

## Clam Farming Featured at UF's Exhibit in Nation's Capital

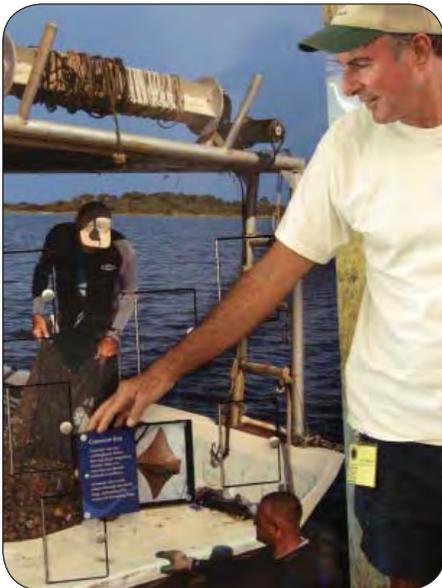
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As part of a year-long celebration of the 150th anniversary of the founding of the land-grant university system, the University of Florida hosted a large, hands-on exhibit at the 2012 Smithsonian Folklife Festival, a major summer event on the National Mall in Washington, D.C.

The exhibit revolved around the wise use of the state's most precious resource—water. One of the displays showcased Cedar Key's clam aquaculture industry as an environmentally friendly industry that provides food and jobs, and helps improve coastal water quality.

In spite of the record-setting temperatures, clam farmers joined Leslie Sturmer, UF/IFAS shellfish extension agent, in engaging with thousands of festival-goers about clam farming, an industry that has helped Cedar Key become a leading producer of farm-raised clams.

Visitors heard about how land-grant universities from around the country are partnering with communities to put research into action in the areas of agriculture and food, sustainable living, and rural revitalization.



Clam farmer Bobby Witt answered thousands of questions about clam aquaculture during the festival. (FSG photo)

UF's exhibit piqued visitors' interest about water and showed them ways UF is working to find solutions for global challenges, such as ensuring water quality, quantity, and access.

The clam-farming group met with Rose Myers, a staff member in Congressman Richard Nugent's office, and toured the Capitol. Ms. Myers, whose parents are former Cedar Key residents and clam farmers, is a 2007 graduate of Cedar Key High School.

The entire UF exhibit can be viewed this fall at the Florida Museum of Natural History in Gainesville.

### coming up...

#### National Working Waterfronts & Waterways Symposium

March 25-28, 2013

Tacoma, Washington

Go [here](#) for more information.

#### ArcGIS 10 Workshop

Dec. 10-13, 2012

3086 McCarty Hall  
University of Florida

This workshop will introduce beginners to ArcGIS Desktop, the primary product used by GIS professionals to compile, analyze, and manage geographic information.

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A newsletter that highlights Florida Sea Grant extension's response to the ebb and flow of Florida's dynamic coastal communities.

## Report Shows Gaps in Property Hazards Law

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Research conducted by the Levin College of Law Conservation Clinic and Florida Sea Grant has found that a recent change to state law designed to protect property owners as well as the state's beaches and dunes is not working.

In 2006, based on research provided by the Conservation Clinic, the Legislature amended Florida Statute 161.57, requiring that property buyers within the Coastal Construction Control Line zone receive written notice about more stringent standards that may affect their property. The statute requires written disclosure in the sales contract or other document stating that the coastal property may be subject to erosion as well as special regulations, including those pertaining to rigid coastal protection structures, beach nourishment, and the protection of marine turtles. The disclosure also requires that a buyer be provided an affidavit or survey showing the location of the control line on the property, or the right to waive that requirement.

This research project evaluated the extent to which the 2006 changes have achieved their intended effect. Phase I of the project consisted of a mail survey of 2,500 randomly selected property owners from five Florida coastal counties who purchased coastal property since the changes went into effect. Phase II of the project involved semi-structured interviews with a subset of mail survey respondents and coastal real estate agents.

The project found that the coastal hazards disclosure law is not accomplishing its statutory purpose. A majority of the mail survey respondents (85.7%) either did not receive or do not recall receiving the coastal hazards disclosure statement that the law requires. Most survey respondents did not know their properties were partially or totally seaward of the construction control line, and did not consider that fact in their decision to buy coastal property. Furthermore, most respondents were either never informed about the control line or do not remember when during their property transaction they may have received information regarding the line (40.7% and 37.0%, respectively).

