

## Flagship Programs

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### FLOOR

- We are currently collecting 20 – 30 buckets of shell a week from our partnering restaurants.
- We signed on two new restaurants last month! Ocean Republic Brewing in Jensen Beach and The Fort Steakhouse in Fort Pierce. We are now up to 21 restaurants in the program.
- We held one bagging event over the last month with a limited capacity of volunteers in order to maintain social distancing.
- Oyster spat was collected and counted in late January. See Figure 1 for results and details. Next collection is February 24<sup>th</sup>, 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!
- The implementation of the *Citizen Science Seagrass Network (CSSN)* is beginning to pick back up with the seagrass season being right around the corner. The program goal is to assess the state of seagrass habitat and the overall health of the Indian River Lagoon with the help of our volunteers. As an in-water activity, volunteers monitor seagrass beds once a month on their own shoreline or a nearby publicly accessible location. Volunteers are trained by staff scientists to measure coverage of the different seagrass species and drift algae at their site. Webinars for interested volunteers are scheduled for February 24<sup>th</sup> and March 8<sup>th</sup>, 2021.

### 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.
- **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 (Grant)** – No updates. This work is dependent on permitting and cannot begin until DEP and ACOE permits are obtained.

## Additional Projects and Activities

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**New Research Associate** – We are excited to announce our new Research Associate, Vivienne Main, who started on February 11<sup>th</sup>. She is originally from Scotland where she received her Master’s in Marine and Freshwater Biology at the University of Glasgow. Her work took her from Scotland, to Egypt, and then to the Bahamas! In the Bahamas she managed the Forfar Field Station and had the opportunity to partner with multiple organizations on research, conservation and restoration projects. We are excited to have her on board!!

**CCA Tour** – On February 16<sup>th</sup>, the Research Department hosted several members of the CCA organization. Mark Perry toured them through the new EcoCenter, Nicole Kirchoff gave them a tour of her hatchery, Loraé Simpson gave them a tour of the research facilities and Tom McCrudden gave them a tour of his clam aquaculture facility. By showing off all that we have to offer here, we are hopeful for future collaboration and networking.

**FL Sea Grant LOI** – On February 15<sup>th</sup>, we put in a letter of intent (LOI) with the University of Florida and the University of Alabama. We proposed to assess multiple oyster reefs that FOS has constructed in the past to document the return of ecosystem services (N cycling, wave attenuation, benthic communities). By assessing a chronosequence of restored reefs (0 – 10 years and a control) we hope to document the trajectory of value associated with the construction of oyster reefs.

**Research Lab Replacement** – The finishing touches to the lab (carport, pavers, etc.) are still on hold. We hope to have the carport constructed this spring with the help of Operations.

**Clam Restoration Workshop** – FOS postponed the clam restoration workshop until September 17<sup>th</sup>, in hopes that we will be able to meet in person by then. In the meantime, the department attended a three day [clam restoration workshop](#) hosted by The Gulf Shellfish Institute on February 9<sup>th</sup> – 11<sup>th</sup>. It was a great learning and networking opportunity.

**Clam Restoration in the IRL** – The proposal we submitted to DEP in August titled ‘*Leveraging natural selection in clam populations for improved water quality in the Indian River Lagoon*’ with the Whitney Laboratory and Brevard Zoo was selected for funding. FOS will receive \$190,000 to do experimental seagrass plantings in conjunction with clam restoration. We also received word that our IRL NEP proposal was selected. This will fund clam restoration in the southern IRL.

**Mangrove Productivity in Transitional Systems** – No updates. Stay tuned for preliminary results!

**Jensen Beach Impoundment Restoration** – Our next round of data collection will be in March 2021. We just received word that our IRL NEP proposal was selected! This will fund future monitoring paired with water quality analyses as the impoundment is restored.

