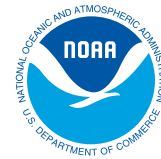




FLORIDA SEA GRANT COLLEGE PROGRAM

2014 - 2017 Strategic Plan



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Strategic Plan 2014-2017

Karl E. Havens, Director

aquaculture businesses changing climate coastal coasts
collaboration communities decision economic education effective
environmental evaluate extension federal fisheries florida
impacts information innovative integrate issues jobs land
local management nation natural ocean opportunities
partners policies products public rainfall regional research residents
resources rise runoff safe seafood solutions storms
support sustainable tools waterway

This has been created using the online software Tag Cloud®.

The size of words corresponds to frequency of use within this strategic plan, identifying program priorities and approaches to addressing those priorities.

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Florida is a state with one of the nation's longest coastlines. Nearly 80 percent of Florida's 18.8 million residents live within 10 miles of the ocean, and 79 percent of the state's economy is linked to ocean and coastal enterprises. Florida's natural resources are diverse and include coral reefs, vast forests of mangroves, expansive beds of seagrass and productive oyster beds.

Human uses of the coastal zone include the variety of impacts associated with a large infrastructure and population immediately situated on the water's edge, such as commercial and recreational fishing, diving, beach tourism, and aquaculture. Much of Florida's coastal population lives just a few feet above sea level and already there are impacts to the built and natural environment related to global warming, including sea-level rise and altered rainfall and runoff patterns. The coast also has experienced major changes in land use.

Florida Sea Grant provides solutions in this complex setting via a program that is highly collaborative with the private sector, with local, state and federal agencies, and with a variety of NGOs. We tap into the research expertise of more than 300 coastal and ocean scientists at the state's 17 major universities and research laboratories, and we are a partner with the Cooperative Extension Service at the University of Florida, one of the nation's leading Land Grant universities. Twenty Florida Sea Grant extension agents live and work in coastal communities and are co-employed by UF and their host counties. They have a breadth of experiences and tremendous trust from their local residents, businesses and governments as honest brokers of science-based information.

Seven statewide Florida Sea Grant extension specialists lead highly relevant programs including seafood safety, boating and waterway planning, coastal conservation law, aquaculture and fisheries management. Florida Sea Grant research projects are awarded through a competitive National Science Foundation-style process, and we require that principal investigators work with end-users to ensure that research provides solutions to problems that are critically important, timely and practical. On the education side, Florida Sea Grant has a history of leading the nation in regard to federal fellowships. We have established a number of privately-funded scholarship programs and we require that students be supported on research grants.

Florida is the nation's only state with ecosystems in the subtropical biome, and habitats and species common to the Caribbean. As such, Florida Sea Grant also is actively involved in regional projects throughout the Caribbean Islands, ranging from research on viral disease in lobsters to improved management of artisanal fisheries on small island nations. We also partner with other locales sharing similar issues including Hawaii and Puerto Rico. Florida lies in two NOAA regions, and thus Florida Sea Grant is an active participant both in Gulf of Mexico and South Atlantic governors' alliances, NOAA regional teams and climate outreach communities of practice.

This document identifies Florida Sea Grant's plan for addressing the pressing coastal and ocean issues in Florida and the surrounding region for the period 2014-2017 with relevant and innovative research, outreach and education. The plan addresses issues in five focus areas:

1. Healthy Oceans and Coasts
2. Safe and Sustainable Seafood
3. Sustainable Coastal Communities
4. Hazard-Resilient and Climate-Ready Coasts
5. Education and Workforce Development

Also identified are the major goals of the program under each focus area, desired outcomes, four-year program performance measures and quantitative targets by which Florida Sea Grant will document its success. Quantitative performance measures are included at the end of this plan.

