education for recreational boaters on ways they can prevent water pollution and help protect marine species and habitats. Also assisted the California Coastal Commission with development of the California Clean Boating Network (CCBN) which includes 51 representatives of federal, state and local agencies, Sea Grant, and environmental organizations that conduct education on pollution prevention from marinas and recreational boating (also relates to Section 309).

- Sonoma and Marin County Water Quality Projects. These are NPS pollution control education programs for agricultural users in coastal watersheds. The project includes education, workshops, information on best management practices (BMPs), and fact sheets.

§ 309: Coastal Zone Enhancement Grants

- Coastal Hazards (with Oregon and Washington Sea Grant Programs) organized the regional conference on “Coastal Earthquakes and Tsunamis and Reducing the Risks.” State and federal agency representatives met to develop an action plan for long-range coastal land-use planning in the region. Also a member of the Multi-agency Tsunami Mitigation Task Force organized by the state Office of Emergency Services.

§ 310: Technical Assistance

- “GIS in Coastal Resource Planning.” Sea Grant provided technical advice and information on the use of geographic information systems (GIS) to help identify and solve central California coastal resource management problems.
- Sea Grant created a computer database for 104 California Marine Protected Areas (MPAs). The database includes information on the MPA classification type, location, history, responsible agencies, official regulations and official boundaries (also relates to Sections 309, 315, and 317).

Other support or assistance

- The NOAA National Sea Grant Office and National Ocean Service provide funding to the California Coastal Commission for “Sea Camp – Monterey,” a nationally-based marine science and education camp. This indirectly supports the goals and objectives of the California Coastal Program by increasing the awareness and understanding of the public on coastal issues.
- California Sea Grant State Fellowship Program. This fellowship is for graduate students interested in both marine resources and the policy decisions that affect those resources. The program matches student fellows with a host in the California State legislature or a state agency for a nine-month paid fellowship.

Southern California

§ 306A: Coastal Resource Improvement Program

- Southern California Sea Grant is working with various coastal management agencies, including the California Coastal Commission, to conduct workshops to assess current management practices in order to develop more effective management programs for marine refuges and protected areas.

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Storm drain education and assistance with storm drain policy development, and information dissemination. Sea Grant is a member of the Technical Advisory Committee for the Santa Monica Bay Restoration project (this also relates to Sections 309 and 317).
- Completed a three-year project to assess impacts of stormwater runoff in Santa Monica Bay. Results were published and are available in the University of Southern California (USC) Sea Grant

Publication "Study of the Impact of Stormwater Discharge on Santa Monica Bay," USC Sea Grant, 1999.

- Conducted a review in February 2000 of beach closures in Orange County, California (specifically, Huntington Beach closures of summer 1999). Purpose of the review was to assess the appropriateness and effectiveness of measures taken by authorities to identify sources of bacterial contamination. Publication of review document forthcoming.

§ 309: Coastal Zone Enhancement Grants

- Southern California Sea Grant participated in and published the proceedings of the "California's Coastal Natural Hazards" conference, which addressed shoreline erosion and beach replenishment. They also developed and maintain the El Niño information page on the World Wide Web. The site contains accurate information on El Niño, local contacts for hazard preparation, planning, and strategies for mitigating damage from severe storms, coastal erosion and storm surges.
- Publish and disseminate Beach Guides (GIS, web-based guides) that indicate points of public access.
- Assisted in the development of the "California Ocean Resources Management Plan" with other state agencies, environmental organizations, and other partners.

Other support or assistance

- Planned and participated in "The World Oceans, 97" conference.
- Participated in Coastal Zone 99 in San Diego California.

Connecticut

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Connecticut Sea Grant developed the Nonpoint Source Education for Municipal Officials (NEMO) Program. In partnership with the Connecticut Department of Environmental Protection (DEP) Office of Long Island Sound Programs (OLISP), the University of Connecticut (UConn) Extension developed and implemented this GIS-based community training module focused on water quality protection and the relationship of water quality to land use. The project addresses critical coastal areas, including hazard areas, critical habitat areas and economic development areas (also addresses sections 309 and 310).
- Sea Grant develops and delivers Fact Sheets on Protecting Water Quality for individual homeowners that discuss their impact on water quality (example: "Clean Waters: Starting in your Home and Yard"). This project is a subset of the NEMO project and includes UConn Cooperative Extension Service (CES), and the Department of Natural Resource Management and Engineering (DNRME). The NEMO project also addresses Section 309 (cumulative impacts of development).
- Coastal Ecosystem Health – Sea Grant assisted the New Haven Water Pollution Control Authority with development of an environmental education program on polluted runoff and storm drains (also relates to Section 310).

§ 309: Coastal Zone Enhancement Grants

- "Sustainable U.S. Aquaculture" is a Connecticut Sea Grant project designed to facilitate the transfer of information on aquaculture, including siting of facilities, to the public.
- Connecticut Sea Grant is assisting the CT DEP Office of Long Island Sound Programs with providing information to coastal property owners on the identification of appropriate management measures for significant coastal habitat areas as defined by state statute (this also relates to Sections 310 and 6217).
- Coastweeks coordination of marine debris education and awareness programs and activities.

Other support or assistance

- “Environmentally and Scientifically Informed Citizens” is an education program for citizen volunteers who serve on local planning, zoning, wetlands, shellfish and harbor management committees, and in other key roles. Connecticut Sea Grant provides scientifically-based information on issues of land-use planning and coastal management that affect water quality, habitat protection and sustainable development to local officials, commission members and the community. Sea Grant staff serve as technical advisors in the development of environmental education programs for new coastal recreation areas and provide training and support for urban community leaders on marine environmental education and career exploration for youth. These activities indirectly support Sections 309, 310, 311, and 6217 of the CZMA.

Delaware

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Delaware Natural Resources and Environmental Conservation (DNREC), Division of Fish & Wildlife partnered with Sea Grant to develop the State’s Clean Vessel Act Plan, and the Delaware Boating Study: An Analysis of Delaware-Registered Boaters, which provided information on boaters to DNREC. Sea Grant also participated in the DNREC “Human Dimensions Retreat” to provide insight in how research data from the study can be used for decision making.
- Sea Grant partnered with the DNREC Pollution Prevention Program to co-sponsor a satellite teleconference entitled “Reducing Waste and Preventing Pollution in Marinas and Boatyards.”
- Sea Grant Partnered with DNREC, Pollution Prevention Program and the Delaware National Estuarine Research Reserve (NERR) to co-sponsor the “Green Hotels” Seminar in March 1999. Topics discussed in the seminar included waste reduction and water conservation (also relates to Section 315).

