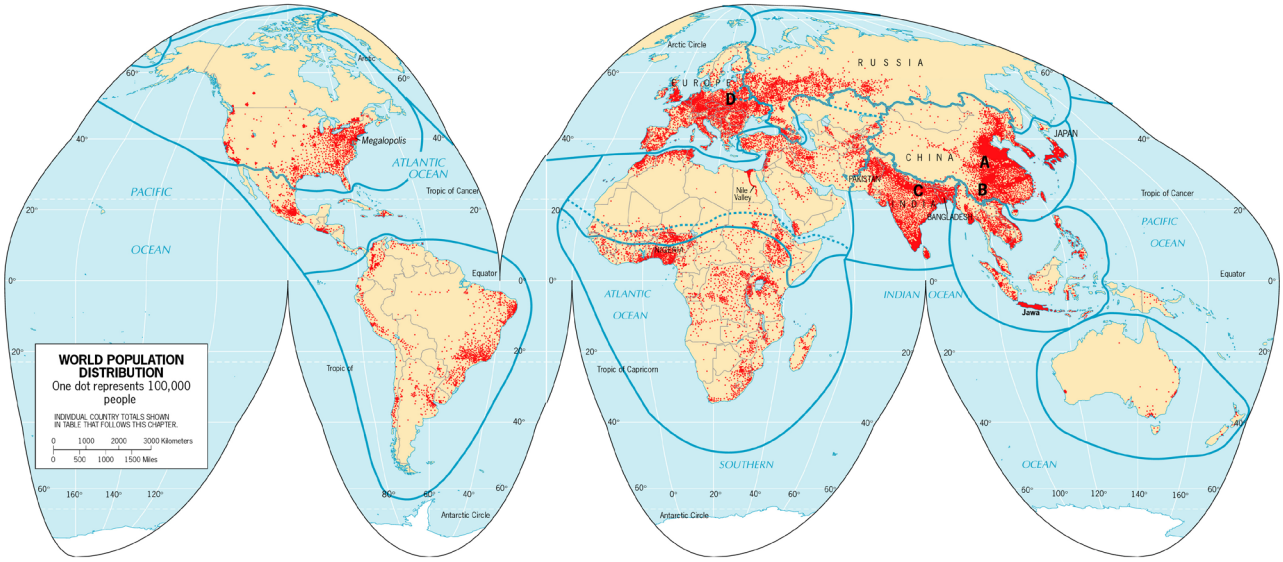
National Sea Grant College Program

Strategic Plan 2009 — 2013

Meeting the Challenge

Sea Grant

World Population Density



Around the world hundreds of thousands move to the coast every year, making it increasingly important that we find adequate ways to balance human social and economic activities. Along with other coastal nations, America must use its coastal land, water, energy, and other natural resources in ways that preserve the health and productivity of coastal ecosystems.

Introduction

America's coasts are invaluable economic, cultural and environmental resources that are at risk in this first decade of the 21st century. Increased rates of climate-related environmental changes have made coastal communities vulnerable in ways never before imagined. Overfishing and habitat degradation have contributed to declines in many U.S. fisheries. Heightened concerns about human health and safety are bringing greater attention to port security, coastal infrastructure deterioration, and seafood safety. As hundreds of thousands more Americans move to the coast every year, it is increasingly important that we find adequate ways to balance human social and economic activities. America must use its coastal land, water, energy, and other natural resources in ways that preserve the health and productivity of coastal ecosystems and optimize benefits to U.S. citizens.

According to the U. S. Commission on Ocean Policy report, the U. S. coastal zone contributed $4.5 trillion to the U. S. economy in 2005. The challenges we face on our coasts have significant implications for the nation as a whole, as well as for the people who live and work in coastal communities. Leaders at all levels—national, state, and local—must work with citizens, private sector businesses, and other organizations to utilize our intelligence, ingenuity, and financial resources to turn a time of potential crisis into a time of opportunity. As individuals and as a nation we must take immediate steps to educate ourselves about the magnitude of the threats we face and respond to these in bold and creative ways.

The world around us is changing. Globalization of technology, people, finance, products, and decision-making means factors beyond our national borders are affecting the vitality of U.S. coastal communities and economies. Businesses are functioning in an increasingly competitive global economy and many policy decisions are taking place at an international level. The need for collaborative problem-solving at the state, regional, national, and international levels has never been greater.

Severe challenges present the greatest opportunities for change, and Sea Grant is prepared to respond. One of the demonstrated strengths of individual Sea Grant programs is the ability to move rapidly to mobilize universities and other partners to address challenges across the country and around the world. Likewise, one of the strengths of the Sea Grant network is the ability, through the organization's coordinated state and regional structures, to implement the national goals of the National Oceanographic and Atmospheric Administration (NOAA) at local, state, and regional levels.

At this time of great risk and opportunity, the Sea Grant network and its individual programs will address the goals set forth in this plan with innovation and creativity, reflecting the particular needs of their own states and communities, as well as the nation as a whole.

SEA GRANT VISION AND MISSION

The National Sea Grant College Program envisions a future where people live along our coasts in harmony with the natural resources that attracted and sustain them. This is a vision of coastal America where we use our natural resources in ways that capture the economic and recreational benefits they offer, while preserving their quality and abundance for future generations.

