

Artificial Reefs Placed in Steinhatchee Fisheries Management Area

Fred Vose
Taylor County Extension Agent
fvose@ufl.edu

The Steinhatchee Fisheries Management Area (SFMA), in planning and development for more than a decade, has just passed a major milestone, the construction of 452 of 500 planned “fisheries conservation reefs.” This project has been a long-term partnership between UF’s Fisheries and Aquatic Sciences and the Florida Fish and Wildlife Conservation Commission (FWC), with federal funding through Sport Fish Restoration for reef construction and NOAA Fisheries-MARFIN for research and monitoring.



Bill Lindberg confirming the proper placement of a recently built “fisheries conservation reef” in the Steinhatchee Fisheries Management Area (Photo Credit: Keith Mille, FWC)

The initial reef construction began in 2005, when **Bill Lindberg**, UF and Florida Sea Grant fisheries specialist, and his team placed a line of 40 standardized reefs, 160 cubes in groups of four, bracketing the Big Bend region of Florida. Reef cubes each weigh a ton and have a large central cavity sized for larger-bodied fish, like gag. These sites are used as fisheries independent monitoring stations intended to aid gag stock assessments and to evaluate the output of the conservation reefs now deployed in a 100-square-mile area permitted by the U.S. Army Corps of Engineers, about 18 miles west of Steinhatchee.

Conservation reef construction was just completed in mid-June under the direct supervision of Lindberg and his team. On June 9, Jon Dodrill and Keith Mille of FWC traveled to Steinhatchee to observe one of the final barge loads being deployed, as part of the oversight requirements for the federal grants program. And on June 16, Keith Mille and Bill Horn joined Lindberg’s team aboard the R/V Inquisitor to document representative reefs on the seafloor.

The 452 patch reefs, totaling 1,808 cubes, were built off Taylor and Dixie counties to enhance juvenile gag habitat and thereby benefit the fishery stock, primarily by providing essential reef habitat with little directed fishing. The natural rocky habitat in this part of the Big Bend is typically low relief hard bottom that lacks the shelter characteristics

coming up...

Northwest Florida Boating and Waterways Mgt. Workshop

Aug. 16-17
UF/IFAS Santa Rosa County
Extension Office
Milton, FL
(details on page 8)

*Florida Sea Grant Statewide
Extension Meeting*

Nov. 14-17
St. Petersburg, FL

GPS for Mapping Workshop
December 2012
Location TBA
(details on page 8)

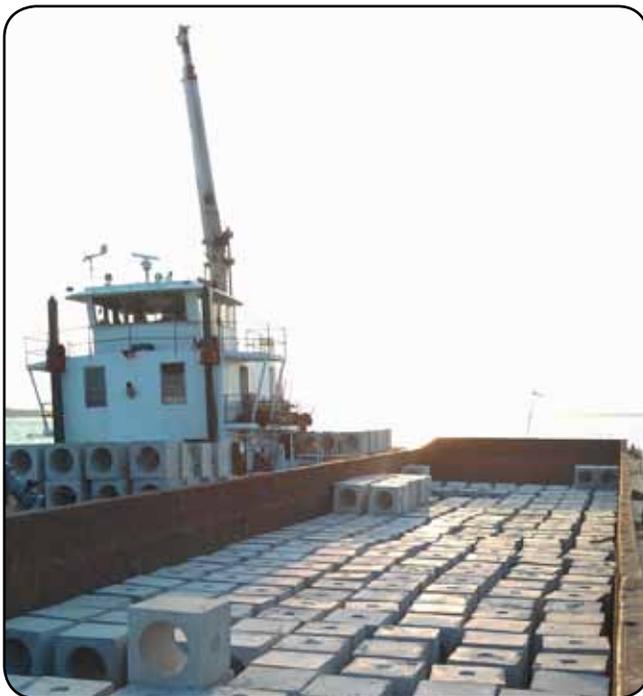
*Stem to Stern II:
Boating and Waterway
Management in Florida*
(details on page 8)



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

sought by gag. This shortage of high quality habitat may limit the survival and growth of juvenile gag as they mature, especially as strong year classes move from nearshore seagrass beds toward the offshore habitats of the reproductive adults.

