

Apalachicola Bay Oyster Monitoring Program

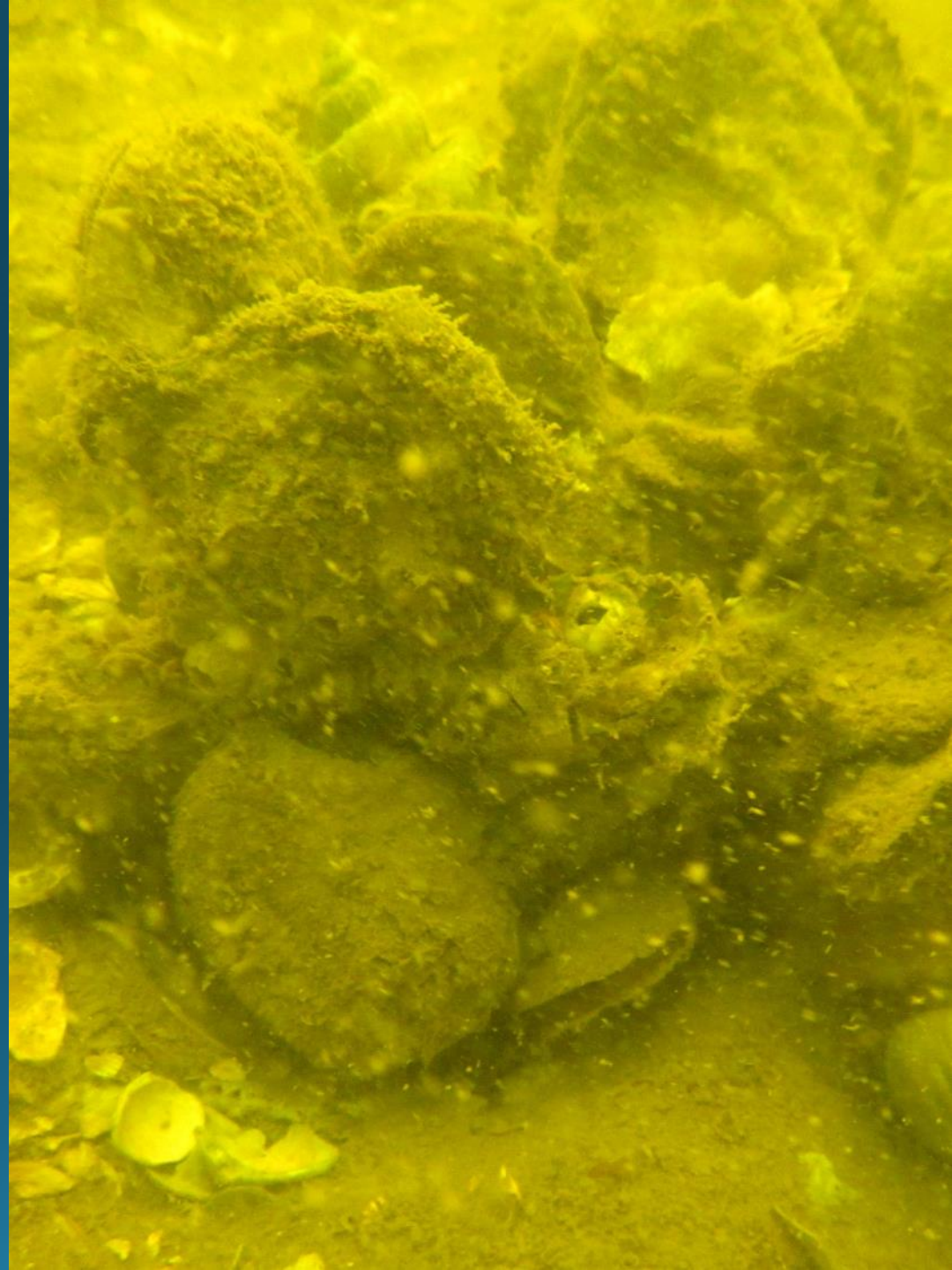
Matt Davis

Associate Research Scientist

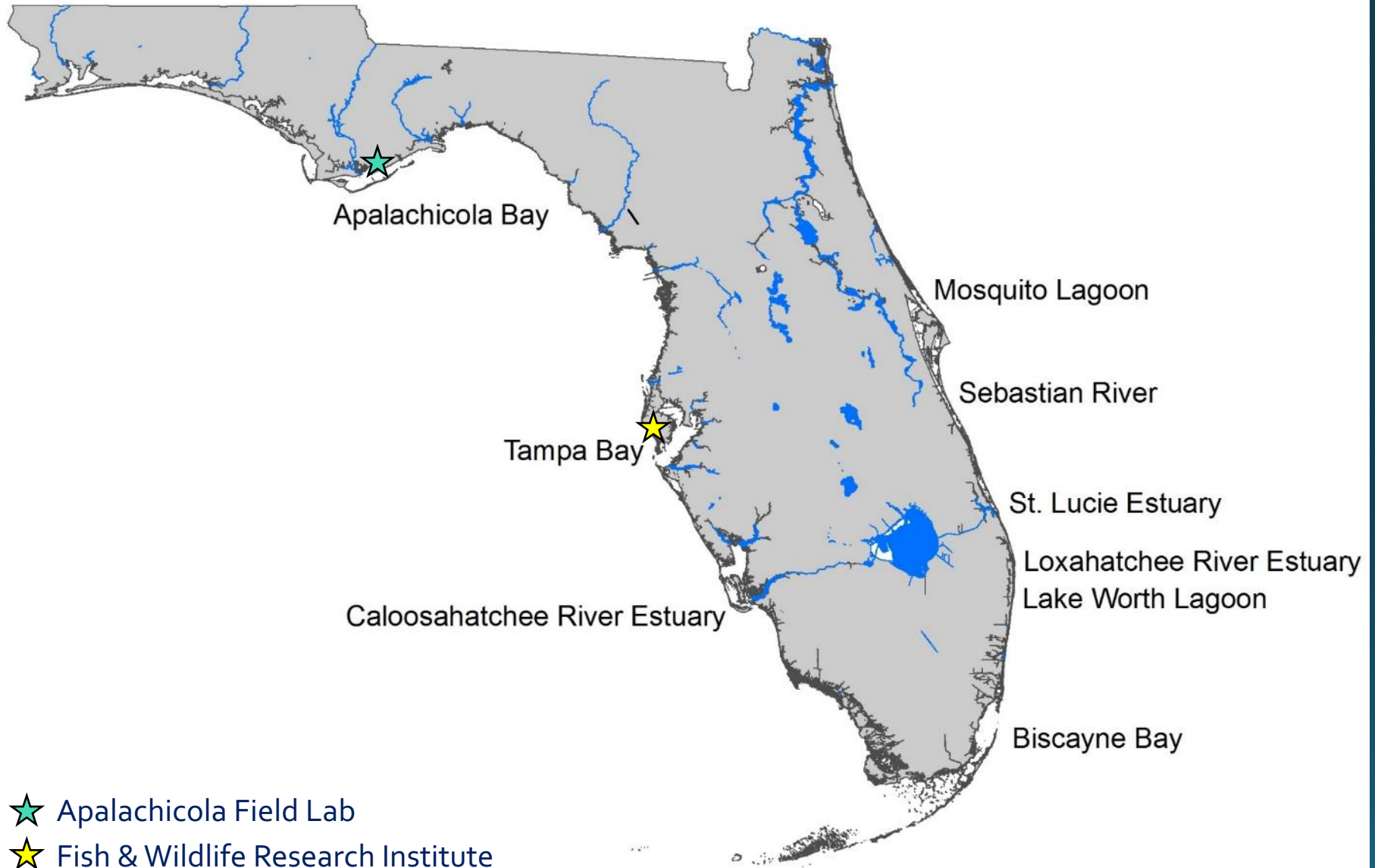
