ABSTRACT: This study investigated the shoreline distribution of native mangroves and invasive Brazilian Pepper on Recreation and Conservation spoil islands in the Indian River Lagoon (IRL). Based on observations made from earlier research and studies, it was hypothesized that a greater abundance of Brazilian Pepper would be found on the Conservation islands due to the absence of human interaction. The results of this study disproved the hypothesis, but factors affecting the results were analyzed and prepared for replication of this experiment in future studies.

INTRODUCTION
Native to Brazil, Argentina, and Paraguay, the Brazilian Pepper (BP) plant was introduced to Florida in the 1840s, as a cultivated ornamental plant. Brazilian Pepper is an aggressive species included in the Family Anacardiaceae — a group of flowering plants bearing fruits that produce irritants e.g. poison ivy, sumac, mango. There are currently over 700,000 acres in Florida that have been overtaken by the BP tree. In the IRL, invasive plant growth creates a dense canopy that prevents the sun from reaching the native mangroves creating a poor to uninhabitable shoreline environment. Pepper success is due to its high germination rates and specialized dispersal agents, e.g. birds. This project investigates whether or not a greater abundance of BP would be found on the Conservation islands due to an absence of human interaction versus the Recreation islands.

METHODS
Sampling was from Three Recreation (BC 46, 47, & 50) and three Conservation (BC 49, 51, & 52) spoil islands (Fig. 1). Each sample included the date, island type, a photo, GPS coordinates, description, and attribute label (Table 1) used for further analysis.

RESULTS
A lower percent distribution of black and red mangroves on the Recreation islands is shown (Fig. 3). Recreation islands sampled had a disturbed shoreline because of the high rate of human recreational activity. Black and red mangroves require constant access to water. Research results suggested that the distribution of Brazilian Pepper plants was greater on the Recreation islands than on the Conservation islands, in contrast to the distribution of black and red mangroves on the same type of islands.

DISCUSSION and CONCLUSIONS
It was concluded that additional sampling would be useful in order to further test the original theory, i.e. that a greater abundance of Brazilian Pepper would be found on the Conservation islands due to the absence of human interaction as opposed to that on Recreation islands. In conclusion, the experiment and research results act as a preliminary study. Future experiments would be necessary in order to further test the hypothesis; such future experiments should take into account both island and plant size.

REFERENCES:

Acknowledgements
Dr. Kevin Johnson, MFP 2015 Students and Faculty