South Florida Marine Extension Agents Begin Fish Recompression Field Trials

John Stevely
Manatee and Sarasota Counties Extension
jsmarine@ufl.edu

Florida Sea Grant recently funded a program development project to initiate field trials of a variety of new devices designed to recompress fish experiencing barotrauma. It is hoped that such practices can increase the survival of fish caught and released in deep water.

A major goal of the project is to involve extension agents and anglers throughout Florida in evaluating the practicality of using these devices in Gulf and South Atlantic fisheries.

Gear has been purchased and distributed to Florida Sea Grant extension agents, and field trials have begun. During the past six weeks a total of four field trials have been conducted by me, Bryan Fluech (Collier County), Betty Staugler (Charlotte County) and Lisa Krimsky (Miami-Dade County). Valuable experience has been gained in using these devices with more than 125 fish successfully released. Other agents around the state will be involved in similar activities in the upcoming months.

Charlotte County extension agent Betty Staugler uses a RokLees descending device on a red grouper.
Climate Change Summit Highlights Sea-Level Rise

Doug Gregory
Monroe County Extension
drg@ufl.edu

The Southeast Florida Regional Climate Compact’s third annual Climate Leadership Summit was held in Key Largo on Dec. 8 and 9, with more than 250 citizens, government staff and elected officials in attendance. The compact was created in 2009 by the county commissioners from Palm Beach, Broward, Miami-Dade and Monroe counties to address climate issues. Speakers and visitors from New York and California also participated, along with state and federal representatives, including at least four extension folks.

The Monroe County Extension and Sea Grant agents were an integral part of the team responsible for organizing and running the event, because of our experience in conducting large community events (like the Tropical Fruit Fiesta, the Green Living and Energy Expo and the Florida Keys Seafood Festival) and because of our leadership in helping the county develop climate change mitigation and adaptation strategies.

The primary focus of this summit was to highlight the vulnerability of southeast Florida to sea-level rise and to announce the release of the Southeast Florida Regional Climate Action Plan for public comment. Roundtable panel discussions included: “The Compact as the catalyst for a more resilient, sustainable and progressive economy,” and “How resilience and sustainability provide the context for southeast Florida’s future prosperity.” There was a luau dinner keynote address by Bryan Norcross of the Weather Channel.

A special half-day session on innovative Property Assessed Clean Energy concepts was conducted with speakers highlighting the groundbreaking work on PACE development by Sonoma County, Cal. and Babylon, N.Y. These types of programs make renewable energy affordable for the average homeowner and business. Once fully implemented, they have the potential to substantially increase the growth of renewable energy production in the U.S.

Monroe County, the smallest of the Compact counties, is developing a leadership role primarily due to the obvious threat of sea-level rise to the entire island chain of the Florida Keys. Three of Monroe’s four hospitals, 65 percent of its schools and 71 percent of its emergency shelters, as well as the Key West International airport, will be inundated by a 1-foot rise in sea level which is expected to occur within the next 30-50 years. Due to the various projection models of sea-level rise that exist in the literature, the Compact used local expertise among universities and government agencies to develop a unified consensus projection of sea-level rise for the next 50 years: 3-7 inches in the next 20 years and 9-24 inches in the next 50 years.

Monroe is one of the first counties in the state to include climate and energy elements in its comprehensive plans and has had an active community advisory committee since 2008—coordinated by Extension and Sea Grant beginning in 2009—that has developed numerous actions adopted by the Board of County Commissioners and a Sustainable Vision Plan. Both a government operations and community climate action plan are currently under development. Extension and Sea Grant also help manage the county’s $3.2 million federal Energy Efficiency Conservation block grant.

Broodstock Clam Development Workshop Helps Hatchery Operators

Leslie Sturmer
Aquaculture Specialist
Lnst@ufl.edu

In December, about a dozen clam hatchery personnel and other stakeholders attended the Development of Clam Broodstock for Seed Production Workshop at Harbor Branch Oceanographic Institute.
at Florida Atlantic University (HBOI-FAU). The workshop was supported by a Florida Sea Grant grant to HBOI-FAU research professor John Scarpa and me; organizational assistance was provided by Florida Sea Grant extension agent LeRoy Creswell.