These results suggest that the manner in which the disclosure is presented—during the transaction process—is inadequate to meet the statute's purpose. In addition, factors that property owners did not initially consider important, such as sea turtle nesting restrictions, erosion, winter storms, and beach nourishment, became the most important factors that owners ultimately encountered after they purchased their property. This suggests that prospective purchasers need to have more and better information available related to coastal hazards and restrictions than is currently provided under the existing law.

The final report (TP-194) is available online through [flseagrant.org](http://flseagrant.org). The executive summary with conclusions and recommendations for statutory reform (TP-195) is available in both print and online.

## Coastal Resiliency Index Workshops Pay Off

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When the Franklin County Emergency Management Office activated in response to Tropical Storm Debby on June 24, I had the opportunity to see people I trained put their training to use.

Last summer, I worked with representatives from Apalachicola Estuarine Research Reserve and the Mississippi-Alabama Sea Grant Consortium to teach a "Coastal Resiliency Index Self-Assessment" tabletop exercise with the Franklin County Emergency Operations Center staff and members of the county's Emergency Support Function teams.

The self-assessment is a tool that coastal community leaders can use to determine if their community will reach and maintain an acceptable level of functioning after a disaster. The tool was designed to allow local leaders to interactively discuss past or hypothetical storm events, and evaluate how their critical facilities and infrastructure, businesses, and social systems will respond before, during, and after a storm of a similar or greater magnitude.

During the tabletop exercise, the emergency operations staff and emergency support team members worked through a storm scenario that had 50% greater wind speed, rainfall and tidal surge than Hurricane Dennis, which hit Franklin County in 2005. They were guided through the self-assessment as

they revisited what happened in the county during Hurricane Dennis as related to six crucial areas:

- 1) critical infrastructure and facilities
- 2) transportation issues
- 3) community plans and agreements
- 4) mitigation measures
- 5) business plans
- 6) social systems

In each of the areas the participants were asked to answer a series of yes/no questions. For example the critical infrastructure questions asked if the wastewater treatment systems, power grid system, and transportation and evacuation routes were operating within 72 hours after Hurricane Dennis.

After answering all of the questions in each of the crucial areas, the number of “yes” answers were counted in each section and a score of low, medium, or high resiliency was determined for each area.

The participants then answered the same questions they answered for Hurricane Dennis, only this time they based their responses on what problems/damage they expected a storm 50% stronger than Dennis hitting Franklin County would cause.

After completing the “community self-assessment,” participants discovered they only had one critical area that scored “low” when it came to post-storm recovery – business plans. As a result, the resiliency participants immediately began discussions on how to improve the County’s emergency management response plan to address some of the identified issues with a special emphasis on Emergency Support Function No. 18 – business continuity.

While Tropical Storm Debby was not a major storm, communications relative to business continuity improved, and businesses were better prepared for a storm and recovery. However, there is still room for improvement and plans are in the works to do a City of Apalachicola coastal resiliency self-assessment. I was contacted about doing a follow-up with the Franklin County emergency operations and emergency support teams to measure their index changes, and hope to do both of these during the 2012 program year.

## Field Trip Series Highlights Panhandle’s Ecological Treasures

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Sea Grant and natural resource agents in the northwest have recently hosted 47 participants from across the Panhandle and Georgia on field trips developed through the Panhandle Outdoors LIVE program. The program consists of 10 field trips which showcase the hidden ecological treasures throughout northwest Florida.

Two recent trips focused on the western Panhandle. On May 11, participants canoed and kayaked down the Perdido River. Presentations were given on plants, fish and reptiles as well as the longleaf pine system. On June 6, participants enjoyed Navarre Beach with seining, a coastal dune walk, kayaking in the Santa Rosa Sound and presentations from the students at the Navarre Beach Marine Science Station. The trips were led by Sea Grant agents Rick O’Connor, Chris Verlinde and Brooke Saari, and Escambia County natural resource agents Carrie Stevenson and Libbie Johnson.

