



# Oyster Monitoring in the Lake Worth Lagoon

Thomas (T.J.) Steinhoff

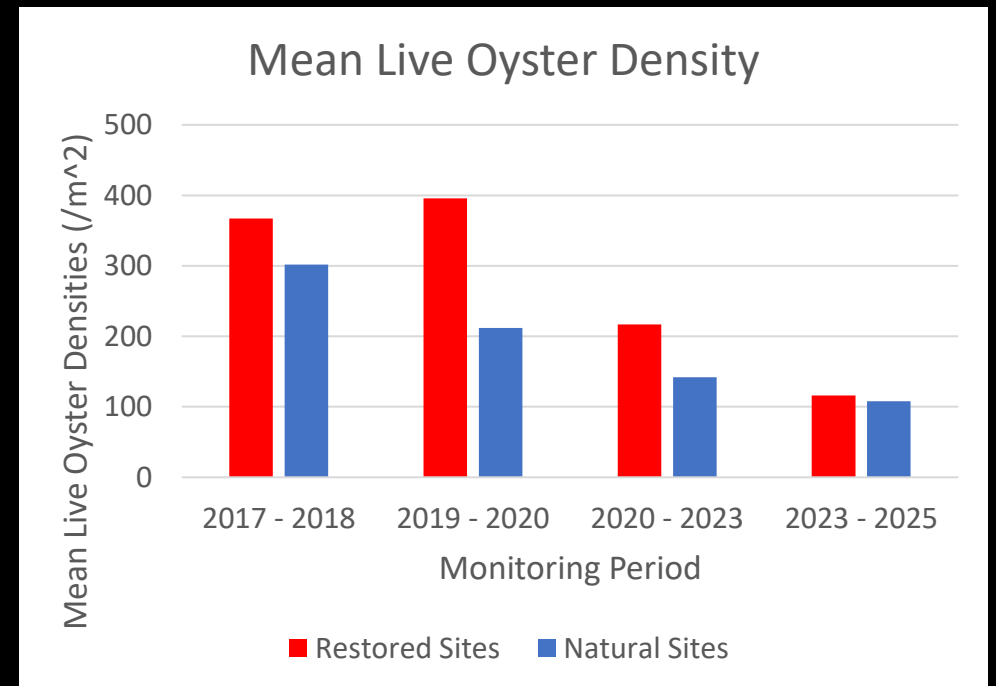
Palm Beach County Environmental  
Resources Management

# Oyster Monitoring in the Lake Worth Lagoon

- FWC has monitored oysters in the Lagoon since 2005-2014 (funded by SFWMD), after 2015 monitoring has been funded by PBC.
- Current contract includes monitoring until October 2026. Annual cost is \$73k.
- Monitoring occurs at 3 natural sites (Audubon Islands, Johns Island and Hypoluxo) and 3 restored sites (Tarpon, Grassy Flats and Snook Natural Areas).
- Monitoring includes settled oyster density (semi-annually), while Dermo disease prevalence and intensity, reproductive development and juvenile recruitment (spat counts on stringers) are conducted on a monthly basis.

