

Engaging people in goliath grouper fishery management

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Bryan Fluech, Collier County, and I assisted **Kai Lorenzen**, Fisheries and Aquatic Sciences, with a research project looking at stakeholder perspectives on goliath grouper management. The project's goals were to gather opinions about goliath grouper management, and to relay information to management agencies.



Goliath grouper receive greater protection to ensure its continued health.

We held a goliath grouper management stakeholder workshop May 21-22 in Tampa. Management issues and the likely outcomes of different management options were discussed. Sixteen key stakeholders attended. The only criteria to participate was that the stakeholder be knowledgeable and passionate about goliath grouper, and have a willingness to engage in difficult discussions with others who may have a differing opinion.

In addition to the workshop, stakeholder opinions were measured via an open online survey conducted from May 3 to June 10. The survey allowed respondents to self-identify their stakeholder group(s) and then assessed the nature of personal or commercial interactions with goliath, any measures taken to avoid or enhance such interactions, perspectives on goliath biology and ecological interactions, and preferences for alternative management options. Nearly 5,900 responses were received, with good representation of all major stakeholder groups.

Summary results from the survey and the workshop were presented to the Gulf of Mexico Fisheries Management Council in June and will be presented to the South Atlantic Fishery Management Council and the Florida Fish and Wildlife Conservation Commission this fall. Select survey respondents and all workshop participants will receive a follow-up evaluation to gauge their views on the effectiveness of this type of stakeholder engagement.

For more information on the project including an overview report, visit www.aquaticresources.org/goliath.html.

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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.

27 classroom teachers attend Teach Aquaculture “Immersion Excursion”

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The number of Florida middle and high schools with an aquaculture program has nearly quadrupled in the last five years, growing from 18 schools in 2007 to 65 schools in 2012.

Research shows that education is enhanced when aquaculture is incorporated into science curriculum. The hands-on, real-life nature of aquaculture encourages student enthusiasm and willingness to participate in classroom activities. However, the introduction of new topics and concepts into curriculum is often a challenging, labor-intensive effort. To help teachers, the aquaculture division of Florida Department of Agriculture and Consumer Services, established the Teach Aquaculture for Florida Educators program in 2009.

The 2013 Teach Aquaculture “Immersion Excursion” was held June 21-23 at Harbor Branch Oceanographic Institute. The workshop introduced 27 educators to the Teach Aquaculture curriculum,



In June, more than 110 students from 28 schools using Teach Aquaculture curriculum competed in the annual Future Farmers of America Aquaculture Career Development Event. These schools have constructed recirculating aquaculture systems as an educational tool that requires students to use science, math, and verbal skills that they thought were of little use in the “real world.”

which was developed by the University of Florida and Florida Sea Grant, and provided examples of schools in Florida with aquaculture programs. The teachers learned about recirculating systems, aquaponics, ornamental aquaculture, food fish aquaculture, clam aquaculture, and careers in aquaculture. Presentations were given by experts from University of Florida, Florida Sea Grant, and Harbor Branch Oceanographic Institute.

To help with teacher-student engagement in the classroom, an aquarium start-up kit was provided to each workshop participant. Since the workshop selection process was focused on novice teachers with no aquaculture experience, a classroom aquarium provided a means to disseminate the curriculum to students who may not otherwise have any exposure to aquatic life. A component of the workshop included set-up, maintenance, and water quality monitoring of aquaria in the classroom.

Conservation Clinic dives into habitat projects

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Continuing support from Florida Sea Grant enabled the UF Law Conservation Clinic to assist coastal communities across a wide range of law and policy issues. During the 2012-13 academic year, my students and I focused on habitat restoration. Florida Sea Grant’s GIS guru, **Garin Davidson**, provided invaluable technical and editorial support for many of these projects.

The Clinic received a program development grant to initiate a restoration work action group of Sea Grant agents, which met at the UF Whitney Lab in Marineland in April.

