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FAU Harbor Branch Researchers Find Increased Levels of Antibiotic-Resistant Bacteria in the Indian River Lagoon

FORT PIERCE, Fla. (August 12, 2013) – Preliminary research from FAU Harbor Branch scientists has uncovered an increase in antibiotic-resistant bacteria in the Indian River Lagoon. The study compared water samples taken from two locations in the lagoon in June 2011, 2012 and 2013. Data indicates a sizeable increase in the amount of bacteria present this year as compared to the two years prior.

“It is important to remember that these findings are preliminary,” said Peter McCarthy, Ph.D., an FAU Harbor Branch research professor who oversees the study. “Our goal is to continue to pursue this work, but funding will play a critical role in our ability to do so.”

The testing sites included where Taylor Creek feeds into the lagoon, as well as a second site close to the FAU Harbor Branch campus. Research showed that levels of antibiotic-resistant bacteria were much higher in the Taylor Creek samples, a waterway which is impacted by agricultural and urban development and receives discharges from the C-25 canal as well as the Fort Pierce Farms Water Control District C-1 canal.

In a previous FAU Harbor Branch study, antibiotic-resistant bacteria had been detected in samples taken from Atlantic bottlenose dolphins in the Indian River Lagoon (Schaefer et al. 2009). These findings are what led to this water sampling research in 2011 and additional sampling of local dolphins is ongoing. Results from both projects, along with environmental data will provide a comprehensive overview of antibiotic-resistant bacteria in the lagoon.

Antibiotics are used extensively in medicine to prevent and treat microbial infections in humans and animals, as well as in agriculture to promote the growth of livestock. As a result, antibiotics are released into the environment through disposal and excretion and have been detected in waste water, surface water, ground water and sediments. Exposure to these large quantities of antibiotics can lead to the proliferation of antibiotic-resistant pathogenic strains of bacteria.

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About Harbor Branch Oceanographic Institute:

Founded in 1971, Florida Atlantic University's Harbor Branch Oceanographic Institute is a research community of marine scientists, engineers, educators and other professionals focused on Ocean Science for a Better World. The institute drives innovation in ocean engineering, at-sea operations, drug discovery and biotechnology from the oceans, coastal ecology and conservation, marine mammal research and conservation, aquaculture, ocean observing systems and marine education. For more information, visit www.fau.edu/hboi.

About Florida Atlantic University:

Florida Atlantic University, established in 1961, officially opened its doors in 1964 as the fifth public university in Florida. Today, the University, with an annual economic impact of \$6.3 billion, serves more than 30,000 undergraduate and graduate students at sites throughout its six-county service region in southeast Florida. FAU's world-class teaching and research faculty serves students through 10 colleges: the Dorothy F. Schmidt College of Arts and Letters, the College of Business, the College for Design and Social Inquiry, the College of Education, the College of Engineering and Computer Science, the Graduate College, the Harriet L. Wilkes Honors College, the Charles E. Schmidt College of Medicine, the Christine E. Lynn College of Nursing and the Charles E. Schmidt College of Science. FAU is ranked as a High Research Activity institution by the Carnegie Foundation for the Advancement of Teaching. The University is placing special focus on the rapid development of three signature themes – marine and coastal issues, biotechnology and contemporary societal challenges – which provide opportunities for faculty and students to build upon FAU's existing strengths in research and scholarship. For more information, visit www.fau.edu.