

Flagship Programs

FLOOR

- We are currently collecting 20 – 30 buckets of shell a week from our partnering restaurants.
- We signed on three new restaurants last month! Twisted Tuna in Jupiter and Cobb's Landing and Pelican Yacht Club in Fort Pierce. We are now up to 20 restaurants in the program.
- We held several bagging events over the last month and a half with a limited capacity of volunteers in order to maintain social distancing. We have been offering a limited number of Saturday events to give people an opportunity to participate that otherwise could not during the week.
- Oyster spat was collected and counted in early and late December. See Figure 1 for results and details. Next collection is January 27th, 2021.

FOSTER

- Seagrass nursery volunteers are lending a helping hand in the nursery and wet lab. Volunteers are keeping the tanks and wet lab clean and free of algae while maintaining social distance. We could not do it without them!
- Seagrass work is on hold until the spring when seagrass is the most productive.

WaterQUEST

- Individuals that are comfortable with testing at public sites are doing so while maintaining social distancing guidelines. Out of the 29 active testing sites, we are averaging 26 sites a week, with one site tested by staff (FOS Dock).
- Some volunteers have retired, but we have been able to fill their sites with volunteers eager to join the program.
- Weekly water quality reports are being published each week: [Click here to see the latest report.](#)
- [Click here](#) to subscribe to the weekly Water Quality report.

Living Shorelines

- The permitting process is well underway for 5 potential living shorelines. These shorelines will be used to test plastic-free alternatives to plastic mesh oyster bags. To construct a living shoreline in the IRL or SLE, a number of steps must be completed to obtain a permit through the Department of Environmental Protection (DEP) and the Army Corp of Engineers (ACOE). We plan on having our permits submitted to DEP in early spring and hope to be issued permits by late spring.
- Dr. Simpson attended a *Living Shorelines Training for Marine Contractors Workshop* on January 19th and 20th, which was put on by FWC. The course focused on the permitting and implementation of a successful living shoreline and was a wonderful networking opportunity.
- ***Plastic-Free Alternatives to Oyster Bags (Grant)*** –While waiting on the permits, the hands-on portion of the project has begun! We are constructing 4 plastic-free modules to be tested in the IRL and SLE.
- ***Hagan Family Foundation Project*** – No updates. This work is dependent on permitting and cannot begin until DEP and ACOE permits are obtained.

Additional Projects and Activities

Research Lab Replacement – The finishing touches to the lab (carport, pavers, etc.) are still on hold.

Shoreline Tanks – We held another mangrove planting in December. Volunteers helped plant 400 mangrove propagules for use in future research projects.

Clam Restoration Workshop – FOS will be hosting a workshop in the new EcoCenter (May 21st, 2021) with SFWMD, the University of Florida Whitney Laboratory for Marine Bioscience, and Ducks Unlimited. In light of COVID, we are going to see if we can postpone the event until we can do so comfortably in person. In the meantime, the department will be attending a [clam restoration workshop](#) hosted by The Gulf Shellfish Institute on February 9th – 11th.

Clam Restoration in the IRL – We are still waiting to hear back about the proposal we submitted to DEP in August with the Whitney Laboratory and Brevard Zoo. To keep the ball rolling, we submitted another proposal to the IRL NEP in January, in collaboration with University of Florida Whitney Laboratory for Marine Bioscience, and Ducks Unlimited, to help fund more clam restoration and research in the Northern and Southern IRL.

Mangrove Productivity in Transitional Systems – In collaboration with the University of Alabama and the United States Geological Service (USGS) we are studying the effects of saltwater intrusion on interspecific competition between the black mangrove (*Avicennia germinans*) and black needlerush (*Juncus roemerianus*). The lab just completed processing all samples from a year-long greenhouse study. Stay tuned for preliminary results!

Jensen Beach Impoundment Restoration – We were busy monitoring mangrove growth in the Jensen Beach Impoundment in Stuart, FL last month. We have partnered with FWC and FWRI to expand our monitoring protocols. They came over in December to add on to our plots and install water level loggers in the impoundments. We submitted a proposal to the IRL NEP with them to fund the future monitoring as well as water quality analyses.

Seagrass Signs – Our new, show quality seagrass signs are in! They look fantastic and are ready to be mounted with the help of Operations.

Oyster Spat Monitoring – We are six months into our monthly monitoring program. We monitor oyster spat recruitment at three sites in the SLE (0.25 – 12 ppt) and three sites in the IRL (15 – 27 ppt). Each month we put out oyster shells and then collect them a month later. The number of spat per shell is counted (Figure 1). Last month we recorded less than 1 spat settling per shell in the SLE and IRL. We are in the slow recruitment months, so the numbers are not abnormal. Oyster recruitment should pick back up in March.

Amazon Wish list – We have populated the [FOS Amazon wish list](#) with items our department desperately needs (along with the Animal Care Department). Please share with your family and friends!