This vision reinforces the vision articulated in NOAA's 2006-2011 Strategic Plan: ". . . an informed society that uses a comprehensive understanding of the role of the oceans, coasts, and atmosphere in the global ecosystem to make the best social and economic decisions."

Sea Grant's mission is to provide integrated research, extension and education activities that increase citizens' understanding and responsible use of the nation's ocean, coastal and Great Lakes resources and support the informed personal, policy and management decisions that are integral to realizing this vision.

Sea Grant advances NOAA's mission ". . . to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs."

ESSENCE OF SEA GRANT

Sea Grant was created almost 42 years ago to unite the academic power of the nation's universities with a wide range of public and private sector partners. Through these partnerships, Sea Grant provides integrated research, outreach, and education programs aimed at creating tangible benefits for ocean, coastal and Great Lakes environments and communities. Located within NOAA, Sea Grant brings together government, universities, and citizens living and working in America's coastal and Great Lakes states to use their resources to respond to problems and opportunities in these complex and dynamic environments.

Sea Grant is a national network comprised of the National Sea Grant Office, 32 university-based state programs, the National Sea Grant Review Panel, a National Law Center, a National Sea Grant Library, and hundreds of participating institutions. This network enables NOAA and the nation to harness the best science, technology, and human expertise to balance human and environmental needs in coastal communities. Sea Grant's alliance with major research universities provides access to more than 3,000 scientists, outreach specialists, educators, and students. Sea Grant's university-based programs are fundamental to the development of the future scientists and managers needed to conduct research and to guide the responsible use and conservation of our nation's coastal, ocean and Great Lakes resources. With its strong research capabilities, local knowledge, and on-the-ground workforce, Sea Grant offers NOAA and this country an unmatched ability to identify and capitalize on opportunities, and, to generate practical solutions to real problems in real places.

Sea Grant is required to match every $2 of federal funding with $1 of non-federal funds; many state programs far exceed this match. By leveraging additional money, Sea Grant expands the reach and effectiveness of NOAA and other partners in planning for and managing the future of America's ocean, coastal, and Great Lakes resources. The match required for federal funding also ensures that this country receives the maximum benefit from each dollar invested in Sea Grant.

SEA GRANT CORE VALUES

A strong set of core values has been the foundation of Sea Grant's work from its inception. Sea Grant was founded on a belief in the critical importance of strong partnerships. The organization's partnerships with leading research universities, with other NOAA programs, and with a wide range of public and private partners at the federal, state, and local levels, have proven to be a highly effective way to solve problems and create opportunities. In addition, Sea Grant's integration of research, extension, and education activities is at the heart of its mission. As a pioneer in what is referred to as "translational research: from discovery to application," Sea Grant ensures that unbiased, science-based information is accessible to all.

The diverse capabilities of Sea Grant's state programs enable the organization to be creative and responsive in generating policy-relevant research and in disseminating scientific and technological discoveries to a wide array of audiences. Because it is science-based, non-regulatory, and has an established presence in local communities, Sea Grant is a trusted broker, working to increase coastal, ocean and Great Lakes literacy among decision-makers and the public as a whole. Sea Grant's commitment to these core values is vital to achieving the goals set forth in this plan.

SEA GRANT IN NOAA

The goals and strategies outlined in this plan incorporate many NOAA priorities: promoting the health of coastal ecosystems; increasing the accessibility and application of quality research to support wise decision-making; increasing the number of fish stocks managed at sustainable levels; and, expanding literacy about coastal ecosystems.

The urgent need for practical solutions to coastal problems requires coordination, cooperation, partnerships, and effective investment. Sea Grant provides NOAA with access to Sea Grant's university-based capabilities in order to achieve shared goals. The National Marine Fisheries Service-Sea Grant Joint Graduate Fellowship, with its programs in population dynamics and marine resource economics, is just one example of the importance and effectiveness of this partnership. Sea Grant also works closely with National Ocean Service coastal programs to set national priorities for coastal management and to ensure closer coordination of coastal activities. Numerous partnerships exist between Sea Grant and the National Weather Service on subjects such as climate change, ocean and coastal observing, and rip currents.

NOAA's Coastal Services Center, the Office of Ocean and Coastal Resource Management, the National Centers for Coastal Ocean Science, and Sea Grant, are working to integrate their efforts more effectively. The purpose of collaborative planning among these programs is to ensure that NOAA's coastal programs are focused on national priorities, and that their work is coordinated, outcome-oriented, and built around each program's strengths. Additional NOAA programs will be brought into this effort to create a more inclusive coastal enterprise. Two of the focus areas of this plan, sustainable coastal development and hazard resilience in coastal communities, are designed to advance these integration efforts.

PLANNING PROCESS AND STRATEGIC APPROACH

This five-year strategic plan establishes direction for the Sea Grant network to address critical national needs in coastal, ocean and Great Lakes environments. The plan capitalizes on Sea Grant's unique capacities and strengths, allows for flexibility and creativity on the part of state Sea Grant programs, and supports many of the priorities in NOAA's strategic plan.

