

# aqua-notes

An Equal Opportunity Institution

**SOLUTIONS**

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May 2016

**Mark your calendars...**

- May 7—10 am—2 pm. Spring Fling at Flagler County Extension Office. Microplastics talk at 11 am.
- May 11—9 am—5 pm. Right Whale Forum. GTMNERR. For more information, contact Tom.Pitchford@MyFWC.com
- More on back page!

## Busy Spring!

The past few months have been even busier than usual as I have been working on my promotion packet, finishing our 5th grade sea turtle curriculum (see page 2) and continuing with microplastics education and data collection. Many thanks to Dr. Carl Herndl and PhD candidate Lauren Cagle at USF for inviting me to speak to their graduate class on Communicating Sustainability. The students in that class have spent the past few months working on communications projects related to the Florida Microplastic Awareness Project. These include K-12 lesson plans, infographics, memes, video and other products that I am looking forward to being able to share in the coming weeks. Some of the students also set up microplastics exhibits at their local Earth Day events in Pinellas and Pasco Counties. Students at Flagler College and UCF have been conducting microplastics research and shared their results at their respective undergraduate research symposia. It's great to see how much interest there is in this topic!

*M. P. McGuire*

Maia McGuire, PhD  
Marine Extension Agent

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## Florida microplastics data update

Volunteers with the Florida Microplastic Awareness Project are collecting one-liter water samples in coastal areas and analyzing them for the presence of microplastics (plastics less than 5 mm in size). As of the end of April, 2016, here is a summary of the data:



**Florida Microplastic**  
AWARENESS PROJECT

- # of samples analyzed=436
- # of locations sampled=182
- % of samples containing plastic=91
- Average # of pieces of plastic per liter=8.2
- % of plastics as fibers=83
- % of plastics as fragments=8
- % of plastics as microbeads=7
- % of plastics as films=2

You can check out the data on a Google Map through a link at [www.plasticaware.org](http://www.plasticaware.org).

## 5th Grade Sea Turtle Curriculum

Many of you may already know about the 3rd grade manatee and 4th grade cetacean (whale and dolphin) curricula that my colleague Dr. Ruth Francis-Floyd and I have written. We are excited to announce the completion of our newest addition to our elementary school resources—a sea turtle curriculum designed for 5th grade. We partnered with Dr. Mark Flint and Jaylene Flint on this project.



The curriculum includes a 10-chapter book, called “One in a Thousand: Those Amazing Sea Turtles.” The title refers to the estimated one sea turtle out of one thousand hatchlings that survives to become an adult. The book contains wonderful illustrations by Dawn Witherington, as well as numerous photographs.

Each chapter in the book has an accompanying lesson plan, designed to reinforce concepts presented in the chapter, and correlated to national and Florida education standards. The book and lesson plans can all be freely downloaded from <http://stjohns.ifas.ufl.edu/sea/seaturtlecurriculum.html>.



This project was funded by a grant awarded from the Sea Turtle Grants Program. The Sea Turtle Grants Program is funded from proceeds from the sale of the Florida Sea Turtle License Plate. Learn more at [www.helpingseaturtles.org](http://www.helpingseaturtles.org).



Debris collected at Marineland Beach by students from Old Kings Elementary and Flagler Palm Coast High School. From left to right: balloon debris, bottle caps, nurdles (pre-consumer plastic). Next page: smoking-related debris, straws & utensils, toys and miscellaneous small and large plastic fragments and drink containers.

## Flagler County students tackle plastic pollution

In early 2016 I met with two Flagler County school teachers to talk with them about ideas for a service learning project that they were hoping to conduct with their second grade and high school classes (working together). During our discussion, I mentioned the Florida Microplastic Awareness Project, and both teachers became very excited about this idea. I gave a presentation to Courtney Van deBunte's high school students at the i3 academy (Flagler Palm Coast High School) which was streamed to Ellen Sperber's second grade class at Old Kings Elementary School. I then visited Mrs. Sperber's class and took questions from both groups via Google Hangout.

I learned that both groups were talking to school and district food service managers about ways to reduce the plastic waste generated in the school cafeterias. The elementary students were visiting other classes in their school to share information about microplastics, and to get them to sign a pledge calling for a plastic-free cafeteria. Students are writing persuasive letters, creating artwork and displaying exhibits designed to raise awareness about plastic waste within their schools and the community.

In April, I met both groups of students at Marineland Beach and they conducted a study of the plastic on the beach. Using PVC squares (quadrats), the students collected and counted all of the pieces of plastic that they found in one square meter on the beach. This came to an average of 84 pieces of plastic per square meter. The students also conducted a larger-scale cleanup, and were shocked at the amount of plastic waste that they found. The photos below depict some of the types of plastic items collected.

We are encouraging people to take a pledge to reduce the amount of plastic waste they generate. This pledge can be found at <http://bit.ly/plasticpledge>.



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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### More “Mark your calendars”

- May 14—St Johns County Elementary STEM Fair. 8 am to 11 am. Palencia Elementary School. For more information, contact Brian Morgan at [brian.morgan@stjohns.k12.fl.us](mailto:brian.morgan@stjohns.k12.fl.us). Come and check out my new sea turtle curriculum and try some of the activities!
- June 27-July 1—National Marine Educators Association annual conference, Orlando, FL. Volunteers are needed! For more information, go to <http://www.marine-ed.org/> and click on Events.
- August 1-4—4-H Coastal Camp (Flagler County) 9 am—noon. Camp is for youth aged 8-12 as of Sept 1, 2015. For more information, call 386-437-7464.
- Many marine/environmental summer day camps are available in the First Coast region—Marineland, Whitney Lab, GTMNERR, St. Augustine Alligator Farm (see <http://fun4uggiekids.com/Camps/Nature-and-Animal-Camps/>) and St. Augustine Lighthouse & Museum (see [http://www.staugustinelighthouse.org/education/Summer\\_Camp](http://www.staugustinelighthouse.org/education/Summer_Camp)) are some of the options.

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

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*The Foundation for The Gator Nation*

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