The workshop focused on maintaining genetic variation, which allows hatchery personnel to select for desirable traits, while potentially increasing environmental adaptability in individuals and within clam populations. Participants were provided progeny from the backcross trials that could be used in a hatchery’s genetic selection program – at least three stocks that performed well in field trials. In response to follow-up questions, 71% of the attendees stated that the information presented was informative and useful to their operations, 82% responded that the presentations and handouts were easily understandable, and 100% agreed that they would be interested in attending another workshop updating this topic in the future.

Florida is a leading producer of cultured hard clams, but where do the seed clams come from for planting? They come from commercial hatcheries. Hatchery personnel spawn thousands of clams a year to produce the hundreds of millions of seed needed by clam farmers. As with production of any animal, breeding is an important part of the production cycle. Dr. Scarpa reviewed basic genetics and broodstock management to maintain genetic diversity while selecting for production traits, while I presented an overview of the hard clam breeding work that was being supported by USDA grants. At the conclusion, high performing broodstock lines developed under the USDA project were supplied to hatchery personnel to incorporate into their breeding lines.

The need for a hardier clam strain has become evident as shellfish growers in Florida report below average survivals or total losses during prolonged hot summers. The local southern quahog Mercenaria campechiensis may have suitable production characteristics for Florida environments and readily hybridizes with the northern hard clam M. mercenaria, but gapes during refrigerated storage. We previously reported on parental species and their hybrid crosses. Differences in hybrid performance indicated that backcrossing of hybrids to the northern hard clam may improve some measures. Five families of backcrossed hard clams were produced using multi-parent crosses from hybrid and parental stocks. No differences were noted between stocks during larval and nursery culture in the hatchery. In field nursery, survival of backcross stocks (71-82%) was greater than hard clam controls (65%). At harvest, 66% of backcross stocks yielded higher survival (81-91%) and production (34-38kg/bag), compared to hard clams (79%, 31kg/bag). After 10 days in refrigerated storage, survival of backcross stocks (97-99%) was similar to hard clams (100%). Although gaping was higher in the backcross stocks (4-17%) versus hard clams (3%), these results are commercially acceptable. This breeding approach can increase summer survival and productivity of cultured hard clams while maintaining product quality standards.

If the overall survival of cultured hard clams can be increased 10% from the industry average of 60-70% by using this breeding approach, the value of the Florida hard clam culture industry would increase by $2 million, based on 2007 industry farm gate sales.

Agents Offer Third Marine Fisheries Regulations and Management Workshop

Bryan Fluech
Collier County Extension
fluech@ufl.edu

Florida Sea Grant agent Joy Hazell (Lee County) and I partnered with Florida Fish and Wildlife Conservation Commission (FWC) law enforcement officers to offer our third annual Florida Marine Fisheries Regulations and Management workshop in January. The educational workshop is intended for park rangers, resource managers and informal educators who commonly interact with fishermen in the field.
The workshop is an opportunity to educate participants on fishing regulations and management actions relevant to southwest Florida so that they are able to more effectively educate fishermen about these rules. It is also meant to expand the network of agency staff capable of identifying and reporting fisheries violations in their communities. Workshop topics included a summary of 2011 state and federal regulation changes, lionfish, sharks, shellfish harvesting, and discussion of local FWC law enforcement activities. Fifty-four participants representing local, county, state and federal agencies as well as non-profit organizations attended the workshop. Ninety-eight percent of participants agreed the workshop improved their understanding of fishing regulations, and 100% agreed it would improve their ability to educate anglers about fishing regulations. A six-month follow-up survey is planned to assess the extent to which participants were able to apply what they learned into their jobs.