Evaluations showed that participants increased their understanding of biodiversity, local flora and fauna, coastal processes and enjoyed the trips. A number of the participants are repeat attendees. The agents have been encouraged by the excellent participation and evaluations and plan to continue the program in 2013.



*Escambia County agent Rick O’Connor holds a banded water snake on Perdido River. (FSG Photo)*

Other trips have included the Chipola River bluffs and caverns, Wakulla Springs and the Leon County Sinks, Eglin Air Force Base seepage slopes and the Apalachicola bluffs and steephead ravines.

Upcoming trips include the Ochlockonee brackish river swamps and marshes, St. Andrews beaches, dunes and bay, Tate's Hell Forest and Torreya streams, bluffs and floodplain forests. Additional leaders participating include Sea Grant agents Scott Jackson and Bill Mahan; and natural resource agents Judy Ludlow, Will Sheftall, Matt Orwat and Sheila Dunning. For more information or to register for upcoming trips, go to <http://panhandleoutdoorslive2012.eventbrite.com>.

## Creating Oyster Reef Habitat to Enhance Water Quality, Biodiversity, and Shoreline Protection

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More than 50 participants from throughout Florida attended the two-day workshop "Creating Oyster Reef Habitat to Enhance Water Quality, Biodiversity, and Shoreline Protection," which was sponsored by Florida Sea Grant and hosted by the UF/IFAS Indian River Research and Education Center.

Sea Grant agents, researchers, NGOs, and representatives from government agencies, water management districts, and the national estuary program shared their experiences in developing community-based oyster restoration programs in their effort to return viable oyster reefs to their historic abundance. Globally, and throughout Florida, living oyster reefs have declined over 80%, which has severely impacted their ability to provide important ecological services, such as shoreline stabilization, water filtration, and essential fish habitat.

Experienced shellfisheries scientists described restoration projects within the Indian River Lagoon, the Gulf of Mexico, and along the southeastern coast of the United States, which varied widely in scope, methodology and metrics for monitoring success. Agency representatives discussed ways to streamline and expedite the various permitting processes for restoration efforts at the federal and state levels and within municipal jurisdictions.



*LeRoy Creswell describes the history of oyster restoration efforts in the Indian River Lagoon during a pontoon boat trip to Spoil Island 18B off Fort Pierce. (FSG Photo)*

On day two, discussions included establishing collaborative efforts, particularly in coordinating submission of permit applications, collection of shell cultch and other materials used to build oyster reefs, and the potential to share limited funding and resources.

A highlight of the workshop was a field trip to re-established oyster reefs along a spoil island in the Indian River Lagoon, the successful result of a community-based restoration program with youth volunteers and many environmental organizations.

## Barotrauma Booth a Big Hit

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Information on the Sea Grant Extension fish recompression training initiative was displayed at the South Atlantic Fishery Management Council meeting in Orlando on June 13. The display included a selection of descending tools, including the Seaqualizer, an inverted utility crate, modified crab hoop nets, a West Marine blacktip fish descender, the Shelton fish descender, the Roklees, and a modifield fish grip.



Holly Abeels at the Sea Grant barotrauma booth at the South Atlantic Fishery Management Council meeting in Orlando. (FSG Photo)

I was able to talk to fishermen and council members both during the council meeting and the public comment period, and all were excited about the project and its value to the fishing community. A couple of anglers said that they had been using J hooks for years to take fish back to the bottom that had signs of barotrauma. Others asked about the potential for using this gear for fish like warsaw grouper that have high mortality when brought up from depth and goliath grouper that have such thick skin a venting tool doesn't work well on them. One member of the council expressed interest in helping with the project if it progresses to a tagging study to look at survival of the fish when released with the various devices.

## Coastal Planning Update

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Have you seen our new Coastal Planning page on [flseagrant.org](http://flseagrant.org)? The site, <http://flseagrant.org/coastalplanning>, focuses on coastal hazards, especially the long-term hazard of sea-level rise, and offers resources for local governments facing the need to adapt to coastal hazards.

