

**F**lorida Sea Grant entered well-charted waters in 2010 with a new strategic plan to address issues of importance to coastal communities, businesses, and residents.

The Deepwater Horizon explosion, however, changed our program focus dramatically. Tragically, 11 oil rig workers were killed, and many more injured. Soon after, the large quantities of oil and gas that spewed from the well began affecting the lives and livelihoods of Floridians dependent on the Gulf coast.

Florida Sea Grant determined that we could provide help and reliable information in three areas – the safety of Gulf seafood, the process of filing claims for lost incomes, and volunteer opportunities for cleaning oil-impacted wildlife and coastal areas.

We also partnered with Sea Grant programs in the Gulf and South Atlantic to develop regional web resources with information on all aspects of the spill.

The disaster showcased Sea Grant’s ability to quickly respond to an unplanned event in an effective and organized manner, thanks to the dedication and competency of our marine extension faculty, and the positive working relationships quickly forged between the Gulf of Mexico Sea Grant programs, the regional Land Grant Extension programs, and local, state and federal agencies.

Now that the well has been capped, threats to Florida have greatly diminished, but Sea Grant will continue to provide support where needed. We will move forward with our original strategic priorities, which include such projects as providing coastal communities with information on strategies for adapting to climate change, ensuring the sustainability and quality of Florida seafood, and advancing our understanding of the value of healthy marine environments.

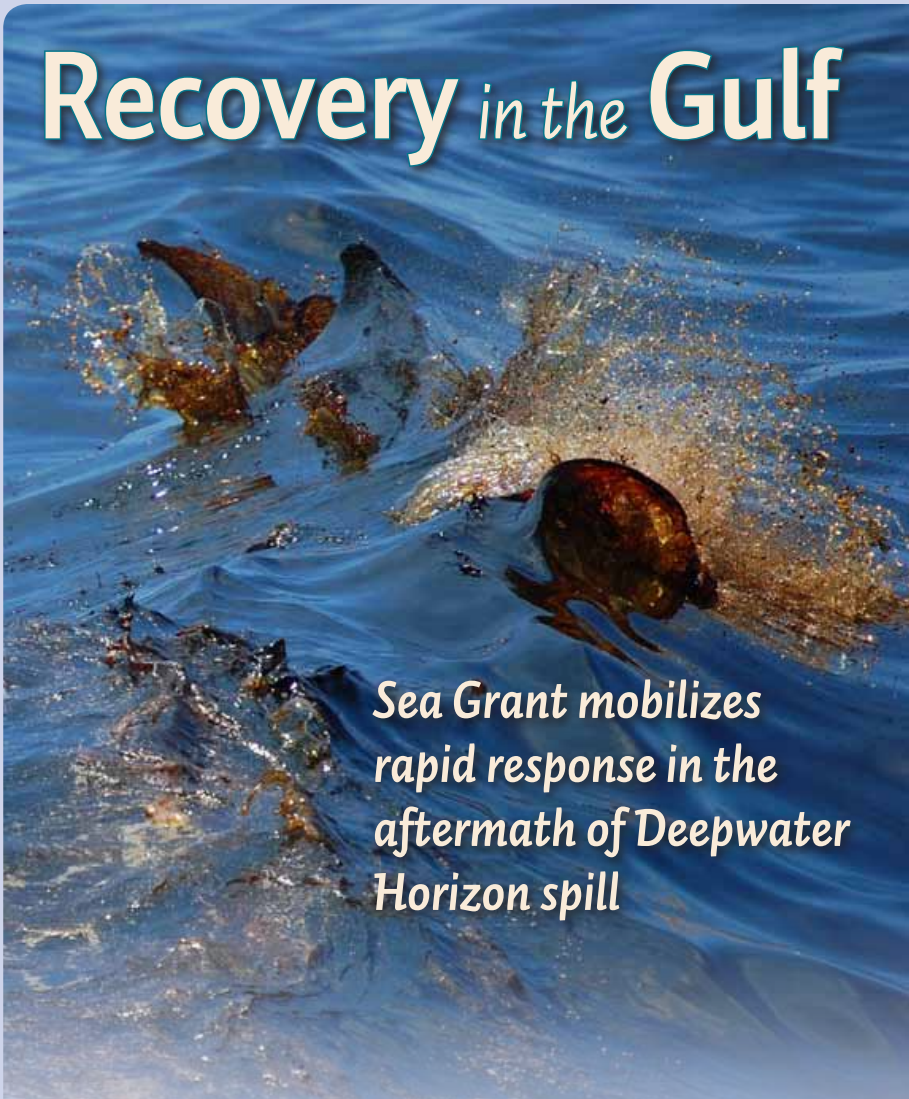
We clearly will benefit from the new cooperative relationships that developed during the oil spill disaster as we address these other critical regional issues.