§ 309: Coastal Zone Enhancement Grants

- Community Tourism Outreach. Delaware Sea Grant plans and conducts workshops targeted at the tourism industry to help create a more viable and effective coastal tourism industry. They prepare and distribute fact sheets on tourism with research findings of interest to business leaders and decision makers. Sea Grant also conducted a Beach Recreation Study (with the Delaware DNREC, Division of Soil Conservation). These activities can help to address questions on the cumulative impacts of development.
- DE Sea Grant produced a guide and map, entitled “Boating in Delaware’s Inland Bays: Tips for Protecting the Environment” with information for boaters to safeguard the environment (also addresses Section 6217).
- Aquaculture Development in Delaware (Education, Training and Technology Demonstration). The Marine Advisory Service provides technical information and assistance on topics related to aquaculture, fisheries and water quality to a variety of groups, including DNREC and other regulatory agencies.
- Coastal Hazard Reduction and Beach Nourishment. Delaware Sea Grant sits on the DNREC Beach Replenishment Task Force. They transfer research findings on beach management to managers, planners and regulators, and the public (also applies to Section 310).
- Delaware Sea Grant recently hired a Marine Advisory Specialist in Coastal Processes to work with the state on coastal hazards’ issues (especially related to transferring technical information on coastal engineering to and coastal geology to interested state agencies; also relates to Section 310).

§ 310: Technical Assistance

- Delaware Sea Grant conducted a project, entitled “Improving the Management of Coastal Ecosystems through Management, Analysis, and Remote Sensing/GIS Applications: Experience from the Delaware Region” as part of a National Sea Grant Office (NSGO) ecosystem health initiative. The goal of the project was to develop/demonstrate emerging technologies that coastal managers could use to assess and improve the health of the Delaware Estuary, Delaware’s Inland Bays, and Delaware’s NERR. Delaware coastal management staff served on an advisory committee to the project.

§ 312: Program Performance Review

- Delaware Sea Grant was directly involved in the Delaware Coastal Program review in 1999.

§ 315: National Estuarine Research Reserve System

Delaware Sea Grant and the Delaware NERR work together on the following projects:

- Teacher In-service Programs
- Facility use
- Information exchange (re: opportunities in their programs)
- Serve on one another’s advisory boards
- Sea Grant and the Delaware NERR jointly coordinate Coast Day. Both Delaware Coastal Program staff and NERR staff maintain educational exhibits at Coast Day to inform the general public of their programs.
- The state Coastal Management Program manager serves on the Sea Grant Advisory Council.

Other support or assistance

- Participate in the Delaware Center for the Inland Bays. The Marine Advisory Service (MAS) Director serves as the vice-chair of the Delaware Inland Bays Scientific and Technical Advisory Committee (STAC). These organizations conduct citizens monitoring programs and water quality education programs. They also conduct and oversee demonstration projects and other support projects for the Delaware Inland Bays Comprehensive Conservation and Management Plan (CCMP). Sea Grant developed a “Comprehensive Water-Use Plan for Delaware’s Inland Bays.” This document was prepared with input from citizen stakeholders and resource managers and addresses concerns related to safe use of bays and protection of living resources and habitat.” These activities support, directly and indirectly, Sections 309, 310, 317 and 6217.
- Sea Grant staff recently participated in the State Dredge Plan Workshop and Delaware Coastal Zone Environmental Enhancement Project Identification Workshop.

Florida

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Participated with curriculum development and workshop delivery for the Florida Clean Marina program in partnership with the Florida Department of Environmental Protection.

§ 309: Coastal Zone Enhancement Grants

- Florida Bay Outreach – Florida Sea Grant assists the “Florida Bay Community” (group of nine state and federal agencies investing in research on Florida Bay issues) write newsletters, conduct public workshops, write profiles for public distribution on each research project, and plan and conduct the Florida Bay Research conference.
- Urban Bay Water Management. This project combines research and outreach in a program designed to guide the management of Florida’s coastal waterways. This project, in partnership with Florida’s

counties, West Coast Inland Navigation District, DER and NOAA Coastal Services Center signed a memorandum with DEP to “put a hold on” further regulations until it is determined if boaters can be “taught” the proper boating techniques in order to conserve coastal habitat (also relates to Sections 317 and 6217).

- Coastal Hazards – developed and implemented a “Gaming Simulation of Community Planning for Hurricane Mitigation and Disaster Recovery” for use in training local officials and testing impacts of higher level government policy changes on local planning for disaster recovery and hazard mitigation.
- Florida Sea Grant is one of the organizing partners for Sea Grant’s HazNet.

§ 315: National Estuarine Research Reserve System

- Coordinate on conducting and judging events for 4-H Marine Ecology, Marine Camps, and Marine Field Excursions.
- Conduct commercial fisheries/mariculture tours.
- Coordinate the Coastal Cleanup.
- Conduct a joint marine debris monitoring program.

Other support or assistance

- Conduct experimental use of ultra-low power (100mW) radios in marinas as a MarinaNet project.
- Partnered with Florida Department of Agriculture and Consumer Services on a program to train displaced fishing people for an alternative income opportunity. This involved 43 workshops around the state to train people on the business of shedding soft-shell crabs. It included sessions on operations, water quality, economics, marketing, and seafood safety requirements.

Georgia

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Marine Business Development and Management: this project provides marina operators and boaters with advisory education programs on waste management, recycling, water conservation, sewage disposal, fuel storage and site design.

Hawaii

§ 306A: Coastal Resource Improvement Program

- Hawaii Sea Grant assists with the development and implementation of state coastal management plans, as well as with the development of the Beach Management Plan for Maui.
- Assist the Department of Land and Natural Resources (DLNR) in developing community-based coastal resource management plans for the Kona coast, Kealahou, Kaupulehu, and Kahaluu. Also assisted DLNR in their efforts to create an additional Marine Life Conservation Area.

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Outreach in coastal resource management – addresses point and NPS impacts on coastal waters and marine resources.
- Assist in increasing compliance with NPS reduction programs through increased public and regulatory agency understanding of the issues. Sea Grant works with state agencies to explain the 6217 program to constituents, stakeholders and other agencies.
- In partnership with the Hawaii CZM Program, Sea Grant conducts workshops on managing vessel waste for boaters, marina users, and marine supply businesses.

- Coordinate and participate in the annual Coastal Clean-up.

§ 309: Coastal Zone Enhancement Grants

- Aquaculture program. Hawaii Sea Grant Extension provides a wide range of technical services to aquafarmers. They develop manuals, conduct training and demonstrate techniques for aquaculture practices, water conservation, water re-use, integrated aquaculture and commercial aquaculture farms.
- Conduct training, workshops and information dissemination on hazard mitigation. Hawaii Sea Grant also assisted the state of Hawaii with developing an erosion management plan for the islands.
- Conduct workshops for boaters to augment the Hawaii Boaters Hurricane Safety Manual.
- Sea Grant is conducting a study to determine the human carrying capacity for a high-use marine park from the perspective of ecological balance and conservation of resources.
- Work with government agencies and community groups to design and implement dune restoration projects and foster enhanced stewardship of coastal dune ecosystems.
- Work with local and regional agencies to develop on-island expertise in shoreline processes and environmental monitoring. Sea Grant helps communities to identify areas that are threatened by coastal erosion, sea-level rise and other coastal hazards and to develop appropriate mitigation strategies. They also sponsor and conduct workshops for agencies with responsibilities in these areas.
- Devise and promote policy recommendations for the reduction and mitigation of coastal hazards and disasters – work with the Maui County Council and Maui Planning Commission to adopt the recommendations in their Beach Management Plan for Maui.