**Seagrass Signs** – No updates, we hope to have them up this spring!

**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!

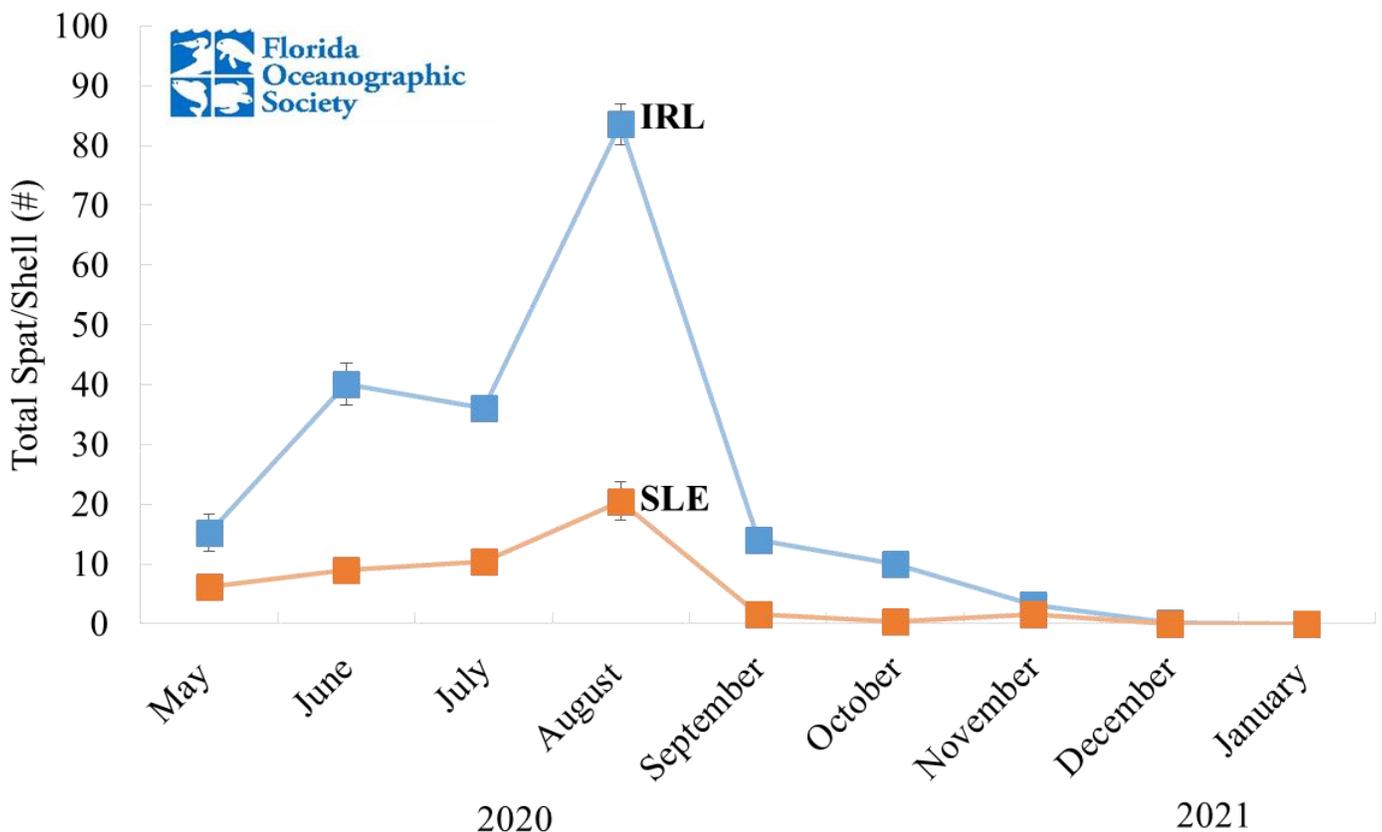
**Wetland Biogeochemistry Symposium** – Dr. Simpson is chairing a session at the 13<sup>th</sup> Annual Wetland Biogeochemistry Symposium in March 2021. Her session is titled *Shifting Ecosystems: Consequences for Decomposition in Coastal Wetlands*, and has speakers in it from multiple government and 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** – Dr. Simpson will be presenting their research at the Indian River Lagoon Symposium hosted by Harbour Branch on February 19<sup>th</sup>, 2021. The symposium will be virtual this year, and she will be presenting on their JBI mangrove monitoring work.