Florida Sea Grant Organizes Third Academy

Mike Spranger
Associate Director for Extension and Education
spranger@ufl.edu

In 2011, I coordinated the third National Sea Grant Academy that trains Sea Grant professionals from across the United States in “fundamentals of extension.” Session I was held in March in Washington, DC. Session II was held in October in Portland, Oregon. Thirty-two participants from the four corners of the country and beyond (Guam, Alaska, Florida, Massachusetts) and National Sea Grant office attended this year’s academy. Florida Sea Grant participants included Holly Abeels, Libby Carnahan and Thomas Ruppert.

During the second session, participants were trained in such topics as planning for evaluation, grantsmanship, advocacy vs. honest broker, group facilitation, working with advisory committees, working with the new social media, and time management. Our keynote speaker was Dr. John Byrne, member of the National Sea Grant Advisory Board, former head of NOAA, and President Emeritus with Oregon State University. Instructors included Mike Liffmann, National Office; Joe Cone and Pat Kight, Oregon Sea Grant; Sacheen Tavares and Chris Ellis, NOAA Coastal Services; and me.

A highlight of the academy was a day field trip (very long, but rewarding) where we toured the Oregon State University Hydrological Laboratory in Newport, the Hatfield Marine Science Center in Corvallis, and Yaquina Head on the Oregon coast. One afternoon participants enjoyed self-guided educational tours and experiences in the city of Portland, one of the most sustainable cities in the country. Prior to the session, I led a one-day tour of the Columbia River Gorge where the group enjoyed the many historical places, waterfalls, dam and fish hatcheries.

To date we have trained nearly 100 Sea Grant professionals from across the network in the three academies. This is about one-third of all Sea Grant Extension professionals in the national network. Every Sea Grant program has had at least one participant in the trainings. Evaluations indicate past and present participants continue to benefit from this training. They are using the knowledge and skills learned in their work in their local areas. Many have been very successful in obtaining grants as a result of this training. They also have continued working together in new collaborative networks across states. The success of the Academy has been a team effort with funding from the National Sea Grant Office and individual state programs. Special thanks this year to Treva Damron, Florida Sea Grant senior secretary, and Dee Boyle, communications program assistant, who coordinated all the logistical and travel support for the Academy. Their support was invaluable and acknowledged by those in attendance. It could not have happened without them!
Northeast Florida Regional Boating and Waterways Workshop a Success

Holly Abeels
Brevard County Extension
habeels@ufl.edu

The 2011 Northeast Florida Regional Boating and Waterways Workshop was held on Nov. 30 and Dec. 1 in St. Augustine at the St. Johns County Cooperative Extension Service auditorium. I coordinated the workshops. The planning committee included Maia McGuire (St. Johns/Flagler), Lisa Krimsky (Miami-Dade), and Bob Swett and Garin Davidson (Boating and Waterway Planning). The regional workshop examined innovative strategies to balance economic vitality with ecologically sound management practices along northeast Florida’s waterways.

The 56 participants included managers, planners, policymakers, lawyers, academics and industry people from state, local and regional levels (both private and public sectors). The first day consisted of presentations on comprehensive planning tools, waterway access issues, mooring fields, and derelict vessels. The second day was a half-day facilitated planning session to allow participants to conduct strategic planning in northeast Florida based on their expertise and information gathered from the previous day’s presentations.

The second day’s strategic planning session, facilitated by Lisa Krimsky (Miami-Dade) and Garin Davidson, (Boating and Waterway Planning), also allowed participants to brainstorm for boating and waterways planning. Participants identified eight major issues: boating safety and education, legislation, funding, water quality, regulation, access, derelict vessels, and dredging. Participants were asked to choose the issue most important to them and divide into teams. They then strategized how the issue could be addressed.

An exit survey showed that 90% of participants (n=30) either agreed or strongly agreed that the workshop increased their knowledge of economical and sustainable approaches to boating and waterway management in northeast Florida. Also, 93% of participants (n=30) either agreed or strongly agreed that the workshop was a good opportunity to network with other professionals in the region.