The Strategic Planning Process

Florida Sea Grant's Strategic Plan for 2014-2017 was developed with input from (a) the members of our Advisory Council, who represent local governments, state and federal agencies including NOAA, the private sector and NGOs; (b) campus coordinators from Florida universities and research laboratories; (c) Florida Sea Grant extension agents and specialists; and (d) selected leaders of research and education institutions in Florida, including the UF Water Institute, the Florida Climate Institute, the Southeast Climate Consortium, the Florida Center for Environmental Studies and the Florida Institute of Oceanography. Input from these individuals occurred at two, day-long workshops held at the University of Florida in September 2011 and May 2012. At the meetings, participants focused on developing goals and objectives. At the May meeting they also discussed specific tactics and partners. That tactical information, while not included in this document, is being used to guide specific actions related to collaboration, engagement, research funding, education and extension. Workshop participants were provided with an opportunity to review a draft version of this plan and to provide comments that were considered by the Director prior to developing this final version for submittal to the National Sea Grant Office.

This plan addresses priority issues for Florida and the nation, and is aligned with our program vision and mission.

Florida Sea Grant envisions a future where people use our coastal and marine resources in ways that capture the economic and social benefits they offer, while preserving their quality and abundance for future generations.

Florida Sea Grant's mission is to support integrated research, education and extension to conserve coastal resources and enhance economic opportunities for the people of Florida.

The plan also is aligned with the fundamental outcomes from the national strategic plan, a plan developed with input from all 33 of the nation's Sea Grant programs:

- ❖ better science-based information about how coastal ecosystems function and how human activities affect coastal habitats and living resources;
- ❖ citizens who understand the complexities of coastal environments and the interactions between human use and coastal ecosystem health;
- ❖ management and decision-making processes that are based on sound information, involve citizens who have a stake in America's coastal resources and include mechanisms to evaluate trade-offs between human and environmental needs; and
- ❖ incorporation of social science, including quality of life and sustainable economic development, into comprehensive resource management decisions.

Goals and Outcomes

FOCUS AREA 1: Healthy Oceans and Coasts

Healthy ecosystems are the foundation for the quality of life and economy of Florida’s coastal communities. Ecosystem health and sustainability will determine the future of the state’s recreational and commercial fisheries, recreational boating and diving, beach-related recreation, tourism, nature observation and a myriad of other natural and societal values. However, increasingly rapid coastal development, overfishing, and other human activities are leading to congestion, water quality degradation, declines in fish stocks, shoreline erosion and loss of critical habitat – thereby threatening the sustainability of the coast and ultimately the quality of life of Florida citizens. Florida Sea Grant



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will provide the science, education and outreach needed to address these critical issues. Given the magnitude, complexity and interconnectedness of issues, this will require an increased emphasis on developing multi-institutional partnerships; working more closely with resource management agencies to identify priorities; helping local governments make sound land-use decisions to ensure compatibility with coastal, estuarine and marine resources; bringing together experts and resource managers to identify critical needs; and supporting innovative, cross-generational approaches to education, outreach and decision making. The overarching goal of this focus area is to establish healthy coastal and ocean ecosystems that have long-term sustainability in regard to their ecological functions and their services to society.

GOAL 1.1 Support programs that enhance or restore coastal habitats.

Outcomes

- ❖ *State and local agencies will learn new methods and best management practices for restoring, enhancing and protecting coastal habitats.*
- ❖ *State and local agencies will use the new methods and best management practices developed by Sea Grant in their projects aimed at restoring, enhancing, or protecting coastal habitats.*

- ❖ *Habitat restoration and management plans will be enhanced by information about the potential impacts of sea-level rise on project sustainability.*
- ❖ *Coastal habitats will be enhanced in communities around the state, as a result of volunteer programs conducted by Sea Grant, in coordination with water-dependent industries, agencies and communities.*
- ❖ *Local communities, state agencies and federal agencies will become aware of optimal approaches for deployment, monitoring and management of artificial reefs.*
- ❖ *Stakeholders will become more engaged in the monitoring of artificial reef habitat.*

GOAL 1.2 Provide information that supports sustainable management of fisheries and ecosystems.

