

## **FDOT DISTRICT-3 MITIGATION REVIEW TEAM MEETING MINUTES**

**THURSDAY, JANUARY 18, 2018**

**[FDOT District-3 Maintenance Office – Midway, FL]**

<b>Attendees</b>	
Erica Brookman – FDOT (Chipley)	Alison McDowell – CBA (Santa Rosa Beach)
Erica Christiansen – FWC (Tallahassee)	Bryan Phillips – FWC (Panama City)
David Clayton – NFWFMD (Midway)	Joy Swanson Pleas – FDOT (Chipley)
Terry Gilbert – FWC (Tallahassee)	David Rydene – NMFS (St. Petersburg)
Ted Hoehn – FWC (Tallahassee)	Janet Strutzel – NFWFMD (Tallahassee)
Andy Joslyn – NFWFMD (Crestview)	Paul Thorpe – NFWFMD (Tallahassee)
Robert Lide – NFWFMD (Tallahassee)	Randy Turner – USACE (Jacksonville)
Lisa Yarborough – USFWS (Panama City; via telephone)	

The mitigation Review Team (RT) meeting was held Thursday, January 18, 2018, (10:00 AM – 12:00 PM EST) at the FDOT District-3 Midway Operations Office (17 Commerce Blvd. at the US 90 / I-10 interchange west of Tallahassee).

### **Agenda**

- US 98 Brooks Bridge (FPID 415474-2)
- SR 4 Blackwater River Bridge (FPID 432828-1)
- SR 65 Graham Creek Bridge (FPID 218764-2)
- CR 159 Swamp Creek Bridge (FPID 439374-1)
- SR 173 (Blue Angel Pkwy from SR 292 to US 98; FPID 421012-1)

### **US 98 Brooks Bridge (FPID 415474-2)**

**Impact:** Replacement of the US 98 Brooks Bridge (confluence of Choctawhatchee Bay and Santa Rosa Sound; Okaloosa County) will result in an estimated 1.20-acre impact to jurisdictional wetlands (0.01 acres estuarine; 0.89 acres palustrine; 0.30 acres SAV—submerged aquatic vegetation). Estimates of UMAM functional loss are not currently available. FDOT Design Build contract letting is scheduled for 7/2/2021. No private mitigation bank is available to offset this impact.

**Proposed Mitigation:** Living shoreline / estuarine marsh restoration at Live Oak Peninsula (Choctawhatchee Bay) on NFWFMD-owned lands.

Consensus: The consensus of the mitigation Review Team is that living shoreline / estuarine marsh restoration at Live Oak Peninsula would be appropriate to offset the US 98 Brooks Bridge impact. The mitigation could be implemented either as “permittee-responsible” or as part of an expanded Live Oak Peninsula ILF project. NFWFMD staff will proceed with development of a detailed mitigation plan.

#### **SR 4 Blackwater River Bridge (FPID 432828-1)**

This bridge replacement in the Pensacola Bay System watershed (Okaloosa County; estimated 1.73-acre impact / 1.09 UMAM functional loss) is not within the service area of any private mitigation bank. The letting date is 12/5/2018 with construction start 2/24/2019. The Review Team consensus is that use of the Yellow River Ranch ILF mitigation area (9.27 federal / 1.29 state credits available) would be appropriate to offset this impact.

#### **SR 65 Graham Creek Bridge (FPID 218764-2)**

Located in the Apalachicola River watershed (Franklin County; estimated 1.37-acre impact), mitigation for this impact is expected to consist of credits from the Tates Hell ILF mitigation area (35.21 credits are available). This impact is not within the service area of any private mitigation bank. The anticipated letting date is 12/4/2019. The Review Team consensus is that the use of Tates Hell would appropriately offset this impact.

#### **CR 159 Swamp Creek Bridge (FPID 439374-1; Impact TBD)**

Located in the Ochlockonee River watershed (Gadsden County), mitigation for this impact is expected to consist of credits from the Shuler ILF mitigation area (27.90 credits are available). Impact acreage and UMAM functional loss is TBD. This impact is not within the service area of any private mitigation bank. The anticipated letting date is 9/29/2021. The Review Team consensus is that the use of Shuler would appropriately offset the anticipated CR 159 impact.

#### **SR 173 (Blue Angel Parkway from SR 292 to US 98; FPID 421012-1)**

This project (Escambia County; estimated 53-acre impact) mostly occurs in the Pensacola Bay System watershed. However, a portion of the impact extends into the Perdido River and Bay watershed (which currently lacks private mitigation bank coverage). The NFWFMD prefers that all mitigation consist of FDOT purchase of credits from a private bank in the Pensacola Bay System watershed (most impacts are within the Pensacola Bay System watershed; all remaining impacts are within one mile of the Pensacola Bay System watershed). Mitigation will be determined at a later date between FDOT and federal and state permittees. The NFWFMD will be able to provide credits from the Dutex In-Lieu Fee mitigation area, for those impacts not able to be mitigated at a private mitigation bank within the Pensacola Bay System watershed, only if necessary for FDOT to proceed with this road project. No letting date has been scheduled. The

NWFWMD does not compete with private mitigation banks and encourages the development of new banks.

### **Other Road Projects Briefly Discussed**

- Hanks Road Bridge (FPID 432286-1)—permits issued; NWFWMD will implement mitigation at Salters Lake (Escambia River floodplain) when mitigation funds are received.
- SR 87 from CR 178 to SR 4 (FPID 416748-6)—mitigation TBD.
- SR 87 from end of 4-lane to Coldwater Creek (FPID 416748-2)—mitigation TBD.
- Gulf to Bay, segment 2 (FPID 410911-2)—mitigation TBD.

### **NWFWMD Mitigation Project Updates**

Recent land management activities at several NWFWMD mitigation sites were briefly discussed.

**Meeting Agenda and PowerPoint Attached**

**Additional Information Available at [www.NWFWMDwetlands.com](http://www.NWFWMDwetlands.com)**

# **FDOT District-3 Mitigation Review Team Meeting**

**18 January 2018**

**(FDOT Midway Operations Center)**



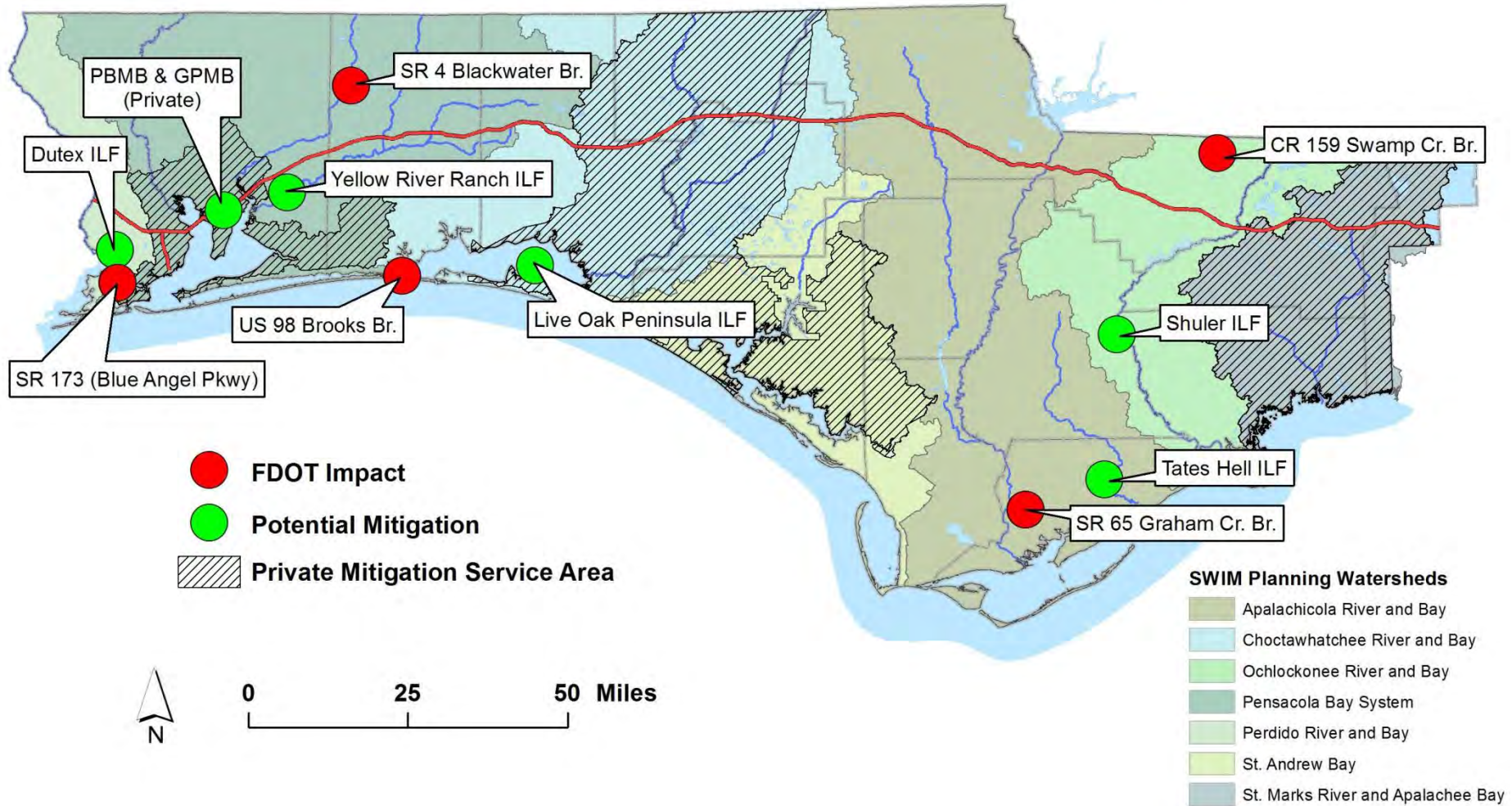
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# **Items**