Matthew.Davis@myfwc.com

Florida Fish & Wildlife
Research Institute

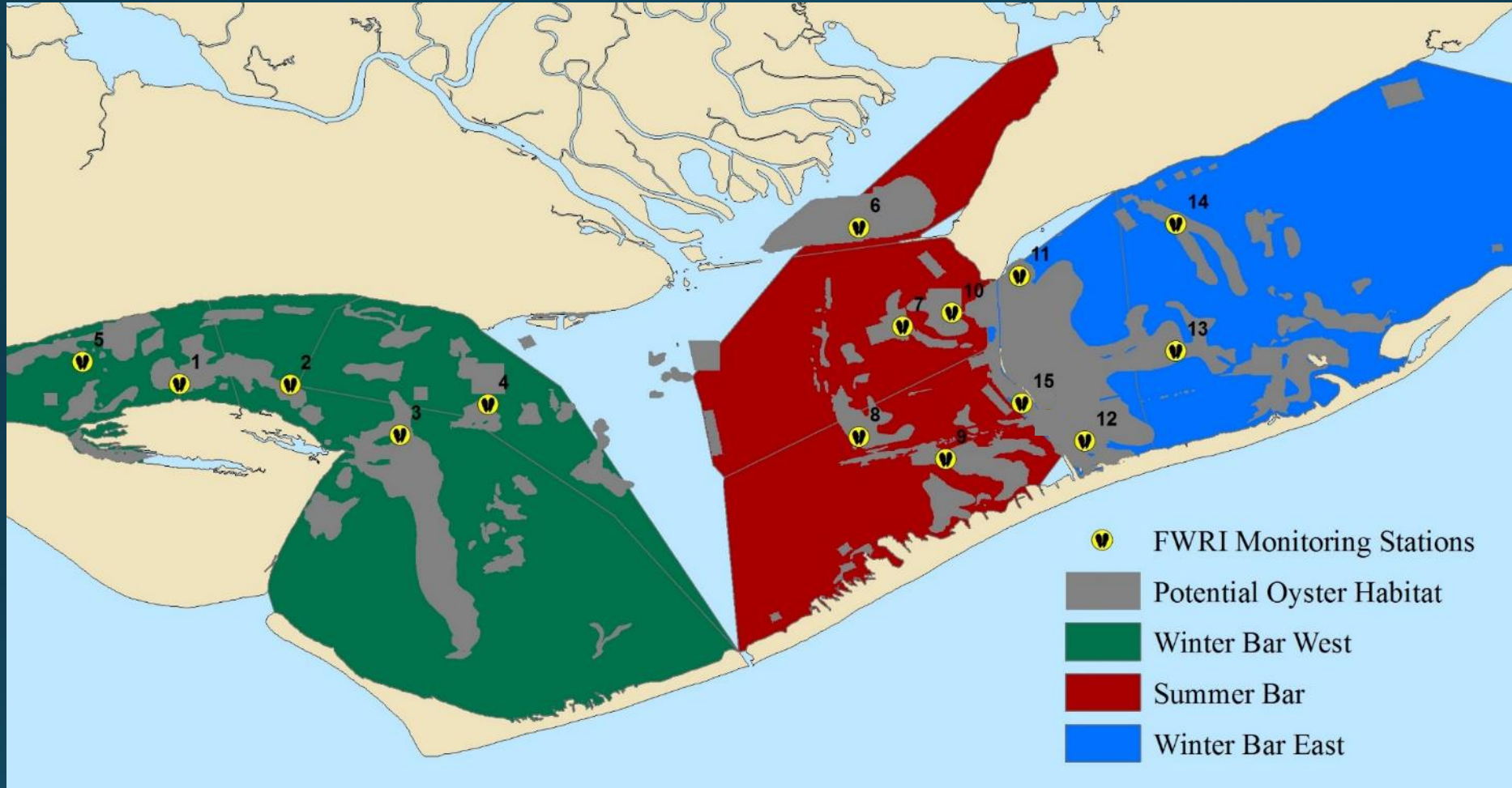
February 24, 2021



FWC Oyster Monitoring



FWC Oyster Monitoring



