

Operation Drag & Snag Finds Derelict Crab Traps Using Side Scan Sonar

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In recent years, awareness of the impact derelict fishing gear has on marine life, the environment and public safety has increased.

This May, I began a project to demonstrate the utility of using side scan sonar to mitigate the impacts of derelict crab traps in coastal waters. Side scan sonar is a specialized system for detecting objects on the sea floor.

I received a sonar unit on loan from Virginia Institute of Marine Sciences to see if the technology could be used to identify submerged, abandoned blue crab traps within the dark waters of the Peace River. VIMS researchers have successfully used side scan sonar to identify submerged traps in Chesapeake Bay for the last four years.

Since 2008, the Florida Fish and Wildlife Conservation Commission has worked with stakeholders from the commercial blue crab fishing industry to implement a series of closure dates for the fishery. The closures simplify the process of identifying lost and abandoned traps, because active traps must be removed during that time, so what's left is considered derelict. Two trap retrieval approaches are being used to remove traps during the closures: community-based cleanups and contracted trap retrieval.

Through field testing of the side scan, I was able to identify more than 100 submerged traps prior to the 2011 rotational closure for southwest Florida. Using the side



Extension agent Betty Staugler removes a derelict crab trap. (FSG photo)

coming up...

Boating Eco-Tourism Course for Boat Captains

Oct. 18-21
Brevard County Extension Office
Cocoa, FL
<http://captainsoffice.net/>

FWC Coastal Wildlife Conservation Initiative Workshop

Oct. 24, 5:30 to 8:30 p.m. or
Oct. 25, 9 a.m. to noon
Taylor County Extension Office
Perry, FL
<http://bit.ly/npvn17>

Northeast FL Boating & Waterways Planning Workshop

Nov. 30-Dec. 1
St. Augustine, FL
<http://bit.ly/qsPwFh>

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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.

scan with targets identified and a homemade dragline, a crew of volunteers and I were able to recover 61 submerged traps during the closure.

A third of the submerged traps were still fishing when recovered. Seventy-five blue crabs trapped inside were released as well as a handful of other fish and invertebrate species. Traps were recovered in water depths ranging from 3-16 feet.

Join the King Tide Project

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Did you know that the highest tides of the year occur from the end of September through the end of October for most coastal locations? The King Tide Project, supported by the Sarasota Bay, Tampa Bay and Charlotte Harbor estuary programs, offers a great opportunity for Florida Sea Grant extension agents to engage citizens in photo documenting the impacts of the year's highest tides.

In addition to offering a great educational experience, the photographic output of this project holds great value for my work and that of others when developing programming or presentations that benefit from regionally-specific photos along the coast.

If you are interested in participating, you can begin by locating the nearest tide station to your location, and the highest tide of the year for that location, by going to NOAA's "Tides and Currents" website <http://tidesandcurrents.noaa.gov/index.shtml>.

Once there, click on the map and zoom in on your location. Make sure you select "Tide Predictions" from the second drop-down box in the upper right corner of the page.

Select a site, which should open a small window. Within that window, click on "Tide Predictions," which will open a new window (note that tide predictions are not available at all locations). Within this new window, select the start date as sometime in early October. Then select "monthly" under the "Time Range."

Once you hit "submit," this will produce a monthly map where you can quickly scan the numbers to see the highest high tide for the month. For example, if you do this for Old Port Tampa, FL you will see that the highest tide for the year was predicted to be Oct. 1, near 4 to 5 a.m.



King Tide Project photo of tide at Fort De Soto Park, North Beach. (Holly Greening photo)

After you know the time and location of the highest tide in your area, you are ready to go take photos. E-mail your photos to info@sarasotabay.org. Include your name, time and place the picture was taken. Submissions can be viewed at <http://www.flickr.com/groups/1692657@N23/>.

Even if you do not plan to develop any programming around the opportunity, consider taking pictures or at least pass this information around through your blog, Facebook page or other medium.

Indian River Oyster Restoration Completes Second Reef

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The Indian River/Treasure Coast Oyster Restoration program is completing its fifth year of collecting, bagging and deploying oyster shell in the Indian River Lagoon. Working with St. Lucie County, Florida Oceanographic Society and Indian River Lagoon Solutions, we are not only growing oyster reefs, we also have a growing base of dedicated volunteers that are undaunted by bad weather, bugs and some pretty exhausting work.