The Clinic participated in an ad hoc oyster restoration permitting working group led by The Nature Conservancy. The working group used a consensus process to develop a draft general permit for small scale, low-profile oyster restoration. The Clinic’s input is reflected in the version that was submitted to the Florida Department of Environmental Protection for inclusion in a comprehensive rule rewrite. The [draft general permit](#) is now working its way through the rulemaking process. Sea Grant agent **Leroy Creswell** served admirably as the Clinic’s expert in the initiative.



This 2010 International Space Station photo shows how the Florida peninsula looks at night from space. The Conservation Clinic has drafted a model ordinance that will help coastal communities adopt sea turtle friendly lighting ordinances.

Restoring the night sky on Florida's beaches is another Clinic initiative. Using content analysis, the Clinic analyzed all 87 local sea turtle lighting ordinances against a set of best practices the Clinic developed with lighting experts from the Sea Turtle Conservancy. The Clinic concluded that, for the most part, the ordinances were outdated because so much more is now known about the relationship between sea turtle biology and artificial lighting, and because of improvements in lighting technology. The Clinic has drafted a model ordinance that embraces technology and reduces reliance on human behaviors such as closing blinds and turning off lights. The Clinic's content analysis and model ordinance, as well as a set of model governing documents for planned communities (homeowner and condominium associations) can be found as the project spotlight on the [Clinic website](#).

The Clinic has also continued to work with the Waterfronts Florida Partnership Program, and FSG's Boating and Waterways program. A recently concluded project examined the ability of waterfront community redevelopment areas to expend tax increment funds for on-water improvements such as derelict vessel removal, mooring fields and aids to navigation. The Clinic found that most waterfront CRAs do not extend into the water, compromising their legal standing to expend CRA funds for on-water improvements. This research was presented at the National Working Waterfronts Network symposium, and it was also published as the [lead article](#) in the Florida Bar's Environmental and Land Use Law Section Reporter.



Escambia County agent Rick O'Connor teaches "Living with Snakes," part of the "Living with Coastal Wildlife" series.

Helping residents & wildlife through close encounters

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Patterned after a popular "Living with Bears" program in Florida, Sea Grant in Escambia County is offering "Living with Snakes" to give communities practical advice on how to live with sometimes unwelcome wildlife.

Snakes are animals most do not want to encounter. The majority of participants so far understand the benefits of having snakes around, but they would rather not see them in their yard or swimming pool.

The program discusses why people are afraid of snakes, their natural history, why they come into your yard, what you can change to reduce the chance this will happen, and what to do if an encounter occurs. We end the program by offering participants a chance to hold a nonvenomous snake. For many participants this is the first time in their lives they have done such a thing. It may not completely win them over but most do feel different toward them afterwards. They are just animals.

We have currently presented the program seven times and are scheduled to present seven more before the end of the year.

New horseshoe crab display in Cedar Key

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It's just like clockwork...every spring and throughout the summer horseshoe crabs visit Florida beaches to mate and nest, with nesting activity usually occurring at high tide before and after a new or full moon.

This year at the City Beach in Cedar Key, an educational display is informing the public about these activities as well as the importance of this unique marine creature. The colorful, customized panel is the culmination of many efforts.

The idea was formed as a tribute to a Cedar Key resident, who dedicated countless hours conducting beach surveys and educating the public about horseshoe crabs. A memorial fund was set up by the family in her honor for this purpose. In addition, I provided shadow boxes with crab molts to local businesses; over \$600 was generated through sales of these boxes. Along with \$500 provided by the UF/IFAS Vice President, enough funds were solicited to cover the costs of the display.

I developed the information in the panel in partnership with renowned horseshoe crab expert **Dr. Jane Brockmann**, professor emeritus at the UF Department of Biology; and crustacean biologist **Tiffany Black**, with the FWC Marine Lab in Cedar Key; and **Dale Johnson**, a graphic designer at the



Horseshoe crab populations are declining, and the species needs our protection.