The site currently offers the most basic information on sea-level rise and vulnerability analysis, and contains a summary of science-based information on past and future sea-level changes, as well as on the likely impacts of increased sea levels in Florida. The vulnerability analysis page also provides a general overview of this area with links to some useful tools for analyzing vulnerability.

Most of the detailed information on the site appears under the "Policy Tools" tab and consists of specialized resources and information aimed at local government attorneys and planners addressing the need to adapt to dynamic shorelines. Whitney Gray and I will be adding more information to the site in the coming months, and we invite your feedback.

## Second Intro to Aquaculture Workshop a Success

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The "Introduction to Aquaculture" workshop, held in April in Ft. Myers, attracted 68 attendees. Florida Sea Grant agents Betty Staugler, Joy Hazell and I partnered to hold the program after the success of a similar workshop offered by Agent Maia McGuire in northeast Florida last August.

The workshop was intended for individuals interested in the development or growth of aquaculture-related businesses. Topics included current information on aquaculture in Florida, pros and cons of specific business ventures, an overview of state regulations, and a discussion of resources available to support these businesses. Florida Sea Grant aquaculture specialists Leslie Sturmer, Carlos Martinez and Cortney Ohs were among the speakers.

Surveyed attendees indicated they were either extremely satisfied or moderately satisfied with the quality and usefulness of the workshop; 14% indicated they plan on starting up an aquaculture operation, while another 17% said they were more interested in getting into aquaculture as a result of attending the workshop. Follow up evaluations are planned for this fall.

## FSG Extension Changes

- Whitney Gray has joined us as sea-level rise coordinator. This is a unique position funded by the Florida Fish and Wildlife Conservation Commission. Based at FWC's headquarters in Tallahassee, she serves in a role that looks at the effects of climate change, especially sea-level rise, on the natural coastal environment. Her responsibilities are to provide to both FWC and FSG personnel up-to-date information and



More than 40 Sea Grant professionals from Texas, Louisiana, Mississippi, Alabama and Florida recently attended the Gulf of Mexico Regional Extension meeting in July in Biloxi. This was an important opportunity to network with our colleagues across the Gulf of Mexico, and re-establish connections with each of these programs. Florida Sea Grant was well-represented by a contingent that included (from left) Brooke Saari, Doug Gregory, Scott Jackson, Betty Staugler, Garin Davidson, Thomas Ruppert, and Libby Carnahan. Attending but not pictured are Mike Spranger, and Bill Mahan. The meeting was sponsored by the Mississippi-Alabama Sea Grant Legal Program. Gene Kim from the National Sea Grant Office and the monitor for Gulf of Mexico programs also attended. Much of the meeting focused on training about the regulatory takings issue and its relevance to Sea Grant programming.

resources on SLR issues, and be involved in the planning process of both agencies. Whitney is a fifth-generation Floridian, and her background includes time as a high school and middle school teacher, elected official in Clearwater, and a researcher with the Southwest Florida Regional Planning Council.

- Bryan Fluech assumed new duties and responsibilities as the Collier County Extension Director. He now will be the interface between county government and IFAS Extension, and is responsible for county programs and operations. Florida Sea Grant Extension now has three active county extension directors in the IFAS Extension system (Bryan, Doug Gregory and Bill Mahan). Bryan will continue to conduct educational programs, albeit on a smaller, more focused scale. He still will be taking a leadership role in the area of fisheries, particularly in the applied work the fisheries team is doing to reduce bycatch in the recreational fisheries area. He also is continuing his work in the seafood education area.
- Garin Davidson now has a new part-time role with Sea Grant. She will continue working with Bob Swett on various boating and waterways projects. She also will be the lead in the Gulf of Mexico hydrological restoration project, which involves working with local communities to remove

manmade barriers to tidal flow, affecting coastal and marine fisheries habitat. All the Sea Grant programs in the Gulf of Mexico received funds from NOAA. Garin will also work with Florida's Clean Boating Partnership, and will assist Thomas Ruppert with his post-disaster recovery project in Sarasota County.

## From Stem to Stern II Conference Well Attended

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From Stem to Stern II, the statewide boating and waterways conference held recently in Clearwater Beach, attracted more than 150 attendees and provided a unique forum to share accomplishments, discuss ideas, and consider priorities for future actions.