The collective Sea Grant network brought its wealth of experience to the task of creating this plan. The planning process began with a review of the U.S. Commission on Ocean Policy Report and the U.S. Ocean Action Plan, the NOAA Strategic Plan, the Ocean Research Priorities Plan and Implementation Strategy, the NOAA 5-Year Research Plan, Sea Grant state strategic plans, and other recent coastal/ocean plans and reports that set national, state and regional priorities. To elicit input and guidance, a national stakeholder's workshop was convened in Washington, DC in July 2007, with representatives from NOAA programs, other federal agencies, and non-profit organizations that focus on coastal, ocean and Great Lakes issues. In addition, to obtain the benefit of a wide range of stakeholder viewpoints, state Sea Grant programs were asked to share the outcomes of recent stakeholder meetings, surveys, and regional research agendas and initiatives, and to poll their advisory committees. The Sea Grant network convened for Sea Grant Week in San Diego, CA in October 2007 to identify priority goals and strategies for this strategic plan.

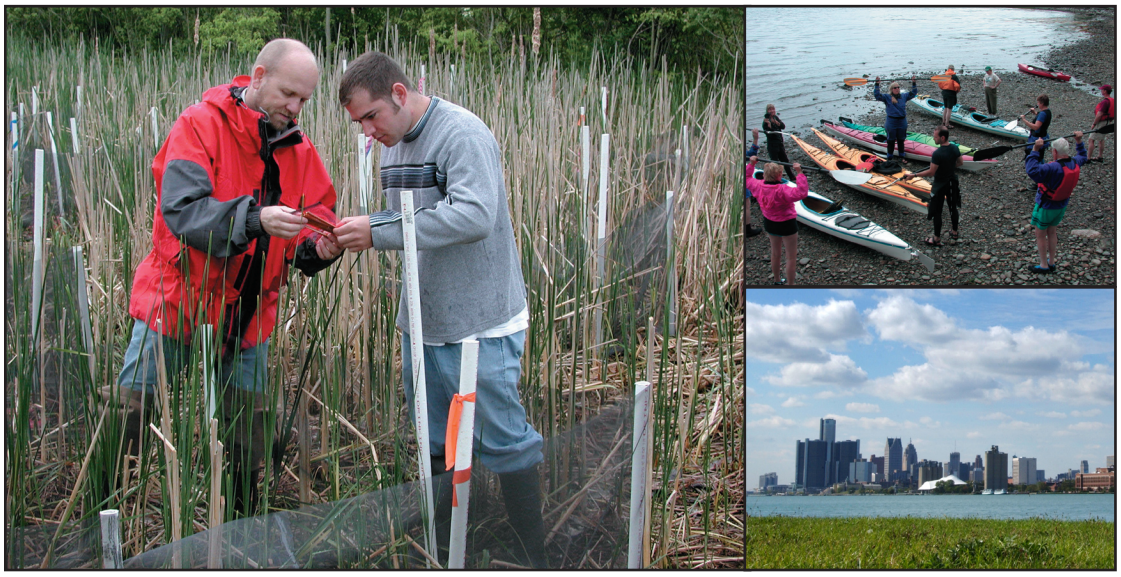
Three cross-cutting goals and four specific focus areas emerged from the strategic planning process. These goals and focus areas reflect America's most urgent needs in the coastal, ocean and Great Lakes arenas, NOAA priorities, and Sea Grant's strengths and core values. This strategic plan provides a national guide for the work of the state Sea Grant programs. The state programs will also develop their own strategic plans that contribute to the realization of national goals, while reflecting the specific needs and priorities of their states and regions. In addition, all parts of the Sea Grant network will work together to create a national implementation plan to accompany this document, establishing measurable objectives that will be used to evaluate progress in achieving the national strategic goals.

Cross-Cutting Goals

Managing coastal, ocean and Great Lakes resources in ways that balance human needs with environmental health requires progress in three fundamental areas:

- We need better information about how coastal, ocean and Great Lakes ecosystems function and how human activities affect coastal, ocean and Great Lakes habitats and living resources;
- We need citizens who understand the complexities of coastal environments and the interactions between human use and the health of coastal ecosystems;
- We need management and decision-making processes that are based on sound information, involve everyone who benefits from the beauty and bounty of America's coastal resources, and include mechanisms to evaluate trade-offs between human and environmental needs.

To facilitate progress in these areas and to help the nation understand, manage, and use its coastal, ocean and Great Lakes resources wisely, Sea Grant has identified three cross-cutting goals central to all that Sea Grant does. The three goals reflect the value of Sea Grant's integrated approach to research, extension, and education. They provide the foundation of Sea Grant's work and are integral to the success of this five-year plan.



Cross-Cutting Goals

Goal

Sound scientific information to advance understanding of the nature and value of our coastal, ocean, and Great Lakes resources; to identify new ways to conserve and use these resources; and to support evaluation of the environmental impacts and socio-economic trade-offs involved in coastal decision-making.

Short-term economics often influence coastal decision-makers to make their decisions without understanding the long-term social, environmental, and economic consequences of their decisions. Ecosystem functioning and values, emerging economic opportunities, and the social and economic costs and benefits of various human activities need to be translated into factors understood by the general public in order for sustainable uses of coastal environments to become a reality. Sea Grant has a long history of generating cutting-edge research and supporting technological innovations related to informed conservation and use of coastal, ocean and Great Lakes resources.