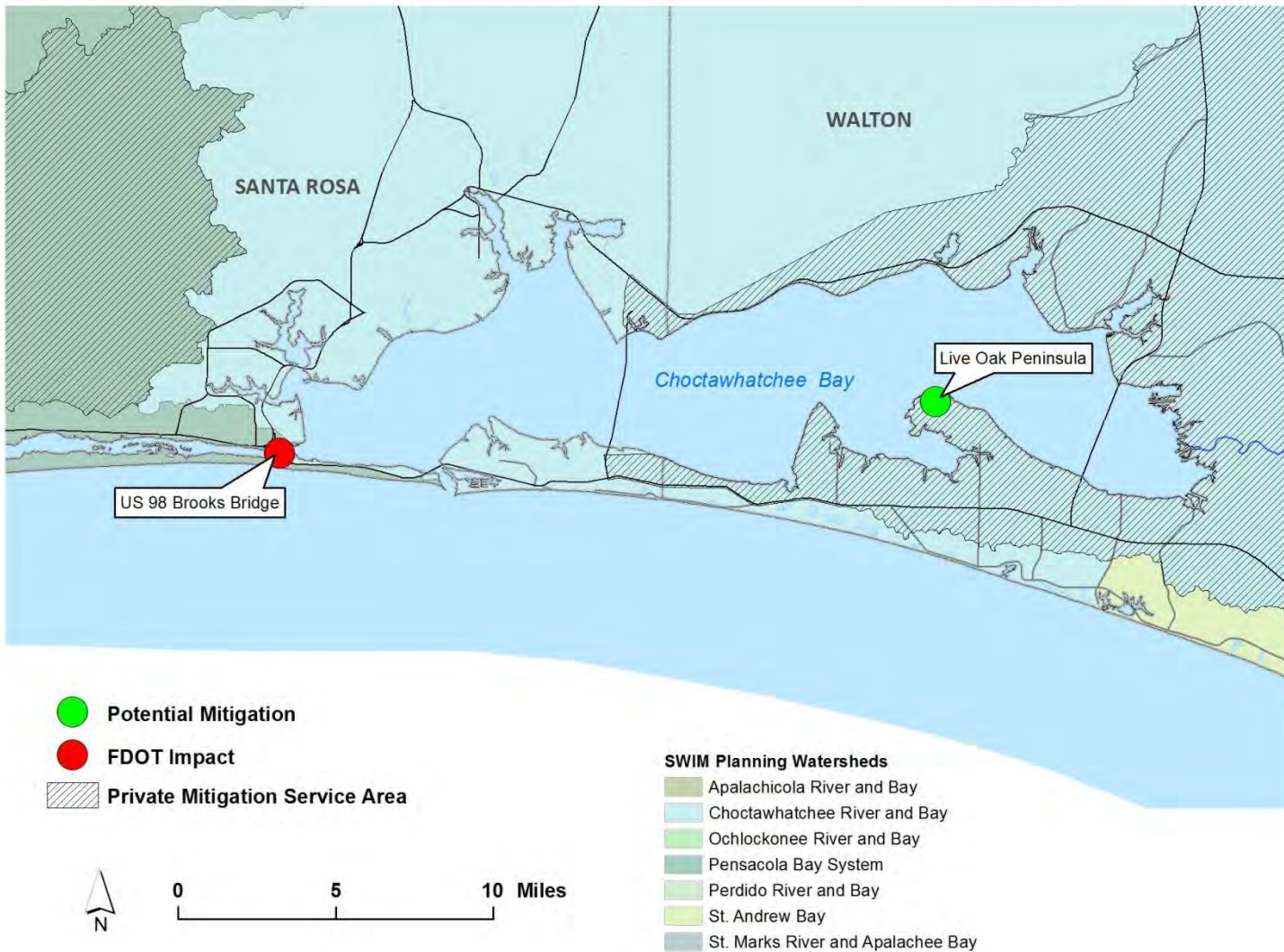
- US 98 Brooks Bridge (FPID 215474-2)
- SR 4 Blackwater River Bridge (FPID 432828-1)
- SR 65 Graham Creek Bridge (FPID 218764-2)
- CR 159 Swamp Creek Bridge (FPID 439374-1)
- SR 173 (Blue Angel Pkwy; FPID 421012-1)
- Brief discussion of other FDOT impacts (time permitting)
  - Hanks Road Bridge (FPID 432286-1)
  - SR 87 from CR 178 to SR 4 (FPID 416748-6)
  - SR 87 from end of 4-lane to Coldwater Creek (FPID 416748-2)
  - Gulf to Bay, segment 2 (FPID 410911-2)
  - Any other impacts raised by Team members
- NWFWMMD mitigation project updates (time permitting)
- Open discussion / other business