Horseshoe crab expert Dr. Jane Brockmann with the display at City Beach in Cedar Key.

Florida Museum of Natural History, who transformed the text and pictures into an eye-appealing display.

The panel material and cypress frame are meant to withstand the harsh environment of sun, salt spray, and wind. Since the panel was unveiled on March 30, hundreds of people have stopped to read it and discover what they can do to protect horseshoe crabs. I am working with several community organizations to develop additional educational panels on our local marine resources.

Recap: the 2013 National Working Waterfronts and Waterways Symposium

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Florida Sea Grant was well-represented at the [March 2013 National Working Waterfronts & Waterways Symposium](#) in Tacoma, Wash.

I moderated a panel titled State, Local And University Partnerships Stem The Tide Eroding Floridians' Waterfront Access. **Bryan Fluech** presented the [recreational boating characterization study](#) for Collier County and its outcomes. **Tom Ankersen** and **Julie Dennis**, coordinator of the Waterfronts Florida Program, discussed synergistic efforts of their two programs.

Fluech and Ankersen also were invited members on national panels at the symposium. Fluech's panel was about the maritime heritage of working waterfronts and he spoke of his [local outreach efforts](#) to raise awareness of Collier County's commercial stone crab industry. Ankersen's panel discussed financing tools for working waterfronts; he talked about "[The Tiff over TIF: Using Tax Incremental Financings to Protect Working Waterfronts](#)."

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National working waterfronts toolkit now online

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The online [Sustainable Working Waterfronts Toolkit](#) made its debut in March 2013 at the National Working Waterfronts and Waterways symposium in Tacoma, and it now serves as the 'front door' to the National Working Waterfront Network.

The toolkit is designed to inform both private and public decision-making and provide a starting place for communities dealing with working waterfront issues. Primary toolkit users are those most likely to be impacted or with the ability for action, either through land ownership or governmental authority. They include decision- and policy-makers, waterfront landowners, and waterfront users.

Information contained in the toolkit is stored under five main sections, each of which constitutes a dropdown menu on the website's main page: Financing, Law & Policy, Economics, Historic Trends, and Tools in Action.

The beating heart of the toolkit is the [Community Center](#), where individuals who are involved in working waterfront issues can connect. The community center is open to all. Members can ask questions, share ideas, learn about the experiences of their peers, seek experts, hear about upcoming events, read network documents, and explore a variety of topics.

Perhaps the best thing about the toolkit is that its contents and value will continue to grow as membership in the National Working Waterfront Network increases. We encourage you to become a member and get involved. Please join the National Working Waterfront conversation at www.WaterAccessUS.com!



In 2009, working waterfronts like San Carlos Island, Fla. supported more than 130,000 businesses and 2.4 million jobs, provided \$84 billion in wages and benefits, and \$217 billion in GDP. (Betty Staugler photo)

Florida Sea Grant hosts coastal adaptation workshop

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Working in cooperation with local, state, and federal partners, I hosted the "Adaptive Planning for Coastal Change: Legal Issues for Local Government" workshop in Davie, Fla. on April 19.

More than 80 people attended the workshop, which covered topics such as legal issues associated with climate change, climate change vulnerabilities in southeast Florida, private property protections and examination of a court case in St. Johns County that represents the types of questions and liabilities that local governments can expect to see in the coming years. More than 60 percent of participants work for local government and more than 30 percent were from the private sector – most were planners, followed by attorneys.

The workshop grew from interest of members of the Southeast Florida Regional Climate Compact for a workshop on the topic of adaptation to sea-level rise in their part of the state. Other partners in planning, executing, and funding the workshop included the National Oceanic and Atmospheric Administration, the Palm Beach County Planning Congress, the Florida Coastal Management Program, the Environmental & Land Use Law Section of the Florida Bar and the Florida Department of Economic Opportunity.