Strategies

- Support research to generate the scientific, technical, and legal information needed to increase understanding of coastal, ocean, and Great Lakes processes; support the development of new businesses, products, tools, and technologies; and answer the most pressing questions related to coastal, ocean and Great Lakes resource conservation, use, and management at the state and regional levels.
- Play a leadership role within and outside of the Sea Grant network in increasing the amount of socio-economic research available to help decision-makers evaluate socio-economic trade-offs and assess risks to the future health and productivity of coastal, ocean and Great Lakes resources.
- Integrate, translate, and disseminate research findings and technological discoveries to the citizens, industries, and leaders who need them to capitalize on opportunities and make wise management decisions.

Cross-Cutting Goals

Goal

An informed public that understands the value and vulnerability of coastal, ocean, and Great Lakes resources, and demands informed science-based decisions about the conservation, use, and management of these resources, and a well-trained workforce that will make this a reality.

The 2004 U.S. Commission on Ocean Policy Report emphasized that restoring and sustaining our coastal, ocean and Great Lakes environments requires an informed citizenry that understands the value and vulnerability of these resources. We also need scientists, planners, developers, engineers, and people involved in all water-related enterprises who understand the interactions between human activities and ecosystem health. NOAA has made ocean and aquatic literacy a strategic priority. Sea Grant has been a leader in K-12, undergraduate, graduate, professional, and technical education in coastal, ocean and Great Lakes-related areas for decades. Sea Grant is committed to playing a leadership role in partnership with the NOAA Office of Education and others to advance coastal, ocean and Great Lakes literacy. This can be done by capitalizing on Sea Grant's strong university partnerships, and by using its education and extension capacities to develop educational programs for schools, professional education, and workforce training.

Strategies

- Advance coastal, ocean and Great Lakes literacy through formal and informal learning opportunities in our schools, museums, aquariums, and other educational forums, such as the on-line, digital collections of the Aquatic Commons and the National Sea Grant Library.
- Use Sea Grant's strong university partnerships to create new research and education opportunities in marine and aquatic science for undergraduate and graduate students and to develop information products and training opportunities that will help build the workforce capacity for coastal-related jobs and professions.
- Collaborate within NOAA and with other partners to build public awareness about critical ocean, coastal, and Great Lakes issues, using the integrated research, extension, education, and communication capacities of the entire Sea Grant network.

Cross-Cutting Goals

Goal

Decision-making processes that involve the full-range of coastal interests, that integrate efforts of public and private partners at the federal, regional, state, and local levels, and provide mechanisms for establishing common understandings and generating outcomes that balance multiple interests.

The continued migration of people to our coastal areas increases the complexity of coastal decision-making and creates greater potential conflict among users at a time when coastal decision-making remains fragmented and narrowly focused. Sea Grant's long-standing relationships with a wide variety of stakeholders in coastal communities and its reputation as a source of unbiased information enable the organization to play a leadership role in promoting effective information sharing, consensus building, and integration of efforts in the coastal arena. Sea Grant can enhance its effectiveness by working closely with other NOAA coastal programs through regional research alliances and by employing international, national, and regional ocean observation systems.

Strategies

- Use Sea Grant's research, extension, and education capabilities to encourage and support the creation of public decision-making processes that minimize overlap, maximize effectiveness, and provide an integrated response to coastal problems and opportunities.
- Build consensus on complex issues such as coastal land use, energy development, public access, invasive species control, and climate change impacts by supporting cutting-edge research, building broader understanding among various constituency groups, and convening diverse groups of stakeholders to work together to find common solutions.
- Strengthen partnerships to promote national, regional, and issue-related collaboration among federal and state programs and other partners in order to support more effective and integrated coastal decision-making.

These three cross-cutting goals have been a foundation of Sea Grant's work since it was established, and they are fundamental to success in the focus areas outlined in this plan. The more specific goals and strategies outlined in the focus areas build on these cross-cutting goals, generating the knowledge and creative solutions needed to address challenges and opportunities related to healthy coastal ecosystems, sustainable coastal development, a safe and sustainable seafood supply, and hazard resilience in coastal communities.

Focus Areas

Over the next five years, Sea Grant will concentrate effort in four areas: **healthy coastal ecosystems; sustainable coastal development; a safe and sustainable seafood supply; and hazard resilience in coastal communities**. These four interrelated focus areas emerged from the strategic planning process as areas of critical importance to the health and vitality of the nation's coastal resources and communities. They respond to issues of major importance to NOAA, are consistent with the work of the NOAA coastal program integration effort, and are topical areas in which Sea Grant has made substantial contributions in the past and is positioned to make significant contributions in the future.

In each of the four focus areas, Sea Grant has identified goals to pursue and strategies designed to take advantage of its strengths in integrated research, outreach, and education, and its established presence in coastal communities. Understanding relationships and synergies across focus areas is vital to achieving the focus area goals. Sea Grant is one of many partners working to address these complex and interrelated issues. Understanding how activities in one area can support and complement other activities, and using partnerships to accomplish shared goals, are strategies inherent to Sea Grant, and will be central to achieving the goals outlined in this plan.