Other support or assistance

- Conduct training in coastal management compliance strategies for Pacific Island Coastal Resource Management agency personnel
- Collaborate with local agencies to conduct workshops for county officials, policy makers and community leaders on island policy issues and coastal processes.
- Produce and disseminate information on marine and coastal resource issues (fact sheets, press releases, etc.).
- Coordinates the University of Hawaii Hawaiian Internship Program (UH-HIP) and Micronesia and American Samoa Student Internship Programs, which place students in environmental internships in US-affiliated Pacific (the latter) or Hawaii-based agencies, organizations and businesses.

Indiana-Illinois

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Indiana Sea Grant, in partnership with the Indiana Department of Environmental Management, is developing a Nonpoint Source Education for Municipal Officials (NEMO) Program. This project is designed to help land-use planners and resource managers understand the relationship between land-use practices and decisions and coastal water quality using GIS to illustrate and explain the concepts.
- Increase general public and municipal officials awareness and understanding of local water quality and contaminant issues to prepare them to participate in the process of making informed decisions and policies which protect and improve the area's water quality. Create and distribute water quality fact sheets (hard copies and web-based documents) for policy makers, regulators, journalists, educators, and concerned citizens.

§ 309: Coastal Zone Enhancement Grants

- Aquaculture Extension assists with the coordination and organization of regional aquaculture efforts (associations) and provides them with technical assistance. Agents also disseminate aquaculture research information to their constituents.

§ 310: Technical Assistance

- The Sea Grant office provides unbiased, science-based water quality information to residents, municipalities and decision-makers in a format that is constructive and aids in decision making and conflict resolution. Sea Grant also aims water quality outreach efforts toward the education of local and regional media personnel to assist with their ability to convey complete and factual messages on environmental issues to the areas eight million residents.

Other support or assistance

- The Sea Grant Program facilitates partnerships and helps to develop working relationships among planners, agencies, and researchers through workshops, information dissemination, meeting coordination, and working group formation to address coastal zone and environmental issues.
- Sea Grant is a member of the E. coli Task Force, an interagency task force concerned with beach closures due to E. coli outbreaks. They facilitate workshops, support research efforts, and assist the partnering organizations in working for local solutions to this water quality problem.
- Extension agents sit on local planning commissions in Indiana.

Louisiana

§ 306A: Coastal Resource Improvement Program

- Louisiana Sea Grant, in partnership with Department of Natural Resources (DNR), is publicizing Louisiana's "Coast 2050 Initiative," which is designed to engage the public in development of a strategic plan for state coastal restoration efforts.
- Louisiana Sea Grant received grant funding from the DNR Coastal Management Division to study the impacts of Coast 2050 scenarios on public infrastructure.

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Sea Grant provides education, information dissemination and technical assistance to landowners, farmers and homeowners on NPS pollution and BMPs for its control.
- Extension agents conduct marina and boater education on NPS and BMPs.

§ 309: Coastal Zone Enhancement Grants

- Sea Grant provides communications and publications for statewide beach cleanups.
- Develop and present animated coastal wetlands video explaining wetland formation, erosion, and short and long term actions to slow present high rate of erosion. They also conduct Coastal Wetlands Conservation workshops and coordinate the Wetland and Coastal Resources Field Day with the Natural Resources Conservation Service. This activity targets coastal landowners and focuses on cutting edge restoration technology and wetland policy development updates.
- Participate in the Sea Grant HazNet project.
- Sea Grant Legal has conducted research on coastal access issues.

§ 310: Technical Assistance

- Marine Advisory Services Special Projects – Legal Advisory Services. This group provides accurate, reliable, unbiased information on legal issues that affect users of Louisiana ocean and coastal areas.

They also provide interpretation of complex legislation and other matters related to the use of coastal and marine resources.

- Created the Coastal Mapping and GIS Directory, which features GIS technologies and products (resource inventories/ mapping of La coastal marshes, land use and land loss rates, etc.).

Other support or assistance

- Coordinate with the state DNR to jointly support research into legal issues affecting the state's CZM Program. Past areas of research include "Enforceable Dredging Deposition Policies," "Conservation of Wetlands Strategies," and, a report providing an analysis of existing Coastal Management Division authority in fastlands (lands above 5'), which are currently exempt from permitting requirements unless those activities have a direct or significant impact on coastal waters. These efforts also include recommendations for actions, rules and regulations that could be used to address negative impacts (this also applies to Sections 310 and 317).

Maine

§ 306A: Coastal Resource Improvement Program

- Sea Grant Extension team members in collaboration with the University of Maine Cooperative Extension Service provide technical and organizational support for coastal water quality monitors.
- Numerous partnerships for education and outreach exist between Sea Grant and the state CZM Program, including the 1998 Sea and Shore Conference, a marine issues radio series, and a series of coastal issue fact cards.
- Sea Grant Extension team members support the Penobscot Bay Stewards program, an adult education and community service project.

§ 309: Coastal Zone Enhancement Grants

- A Sea Grant Extension employee housed at the Wells Bay NERR works to support Maine CZM enhancement projects in the areas of priority watershed planning and regional beach management planning.
- Collaborate on a workshop series to establish a research agenda for priority coastal watersheds and to create program improvements in Maine's Coastal Volunteer Monitoring program.
- Sea Grant supported a volunteer beach profiling project in collecting needed data for beach management efforts.

§ 315: National Estuarine Research Reserve System

- Sea Grant is helping the NERR with the establishment and broadcast of a low-power radio station for information dissemination.
- Assist with the development of a research exhibit at the NERR showing data gathered from instruments deployed in the Bay.
- A Sea Grant staff member is housed at Wells Bay NERR site.
- Conduct shared or similar programs that are targeted at different audiences for wider reach

Maryland

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Organized a meeting on toxic contaminants in Chesapeake Bay in which Maryland DNR participated. The workshop was intended to develop a consensus understanding on the impact of toxics in the Bay.

Sea Grant published the report, "Chemical Contamination in the Chesapeake Bay: A Synthesis of Research to Date and Future Research Directions".

- Sea Grant conducts NPS education and outreach programs in partnership with state and federal agencies.

§ 309: Coastal Zone Enhancement Grants

- Develop and distribute information bulletins, fact sheets, articles and videos, and a web site on how land-use issues affect the Chesapeake Bay ecosystem (also relates to Section 6217).
- Maryland Sea Grant provides aquaculture information and outreach programs on the use of wetland areas to treat pond effluent. They also assist with monitoring open water cages for rearing striped bass in order to assess the nutrient input from fish concentrated in a confined habitat.

Other support or assistance

- Assist the Maryland Environmental Finance Center (University program) with conducting charrettes, which are concentrated gatherings of experts to solve a specific environmental problem with local governments and to address funding for environmental problems.

Massachusetts

Massachusetts Institute of Technology (MIT)

§ 306A: Coastal Resource Improvement Program

- MIT Sea Grant has an active research and outreach program in urban aquaculture that develops techniques for marine finfish culture in an urban setting. The Program's Boston Harbor Marine Finfish Hatchery is developing culture methods for haddock and tautog, as well as other species with commercial potential. Through this work, MIT has demonstrated the appropriateness of recirculating technologies with respect to underutilized industrial space along urban waterfronts. MIT has also demonstrated the ability of these technologies in meeting the requirements of the Clean Water Act.
- In collaboration with the Massachusetts Aquaculture Coordinator, guidelines and procedures for obtaining aquaculture permits have been developed. MIT Sea Grant is currently developing a web-based process for obtaining specific information and for streamlining the application process.

