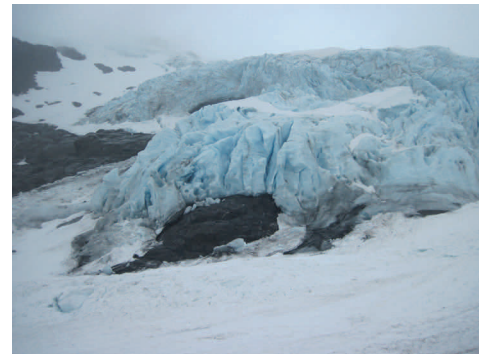


Mark your calendars...

- Sept 1—Saltwater license-free fishing day!
- Sept 10-Oct 1—Coastal Systems Master Naturalist class, Nassau County. See www.masternaturalist.org for more information and to register.
- More on back page!

Learning lessons in Alaska

I was fortunate to be able to attend the National Marine Educators Association annual conference in Anchorage, AK this summer. At the conference, I attended many presentations that focused on Alaska marine habitats, and almost all mentioned measurable environmental changes that are attributed to climate change. From outgassing of methane by melting permafrost to retreating glaciers to changes in the timing of migration of marine mammals, climate change is a concept that is accepted and is a great cause for concern for Alaskans. This is quite a contrast to the attitude in much of the continental US.



Despite having 1000 inches of snowfall this past winter, the ice at Byron Glacier is disappearing—the exposed rock in the center of the photograph is where people used to ice climb in 2010.

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M. P. McGuire

Maia McGuire, PhD
Marine Extension Agent

Southeast Right Whale Forum

In May, I attended the Southeast Right Whale Forum held at the Jacksonville Zoo and Gardens. This forum provides an opportunity for researchers and others who are concerned about North Atlantic right whales to give and hear updates about the current status of this critically endangered species. As many readers may already know, 2012 was a somewhat unusual year, in that there were very few North Atlantic right whales seen off southern Georgia and northern Florida during calving season (December through April). Only six mother-calf pairs were seen, and one of these calves apparently did not survive, as the mother was later seen without her calf. A seventh mother-calf pair was sighted in late May west of Cape Cod, and it is possible that additional calves will be spotted during the summer. On average, since 1994, seventeen or eighteen calves have been born each year. Since 2001, this average has been 22 calves per year. However, this year's apparent low birth count is disappointing.

Continued on page 2

Southeast Right Whale Forum (cont.)

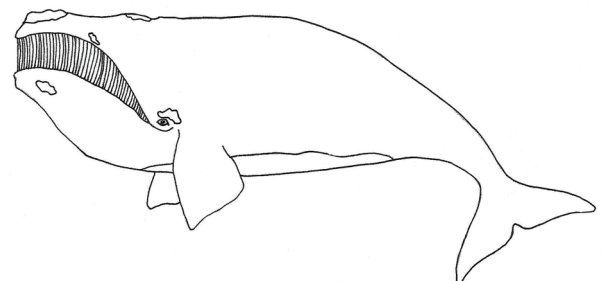
What caused the low number of calves is unknown, but not unprecedented. The years from 1998-2000 were poor calving years, with only eleven calves born in total over the three years. While this year's mild winter could account for pregnant female whales not traveling as far south as usual (the majority of right whales spotted were in the northern portion of the winter range), there is likely to be some other factor that influenced the low pregnancy rate. Scientists believe that right whales are pregnant for about a year, so environmental conditions in 2010 may need to be examined for possible clues as to why whales may not have mated or calves may not have developed successfully.

Many researchers are investigating sound production by right whales. Currently, passive acoustic monitors (buoys) are being used in the right whales' feeding grounds in Massachusetts Bay. These buoys "listen" for the most common adult right whale call, known as an "up-call." This is a short call, which starts at a low pitch and swoops upward (go to listenforwhales.org to hear a recording of right whale calls). When a call is detected, the buoy sends an electronic signal which alerts researchers that a right whale is in the general area. Some right whale calls can be heard underwater over a distance of 2 miles. While the buoys are not able to provide a precise location of the whale, they can show that whales are nearby. Ships passing through the area are then notified of the approximate location of the whale, so they can slow their speed and pay particular attention to the water around them to try to avoid hitting the whale.

From 2001-2007, most of the North Atlantic right whale mortalities (15 out of 18) were adult females or calves. Researchers who have been trying to listen to right whale communications in the winter calving grounds are investigating whether these up-calls are utilized by the mothers and calves. If so, passive acoustic monitoring might be helpful in the southern region of the whales' range to help alert ships to the whales' presence.

In 2012, there was an unusual spike in the oceanic blue crab fishery between Daytona Beach, FL and Savannah, GA. Many commercial crabbers from other parts of Florida took advantage of large numbers of blue crabs in state waters off our coast. Because of the presence of whales, crab traps are required to meet special criteria when used offshore. Ropes (buoy lines) cannot float, and these lines must have orange markings on them (to identify them as blue crab trap lines, if found detached from the gear). The buoys are also required to have weak links, so they are easily detached if bumped into by a large animal. These requirements are designed to reduce the risk of a whale becoming entangled in the crabbing gear.