# Selected FDOT Impacts / Potential Mitigation Options



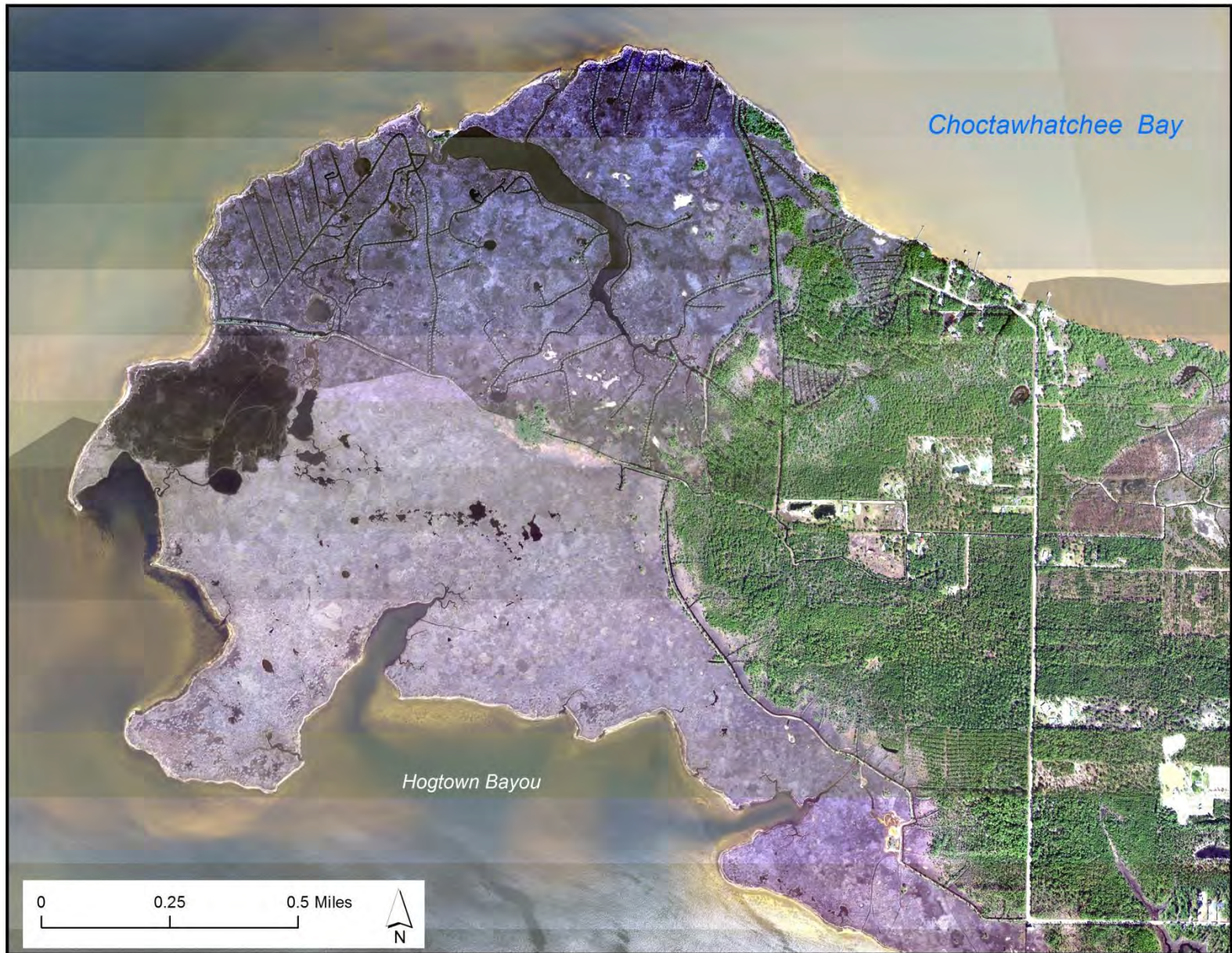


# US 98 Brooks Bridge (FPID 415474-2)



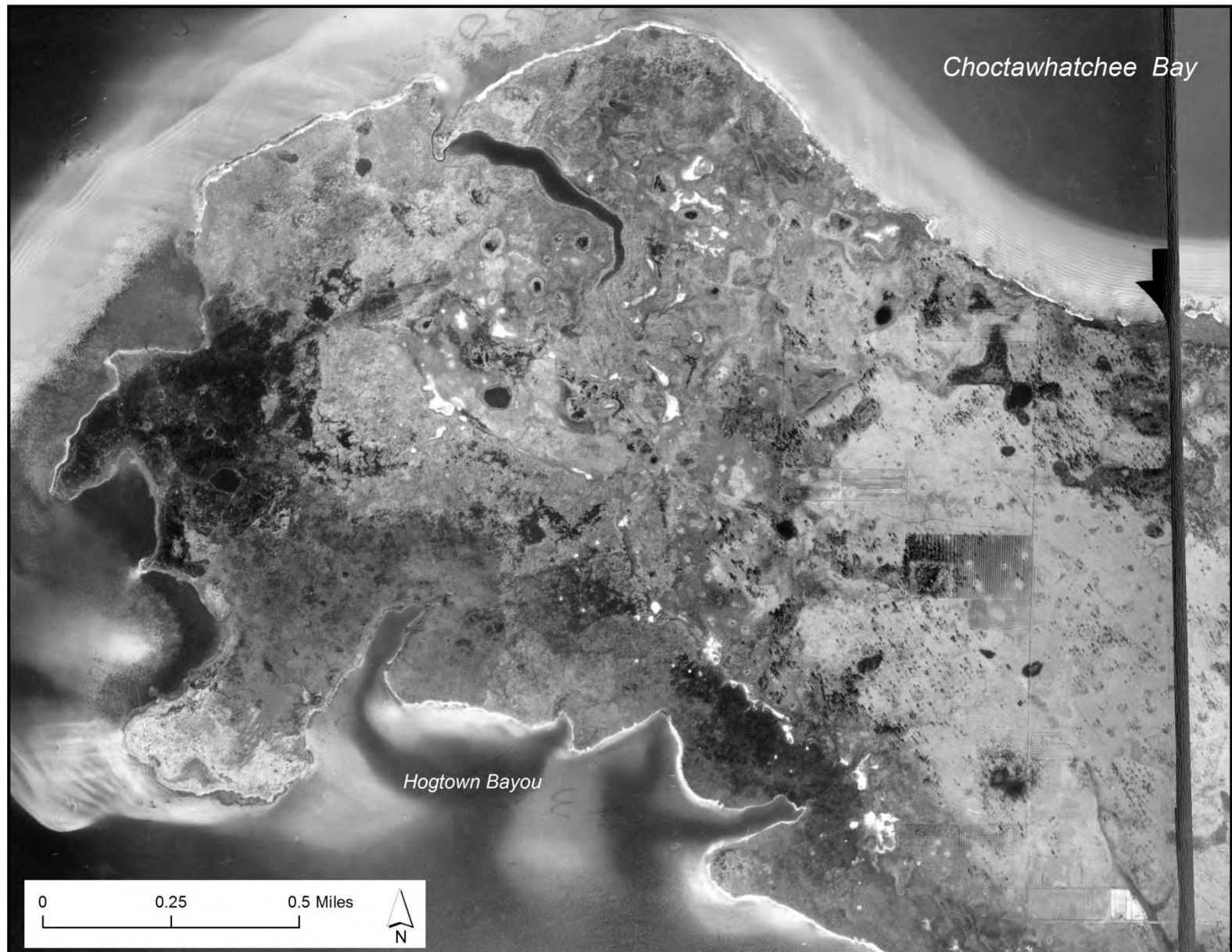


# Live Oak Peninsula - 2016

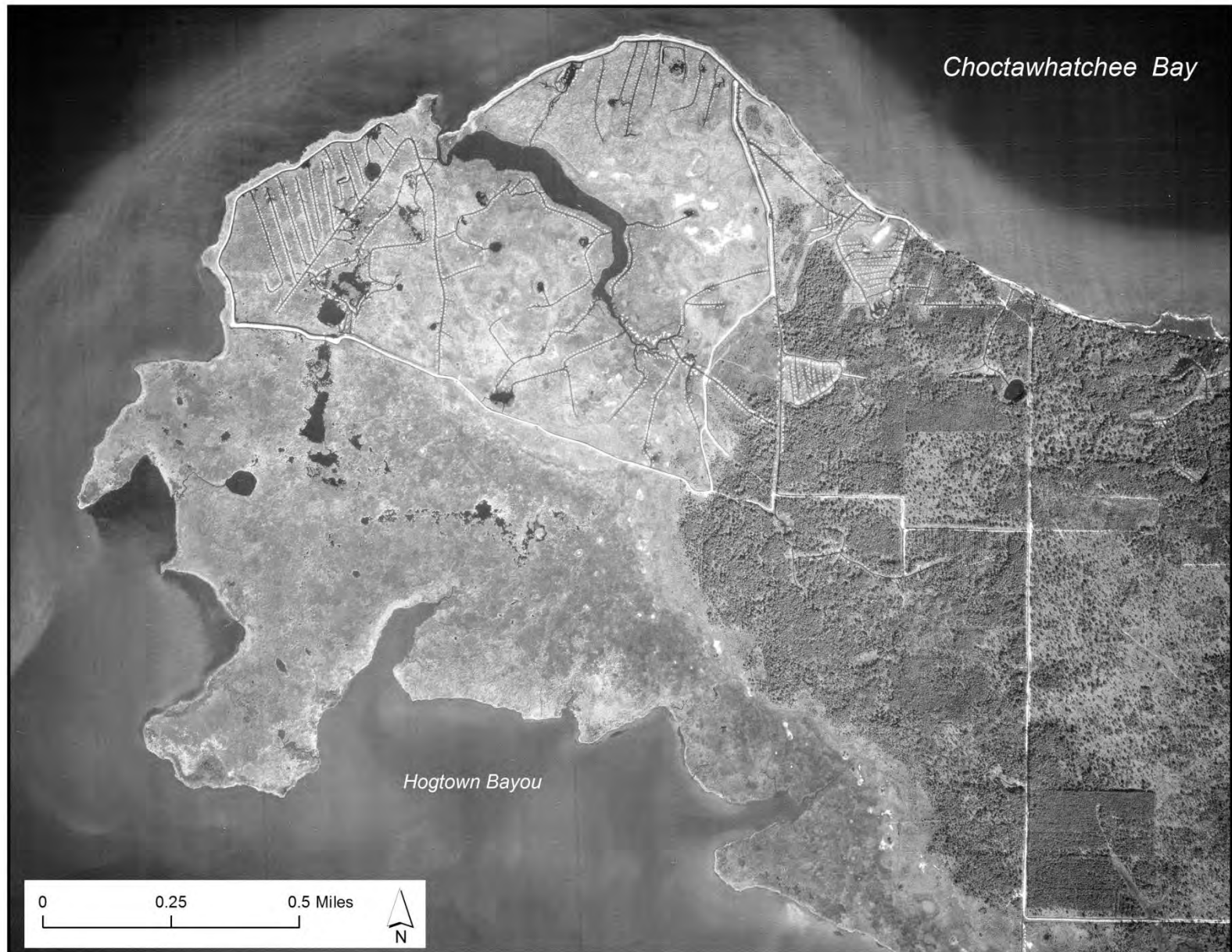




# Live Oak Peninsula - 1941



# Live Oak Peninsula - 1972



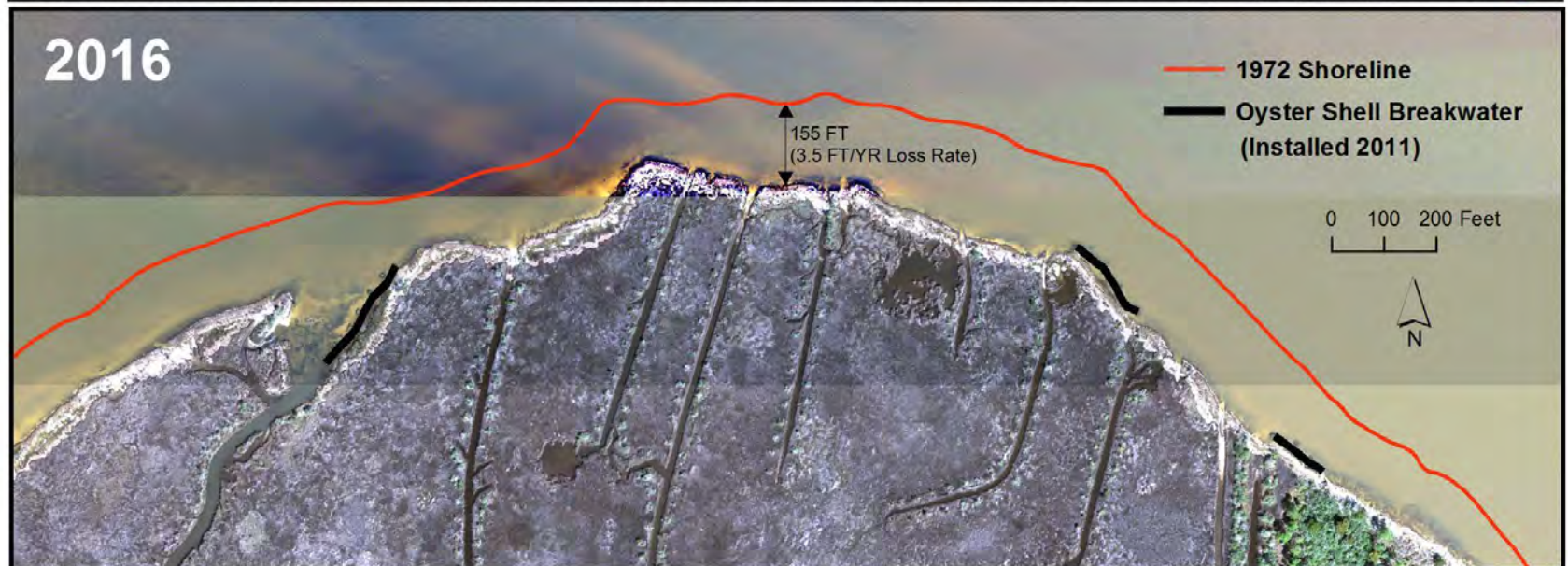
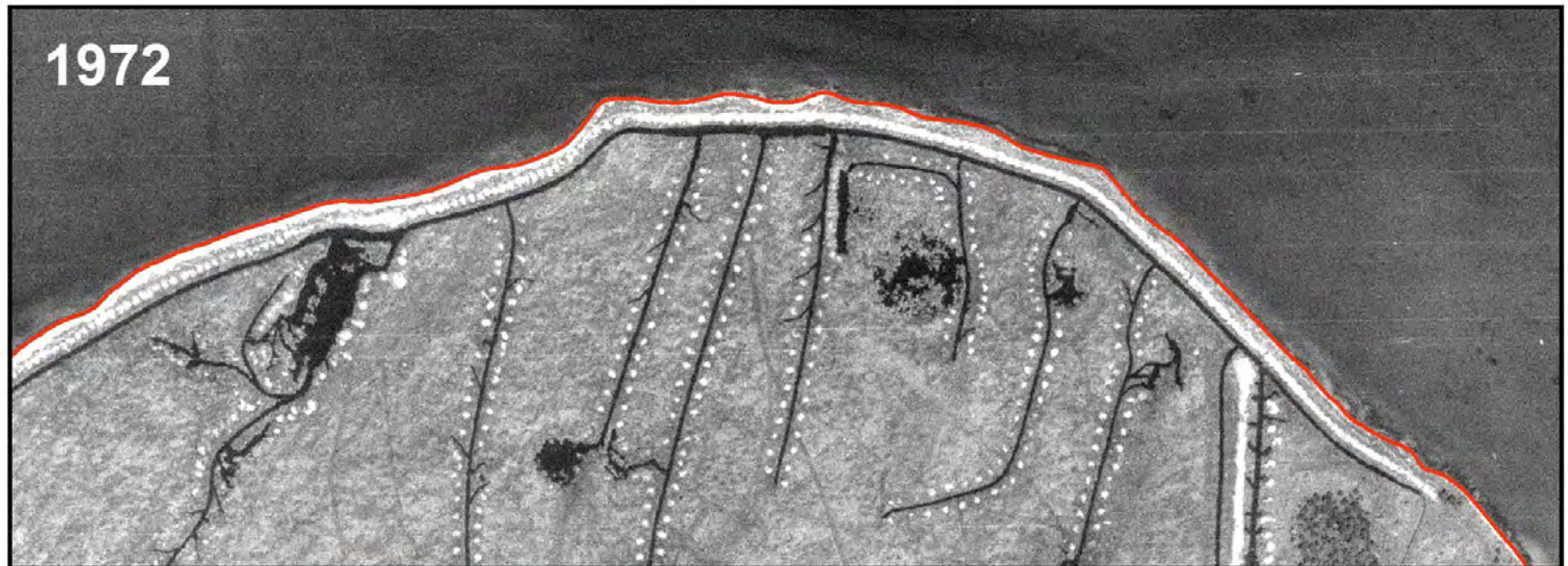




Live Oak Peninsula – 8/9/2017

