

Junior Scientist Fellows Program celebrates another successful year

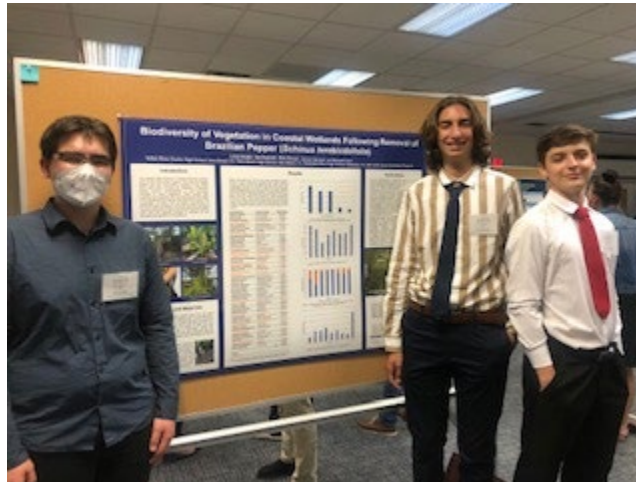
For nearly a decade, the Land Trust has partnered with FAU's Harbor Branch Oceanographic Institute (HBOI) to provide local high school students with a unique opportunity to engage in scientific research on Land Trust properties.

The research conducted by the student fellows provides critically needed information for the Land Trust to manage its shoreline properties and maximize the preservation of their native wildlife habitats and the Lagoon.

This year, 15 local high school students engaged in three different research projects. Each group recently had the opportunity to present their scientific posters as a part of HBOI's Indian River Lagoon Symposium. It was truly amazing to watch these young students interact and describe their research findings to members of the scientific community. Each group did a fantastic job in collecting research and providing critical information that will ultimately help the Land Trust continue to manage its properties appropriately and effectively.

A summary of each 2022 project can be found below.

Biodiversity of Vegetation in Coastal Wetlands Following Removal of Brazilian Pepper (*Schinus terebinthifolia*)

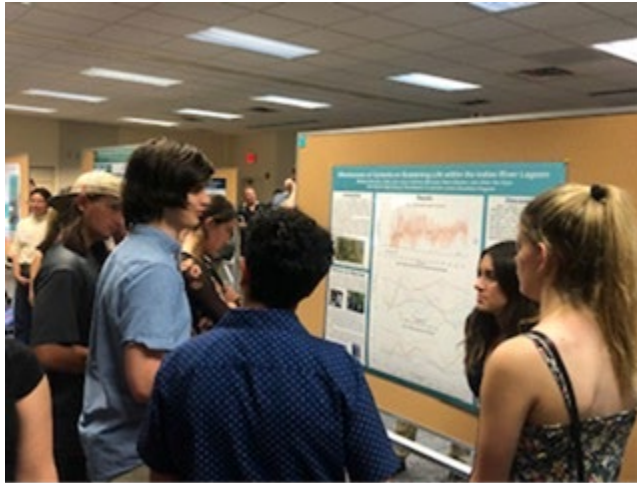


Lucas Acosta, Ava Kopchak, Pjark Sander, Zachary Mansell, and Michael Price

Research Summary:

A nine-acre wetland restoration site at the Coastal Oaks Preserve was mechanically mulched by Indian River Land Trust to remove all invasive Brazilian Pepper trees. We determined occurrence and abundance of plant species three months after that removal. Our work assessed the health and canopy conditions of remnant oak trees and the recruitment of ground cover. The majority of the oak tree canopy was heavily stressed or dead. 49 plant species were recorded in the ground cover, 12 of which were non-native. To achieve successful restoration, there will have to be continuous management of non-native plant species, as well as reintroduction of native plants. To view full scientific poster, [click here](#).

Effectiveness of Culverts on Sustaining Life within the Indian River Lagoon

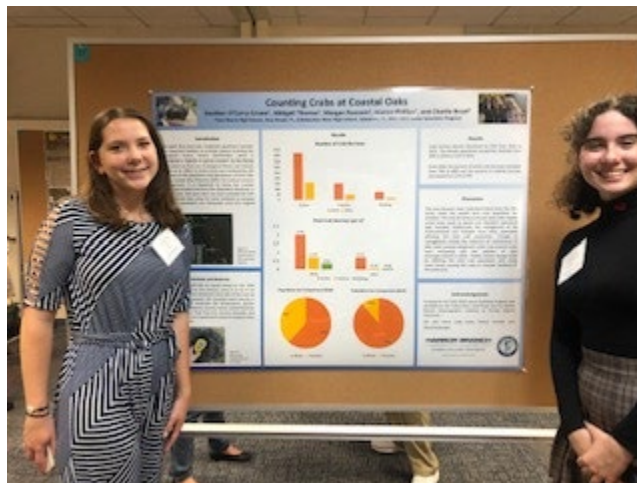


Madison Barsalou, Sally Jane Lloyd, Anthony Marzouk, Owen Stanton, and Jillian Van Dyke

Research Summary:

Within the IRL, organisms rely on water to provide stable temperature, salinity, pH, and oxygen levels. Maintaining water quality is of utmost importance to preserve life in the lagoon. The IRL's system of culverts was originally designed to improve its connectivity with impounded wetlands. We measured the effect of culverts on water quality within the Coastal Oaks Preserve bordering the IRL. We monitored key water quality parameters at six impoundment sites and at each side of four culverts over Fall 2021. We observed a drastic increase in dissolved oxygen concentration after the culverts were opened. Culvert opening provided a more optimal condition for life to thrive within the impoundment and the IRL. To view full scientific poster, [click here](#).

Counting Crabs at Coastal Oaks



Heather O'Corry-Crowe¹, Abigail Thomas, Morgan Ransom, Jeanne Phillips, and Charlie Brust

Research Summary:

In 2016, a study was conducted by JSP students on the population and distribution of giant land crabs (*Cardisoma guanhumi*) in the Coastal Oaks Preserve (COP) in southern Indian River County. Five years later, our team revisited the COP, and collected data using the same methods to compare how the population has fluctuated since the original study. Crab burrow density has decreased by 62% from 2016 to 2021. The percent of active crab burrows increased from 76% to 88% and the percent of molting burrows decreased from 11% to 8%. Changes in management include the reduction of maintenance of dike roads causing overgrowth, which may prevent crabs from burrowing, and the addition of tidal exchange culverts. Sea level rise could be affecting the land crab population with rising water levels, causing the crabs to relocate landward of the study area. To view full scientific poster, [click here](#).