Outcomes

- ❖ *State and federal agencies will become more knowledgeable about new models, tools and technologies for sustainably managing marine products, such as fish, sponges, or oysters.*
- ❖ *State and federal agencies will use the new models, tools and technologies to more sustainably manage marine products.*
- ❖ *Recreational and commercial fishers will become more aware of fishing regulations and sustainable catch-and-release fishing technologies, such as descending devices for deepwater reef fish, and use them as the law requires.*
- ❖ *Decision makers will become aware of actionable, science-based information about how changes in freshwater quantity affect estuaries and coastal ecosystems.*
- ❖ *State agencies and/or water management districts will use the science-based information provided by Sea Grant to develop guidelines and policies related to levels of freshwater flow required to prevent harm to estuaries and coastal ecosystems.*
- ❖ *Citizens will become more aware of invasive species, how they are introduced, and how they can be detected, reported and safely controlled.*

FOCUS AREA 2: Sustainable Coastal Communities and Economies

Florida's coastal communities provide vital economic, social and recreational opportunities for tens of millions of residents and hundreds of millions of visitors to the state each year. Those same coasts have been the epicenter for dense infrastructure development, an intensified demand for finite energy, water and coastal resources, and the repository of pollutants. The changes associated with increased development are placing tremendous pressure on habitat, water quality and supply, public access, and traditional ways of life. Florida Sea Grant will engage a diverse and growing population by



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applying best-available science, and by using our unique extension and education capabilities to support the overarching goal of communities that are environmentally, economically and socially stable, vibrant and diverse, and functioning within the carrying capacity of their ecosystems.

GOAL 2.1 Educate elected and appointed officials, and their staff regarding the benefits of innovative coastal land-use and waterway management policies.

Outcomes

- ❖ *Local governments will gain greater knowledge regarding how existing, new and emerging waterway management policies affect community sustainability.*
- ❖ *Local governments will implement waterway management policies developed by Sea Grant to enhance coastal sustainability.*
- ❖ *Increased inter-agency and inter-governmental coordination will occur as a result of regional waterways planning workshops and other Sea Grant activities.*

GOAL 2.2 Support planning and development practices that provide for safe and sustainable public and commercial access to and use of waterfronts, and evaluate economic benefits.

Outcomes

- ❖ *Agencies, governments and communities will learn about new approaches to affect behaviors and decisions that can sustain coastal and waterfront resources.*

- ❖ *Practitioners will learn about new planning and policy tools to foster safe and sustainable public and commercial access to and use of waterfronts.*
- ❖ *Practitioners will use new planning and policy tools developed by Sea Grant to foster safe and sustainable public and commercial access to and use of waterfronts in coastal communities.*

GOAL 2.3 Support an effective statewide Clean Marina Program to foster actions that minimize impacts of marinas, boatyards and retailers on the coastal environment, while supporting economic productivity.

Outcomes

- ❖ *An increased number of marinas, boatyards and retailers will participate in the Clean Marina Program.*
- ❖ *An increased level of coordination will occur between marina and boatyard owners and regulatory agencies.*
- ❖ *The Clean Marina Program will be enhanced by having information on its economic and environmental benefits, ability to attract new clientele, and new best management practices provided to marinas, boatyards and regulatory agencies.*

GOAL 2.4 Support sustainable nature and heritage tourism on the coast, to grow income, sustain jobs and reduce impacts of tourism on the environment.

Outcomes

- ❖ *Traditional water-dependent business owners will gain knowledge about best-management practices for creating and sustainably operating nature and heritage tourism businesses.*
- ❖ *Traditional water-dependent business owners will be successful in creating and sustainably operating nature and heritage tourism businesses.*
- ❖ *Working waterfronts will be sustained through the promotion of heritage and cultural events.*
- ❖ *Nature and heritage tourism operations will be supported by certification programs and partnerships with existing green initiatives.*

FOCUS AREA 3: Safe and Sustainable Seafood

The rising demand for seafood, high fishing pressure on certain local stocks from recreational and commercial fisheries, and issues such as product substitution are ongoing threats to Florida's fishing industry.