§ 309: Coastal Zone Enhancement Grants

- MIT Sea Grant leads the permitting process for the first fully-permitted aquaculture site in U.S. federal waters. Known both as the Sea Scallop Enhancement Site and SeaStead, the nine-square-mile area is located south of Martha's Vineyard. Key progress was made in establishing procedures within the New England Fisheries Management Council for facilitating aquaculture within fishery management plans.
- MIT Sea Grant is also collaborating with the state CZM Program in a recent initiative to apply GIS tools to the process of identifying promising aquaculture sites off the coast of Massachusetts.

§ 310: Technical Assistance

- The MIT Sea Grant College Program sponsors research in support of state CZM programs. Current examples can be found at: <http://web.mit.edu/seagrants/research/>
- Sea Grant's Center for Coastal Resources develops and offers training courses for professional coastal management staff, primarily for the state CZM Program staff. These courses are focused on water and sediment quality issues.

Other support or assistance

- MIT Sea Grant produces the "Citizen's Guide: Sources for Marine and Coastal Information in Massachusetts," an established resource for citizens seeking to contact government and other organizations involved in coastal and ocean-related issues. They also team with the Woods Hole Oceanographic Institution Sea Grant Program to produce a newsletter, "Two if by Sea," which is effective in informing stakeholders about coastal issues.
- MIT Sea Grant outreach activities include a range of topics supportive of CZM Program goals including collecting socio-economic data on fishermen and fisheries-dependent communities. Information generated by this extensive project will be the baseline from which the social impacts of regulatory change will be measured. As a result, this project will help communities and coastal managers anticipate potential impacts and plan accordingly. MIT Sea Grant has also collected oral histories from fishermen, gathering traditional knowledge about habitat and fisheries ecology.
- MIT Sea Grant manages an active listserv called Fishfolk, which is devoted to fisheries issues of relevance to social scientists, fishermen, biologists, managers, government officials, conservation group members, attorneys, and other academics. Discussions on the network provide unparalleled opportunity for crossing traditional barriers among the different groups that consider themselves "stakeholders" in the fisheries.
- MIT Sea Grant recently convened an international conference on marine bioinvasions and currently maintains an extensive exotic species web site, which includes abstracts from the conference.
- MIT Sea Grant also hosts and maintains the Massachusetts Bay Information Server. This Web site was designed to facilitate the flow of information from scientists, government agencies, and environmental organizations to the public interested in learning more about the coast and the Massachusetts Bay ecosystem. The site serves primarily as a clearinghouse for data and information, directing users to appropriate agencies and other contacts.

Woods Hole Oceanographic Institute (WHOI)

§ 309: Coastal Zone Enhancement Grants

- WHOI Extension assisted the Southeastern Massachusetts Aquaculture Center and the Commonwealth in developing a strategic plan for the development of aquaculture in the state.
- Partnered with the Conservation Commission in the town of Truro (Cape Cod), where they attempted to develop techniques to evaluate net gains and losses of local coastal landform dynamics, and to survey the impacts of development decisions to the town's coast. They will also assess the effectiveness of the town to sustain the dynamics of its changing coastal landforms with current regulations and permit processes. Extension agents are working with the town to continue developing local awareness of the cumulative and long-term effects of individual construction projects on the coastal features within the town.
- Work with and advise large and small groups of concerned citizens about erosion prevention and reduction, and tidal inlet management.
- Hosted a workshop on "Coastal Landform Management in Massachusetts" that looked at shoreline change, managing inner shores, managing altered shores and monitoring changes in sustainability.
- Develop and disseminate publications and informative presentations on climate change and global warming.

Other support or assistance

- Produced the "Directory of Cape and Island Coastal Outreach Organizations," a publication designed to provide the public with information to aid in the preservation and wise utilization of coastal and marine resources, and to improve communications among groups. This publication compliments the publication "Sources for Marine and Coastal Information in Massachusetts."

- Participate in local, state and regional coastal and marine resource management organization meetings, boards, and other activities.

Michigan

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Participate in the Cooperative Lakes Monitoring Program with the Department of Environmental Quality (DEQ). Sea Grant provides training for volunteers, workshops, technical support, quality control, and lab assistance.

§ 309: Coastal Zone Enhancement Grants

- Sea Grant provides information on coastal hazards to homeowners and businesses in the coastal area.

Other support or assistance

- Provide information on aquatic nuisance species.
- Use low-power radio broadcasts to provide information on a number of lake issues to boaters.

Minnesota

§ 306A: Coastal Resource Improvement Program

- Sea Grant assisted with the development and implementation of the state's CZM Program. They have played a major role in ensuring a high degree of citizen participation throughout the process of designing the program (also relates to Sections 311 and 317).

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Shoreland Best Management Practices Videos and Fact Sheet Series addresses issues of erosion, NPS pollution and related water quality issues. Sea Grant also coordinates the Shoreland Volunteer Program, which is a training program for shoreland property owners in the use of BMPs for erosion and NPS control.
- Minnesota Sea Grant created and operated Water Line, a toll-free information service for citizens that provides non-regulatory assistance with the protection of shore and water resources until early 2000. Much of this activity is now provided through Info-U, a toll free service of the Minnesota Extension Service.
- Minnesota Sea Grant conducts the state's Nonpoint Source Education for Municipal Officials (NEMO) program, providing NPS education, awareness, information, and materials to municipal officials. NEMO groups are being formed in Duluth, the North Shore, and in the Minneapolis-St. Paul metro area.

§ 309: Coastal Zone Enhancement Grants

- Provide education and outreach on recreation, tourism and sustainability issues. Sea Grant provides information on specific development projects, such as harbor development, coastal land-use developments, public access, and other natural resource based issues.
- The Minnesota Sea Grant Program works closely with the state CZM Program on Exotic Species issues in the Great Lakes.

§ 310: Technical Assistance

- Minnesota Lakes Survey. This survey provides information about how Minnesotans value lakes, how they use lakes and about their concerns over lake quality. Various solution options are also rated.

Other support or assistance

- Sea Grant sponsors public education workshops, develops fact sheets and videos, as well as serving as impartial facilitators for citizen work teams during the CZM Program's development.

Mississippi-Alabama

Alabama

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Sea Grant assists local, state and federal organizations and agencies in addressing NPS, habitat loss, watershed management, and other coastal issues (also applies to Sections 309 and 310).

§ 310: Technical Assistance

- Sea Grant is a participating member in regular meetings of the Technical Information Committee of the CZM Program. They cooperate with other members to produce wetland posters, environmental symposia and other educational materials for general public.

§ 315: National Estuarine Research Reserve System

A Sea Grant representative serves as the governor's appointee on the Advisory Board for the Weeks Bay Reserve. He or she assists in direction, planning and guidance of reserve. Sea Grant also serves on the Weeks Bay Watershed Committee, Weeks Bay Watershed Educational Committee, and collaborate and cooperate in various outreach programs such as:

- "Master Environmental Educator" programs
- Septic tanks and groundwater education
- Development of educational pamphlets on marine issues

Mississippi

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- In support of the Department of Marine Resources (DMR) toward development of the Section 6217 Nonpoint Source Pollution Program, Sea Grant investigated the issue of septic systems as a contributing source to NPS, and developed recommendations for BMPs that the department could implement in their regulations. Sea Grant developed a training manual for cross-training the DMR and the Mississippi Health Department staff on NPS (also relates to Sections 310 and 317).
- Produced a series of wetlands and water quality pamphlets for realtors, developers and landowners.