Sea Grant Expands Partnerships with Chambers of Commerce

Fred Vose
Taylor County Extension
fvoie@ufl.edu

Last spring, a partnership with the Citrus County Visitors and Convention Bureau supported a joint effort to revise an out-of-date brochure on recreational scalloping. The original brochure was created by retired Sea Grant agent Don Sweat and was still very much in demand, but out of print. Our Sea Grant

A new scalloping brochure is being developed for Steinhatchee and the Big Bend. (photo: IFAS)
Communications Director, Dorothy Zimmerman, enlisted my help to revise text, images and graphics. The new brochure was widely distributed, including multiple requests from large marine retailers such as West Marine. More than 10,000 copies of a 15,000 copy printing have been distributed to date. Brochure information includes fishing regulations and season, gear needed, a map with boat launch locations and marinas, brief summaries of aquaculture research, a general biology of the Florida bay scallop, and a few delicious recipes.

Due to the success of this educational material, we are now creating a new scalloping brochure for the Big Bend area in southern Taylor County in partnership with the Taylor County Tourism Development Council. A new map product is being created with the assistance of Garin Davidson in the FSG Boating and Waterway Planning Program, while the overall layout is being overseen by Staci Biondini (FSG Communications Coordinator) and Netalia Shapse (graphic artist). This document will help to attract visitors to the region, hopefully benefiting the local economy during this important seasonal recreational fishery and will be printed and distributed in advance of the next scallop season, which opens in July 2012. A Sea Grant boating access study showed that 74% of returned boater surveys listed scalloping as a top recreational activity, and that all annual boat trips were estimated to have an economic impact of more than $10 million in Taylor County. This type of literature development also fits well with a new overarching goal of assisting communities with economic development through University of Florida-IFAS extension programs.

Sea Grant Specialists Receive EDA Grant

Sea Grant specialists Bob Swett and Tom Ankersen, along with Alan Hodges, IFAS Food and Resource Economics, are part of a national team that received $297,000 in October 2011 from the U.S. Economic Development Administration (EDA) to create community and economic development tools for preserving working waterfronts and waterways.

The team is a subset of the coalition that formed in the aftermath of the 2010 Working Waterways and Waterfronts National Symposium on Water Access in Portland, Maine. Members hail from Sea Grant programs in Florida, Maine, Michigan and Virginia; the National Sea Grant Law Center; the Island Institute and the Coastal Enterprises Institute of Maine; and the Urban Harbors Institute of UMASS. The expected outcomes and products of the EDA grant align closely with those envisioned by the coalition during its year-long work that culminated in a two-day August meeting in Boston. The coalition’s mission is to increase the capacity of coastal communities and stakeholders to make informed decisions, balance diverse uses, and plan for the future of their working waterfronts and waterways.

Faculty and Staff Learn GIS for Natural Resource Applications

Bob Swett
Boating and Waterway Planning Program
rswett@ufl.edu

The 12th three-day training workshop in Geographic Information Systems for Natural Resource Applications was held in December 2011, and 16 people attended. The UF/IFAS Office of the Dean for Research provided scholarships for research faculty and staff to participate.

GIS workshop participants complete their final project. (photo: Florida Sea Grant)

The workshop provided participants with basic knowledge and skills in ArcGIS (v.10), a tool that can be used to enhance their individual work programs and/or research projects. Pre- and post-tests showed that participants increased their knowledge by 56 percent, and increased their skill level [I can do this a little (39.7%) and I can easily do this (43.3%)], as a result of attending the workshop. In addition to that,
most of the December attendees were satisfied with the service provided (4.25 average on five-point scale) and said they mostly achieved or completely achieved their goals for the workshop.

Based on feedback from previous attendees, the training format and materials were enhanced. One of the improvements involved the addition of a final project during the last day of the training.

A new workshop will be offered May 7-9, 2012. Save that date, if you are interested in this training opportunity.