Thank you,

Karl Havens, Director  
Florida Sea Grant  
khavens@ufl.edu



NOAA



## Recovery *in the Gulf*

*Sea Grant mobilizes rapid response in the aftermath of Deepwater Horizon spill*

**O**n April 20, 2010 an offshore oil drilling platform, Deepwater Horizon, exploded in the Gulf of Mexico about 50 miles southeast of Venice, La. Two days later, the badly damaged rig capsized and sank, unleashing the largest accidental release of oil into marine waters in history.

*Continued on back cover*

### Member Institutions

University of Florida (Host)  
Gainesville, FL

Florida A&M University  
Tallahassee, FL

Florida Atlantic University  
Boca Raton, FL

Florida Gulf Coast University  
Ft. Myers, FL

Florida Institute of Technology  
Melbourne, FL

Florida International University  
Miami, FL

Florida State University  
Tallahassee, FL

Harbor Branch Oceanographic Institute  
Ft. Pierce, FL

Mote Marine Laboratory  
Sarasota, FL

New College of Florida  
Sarasota, FL

Nova Southeastern University  
Dania Beach, FL

University of Central Florida  
Orlando, FL

University of Miami  
Miami, FL

University of North Florida  
Jacksonville, FL

University of South Florida  
St. Petersburg, FL

University of West Florida  
Pensacola, FL

# DELIVERING RESU

## Understanding Disease Spread in Spiny Lobsters



DON BEHRINGER

The Caribbean spiny lobster (*Panulirus argus*) supports one of the most economically valuable fisheries in Florida, worth some \$28 million per year from 1995 to 2000. But in 2001, the fishery saw a precipitous decline of about 30 percent, and annual catches remain very low compared to historic levels.

Coincident with the decline, a research team led by Don Behringer discovered a lethal, pathogenic virus called *Panulirus argus* virus 1, or PaV1, that was infecting juvenile lobsters. Now at the University of Florida, Behringer has been sponsored by Florida Sea Grant to explore if current lobster trap fishery practices affect the distribution and prevalence of PaV1, and whether the virus might be playing a significant role in the downturn in Florida fishery landings.

The work has led to an additional \$1.4 million in funding from the National Science Foundation to better understand the dynamics of the disease throughout the Caribbean-wide range of the spiny lobster.

Preliminary indications are that healthy lobsters' ability to avoid diseased ones is based on a chemical cue, a behavior that reduces the trap's effectiveness. The team also found that rising ocean temperatures could cause more rapid disease onset, more rapid associated deaths, and generally increased prevalence of the disease.

Better understanding of how the deadly PaV1 infection spreads in spiny lobsters, and the tendency of healthy lobsters to avoid diseased lobsters, can be used to develop management plans that protect uninfected lobsters from getting the disease.



IFAS INFORMATION AND COMMUNICATION SERVICES

## The Navarre Beach Marine Science Station



FLORIDA SEA GRANT

Florida Sea Grant extension is helping coordinate the development of a new coastal field station located at the Navarre Beach Park on Santa Rosa Island, adjacent to the Gulf of Mexico and the Santa Rosa Sound.