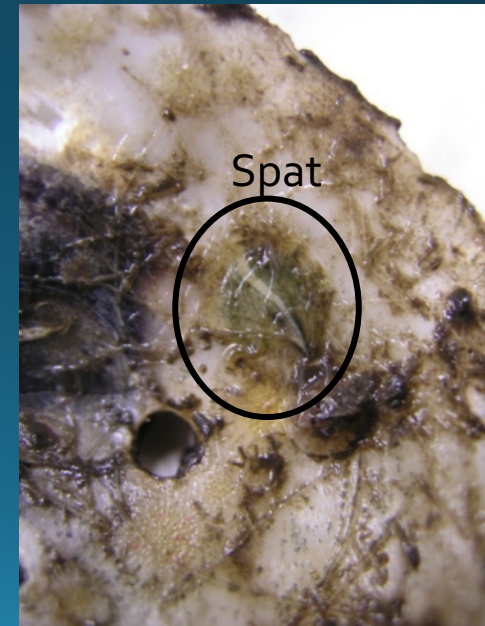
Monthly

Semi-annually

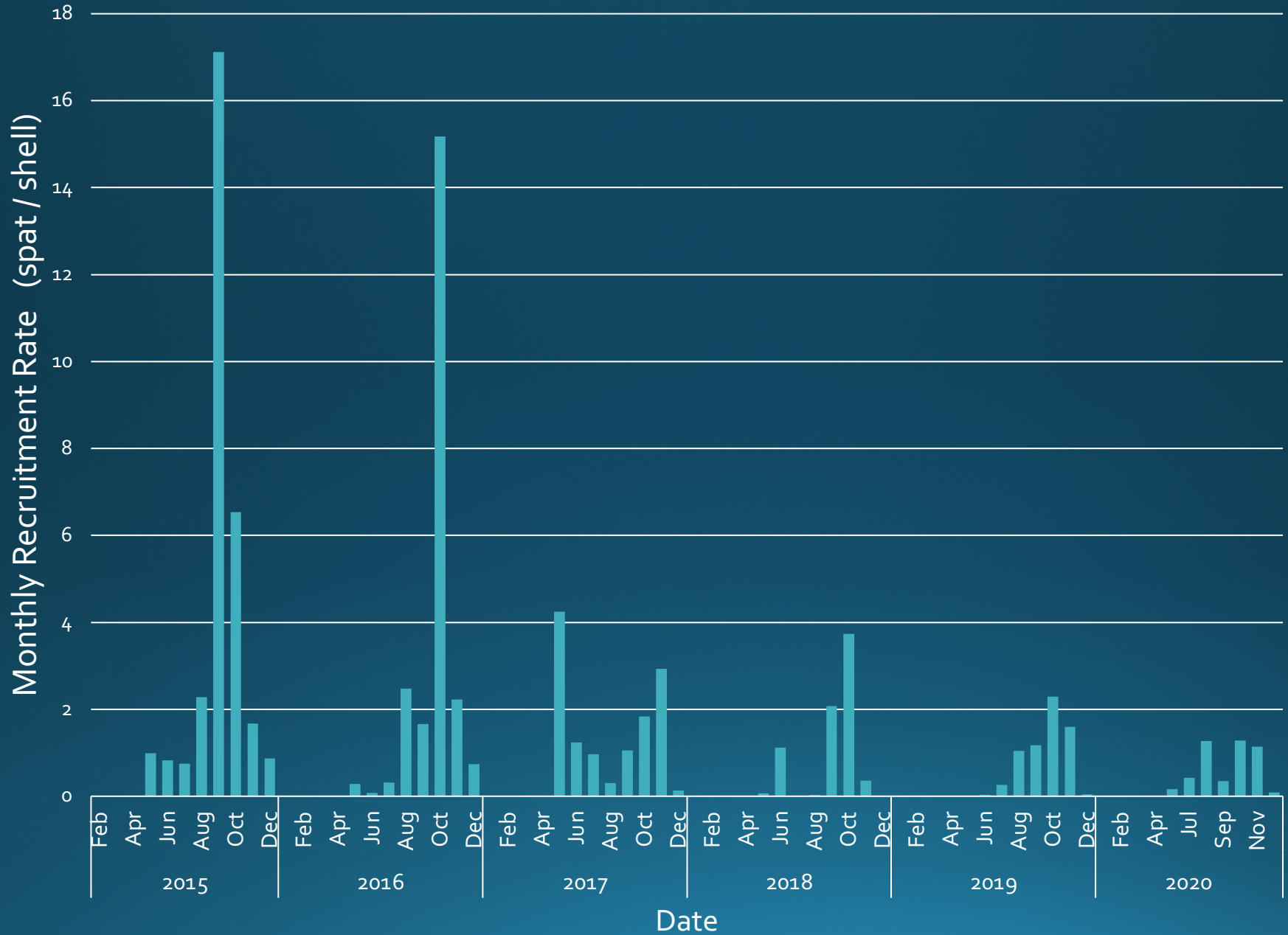
Quarterly

Recruitment Monitoring