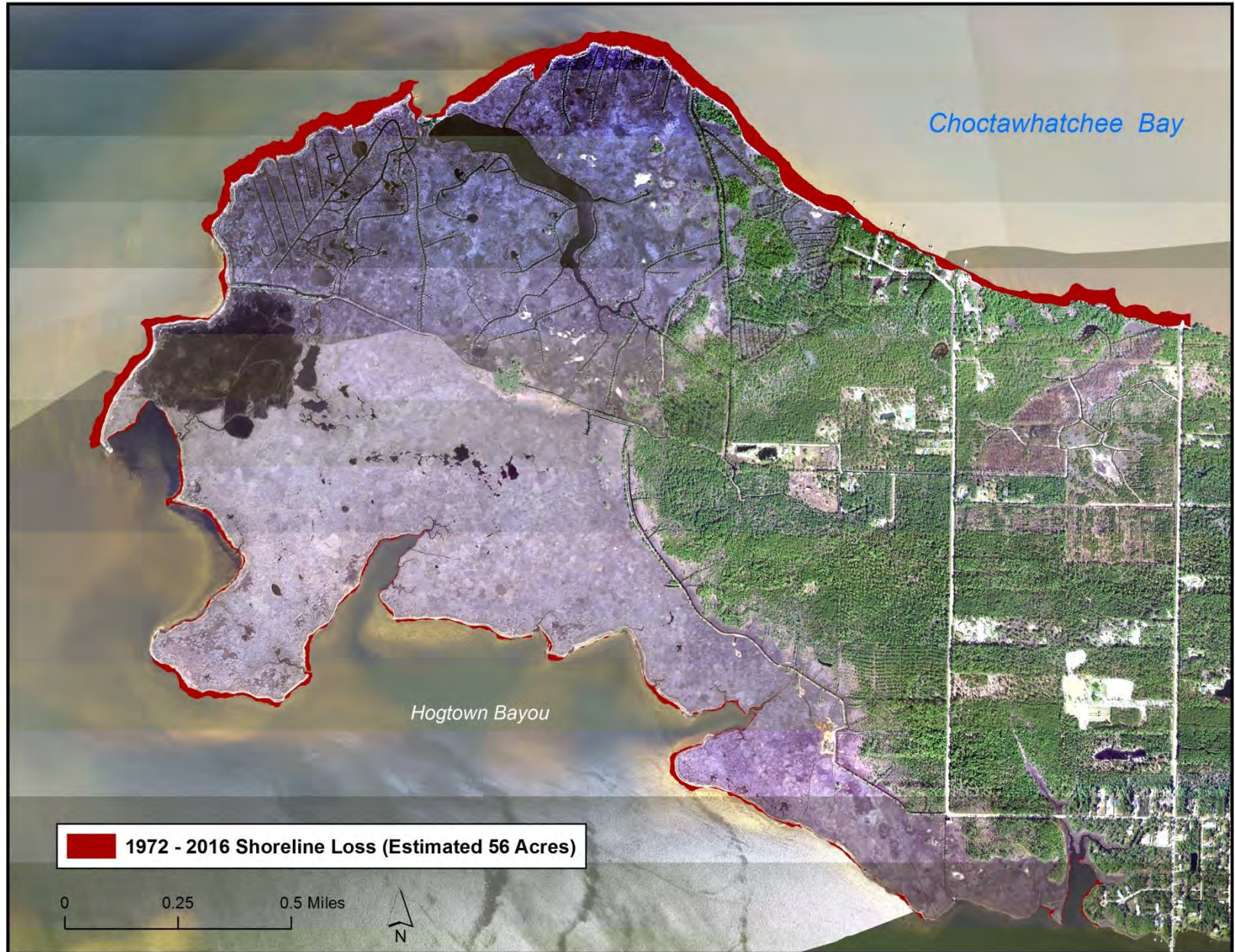


## Live Oak Peninsula - North Shoreline Erosion (1972 - 2016)





# Live Oak Peninsula Shoreline Loss: 1972 - 2016





## Live Oak Peninsula - Oyster Shell Breakwaters







Live Oak Peninsula – 11/8/2011 (Breakwater No. 2; Looking West)





Live Oak Peninsula – 8/9/2017 (Breakwater No. 2; Looking East)





Live Oak Peninsula – 8/9/2017 (Breakwater No. 1; Looking West)