Fisheries for long-lived reef fish like gag are typically sustained by periodic strong year classes, and the SFMA is attempting to maximize that potential. Like the evaluation reefs, these new conservation reefs are each composed of four cubes, or about four tons of concrete modules per patch reef. The locations were randomly spread over a 100 square-mile-area and will not be made public, so as to minimize directed fishing. As part of the overall plan, the SFMA also has a 5 square-mile area designated for public fishing reefs, located in the northern corner of the larger permit area. Four 16-cube fishing reefs were built in 2007 in cooperation with the Taylor County Board of Commissioners, UF and FWC. Enhancements of the fishing reefs are planned for the SFMA as funding is available.



One of two barges loaded with cubes staged near Carabelle, FL to resupply Walter Marine's vessel Maranatha during SFMA reef construction. (Photo Credit: Stewart Walter, Walter Marine)

Seafood HACCP Alliance Kicks Off National Training Update Sessions

*Dorothy Zimmerman
Sea Grant Communications
dozimmer@ufl.edu*

The National Seafood HACCP Alliance, in collaboration with the Association of Food and Drug Officials (AFDO), FDA, and the International Food Protection Training Institute (IFPTI), recently kicked off a nationwide series of update sessions that will help seafood importers and processors comply with recent revisions to U.S. seafood safety regulations.

An overflow audience of more than 65 representatives from the West Coast's seafood industry attended the first update session June 8-9 in San Francisco.



Six more update sessions will be given in key locations across the U.S. More than 330 individuals from the nation's leading seafood importers, distributors, processors and restaurants are expected to attend.

The training sessions are organized through the seafood HACCP Alliance steering committee, which is chaired by Florida Sea Grant seafood specialist **Steve Otwell**.

The sessions coincide with the release of new editions of FDA's *Guidance for Industry: Fish and Fishery Products Hazards and Controls Guidance*, and the alliance's own "HACCP Training Manual." The two books include many changes and some clarifications based on 10 years of experience since the previous editions. They are the recognized curriculum manuals

for training programs that will assist compliance with the requirements outlined in the FDA Seafood HACCP Regulations.

HACCP (pronounced hassip), which stands for Hazard Analysis and Critical Control Point, is the management system used in all segments of the seafood industry. It provides for safer seafood through the analysis and control of biological, chemical, and physical hazards present in fish and fish products, from capture through consumption.

UF's seafood research coordinator **Victor Garrido** and I also participated in the first update session. The schedule and location for the remaining sessions is: Dallas – June 22-23; Providence, RI – June 29; Orlando – July 12-13; Annapolis July 18; Chicago – July 27; and Battle Creek, MI – Aug 31 (if necessary).

The new books are published by Florida Sea Grant and sold through the IFAS Extension bookstore, <http://ifasbooks.com>. There is no charge to attend future update sessions, but pre-registration is required at <http://afdo.org/Training/HACCP/2011Update.cfm>.

Black Water to Blue Water Work Continues

Tom Ankersen
Marine/Coastal Law Specialist
ankersen@law.ufl.edu

UF doctoral students in the NSF-funded IGERT Program in Water, Wetlands and Watersheds continue to work with UF Law Conservation Clinic on interdisciplinary “black water to blue water initiative” designed to characterize the regulatory and biophysical status of selected Florida watersheds. Each of these watersheds discharges to important estuarine and marine environments, hosts a traditional working waterfront that participates in the Waterfronts Florida Partnership Program, and includes a watershed-based stakeholder organization with whom the clinic works. The work of the Clinic-IGERT partnership in the St. Marys River, Blackwater River and Withlacoochee River watersheds is posted at www.law.ufl.edu/conservation. Recent results of this work include:

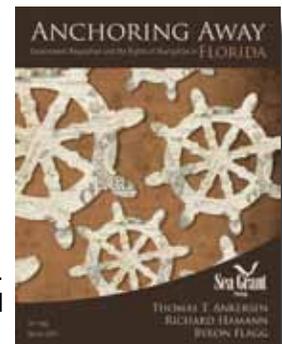
- Establishment of an interstate water quality technical subcommittee, under the auspices of the St. Mary's River Management Committee, which has resulted in changes to the way agencies monitor water quality on the river to avoid

duplication, share data and make the data more policy relevant.

- Catalyzed the establishment of a U.S. EPA Center for Watershed Excellence at UF that encourages UF researchers to work at the watershed level with stakeholders to achieve measurable improvements in water quality.
- Identified a policy gap in the way the State of Florida treats the management of large woody material in sand bed streams; then drafted best management practices that address that gap within the existing legal framework. The underlying law, science and management research has been submitted for peer review publication.

The Conservation Clinic report *A Legal Analysis of DEP's new ERP Exemption for Small Scale Living Shorelines* has been published in the Florida Bar's Environmental and Land Use Law Section Reporter, Vol. XXXII, No. 4 (June 2011).

The third edition of the Florida Sea Grant technical report *Anchoring Away: Government Regulation and the Rights of Navigation in Florida* has been released. The report includes important updates to Florida boating law resulting from 2009 legislation. The report can be downloaded at http://www.flseagrant.org/images/PDFs/anchoring%20away_03_09_11_full_web3.pdf.



I am serving as guest editor to a special edition of the National Sea Grant Law and Policy Journal that will feature articles on Florida marine and coastal law and policy. I also served as a peer reviewer to EPA for the report *Rolling Easements*, an extensive legal treatment of a coastal property law concept of considerable interest to the climate change adaptation community.

“Are you Smarter than a Stone Crab?” Tour

*Bryan Fluech
Collier County Extension Agent
fluech@ufl.edu*

In response to a growing interest in seafood sustainability and local food movements, I organized a local seafood tour entitled, “Are You Smarter than a Stone Crab?” to better connect Collier County residents with their local stone crab industry. Collier County is one of Florida’s leading commercial producers of stone crabs, second only to Monroe County.

Thirty-five people attended the tour. I began by giving a presentation on stone crab biology and life history as well as an overview of the state’s stone crab fishery. Next, participants had the opportunity to sample fresh stone crab claws harvested by local fishermen.

Following the presentations and sampling, the group visited Grimm’s Stone Crabs Inc., a local family-owned stone crab processor and market in Everglades City. The staff showed the group how stone crab claws are cooked and processed at their facility. They also discussed what it is like to work in the seafood industry and the challenges they face in today’s market.

Based on program evaluations and participant feedback, the program met its learning objectives and was a success. One positive unexpected outcome was that many of the participants ended up buying claws from Grimm’s Seafood Market, thus providing their business with an economic incentive to host future tours.



Sea Grant Accolades

- **LeRoy Creswell**, regional extension agent, was elected president of the National Shellfisheries Association. Founded in 1908, The National Shellfisheries Association is an international organization of scientists, management officials and members of industry, all deeply concerned with the biology, ecology, production, economics and management of shellfish resources



Outgoing NSA President Joth Davis, left, from Taylor Shellfish in Seattle Washington transfers the gavel to incoming President LeRoy Creswell, right, at the 103rd NSA meeting in Baltimore, MD.

- Coastal Planning Specialist **Thomas Ruppert** was awarded an international fellowship to advance climate change and sea-level rise adaptation issues with counterparts in the country of Colombia.

The competitive fellowship is funded by the U.S. Department of State and awarded through the Climate Change Fellows program of Partners of the Americas, an international network of individuals, businesses and institutions that promotes economic and professional growth in the Western Hemisphere.