Wetland Biogeochemistry Symposium – Dr. Simpson is chairing a session at the 13th Annual Wetland Biogeochemistry Symposium in March 2021. Her session is titled *Shifting Ecosystems: Consequences for Decomposition in Coastal Wetlands*, and has speakers in it from multiple government and academic institutions from around the country. She is excited to introduce Florida Oceanographic to the group. The meeting will be virtual this year, and Dr. Simpson is busy with the other organizers in making a smooth transition from an in-person to virtual meeting.

Indian River Lagoon Symposium – The department will be presenting their research at the Indian River Lagoon Symposium hosted by Harbour Branch on February 18th and 19th, 2021. The symposium will be virtual this year, and the department will be presenting on their oyster and mangrove monitoring work.

Tucker Cove Restoration – The department partnered with St. Lucie County, FWC and DEP on a proposal for oyster enhancement in Tucker Cove, Florida. If funded, we plan on adding approximately 2,000 square feet of native limestone bedrock as oyster substrate to the cove. Additionally, St Lucie County will add 4-5 reef modules and some oyster shell. FOS would provide oyster shell as match to the project. We are waiting to hear back on the status of the proposal.

Marine Lecture Series – Dr. Simpson presented at the FOS Marine Lecture Series on January 19th. Her talk titled *Mangroves on the Move* wove mangrove natural history into over a decade of mangrove research done by her and her collaborators. 215 people tuned in to hear the natural history story! If you missed it, you can [check it out here!](#)

Coastal Estuarine and Research Federation - Dr. Simpson is chairing a session at the [26th Biennial Coastal Estuarine and Research Federation \(CERF\) Conference](#). The special session will focus on the science behind mangrove encroachment and will give FOS a platform to expand our scientific reach.

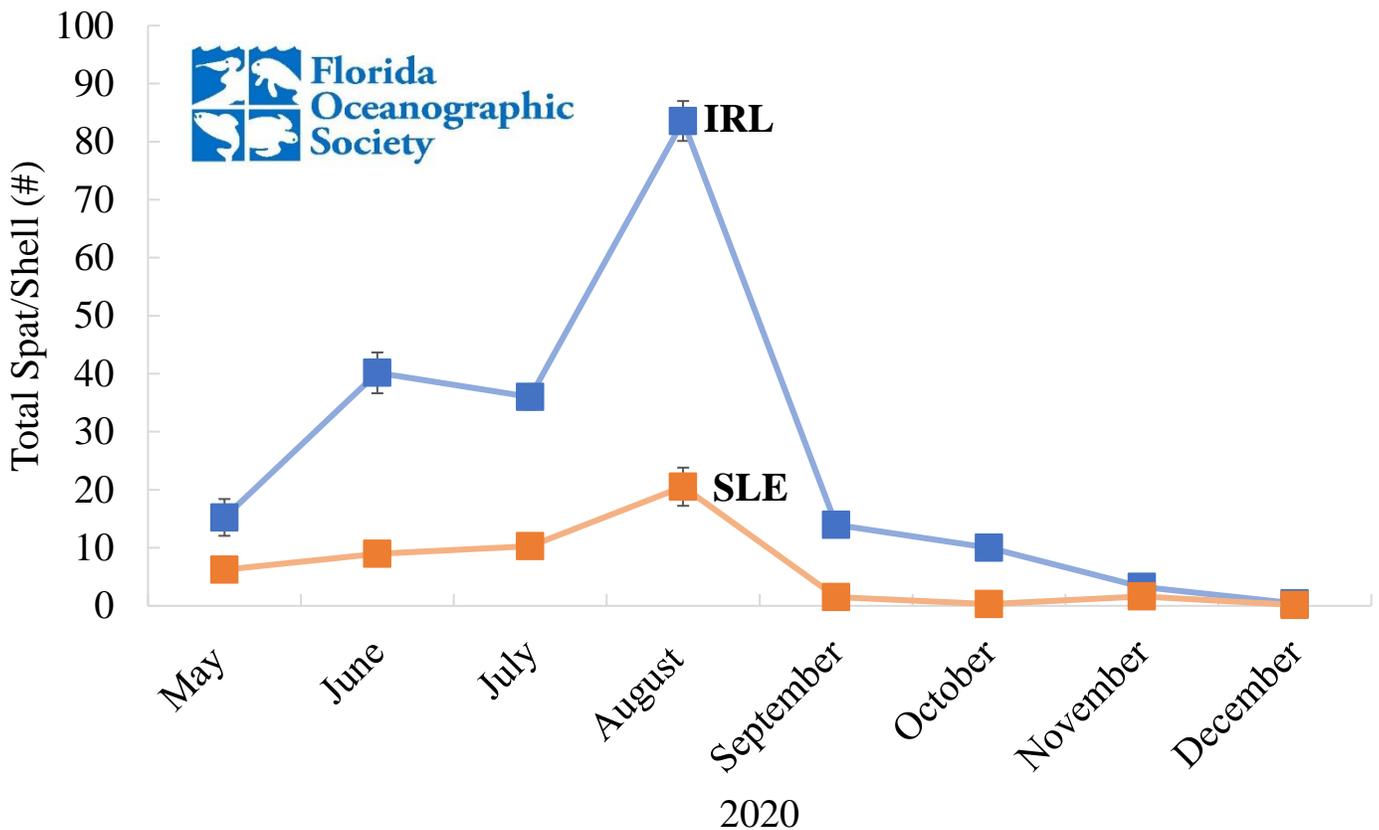


Figure 1. Oyster spat per shell in the Indian River Lagoon (IRL) (blue) and St. Lucie Estuary (SLE) (orange). Data are means \pm SE. Each month oyster shells are deployed at 6 sites and then collected a month later. The number of spat per shell is counted.

