



THE APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)



SCIENCE UPDATE MAY 31 2023

Sandra Brooke PhD
FSUCML Research Faculty
ABSI Project Lead

The ABSI seeks to gain insight into the root causes of decline of the Apalachicola Bay ecosystem, and the deterioration of oyster reefs
Ultimately, the ABSI will help develop a management and restoration plan for oyster reefs and the long-term health of the bay

ABSI funding is provided by Triumph Gulf Coast Inc. and Florida State University

Choice experiment: wild spat settlement on different materials using ABSI research lease

Objectives:

1. Determine whether oyster larvae prefer shell or limerock
2. Determine whether presence of live oysters increases larval settlement

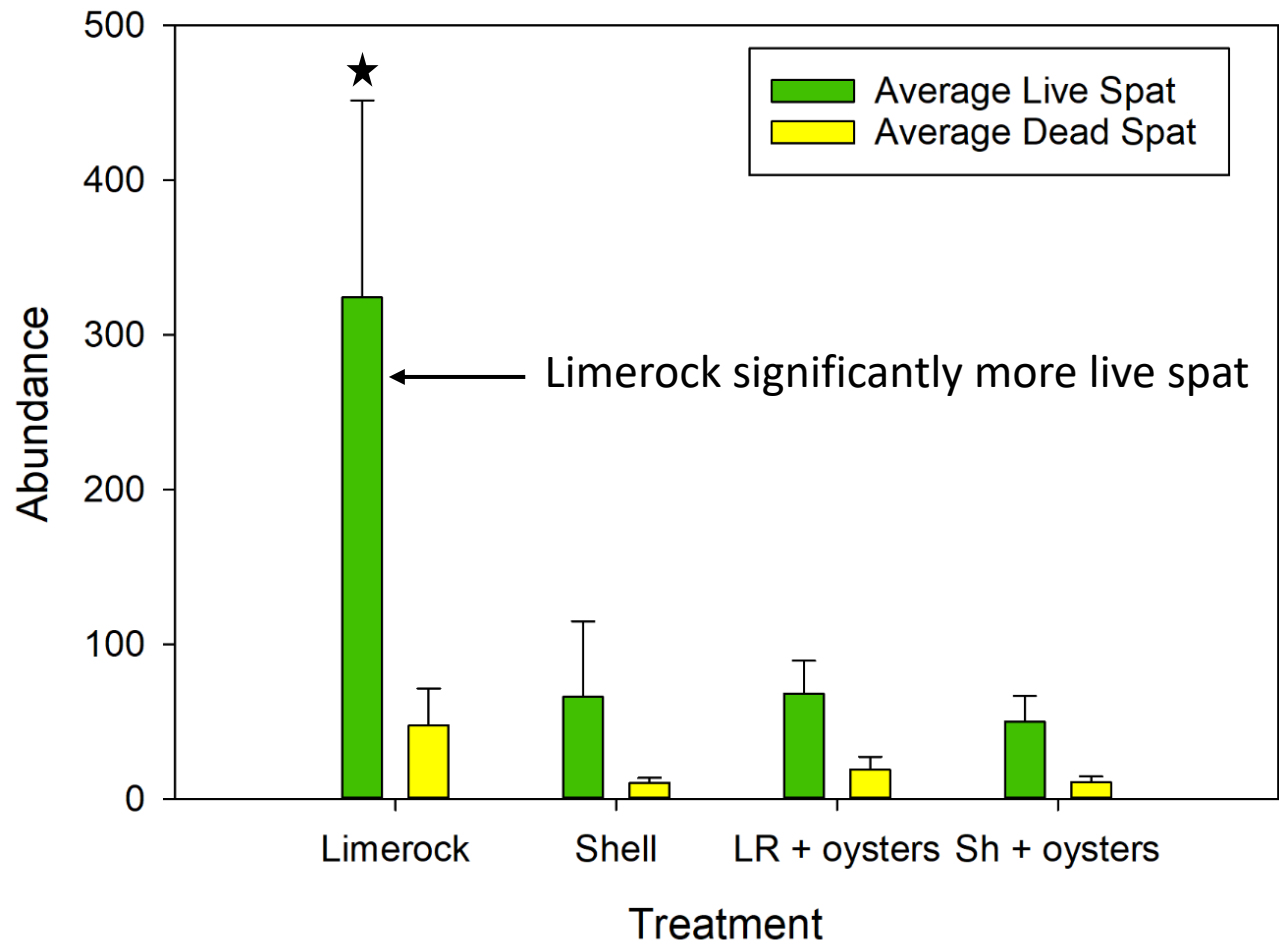
Treatments

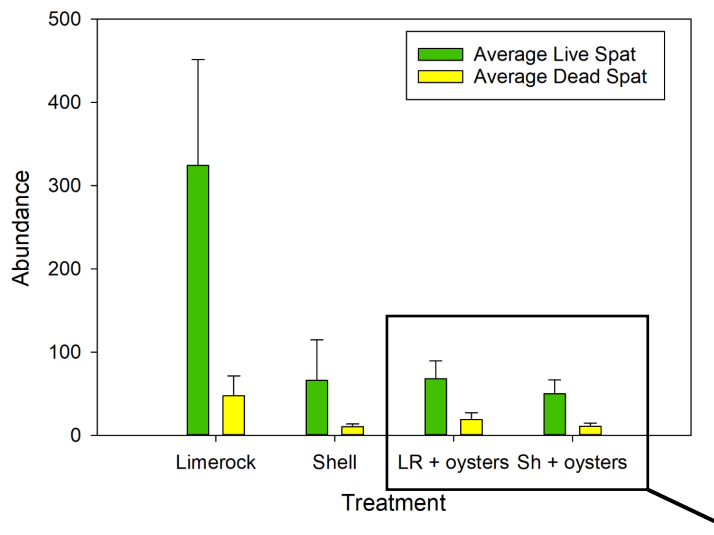
1. Small limerock
2. Small limerock + live oysters
3. Shell
4. Shell + live oysters

Materials placed in aquaculture cages on lease
and recovered/re-set every 6 weeks

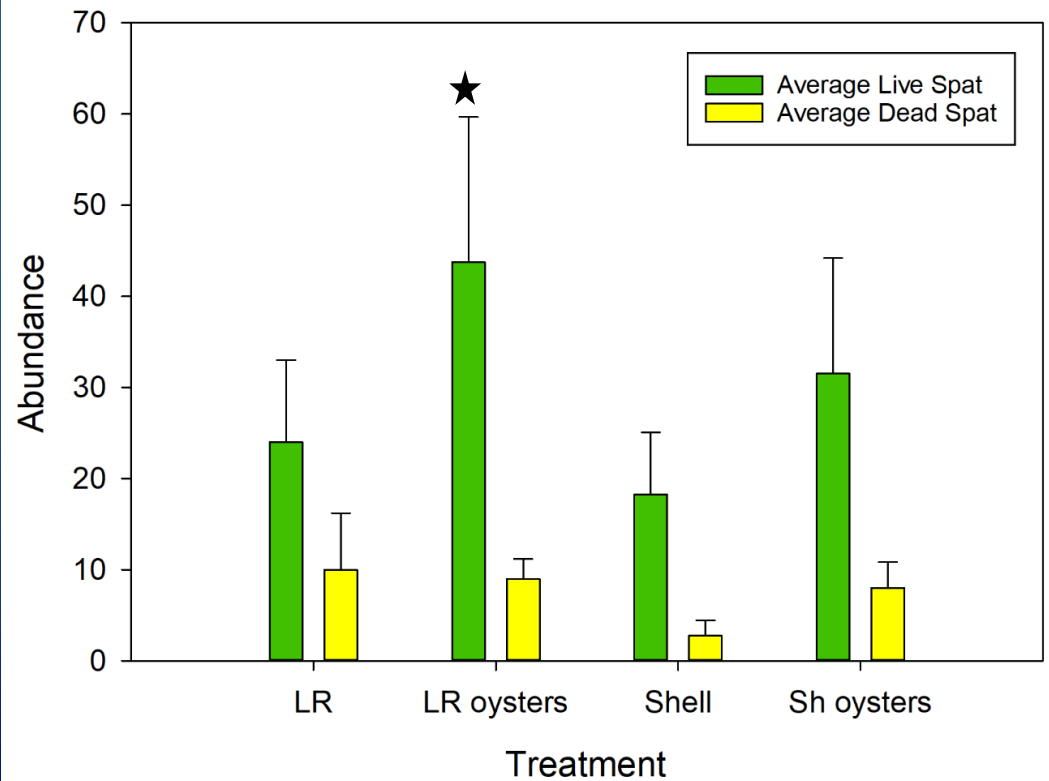


Preliminary results (6 weeks)