- Spat (young oysters) settle on oyster shells / hard substrate
- Shell strings deployed at 15 stations
- Oyster spat settle on shell strings
- Shell strings deployed for one month then collected
- January 2015 - ongoing



Relative Recruitment Rates in Apalachicola Bay

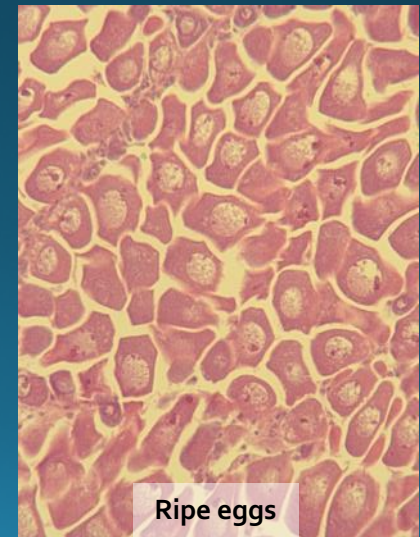
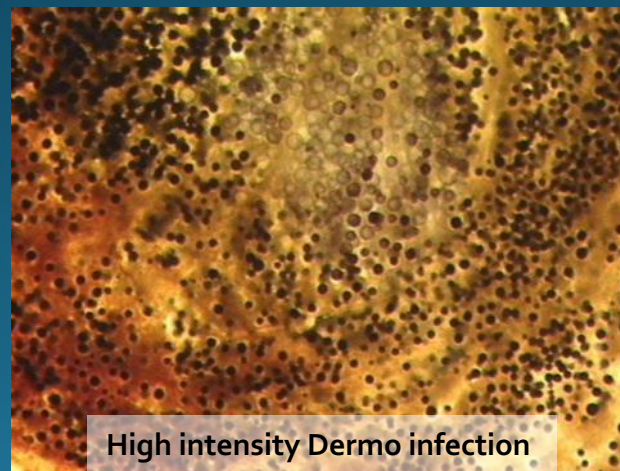