**Tucker Cove Restoration** – No updates.

**Coastal Estuarine and Research Federation** - Dr. Simpson is chairing a session at the [26<sup>th</sup> 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.

**Oyster Spat Monitoring** – We are eight 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.



**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](mailto: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. Anticipated Completion by April 2020.	Donations	Oceans Alive Cash Call	FOS	\$72,000	2018-2020		Actual - Mar. 2018
2	Research Lab Replacement Trailer	Waiting on Operations to build the Carport.	Donations	Private	FOS	\$40,000	2019 - 2020		Actual - ???
3	Jensen Beach Impoundment Restoration	Aquatoll download and vegetation monitoring is still in progress	Competitive FWC IRMA funds	FWC Funds for IRMA Recovery	Martin County	\$10,925	2020	Completion	Expected - Jun. 2020 & Jun. 2021
4	Samsons Island Submerged Lands Restoration (SISLR)	Deployment of oysters and seagrass mats is scheduled for April 9th, 16th and 23rd.	Competitive Grant	IRL NEP	City of Satellite Beach	\$11,310	2020 - 2021	Completion	Expected - Nov. 2021
5	Developing plastic-free alternatives for community-based oyster restoration in the Indian River Lagoon	working on permitting. Construction is on hold until March	Competitive Grant	IRL NEP	FOS	\$22,364	2021	Completion	Nov. 2021
6	Creating a Citizen Science Seagrass Monitoring Network	Recruiting volunteers, doing webinars and buying supplies	Competitive Grant	IRL NEP	FOS	\$3,119	2020 - 2021	Completion	July 2021
7	Restoring Shorelines in Martin County	Working on permitting.	Competitive Grant	Hagan Family Foundation	FOS	\$10,000	2021	Initiation	Paid
8	Clam Restoration Workshop	Workshop will be held on September 17th. Currently working with collaborators on logistics.	Competitive Grant	CERF	SEERS	\$2,000	2021	Completion	November 2021
9	Chase Living Shoreline	Waiting for her rip rap to be installed	Donation	Private	FOS	1000	2020	Paid	

**Externally Funded Projects - Proposals Selected for Funding**

#	Project Title	Status Details	Funding Type	Source	Lead Institution	Funding Amount to FOS	Fiscal Year
1	Levergaing natural selection in clam populations for improved water quality in the Indian River Lagoon	Working on SOW	Competitive Grant	SJWMD	Brevard Zoo	\$190,275	2021-2022
2	Monitoring Improved Hydrology, Water Quality, and Mangrove Recovery in Jensen Beach	Selected February	Competitive Grant	IRL NEP	FWC	\$11,427	2021-2022
3	Restoration of clam populations in the Indian River Lagoon for Water Quality Improvement	Selected February	Competitive Grant	IRL NEP	Whitney Lab	\$13,000	2021-2022

**Externally Funded Projects - Proposals Submitted**

#	Project Title	Status Details	Funding Type	Source	Lead Institution	Funding Amount to FOS	Fiscal Year
1	Oyster Enhancement at Tucker Cove	Full proposal submitted on Dec 4, 2020	Competitive Grant	FWC MEHRMA	DEP	none	2021-2022
2	Assessing development of ecosystem structure and function in restored oyster reefs of the Indian River Lagoon and St. Lucie Estuary, Florida	LOI submitted on 15 Feb 21	Competitive Grant	FL Sea Grant	FOS	\$66,558.00	2022-2024
3	Overcoming Barriers to the Reintroduction of Hard Clam ( <i>Mercenaria</i> sp.) Aquaculture and Restoration of Environmental Condition in the Indian River Lagoon	LOI submitted on 15 Feb 21	Competitive Grant	FL Sea Grant	Whitney Lab	\$50,000.00	2022-2024

**Externally Funded Projects - Complete - Awaiting Payment**

<b>Project Title</b>	<b>Status Details</b>	<b>Funding Type</b>	<b>Source</b>	<b>Lead Institution</b>	<b>Funding Amount to FOS</b>	<b>Fiscal Year</b>	<b>Income Expected at?</b>	<b>Income Expected Date?</b>