§ 309: Coastal Zone Enhancement Grants

- Conduct or assist in wetland surveys for various other government and non-government agencies, including the Naval Construction Battalion (Seabees), counties, the National Park Service, Department of Fish and Wildlife and others.

§ 315: National Estuarine Research Reserve System

- Assisted in and coordinated efforts for site selection of the state's NERR. Sea Grant organized an advisory committee that ultimately chose Grand Bay/Bangs Lake for the site.

Other support or assistance

- Coordinated the “Conference on the Environmental and Economic Impacts of Dockside Gaming in Mississippi.” This conference addressed the environmental, economic and developmental issues surrounding the dockside gaming industry.

New Hampshire

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Conduct landowner workshops on reducing NPS from their properties to the Great Bay Estuary (also relates to Section 315).

§ 315: National Estuarine Research Reserve System

- Support of the Cooperative Initiative for Coastal and Estuarine Environmental Technology (CICEET), which was created to support the development and application of technology to reduce contamination in estuarine systems. It uses the Great Bay NERR as living laboratory for application of these technologies.
- Sea Grant is helping the NERR with the establishment and broadcast of low-power radio station for information dissemination.
- Assists with the development of a research exhibit at the NERR showing data gathered from instruments deployed in the Bay.
- Great Bay Watch – volunteer water quality monitoring program. Eighty-five volunteers from schools and the community monitor water quality at 21 sites in the Great Bay Estuary. Sea Grant conducts workshops on quality assurance of data and how to assemble the data into useful formats. They also published a manual on collecting, managing, analyzing and presenting water quality data.
- The NERR site houses the Sea Grant Research Coordinator.
- Serve on one another’s advisory boards.
- The Great Bay NERR and Sea Grant co-sponsored the 1996 National Marine Educator’s Association (NMEA) Annual Meeting.
- Jointly conduct a Marine Docent Program.

Other support or assistance

- Establishment of the Coastal Network, in partnership with other NOAA funded agencies (NERR, CICEET, and CZP). This is a network of public and private agencies, all of whom have an interest in marine resources and coastal development. The Network hosted a conference on the future of Maine’s coastal resources. The conference brought together scientists, policy makers, educators and citizens concerned about future of the coast and coastal resources.

New Jersey

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Education and information dissemination on BMPs for boat bottom painting and oil spill prevention.
- Sea Grant coordinates the state’s Clean Vessel Act program, which helps boaters and marinas to control NPS pollution from vessel wastewater.
- Harbor Management Program for Cape May, NJ. This program was designed to educate harbor users about existing environmental regulations, NPS pollution, BMPS to control NPS, and other pollution reduction and prevention practices.

§ 310: Technical Assistance

- Barnegat Bay Ecosystem Workshop. Sea Grant Extension agents worked with the U.S. Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (DEP) in efforts to designate Barnegat Bay as an EPA National Estuarine Program site. Sea Grant assisted with development of the site's Comprehensive Conservation and Management Plan.

Other support or assistance

- Sea Grant conducts Marine Education programs. This is a series of adult seminars held at the Nature Center of Cape May.

New York

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Sea Grant assists marinas with the installation and implementation of BMPs to control NPS. They have produced a video, scripted a slide set, and an instruction manual for support of these efforts.
- New York Sea Grant has developed the Environmentally Sound Gardening program, which teaches homeowners about controlling NPS from their lawns and gardens.
- NY Sea Grant is bringing NEMO to Long Island. They are conducting workshops on NPS pollution for local planning and zoning board members, and elected officials.

§ 309: Coastal Zone Enhancement Grants

- Sea Grant developed the Eastern Lake Ontario Dunes interactive World Wide Web site on dunes and wetlands. Sea Grant also holds dune restoration and management workshops.

§ 315: National Estuarine Research Reserve System

- Jointly offer the Cooperative Graduate Research Fellowship.
- Conduct water quality workshops together.
- Work together on restoration outreach efforts.
- Jointly conduct submerged aquatic vegetation (SAV) outreach.
- Participate on each other's Advisory Councils.

North Carolina

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Conduct a storm drain stenciling program (also addresses Section 309).
- Participate in MarinaNet to help marinas comply with NPS guidelines.

§ 309: Coastal Zone Enhancement Grants

- Obtained a grant from the NC Division of Coastal Management to develop recommendations to protect the state's coastal resources from cumulative impacts. The resulting publication, "Protecting Coastal Resources from Cumulative Impacts: An Evaluation of the NC Coastal Area and Management Act," included recommendations to protect areas of environmental concern from the cumulative impacts of development. The information from this was also used for NPS Program regulatory changes (also apply to Sections 317 and 6217).

- Through a state CZM Section 309 grant, Sea Grant co-chaired a study team that developed the statewide management plan for the NC coastal ocean. This group's recommendations have gone to public hearing as part of the rule-making process (also applies to Sections 311 and 317).
- Sea Grant is a member of the CZM Division's statewide Advisory Committee and Science Panel on Coastal Hazards.
- Sea Grant has been very active in assisting the CZM Program with addressing issues surrounding coastal hazards. In response to a number of hurricanes in the past few years and with the NC Division of Coastal Management, they have produced Hurricane Fran educational videos, and a publication on "Questions and Answers to Purchasing Coastal Real Estate in NC," which was funded by the Real Estate Commission. They have also received funding from the CZM Program to develop educational packages for coastal county managers and schools. These packages include information on Sea Grant research on coastal hazards and erosion.

§ 310: Technical Assistance

- The Sea Grant Extension Program staff regularly attend meetings of marine-related commissions and assist commissioners with understanding and clarifying issues. Extension staff also serve on various advisory boards that address coastal issues.

§ 315: National Estuarine Research Reserve System

- Share and disseminate information and publications.
- Jointly offer and conduct education workshops.
- Coordinate site and facility use for activities.
- Jointly develop the Operation Pathfinder agenda.

Other support or assistance

- A CZM Program representative is on the NC Sea Grant advisory committee. This allows for input from the Program to help Sea Grant direct their efforts in ways that can assist and support the CZM Program's objectives.
- Provide in-depth training in coastal law and policy for state and local officials, natural resource organizations and graduate students.

Ohio

§ 306A: Coastal Resource Improvement Program

- Sea Grant participates in and assists with the state's Remedial Action Plan (RAP) Council and provides the RAP council members with information to assist them in their work for the Ohio Areas of Concern.

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Ohio State University Extension with Ohio Sea Grant input is implementing a NEMO project to address NPS and land-use issues.

§ 309: Coastal Zone Enhancement Grants

- Wetlands education programs
- Coastal Hazards (erosion) education
- Education of shoreline landowners, realtors, appraisers, loan officers, and other interested citizens about water level changes, erosion abatement options and implications of these for landowners. Conduct workshops, produce and distribute publications and other materials.