Conference highlights included keynote addresses from Herschel T. Vinyard Jr., Secretary of the Florida Department of Environmental Protection, and Dusty McCoy, the president and CEO of Brunswick Corporation.

The conference gave boating and waterways planners, managers, users and researchers the



People from all sectors of Florida's boating and waterways community attended *From Stem to Stern II*. (FSG Photo)

opportunity to discuss issues and to network with colleagues. In a post-meeting survey, attendees gave the conference high marks for content, organization and networking opportunities. As a result of strong interest in another meeting, a tentative plan to host *From Stem to Stern III* is already being discussed for March 2014.

The planning committee included partners from Florida Sea Grant, the Florida Fish and Wildlife Conservation Commission, the University of Florida, and for the first time, the Florida Department of Environmental Protection. Holly Abeels (Brevard County Extension) and I were the conference chairs.

The conference was composed of eight panel sessions held over three days, and featured three optional in-depth training sessions on topics relevant to resources managers. Copies of the conference presentations, as well as the full agenda, are archived online at the conference website.

## Monroe County Addresses Climate Mitigation and Sea Level Adaptation Needs

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I have been most busy this year dealing with climate change and sea-level rise issues with local government and the public. The Monroe County Climate Change Advisory Committee has met five times to develop a Community Climate Action Plan

for the Florida Keys. In addition to speaking about climate change and sea-level rise on local radio shows six times, I participated in three major climate related conferences or workshops, including the Gulf of Mexico Climate Change Community of Practice Workshop, the Southeast and Caribbean Climate Change Community of Practice Workshop and a Sea-Level Rise Summit.

During the May supermoon (or king tide for you Pacific coast people) spring tides, I conducted a tour of the Key West area to document locations where saltwater was rising up through storm drains and flooding adjacent roadways, as an indication of where the first sea-level rise issues will occur. Even the Key West International airport had water rising up onto the tarmac of the runway; being only 3 feet above current sea level, it is going to be most vulnerable to sea-level rise.



A salt pond adjacent to the runway at the Key West Airport shows how vulnerable the airport is to sea level rise during May's supermoon. (FSG Photo)

I participated in two Gulf of Mexico Fishery Management Council Scientific and Statistical meetings to review population assessments and set Acceptable Biological Catch for various species. I also testified at two public hearings to both the Gulf of Mexico and South Atlantic Fishery Management Councils on lobster, hog snapper and grouper proposed regulations.

At the request of the local fishing industry, I attended the one-day NOAA Coral Endangered Species workshop in Ft. Lauderdale to review the science of corals and the threats that may cause them to become extinct within the next 100 years if no action to protect them is taken. The greatest observed threats to all shallow-water corals worldwide is climate change, specifically ocean temperature and acidification increases. Seven species of local corals are being considered for inclusion as endangered species. Such action may have substantial unintended consequences on the Florida Keys' marine industries.

## Sea Grant Accolades

- Doug Gregory, Monroe County Extension, received the Gulf of Mexico Climate Outreach Community of Practice's first Spirit of Community Award for his work in climate change, sustainability and energy conservation in Monroe County, along with his work with the Southeast Climate Change Compact. The award was given at the third community meeting in New Orleans in April.
- In February, two extension agents were elected to positions in the Sea Grant Education Network. Chris Verlinde was re-elected secretary, and Maia McGuire was elected as a member-at-large. The network is composed of marine educators with the state Sea Grant programs.
- Florida Sea Grant was well represented in the Association of Natural Resource Extension Professionals awards.
  - Maia McGuire, Flagler County, received a career leadership award.
  - J.P. Gellerman received silver in the web page category for "Land Use Planning: Basics to the Big Picture."
  - Chris Verlende was part of a team that won silver for "A Multidisciplinary Field Trip on the Perdido River."

- The Sea Grant team of Brooke Saari, Scott Jackson, Andrew Diller, Chris Verlinde and Bill Mahan won first place for their poster presentation "Northwest Florida Natural Resources Agents Respond to the Gulf Oil Spill."

## Operation Drag & Snag: Part II

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In recent years, there has been more awareness regarding the impact derelict crab traps have on marine life, the environment and public safety. To facilitate removal of these traps, the Florida Fish and Wildlife Conservation Commission now lets volunteer groups pull up derelict traps during brief periods when crabbing season is closed.