The Navarre Beach Marine Science Station is operated in partnership with the Santa Rosa County Board of County Commissioners and the county's school board, which manages the station. The facility is a focal point of marine, natural resource and watershed education for Northwest Florida K-16 students, 4-H members, scout groups and the community.

Santa Rosa County marine agent Chris Verlinde has organized additional learning opportunities for community leaders, county decision makers, 4-H and youth, Florida Master Naturalists and Florida Master Gardeners, using kayaks to get these groups on the water to experience local coastal resources firsthand.

Initial funding for the establishment of the station was obtained from a Gulf of Mexico Alliance Environmental Education Grant, a Toyota Tapestry Grant and a Florida Sea Extension Enhancement Grant.



FLORIDA SEA GRANT



## Sea-Level Rise Issues Unites Gulf Outreach Efforts



PAUL KRASHIEFSKI

Planners and leaders in Gulf of Mexico communities are beginning to learn the real costs of increased flooding, high-tide inundation, and other effects of sea-level rise, yet they often lack sufficient information to properly plan for adaptation strategies.

In response, Florida Sea Grant and other Gulf of Mexico Sea Grant programs are building a long-lasting collaborative network to learn the best approaches, techniques and scientific information that coastal communities can use to plan for and adapt to sea-level rise.

With support from the National Oceanic and Atmospheric Administration, the plan is to build a climate “community of practice” among extension, outreach and education professionals in the Gulf region that will ensure continued dialogue and information

exchange on sea-level rise and other climate-change and coastal-hazard-related issues.

Recently, about 70 extension, outreach and education professionals met with scientists, communications specialists and local community planners in St. Petersburg to learn more about sea-level rise and possible ways to begin preparing Gulf of Mexico communities for its consequences.

One result of the workshop is that participants agreed to begin action on a number of projects, including the development of key messages about sea-level rise, having sea-level rise included when determining flood maps, creating a sea-level-rise visualization tool for the entire Gulf Coast and having officials incorporate sea-level rise into their community planning efforts.

The community of practice has also created a social network online at [stormsmartconnect.org](http://stormsmartconnect.org). Participation from coastal community leaders, elected officials, decision makers, and other agency personnel is encouraged.

## Training the Next Generation of Extension Professionals



FLORIDA SEA GRANT

Florida Sea Grant coordinated its second National Sea Grant Extension Academy in 2009, giving new agents and specialists from across the Sea Grant network a foundation in extension philosophy and skills.

The academy, coordinated by Mike Spranger, consists of two one-week workshops spaced about 6 months apart. In 2009, the first was held in Washington, D.C., and the second in Florida’s Panhandle.

Future extension faculty like the academy experience. In follow-up surveys, the vast majority of graduates indicate the workshops advance their proficiency in extension activities, and that networking is invaluable as they continue to work with colleagues across the nation.

To date, 64 individuals from 28 Sea Grant programs have graduated from the program. The 2009 class included a participant from Japan’s Tokyo University of Marine Sciences and Technology, who is now working to establish a “sea grant extension-like” program in Japan.

The 3rd Athelstan Spilhaus National Sea Grant Extension Academy is planned for 2011.

## Commercial Validation of Irradiation Technique Obtains FDA Approval



FLORIDA SEA GRANT

A new processing method effective against harmful bacteria will give raw oyster lovers new options — and provide a boost to Florida’s oyster industry as well.

Florida Sea Grant researchers have been working with industry partners in the Gulf of Mexico to develop the technical standards that commercial processors will need to use irradiation to reduce the incidence of *Vibrio vulnificus* in raw oysters.

Their research has shown that passing low doses of gamma rays through live oysters reduces *Vibrio* bacteria counts to non-detectable levels, meaning safer raw oyster products for consumers. Based on the results, the U.S. Food and Drug Administration and the Florida Department of Agriculture and Consumer Services have accepted gamma irradiation as a valid post-harvest process.