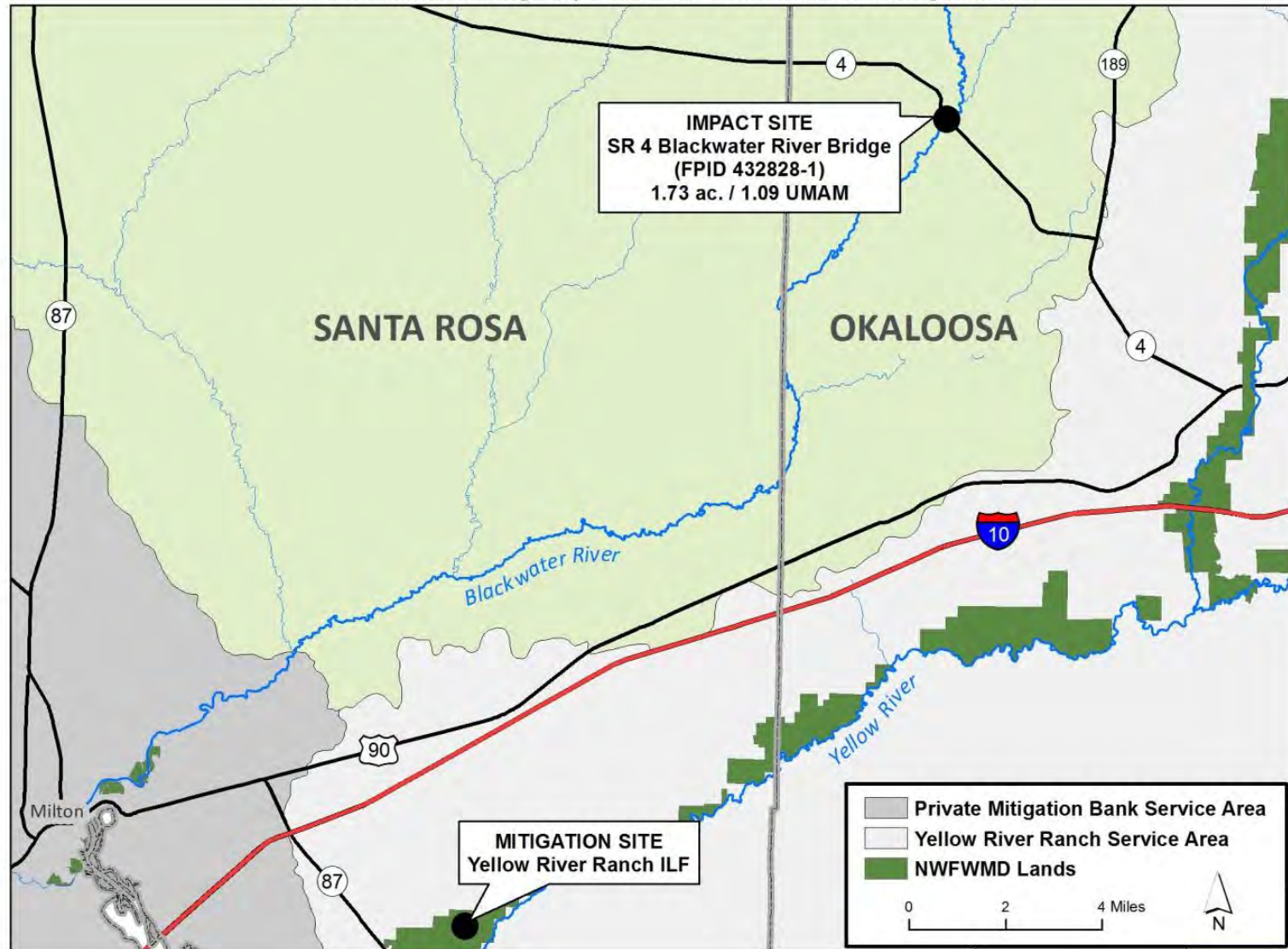




Live Oak Peninsula – 9/8/2017 (Oyster Spat Colonization)

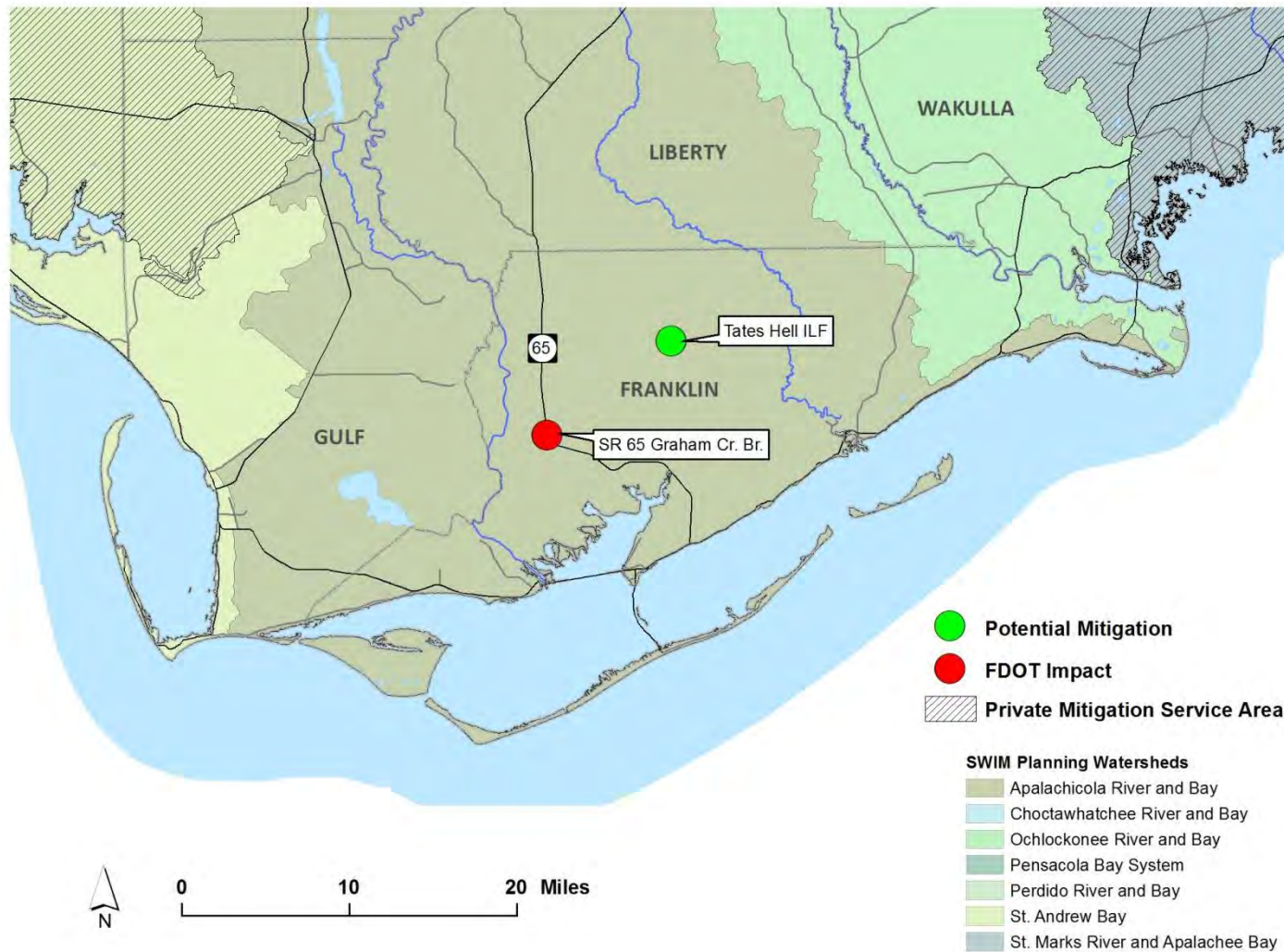
# SR 4 Blackwater River Bridge (FPID 432828-1)