This summer, after creating 100-square-foot test reefs to check deployment methodology, we completed a three-quarter-acre intertidal oyster reef on Spoil Island 18B in St. Lucie County. On this site, we documented successful spat settlement and oyster

growth. Sixteen species of shore birds have used the oyster reefs including piping plover and least tern, and seagrasses have begun regenerating, presumably due to sediment stabilization and recruitment from nearby seagrass beds.

With the help of volunteers we recently completed our second 700-square-foot reef. Each time we bag shell or deploy shell bags, I conduct a “field classroom” for the volunteers that describes the importance of oyster reefs for water quality, as nursery habitats for other important species, and as substrate stabilizers to prevent erosion, therefore benefitting seagrass beds. Our next deployment is in December; we have bagging days every 2-3 weeks.



LeRoy Creswell conducts a field class for volunteers on deployment day. (FSG photo)

Steinhatchee Artificial Reef Enhancement Underway

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Taylor County received a \$178,000 grant in September to enhance the Steinhatchee Fisheries Management Area reef complex. Funding is from the Florida Fish and Wildlife Conservation Commission using support from the US Fish and Wildlife Service Sport Fish Restoration program. Up to 360 tons of concrete reef modules will be constructed and deployed in 2012. Approximately half of the reefs will be placed in a 5-square mile public fishing area, with GPS coordinates widely distributed. The remaining modules will be spread randomly over a 100-square-mile area completing the last 48 of 500 planned conservation reefs intended to benefit juvenile gag grouper populations. Taylor County Cooperative Extension will oversee the construction of the

new reefs with dive operation support from the UF Fisheries and Aquatic Sciences Program.

The Great Goliath Grouper Count...Year 2

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In June several Florida Sea Grant Extension Agents (Joy Hazell, Betty Staugler, Libby Carnahan, and Fred Vose) partnered with FWC and their local partners to coordinate the second annual Great Goliath Grouper Count.

The count is a regional survey of goliath grouper presence and abundance over selected artificial reefs at various depths conducted in a relatively short time period. It has proven to be an effective means of involving local stakeholders in the collection of fundamental fisheries information that would not be possible for researchers working alone.

Weather and poor visibility reduced the total number of sites surveyed from 59 last year to 47 this year, and also forced the survey period to extend for 22 days. However, we were able to start sampling additional areas to the north and on the state's east coast.

Overall, we consider the project to be a success. The 47 sites surveyed ranged in depth from 12-125 feet, and habitats surveyed included wrecks, rubble such as pilings, culverts and boulders, and “other” structures, such as towers and natural bottom ledges. At least one goliath grouper was seen on 96% of the sites. Although fewer sites were surveyed, more goliath grouper were spotted – 352 this year versus 312 in 2010.

It must be stressed that the observed increase in goliath grouper cannot be interpreted as a significant increase in goliath grouper abundance – the data are too limited to say that. We are trying to develop a long-term perspective that can be used in conjunction with other scientific studies.

Thanks to all of the anglers and divers who helped us identify the survey sites. Our efforts are helping researchers plan and conduct future work. We look forward to expanding the project to even more locations next year.

Santa Lucia Reef Cleaned of Marine Debris

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For the third consecutive year, I have organized a clean-up of the Santa Lucia Reef in Collier County with the assistance of local partners including Collier County, City of Naples and Rookery Bay.

The Santa Lucia is a 47-foot Cuban turtle boat topped with large concrete pilings that create extensive relief and structure for fish. It sits in approximately 30 feet of water and is only 2 miles from shore. It is a popular stopping spot for fishermen to cast net bait before heading offshore, and is also heavily fished.



Extension agent Bryan Fluech, right, removes debris from the Santa Lucia Reef. (FSG photo)

Unfortunately, the reef's configuration and proximity to a major pass contributes to a lot of cast nets, line and other debris getting caught up on the site. This debris serves as a continuous hazard to the marine life, fishermen and divers who use the site. Using lift bags and baskets, our team removed several hundred pounds of debris from the reef including eighteen cast nets, three boat anchors, a fishing pole, several beer bottles, and a hefty amount of fishing line, tackle and rope.