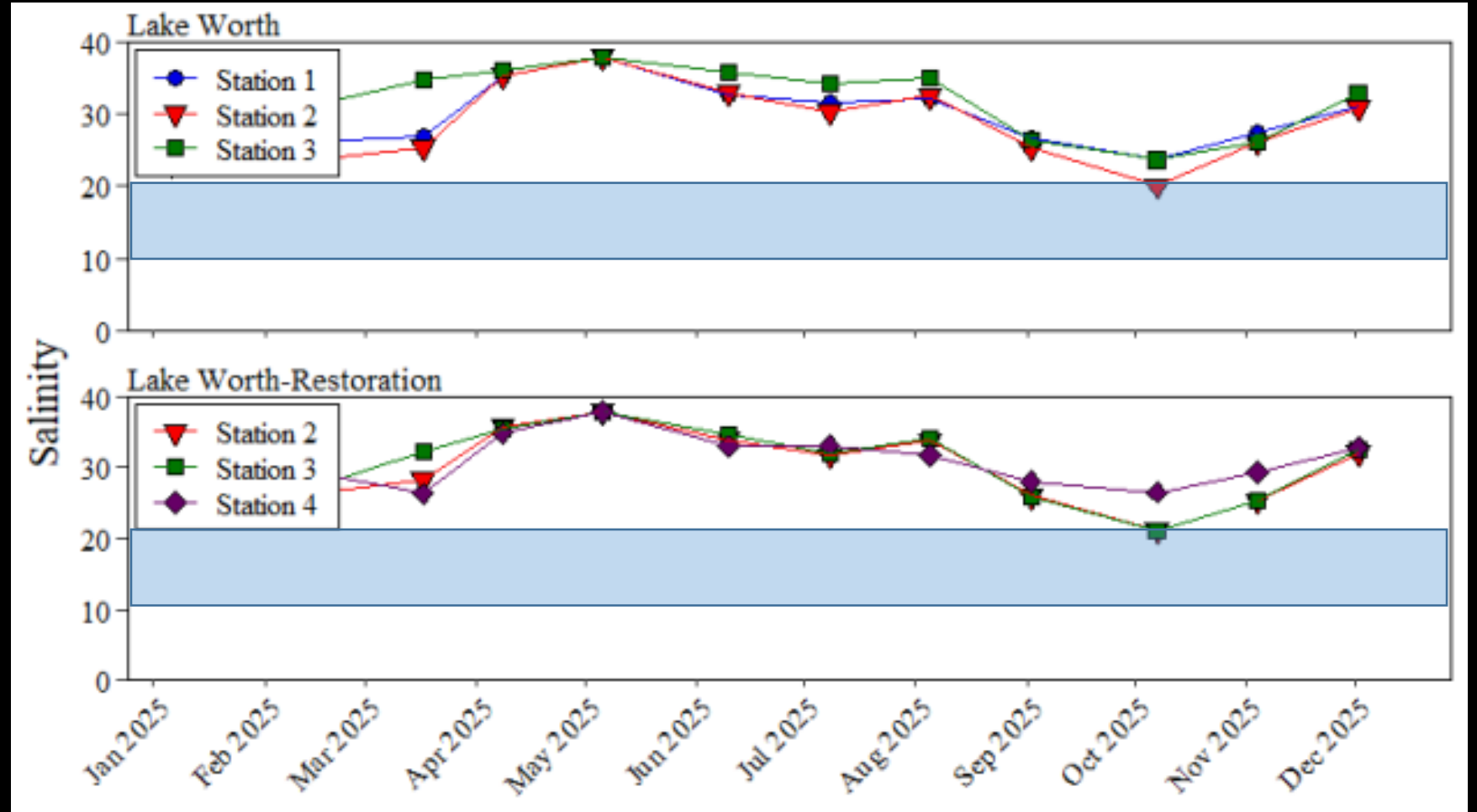
## Summary:

- Spawning occurs year-round in the Lagoon with 2 peaks, in late spring and early fall.
- Recruitment rates in the Lagoon continue to be among the highest recorded in several SE Florida estuaries. Similar rates between the natural and restored reef groups with an average 5 spat per shell.
- Mean live oyster densities are higher at restored reefs than natural reefs. These numbers are decreasing throughout the Lagoon.