HEALTHY COASTAL ECOSYSTEMS

Healthy coastal ecosystems are the foundation for life along the coast. However, increasingly rapid coastal development, global overfishing, and other human activities are leading to water quality degradation, decline of fisheries, wetlands loss, proliferation of invasive species, and a host of other challenges that need to be understood in order to restore and maintain these ecosystems. Ecosystem functioning does not respect traditional political boundaries, and responsible management of ecosystems requires new kinds of thinking and actions. Sea Grant is a leader in regional approaches to understanding and maintaining healthy ecosystems, with planning efforts underway across the country to identify information gaps, set research priorities, and coordinate information and technology transfer to those who need it. Sea Grant has fostered efforts to address widespread problems such as invasive species that are found in geographically-dispersed areas, and has hired staff, shared among several state programs, to tackle these problems. Sea Grant's regional consortia, nationwide networks, and international contacts are particularly well-suited to helping the nation address ecosystem health at the appropriate local, state, regional, national and global levels.

HEALTHY COASTAL ECOSYSTEMS

Goal

Sound scientific information to support ecosystem-based approaches to managing the coastal environment.

To realize the full potential of ecosystem-based management approaches, we need research that will lead to better understanding of present day conditions, basic ecosystem processes, the impacts of coastal and upland land uses on the health of coastal, ocean and Great Lakes environments, and the importance of healthy ecosystems to healthy fisheries. We also need to know more about how to transform our new knowledge and understandings into sound management principles and practices. Sea Grant will continue to build the scientific foundation needed by supporting research that provides accurate information related to ecosystem health and by accelerating the transfer of this information to coastal residents, resource managers, businesses and industries.

Strategies

- Conduct research on ecosystem processes, the relationships between coastal stressors—water quality degradation, contaminants, harmful algal blooms, invasive species, and wetlands loss—and long-term human and ecosystem health, and communicate this information to public and private planners, decision-makers and managers.
- Contribute to the development of baseline data, standards, and indicators to support ecosystem-based approaches to land use, water, fisheries, and other resource management, working with programs such as NOAA's National Centers for Coastal Ocean Science, ocean observing programs, and others.
- Develop methodologies that can be used to evaluate ecosystem-based management approaches to assess their effectiveness once they are in place, and to guide future management efforts, working with the National Marine Fisheries Service and other federal, state and local partners.

HEALTHY COASTAL ECOSYSTEMS

Goal

Widespread use of ecosystem-based approaches to managing land, water and living resources in coastal areas.

Achieving widespread use of ecosystem-based management approaches will require extensive efforts to communicate the effects of ecosystem degradation on natural resources, local economies, and human health to a wide range of audiences in ways that motivate them to respond. Sea Grant's strong research and extension capabilities provide scientific information and technical assistance on ecosystem-based management approaches. At the same time, the organization's outreach and education capabilities engage citizens in stewardship activities that promote healthy ecosystems. All these programs can result in regional and other collaborative approaches to address problems that extend beyond traditional geographic or governmental boundaries.

Strategies

- Work with partners within and outside of NOAA to develop data, models, and training activities that support ecosystem-based planning and management approaches, and share these with a wide variety of constituencies.
- Support the development of regional coastal observation systems and other collaborative efforts that advance our capability to predict the effects of human activities and environmental changes on coastal resources in order to take steps to mitigate their effects.
- Provide life-long learning programs for people of all ages that enhance understanding of coastal, ocean and Great Lakes environments and promote stewardship of healthy ecosystems.

HEALTHY COASTAL ECOSYSTEMS

Goal

Restored function and productivity of degraded ecosystems.

Past activities and events have led to deterioration of nursery areas for wild fish populations, loss of wetlands, closure of beaches and shellfish beds, and proliferation of invasive species. Sea Grant will help reverse these trends by identifying and assessing impaired ecosystems, and supporting the development of new policies, technologies, and processes that promote restoration of ocean, coastal, and Great Lakes ecosystems in ways that balance the needs of the natural systems with the needs of the humans who inhabit them. Sea Grant will use its nationwide network of extension, education and communication specialists to provide the technical assistance needed, and to share new information and technologies with local, state, regional, national, and international partners.

Strategies

- Support research to improve the effectiveness of ecosystem restoration and identify promising new restoration approaches and technologies.
- Invest in the development and dissemination of new information, policies, technologies and methods to address water quality degradation, prevent the introduction and spread of aquatic non-native species, and minimize the negative impacts of these on coastal, ocean and Great Lakes food webs.
- Provide technical support for citizens and businesses that need help with specific mitigation/ restoration problems, giving them access to the latest information and techniques.

Sustainable Coastal Development

Coastal communities in America provide vital economic, social, and recreational opportunities for millions of Americans, but decades of population migration have transformed our coastal landscapes and intensified demand on finite coastal resources. The increase in population has resulted in new housing developments and recreation facilities, a new generation of energy development activities, port expansions, and other business activities. These changes are placing tremendous pressure on coastal lands, water supplies, and traditional ways of life. To accommodate more people and activity, and to balance growing demands on coastal resources, we must develop new policies, institutional capacities, and management approaches to guide the preservation and use of coastal, ocean and Great Lakes resources. Sea Grant will engage a diverse and growing coastal population in applying the best available scientific knowledge, and use its extension and education capabilities to support the development of healthy coastal communities that are economically and socially inclusive, are supported by diverse and vibrant economies, and function within the carrying capacity of their ecosystems.