Within mixed treatments, live oysters had more live spat than limerock or shell



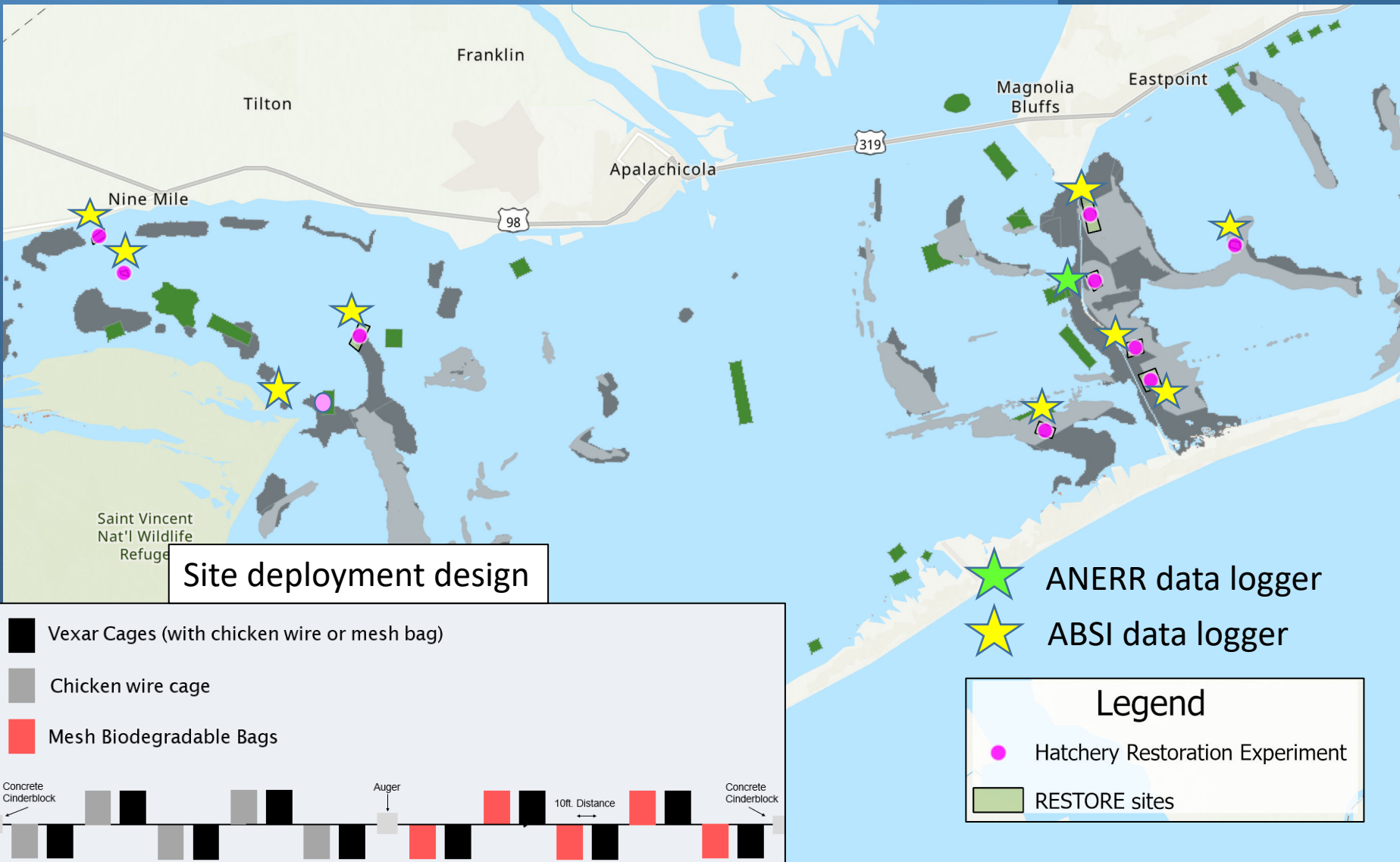
Assessment of survival and growth of hatchery oysters using different biodegradable retaining materials

Objectives:

1. Assess survival and growth of hatchery raised oysters, deployed at ten RESTORE sites across the Bay
2. Measure wild spat set on oysters and cage/bags
3. Assess the longevity of biodegradable retaining materials for juveniles and spat on shell.