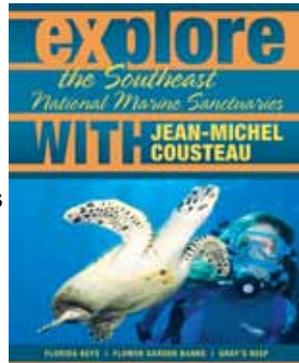
As a climate change fellow, Ruppert will visit Colombia’s Caribbean coast during the latter part of July to learn about sea-level rise vulnerabilities and actions, work to understand local needs and identify potential partners for cooperative projects related to climate change and sea-level rise.

- Florida Sea Grant Director **Karl Havens** chaired a scientific review panel on large lake ecosystem research in Delft, Netherlands, June 20-23. The panel evaluated an ongoing research program that seeks to explain a 20-year decline in the number of migratory waterbirds in large Dutch lakes.

The Netherlands is in a major migratory path for waterbirds in northwestern Europe. Its large lakes historically provide the primary habitat for birds waiting out the winter season. Havens was asked to chair the review based on his expertise in the ecology, management and restoration of shallow lakes and wetlands, and his past work and familiarity with those ecosystems in northwestern Europe.

In addition to examining ongoing research, the review panel, which was convened by the Directorate-General for Public Works and Water Management of the Netherlands, suggested research priorities for the next five years.

- A book edited by **Maia McGuire**, extension agent St. Johns and Flagler counties, recently won the Independent Book Publishers Association's Benjamin Franklin Award. "Explore the Southeast National Marine Sanctuaries" is the first in a four-book series introducing the National Marine Sanctuary system. The book was selected as a category winner from more than 1,300 entries. The book's publisher, Ocean Publishing, accepted the award.



Watch at their facility in Terra Verde, Florida. The objectives of the workshop were to: (1) increase information exchange and networking among various entities involved in bay scallop restoration and monitoring programs; (2) increase the ability of resource managers to plan and evaluate bay scallop restoration and monitoring programs; (3) ensure that a uniform and objective message regarding bay scallop population and recovery is conveyed to the general public; and (4) enhance existing restoration and monitoring programs.

Thirty-four participants from federal, state and local governments, academia, private organizations and industry attended the workshop which included a morning presentation session followed by an afternoon strategic planning session. An end-of-workshop survey showed that 100 percent of survey respondents (n=23) believed the workshop provided a good forum for information exchange regarding bay scallop monitoring and restoration. All of the respondents also indicated the workshop was a good opportunity to network with other entities involved in bay scallop monitoring and restoration. Finally, 96 percent of respondents felt the workshop made steps towards developing a plan to maintain and enhance bay scallop restoration and monitoring programs. A major outcome of the workshop was the development of a regional bay scallop working group. This group will further develop restoration/outreach strategies identified during the workshop.



Joy Hazell, Lee County extension agent, records restoration strategies and outreach activities at the April 13 scalloping workshop at Tampa Bay Watch. (FSG photo)

Workshop on the Half-Shell

*Betty Staugler
Charlotte County Extension Agent
staugler@ufl.edu*

In April, **John Stevely**, Manatee County extension agent, **Joy Hazell**, Lee County extension agent, and I, in partnership with the Florida Fish and Wildlife Conservation Commission, held a one day workshop on bay scallop restoration strategies for southwest Florida. The workshop was hosted by Tampa Bay

Eliminating Barriers to Commercial Production of a New Aquaculture Clam: The Sunray Venus

Leslie Sturmer
Aquaculture Extension
Inst@ufl.edu

The sunray venus clam was introduced at the International Boston Seafood Show in March to a wide range of buyers. Getting it there -- to the mouths of more than 250 visitors sampling it at the Fresh from Florida Pavillion -- was years in the making.

The growth of the Florida hard clam aquaculture industry is a dramatic success story. However, the industry is built on a single species. The sunray venus, a native species, was commercially fished in Florida during the 1970s and is now being evaluated as a potential new aquaculture species to diversify the industry.