Potential Growers Learn About Aquaculture

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On Aug. 25 Florida Sea Grant and UF/IFAS Extension held an Introduction to Aquaculture

workshop at the Whitney Laboratory for Marine Bioscience in Marineland. Twenty-six people participated in the day-long workshop where they learned about various types of aquaculture opportunities in Florida. Aquaculture professor Cortney Ohs discussed food fish and bait fish production, shellfish specialist Leslie Sturmer covered clam production, and Craig Watson, director of UF's Tropical Aquaculture lab, gave an overview of marine ornamentals in Florida and a presentation on the pitfalls of aquaculture. Neil Aymond, Florida Department of Agriculture and Consumer Services' Division of Aquaculture, reviewed state permitting requirements and best management practices. Professors Ruth Francis-Floyd and Denise Petty described resources available through the UF vet school, and I showed attendees how to find information on the EDIS and Southern Regional Aquaculture Center's websites, and how to find their local extension office and Sea Grant agent.

Thirteen people responded to an online workshop evaluation. Two participants are current aquaculture producers and plan to continue as they have done in the past. One current producer plans to explore a different type of aquaculture. Five attendees plan to pursue aquaculture in the near future, and three are thinking about starting up aquaculture operations.

One participant wrote, "This program offered a good overview, highlighted a couple areas of opportunity I hadn't considered and provided each participant with specific follow-up resources. I'm looking forward to the opportunity to grow my skill set in areas like water quality/testing, biosecurity/pathogen management and species-specific propagation info."

Recreational Scalloping Webinars a Success

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Rural coastal county economies of the Big Bend thrive on recreational fishing activities. In Taylor County alone, a recent study by Florida Sea Grant estimated more than a \$10 million economic impact from the county's 12 boat access facilities, with scalloping reported as a top activity, second only to fishing.

To provide Floridians with practical information about recreational scalloping along the Gulf coast, we have been using webinars as an efficient and cost-



Snorkeling over shallow seagrass is the most common method of harvesting bay scallops. (UF/IFAS photo)

effective way to reach hundreds of potential scallopers. Before the season began this year, we gave three live webinars (two mid-day and one evening) focused on harvest regulations, boating safety, safe seafood handling practices, scalloping techniques, scalloping locations, species biology and the state's scallop population monitoring program.

An average of 20 people participated in the live sessions, but more than 400 individuals watched the recording during the extended scallop season. Participants came from varied backgrounds and locations within and outside of Florida. Results indicated 94% of those surveyed would share the information learned, with 79% finding the webinar technology a convenient way of learning new information. Webinars have proven to be an efficient and cost-effective way to promote safe, family-oriented activities and good seafood harvest and handling practices, and to stimulate local businesses through increased tourism.

Scallop Searches Engage Citizens in Science in SWFL

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In August 2011 more than 240 volunteers participated in scallop searches led by Florida Sea Grant in southwest Florida. On Aug. 13, volunteers took to the waters in Pine Island Sound for their second annual search, while Lemon Bay and Gasparilla Sound held their third annual search on Aug. 27. These searches complemented events held in Sarasota and Tampa bays. This regional approach to community-based education and research of bay

scallops allows for an assessment of bay scallop distribution and trends on a long-term basis over a wide area.

Once abundant in southwest Florida, bay scallop populations essentially disappeared from the region in the late 1960s and early 1970s. No one knows for sure why this happened, but degraded water quality, overharvest and loss of seagrasses are the prime suspects. Improvements in water quality, increases in seagrass acreage and efforts to stock scallops led to hopes that bay scallops would return.

The search events are hugely popular, and year after year, volunteers are willing to donate their time, vessels and fuel to document scallop populations.

Volunteers attended a pre-event training to learn scallop and seagrass identification. They also learned transect deployment, and search and data collection procedures. After spending the morning snorkeling in their pre-assigned grids to count scallops, they returned to dock to turn in gear and datasheets, fill out an evaluation and receive lunch and an event T-shirt.