The constantly evolving global market, which is resulting in ever-increasing imports of fish from other countries to the U.S., and to foreign customers for Florida products, is changing the playing field of the seafood industry. Aquaculture may create new opportunities to meet rising demands for seafood; however, a number of issues must first be addressed for this potential to be realized. Florida's tropical waters, high production, and large



UF/IFAS photo

imported fish market create significant and recurring issues about aquatic food product safety and quality, an area where Florida Sea Grant has been a national leader for over three decades. Taken together, these challenges will require an integrative approach where Sea Grant specialists work closely with regulatory agencies and the seafood industry to ensure the sustainability, safety, diversity and quality of Florida seafood products. The overarching goal of this focus area is to establish a sustainable supply of safe, high-quality seafood for U.S. consumers.

GOAL 3.1 Develop methods and technologies to support sustainable seafood and aquaculture.

Outcomes

- ❖ *Seafood retailers and wholesalers will increase their use of established fisheries management information (e.g., NOAA FishWatch) to identify the sustainability of wild-caught fish products.*
- ❖ *Producers will become more aware of the commercial potential of aquaculture, the marketing constraints and opportunities for aquaculture products, the methods required for production and transport of aquaculture products, and Florida Department of Agriculture and Consumer Services best management practices for commercial aquaculture operations.*
- ❖ *Producers will be provided with methods to enhance efficiency, product diversity, environmental benefits and/or cost-effectiveness of aquaculture products, including a consideration of changing environmental conditions, such as rising water temperature.*

- ❖ *Producers will use the new information and methods developed by Sea Grant to enhance efficiency, product diversity, sustainability, environmental benefits and/or cost-effectiveness of their products.*

GOAL 3.2 Conduct programs that result in safe handling and processing of seafood and informed choices by seafood consumers.

Outcomes

- ❖ *Dieticians, culinary institutes, restaurant chefs and others in the seafood industry will become more aware of the value of local heritage seafood.*
- ❖ *Regulatory agencies and the private sector will increase their knowledge about new methods developed by Sea Grant for the evaluation of seafood source, identity and/or quality.*
- ❖ *The seafood workforce will become more knowledgeable about methods to ensure that seafood consumed in this nation is safe and of high quality.*
- ❖ *Seafood workers will implement the approaches they learn from Sea Grant to maintain safe and high-quality seafood through for example, HACCP training.*

GOAL 3.3 Identify ways to increase value and public demand for seafood and aquaculture products.

Outcomes

- ❖ *The public will become more aware of the health and environmental benefits, supply, source and risks associated with wild-caught seafood and aquaculture.*
- ❖ *People will make more informed choices about the seafood they purchase based on objective, science-based information provided by Sea Grant.*

FOCUS AREA 4: Hazard-Resilient and Climate-Ready Coasts

Hurricanes and other natural hazards impact Florida's coasts, where nearly 80 percent of the population resides, where most of the state's infrastructure occurs, and where over 75 percent of Florida's gross domestic product is associated with coastal and ocean economies. Florida Sea Grant will provide information and expertise to local, regional, and state governments and agencies in support of the development of new policies, institutional capacities and management approaches to deal with coastal hazards, both before they occur, and in the post-disaster recovery process. In addition to the imminent threats posed by storm surge and other



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hurricane-related effects, our low-lying coastal communities are threatened by the effects of global warming – in particular by rising sea level and potential changes in rainfall and runoff of freshwater to coastal ecosystems and the built environment. Florida Sea Grant will support the necessary research, education and outreach to support an overarching goal of having a citizenry that is informed about coastal hazard and global warming effects, and communities and agencies that collectively takes strategic, reasoned and effective actions to minimize future impacts.

GOAL 4.1 Improve knowledge about the impacts of global warming with a focus on storm effects, sea-level rise and changing rainfall and runoff in the coastal zone, including impacts to businesses, infrastructure and natural resources.