SR 4 Blackwater River Bridge Impact and Yellow River Ranch ILF Mitigation Area



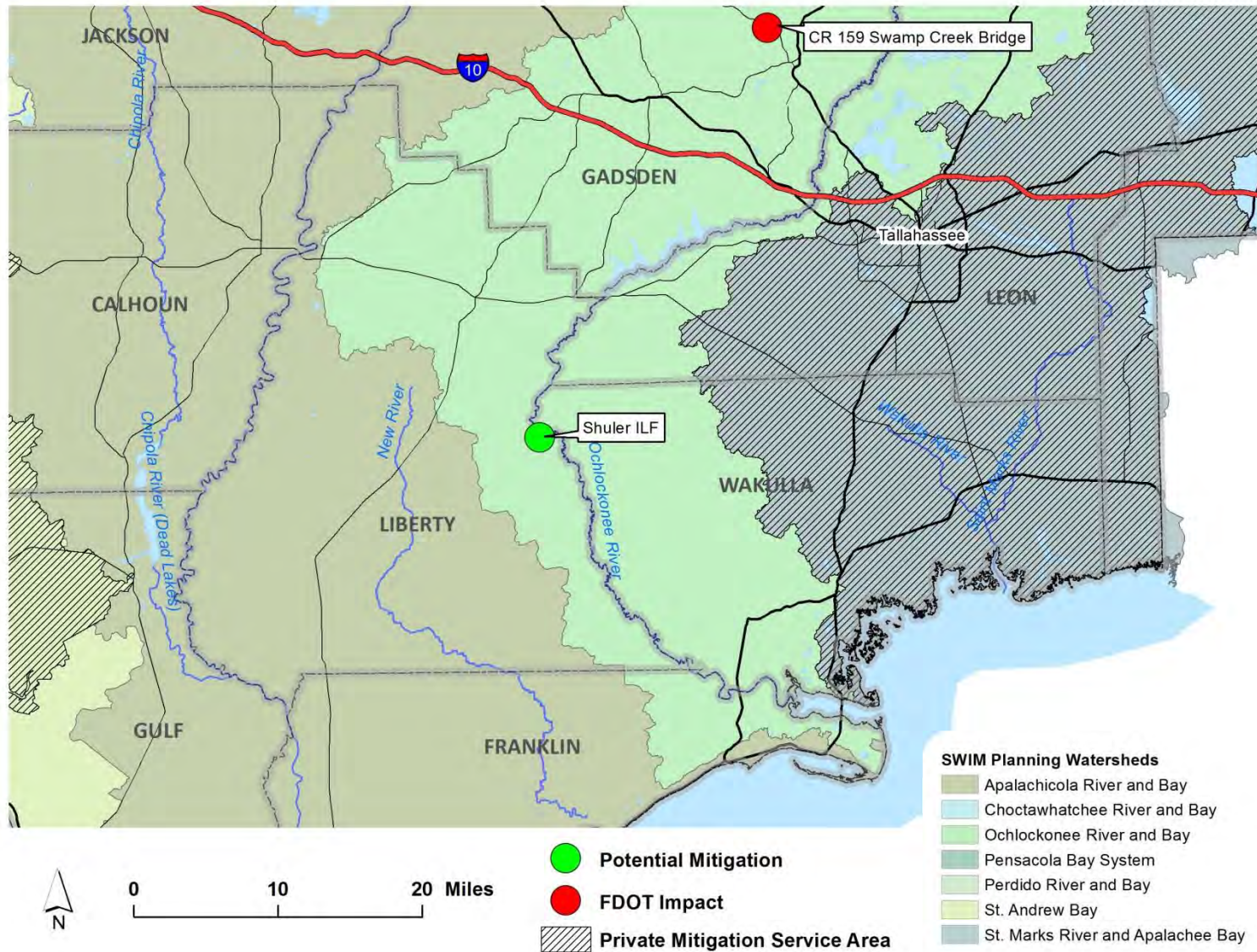


# SR 65 Graham Creek Bridge (FPID 218764-2)

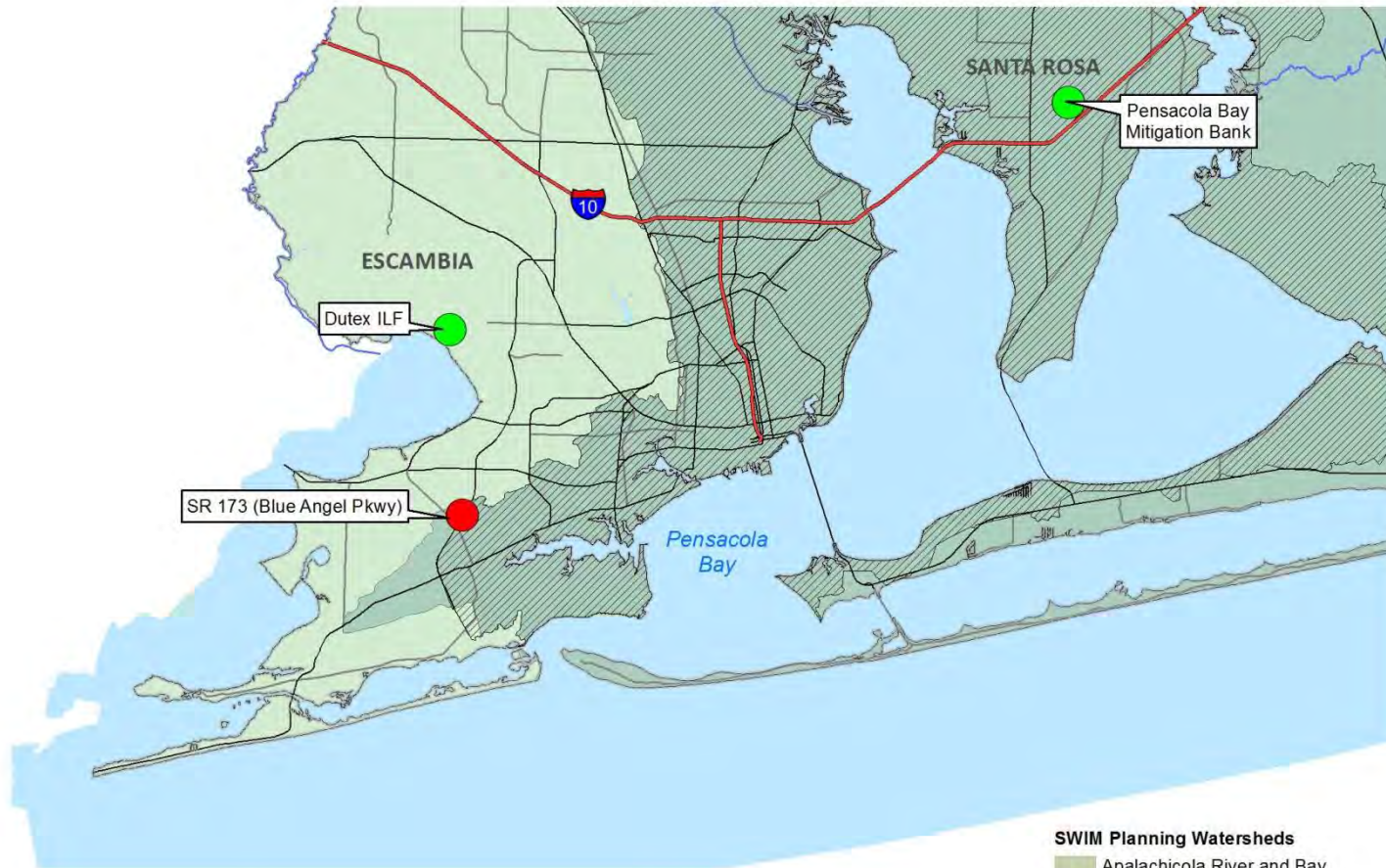




# CR 159 Swamp Creek Bridge (FPID 439374-1)



# SR 173 (Blue Angel Pkwy; FPID 421012-1)



- Potential Mitigation
- FDOT Impact
- Private Mitigation Service Area

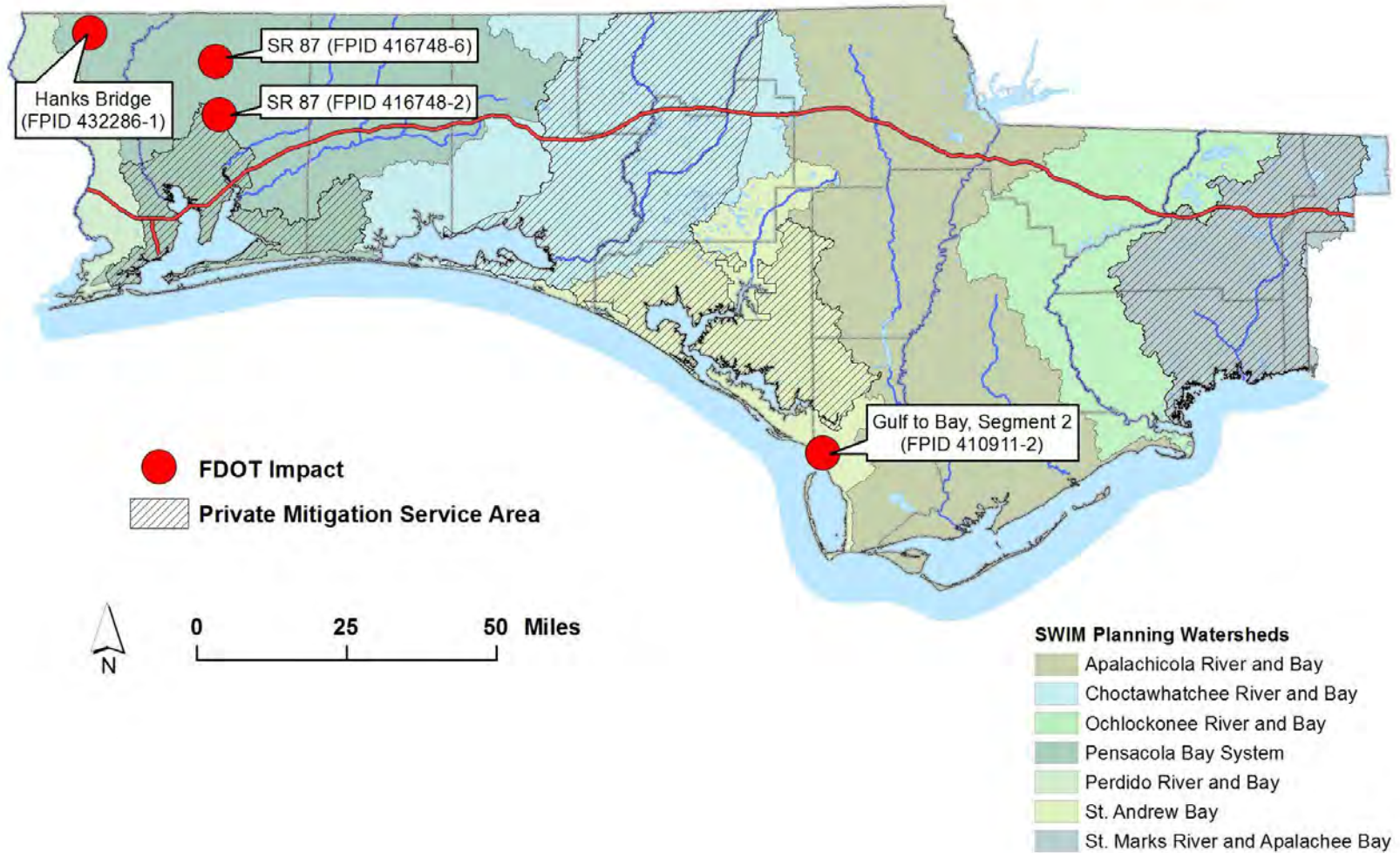
## SWIM Planning Watersheds

- Apalachicola River and Bay
- Choctawhatchee River and Bay
- Ochlockonee River and Bay
- Pensacola Bay System
- Perdido River and Bay
- St. Andrew Bay