Over the past four years, research and extension faculty, along with industry partners, have evaluated the aquaculture and market potential of the sunray venus with funding through Florida Sea Grant. Field trials have shown sunray venus can be grown on an experimental basis using techniques similar to those for hard clam culture. Consumer acceptance has been evaluated in local Florida markets. Currently, we are developing simultaneously the technology with industry alongside to target information gaps and potential barriers to commercialization of this species and reduce the potential for failure.

In February, we presented current information to 100 growers and wholesalers at an industry workshop. Eighteen industry partners were identified who will participate in determining production performance of the sunray venus at existing commercial lease areas. Further, over the past six months, five local wholesalers have facilitated an assessment of product attributes by shipping sunray venus harvested from field trials to 30 "downstream" wholesalers accompanied with a survey. To date, responses are providing vital information on existing market channels and distribution standards.

Both studies demonstrate strong market acceptance to this new product and will help industry better understand its market development potential.



Leslie Sturmer (left), aquaculture extension agent, and John Stevely (right), Manatee County extension, provide samples of sunray venus clams and information to interested buyers at the International Boston Seafood Show in March 2011. (FSG photo)

Diversifying the clam industry by developing farming technology and markets for other bivalve species and products may mitigate production and market risk, thereby enhancing economic stability and growth of the industry.

GIS for Natural Resource Applications Workshop

Bob Swett
Waterway Management
rswett@ufl.edu

The 11th three-day training workshop in Geographic Information Systems for Natural Resource Applications was held in May and 18 people attended. The UF/IFAS Cooperative Extension Program provided scholarships for UF/IFAS extension agents. The workshop provided participants with basic knowledge and skills in ArcGIS, a tool that can be used to enhance their individual work programs and/or research projects. Based on feedback from previous attendees, the training format and materials were significantly enhanced. Pre- and post-tests showed that participants increased their knowledge by 63 percent as a result of attending. Eighty percent of the May attendees said they mostly achieved (54%) or completely achieved (26%) their goals for the workshop.

Consider this Activity for your Master Naturalist Program

LeRoy Creswell
Regional Extension Agent
creswell@ufl.edu

I have been contributing to the coastal module of the Master Naturalist Program in St. Lucie County. After a presentation on form and function of marine fishes, I offered a hands-on activity on surveying marine benthic communities.

The activity consists of a 10-meter long vinyl “virtual coral reef.” Several patches of colored vinyl designate different living organisms (e.g. brown is hard coral, green is macroalgae, black is sponges, etc.); the beige background is designated as sand substrate. The students are provided a color key to identify species groups.

The objective of the exercise is to demonstrate two common methods of sampling benthic marine communities: “transect” and “quadrat.” The group is divided into two teams – one using the transect method, the other quadrat. They are provided a data sheet on which they record 40 data points of the species groups (or sand substrate). The transect team has a single line designated with 25 cm segments; they simply record the species group beneath the mark on the transect and record it on the data sheet. The quadrat team tosses a 1 m² frame divided into four quadrats and records the species group; the randomly toss the quadrat 10 times to record 40 data points.

The teams each review their data for consistency and then calculate the coverage percentage for each species group. Finally, teams calculate the total live coverage (everything but the beige sand substrate). Then we compare the results of the two teams using two different survey techniques.

Students are always surprised that their results are usually only a few percentage points apart. We also discuss that the utility of this monitoring is to identify changes of the benthic community over time with respect to overall abundance and diversity. We also discuss new technologies being used to survey marine benthic communities (e.g. photography and image analysis software, side-scan sonar, bioacoustics).

This activity does not require a lot of background knowledge, but is unique enough that it is understandable and engaging to middle and high school students, as well as adult Master Naturalist candidates.



Participants in the St. Lucie County Master Naturalist Program survey a virtual coral reef using transect and quadrat sampling.