Additional details on all projects and programs are available by contacting Dr. Simpson at: lsimpson@floridaocean.org – 772.225.0505 x 114. Or check out our [website!](#)

Externally Funded Projects - In Progress

| # | Project Title | Status Details | Funding Type | Source | Lead Institution | Funding Amount to FOS | Fiscal Year | Income Expected at? | Income Expected Date? |
|---|--|--|----------------------------|-----------------------------|-------------------------|-----------------------|-------------|---------------------|----------------------------------|
| 1 | Seagrass Nursery Expansion | Funds received, but are still being spent out. Finalizing shoreline nursery. Anticipated Completion by April 2020 | Donations | Oceans Alive Cash Call | FOS | \$72,000 | 2018-2020 | | Actual - Mar. 2018 |
| 2 | Research Lab Replacement Trailer | Carport and outside area is last big project. Anticipate to finish up in by December 2020 | Donations | Private | FOS | \$40,000 | 2019 - 2020 | | Actual - ??? |
| 3 | Jensen Beach Impoundment Restoration | Water quality sites established. Vegetation work done in March, June and October 2020. Water quality sampling occurs weekly. | Competitive FWC IRMA funds | FWC Funds for IRMA Recovery | Martin County | \$10,925 | 2020 | Completion | Expected - Jun. 2020 & Jun. 2021 |
| 4 | Water Quality Monitoring Network | Waiting for MOU to be signed by MRC. | Competitive Grant | IRL NEP | MRC | None | 2020 | | |
| 5 | Samsons Island Submerged Lands Restoration (SISLR) | Project was fully funded; awaiting contract executions and permitting. Due to COVID project has been pushed back to March 2021 | Competitive Grant | IRL NEP | City of Satellite Beach | \$11,310 (TBF) | 2020 - 2021 | Completion | Expected - Nov. 2021 |
| 6 | Developing plastic-free alternatives for community-based oyster restoration in the Indian River Lagoon | Supports developing plastic-free alternatives to current shell bagging. Currently deciding on what prototypes to make | Competitive Grant | IRL NEP | FOS | \$22,364 | 2021 | Completion | Nov. 2021 |
| 7 | Creating a Citizen Science Seagrass Monitoring Network | Recruiting volunteers and buying supplies to begin | Competitive Grant | IRL NEP | FOS | \$3,119 | 2020 - 2021 | Completion | July 2021 |
| 8 | Restoring Shorelines in Martin County | Working on permitting. | Competitive Grant | Hagan Family Foundation | FOS | \$10,000 | 2021 | Initiation | Paid |
| 9 | Clam Restoration Workshop | Workshop will be held in May or June 2021. Currently working with collaborators on logistics | Competitive Grant | CERF | SEERS | \$2,000 | 2021 | Completion | June 2021 |

Externally Funded Projects - Complete - Awaiting Payment

| Project Title | Status Details | Funding Type | Source | Lead Institution | Funding Amount to FOS | Fiscal Year | Income Expected at? | Income Expected Date? |
|---------------|----------------|--------------|--------|------------------|-----------------------|-------------|---------------------|-----------------------|
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Externally Funded Projects - Proposals Submitted

| # | Project Title | Status Details | Funding Type | Source | Lead Institution | Funding Amount to FOS | Fiscal Year |
|---|---|---|-------------------|------------|------------------------------------|-----------------------|-------------|
| 1 | Leverging natural selection in clam populations for improved water quality in the Indian River Lagoon | | Competitive Grant | SJWMD | Whitney Laboratory | \$130,000 | 2021-2022 |
| 2 | Oyster Enhancement at Tucker Cove | Full proposal submitted on Dec 4, 2020 | Competitive Grant | FWC MEHRMA | DEP | none | 2021-2022 |
| 3 | Monitoring Improved Hydrology, Water Quality, and Mangrove Recovery in Jensen Beach | Full proposal submitted on Jan 11, 2021 | Competitive Grant | IRL NEP | FWC | \$11,427 | 2021-2022 |
| 4 | Restoration of clam populations in the Indian River Lagoon for Water Quality Improvement | Full proposal submitted on Jan 11, 2021 | Competitive Grant | IRL NEP | Whitney Lab for Marine Biosciences | \$13,000 | 2021-2022 |