- St. Marks River and Apalachee Bay

- Brief discussion of other FDOT impacts (time permitting)
  - Hanks Road Bridge (FPID 432286-1)
  - SR 87 from CR 178 to SR 4 (FPID 416748-6)
  - SR 87 from end of 4-lane to Coldwater Creek (FPID 416748-2)
  - Gulf to Bay, segment 2 (FPID 410911-2)
  - Any other impacts raised by Team members



## Other FDOT Impacts for Brief Discussion (Time Permitting)





# **NWFWMD Mitigation Project Updates**

**Other Business or Concerns**



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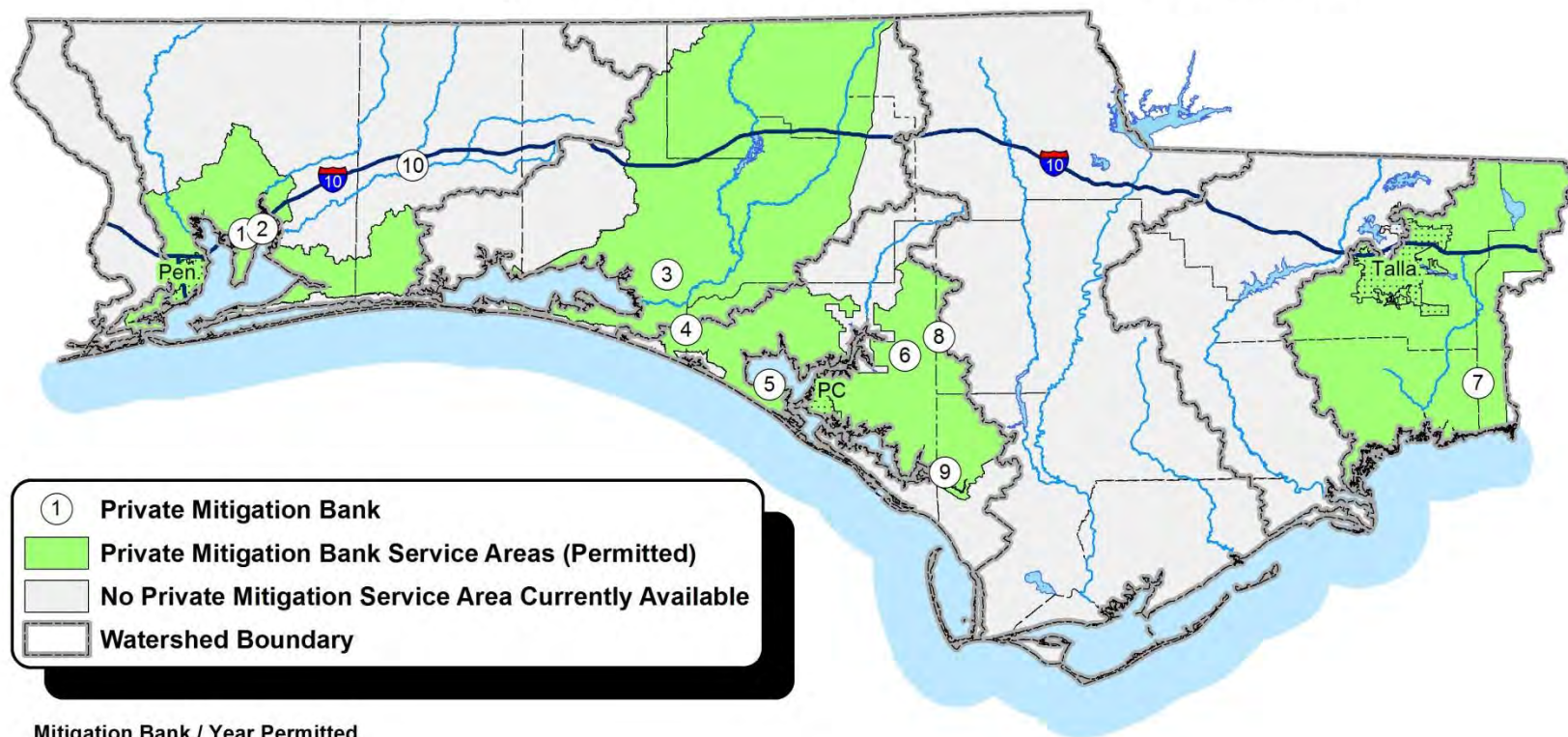
# Wrap Up