B-WET Workshop at the Navarre Beach Marine Science Station

Chris Verlinde
Santa Rosa County Extension Agent
chrismv@ufl.edu

Charlene Mauro, project director of the Navarre Beach Marine Science Station, and I hosted 18 marine educators from across the Gulf Coast in April. The Bay-Watershed Education and Training (B-WET) program grant recipients met for three days Navarre Beach Marine Science Station (NBSS).

The B-WET program is funded through NOAA and is an environmental education program that provides grants to promote locally relevant, hands-on learning for K-12 teachers and students. Participants discussed the successes and challenges of their projects. Projects highlighted at the workshop ranged from high school students refurbishing and utilizing a pontoon boat for field studies to getting students into the marsh for art and science studies.

Participants stayed in Navarre, participated in the workshop and toured the local area. Volunteers and students of the NBSS helped to make the stay special.

The hosts provided logistics, a shrimp boil and field activities at the station. Evaluations showed that participants enjoyed the science station activities and that the workshop provided valuable information.

Oil Spill Workshop

Chris Verlinde
Santa Rosa County Extension
chrismv@ufl.edu

With funding from the NOAA Office of Education, I collaborated with marine educators from the Dauphin Island Sea Lab, Weeks Bay National Estuarine Research Reserve, the Institute for Marine Mammal Studies, the Gulf of Mexico Alliance, the Audubon Aquarium of the Americas, Mississippi State University and Louisiana Sea Grant to develop an oil spill workshop for 188 teachers in Florida, Alabama, Mississippi and Louisiana. The workshop was presented through distance-learning videoconference to the off-site locations.

One scientist from each state presented on oil spill related topics: Sargassum communities in the Gulf of Mexico, environmental impacts on the marine environment, seafood safety and impacts on marine mammals and sea turtles. Questions were asked from each site. A hands-on activity was presented at each site after the presentations. Teachers were provided with a stipend, resources and a follow-up survey. Post-tests showed an increase in learning of 41 percent. A likert-scale evaluation revealed that most teachers will use information gained from the workshop. Another workshop will be held in the fall of 2011.

Solar, Seafood and Sustainability in the Keys

Doug Gregory
Monroe County Extension Agent
drg@ufl.edu

The Sixth Annual Florida Keys Commercial Fishermen's Association Seafood Festival was a stunning success with more participation than any of the previous five years. This festival started as a partnership between Monroe County Extension and the Florida Keys Commercial Fishermen's Association, with assistance from Monroe County and Key West Public Works. A family-friendly event, it showcased local seafood and the Keys' commercial fishing industry by providing the freshest seafood available. With some of the proceeds from the festival, the fishermen's association sponsors scholarships for children of local fishermen from Key Largo to Key West. This year, five scholarships were awarded to the 2011 graduating class in the Monroe County school



Lobster grilling at the sixth annual Florida Keys Commerical Fishermen's Association Seafood Festival. (Monroe County Extension photo)

system. Next year's event is scheduled for January 2012.

I have also been involved in a number of sustainable fisheries management issues. I participated in a four-day meeting of the Gulf of Mexico Fishery Management Council's Scientific and Statistical Committee to review the spiny lobster and goliath grouper stock assessment reports, revisit gag and red grouper rebuilding schedules and continue development of potential quotas for various data-poor fisheries within the Gulf of Mexico. I also chaired a four-day population assessment workshop for the NOAA SEDAR 22 Stock Assessment that included three international scientists to review the status of the Gulf of Mexico deep water yellowedge grouper and golden tilefish populations. We completed the final report on the Gulf of Mexico yellowedge grouper and golden tilefish population assessment. I also participated in a four-day meeting of the council's SSC in New Orleans and helped finalize quota determinations for most of the data-poor species and species groups in the Gulf reef fish fishery, as well as for the mackerels, cobia and amberjack. I have also been involved in developing the rationale to allow continued use of undersize lobsters as attractants in the commercial trap fishery, a measure which was adopted by the Gulf and South Atlantic councils. Recently, I was reappointed to the Gulf of Mexico Fishery Management Council's Scientific and Statistical Advisory Committee for two years.