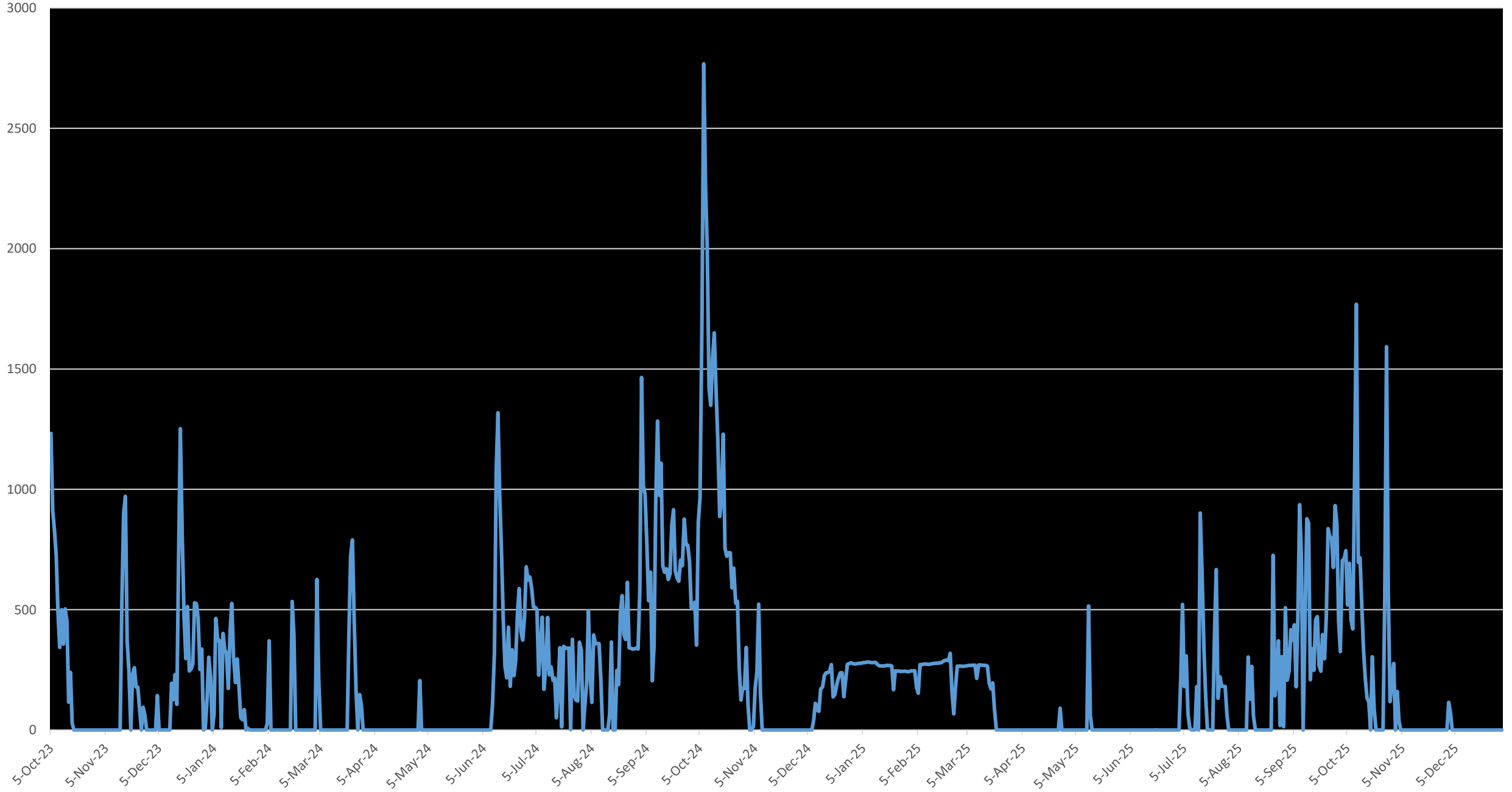


# Optimum Salinity (12-20)

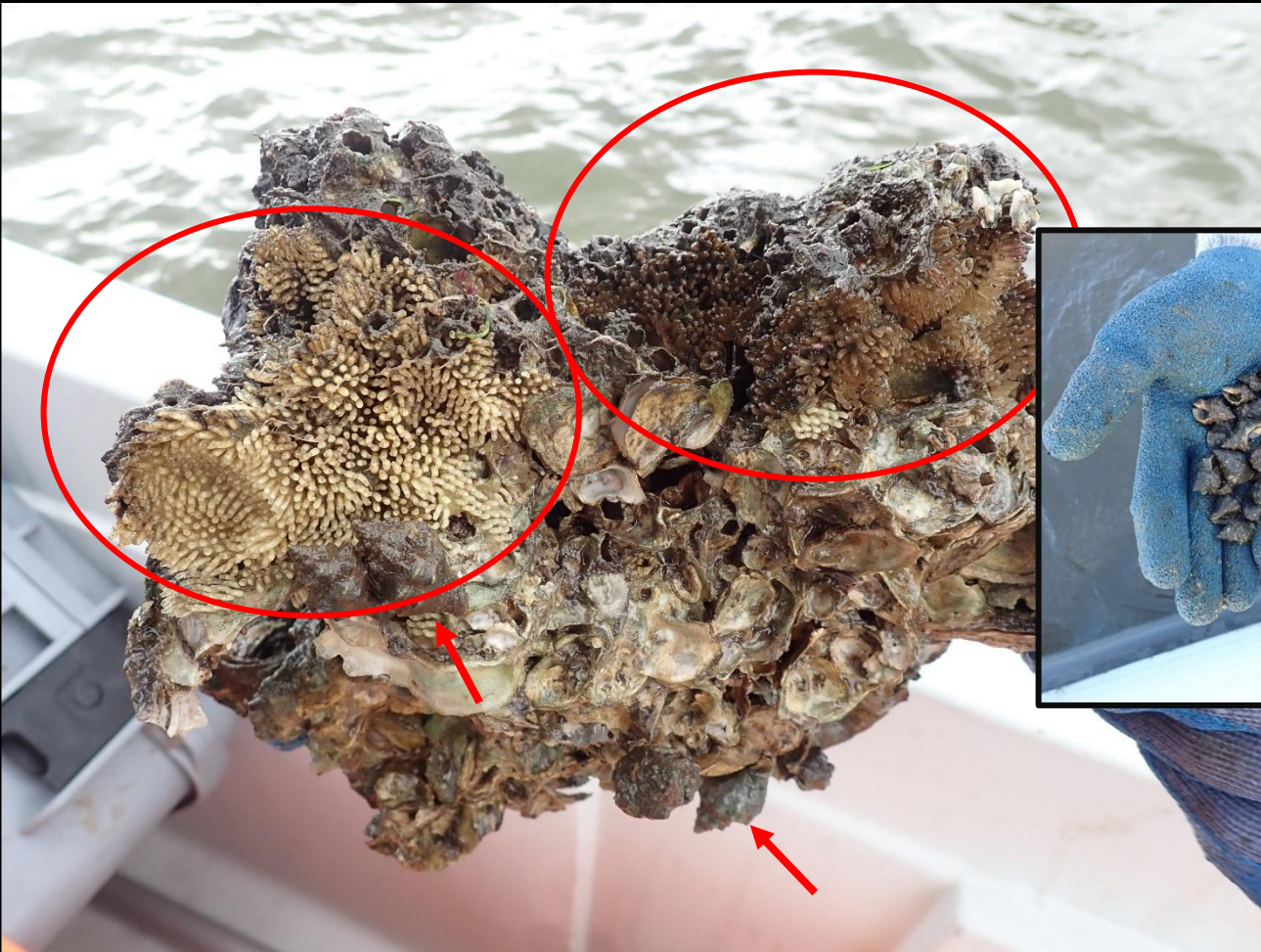
October at station 2 and station 3 are the only sampling events that had salinity that fell within the upper range of 12-20