Experimental design:

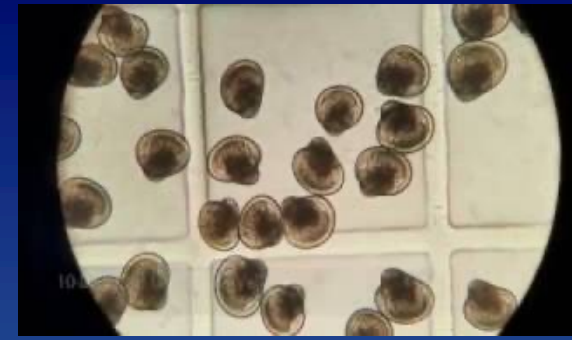
- 100 tagged oysters per replicate (shell height 76 mm \pm 12.8)
- 5 replicate chicken wire cages and 5 biodegradable mesh bags per site
- Sites not near ANERR instruments equipped with Salinity/Temp dataloggers
- Deployed in March 2023
- 1 cage and 1 bag recovered quarterly from each site



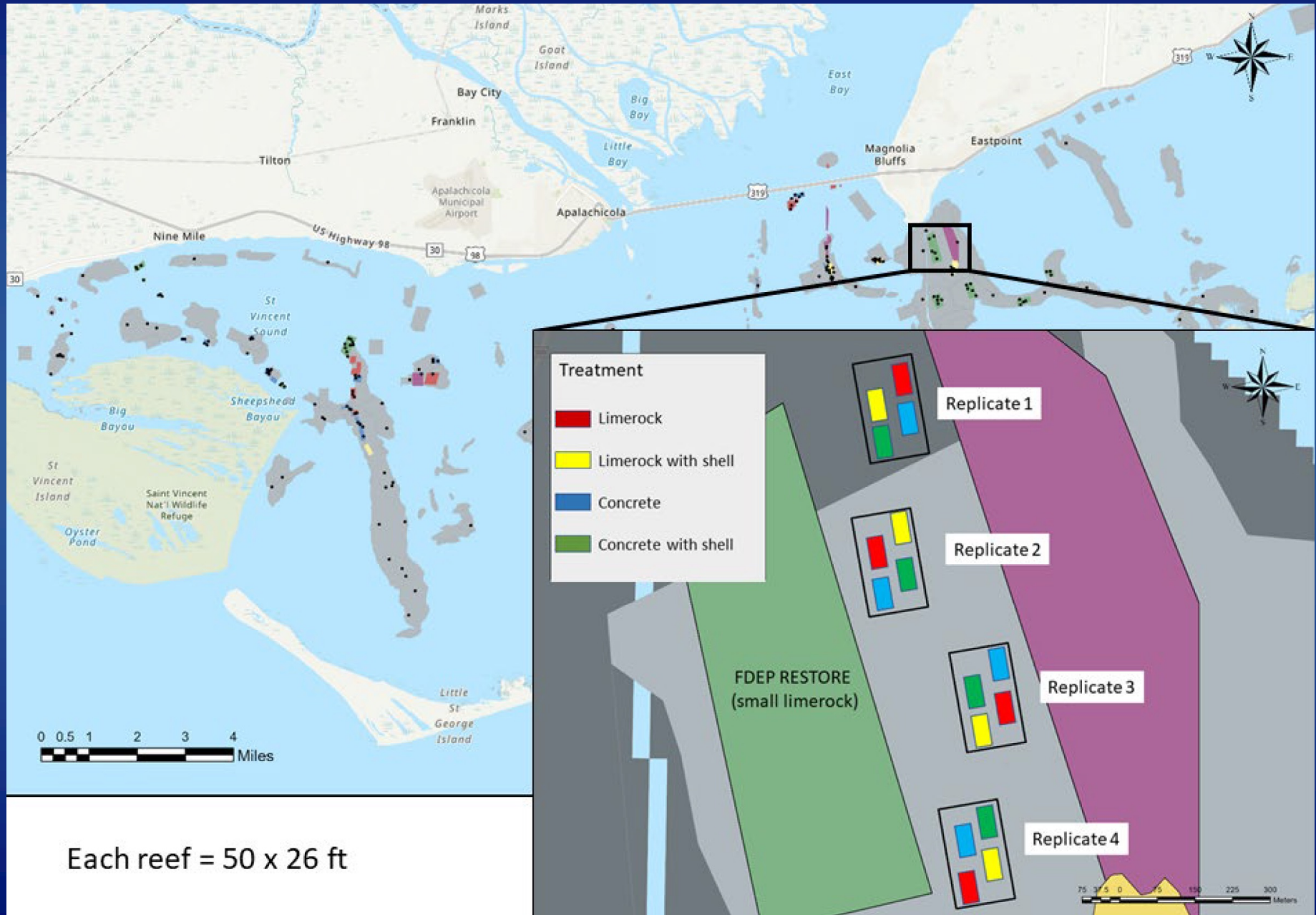
Hatchery spat-on shell-experiment

April 25th: 2 million oyster larvae were set on recycled shell in the ABSI hatchery, resulting in ~ 270,000 spat on shell

