

Mark your calendars...

- November 1-12— Greater Jacksonville Agricultural Fair. See www.jacksonvillefair.com for more information.
- November 7, Duval Environmental Educators Association meeting. 3 pm, SJRWMD office (Baymeadows). For information, contact Maia at 904-209-0430.
- November 10— Water Matters Conference at UNF. Sponsored by FL Federation of Garden Clubs and UNF Environmental Center. For more information, call 904-264-7565
- More on back page!

More staffing changes

As you may know, April Alexander (now April Moore) has been my secretary in the Sea Grant Extension Office for several years. Unfortunately, her position was terminated this fall because of funding shortfalls. The position was 100% funded by federal dollars paid through the University of Florida/Florida Sea Grant program. Future funding allocations for the National (and therefore the Florida) Sea Grant Program are up to the discretion of the US Senate and House of Representatives. Clients of the NE Florida Sea Grant Extension program who have contacts in Florida congressional offices and would be willing to write letters supporting the Sea Grant program are asked to contact Maia before November 30th.

M. P. McGuire

Maia McGuire, PhD
Marine Extension Agent



Reducing catch and release mortality when fishing

Recreational anglers often fish for the sport of it, choosing to release what they catch. Many fish that are caught must be released because for many fish species, the size and number that may be caught by an individual is regulated (see <http://myfwc.com/marine/regulation.htm> for Florida's recreational saltwater fishing regulations, and <http://floridafisheries.com/rules.html> for recreational freshwater fishing regulations.) However, there is some concern that fish that have been hooked and released may not survive their stress or injuries.

There are several things that the recreational angler can do to increase the chance that fish that they catch and release will survive. According to the Florida Fish and Wildlife Conservation Commission, the most common causes of release mortality are stress during the capture process and injuries from the hook or the angler. Fish that "put up a good fight" once they are hooked are likely to be exhausted by the time they are landed. As with humans, physical exertion results in lactic acid buildup in the fish's muscles and blood which can result in muscle failure or death. Anglers can reduce fish exhaustion by using the proper weight tackle for the size of fish they are targeting, by landing the fish quickly, and, if possible, by leaving the fish in water while releasing it. Most fish cannot breathe when out of water but they need plenty of oxygen to help them recover. (more on pg 3.)

Inside this issue:

New Invasive Barnacle	2
Teacher resources	2
Reducing re-release mortality (cont.)	3

New marine invader to watch for!

There is a new marine invader in town and it could be heading for a boat hull near you! A large, pink acorn barnacle has shown up on hulls and running gear on boats in St. Augustine. This barnacle, scientific name *Megabalanus coccopoma*, is native to the eastern Pacific Ocean. It has previously been reported to occur in the Atlantic Ocean, primarily in Belize and Belgium, but also from Louisiana and Texas. Abundance and distribution of the barnacle in Florida waters is not yet known though it is most likely to be found in higher salinity waters (ocean or brackish water).

The barnacles have a distinctive pink color—they have six pink, triangular plates on their “shells” and they can get to be over 5 cm in diameter and height. They seem to like to grow on “new” surfaces—clean boat hulls, buoys, propellers etc. One St. Augustine boat had 25-30 live barnacles growing on its running gear. These barnacles were about 3 cm in diameter, and are known to be less than 5 months old, as the boat had been bottom painted 5 months before the barnacles were discovered.

The barnacles are a potential fouling hazard because of their rapid growth rate and large size. They may also pose an environmental threat to native filter feeders, as they could compete for food with species such as oysters as well as with larval crabs, fish, etc.

If you find these barnacles, please collect as much of the following information as possible; the collector’s name and contact information, date collected, location (e.g. where boat was moored/docked, if known), GPS if available, approximate number of barnacles, whether barnacles were living or dead, what were barnacles attached to, what was approximate water depth of barnacles, water temperature and salinity, approximate size (width and height) of barnacles. Please send this information to Maia McGuire, at mpmccg@ufl.edu; telephone 904-209-0430 or fax 904-209-0431. The information will be forwarded to the USGS aquatic invasive species folks, and will be shared with marine extension programs in Louisiana and Georgia, who are also watching for the barnacles.

Removing the barnacle from the boat will kill it but it is recommended the barnacles not be removed underwater, as there is a chance that the gametes (eggs and sperm) could then be released into the water.



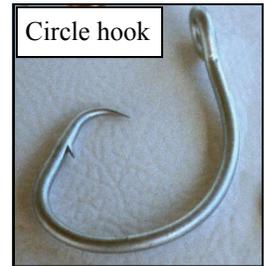
Marine Invasives: Resources for teachers

A teaching guide about marine invasive species is now available online. “Intruders in Paradise” contains activities developed for middle school students by staff at the Florida Aquarium. Additional resources are provided by Florida Sea Grant and the Tampa Bay Estuary Program. The activity guide and resources can be downloaded from <http://www.tbep.org/isteachersguide/index.html> and can also be requested on CD from the Tampa Bay Estuary Program. Two other invasives activities can be downloaded from Maia’s website at <http://stjohns.ifas.ufl.edu/sea/seagrant.htm> under the Marine Invasives link.