What sets irradiation apart from other post-harvest processes validated by the FDA to kill vibrio is that irradiation preserves a live oyster. The irradiation technique will also help oyster producers meet federally-required rates of illness reduction, and avoid consequences that threaten closure of Florida and Gulf of Mexico oyster operations during the warm-weather months when bacterial counts are more abundant.

# Provide highly relevant research, extension and significant impacts for the oceans and coasts.

## 2009 Education/Outreach Activities

Education			
	Undergrad	MS	Ph.D
College Students Supported	23	34	14
Students Graduated	17	14	7

Outreach	# Attendees
K-12 Teacher Trainings	410
Meetings/Workshops/Conferences	5,396
Public/Professional Presentations	9,429
Programs for Children and Families	3,240
Citizen Volunteer Hours	7,608

## Fellowship Recipients



**Chris Kennedy**, a Ph.D. candidate in the Department of Economics and Finance at the University of Wyoming, has earned a NOAA National Marine Fisheries Service – Sea Grant Fellowship in Marine Resources Economics for 2009 through 2011. His research deals with incentive-based fishing policies, including individualized fishing quotas and other methods to support sustainable fisheries. Kennedy will work with a NOAA researcher in Miami, and with Brian Silliman, professor of zoology at the University of Florida, investigating the economics associated with management of the southeast Atlantic blue crab fishery. NOAA established the fellowship in 1999 to focus on changes in fish populations, what influences those changes, and what drives marine resource economics.



**Melinda J. Donnelly**, a Ph.D. student in conservation biology at the University of Central Florida, and **Austin Todd**, a Ph.D. student in physical oceanography at Florida State University, were named the inaugural winners of the Guy Harvey Excellence Award, and will each receive a \$2000 stipend to be used in support of their research and education. Donnelly studies the ecological interactions among mangrove plants and organisms to improve the success of saltmarsh restoration efforts in Florida's Indian River Lagoon system. Todd is researching the effects of ocean currents on the early life stages of gag grouper in Florida's Big Bend Region. The Guy Harvey Excellence Award recognizes undergraduate and graduate students enrolled full time at Florida institutions of higher education who are conducting work related to bettering renewable, finite marine resources through science.



**Zy Beisinger** and **Brooke Denkert** were named the 2009 recipients of the Aylesworth Scholarship. Beisinger, a Ph.D. candidate in fisheries at the University of Florida, studies the linkage between landscape features on the sea bottom and behavior, growth and reproduction of grouper in the Gulf of Mexico. Denkert is a master's candidate at Florida Gulf Coast University, majoring in environmental science. Her research deals with effects of freshwater runoff on eggs, larvae and juvenile fish in the Caloosahatchee Estuary. The Aylesworth Foundation for the Advancement of Marine Science provides the scholarship for students interested in marine science disciplines who are enrolled in universities that participate in the Florida Sea Grant College Program.



**Kari MacLauchlin**, **Tauna Rankin** and **Heather Havens** earned Knauss Marine Policy Fellowships for 2009. MacLauchlin is a Ph.D. candidate in the School of Natural Resources and Environment at the University of Florida, working on a degree in interdisciplinary ecology that focuses on tradable fishing rights in the Florida spiny lobster fishery. Rankin is a Ph.D. candidate in the Division of Marine Biology and Fisheries at the Rosenstiel School of Marine and Atmospheric Sciences at the University of Miami. Her dissertation research focuses on the ecology and population dynamics of coral reef fish. Havens is a Ph.D. candidate in the College of Marine Science at the University of South Florida. Her dissertation research is focused on developing modeling tools to better predict the occurrence of harmful algal blooms. It is in collaboration with the Florida Fish and Wildlife Conservation Commission.



## Spotlights



Florida Sea Grant's extension program earned the 2009 Jim App Award from the University of Florida Institute of Food and Agricultural Sciences as the state's outstanding extension team for its work on recreational fisheries education.