The results this year were mixed. Pine Island Sound volunteers counted 1,026 scallops, up from 335 last year. Lemon Bay and Gasparilla Sound counts, however, were down this year. Volunteers there found 24 scallops compared to 163 in 2010, although that may be due in part to difficult weather conditions. Sarasota Bay and Tampa Bay scallop searches found 10 and 5 bay scallops each. These results demonstrate the importance of conducting research, education, restoration and monitoring of bay scallop populations in southwest Florida using a uniform and coordinated approach across the entire southwest Florida region.



A volunteer measures a scallop in Pine Island Sound. (FSG photo)

Sunray Venus Clam Growout Trials Evaluated

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Preliminary results of the sunray venus clam growout rearing trials were provided to industry members at a clam industry task force meeting in Cedar Key on Sept. 21.

To determine production performance of sunray venus clams for growout culture at existing commercial high-density lease areas, seed (about 10-15,000 per participant) were made available in the summer of 2010 to 13 growers at five areas in three counties. Grower selection was based on ensuring that there was representation at each lease location and a willingness to participate in the project.

When the growout rearing trials were terminated, three replicate bottom bags from each site were sampled to determine survival and growth. To understand differences in soil properties among existing leases and account for spatial variability within individual leases where sunray venus clams were evaluated, the soils at each growing site were sampled and characterized.

Significant production differences existed among leases for survival and weight, and appeared to be related to differences in soil properties. Acceptable production (survival, 55-71%; weight, 11.3-23.0 grams) occurred at five leases where soils were higher in sand and lower in organic matter, silt and clay content. Characterization of soil types and chemistry will aid in determining compatibility of existing shellfish aquaculture leases and in siting future leases for this



The late Van Lewis, a grower in Franklin County, planted sunray venus seed on his lease to determine production performance. (FSG photo)

bivalve species. Currently, we are working with staff in the state's Department of Agriculture and Consumer Services in selecting and evaluating potential sites in Levy County for sunray venus culture.

Coastal Notice Project to Study Effectiveness of Property Disclosure Clause

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The University of Florida Levin College of Law Conservation Clinic is collaborating with the Florida Sea Grant boating and waterways planning program to research the effectiveness of a recent law mandating real estate disclosures for coastal property buyers in high erosion zones.

Florida Statute 161.57 pertains to real estate notice requirements for properties partially or totally seaward of the Coastal Construction Control Line. In 2006, based on research provided by the school's conservation clinic, the Legislature amended the statute to require further disclosure to real property purchasers within the CCCL. 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 government regulations, including those pertaining to rigid coastal protection structures, beach nourishment, and the protection of marine turtles.

The statute also requires that a buyer be provided an affidavit or survey showing the location of the CCCL on the property, or waive that requirement.

This research project will evaluate the extent to which the legislation has achieved its intended effect. Kevin Wozniak received the Conservation Clinic's Climate Institute Fellowship, and is working on this project in fulfillment of his master's degree in environmental law.

Phase I of the project will conduct a mail survey of randomly selected property owners who purchased coastal property since the 2006 coastal notice legislation went into effect. The survey will also seek to understand shoreline property owner and coastal stakeholder perceptions of risk associated with shoreline migration.

Phase II of the project will involve semi-structured interviews with a subset of mail survey

respondents, and possibly, focus groups of coastal real estate stakeholders. This project will help to better understand the current perceptions of the most at-risk property owners concerning coastal hazards in Florida. It may help to inform community decisions about adaptation policies that are most appropriate or inappropriate, and what actions or policy approaches coastal property owners and other stakeholders would support. This understanding is necessary to guide the development of appropriate extension education materials and constructive public policies to address the causes and effects of shoreline migration.

