

Mark your calendars...

- Feb 6, 10am—4pm. Water Education Festival at MOSH (Jacksonville). Free admission! Contact wavduval@sjrwmd.com for more information.
- Feb 8-March 1 — Freshwater Master Naturalist Program (Nassau Co.) See www.masternaturalist.org to register or for more information.
- More on back page!

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Tenth volume of aqua-notes!

Happy 2010! It is hard to believe that I am starting my tenth year in Sea Grant, and my tenth volume of aqua-notes. Whether this is your first issue of my newsletter, or your 36th, thanks for your continued readership and your interest in coastal and marine topics.

This year, I will be expanding my programming on the topic of climate change, finishing writing a manatee curriculum for 3rd grade students (see story below), continuing to teach people about invasive species, and conducting coastal education programs for adults and youth. If you have a question about something related to marine science, or if you would like me to come and give a talk to your club or group, please feel free to give me a call or drop me an e-mail. I always enjoy hearing from you!



M. P. McGuire

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Marine Extension Agent

Manatees—in and out of the classroom!

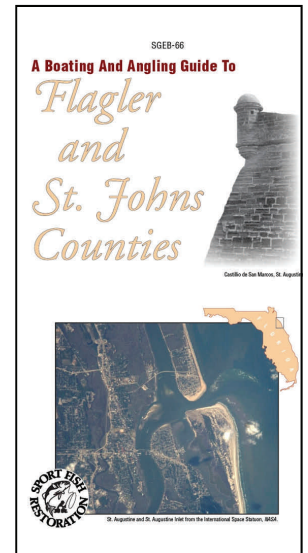
In the summer of 2009, Dr. Ruth Francis-Floyd, an aquatic veterinarian at the University of Florida approached the Flagler County School District with an idea. She understood that elementary school teachers were having difficulty finding time to teach science because of the emphasis placed on reading and math skills. She proposed developing a curriculum based around Florida’s endangered marine species which could be used to teach science standards while also addressing language arts, math and social science standards. Unknown to Ruth, I had used this same idea to develop a manatee program which had been taught by volunteers to kindergarten through 5th grade classes in the county that spring. (continued on pg 3)



Manatees at Blue Spring State Park in November, 2009

News for boaters and anglers

Since 1992, the Florida Fish and Wildlife Conservation Commission has produced a series of boating and angling guides through their Fish and Wildlife Research Institute offices (see http://research.myfwc.com/boating_guides). These guides have evolved over the years from simple, 2-color fold-out maps on paper, to fully-interactive web-based maps, that augment the full-color plasticized printed documents. From the website above, you can check out the interactive guide to Tampa Bay. The newest guide in the series, due out in early 2010, will be a boating and angling guide to St Johns and Flagler Counties. The guides are not intended to be used for navigational purposes, but are intended as a resource for boaters and anglers. They contain information about boat ramps, fishing piers, important coastal habitats, artificial reef locations, and safe boating and angling techniques. The guide for St Johns and Flagler Counties will cover both the eastern (intracoastal and ocean) and western (St Johns River and tributaries) sections of the counties. The eastern maps are on one side of the guide, and the western map is on the other side. Printed copies of these free guides should be available in area tackle shops in February or March. Additionally, copies of the guides will be available at the St Johns and Flagler County Extension Offices.



Several new rules affecting saltwater fishing went into effect on January 19th. The state has passed some rules that make regulations consistent in state and federal waters. People fishing for reef fish in both state and federal waters of the South Atlantic will now be required to have a dehooking device with them. For more information about dehooking tools (why and how to use them), see <http://catchandrelease.org/dehooking.shtml>.

Grouper fishermen need to be aware that no harvest (commercial or recreational) of several grouper species will be allowed in Atlantic state or federal waters for the months of January through April. Species affected are gag, black grouper, red grouper, scamp, rock hind, red hind, coney, graysby, yellowfin grouper, yellowmouth grouper and tiger grouper. Additionally, year-round the grouper aggregate bag limit has been reduced to three fish, and only one gag OR black grouper can be possessed (as part of the bag limit). In addition to a closed grouper fishery, there are some new rules affecting snapper fishing. In federal waters (beyond 3 nautical miles offshore), no red snapper fishing is allowed between January 4 and June 2, 2010. This closure could be extended for an additional 186 days, so commercial and recreational fishermen should follow this closely. In state and federal waters, there is a closed season for vermilion snapper from November through March, and the bag limit for vermilion snapper has been reduced from ten to five fish.

Additional temporary restrictions are in place because of the recent cold weather's impact on some fish species. Effective Jan. 16, no person may harvest or possess snook in state and federal waters off Florida until September. There is also a temporary prohibition on the harvest and possession of bonefish and tarpon from state and federal waters off Florida through March 31. The FWC advises anglers that this order prohibits only the harvest or possession of snook, bonefish and tarpon during the closed periods. Anglers may still catch and release these species during these temporary closures, and the FWC encourages everyone to handle and release these fish carefully to help ensure their survival upon release. Information regarding proper handling and release of fish is available online at <http://catchandrelease.org>.