Healthy Gulf, Healthy Communities Grant Underway

Bill Mahan
Franklin County Extension
bmahan@ufl.edu

During the Deepwater Horizon oil spill, I helped researchers with the University of Florida and the University of Maryland School of Medicine organize and conduct a preliminary community-based study in Franklin County to document the mental health and wellness impacts that the oil spill had on residents.

Survey results indicated that there was evidence of widespread community disruption and psychosocial problems along the entire coastline, including areas which had minimal or no actual oil exposure. Our findings also demonstrated the need for further, ongoing community-based research in the region, to look at the possible long-term health effects of the oil itself and the impacts of the spill on the long-term physical and psychological health of individuals living in our community. The results of the study were published in *Environmental Health Perspectives in February 2011*.

In July 2011, the National Institutes of Health awarded a UF-led team more than $6.5 million over five years to study the environmental and psychological effects of the Deepwater Horizon oil spill on communities along the Gulf coasts of Florida and Alabama. In addition, the following academic organizations are participating in the study: University of West Florida, University of South Alabama and University of Maryland School of Medicine. At the local community level, the program is known as “Healthy Gulf, Healthy Communities.”

For the past several months research team members have been meeting with local community partners (i.e. Franklin’s Promise Coalition) to develop local focus/advisory groups to work with the researchers and provide input on the best way to conduct the study locally. The first focus group sessions are scheduled for late January 2012. At this time, the research will concentrate on the following two areas:

*Individual and Family Resiliency after Environmental Disasters* – This research is focused on examining the psychological recovery after the oil spill. It will assess this by determining the extent to which exposure type, resources, and select behavioral factors predict a favorable outcome. In addition, the study will examine the association between emotional regulation, problem solving ability and favorable outcome for families over four years.

*Community Resiliency* – Research on community resiliency is focused on three areas including assessing social vulnerability and community resilience, determining the role social networks plays in resiliency, and determining the level of satisfaction with litigation.

The first area of study, assessing social vulnerability and community resiliency, will use focus groups and key informant interviews to assess the community’s capacity for disaster response. Secondly, a social network analysis will help in answering the question ‘are networked communities more resilient to disaster?’ Third, research on the level of satisfaction with litigation will be done in conjunction with UF Law School’s Center for Governmental Responsibility to propose legal alternatives.

Ohio State Students Volunteer in Pinellas County

Libby Carnahan
Pinellas County Extension
lcarnahan@co.pinellas.fl.us

This December, 10 dedicated students from Ohio State University headed south to Pinellas County,
Florida for a week of service with Florida Sea Grant. The Ohio State University BUCK-I-SERV (Students Engaged in Responsible Volunteering) program matches interested students with service projects around the country.

Throughout their visit, I taught the students, many of them first time visitors to Florida, about nearshore and coastal habitats of Tampa Bay and the Gulf of Mexico, local wildlife and social marine issues. The training included classroom seminars, an education center scavenger hunt, fish printing, seining for fish and invertebrates, and other teachable moments in the field.

In a practical use of their new knowledge and skills, the students assisted with invasive plant removal and coastal cleanups. While it was the first time many of them had used a machete or bow saw, the students were enthusiastic to learn new skills and put them to work. The group removed Australian pine and Brazilian pepper trees from approximately 20 acres of Weedon Island and Shell Key preserves in Pinellas County. The weather was mild and accommodating, however the biggest challenge on Shell Key Preserve proved to be the relentless sandspurs – one student resorted to throwing his prickly shoes in the trash. On the beach and in the mangrove forests, the students collected six bags of debris, weighing approximately 135 pounds. Accolades go to the students who worked together to dig a waterlogged Adirondack chair out of the muck and transport it to shore in their canoe.

In all, OSU students dedicated 320 hours of valuable service to Florida Sea Grant in Pinellas County. As evidenced by an assessment, all students increased their knowledge, with an average of 34% increase in post-test scores compared to pre-test. In the evaluations, all participants said that they would recommend this program to fellow students. One student said they most enjoyed “learning more deeply about what goes on behind the scenes to keep our beaches beautiful.” To see a testimonial from this year’s participants, go to http://youtu.be/FlB2DeFHkV0.

