Project Briefings

St. Marys Riverkeeper Living Shoreline Project- 2019

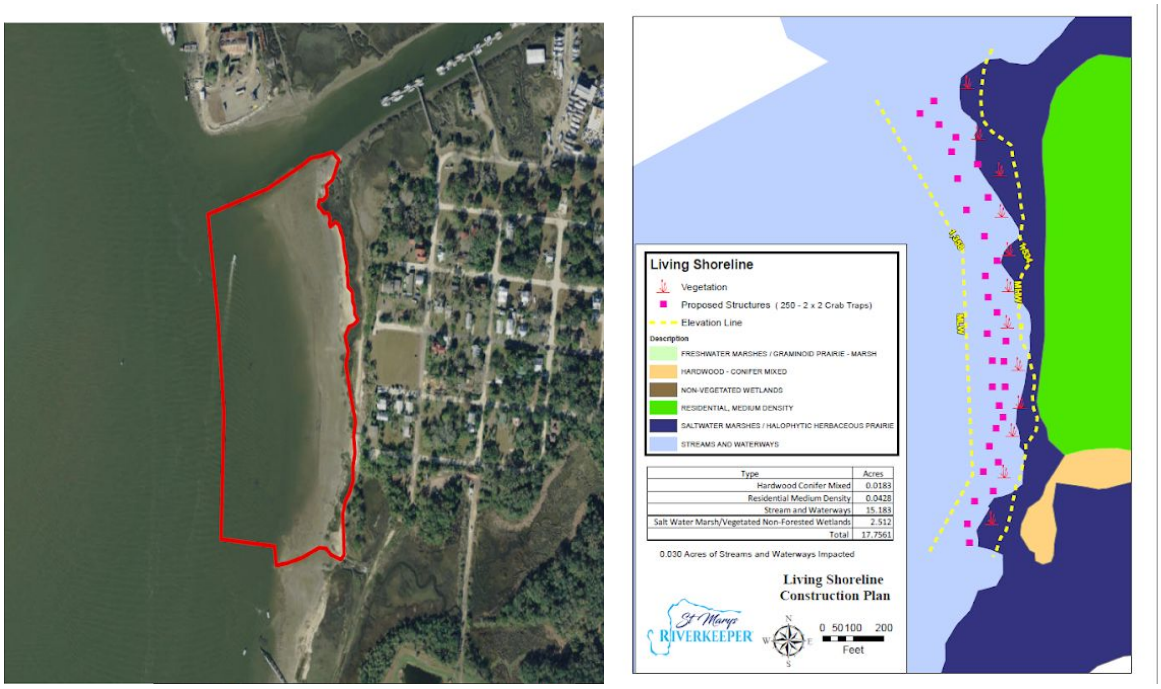
- Establish a wave break to halt or slow marsh erosion while simultaneously providing new oyster habitat
- Enrich establish lost marsh vegetation along the shoreline of Old Town Fernandina
- Within the first two weeks of deployment, all deployed traps showed oyster recruitment!

Summary

The goal of this project is **to establish a living shoreline oyster reef** along the Old Town Fernandina waterfront on the Amelia River, Florida. The shoreline will function as a wave break to halt or slow erosion of the marsh while simultaneously providing oyster habitat, and will restore lost marsh vegetation. The shoreline directly in front of Old Town Fernandina is eroding, but still maintains some salt marsh vegetation and small scattered clusters of live oysters. Most of the oyster reef that previously protected the shoreline no longer remains, likely due to high energy from boat traffic traveling along the intercoastal waterway. In a high energy site like the Amelia River, a strong wave break dampens the wave energy to protect the marsh shoreline.

On April 29 2019, we installed phase one of our living shoreline along the Old Town Fernandina waterfront (figure 1). The wave break was constructed of derelict crab traps collected on the gulf coast of Florida and adapted to serve as the foundation for an oyster reef. We modified the traps to ensure that they can no longer fish, and coated them with oyster shells and a thin cement slurry that recruits and supports oyster growth. The traps were secured and placed at an elevation best suited for oyster growth.

Figure 1. Old Town Fernandina, Living Shoreline site on the Amelia River.



Within the first two weeks of deployment, all deployed traps showed oyster recruitment. The small clusters of live oysters at the site provided excellent spat, and the site showed excellent recruitment and growth throughout 2019 (figure 2). We did find that derelict traps with plastic coating did not retain the concrete slurry and did not recruit well. In future deployments, we will only use uncoated traps. Because the majority of derelict crab traps are now coated, collecting uncoated traps does present a challenge, however we do have 90 uncoated traps ready for future deployments.

Figure 2. Oyster Recruitment at site May 2019 (top left) – May 2020 (bottom right).


4.80
MODE
ON
OFF
ZERO

Unfortunately we were unable to deploy phase two of the project in the spring of 2020, as our planned deployment occurred during the Covid lockdown. We plan to deploy again in the spring of 2021. As we continue this project, we will add more traps to the reef, including traps that are closer inshore in order to promote reestablishment of marsh vegetation. We will work in collaboration with the Kelly Smith lab at UNF and with support from the Northeast Coast Resilience Coordinator with the Fish and Wildlife Commission. With the Kelly Smith Lab, we will deploy traps given different concrete slurry and oyster shell treatments to test for recruitment, and we will also deploy traps at differing distances below mean high water in order to research the best management practices for *Spartina* recruitment. Undergraduate students at UNF will conduct regular monitoring at the site, and local high schools will be involved in propagating and planting *Spartina* at the site.

The project is currently supported by multiple partners who have pledged funding or volunteer support. Partners include Florida and Georgia Sea Grant, the Coastal Conservation Association (CCA), the Ritz-Carlton, The Florida Wildlife Conservation Commission, CSX Corporation, The Amelia Island Sailing Club, Salt Life Food Shack, Fernandina Beach High School, and Hilliard Middle Senior High School, and the City of Fernandina Beach.

Local Internship

Zavia Jenkins, a senior Marine Biology major at Stetson University, is our intern for this project. Born in Chesapeake, Virginia, she grew up in Nassau County, Florida where she graduated from Yulee High School in 2016. Zavia's interests in Marine Biology stems from her heritage as a descendant of the Gullah/Geechee people who have lived along the coastlines and Sea Islands from Jacksonville, NC to Jacksonville, FL since their days as enslaved Africans. Through her association with the Gullah/Geechee Nation, Zavia is keen to continue her work studying climate impacts and resilience among the Gullah/Geechee people.

In Memoriam

Dan (The Oysterman) DeGuire, our original project lead, passed away in February 2020. Dan was a commercial oysterman with a life-long passion for the marine environment. Working with us, Dan transitioned his immense skillset from commercial harvesting to coastal resilience and conservation. Dan was extremely proud of his work, and we will miss him. We hope his work can inspire others to take their skills into the conservation world.