Charlotte County prepares for future boating growth

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On April 9, the Charlotte County Board of County Commissioners approved two important boating and waterways planning documents prepared by UF and Florida Sea Grant. The documents help the county prepare for increasing demand for boating access to its waterway. The number of vessels registered in Charlotte County is expected to increase by 37 percent between 2012 (20,419) vessels and 2050 (~28,000). A brief look at what's inside each document follows.

Planning for the Future of Recreational Boating Access to Charlotte County Waterways: 2010-2050 specifies the type, quantity and location of public access facilities the county needs to meet projected demand through the year 2050 while minimizing impacts on sensitive marine habitat. Both resident and non-resident demand projections are included for ramps, marinas (wet/dry slips), mooring fields, and residential docks. The report also evaluates the county's compliance with working waterfront legislation, gives an outline for developing a manatee protection plan, and includes an update of the 1996 marine regulatory study produced by Florida Sea Grant.

Charlotte County Regional Waterway Management System provides a data-driven approach to promote safe access and navigation, protect aquatic resources, and streamline channel maintenance permitting. The project is based on a census of boats and soundings of all canals and waterways. The resulting GIS database stores locations and characteristics for 10,613 boats, 31,673 moorings, and 355 miles of navigable waterways. An analysis of boat drafts and channel depths determined that, at Mean Lower Low Water, 3,015 boats are restricted by water depth and that navigation restrictions occur along 68.9 miles of waterways. Approval of the Regional Waterway Management System by the Board allows Charlotte County, the West Coast Inland Navigation District, and the Florida Department of Environmental Protection to develop a multi-year regional permit for maintenance of public waterways.



CLUE Camp participants on a field trip to Wild Ocean Seafood Market in Titusville.

Students explore careers at Brevard summer camp

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The Brevard County Extension Office has offered 4-H summer day camps for many years, with the target age group and theme changing each year. Over the years enrollment has dwindled due to competing camps, so this summer we decided to do something different.

We are offering a two-hour life skills camp in the evenings, twice a week for three weeks. The Career and Life Under Exploration or CLUE Camp is open to students and their families. Student participants are assigned a "paying" job and are given a paycheck, which they cash at the camp bank and then buy items at the camp's general store. Jobs are in the following areas: horticulture (gardening), animal science (taking care of hens and chicks), marine science (setting up a fish tank and learning about fisheries), and cooking (making snacks for the camp). Participants come to camp and do their job each day, but they also learn about the other jobs as a group.

During the marine science day, we took a field trip to Wild Ocean Seafood Market. The students and their parents learned about Florida seafood, how to fillet a fish, and how the catch from the fishing boats is brought into the market and inventoried. Participants had a great time during this field trip and were able to taste three shrimp species the market sells: rock, Canaveral white, and royal red.

Financial literacy education for fisherfolk

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UF/IFAS and Florida Sea Grant remain a critical ally to many seafood industry families in Franklin County who struggle to better their lives.

Franklin County is a rural county with a narrow economic base that is dependent on commercial/recreational fishing and tourism. The county is designated by the state as a "Rural Area of Critical Economic Concern." In addition, the City of Apalachicola, the county seat, is listed by the Florida Department of Economic Opportunity as one of the four "Areas of Critical State Concern" in Florida.

Recent natural and man-made events such as hurricanes, tropical storms, red tide, real estate bust, economic downturn and the Deepwater Horizon Oil Spill have not helped the situation. Or have they?

In 2011, Rockefeller Philanthropy Advisors selected Catholic Charities of Northwest Florida to administer the \$3.5 million Fund for Gulf Communities. The award includes \$825,000 to provide emergency assistance and financial literacy education to area residents through the Bridges to Circles anti-poverty initiative.

I was asked to support, teach and create networking opportunities for Bridges to Circles graduates. I have taught a series of financial management classes to the graduates, many of whom are members of fishing families who are struggling to make ends meet as a result of the recent Apalachicola Bay oyster industry collapse.

Many of the educational materials I use are part of the Junior Achievement "Economics for Success" curriculum. To date, I have taught an aptitude/skills assessment course, a personal finance/monthly budget course, a savvy shopper course and a credit score/report course.