The team was recognized for the catch-and-release outreach campaign created in response to new federal and state rules that required use of circle hooks, dehookers, and venting tools onboard vessels harvesting reef fish in Gulf of Mexico waters.

The effort also earned the 2009 Innovative Program Award gold medal from the Association of Natural Resource Extension Professionals.

Team members included **Chuck Adams, Bryan Fluech, John Stevely, Brian Cameron, Joy Hazell, Doug Gregory, Betty Staugler, Eddie Leonard, Don Sweat, Steve Kearn, Dorothy Zimmerman, and Dianne Behringer.**



**Victor Garrido**, coordinator of research programs and extension services in Florida Sea Grant's seafood technology program, earned a Superior Accomplishment Award at

the University of Florida for contributing outstanding service, efficiency and economy to the quality of life for students and employees.

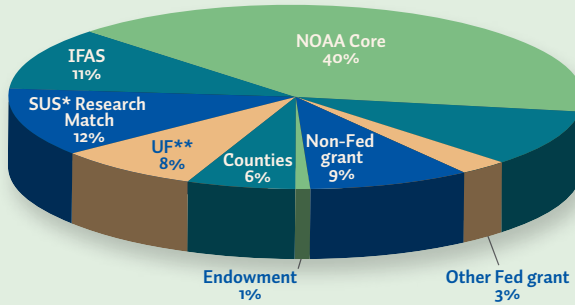
Garrido's research is the groundwork for the U.S. Food and Drug Administration's recent approval of irradiation as a valid post-harvest process.



**Thomas Ruppert** has joined Florida Sea Grant as a coastal planning extension specialist.

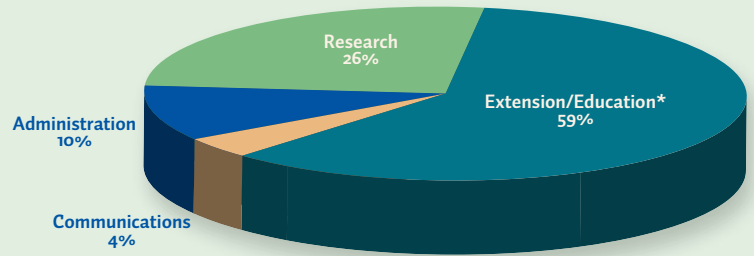
His responsibilities will be to conduct extension, education and outreach programs on climate variability and coastal resiliency topics throughout the state of Florida, the Gulf of Mexico and Southeast Atlantic regions. Ruppert holds an undergraduate degree in literature and philosophy from Southwest Minnesota State University, and a law degree from the University of Florida College of Law.

## Where Our Money Comes From...



\* State University System  
\*\* University of Florida

## ... And How We Use It



### Cumulative Budget 2009-2010

Funding area	Total (thousands of dollars)	% Total
Research	\$1,339	26%
Extension/Education*	\$3,045	59%
Communications	\$228	4%
Administration	\$531	10%
<b>Total</b>	<b>\$5,143</b>	<b>100%</b>

\*Several new extension grants substantially increased funding in this area compared to previous years.

## Featured Publications at [www.flseagrant.org](http://www.flseagrant.org)



*Understanding The Ecology of Artificial Reefs: No Simple Answers*



*Coastal and Marine Spatial Planning*



*Florida Sea Grant Strategic Plan 2009-2013*



*Oil Spill Physical Oceanography Summit*

### 2009 Publications

Type	Number
Peer-Reviewed Journal Articles	29
Proceedings / Symposia	21
Brochures / Fact Sheets	32
Theses / Dissertations	13
Newsletters / Periodicals	13
Newspaper Articles	73
Websites Developed / Maintained	11
Nat'l Library Downloads of FSG Documents	168,364



*South Atlantic Sea Grant programs  
[southatlanticseagrant.org](http://southatlanticseagrant.org)*



Continued from front cover

Even though the explosion occurred more than 150 miles from Florida's Panhandle coast, it quickly became evident that the uncontrolled flow could imperil sensitive estuarine habitat and damage key sectors of the economy.