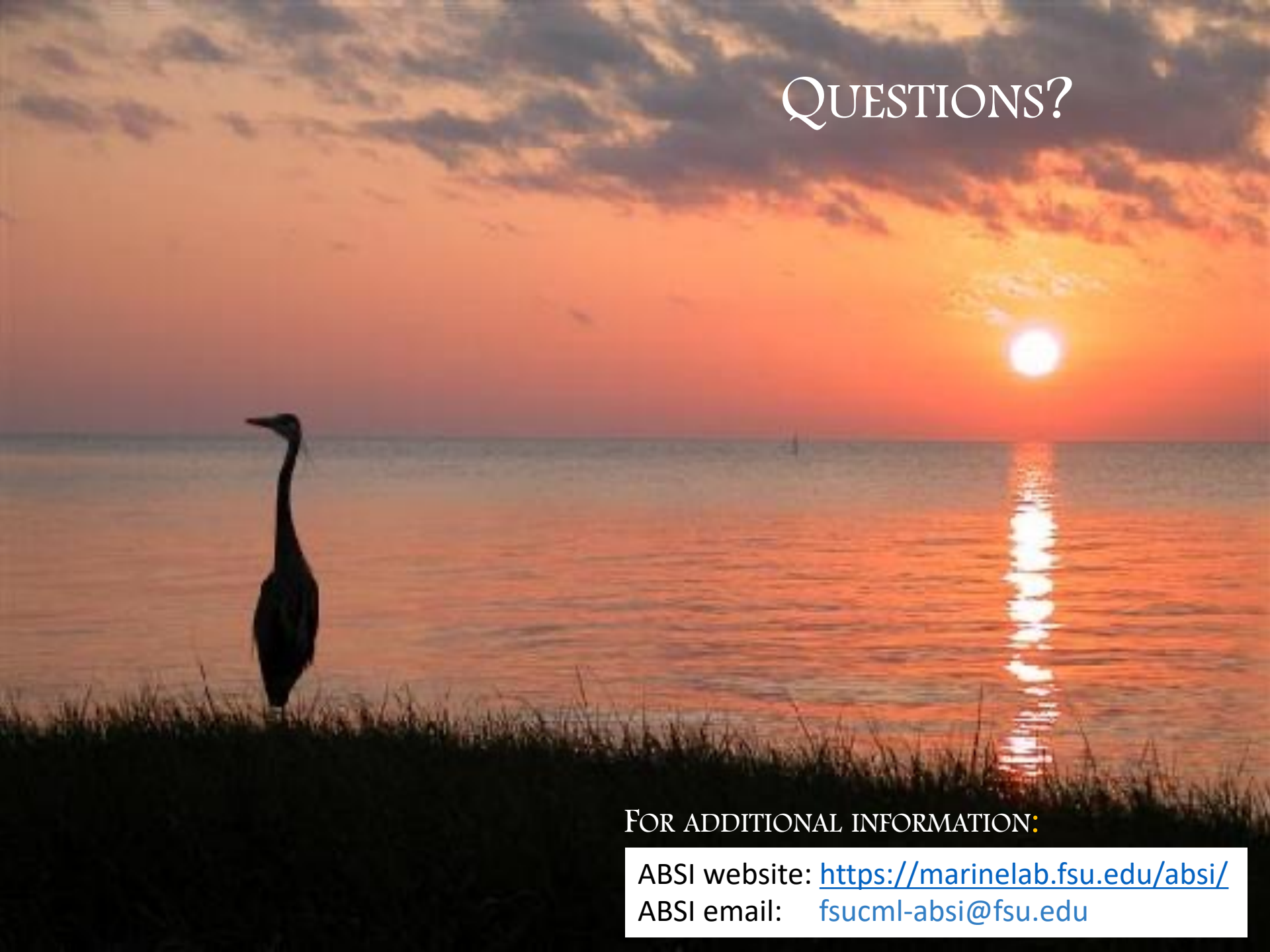
These are currently on our research lease and will be deployed in the Bay in a similar design to the seed oyster experiment to assess spat survival, and growth, persistence of caging material and wild spat set



Deployment of second ABSI Experimental Restoration Reefs



QUESTIONS?



FOR ADDITIONAL INFORMATION:

ABSI website: <https://marinelab.fsu.edu/absi/>

ABSI email: fsucml-absi@fsu.edu