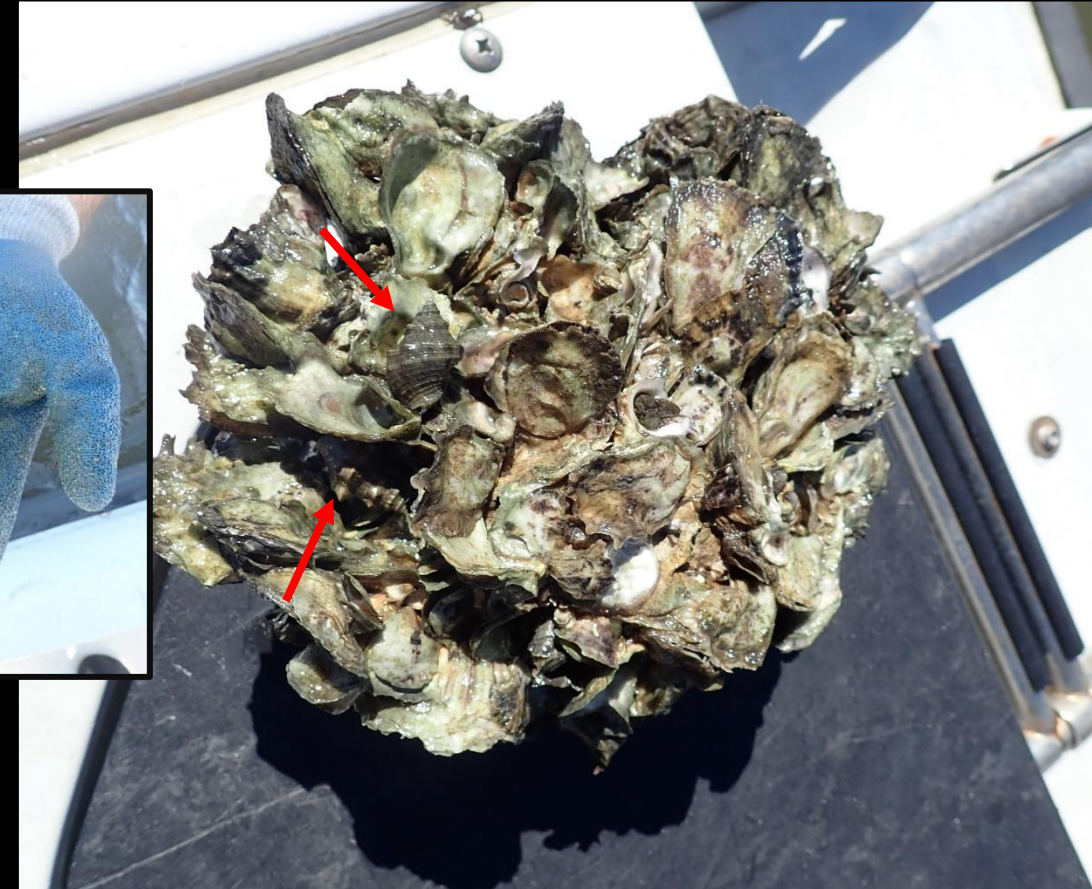
# Discharge



## Oyster drill eggs



## Oyster drills on oysters



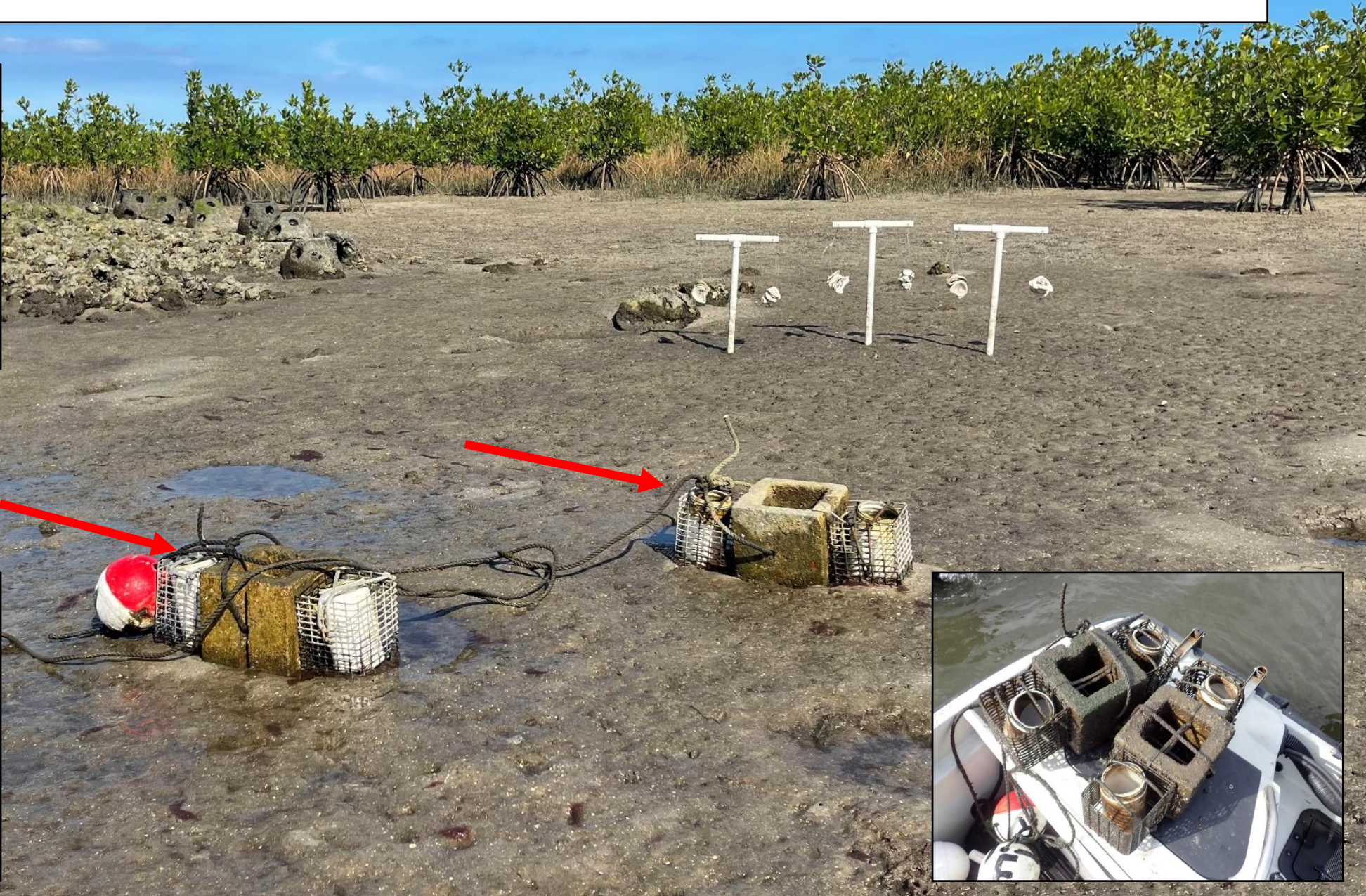
- Besides high salinity, high temperature is also another factor affecting oyster survival, making them more susceptible to disease and predation.