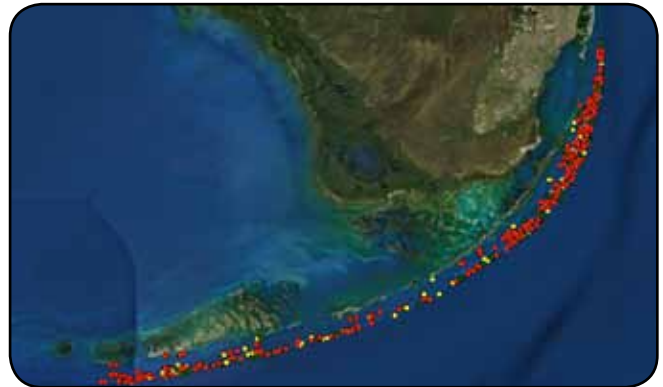
Fisheries Stock Data Submitted to Councils

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I attended the five-day Gulf of Mexico Fishery Council meeting in Key West and presented the recommendations of the May Scientific and Statistical Committee (SSC) review of yellowedge grouper and golden tilefish assessments, as well as updated harvest projections for red snapper and red grouper. The Gulf Council adopted all the SSC recommendations.

The commercial spiny lobster fishery opened on Aug. 6, and I organized and conducted a lobster workshop in both English and Spanish to assist commercial fishermen with understanding the proposed lobster regulations and to prepare for the upcoming public hearing. Fifty Hispanic fishermen attended both the workshop and the public hearing. I also participated in a joint meeting with FWC, NOAA Fisheries, and representatives from the Florida Keys National Marine Sanctuary to discuss the proposed lobster trapping closed areas and the basis for selection of the proposed sites.

I also attended the four-day South Atlantic Fishery Management Council meeting in Key West. The South Atlantic Council voted to evaluate replacing the controversial deep-water grouper closure with specific spawning site closures. Finally, I participated in a four-day Gulf of Mexico Fishery Council Scientific and Statistical Committee meeting in Tampa to review terms of reference for upcoming stock assessments for cobia, Spanish mackerel, and red snapper as well as review of the recently completed Acceptable Biological Catch control rule and aspects of fisheries ecosystem management.



The census plots locations of marine debris. (NOAA photo)

Marine Debris Recycled in Miami-Dade Partnership

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Miami-Dade Sea Grant and NOAA Fisheries are partnering to implement a marine debris removal program in Miami-Dade County. This program, funded by the Fishing for Energy Program and NOAA, will use NOAA Fisheries Reef Visual Census data to create a long-term database for marine debris assessment, monitoring and removal along the Florida Keys reef tract. Using this database, sensitive and impacted areas along the Florida Keys reef tract will be identified and gear recovery efforts will target high density areas and/or high priority coral reef habitats. This project will also provide commercial fishermen with a means of disposing old gear and debris free of charge, helping to reduce costs for fishermen while protecting the sensitive habitats that are so important to their livelihoods. By partnering with the Fishing for Energy program, all collected debris materials will be recycled and processed into clean, renewable energy instead of sent to a landfill.



Three tons of debris were removed from Biscayne Bay and converted into clean energy during 2011 volunteer clean-up events. (FSG photo)



An example of what a marina fire in Steinhatchee could look like. (USCG photo)

Taylor County Sea Grant Disaster Training with USCG

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There are some beneficial outcomes resulting from the experience of the Deepwater Horizon oil spill.

Luckily for peninsular Florida, no direct environmental effects of oil on the shoreline occurred. In fact, the disaster operations in 2010 established strengthened lines of communication between the U.S. Coast Guard and emergency operations management on both county and state levels.

In mid-September, Steve Lang and Warren Weedon (USCG- Sector St. Petersburg) conducted a table-top training exercise in Steinhatchee with the assistance of Taylor County and Dixie County emergency management leads, FDEP and Taylor County Cooperative Extension. Three U.S. Coast Guardsmen from Station Yankeetown attended the training exercise, with a total of 15 agency and government representatives directly involved in the training. The meeting was also open to public observers.

The Steinhatchee River borders Taylor and Dixie counties, and a local marina fire and subsequent oil spill was the proposed disaster scenario, occurring at 3 a.m. on July 4. The classroom exercise developed quickly, covering important topics including establishing the location of the incident command post, discussion of resources needed to deal with the protection of the public, and resolving access points

and control of boat ramps for staging of equipment and emergency response. The scenario concluded with discussion of environmental and local economy impacts during the beginning of open season for bay scallops.