Outcomes

- ❖ *Coastal communities will become more knowledgeable about the potential economic, legal, engineering, environmental, and quality of life consequences of storms, sea-level rise and changing rainfall and runoff to the coastal zone.*
- ❖ *Coastal communities and resource managers will become more knowledgeable about potential effects of rising sea level and altered freshwater flows on mangrove, salt marsh, seagrass, hard bottom, oyster reef and coastal strand habitats.*

GOAL 4.2 Engage communities in the development of policies and actions to become more resilient to storm surge, sea-level rise and changing rainfall and runoff.

Outcomes

- ❖ *Local communities will become more aware of user-friendly models and tools to guide interactive decision making for becoming more resilient to storms, and better adapted to sea-level rise and changing rainfall and runoff.*
- ❖ *Coastal communities will use new, interactive decision models and planning tools developed by Sea Grant to become more resilient to storms and better adapted to sea-level rise.*
- ❖ *Coastal communities will become informed about new research that can support the development of improved building codes and policies to make infrastructure more climate-ready and hazard-resilient.*
- ❖ *Coastal communities will adopt new building codes and policies developed by Sea Grant to become more climate-ready and hazard-resilient.*

GOAL 4.3 Provide pre- and post-assistance to coastal businesses, people and communities when they are threatened or impacted by natural or man-made disasters.

Outcome

- ❖ *Coastal communities will be assisted in recovery following natural and man-made disasters with relevant information and on-the-ground support by Florida Sea Grant.*

FOCUS AREA 5: Education and Workforce Development

Florida Sea Grant has a long history of supporting environmental education to youth and adults to help them become stewards of the coastal zone. We also have an established track record of providing scholarships and other forms of financial support to undergraduate and graduate students in ocean- and coastal-related fields. Florida Sea Grant actively supports the coastal and ocean workforce by providing required education and training to new workers, and to workers already employed who require continuing education to advance professionally in their careers.



Florida Sea Grant photo

GOAL 5.1 Enhance literacy and stewardship of the oceans and coasts.

Outcomes

- ❖ *Youth and adults will become more aware of how their actions affect the health of our watersheds, oceans and coasts, and participate in training programs that introduce them to things they can do to protect those systems.*
- ❖ *Youth and adults will take actions and lead or participate in activities that support improved health of watersheds, oceans and coasts as a result of learning experiences provided by Sea Grant.*
- ❖ *K-12 students will increase their competency in math, science, chemistry and biology by participating in new aquaculture and marine science curricula developed by Sea Grant.*

GOAL 5.2 Support the development of a highly skilled and knowledgeable coastal workforce, and create new coastal business opportunities.

Outcomes

- ❖ *College students in Florida will earn degrees with support from Florida Sea Grant.*
- ❖ *New and existing members of the professional coastal workforce will maintain their jobs and advance in their professional careers as a result of training provided by Florida Sea Grant.*
- ❖ *Coastal businesses will be enhanced as a result of training provided by Florida Sea Grant.*

Strategic Program Management

With such an intimate linkage between its residents, economy and coastal resources, and with the pressing need for practical solutions to problems faced by coastal communities, Florida Sea Grant has the opportunity to implement model programs that can be applied worldwide. Strategic program management is critical for identifying novel ways to tackle the diverse, interconnected and complex issues identified in this plan through support for students, research, extension, education, and multi-media communication.