During a closure, cleanups typically focus on traps left in the water, since they have the potential to become derelict during the open season. During the open crabbing season, those traps which are visible at low tides are targeted. What is typically not addressed through the cleanups in open season are those which no longer have a buoy and are not visible from the water surface. These traps are generally lost when boats snag the buoy, resulting in navigation hazards that may continue to ghost fish for several years.



*A volunteer with one of 29 submerged traps that were recovered in July. (FSG Photo)*

Based on a successful pilot project completed last year, this past May I used side-scan sonar to identify and remove traps that are submerged and unbuoyed. Normally, state fishing rules prohibit touching or removing these legal traps, so I reached out to commercial fishermen in Charlotte and Desoto counties, asking their signed consent to recover their trap when found unbuoyed. To date 35% of the fishermen have responded.

In July 2012, using the side-scan with targets identified and a homemade dragline, I worked with a crew of volunteers, and recovered 29 submerged traps. Nearly half of these recovered were in fishable condition. Bycatch included 32 blue crabs. Three traps recovered were legal and have been returned to their owners as a result of the signed consent letters. The derelict traps and trap debris collected were disposed of at the Charlotte County landfill, where the trap material will be recycled at an estimated value of \$178.50.

## Mapping Stakeholder Values across Greater Sarasota Bay

*Bob Swett*

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Zachary Cole, who recently completed his Ph.D. at UF, conducted a pilot study with my help to quantify the social values of ecosystem services in Sarasota Bay. The research is ongoing, and is supported by a multi-year cooperative agreement with the U.S. Geological Survey. The initial goal was to model the spatial distribution of stakeholder values throughout the watershed, and for near-and off-shore waters. To do so, Zach developed an innovative online map-based survey to collect stakeholder's perceptions of resource uses and values. He then modeled the spatial relationships between their values and underlying environmental characteristics using a GIS-based model developed by the USGS called Social Values of Ecosystem Services, or SolVES.

A longer term goal of the project is to inform local managers of the human dimensions operating within estuarine and offshore environments, and to link this information to ecological and economic dynamics. In the coming months, the model findings will be presented to local and regional managers in the

Sarasota Bay area to seek their input on the model's usefulness and suggestions of potential refinements. This project is helping Florida Sea Grant integrate human dimensions research with coastal zone issues by bringing together geospatial, social science, managerial, and policy expertise across the state.

## New Book Documents South Florida's Marine Ecosystem

Florida Sea Grant Regional Extension Agent Pamela Fletcher is the co-editor of a new book "Tropical Connections: South Florida's Marine Environment."

More than 160 researchers and managers from a variety of backgrounds contributed articles to the nearly 500-page book. Articles range from water quality and climate change to coral reefs and animal diversity topics. Information is presented in an easy-to-read format that includes rich graphics and photos.

Co-editor William Kruczynski added that the book will further the understanding and appreciation of the south Florida marine ecosystem and promote conservation and management decisions that are based on sound scientific findings.

The book, which was supported by Florida Sea Grant, the U.S. Environmental Protection Agency, the Florida Keys National Marine Sanctuary, Protect our Reefs, and others, is available for \$25 from IAN Press. To learn more, visit <http://ian.umces.edu/press>.



## Timely Hurricane Workshop

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Although Pinellas County has not experienced a direct hit from a major hurricane since 1921, it is important that citizens are prepared to respond, should a storm threaten our coast. With that in mind, I worked with county partners to present a hurricane preparedness workshop, "The Calm Before the Storm," on June 16. The workshop, which was featured on two local news stations, proved to be timely with Tropical Storm Debby forming in the Gulf of Mexico on June 24.

The half-day workshop included practical sessions on preparing your food, family, finances, landscape and boats for a pending storm. I kicked things off with a video, "Hurricane Phoenix: The Tampa Bay Region's Worst Case Scenario." The Pinellas County Emergency Management spokesman followed with a detailed history of hurricanes in the county. The remainder of the workshop presented practical steps residents could take to prepare their families and their property in the event of a threatening storm.