Manatees—in and out of the classroom (cont.)

We decided to work together, along with graduate student Alexis Morris, to expand my program (a single, 30-60 minute class with post-visit activities for the teachers) into a 20+ lesson curriculum for 3rd grade classes. At the suggestion of Flagler County School District staff, the curriculum is being pilot-tested at Bunnell and Rymfire Elementary Schools. Funding for the program is being provided by grant funds from a training grant which originates from the Florida Fish and Wildlife Conservation Commission and is jointly administered by the University of Florida College of Veterinary Medicine and The Whitney Laboratory for Marine Bioscience. The grant funds the University of Florida's marine mammal health program, an important part of a larger program in aquatic animal health, but a small portion of the funds are directed to support K-12 education. This funding has enabled the purchase of supplies for all lessons, including payment for school buses to take all 400 3rd grade students from the two schools to Blue Spring State Park in December 2009 to see manatees in the spring run.

The curriculum uses the book "Sam the Sea Cow" to introduce students to manatees, and to give them an overview of manatee biology and threats facing manatees. Other lessons teach about adaptations, characteristics of mammals, what manatees need to survive and marine pollution. In the spring, the 3rd grade classes will collaborate to help sponsor a school marine science night. The products that they have developed during the year (including video podcasts, posters, and written works) will be showcased at this event. In addition to the lessons developed, classes have received workbooks, posters and stickers from Save the Manatee Club and the Florida Fish and Wildlife Conservation Commission. Some of the lessons are being adapted from curricula developed by Sea World. The lessons are provided to the teachers in kits; some of the lessons will be demonstrated in the schools.

The curriculum is a work in progress—to date, six of the classroom lessons have been finalized and distributed to the schools, and the field study at Blue Spring State Park (100 students per day over 4 days) was conducted in December. At the park, students watched a video and met with a park volunteer to learn more about the park and about manatees. Additionally, each class toured the park with a leader (volunteers from Flagler County and from the University of Florida) and completed a data sheet which included counts and observations of behavior for fish and manatees as well as water temperature. For most students, this was their first opportunity to see wild manatees, even though they live in a county bordered by the St Johns River, the intracoastal waterway and the Atlantic Ocean. We are hoping that these students will become better stewards of the coastal environment now that they have a better appreciation for and understanding about manatees. We also hope that these lessons will help show teachers (and administrators) that they can incorporate math, language arts and social studies skills into their science teaching.



Students from Mr. Brunelle's 3rd grade class at Bunnell Elementary School observed manatees at Blue Spring State Park in December, 2009.

Once the curriculum is completed, it will be available online at <http://stjohns.ifas.ufl.edu/sea/Manatees.html>.



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*Science serving
coastal Florida*

More “Mark your calendars”

- February 8-26—Coastal Master Naturalist Program (St Johns Co.) See www.masternaturalist.org to register or for more information.
- February 15-March 22—Coastal Master Naturalist Program (Volusia Co.) See www.masternaturalist.org to register or for more information.
- February 24-25—*Sustainable Water Resources: Complex Challenges, Integrated Solutions*, Gainesville, FL. See <http://waterinstitute.ufl.edu/symposium2010index.asp>
- March 15-26—Uplands Master Naturalist Program (Duval Co.) See www.masternaturalist.org to register or for more information.
- April 9-May 14, 2009—Coastal Master Naturalist Program (Volusia Co.) See www.masternaturalist.org to register or for more information.
- April 15-May 27—Freshwater Master Naturalist Program (Clay Co.) See www.masternaturalist.org to register or for more information.
- April 17—Earth Day at Jacksonville Landing. 10am—4pm.
- April 17-18—Earth Day at Washington Oaks Gardens State Park. 10am-4 pm each day. Park admission fee applies.

Please check the calendar at <http://calendar.ifas.ufl.edu> for other environmental education programs around the state.

Aqua Notes is provided as one of the many services relating to educational programs offered by the University of Florida/IFAS cooperative extension service. This publication is available on the Web at <http://stjohns.ifas.ufl.edu> or in an alternate format on special request. In compliance with ADA requirements, participants with special needs will be reasonably accommodated with 5 days advance notice by contacting the Flagler County Extension Service at 386-437-7464. Those needing telecommunications assistance, please call the Florida Relay Service (TDD) at 1-800-955-8771. The use of websites or product names in this publication is not a guarantee, warranty or endorsement of the sites/products named and does not signify that they are approved to the exclusion of others. For more information about this document, contact Maia McGuire at the Flagler County Extension Service at 386-437-7464.