Population Monitoring

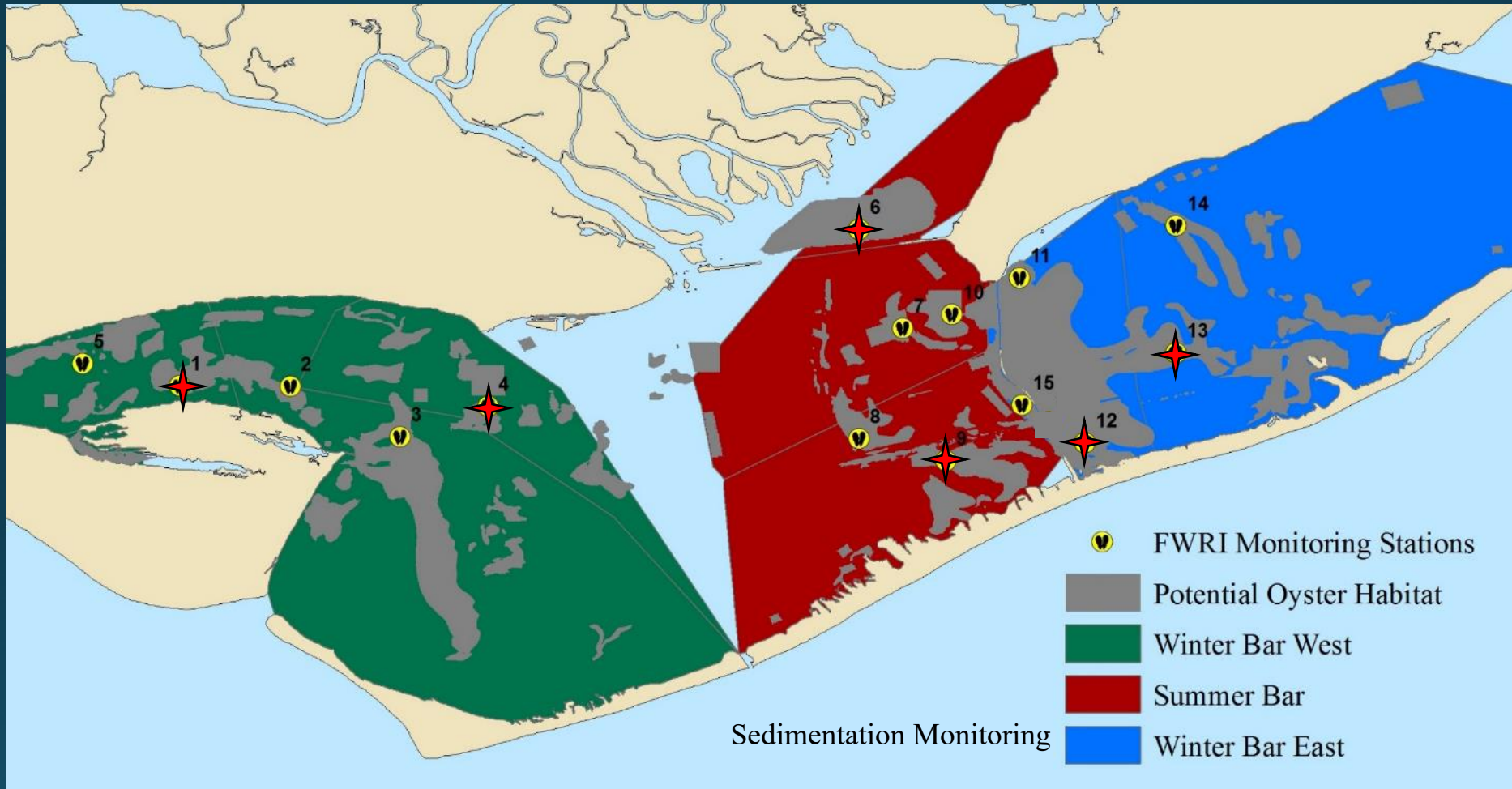
- Collect up to 50 oysters per Bay Section (10 per station)

Parameters:

- Condition indexing
- Shell pests
- Reproductive development
- Disease (Dermo)



Sedimentation Monitoring



Sedimentation Monitoring

- Sediment traps deployed/retrieved monthly
- Each trap has five replicates
- Contents brought to lab:
 - Sample is filtered, dried, then weighed



Oyster Surveys

- Twice a year (spring and fall)
- SCUBA divers use $\frac{1}{4}$ meter² quadrat at all 15 stations
- Collect data on:
 - Sample weight
 - Number and size of live oysters
 - Number of recently dead oysters
 - Number of oyster drills