“Motion in the Ocean” is an Interactive Hit with Third Graders

LeRoy Creswell
Regional Extension Agent
creswell@ufl.edu

“Some animals swim in the ocean….
Some animals even can crawl…..
Some animals move with a gliding motion….
And some just don’t move at all!”

“Motion in the Ocean” is a learning experience that students can get their hands on. I developed this interactive program that examines the “motility” of marine animals and how it affects what they eat – or what eats them – and present it about once a month.

The third graders at St. Anastasia school in St. Lucie County spent an exciting morning learning about form and function of marine organisms. Although this particular morning was a learning experience for third graders, the presentation is popular with all grade levels – in large part because it is interactive.

(photo: Florida Sea Grant)
Sponges, corals, bivalve and gastropod molluscs, and even sea urchins and crustaceans are distributed to students for them to examine, providing some “tactile learning” for these young marine scientists. Students are quick to respond to questions (or ask them) about the modes of locomotion and feeding of a host of marine animals.

Aspiring Marine Biologists Learn Oyster Ecology Through Hands-on Restoration Project

LeRoy Creswell
Regional Extension Agent
creswell@ufl.edu

St. Lucie County public school district has a stand-alone high school campus dedicated to marine science. The Marine and Oceanographic Academy (MOA), located on the Florida Atlantic University campus at Harbor Branch Oceanographic Institute, offers an entire program in oceanography and marine biology, in addition to standard coursework.

These aspiring marine biologists routinely get out of the classroom and into the field for some practical experience in the Indian River Lagoon. This school year, students have been building their own oyster reef beside a local marina to improve water quality and help stabilize the shoreline from boat wakes.

First, the students bag oyster shells that I collect from local restaurants. During this step, students learn how oysters filter algae and other particles from the water, reducing turbidity and improving water quality. They also learn about the importance of oysters in stabilizing bottom sediments, and the role that oyster reefs play in providing habitat for other marine organisms.

Then the students get a chance to get wet by deploying all of the oyster bags along the intertidal shoreline. Oyster larvae settle onto the shell, a new oyster reef begins, and the students learn a valuable lesson in coastal ecology and personal stewardship.

During the fall 2011 semester, MOA students planted more than 1,000 oyster bags (over 10 tons of shell) in the Indian River Lagoon, and the spring 2012 semester looks even more promising!

Sea Grant Lends a Hand to State 4-H Marine Ecology Event

Karen Blyler
State 4-H Science Coordinator, UF, IFAS
kblayer@ufl.edu

The 4-H State Marine Ecology Event was held on Dec. 3 at the Orange County Extension Office in Orlando. The event is a contest in which youth are judged on their knowledge of marine and coastal plants, animals and ecosystems. In one section of the contest, youth go on a scavenger hunt and match written clues to specimens on tables. The final section of the contest includes a multiple-choice test to assess what youth know about marine ecosystems and habitats. Florida Sea Grant is a major contributor and sponsor of this event.

This year 110 youth, ranging in age from 8 to 18, competed from 13 counties. Youth compete in teams and as individuals. Medals were given for first, second, and third place teams as well as individual high scorers. First place winners receive small scholarships that can be applied toward state marine camp registration and/or other approved marine education activities.

In conjunction with the event, the 4-H Marine and Aquatic Photography contest was held. This year over 110 photographs were entered and displayed. Photographs included scenes of beaches, birds, crabs, people fishing, lake scenes, sunsets and more. Ribbons were given for first, second, third place and honorable mentions. FSG Communications assisted in judging these photographs. Winners and winning photos will be posted on the 4-H website.
Meet Our New Agent!