§ 315: National Estuarine Research Reserve System

- Ohio Sea Grant has partnered with the Old Woman Creek NERR to enhance student education and university research at OWC NERR.

Other support or assistance

- Provide educational programs about Ohio's CZM Program to shoreline landowners, realtors, appraisers, loan officers and other interested citizens.
- Publish the quarterly newsletter, "Development Notes," which focuses on economic development and environmental issues of concern to Cleveland area businesses, and the publication, "New Waves," on sustainable development topics for economic development professionals.
- Ohio Sea Grant maintains an informal contact and communication network with county commissioners, planning boards, mayors, trustees and other decision-makers to provide informal outreach on coastal economic development.
- Ohio Sea Grant is cooperating with the Ohio CZM Program and NOAA Coastal Services Center as part of the local planning team for the Coastal Zone Conference 2001, to be held in Cleveland, Ohio, July 15-20, 2001.
- Ohio Sea Grant is a founding participant and ongoing member of the Mentor Marsh Area Regional Coalition (MARC) that is in the process of developing a Special Area Management Plan (SAMP) for the Mentor Marsh region under the leadership of the Ohio CZM Program.
- Ohio Sea Grant is developing its capabilities to assist in conflict resolution between different user groups within the coastal zone.

Oregon

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Oregon Sea Grant conducts NPS education programs, including a new emphasis on nonindigenous species that threaten coastal waters. They have published the booklet, "Practical Solutions for Boaters: A User Guide for Protecting Oregon Waters," for recreational boaters.

§ 309: Coastal Zone Enhancement Grants

- Sea Grant assists in the establishment and training of local watershed councils that will implement habitat improvement and restoration projects. They also conduct educational presentations, disseminate information and conduct workshops on restoring wetlands in watersheds and in intertidal areas.
- Sea Grant worked to develop wetland restoration policy options for the state to better integrate wetland restoration into the state's overall wetland conservation strategy and related watershed restoration programs (also relates to Section 317).
- Oregon Sea Grant is very active in the area of coastal hazards. They organized the state's Coastal Natural Hazards Policy Working Group and have published a report entitled "Improving Natural Hazards Management for the Oregon Coast." The report makes recommendations for improving hazards research and information access, beach protection, land use, and emergency management. Some of the recommendations from this report, such as those on tsunami hazard mapping, education, and the posting of tsunami hazard signage, have been implemented by the state and local governments that are involved in implementing the recommended land use, shore protection, and emergency management improvements. For example, Tillamook County is developing a pilot "Littoral Cell Management Plan" for an erosion-prone area, using the policy working group's recommendations as a resource. The Oregon Coastal Management Program is funding Sea Grant to develop a GIS-based decision support system for this project.

- Sea Grant organized and hosted the Earthquake and Tsunami Disaster Preparedness Conference. They are also active in developing a coastal hazard mitigation “audit” framework to assist in developing hazard-avoidance and adjustment strategies and actions. They also conduct workshops for ports and communities on community audits for natural hazard mitigation as a means of reducing chronic flooding and erosion.
- Oregon Sea Grant is working with Washington Sea Grant, the NOAA Coastal Services Center (CSC), the U.S. Geologic Survey (USGS), and state coastal management agencies on a collaborative research, planning, and outreach program to Pacific Northwest port and harbor communities for increasing resilience to earthquake-tsunami hazards. Yaquina Bay, Oregon is the first of two demonstration projects. Funding is provided by Sea Grant and the NOAA CSC through the NSGO.

§ 315: National Estuarine Research Reserves

- Sea Grant collaborates directly with the South Slough NERR education staff to offer joint workshops to watershed council members and local decision makers on estuarine science, management and restoration.

Other support or assistance

- Extension agents educate local government officials, agency staff, and others regarding natural resource issues. They disseminate information and engage learners in educational experiences that increase participants’ understanding of coastal issues through educational forums and dissemination of information on university programs on government research and education. The objectives of these efforts is to improve awareness and understanding of issues and to the extent possible, increase the public’s confidence in being heard in public discourse and meetings.
- Led a national study on CZM Program effectiveness in protecting estuaries and coastal wetlands. This nation-wide project was funded by NOAA’s Office of Ocean and Coastal Resource Management (OCRM) through the National Sea Grant Office.

Pennsylvania

§ 306A: Coastal Resource Improvement Program

- Through close cooperation with CZM Program's regional representative in Erie, Sea Grant assists potential applicants in development of projects for the Coastal Zone's Local Grant Program.

§ 309: Coastal Zone Enhancement Grants

- The Pennsylvania Sea Grant Program is working with the PA CZM Program to deliver workshops and training to coastal contractors on proper construction techniques for safely and effectively building along the Great Lakes. This will be a certification program for the contractors.
- Sea Grant participated in the CZM Program workgroup which developed a Special Area Management Plan (SAMP) for Pennsylvania's Lake Erie Bluffs and Shoreline. Subsequently Sea Grant is assisting with implementation of the main findings of the SAMP.
- Sea Grant and the CZM Program are cooperatively working to promote coastal heritage tourism.

§ 310: Technical Assistance

- PA Sea Grant is also providing the state CZM Program with technical assistance and participating in a number of new and developing projects on a number of Lake Erie issues.
- Sea Grant and the CZM Program are jointly participating in workshops, fairs, and classroom environmental education efforts to promote understanding and appreciation of Pennsylvania's coastal environments.
- Both are supporting a regional Earth Force effort through local schools.

- Sea Grant has also developed fact sheets on coastal property ownership issues and the implications of the Commonwealth's Bluff Recession and Setback Act. This information will be used by the CZM Program in its Technical Assistance Program for coastal property owners.

Other support or assistance

- Both Programs are working to support and systematize Great Lakes research related to Pennsylvania and to establish records-continuity and access to research results. Sea Grant and the CZM Program are cooperatively working to promote coastal heritage tourism.
- Sea Grant provides space in its newsletter for articles related to CZM Program activities.

Puerto Rico-Virgin Islands

§ 306A: Coastal Resource Improvement Program

- The Virgin Islands Marine Advisory Service (VIMAS) agents in St. Thomas and St. Croix assisted the VI Department of Planning and Natural Resources (DPNR) with the development of management plan recommendations for the Territory's 18 Areas of Particular Concern (APCs).

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Extension agents in Puerto Rico and the Virgin Islands are actively involved in their respective NPS Programs. In the VI, agents sit on the territory's NPS Committee, help to coordinate the annual NPS Conference, and participate in and coordinate public education and awareness activities. In Puerto Rico, the Water Quality Extension agent conducts educational workshops and presentations, and coordinates water quality and coral reef monitoring activities to increase awareness of NPS. The University of Puerto Rico Sea Grant College Program (UPRSGP) worked closely with government agencies to develop the PR Coastal NPS Pollution Control Plan.
- UPR Marine Extension agents assist with NPS education, monitoring, and BMP information dissemination. Extension agents work with marinas to implement BMPs to reduce NPS from marina and recreational boating operations. UPR Sea Grant Extension coordinated and hosted the Caribbean Marina Management Conference. VIMAS agents worked closely with the VI DPNR in developing regulations and guidelines for marinas and recreational boating under Section 6217, and through the EPA Section 319 Nonpoint Source Pollution Program (also relates to Section 317).
- Sea Grant Extension agents in both PR and the VI assisted with the Clean Vessel Act implementation in their respective areas.