It's interesting to note that of the 56 who attended the workshop, most lived within a mile of the coast, but nearly half lived farther away than a mile, indicating that hurricanes are a concern for the entire community. More than a third of attendees believed a major storm strike in the region would be a threat solely to their property; most believed major storms posed a threat to their life as well as their property. Just a small fraction did not believe the area faced an imminent threat from a storm.



Storm surge from Tropical Storm Debby washed over the fuel dock at Demen's Landing in downtown St. Petersburg. (photo courtesy Libby Carnahan)

When asked whether they had purchased hurricane supplies for the 2012 season, the answers were evenly distributed across the range from "yes, I do every year" to "no, the thought has not crossed my mind". However, after the workshop, more than half said they would enact three or more actions toward hurricane preparedness.

Let's hope they did. One week after the workshop, Tropical Storm Debby formed and "hunkered down" off our coast. Storm surges in Pinellas County lifted tides 2 1/2 feet above predicted levels. Tides rose over seawalls and flooded neighborhoods on Tampa Bay and the Gulf of Mexico. The largest economic loss from Tropical Storm Debby was on the beaches, which could cost as much as \$20 million to repair.

## Steinhatchee Fisheries Management Area Enhanced

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The Taylor County reef program has been very active over the summer months. Over two days in July, 42 additional reef patches were deployed as public fishing sites off our coast. Side-scan sonar on the R/V Inquisitor was used to select appropriate reef sites 35-39' of water west of the mouth of the Steinhatchee River. Each reef patch has four concrete cube modules with large central cavities, for a total deployment of 420,000 lbs. D&L Contracting LLC in Suwannee won the bid and will complete additional enhancements



Cube modules are deployed on July 18 in the Large Area Artificial Reef Site. (FSG Photo)

by early August. The deployment was funded by the Florida Fish and Wildlife Commission, the U.S. Fish and Wildlife Service Sport Fish Restoration program, and Taylor County Board of County Commissioners. The deployment team included individuals from the UF/IFAS Program of Fisheries and Aquatic Sciences (Bill Lindberg, Doug Marcinek, and research staff), myself, and the volunteer Taylor County Reef Research Team.

In addition, FWC is funding an enhancement of the Buckeye Reef. The proposed enhancement will place additional pre-fabricated concrete tetrahedrons, or "fish towers," at a site located in 47' of water near Keaton Beach and Steinhatchee. The award amount was \$60K, and will be put out for bid this fall. The Taylor County Tourism Development Council also awarded \$10K to the artificial reef program, which will be used to place scrap steel materials on the Buckeye site by the end of August. Buckeye Technologies Incorporated, a local paper mill, donated the reef materials worth an estimated \$10K in the scrap steel market. The volunteer dive team surveyed bottom areas in summer 2011, assisted with proposal preparation, and will be overseeing the upcoming reef construction.

### coming up... (continued)

This hands-on program will provide participants with real-world exercises that will develop basic GIS knowledge and skills, increase awareness about GIS data sources, increase confidence using GIS, and explore GIS tools that can enhance the participants' programs and/or research projects.

The training will consist of a series of short lectures; each to be followed by natural resource-based exercises that attendees will complete using ArcGIS 10. During the training, each participant will have access to a computer workstation, and several trainers will be on-hand to provide assistance.

For more information, contact the Boating and Waterways Planning Program at (352) 392-6233, or e-mail [gdauids@ufl.edu](mailto:gdauids@ufl.edu) or [rswett@ufl.edu](mailto:rswett@ufl.edu). To register, go to: <http://conference.ifas.ufl.edu/gisworkshop>.



*Florida Sea Grant seafood specialist Steve Otwell recently hosted the Future Leaders program of the National Fisheries Institute in the Tampa Bay area. Steve arranged for Sea Grant aquaculture specialist Carlos Martinez to lead the group through the UF/IFAS Tropical Aquaculture Lab. Carlos then arranged a tour of nearby Segrest Farms, an industry leader in ornamental fish culture. Steve also organized a fresh fish dinner for the group on the sunseting shore of Clearwater Beach. The NFI Future Leaders program provides hands-on training for individuals identified as rising professionals within their seafood companies. (NFI Photo)*