Sustainable Coastal Development

Goal

Healthy coastal economies that include working waterfronts, an abundance of recreation and tourism opportunities, and coastal access for all citizens.

Marine resources and coastal amenities sustain local and national economies through fisheries and aquaculture, seafood processing, trade, energy production, tourism, and recreation enterprises. Urban ports and waterways continue to accommodate expanding international trade, staging areas for off-shore industries, growth in tourism and recreational boating, and changes in fishing fleets. At the same time, changing development patterns along the coast are threatening to displace traditional water-dependent industries and cut off water and beach access for coastal residents. Vacant industrial buildings and obsolete infrastructure facilities can be recaptured for new marine enterprises, public access, and planned mixed-use developments that bring enjoyment to residents and visitors alike. Sea Grant's long-standing relationships with coastal communities and industries make it ideally suited to provide information, tools, and techniques to support working waterfronts, responsible energy development, the development of accessible recreation and tourism activities, and adoption of sustainable development practices.

Strategies

- Support research and outreach activities that provide local communities with information and techniques to help them enhance their waterfront-related economic activities such as commercial and recreational fishing, aquaculture, tourism, and energy and port development, without diminishing the long-term health of the natural coastal environment.
- Support local, regional, and national efforts to preserve and increase public access to the nation's beaches and waterfronts through assessment of access needs, analysis of legal issues, and technical assistance.
- Use Sea Grant extension and education capabilities to engage coastal communities in planning processes that support the efforts of community leaders to identify and pursue sustainable economic development policies and programs.

Sustainable Coastal Development

Goal

Coastal communities that make efficient use of land, energy and water resources and protect the resources needed to sustain coastal ecosystems and quality of life.

The biggest challenge facing many coastal cities and towns today is how to manage growth in ways that do not diminish the health of the ecosystems these communities depend on. One way this is reflected nationally and internationally is in the high-level of concern about climate change and its associated effects. To respond to the challenges of growth at a local and regional level, communities are looking for ways to use land and water, generate energy, and dispose of waste that will preserve environmental health and economic vitality. Determining the amount of the land, water, and other natural resources needed to sustain healthy communities is an essential first step in establishing sustainable policies and growth practices. Only when the dimensions of this environmental footprint are identified can coastal communities understand what their carrying capacity is and what will be needed for generations to come. Sea Grant and its university partners are in a unique position to conduct research and develop models and forecasts that will help communities with this process.

Strategies

- Strengthen Sea Grant's research activities and extension capacity to help coastal communities determine the sustainable carrying capacity of their land, water, and other resources through resource assessments, scenario building, modeling, and other techniques.
- Support innovative research on land-use practices and building designs that promote energy and water conservation, coastal-ocean related renewable energy technologies, and the creation of other tools to help communities grow in sustainable ways.
- Work with NOAA's Climate Program Office, coastal programs, and other partners to help communities evaluate their ecological footprints and grow in environmentally sustainable ways.

Sustainable Coastal Development

Goal

Coastal citizens, community leaders, and industries that recognize the complex inter-relationships between social, economic and environmental values in coastal areas and work together to balance multiple uses and optimize environmental sustainability.

According to NOAA's "Population Trends Along the Coastal United States: 1980-2008," coastal counties constitute only 17 percent of the land area of the U.S. (not including Alaska) but account for 53% of the population and are among the most rapidly growing areas in the country. The pressures on our oceans, coasts, and Great Lakes resources continue to grow. Citizens and decision-makers have an urgent need for tools that will help them evaluate the implications of land-use changes, coastal development pressures, and increased resource use in approaching the policy and management decisions they face. Regional cooperation and coordinated land-use and watershed planning are essential. Sea Grant's well-established role as a trusted broker among a wide range of interests makes it a key player in providing sound information for decision-makers, convening stakeholders to seek common ground, and facilitating the development and implementation of new coastal policies, plans, management approaches, and consensus-building strategies.

Strategies

- Work with NOAA's Office of Ocean and Coastal Resource Management and Coastal Services Center, EPA's Offices of Smart Growth, and other federal, state and local partners to disseminate assessment tools, model plans and ordinances, best management practices, alternative development approaches, and other techniques that will enable the citizens of our coastal zones to develop their coastal economies in environmentally-sound ways.
- Build local capacity to evaluate cost-benefit trade-offs in the coastal zone through a greater emphasis on socio-economic research, impact studies, and other methods of evaluating alternative future scenarios for coastal communities.
- Foster regional cooperation and partnerships among local government officials, community stakeholders, and regional planning organizations to promote sustainable growth plans and strategies that protect local and regional natural resources that will ensure an abundance of these resources is available to serve future generations.