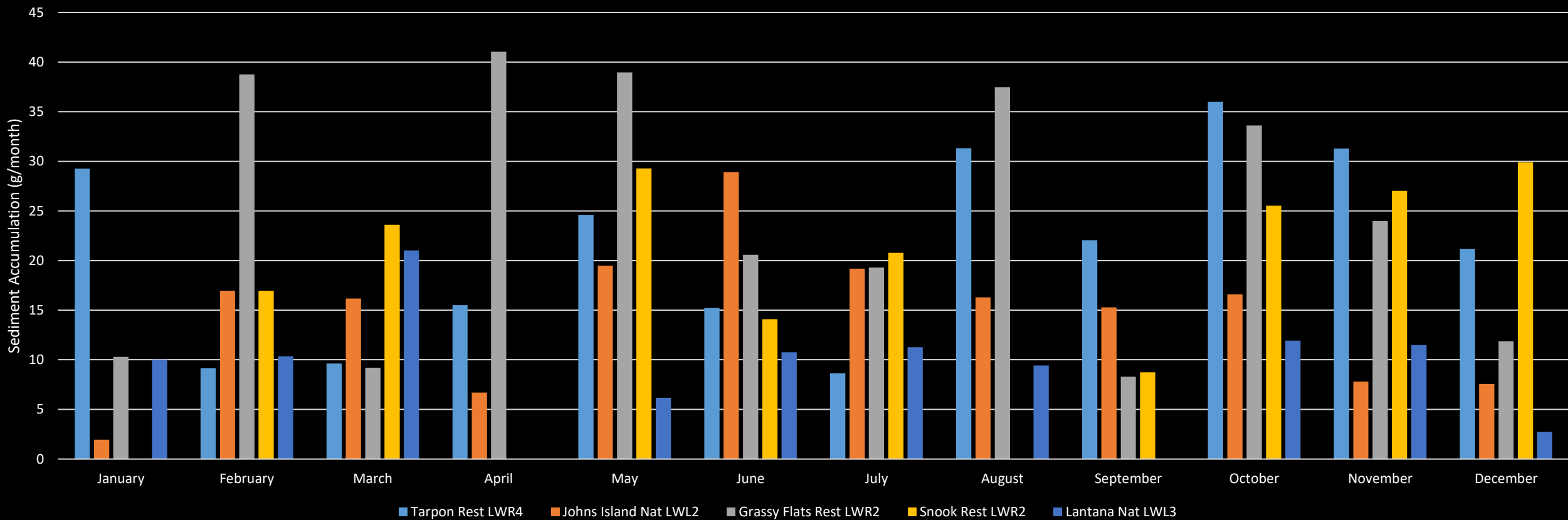
## Sediments at Oyster Reef Monitoring Locations



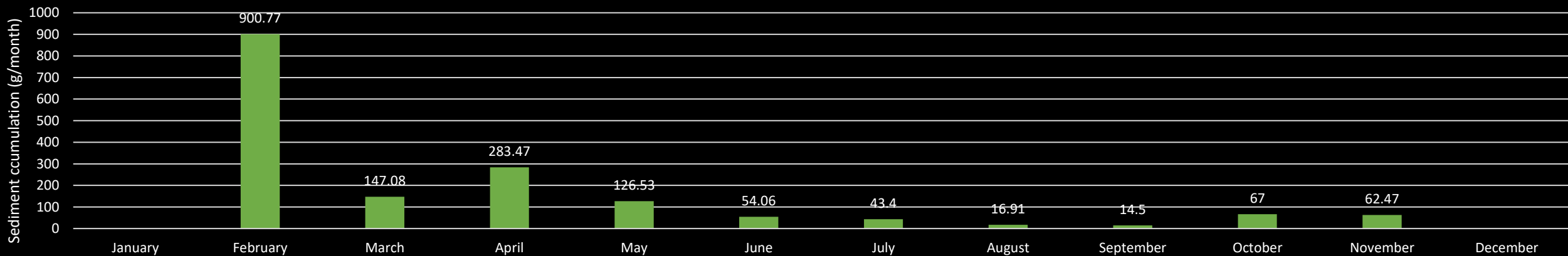
- Added sediment traps in 2023 as part of new FWC monitoring protocol to help to quantify sediment accumulation.



