

## Mark your calendars...

- Aug 20-Sept 20—Upland Habitats Master Naturalist Class, Clay County. See [www.masternaturalist.org](http://www.masternaturalist.org) for more information.
- Sept 22—Science Expo at Westside Regional Library (Jax) 3-5 pm. Bring the family!
- Sept 29—National Estuaries Day celebration at GTMNERR. Call 904-823-4500 for more information.
- Sept 29—Whitney Lab Open House. Call 904-461-4000 for information.
- More on back page!

## Conferences, day camps and vacation, oh my!

The heading summarizes my summer—yes, I did squeeze some vacation time in there, backpacking in North Carolina :) In July, I attended the National Association of County Agricultural Agents conference, where I received an Achievement Award (one of two presented to Florida extension agents). The following week, I attended the National Marine Educators Association conference. These conferences provide wonderful opportunities to get ideas, see old friends and make new ones. I have already used one of the activities I learned at NMEA with a 4-H summer camp. I hope you have all had a relaxing summer, and I apologize for the lateness of this newsletter.

*M. P. McGuire*

Maia McGuire, PhD  
Marine Extension Agent



A 4-H youth examines plankton collected during summer day camp.

## “Reading” fish

I am fortunate to be able to take groups of youth and adults to the beach as part of my job. One of the activities that I enjoy doing at the beach is pulling a seine (pronounced “sayn”) net. This is a rectangular net (mine is 20 feet long and four feet high) which has floats attached along the top edge and weights attached to the bottom edge. Attached to each end of the net is a long pole. The net is pulled through shallow water by two people. The types and numbers of fish caught depend on the location, time of year and, to some extent, the ability of the “pullers” to prevent fish from escaping from the net.

Once the excitement of transferring live fish from the net to a bucket is over, the first question that I am usually asked is, “What kind of fish is that?”

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## Home & Garden Show

The St Johns County Extension Office is organizing a Home and Garden Show to be held at the St Johns County Agricultural Center on October 6-7, 2007. Tours of the Arboretum, Community Gardens and "Hurricane House" will be available. Informative lectures will be conducted hourly. Youth activities will be coordinated by St Johns County 4-H. The event will include a Datil Pepper Festival with cooking contests, recipe exchanges and displays highlighting datil pepper history in the county. Admission to the show will be free.



Show hours will be from 9 am—4 pm on Saturday, and from 10 am—3 pm on Sunday. Indoor and outdoor vendor spaces are available. For more information on becoming a vendor or exhibitor, please call 904-209-0430 between 8:30 am and 5 pm weekdays.

## Poster contest

2008 has been designated the "International Year of the Reef" (IYOR). This will be a year-long campaign of events and initiatives hosted by governments and non-governmental organizations around the world to promote conservation action and strengthening long-term constituencies for coral reef conservation.

Coral reefs are one of the world's most productive ecosystems, providing valuable resources including fisheries, coastal protection and tourism income. Many human-related factors threaten reefs globally. These include the following:

Climate Change  
Coastal Development  
Exploitive Fishing  
Coral Mining, Trade and Harvesting  
Stormwater Runoff



You are invited to help educate others about coral reefs by participating in the IYOR poster contest being organized by the Northeast Florida Sea Grant Extension Office, part of the University of Florida's cooperative extension program. This contest is open to ages 5-adult and entries will be judged in four separate age categories (see entry form for details). The deadline for receipt of entries is October 31, 2007. Entry forms and contest rules can be obtained from <http://stjohns.ifas.ufl.edu/sea/seagrant.htm>, by e-mailing [mpmccg@ufl.edu](mailto:mpmccg@ufl.edu) or by calling 904-209-0430. More information about the International Year of the Reef can be found at <http://www.iyor.org>.

## “Reading” Fish (cont.)

Since most of the fish that we catch are fairly common, I can usually name them. However, I like to explain to people that knowing the name of the fish species is less important than being able to “read” the fish. By this, I mean making observations about the fish that allow us to determine various aspects of its lifestyle and behavior.

For example, we commonly catch several small, silvery fish species in the beach seines. All of these show different degrees of countershading—darker coloration on their backs, and lighter/silver coloration on their sides and bellies. This is a form of camouflage. When a larger fish swims below these small fish and looks up, all it will see is the brightness of sunlight passing through the water, as the silver bellies blend in with the reflected light in the water. When it swims above these fish and looks down, the large fish will just see the darkness of the water below it, as the backs of the fish blend in with the blue/green colors of the deeper water. Many aquatic animals, including sharks and dolphins, have this type of coloration.

The mouths of the three fish species in our seine reveal some differences between them. Two fish have mouths on the underside of their heads; one of these two has a small “whisker” or barbel under its chin. Both of these fish feed on food items that are below them, in the sediment. The one without the barbel has a strongly forked tail, indicating that it is an active predator that seeks out its food, while the one with the barbel probably is more of an opportunistic feeder, using its barbel to sense food items in the sand or mud. The third fish has a large mouth at the front of its head, and a forked tail. This fish filters plankton out of the water—the large mouth allows a large volume of water to be passed through its gills, which act like nets to trap tiny plants and animals which can be swallowed.



Other characteristics that we look for include various types of camouflage. Vertical stripes on a fish’s body suggest that the fish may live in shady or murky water—here sunlight that passes through the water is often separated into rays, so the dark and light bands on the fish mimic this. Large dark spots on a fish’s side often mimic eyes. A small fish with a large dark spot on its side may appear to be just the head of a much larger fish, possibly deterring predators. Many fish are colored to match the habitat in which they live; some even have modified fins which look like bits of plants! The size and position of the fish’s mouth, fins and eyes can all give hints about how and where the fish lives and eats.

Of course, for every generalization, there are many exceptions! There are many amazing fish in the ocean that have developed their own characters. The ocean sunfish is one of these. The largest bony fish in the world, it averages 6 feet in length and 2200 pounds in weight. The ocean sunfish (scientific name *Mola mola*) does not have a tail fin, and its dorsal (top) and anal (bottom) fins are large, grey and symmetrical. The dorsal fin is often mistaken for a shark’s fin when it sticks out of the water. The mouth is small, and the teeth are fused into a beak-like structure. The primary food source is jellyfish. These fish are mainly found in open ocean waters. Their carcasses occasionally wash ashore on beaches in NE Florida.



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### More “Mark your calendars”

- Sept 30-Oct 16—Freshwater Wetlands Master Naturalist Class, Trout Creek Park (St Johns Co.) See [www.masternaturalist.org](http://www.masternaturalist.org) for registration information.
- Oct 5-Nov 9—Freshwater Wetlands Master Naturalist Class, Volusia Co. Extension Office. See [www.masternaturalist.org](http://www.masternaturalist.org) for registration information.
- October 6-7—St Johns County Home & Garden Show, St Johns County Agricultural Center. See page 2, or call 904-209-0430 for more information.
- October 8-12—Exploring our Environment—from the ocean to the river. Adult “day camp” based at the GTMNERR Marineland classroom. Contact Maia for more information (904-209-0430 or [mpmcg@ufl.edu](mailto:mpmcg@ufl.edu)).
- October 31—deadline for International Year of the Reef poster contest entries. See article on page 2 of this newsletter for more information.

Please check the calendars 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 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.