Safe and Sustainable Seafood Supply

The U.S. has witnessed the decline of many of its major fisheries while seafood consumption is on the rise, resulting in a seafood trade deficit of $8 billion per year, according to U.S. Department of Agriculture Foreign Agricultural Service statistics. At the same time, Sea Grant, through its research, extension, and education activities, and work with partners, has produced important discoveries that have aided the stabilization and recovery of many endangered fisheries. According to the NOAA Aquaculture Program, aquaculture is in its infancy in the U.S., amounting to just over $1 billion of a $70 billion worldwide industry. Aquaculture creates important new opportunities to meet the increased demand for seafood, but a number of questions need to be addressed for its full potential to be realized. Seafood safety is a growing concern as international trade increases and fish diseases and contamination become bigger problems. Sea Grant has key roles to play in advancing public understanding of the nature of these problems and opportunities. Through the use of its research, extension, and education capacities, Sea Grant will support the kind of informed public and private decision-making that will lead to a sustainable supply of safe seafood long into the future.

Safe and Sustainable Seafood Supply

Goal

A sustainable supply of safe seafood to meet public demand.

Ensuring a sustainable supply of safe seafood requires an understanding of the effects of overfishing, past management decisions, and climate change on U.S. wild fish populations as well as the role ecosystem-based fisheries management can play. It also requires better understanding of the range of complex issues related to developing the domestic aquaculture industry. Sea Grant will make major contributions by supporting research that provides the knowledge needed to understand the factors stressing fisheries and the complexities of aquaculture development. Sea Grant will also translate and transfer useful research findings through extension and education activities to ensure responsible and productive use of these resources in the future.

Strategies

- Use Sea Grant's research, extension, education, and communication capabilities to develop and disseminate essential knowledge about natural and human threats to the long-term viability of wild fish populations, to identify ways to minimize these threats, and to use ecosystem-based fisheries management and other innovative approaches to accomplish this.
- Conduct integrated research, education, and outreach activities to support a viable domestic aquaculture industry with acceptable environmental impacts, in ways that are consistent with national objectives, building on the leadership role Sea Grant plays in this area.
- Work with NOAA's National Marine Fisheries Program, other federal and state partners, and the seafood industry to enhance the management and productivity of wild fisheries.

Safe and Sustainable Seafood Supply

Goal

A healthy domestic seafood industry that harvests, produces, processes, and markets seafood responsibly and efficiently.

A healthy seafood industry requires harvesting techniques that minimize by-catch and damage to marine habitats. It requires development of value-added products, enhanced quality assurance, and education about how to market under-utilized species. Sea Grant will involve harvesters, recreational fishermen, producers and managers in being responsible stewards as well as successful entrepreneurs. Sea Grant will support development of new technologies and participate in collaborative efforts to increase the range of seafood products produced, enhancing American competitiveness in global markets.

Strategies

- Engage harvesters, recreational fisherman, producers and managers in the development of research and management innovations related to the condition, use, and conservation of the natural resources they depend on.
- Support research, development, and transfer of new technologies to keep the domestic seafood industry financially competitive and environmentally responsible.
- Work with the seafood industry to develop new products and innovative marketing approaches to increase seafood availability and profitability.

Safe and Sustainable Seafood Supply

Goal

Informed consumers who understand the importance of ecosystem health and sustainable harvesting practices to the future of our domestic fisheries, who appreciate the health benefits of seafood consumption, and who understand how to evaluate the safety of the seafood products they buy.

Increased attention to the safety of domestic and international seafood has created an urgent need for rapid assessment techniques, certification programs, and standards for domestic and international seafood products, so consumers will have reliable information to inform their buying decisions. Sea Grant will involve industry representatives in the application of seafood safety standards, train inspectors and wholesalers in how to assess seafood quality, and develop educational materials related to seafood safety, quality, and security and make these materials readily available to consumers.

Strategies

- Enhance training and technical assistance programs related to the application of standards for safe domestic and imported seafood.
- Develop educational programs and materials that enhance the American public's understanding of what is required to maintain sustainable domestic fisheries and to build the public's awareness of differences in the quality, safety, and nutritional benefits of different seafood products so they will be informed advocates and consumers.
- Work in close coordination with the National Marine Fisheries Service and other federal partners to develop information portals that give access to factual information on seafood safety.

Hazard Resilience in Coastal Communities

Sea level rise, the increased number and intensity of coastal storms, the ongoing threat of oil spills, and other natural and human hazards are putting more people and property at risk along the nation's coasts, with major implications for human safety and the economic and environmental health of coastal areas. It is essential that residents of coastal communities understand these risks and learn what they can do to reduce their vulnerability and respond quickly and effectively when events occur. Sea Grant will use its integrated research, training, and technical assistance capabilities, and its presence in coastal communities to play a major role in helping local citizens, decision-makers, and industries plan for hazardous events and optimize the ability of their communities to respond and rebuild.

Hazard Resilience in Coastal Communities

Goal

Widespread understanding of the risks associated with living, working, and doing business along the nation's coasts.

Communities and businesses are increasingly vulnerable to hazardous events brought on by climate-related changes, land-use changes, and increased economic activity in coastal and Great Lakes waters. There is a great need for information and tools to help communities assess the risks they face and identify the options available to them to minimize those risks. Sea Grant will support the work of NOAA's Climate Program Office and its climate impact and adaptation-related activities. Sea Grant will work with other federal, state, and local partners, the banking and insurance industries, and others to develop forecasting and risk assessment tools, economic and environmental impact models, and other mechanisms that will help families, businesses, communities, and regions understand their risks and take them into account in making personal, business, and community-related decisions.

