Impacts and Accomplishments

Coastal Communities and Economies

Florida's coastal economy exceeds $550 billion a year and represents 78 percent of the State's Gross Domestic Product. Sustainable development is critical to maintaining a strong coastal economy.

Florida Sea Grant:

- Provides online legal expertise to local governments for preserving and promoting waterfront access, water dependent small businesses, and anchoring and navigation rights
- Helps coastal communities develop comprehensive waterway management plans that promote access, safe navigation, and streamlined maintenance
- Participates with the Clean Boating Partnership to establish clean marinas that minimize environmental impacts and maximize boating opportunities
- Helps the State implement science-based boating safety regulatory zones for Florida intra-coastal waterways

Coastal Environment

A healthy environment supports a healthy economy. Sea Grant partners with federal and state agencies and local governments to provide sound science in support of actions to sustain coastal resources.

Florida Sea Grant:

- Quantifies impacts of habitat loss on sport fish populations and provides recommendations to resource managers to help sustain the fisheries
- Conducts workshops for managers of artificial reef programs on the latest technologies for maintaining and expanding a science-based reef system
- Develops geospatial tools in support of guidelines that can be used to protect Manatees and other marine mammals and their habitats
- Supports coastal conservation projects including the protection and restoration of mangrove, oyster, reef, sea grass, and sea turtle habitat

Florida Sea Grant provides science-based information and innovative tools to assist coastal communities like Jupiter (pictured) with sustainable shorefront development and waterway management. Photo by Don Behringer

Coastal Storm Readiness

Florida's coastline, home to 80 percent of the state's residents, is at risk from winds, waves and floods generated by hurricanes and tropical storms.

Florida Sea Grant:

- Designs new instruments to measure ground-level winds and structural integrity of buildings under hurricane conditions
- Develops criteria to allow better prediction of rip currents to protect lives of beachgoers
- Develops new structural materials to support coastal buildings that can withstand hurricane winds

Sustainable Fisheries and Safe Seafood

Florida, home to about 5,000 seafood processing plants and retail seafood firms, leads the nation in the economic value of marine fish and shellfish. The fishing industry is challenged by economic pressures, increasing international competition, new regulations and environmental concerns.

Florida Sea Grant:

- Develops techniques and educates the fishing public about ways to increase fish survival in catch-and-release recreational fishing
- Works with fishery managers to ensure that science-based principles keep Florida fisheries biologically and economically sustainable

Survival of fish that recreational anglers catch and release is essential if management strategies are to be effective. Florida Sea Grant provides ongoing support to statewide catch-and-release educational programs. Photo by Ken Chambers

- Delivers shrimp and oyster schools where domestic processors and importers learn the latest technology for producing high-quality seafood

4-H participants collect sand samples during a summer marine camp activity, learning how sand composition affects various marine organisms living on beaches. Photo by Maia McGuire

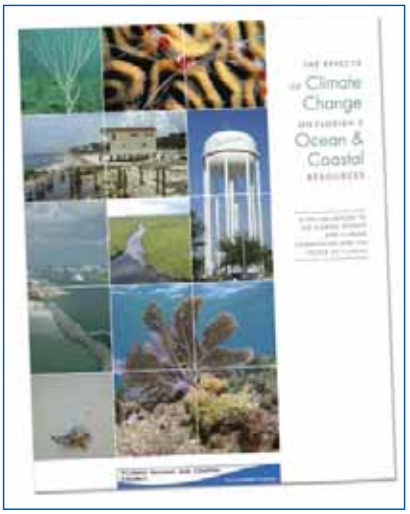
Ocean Literacy and Marine Education

Every research project funded by Florida Sea Grant supports one or more graduate students at a Florida university. Florida Sea Grant education and outreach experts work closely with teachers and community and civic leaders to build ocean literacy, and cultivate a better understanding of the economic importance of Florida's coasts.

New Initiatives

Addressing Climate Change

Changes are occurring in the earth's climate and those changes are resulting in stresses to Florida's coastal communities and ecosystems. Sea Grant is working in cooperation with state and federal agencies to make a significant contribution to the prediction of potential coastal impacts and the development of effective adaptation strategies to climate change.



Florida's Oceans and Coastal Council's climate change primer provides straightforward information about the changes that global warming may bring to Florida's coast and coastal residents.

Community-Based Decision Support

Pristine rural areas of the Florida coast are at risk for uncontrolled coastal development. Those areas typically do not have the planning resources of large metropolitan areas. Florida Sea Grant is providing assistance to rural coastal communities to build leadership, visioning, and decision-making capacity in an effort to enhance coastal access and water-based recreational opportunities and economic prosperity while preserving natural resources and cultural heritage.

Gulf of Mexico Regional Research

Florida Sea Grant is partnering with the Sea Grant programs of Texas, Louisiana, Mississippi-Alabama and the USEPA Gulf of Mexico Alliance to identify and fund regional research projects that will develop the information, tools, technologies or policies that can be used by coastal communities to increase their resilience to hurricanes, coastal flooding and sea level rise.