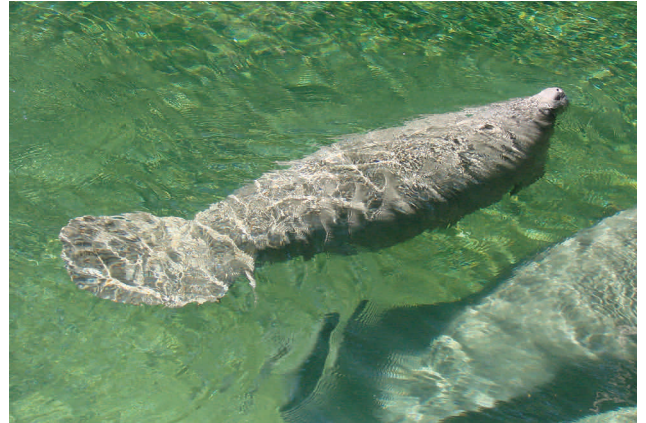
Researchers from the University of North Carolina have been surveying (from small aircraft) all whale species found near the shelf break off the Jacksonville, FL area. The most common whales seen so far were dolphins, especially bottlenose and Atlantic spotted dolphins, but also rough-tooth and Risso's dolphins. Of the larger whales, groups of short-finned pilot whales, pygmy sperm whales, and the occasional humpback, minke and sperm whale were seen this past year. The spotters also reported sightings of leatherback, loggerhead and Kemp's ridley sea turtles during their flights.



Third grade students take action to protect manatees

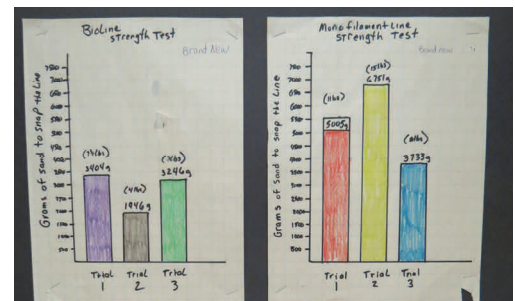
Human-related threats to endangered manatees include collisions with boats and entanglement in fishing gear. Flagler County is being required by the state to implement manatee speed zones along the intracoastal waterway because of increasing manatee mortalities in the area. These speed zones are in effect between May 1 and September 7.

Third grade students at Rymfire Elementary School (Flagler County), Mayport Elementary School (Duval County) and South Woods Elementary School (St. Johns County) learned about manatees during the 2011-2012 school year using a curriculum developed by Maia McGuire (Sea Grant Extension Agent) and Ruth Francis-Floyd (UF Vet School). Pre- and post-test scores showed that students had learned that fishing line could be dangerous to manatees (increase from 70% of students on the pre-test to 86% on the post-test) and that boats are more dangerous to manatees than alligators or sharks (increase from 35% to 97%). Additionally, the number of students who felt that manatees need our protection increased from 77% to 91% after completing the lessons.



Mr. Bill Bianco's third grade class at Rymfire Elementary School designed and conducted a research project to learn more about biodegradable fishing line. The students were inspired to complete this project because they were interested in finding ways to help reduce the number of manatees that become entangled each year in fishing line. By conducting internet research, they discovered that there is a biodegradable fishing line. They decided to learn more about the biodegradable line by testing its strength after exposing it to different conditions (e.g. sunlight, salt water). They learned that the biodegradable fishing line was unfortunately not as strong as monofilament fishing line, and have sent their test results to the manufacturer in hopes that the company will be able to make stronger line, which would be more likely to be used by saltwater anglers.

The class gave a presentation about their research to the Flagler County Council and entered their project in Disney's Planet Challenge contest (they were state runners-up for Florida). The class also worked with two other classes to build fishing line recycling containers which have been installed at the Flagler Beach fishing pier and Marineland Marina. They obtained funding for this from the Flagler County Service Learning Program. By learning about manatees and by teaching others in their community about threats to these animals, these students are helping to reduce the dangers to manatees in Flagler County. Along the way, they learned scientific method and math skills. Congratulations to the students and their teachers!



Student graphs record the strength of biodegradable 10-lb test fishing line (left) and monofilament 10-lb test line (right)

We're now on Facebook—check out [facebook.com/NEFLSeaGrant](https://www.facebook.com/NEFLSeaGrant) and “like” it to keep informed about coastal topics in the region. Don't have a Facebook account? That's OK—you can view the page without one :)



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<http://stjohns.ifas.ufl.edu/sea/seagrant.htm>

More “Mark your calendars”

- September 21: National Estuaries’ Day event at Flagler College Auditorium. 5-8 pm. Poster displays featuring research occurring in local estuaries. Contact 904-823-4500 for more information.
- September 22: National Estuaries’ Day event at GTMNERR (Guana). 10 am-3 pm.
- September 29: Pet Amnesty Day at the Jacksonville Zoo. See <http://myfwc.com/wildlifehabitats/nonnatives/amnesty-day-events/> for more information.
- October 5-November 9: Freshwater wetlands Master Naturalist class, Volusia County. See www.masternaturalist.org for more information and to register.
- October 6-7: Datil Pepper Festival, St. Johns Co Extension Office. See <http://stjohns.ifas.ufl.edu> for more information.
- October 6-20: Environmental Interpretation special topics course, Brevard County. See www.masternaturalist.org for more information and to register.
- October 11-12: Fish health management workshop, Whitney Lab (pre-registration required). Contact rfloyd@ufl.edu for more information.
- October 12-November 16: Coastal Systems Master Naturalist class, Volusia County. See www.masternaturalist.org for more information and to register.
- October 17: Florida Sea Grant Coastal Science Summit, University of Florida, Gainesville. Contact 352-392-5870 or check www.flseagrant.org for more information.
- October 22-Nov 9: Freshwater wetlands Master Naturalist class, Brevard County. See www.masternaturalist.org for more information and to register.
- November 5-December 3: Upland Habitats Master Naturalist class, Nassau County. See www.masternaturalist.org for more information and to register.

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>. 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.

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