§ 309: Coastal Zone Enhancement Grants

- UPR Sea Grant assists with beach monitoring and erosion control programs in the region. They conduct workshops on erosion mitigation, hosted a beach management workshop for legislators, municipal officials, and resource users to promote integrated beach management, and are active in promoting the adoption of a Unified Beach Code and Beach Management Department for Puerto Rico.
- UPR Extension agents in Puerto Rico and the Virgin Islands work with their respective governments' CZM Programs to provide education and information on marine debris. Both are also actively involved in Caribbean region-wide marine debris education initiatives.
- Sea Grant Extension agents conduct education and outreach on marine debris, lead beach cleanups, and educate public and decision makers about marine debris.
- UPRSG leads an aquaculture and mariculture public policy initiative to influence and promote the development of aquaculture and mariculture industries in Puerto Rico. They also have a marine ornamentals collection, culture and conservation initiative and have produced a brochure with

information on the Department of Natural Resources and the Environment (DRNA) regulations regarding marine ornamentals.

- UVI Wetlands Reserve. VIMAS developed the management plan for and manages a wetland reserve on St. Croix. The site provides education on the importance and function of wetlands.
- VIMAS on St. Croix is leading a three-year project aimed at reforesting mangrove areas devastated by Hurricane Hugo. This project is funded by the VI Department of Planning and Natural Resources (DPNR) and Royal Caribbean Cruise Lines.
- VIMAS coordinates Coastweeks activities, including beach clean-ups, educational presentations, and teacher workshops in the USVI.
- VIMAS coordinates monthly sampling of marine debris on island beaches for the Center for Marine Conservation. The information used in this effort can help the territory to better understand the sources of marine debris and to control it.

§ 310 Technical Assistance

- VIMAS provides technical assistance to the local government, including the CZM Program, by participating on a number of boards and committees like the Local Emergency Planning Committee (LEPC), the St. Croix Fisheries Advisory Committee, and the NPS committee.

§ 311: Public Hearings

- Sea Grant Extension agents review and comment on coastal zone actions and activities at public hearings.
- UPR Sea Grant and VIMAS are both active in disseminating information on public hearings held by their respective CZM Programs to their constituents. Extension agents may also provide technical evaluation and assessment of proposed actions in the coastal zone (relates to Section 317, also).

§ 312: Program Performance Review

- Extension agents in PR and the VI participate in the CZM Program Reviews. Agents submit comments to the process (either in writing or at the public meetings). Agents also ensure that their constituents are informed of the review process and participate, as appropriate.

§ 315: National Estuarine Research Reserve System

- UPR Sea Grant has partnered with the Jobos Bay NERR in the production of publications and educational materials, and in developing education programs for teachers and youth.

§ 317: Promulgation of Rules and Regulations

- Extension agents assist with educating their constituents on rules and regulations that are proposed and enacted through the PR and VI Coastal Management Programs.

Other support or assistance

- A UPRSG Extension agent sits on an advisory board to the PR Senate and House of Representatives and advises them on matters related to coastal zone management, coastal development and other coastal resource issues.
- UPRSG Extension agents worked with DNRA to establish an “Adopt-A-Beach” program.

Rhode Island

§ 306A: Coastal Resource Improvement Program

- University of Rhode Island (URI) Sea Grant is working with three municipalities to develop an Island Action Plan (IAP) for Aquidneck Island with cooperating stakeholders interested in achieving

sustainable coastal development. The group's goal is to manage the island's resources in order to maintain its unique character and to preserve its high quality of life. Sea Grant is helping them to develop a "Common Island Vision" and the IAP. They are also helping to implement pilot projects with stakeholders in order to establish a model of coordinated, ecosystem-based management.

- Sea Grant conducts training for state and federal officials in approaches to integrated management, and assists with the development of comprehensive plans.
- RI Sea Grant provided technical and process assistance for updates to the Special Area Management Plans for the Narrow River, the Salt Pond region, and the Pawcatuck Estuary and Little Narragansett Bay. These SAMPs were originally developed and adopted by the Coastal Resource Management Council (CRMC) in the 1980s (also with Sea Grant's assistance).

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Sea Grant Extension agents have worked closely with marinas and recreational boaters in the implementation of the state Clean Vessel Act Program, and on 6217 program efforts to control NPS.

§ 309: Coastal Zone Enhancement Grants

- URI leads a sustainable aquaculture effort, conducting workshops to familiarize and inform town and local officials and regulators about differing types of aquaculture.
- RI Sea Grant provides assistance in developing local hazard mitigation strategies and plans. They are also active in creating a statewide hazard mitigation strategy.
- URI Sea Grant conducted a national literature review on the science behind riparian vegetated buffers. The results were published in a nationally distributed report, co-authored by Sea Grant and the CRMC staff, which appeared in the Journal of CZM. URI Sea Grant used this information to work with the CRMC to develop and adopt new Vegetated Buffer Policy regulations and standards for all new coastal development in RI.

§ 315: National Estuarine Research Reserve System

- URI Sea Grant is working with the Narragansett Bay NERR on a data rescue pilot program for non-digital data.

Other support or assistance

- Conduct summer courses designed to offer education to the general public, fishing community, regulators, and legislators.
- URI Sea Grant has formed relationships with state regulators that are intended to maintain open channels of communication in order to provide a flow of unbiased info for their decision process.

South Carolina

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- South Carolina Sea Grant Extension agents are working with marinas and boaters, homeowners, and municipal officials to address NPS. They coordinate a statewide NEMO project, and are developing a "Coast-A-Syst" program for coastal homeowners.
- SC Sea Grant Extension agents are currently working with the SC Office of Coastal Resource Management (OCRM) to develop an onsite disposal (septic) system inspector certification and training program. Based upon a feasibility study, the objective of the second phase of this project will be to establish and implement such a program.

§ 309: Coastal Zone Enhancement Grants

- SC Sea Grant conducts education, awareness and outreach on salt marshes and wetland protection.

- SC Sea Grant is one of the programs behind the development of HazNet, the Sea Grant Hazards network. They are also the lead agency on the “113 Calhoun Street Project,” a sustainable living community resource center that will provide information, demonstration and display of hazards mitigation techniques, retrofit technology, and resource conservation practices for the community.
- SC Sea Grant is a coordinating agency for a statewide marine debris awareness campaign and “Beach Sweep-River Sweep” activities.
- SC Sea Grant is active in research and outreach on the cumulative impacts of development. The Coastal Recreation and Tourism agent promotes wise use of coastal resources and ecotourism. He also conducts workshops and disseminates information on golf course management techniques to protect coastal waters.
- SC Sea Grant is active in the implementation of the Beaufort Special Area Management Plan. The Consortium was instrumental in setting the stage for the development of the Beaufort Clean Water Task Force, which preceded the SAMP.

§ 310: Technical Assistance

- At the request of OCRM, SC Sea Grant Extension specialists are serving on a Greenbelt and Riparian Buffer Planning Committee for Berkeley County.