Several important issues came to light, such as overcoming communication barriers between different radio systems, and a lack of vessel availability for local emergency responders. In October, during a followup workshop with the Coast Guard and FWC, Big Bend counties will review the geographic response plan maps modified during the Deepwater Horizon spill to include placement locations of oil boom. Information from emergency responders in the Panhandle is being used to improve the practicality of oil spill contingency plans, based on feedback from those with direct spill experience.

NW Florida Boating and Waterways Management Workshop Concludes

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The Northwest Florida Regional Boating and Waterways Management Workshop, held Aug. 16-17 in Milton, drew approximately 45 attendees. The purpose of the workshop was to examine innovative strategies that managers, planners and policymakers can use to balance economic vitality with ecologically sound management practices along Northwest Florida's waterways. Attendees ranged from local, state and federal government to private businesses, marine industry and academics.

First-day presentations by local and state experts were followed by a question-and-answer panel. The presentation topics focused on Florida's Clean Marina Program, boating and anchoring regulations, FWC's statewide boating economic study, non-economic tools to evaluate Florida's marine infrastructure, protecting deep-water access, public engagement for recreational waterway access in a rural coastal county, near-shore artificial reefs, and derelict vessel management.

The second day, a half-day facilitated planning session, allowed participants to conduct strategic planning for boating and waterways in Northwest Florida. Participants identified important regional waterway issues and discussed strategies to address

them. The major issues were derelict vessels, planning, outreach and education, and funding and access.

An end-of-workshop evaluation showed that participants strongly agreed or agreed that the workshop was a good opportunity to network (61% and 39%, respectively). In addition, 92% of participants either strongly agreed or agreed that the workshop provided information that will be useful in their job. The majority of respondents also wished to see this workshop offered on an annual basis.

Sea Grant Accolades

This year, Florida Sea Grant agents were conspicuous in receiving state awards from the Florida Association of Natural Resource Extension Professionals (FANREP) and national awards from the Association of Natural Resource Extension Professionals (ANREP). Accolades include:

- **Maia McGuire** was part of a team that received multiple honors for manatee programming materials. The team received a national bronze and silver state award for Computerized Graphic Presentation and national bronze in Mixed Media/Materials.
- **Chris Verlinde, Brooke Saari, Bill Mahan, Scott Jackson** and **Andrew Diller**, were members of the team who won state and national gold for their "Panhandle Outdoors" newsletter, oil spill edition.
- **Holly Abeels** received state bronze for Slide Set/Computerized Graphic Presentation.
- **Lisa Krimsky** received the gold state and national Early Career Leadership Award and state gold for Innovative Program.
- **Brooke Saari** received state gold and national bronze for Individual Program Leadership as well as national bronze for Early Career Leadership.
- **Bryan Fluech** and **Lisa Krimsky** received state and national gold in Television/Video Conferencing for their seafood webinar program.
- **JP Gellerman** received the FANREP Sustainable Agriculture Research and Education Scholarship.

Regional extension agent **LeRoy Creswell** spoke at the 2010 meeting of the Food and Agriculture Organization of the United Nations in Jamaica. More

than 20 countries throughout the Caribbean were represented at the meeting. The findings of that meeting are now published in *A Regional Shellfish Hatchery for the Wider Caribbean: Assessing its Feasibility and Sustainability*.

Scott Jackson was part of a team that received the Natural Resource/Environmental Stewardship Team award from the Florida Association of Extension 4-H Agents.

Bill Mahan was a member of the team whose newsletter received 1st place state and regional and 3rd place national from the Florida Extension Association of Family and Consumer Sciences.

coming up... *(continued)*

GIS for Natural Resource Applications

Dec. 12-14

McCarty Hall B, University of Florida

<http://bit.ly/mV1zri>

GPS for Mapping Systems Workshop

Dec. 15-17

McCarty Hall B, University of Florida

Hands-on instruction led by certified Trimble trainer Stanley Latimer.

<http://bit.ly/ozJrhJ>

Adaptive Planning for Sea-Level Rise: Legal Issues for Local Government Workshop

Jan. 18

Lee County Extension Office, Ft. Myers

Jan. 19

Pinellas County Extension Office, Largo

Content is directed at planners and local government attorneys. The workshop will offer CLE credits for attorneys and Certification Maintenance credits for planners.

For more information, e-mail truppert@ufl.edu.