### Rate of Sediment Accumulation at LWL Oyster Reef Sites



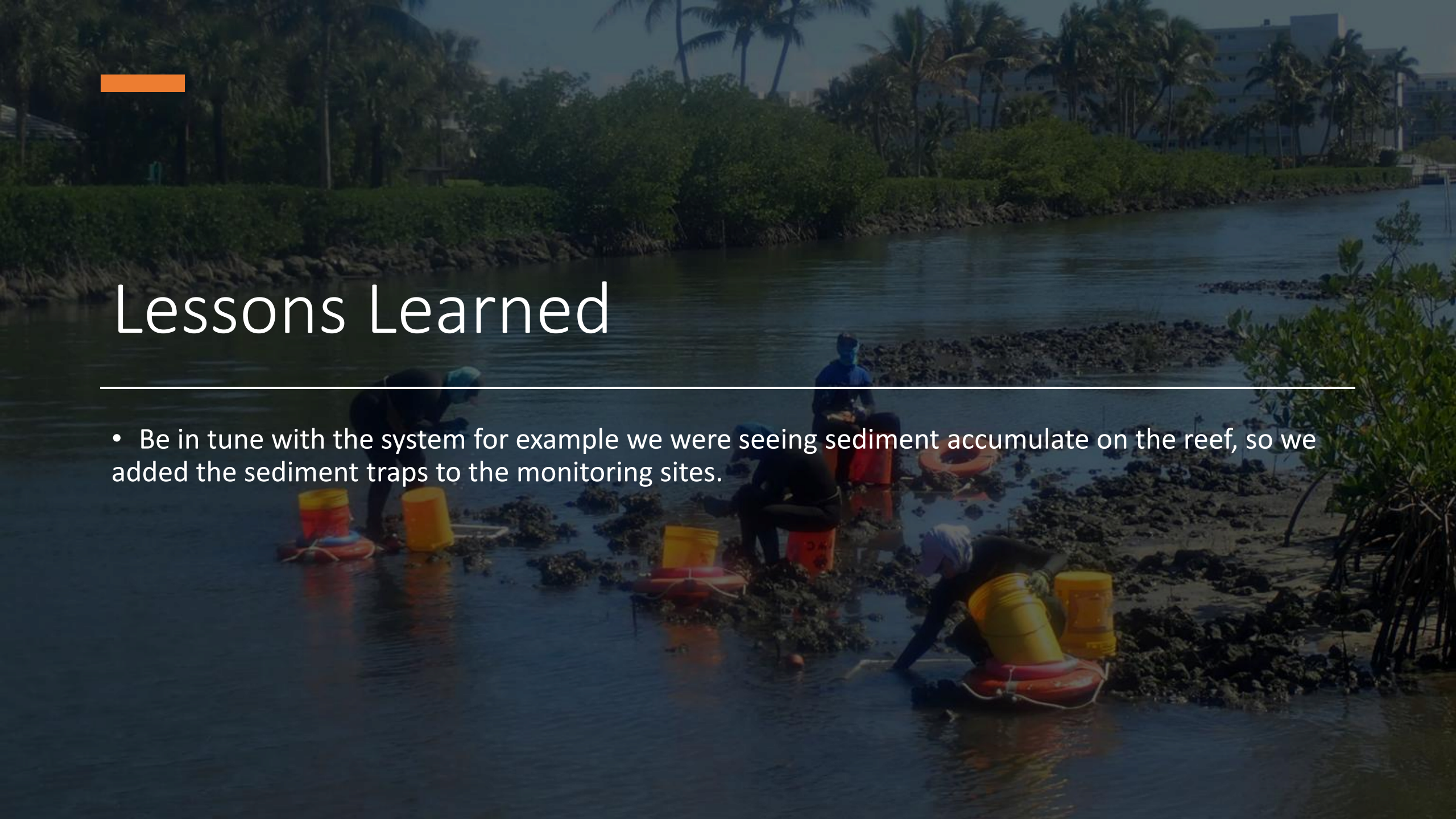
### Rate of Sediment Accumulation at Audubon Nat LWL1





# Lessons Learned

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- Be in tune with the system for example we were seeing sediment accumulate on the reef, so we added the sediment traps to the monitoring sites.
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# Monthly February 2026 Monitoring Overview – Lake Worth Lagoon

## Water & Oyster Health

- Salinity ↑ (~34 → ~35.5)
- Recruitment ↓ 0.1 to 0

Dermo:

- Natural ↑ (60% → 73.3%)
- Restoration ↓ (66.7% → 60%)



## Sediment Changes

North of C-51:

- Sedimentation ↓ (30.6 → 20)
- Organic % ↑ (10.4 → 12)
- Organic weight ↓

South of C-51:

- Sedimentation ↓ (14.8 → 11.7)
- Organic % ↑ (16.1 → 16.4)
- Organic weight ↓

## Field Notes

- Displaced sediment block (LWL3)
- Reef loss at LWR4
- Cold-stunned iguanas observed
- Clear water at LWL2





Thank You  
Questions?

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