Reducing catch and release mortality when fishing (cont.)

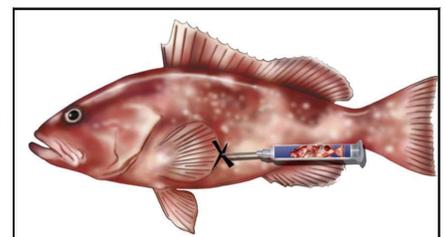
To reduce stress or injury caused by handling the fish, anglers should either not handle the fish at all (removing the hook using a de-hooking tool), or should use wet hands. If a towel or gloves must be used, these should also be wet. The slime layer on a fish's body serves many protective functions for the fish, including anti-bacterial functions. If that slime layer is removed, the fish will be more vulnerable to infection and possibly also predation. If the fish is to be held up for a photograph, holding the fish horizontally (in a natural swimming position) rather than vertically will reduce the risk of damaging the fish's internal organs.

To reduce injuries caused by hooks, barbless and circle hooks can be used. Barbless hooks are shaped like standard J-hooks, but have the barb removed. The advantage of barbless hooks is that they can be removed quickly and easily, reducing stress and injury to the fish. The disadvantage is that the fish can escape from the hook more easily than from a barbed hook, especially if there is any slack in the line. A study on catch rates of snappers and groupers did not show any difference between barbed and barbless hooks. For most saltwater fish species, circle hooks result in higher catch rates and lower catch mortalities when compared to J-hooks. Anglers who are accustomed to fishing with J-hooks will have to modify their hook-setting technique when using circle hooks in order not to pull the hook out of the fish's mouth. Circle hooks are designed not to catch in the fish's gut or throat, but to catch the corner of the mouth as the fish swims off after taking the bait and hook.



If fish do become gut-hooked, the recommendation is that the angler cut the line as close to the fish's mouth as possible, rather than trying to remove the hook. The swallowed hook will decay fairly rapidly, and the fish's body may actually cover it with tissue while the decay process occurs, allowing the fish to heal as the hook disappears. Steel or bronze hooks decay faster than stainless steel, cadmium-plated or nickel-plated hooks, so are recommended for recreational saltwater fishing.

When deep sea fishing, anglers should be aware that they can increase grouper survival rates by properly venting the fish before releasing it. The swim bladders of fish that are brought to the surface from depth (especially depths of 30 feet or more) may burst. This causes gases to accumulate in the fish's abdomen, giving it a very swollen belly. The stomach may be pushed forward and may actually stick out of the fish's mouth. If the fish is released in this state, it will likely float upside down at the water's surface and is vulnerable to sunburn or predation. To vent the fish, the fish should be laid on a wet towel (preferably in the shade). Venting is done using a hollow needle which is inserted just through the skin at the tip of the pectoral (side) fin. The needle should be inserted at about a 60 degree angle, just until the sound of escaping gas can be heard. Once the belly has "deflated," the needle can be removed and the fish can be released. This technique is recommended for groupers—however it has not been shown to increase survival of other reef species such as snappers. Fish venting tools can be purchased through <http://www.dehooker4arc.com/>.





NE Florida Sea Grant Extension Program
3125 Agricultural Center Drive
St. Augustine, FL 32092

Phone: 904-209-0430
Fax: 904-209-0431
E-mail: mpmcg@ufl.edu
<http://stjohns.ifas.ufl.edu>

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More “Mark your calendars”

- November 16—“Freshwater Fishing vs Invasive Weeds: Economics of managing a public resource with a limited budget” presentation at UNF, 1:40—2:55 pm. See www.unf.edu/dept/ecenter for more information about the Fall 2006-2007 Seminar Series.
- November 14-19—St. Johns County Fair. See www.stjohnsfair.com for details.
- Jan 17—Community based social marketing introductory (cbsm) workshop, Gainesville. Jan 18-19, advanced cbsm workshop, Gainesville. The registration flier will be available as a PDF document at www.gainesvillecreeks.org. All questions and registrations please contact Susan Marynowski at sustainableac@gmail.com.
- February 3—Water Education Festival, MOSH, Jacksonville. Contact Felicia Boyd at wavduval@sjrwmd.com for information.
- February 12-March 10—Coastal Master Naturalist Class (Duval Co)—see www.masternaturalist.org for more information or to register.

Please check the calendars at <http://calendar.ifas.ufl.edu> and www.enviroedjax.org 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 St. Johns County Extension Service at 904-209-0430. 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 St. Johns County Extension Service at 904-209-0430.