§ 315: National Estuarine Research Reserve System

- The SC Sea Grant Director serves on the research advisory committee for NERR program.
- SC Sea Grant funds some research within the reserve.

Texas

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Texas Sea Grant conducts workshops on septic installation techniques, develops and disseminates NPS educational materials, convenes local working groups to address NPS, and conducts BMP demonstration projects. Their “Galveston Bay Yards and Neighbors” NPS educational program teaches beachfront property owners on the use of alternate wastewater treatment.
- Sea Grant developed Marina Environmental Guidelines for the implementation of BMPs to reduce water quality impacts from marinas and recreational boating.
- The Sea Grant Program through the Marine Advisory Service (MAS) is developing a pilot project on the "Clean Marina Program" in two key areas of the coast with a high boater population.
- Working with local communities, efforts are underway to promote the use of constructed wetlands to deal with urban runoff under Phase II of the Stormwater Rules.

§ 309: Coastal Zone Enhancement Grants

- Texas Sea Grant assisted state regulatory agencies in refining site selection criteria for commercial aquaculture operations.
- Sea Grant holds shoreline protection workshops to provide information and assistance with the creation of wetlands with marsh grasses, and to promote dune protection using discarded Christmas trees and other available techniques.
- The Dickinson Bayou Wetland Community-based Environmental Protection Project increases community awareness of wetlands value and losses, and assists in determining opportunities for wetland protection.
- Texas Sea Grant conducts hurricane preparedness training for marina operators and boat owners. They are also active participants in HazNet.

- The Marine Advisory Service within the Sea Grant Program is working with local coastal counties to develop ecotourism. Examples of contributions to this effort include the publication of the "Guidebook to Texas Coastal Wetlands" and assistance in development of a web page for a coastal county birding nature center.

Vermont-New York (Lake Champlain)

Vermont has not yet developed and implemented a CZM Program under CZMA/CZARA. While New York has ZM Programs in place for the Great Lakes and marine regions, none have been developed to date for the NY shore of Lake Champlain. All Lake Champlain Sea Grant activities are indirect; they benefit CZM-oriented projects of federal and state agencies active in the Lake Champlain Basin.

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Because of the absence of a state CZM Program, Lake Champlain Sea Grant assists Vermont and New York states' U.S. EPA-approved NPS program (under Section 319 of the Clean Water Act). Sea Grant assists local, state and federal organizations and agencies in addressing NPS through improved watershed management and activities that address NPS control from agricultural and urban runoff. Activities include pollution prevention and water quality awareness programs for seasonal, densely-populated coastal areas and urban watersheds. It also promotes responsible domestic lawn care and landscaping practices for protecting coastal water quality. Planned activities include a for-credit education program targeted at commercial paint applicators to promote BMPs for boat painting.

§ 310: Technical Assistance

- Lake Champlain Sea Grant is a participating federal partner in the EPA led Lake Champlain Basin Program (LCBP) and participates in its regular meetings. Sea Grant also participates in other LCBP advisory meetings, including the Technical Advisory Committee and the NY and VT Citizen's Advisory Committees. Sea Grant cooperates with other federal, state and local organizations to produce Lake Champlain Basin workshops, environmental symposia and other educational materials for the general public. Some examples include a recent "Cyanotoxins in Drinking Water" presentation, and regional programs on participatory watershed management for the University of Vermont (UVM) Aiken Lecture Series, as well as featured articles on local television on stream restoration, urban stream issues, and building better watershed partnerships.

Other support or assistance

- Sea Grant maintains an informal contact and communication network with municipal and county officials, planning boards, and other decision makers to provide informal outreach on NPS and coastal economic development.
- Sea Grant agents educate local government officials, state agency staff, and others to improve public awareness and understanding of issues and to increase the public's confidence in being heard in public discourse and meetings.

Virginia

§ 315: National Estuarine Research Reserve System

- Share resources for graduate student assistance.
- Maintain communication networks for information exchange to maximize resources.
- Coordinate institutional education policy.
- Serve on one another's planning boards.

Other support or assistance

- Virginia Sea Grant serves on the Chesapeake Bay Environmental Effects Committee (CBEEC) with the NOAA Chesapeake Bay Office, U.S. EPA and the Maryland Sea Grant Program. The group oversees research efforts in the Bay.

Washington

§ 306A: Coastal Resource Improvement Program

- Washington Sea Grant conducts research and outreach, and serves as a resource for information on public access. They coordinated a study of public access for motorized boaters on the lower Columbia River, hosted a bi-state workshop, and produced a report on public access. They also conducted a study on kayakers, and made recommendations for regulators and managers as to the facility needs of this group of resource users.
- Sea Grant developed harbor profiles to document historical change in shoreline business establishments in Puget Sound's urban harbors

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Washington Sea Grant established the "Septic Soldiers" to monitor and evaluate septic system performance.
- Sea Grant Extension agents are working with Mason County to develop a comprehensive on-site sewage system training program.
- Participate in Waterweeks, a statewide, multi-agency event that consists of a month-long series of educational activities that deal with water issues across the state.

Other support or assistance

- Waterfront Revitalization in Non-Metropolitan Coastal Communities: A National Assessment. In partnership with OCRM, Washington Sea Grant is developing a national database of non-metro urban waterfront districts undergoing revitalization (waterfront district profiles). They are deriving a functional classification system for waterfront districts based on urban geographic principles and will explore and assess the relationships between the waterfront district characteristics and the on-the-ground results of this study.

Wisconsin

§ 6217: Protecting Coastal Waters (Nonpoint Source Pollution Program)

- Wisconsin Sea Grant coordinates with the Wisconsin Department of Natural Resources (WDNR) to administer a volunteer monitoring program that was initiated for the Pigeon River Watershed on Lake Michigan. They have also hosted the "Great Lakes Water Quality Issues: Workshops for Public Officials and Community Leaders."

§ 309: Coastal Zone Enhancement Grants

- Sea Grant developed two teaching models for shoreland management issues and coastal erosion using GIS. They provided training to federal, local and state government staffs on the use of GIS and its application to coastal issues using these models (also applies to section 310).

- Sea Grant has developed an improved, more accurate method to evaluate the risk to coastal property from high water levels and storms. They have held workshops and disseminated this information in manuals and over the Internet.
- Wisconsin Sea Grant works with the state CZM Program on a hazards project that aims to establish recession rates and to take this information to coastal communities. The purpose of this project is to have more streamlined and consistent setback ordinances that take recession rates, bluff erosion and other critical factors into account. Other partners include the US Army Corps of Engineers and the University of Wisconsin Engineering Department. Also, in the area of coastal hazards, Sea Grant holds Natural Coastal Hazards Workshops and produces educational materials.

§ 310: Technical Assistance

- “Demonstrating the Application of GIS Technology for Shore Erosion Emergency Management in the Coastal Areas of Wisconsin” is a Sea Grant project that is funded by the CZM Program for increasing the ability to use GIS in coastal decision making.
- Sea Grant provides training for local governments in the use of GIS to support coastal management. The Wisconsin CZM Program has assisted this effort.

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The following lists the Sea Grant Marine Extension Program Leader for each Sea Grant Program, the state CZM Program director or manager, and the state's NERR site manager (where applicable).

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