**Rick O’Connor** joined Florida Sea Grant on Jan. 20 as the marine extension agent for Escambia County.

He holds a bachelor’s degree in marine biology from Troy State University and a master’s degree in science education/vertebrate zoology from the University of Southern Mississippi. Rick has served as a science teacher at Pensacola Catholic High School and BT Washington High School. He also served as summer instructor with the Dauphin Island Sea Lab/Discovery Hall Program and has been adjunct instructor at Pensacola Junior College.

Rick is very active in the community. He created a marine science academy where students become involved in student service and field projects. This academy has allowed him to work with many local marine scientists, resource managers, university professors and county leaders. He grew up in the Pensacola area, so he knows the area well. He is a certified scuba diver, and also enjoys the fine art of sailing and kayaking.

Join us in welcoming Rick to the Sea Grant community! Email him at roc1@ufl.edu.

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**Don Sweat Award**

**Betty Staugler**, Charlotte County Sea Grant Extension, was recently awarded the annual Don Sweat Sea Grant Extension Award. The award is presented to a Florida Sea Grant agent in recognition of excellence in taking initiative, creativity and leadership in their extension programs that made a difference to their constituents.

Betty’s name has been added to the permanent plaque on display in the Florida Sea Grant state headquarters.

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In addition to serving as an educational resource, Florida Sea Grant agents assist by setting up mock events in their counties. **Libby Carnahan** (Pinellas Co., not pictured) and **Mike Spranger** (right) helped set-up and served as monitors for the various judging events. (photo: Florida Sea Grant)

The State 4-H office thanks the Florida Sea Grant Program for helping to sponsor the MEE and for the ongoing support of Sea Grant agents around the state in helping youth prepare for the event or their on-site assistance. Other contributors included the Orange County Extension office, Florida Aquarium, Florida Fish and Wildlife Conservation Commission, and Florida Museum of Natural History.
Florida Sea Grant regretfully announces the deaths of three former colleagues who provided long-enduring contributions to the program.

**Hugh Popenoe**

Hugh Popenoe was the founding director of Florida Sea Grant and served as its director from 1971 to 1978. During that time, he also served as chair of the council of Sea Grant directors.

Popenoe was a professor in the soil and water science department at the University of Florida, and he is remembered as a visionary in international outreach, tropical agriculture and environmental sustainability. He was born in Honduras and earned his PhD from the University of Florida.

Hugh served as director of numerous national and international scientific advisory panels and committees, but is often remembered for his contributions as director of the Zamorano School in Honduras, as director of UF’s International Programs, as mentor to more than 300 graduate students, and his passion for his herd of water buffalo.

Hugh passed away Sept. 21, 2011, in Gainesville at the age of 82.

**Betty Spivey**

Betty Spivey served as the administrative assistant for the Florida Sea Grant extension program in 1989 after many years in the UF IFAS district extension director’s office. She retired from the University in 2004.

Betty actively mentored new extension faculty as they joined the program. She also organized extension events, and managed purchasing and invoicing.

She was a native of Conway, South Carolina, and became an avid Florida Gators sports fan and “Tail Gator.” She was known for her optimism, vibrant humor, and extensive knowledge of IFAS personnel and extension history.

Betty is survived by her husband, three daughters, and four grandchildren. She passed away Nov. 19, 2011, in Gainesville at the age of 71.

**Billie Lowry Crowell**

Billie Lowry Crowell served as communications coordinator for the Florida Sea Grant extension program for 10 years under former communications director Tom Leahy.

Billie is remembered as a generous, courageous person, and a bright presence in the Sea Grant office. She was an avid piano player, and the driving force behind the two sold-out performances of “A Sea Symphony” which Florida Sea Grant produced in the late 1980s with the University of Florida choral group and its symphonic orchestra. “The concert gave the early Sea Grant program campus-wide and community visibility,” recalls former Sea Grant director Jim Cato. “And it gave Sea Grant a way to support students in music and the arts that we otherwise could not support.”

Billie earned a bachelor’s degree from Santa Fe College and a master’s from the University of Florida.

Billie is survived by her husband, three children, and several great grandchildren. She passed away Jan. 2, 2012, in Gainesville at the age of 86.