2009 Research Investment

The National Sea Grant College Program provided $1.8 million in support of Florida coastal and marine research in 2008-09. Projects were selected by Florida Sea Grant in a rigorous peer-review process based on the quality of science and the potential benefits for the people, economy and environment of Florida.

Coastal Economic Growth

- Scientists from Harbor Branch Oceanographic Institute and the University of Florida are collaborating to develop methods to grow the Sunray Venus Clam, a native Florida species that will diversify the state's clam aquaculture industry.
- Marine sponge cell lines are being developed by scientists from Harbor Branch for the commercial production of marine bio-products to augment those derived from wild harvest, to treat human health-related ailments such as melanoma.
- Harbor Branch scientists also are developing methods to produce an anti-tumor compound they have discovered in marine sponges for possible commercial development.

Coastal Environment Protection

- Scientists from the University of Florida and Mote Marine Laboratory are partnering to identify how beneficial bacteria protect corals from disease, contributing to the information needed to sustainably manage Florida coral reefs.
- Effects of trap fishing on transmission of a lethal virus in spiny lobsters are being examined by University of Florida scientists. The results will guide the management of lobster populations to better control viral infection.
- Effects of habitat loss on survival of juvenile snook are being determined by scientists at Mote Marine Laboratory. Snook are prized sport fish in Florida, and understanding how land development affects their habitat is important to the marine fishing-related economy.
- Scientists at Florida International University are predicting changes in sea grass expected to occur in Florida Bay if there are changes in sea level, salinity and nutrient inputs.

Fortifying Storm Readiness

- Florida International University scientists are evaluating the wind pressures that occur on coastal buildings during hurricanes, and identifying how building codes and construction products can be improved to reduce damage to residences and businesses.
- Engineers at Florida International University are measuring cost effectiveness of an advanced fiber support system that can be incorporated into new and existing buildings to increase resistance to hurricanes.
- High resolution data on coastal flooding are being used by University of Florida researchers to fine-tune storm surge models for emergency managers and coastal planners.

Resilience to storms and hazards continues to be a primary concern for Florida communities. Sea Grant research focuses on helping coastal communities increase their response to hurricanes, storm surge and sea-level rise. Photo by NOAA

Saving Lives and Protecting Human Health

- Field observations and computer models are being used by University of West Florida scientists to more accurately characterize rip currents along Pensacola Beach.
- Biotechnology researchers at Florida Atlantic University are isolating compounds from marine snails to determine their potential as new therapies for neurological disorders.
- Researchers at the University of South Florida are developing a portable sensor for the rapid detection of unsafe bacteria in coastal water.

Investing in Florida's Economy

Florida Sea Grant works with coastal communities, local governments and the private sector to provide information, education and guidance to produce new jobs, businesses and tax savings for the state's residents. Florida Sea Grant continues to work in this capacity to help Florida recover a sustainable and vibrant coastal economy.

Clams Grow Dollars and Jobs

Florida Sea Grant supported research, education and outreach that allowed coastal communities in the Gulf of Mexico to develop economically viable clam farming businesses that produce high quality domestic seafood and that are environmentally-friendly. The latest economic impact study found that the hard clam culture industry produced 185 million clams, generated about $19 million in grower sales, and a total economic impact of approximately $50 million per year. **This activity generated $25 million in income, $1.3 million in business taxes, and created 563 jobs.**

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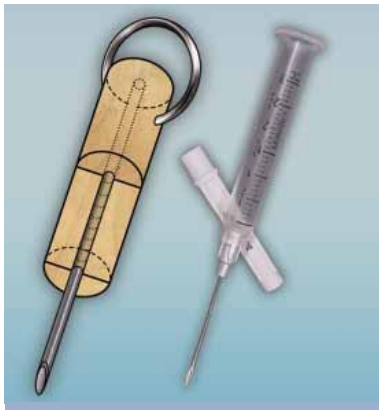
Technology Generates Business Ventures

Florida Sea Grant has provided training in the use of sustainable fishing methods for over 10 years. These efforts have been directed at reducing the mortality of released reef fish in the Gulf of Mexico. Of particular interest is the development of venting tool prototypes, which can be used to release gases trapped in reef fish brought up from depth. Sea Grant created a prototype tool that was subsequently improved through interaction with industry and recreational anglers. This tool technology was then transferred from UF to a private manufacturer. As a result, **at least 6 new small businesses were created to produce proprietary versions of the venting tool.**



New fish venting tools –
6 new small businesses

Sea Grant Plan Saves Millions

Florida Sea Grant scientists have developed a Regional Waterway Management System (RWMS), a geographic information system that increases the efficiency and lowers the costs for permitting, design and maintenance of coastal canals and waterways. In just two Florida counties that have implemented the RWMS (Manatee and Sarasota), **taxpayer savings have exceeded $2.5 million dollars since 2006,** and the system is being adopted by other counties around the state with guidance provided by Florida Sea Grant. It has the potential to be used as a nation-wide model for effective management and maintenance of coastal waterways.

$2.5 million in
taxpayer savings

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