The final class will be "What's the Risk?" During this session, participants learn that life involves risk and that insurance helps reduce the financial consequences of loss or injury.



A nesting leatherback turtle. Sea turtle migrations are just one of the many interesting topics in the Salty Topics series.

Salty Topics speaker series a sweet success

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To highlight the importance of marine research in the community, I designed Salty Topics, a marine research speaker series that began in 2011. I invite local experts who study biological, chemical, geological, and physical oceanography, as well as ocean technologies to present their leading research in a public forum. The series is held the first Thursday evening of each month during the academic year at Weedon Island Preserve Cultural and Natural History Center in St. Petersburg, where I oversee educational programming.

St. Petersburg's Scientific Research District is the largest marine research community in the southeastern United States. As such, marine research contributes significantly to the economy, identity, and reputation of Tampa Bay.

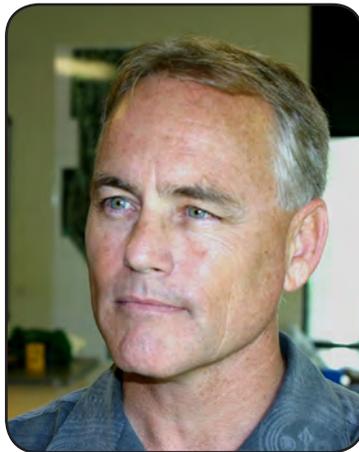
This year's speakers included partners from University of South Florida College of Marine Science, USF Department of Integrative Biology, Florida Fish and Wildlife Conservation Commission, the U.S. Geological Survey, and Eckerd College. Research topics included coral spawning, Deepwater Horizon oil spill, real-time ocean monitoring, shark and bony fish feeding, harmful algae blooms, hurricane impacts to our coasts, and sea turtle migrations.

The eight talks in 2012-2013 were attended by 454 attendees that included a mix of college students, interested public, and environmental professionals. The series is sponsored by the Friends of Weedon Island whose mission includes providing education opportunities at the preserve. Of the attendees, approximately 50 percent were first-time visitors to the preserve.

Feedback has been very positive about the quality of the speakers and the program, and the majority of attendee's plan to return for additional speakers. I look forward to another excellent series to kickoff this fall.

Main wins Odum Award

Marty Main, associate dean for University of Florida Extension and associate director of Florida Sea Grant, has been awarded the Eugene P. Odum Award for Excellence in Ecology Education by the Ecological Society of America for the success of the Florida Master Naturalist Program.



Associate Director of Florida Sea Grant Marty Main

The award will be presented in August at the 2013 Ecological Society of America meeting in Minneapolis. It recognizes ecologists for outstanding work in ecology education and their program's ability to connect basic ecological principles to human affairs.

"I'm very honored to receive this award, and I do so in recognition of all the Florida Master Naturalist Program instructors who work with me," Main said. "Their enthusiasm and expertise has made the FMNP a great success. Our graduates are making great contributions to their local communities."

Main created the program to "teach those that teach others" about conservation and natural history in Florida. Every year, more than 1,000 participants are certified by trainers throughout the state. Main developed multiple week-long courses that take students through Florida environments and teach them about the biodiversity, conservation and interpretation of those ecosystems.

Coming Up

ArcGIS 10.1 Workshop

Dec. 16-19, 2013
3086 McCarty Hall
University of Florida

Demand remains strong for the biannual 3.5-day intensive, hands-on workshop on ArcGIS 10.1.

Nineteen people completed the 15th edition of the workshop this past May. On a related note, Bob Swett and Corina Guevara recently worked with the UF Center for Precollegiate Education and Training and gave instruction to 35 K-12 teachers on how to incorporate spatial thinking/literacy into the classroom. Bob and Corina welcome additional opportunities, so contact them if you are interested.

For more information or to register, contact **Corina Guevara** at (352) 392-6233 or corina@ufl.edu.