In Monroe County, we're continuing to address climate change impacts and pursue resiliency. Extension serves as the county liaison to the newly established Climate Change Advisory Committee that will meet quarterly to assist the County in completing its Climate Action Plan. Our office also provides outreach on energy efficiency. I recently made a presentation to the Florida Keys Community College on greening the campus with solar, and taught a two-

hour lecture on solar technologies to 25 extension agents from throughout Florida as part of a University of Florida in-service training on “Emerging Energy Issues for Florida.”

Southeast Florida Regional Boating and Waterways Workshop

Holly Abeels
Brevard County Extension Agent
habeels@ufl.edu

Lisa Krimsky
Miami-Dade County Extension Agent
lkrimsky@ufl.edu

The 2011 Southeast Florida Regional Boating and Waterways Workshop was held March 14-15 in West Palm Beach. The regional workshop examined innovative strategies to balance economic vitality with ecologically sound management practices along southeast Florida’s waterways. The 77 participants included managers, planners, policymakers, lawyers, academics, and private and public industry from state, local and regional levels. The first day presentations, by local and state experts, on mooring fields, boating and waterways tools, natural resources, and comprehensive planning tools were each followed by a panel question-and-answer session.

The second day strategic planning session allowed participants to plan for boating and waterways in southeast Florida. **Betty Staugler**, Charlotte County, and **Garin Davidson**, Florida Sea Grant Boating and Waterway Management Program, facilitated the session. The 29 participants were presented a summary of the subject matters and key points from the previous day’s presentations and question-and-answer sessions. They were asked to write down the most pressing boating and waterways issues to them and nine major issues were found. The major issues were boater education, enforcement, funding, environmental, derelict vessels, planning, permitting, boater safety, and access.

An exit survey showed that 88 percent of participants (n=33) either agreed or strongly agreed that the workshop increased their knowledge of economical and sustainable approaches to boating and waterway management in southeast Florida. Also, 97 percent of participants either agreed or strongly agreed that the workshop was a good opportunity to network with other professionals in the region.

coming up continued...

Northwest Florida Boating and Waterways Management Workshop

The workshop will examine innovative strategies to assist managers, planners, policy-makers, and others as they attempt to balance economic vitality with ecologically sound management practices along northwest Florida’s waterways.

The workshop will feature presentations by experts followed by a hands-on strategic planning session for boating and waterways in northwest Florida.

For more information go to <http://tiny.cc/cwip4> or contact steering committee chair **Chris Verlinde** (chrismv@ufl.edu; 850-623-3868), **Garin Davidson** (gdavids@ufl.edu) or **Fred Vose** (fvose@ufl.edu).

GPS for Mapping Workshop

A two- or three-day workshop on the use of Global Positioning Systems (GPS) for mapping, and for use with GIS, is being developed in conjunction with Stanley Latimer, a certified Trimble trainer with the UF Department of Urban and Regional Planning. The planned training is in response to requests from participants of our past GIS workshops. If you are interested in attending, e-mail **Corina Guevara** at corina@ufl.edu.

Stem to Stern II: Boating and Waterway Management in Florida

Planning has begun for *Stem to Stern II: Boating and Waterway Management in Florida*, a statewide event that will occur in the second quarter of 2012 in collaboration with the Boating and Waterways Section of the Florida Fish and Wildlife Conservation Commission.

National Working Waterfronts Coalition

A one- to two- day facilitated workshop will be held in Boston this summer (dates TBD) to determine next steps for the National Working Waterfronts Coalition that was an outcome of the 2010 Working Waterways & Waterfronts National Symposium on Water Access (<http://tiny.cc/5xqb4>). The workshop purpose is to develop clear goals and a vision for the coalition.