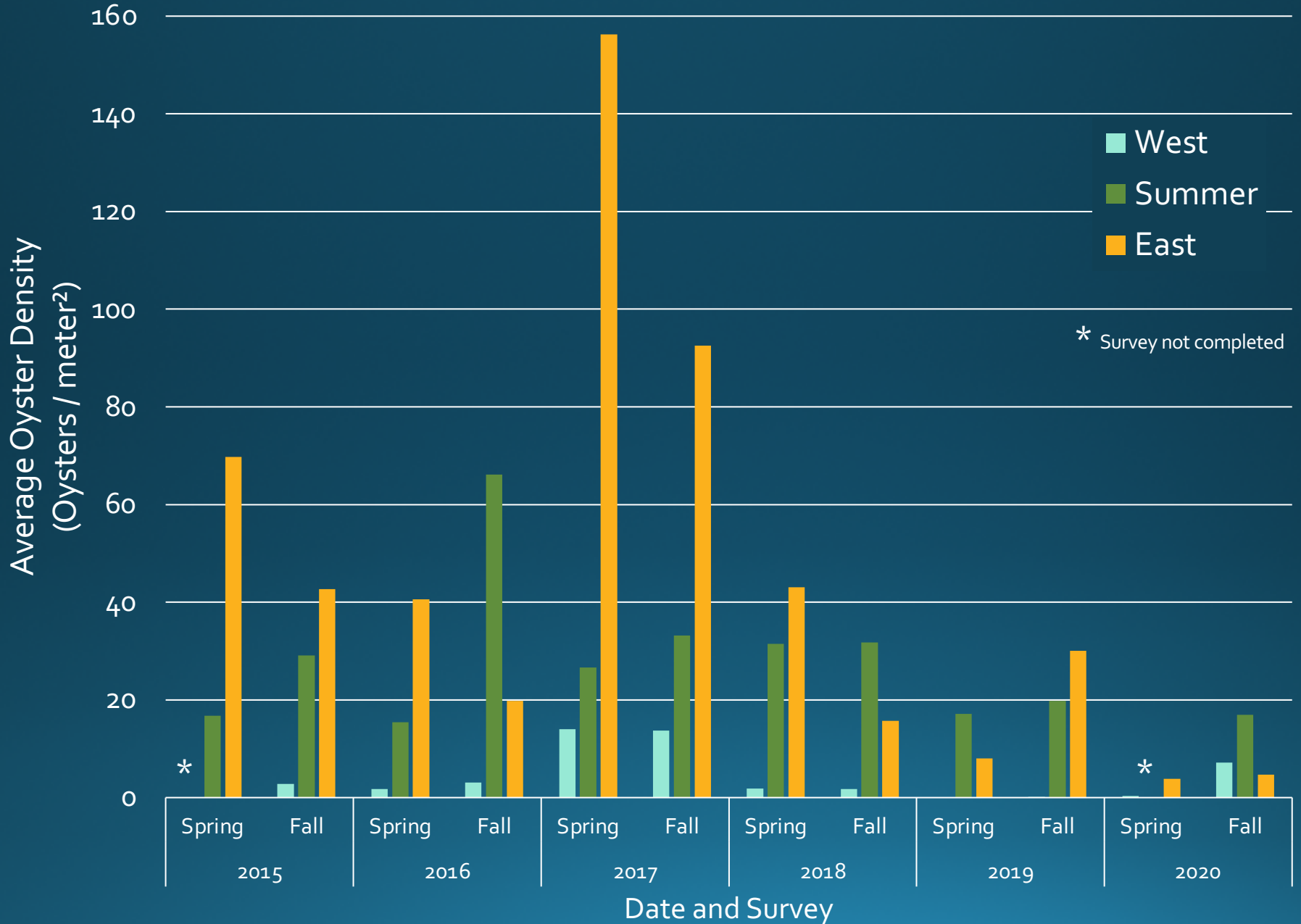


umbo

Shell Height
= maximum
linear
distance from
umbo to
ventral shell
margin

ventral shell margin

Average Oyster Density by Survey

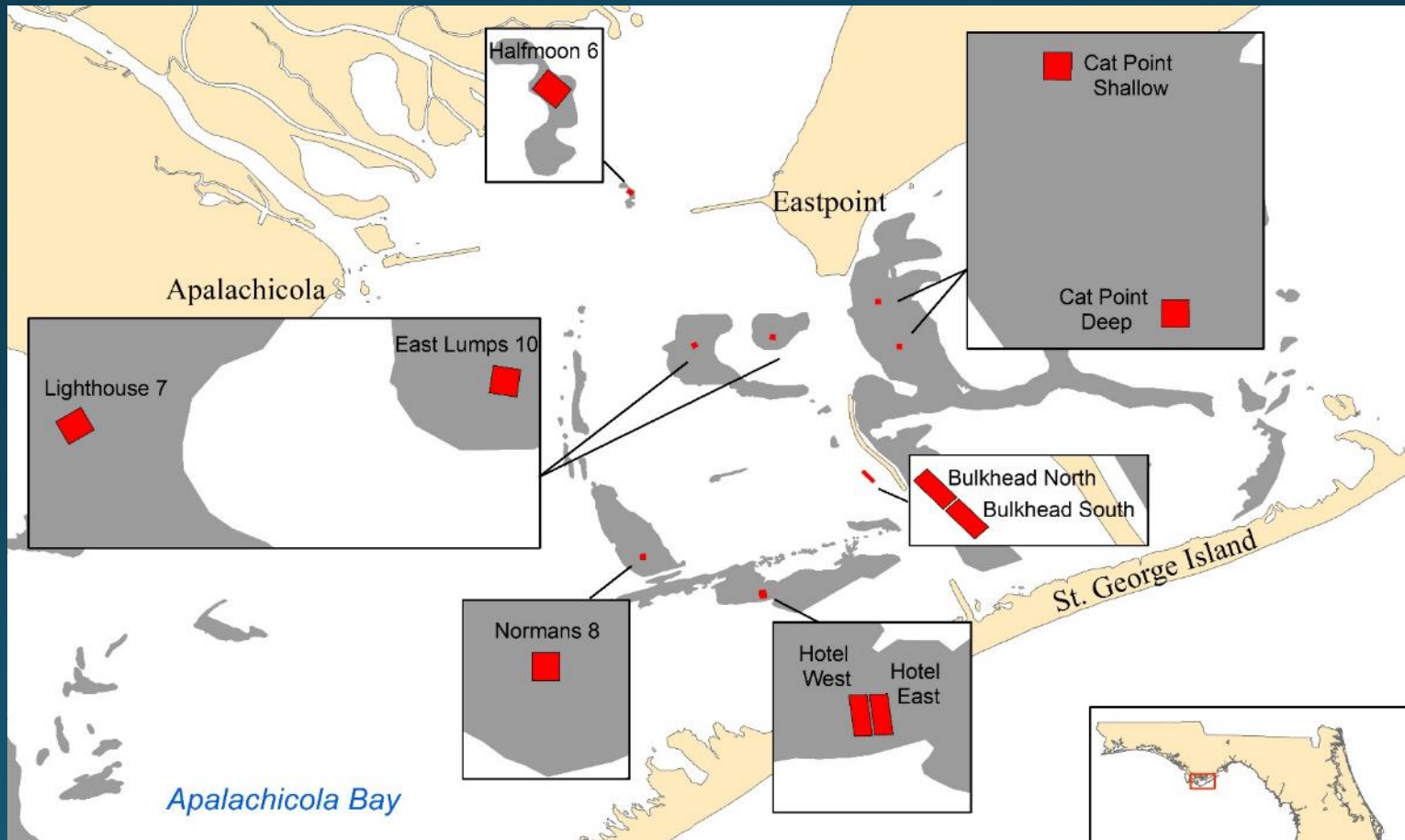


Shell Budget Model Surveys



Shell Budget Model Surveys

- Performed Quarterly
- 10 2-acre parcels on 7 stations



Shell Budget Model Surveys



Collect data on:

- Sample weight
- Number and size of live oysters
- Number of recently dead oysters
- Number of oyster drills
- **Weight of substrate components**



Live Oyster
Shell

Dead Oyster
Shell

Planted
Shell

Shell
Hash

Subsurface
Substrate

Summary



- Monthly
 - Recruitment Monitoring
 - Population Monitoring
 - Condition Index
 - Shell Pest
 - Reproduction
 - Dermo Disease
 - Sedimentation Monitoring
- Semi-annually
 - Oyster Surveys
- Quarterly
 - Shell Budget Model Surveys

Questions?

**Thanks for listening and thanks to my
hard working field and lab staff!**