Strategies

- Conduct research to assess hazard-related risks and increase the availability and usefulness of hazard-related information and forecasting for citizens, industries, and decision-makers in coastal communities.
- Work with marine commercial enterprises to assess the risks associated with doing business in coastal areas in the context of hurricanes and other coastal storms, climate-related changes, and dramatic changes in port and international trade activities.
- Work with the NOAA Climate Change Program, NOAA's National Weather Service and other public and private sector partners to develop comprehensive education/literacy programs focused on the immediate and long-term effects of climate-related changes and other hazardous events on human safety and coastal property, and how to prepare for and survive those hazards.

Hazard Resilience in Coastal Communities

Goal

Community capacity to prepare for and respond to hazardous events.

It is not enough for communities and businesses to understand their vulnerabilities, they must act on this knowledge and become more resilient or the human and economic losses will continue to mount. Individuals, businesses, and communities need to develop comprehensive emergency preparedness and response plans that increase their resiliency and enable them to respond effectively. Sea Grant will contribute to this by building a sound knowledge base to improve forecasting capabilities, by identifying development and best management practices that reduce the vulnerability of people, buildings and businesses to coastal hazards, and by advancing ways communities can manage and recover from these events when they occur.

Strategies

- Help public and private decision-makers create and adopt policies, plans, and ordinances to reduce risks, manage catastrophic events and speed recovery.
- Create and disseminate, in partnership with NOAA's National Weather Service and other entities, integrated demographic and coastal hazard information databases that help measure human vulnerability in specific coastal regions, support hazard-related planning activities, and facilitate disaster relief efforts.
- Conduct research and communicate information on how the use of natural features and new technologies can help communities prepare for and mitigate the impacts of hazardous events.

Hazard Resilience in Coastal Communities

Goal

Effective response to coastal catastrophes.

Coastal, ocean, and Great Lakes catastrophes require the nation to mobilize a full-range of public and private partners and resources to mount an effective response. Sea Grant is supporting the development of linked regional, national, and international coastal observation networks, thereby improving the availability of information needed to respond to crises as they unfold. Sea Grant's knowledge of local contexts and communities can optimize response effectiveness by facilitating immediate links to local partners and capabilities. Sea Grant has a national network of scientists and outreach workers with broad knowledge and experience, and it will provide multi-disciplinary technical assistance to first responders, helping to minimize damage and promote recovery.

Strategies

- Work with NOAA's National Weather Service and the National Ocean Service, regional ocean observation systems, and other partners to make hazard-related data and data-derived products available and relevant to support decision-making during crisis events.
- Contribute to the nation's rapid response capability by developing ways to mobilize Sea Grant's national network of scientific and technical expertise to inform response strategies and activities.
- Make Sea Grant's local knowledge and contacts available to work with federal, state, regional, and local agencies, non-governmental organizations, and international partners that have hazardous event responsibilities, to facilitate the speed and quality of response to these crises.

Making it Happen

This strategic plan is designed to harness Sea Grant's unique combination of research, extension, and education capabilities with its strong federal-university-private sector partnerships to respond to the challenges inherent in the conservation and use of our nation's complex coastal, ocean and Great Lakes environments. The plan outlines ways to discover and grasp opportunities that will enhance the lives of Americans and people throughout the world. The National Sea Grant Office will initiate full network participation in the development of an implementation plan to accompany this Strategic Plan. The implementation plan will identify measurable outcomes by which to assess progress.

All state Sea Grant programs will align their own strategic plans with the national strategic and implementation plans so the energy, diversity, and creativity of individual Sea Grant programs and university partnerships may be mobilized to achieve these national goals. State plans will align with the strategic directions set forth in this plan and identify how state programs will contribute to the realization of the national goals in measurable ways. At the same time, these plans will respond to unique challenges and needs in the particular states and regions they serve.

The National Sea Grant Office will track and coordinate state-level accomplishments and impacts to highlight Sea Grant's contributions to achieving national goals. The National Sea Grant Office will also track and disseminate success stories so they can be replicated throughout the Sea Grant network and beyond. The National Sea Grant Review Panel will continue in its advisory role to help state programs and the National Sea Grant Office advance Sea Grant's goals.

Effective implementation of this plan will require additional resources for state Sea Grant programs to provide the integrated research, extension, and education activities needed now. Also, effective plan implementation will require an enhanced National Office that can provide strong national leadership and support the state programs in achieving their objectives.

Sea Grant will revisit this plan and its priorities often to ensure that the organization is maintaining focus, staying alert to new trends and opportunities, and accomplishing its five-year goals. The coordinated planning and implementation processes set in motion by this plan position Sea Grant to play a leadership role in responding to the urgent challenges facing this country and its ocean, coastal, and Great Lakes states and communities. Sea Grant is dedicated to working with a wide array of NOAA programs and other partners to transform a time of crisis in this country into a new era of opportunity in coastal resource protection, management, and use that will serve the nation well into this new century and beyond.