Florida Sea Grant responded directly to the situation, providing science-based information that the state's citizens, communities and agencies needed in their efforts to contain and limit the spill's effects. Florida Sea Grant also joined forces with other Sea Grant programs along the Gulf as well as the South Atlantic to collaborate and extend resources across the region and nation.



© BP P.L.C.

## Information is key

Emergency communications about the spill soon threatened to overwhelm websites and email inboxes. Florida Sea Grant recognized the need to swiftly consolidate internal channels of communications to assess the information flow for its relevance and validity. The communications team partnered with Sea Grant's extension faculty to create web pages dedicated to the spill, then populated the pages with timely and accurate advisories on the safety of seafood, the claims process, and volunteer opportunities for cleaning up the coast.

Just over a week after the rig sank, the communications programs of the Gulf Sea Grant programs collaborated to post a regional oil spill Web portal, [gulfseagrant.org](http://gulfseagrant.org), that featured comprehensive content on all aspects of the spill. Within a month, the South Atlantic Sea Grant programs launched a second site, [southatlanticseagrant.org](http://southatlanticseagrant.org), featuring original material from two research summits to answer questions about the possible movement of oil from the Gulf to the Atlantic.

## Is the seafood safe to eat?



FLORIDA SEA GRANT

The spill created significant uncertainty among consumers about the safety of eating seafood harvested from the Gulf. Within days of the explosion, seafood safety experts from Sea Grant posted frequently-asked questions and answers, as well as a media advisory, about seafood and oil contamination. Sea Grant

also launched a major campaign to inform consumers about processes that ensure safe Gulf seafood, including the use of sensory analysis by trained "seafood sniffers." The effort garnered coverage in every major national media outlet.

In addition, the Gulf Sea Grant programs collaborated to lead the seafood safety response for industry, offering structured training that

addressed concerns about oil contamination in harvest and processing practices. One program, Harvest Open Waters, or HOW, trained more than 300 participants from industry, the media, and regulatory agencies in less than four weeks.

## Finding economic relief

Many Floridians incurred economic loss caused by fishery closures or negative media coverage that drove customers away. There was widespread confusion among citizens and businesses about the provisions of the federal Oil Pollution Act, and how to seek compensation from the responsible party, BP.

Florida Sea Grant's economics and legal team exhaustively investigated the claims process, and developed a widely distributed advisory with step-by-step instructions for filing claims. Since procedures changed as the spill continued, Florida Sea Grant posted daily online updates.

The team also issued an advisory about making legal decisions related to spill damages, to help businesses and individuals understand the options of seeking compensation through the claims process or other legal avenues.

## Informing volunteers



FLORIDA SEA GRANT

Numerous individuals concerned about potential damage from oil coming ashore sought ways to lend a hand. Sea Grant extension faculty in affected Panhandle counties worked to help private individuals find meaningful ways to take part in the recovery. They worked closely with Volunteer Florida to identify volunteer opportunities once it was announced that only specially trained or paid workers would be allowed to clean oil from beaches and wildlife. They also organized a major public forum in Pensacola, "The Science of the Spill," where more than 120 community members had an opportunity to ask local experts questions about local oil spill impacts.



U.S. COAST GUARD



## Florida Sea Grant College Program

PO Box 110400  
University of Florida  
Gainesville, FL 32611-0400  
(352) 392-5870

[flseagrant.org](http://flseagrant.org)



This publication provides a progress report of the Florida Sea Grant College Program for 2009 - 2010. This publication is supported by the National Sea Grant College Program of the United States Department of Commerce, National Oceanic and Atmospheric Administration, under NOAA Grant No. NA06OAR-4170014. The views expressed herein do not necessarily reflect the views of any of these organizations.

Florida Sea Grant is committed to responsible and sustainable printing practices. This document is printed on FSC™ mixed sources paper, SW-COC-001530, [www.fsc.org](http://www.fsc.org), using vegetable-based inks.