Objectives

- ❖ *Florida Sea Grant will collaborate with state and federal agencies, the private sector, NGOs and other Sea Grant programs to efficiently and effectively address issues in the state and region.*
- ❖ *A coordinated program will be implemented to establish an increased endowment base, to provide the program with additional resources needed to address the programmatic mission.*
- ❖ *Florida Sea Grant will increase its use of a variety of media products, including social media, to efficiently and effectively provide information to its constituents.*
- ❖ *Florida Sea Grant will expand professional development opportunities for its extension faculty, in areas including mapping and spatial analysis, sea-level rise and climate change, and meeting design and facilitation.*
- ❖ *Florida Sea Grant will provide facilitation, science synthesis, coordination and other support to communities to help resolve contentious coastal issues across all of our focus areas.*
- ❖ *Florida Sea Grant will seek and implement approaches to more effectively integrate research with extension, across all of our focus areas.*
- ❖ *Florida Sea Grant will develop approaches to more actively integrate students supported on research grants and fellowships into our program, helping them become future 'ambassadors' for Sea Grant.*
- ❖ *Florida Sea Grant will remain actively involved with regional councils and programs including the Florida Ocean Alliance, and Gulf of Mexico and South Atlantic governors' alliances to maximize opportunities for coordinated research, education and outreach activities.*

Florida Sea Grant Performance Measures for 2014-2017

FOCUS AREA 1: Healthy Oceans and Coasts

Acres of habitat restored, enhanced or protected – Target: **1,000**

Number of new models, tools, technologies or sources of information developed regarding the impacts of fishing and fisheries management options on fish populations – Target: **8**

Number of new models, tools, technologies or sources of information adopted and/or used by fisheries management agencies and/or regional councils to support decision making – Target: **4**

FOCUS AREA 2: Sustainable Coastal Communities and Economies

Number of agencies or local governments provided with new planning and policy tools to foster safe and sustainable public and commercial access to and use of waterfronts and waterways – Target: **20**

Number of agencies or local governments that adopt new policies or ordinances, or adopt new approaches that are used to support safe and sustainable access to and use of waterfronts and waterways – Target: **8**

FOCUS AREA 3: Safe and Sustainable Seafood

Number of new information sources, tools or technologies provided to producers to enhance efficiency, product diversity, environmental benefits, sustainability or cost-effectiveness of aquaculture – Target: **10**

Number of new aquaculture products or by-products produced and sold by the private sector as a result of Sea Grant-supported research, outreach and/or training – Target: **5**

Number of seafood workers using methods they learn from Sea Grant programs to ensure that our seafood is safe and of high quality – Target: **400**

FOCUS AREA 4: Hazard-Resilient and Climate-Ready Coasts

Number of communities provided with information that allows them to assess the economic, engineering, environmental, or quality of life consequences of storms, sea-level rise and changing rainfall and runoff to the coastal zone – Target: **20**

Number of communities that adopt new Sea Grant-developed policies or ordinances, or new approaches to reduce the consequences of coastal hazards – Target: **10**

Number of user-friendly models and tools developed to guide interactive decision making by communities, toward becoming more resilient to coastal hazards – Target: **4**

Number of communities that make use of new models and tools developed by Sea Grant to guide interactive decision making related to becoming better prepared for coastal hazards – Target: **4**

FOCUS AREA 5: Education and Workforce Development

Number of youth and adults who become more aware of how their actions affect the health of our watersheds, oceans and coasts – Target: **100,000**

Number of college students who earn degrees in ocean and coastal science with full or partial support from scholarships, fellowships and research grants from Florida Sea Grant – Target: **100**

Number of professionals who keep their jobs and/or advance in their careers as a result of continuing education training provided by Florida Sea Grant – Target: **500**

Number of businesses sustained as a result of Florida Sea Grant activities – Target: **200**

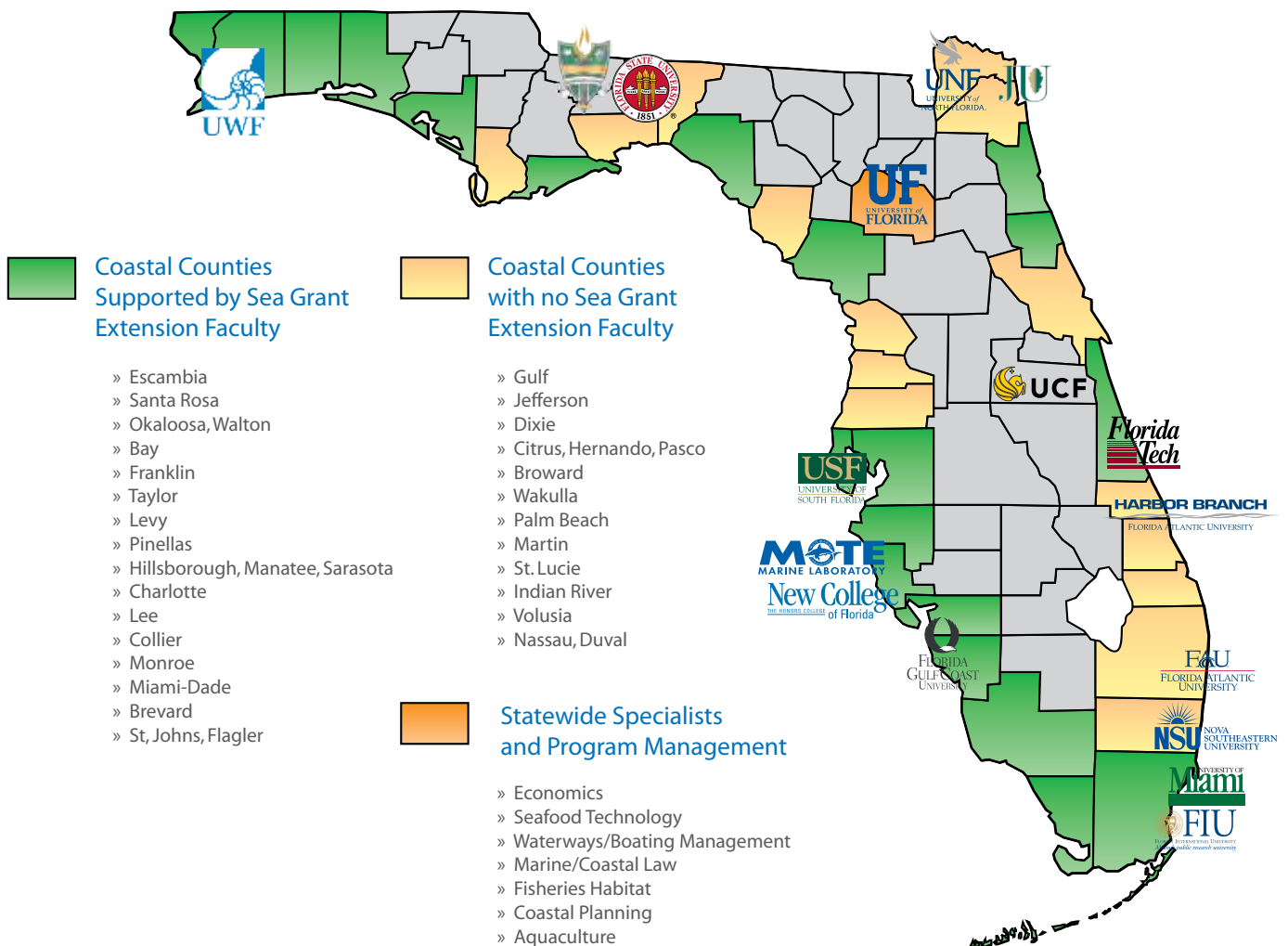
Economic return resulting from Sea Grant activities – Target: **\$1.053B US**

Florida Sea Grant

Research, Extension, and Education Network

Florida Sea Grant supports an integrated program of research, education and public outreach through a statewide network of 11 public universities, 3 private universities, 2 research laboratories, and the UF/IFAS Extension Service. The University of Florida in Gainesville serves as the host campus, but all of the institutions shown here are a formal part of the program. UF is also home for Sea Grant's statewide specialists, who interface with program management and a network of marine extension professionals in coastal counties.

Florida Sea Grant is also part of the National Oceanic and Atmospheric Administration and one of 32 Sea Grant programs nationally.





Science Serving Florida's Coasts

Florida Sea Grant is committed to enhancing the practical use and conservation of coastal and marine resources to create a sustainable economy and environment.

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