# **Appendix Maps**

## Private Mitigation Bank Service Areas in Northwest Florida

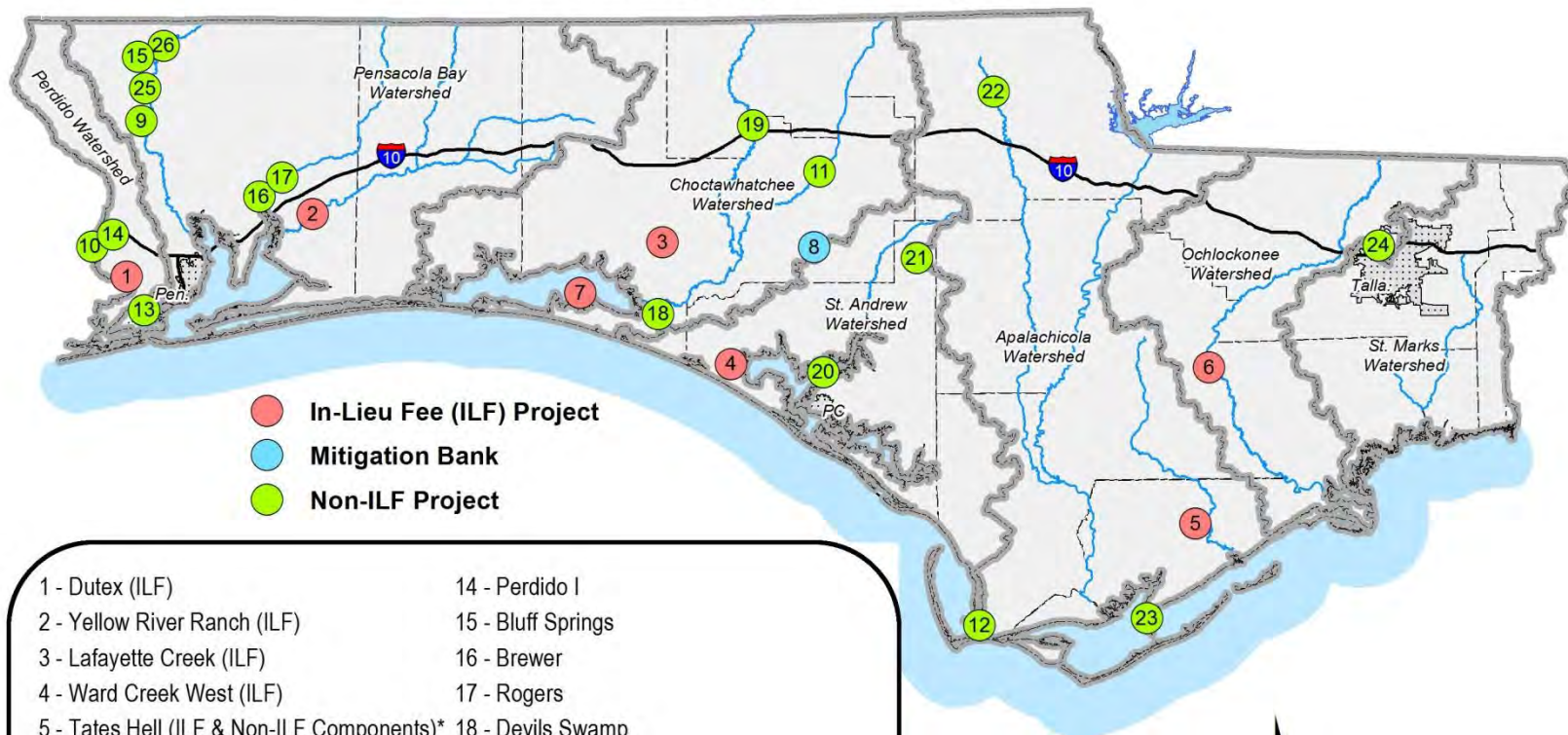


### Mitigation Bank / Year Permitted

- 1 - Pensacola Bay Mitigation Bank, 2009
- 2 - Garcon Peninsula Mitigation Bank, 2001
- 3 - Nokuse Plantation Mitigation Bank, 2011
- 4 - Devils Swamp Mitigation Bank, 2010 (Mod)
- 5 - Breakfast Point Mitigation Bank, 2011 (Mod)
- 6 - Sweetwater Mitigation Bank, 2009
- 7 - St. Marks Mitigation Bank, 2011
- 8 - Bear Creek Mitigation Bank (Proposed; MSA Not Shown)
- 9 - Horseshoe Creek Mitigation Bank (Under Development; MSA Not Shown)
- 10 - Gin Hole Mitigation Bank (Proposed; MSA Not Shown)

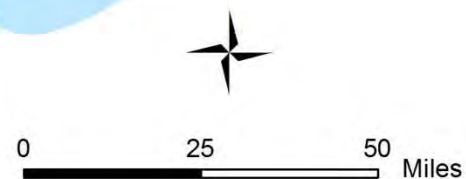


# NFWFMD Mitigation Program



- |   |   |
|---|---|
| 1 - Dutex (ILF)                             | 14 - Perdido I                                |
| 2 - Yellow River Ranch (ILF)                | 15 - Bluff Springs                            |
| 3 - Lafayette Creek (ILF)                   | 16 - Brewer                                   |
| 4 - Ward Creek West (ILF)                   | 17 - Rogers                                   |
| 5 - Tate's Hell (ILF & Non-ILF Components)* | 18 - Devils Swamp                             |
| 6 - Shuler (ILF)                            | 19 - Choctawhatchee-Caryville                 |
| 7 - Live Oak (ILF & Non-ILF Components)     | 20 - Lynn Haven Breakwater                    |
| 8 - Sand Hill Lakes (Mitigation Bank)       | 21 - Juniper Creek Headwaters Preserve        |
| 9 - Cotton Creek                            | 22 - Bellamy (Calhoun Co. Airport Mitigation) |
| 10 - Perdido II                             | 23 - Cat Point Breakwater                     |
| 11 - Plum Creek                             | 24 - Meginniss Arm                            |
| 12 - St. Joseph Bay State Buffer Preserve*  | 25 - Mystic Springs                           |
| 13 - Jones Swamp (Schluter Parcel)          | 26 - Salters Lake                             |

\*Multiple Projects





# CHOCTAWHATCHEE BASIN ALLIANCE

OF NORTHWEST FLORIDA STATE COLLEGE

## LIVING SHORELINE TECHNIQUES IN CHOCTAWHATCHEE BAY

Alison McDowell

Director

Choctawhatchee Basin Alliance

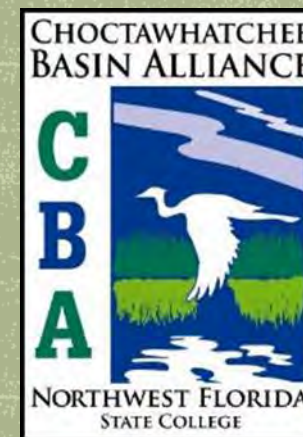






# Mission Statement

The Choctawhatchee Basin Alliance (CBA) is a non-profit organization responsible for sustaining healthy local waterways through monitoring, education, restoration and research.





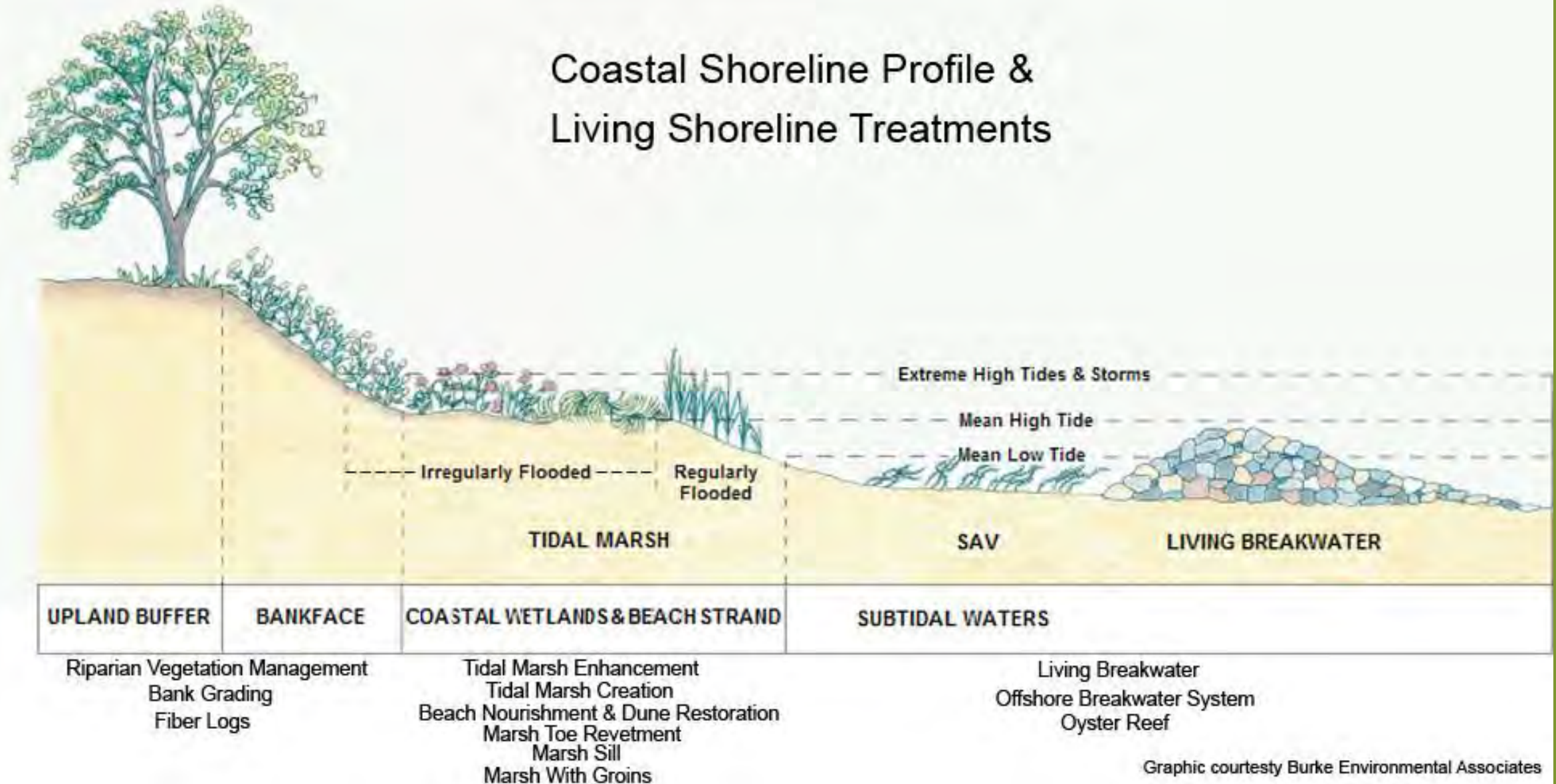
# CBA Program Areas



**Monitoring, Education, Research, and Restoration**



# Coastal Shoreline Profile & Living Shoreline Treatments



Graphic courtesy Burke Environmental Associates



## HOW GREEN OR GRAY SHOULD YOUR SHORELINE SOLUTION BE?

### GREEN - SOFTER TECHNIQUES

### GRAY - HARDER TECHNIQUES

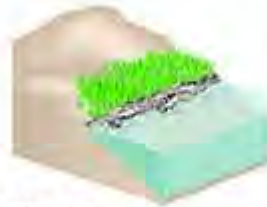
#### *Living Shorelines*



**VEGETATION ONLY -**  
Provides a buffer to upland areas and breaks small waves. Suitable for low wave energy environments.



**EDGING -**  
Added structure holds the toe of existing or vegetated slope in place. Suitable for most areas except high wave energy environments.



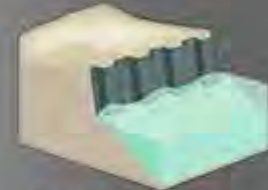
**SILLS -**  
Parallel to vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments.



**BREAKWATER -**  
(vegetation optional) - Offshore structures intended to break waves, reducing the force of wave action, and encourage sediment accretion. Suitable for most areas.



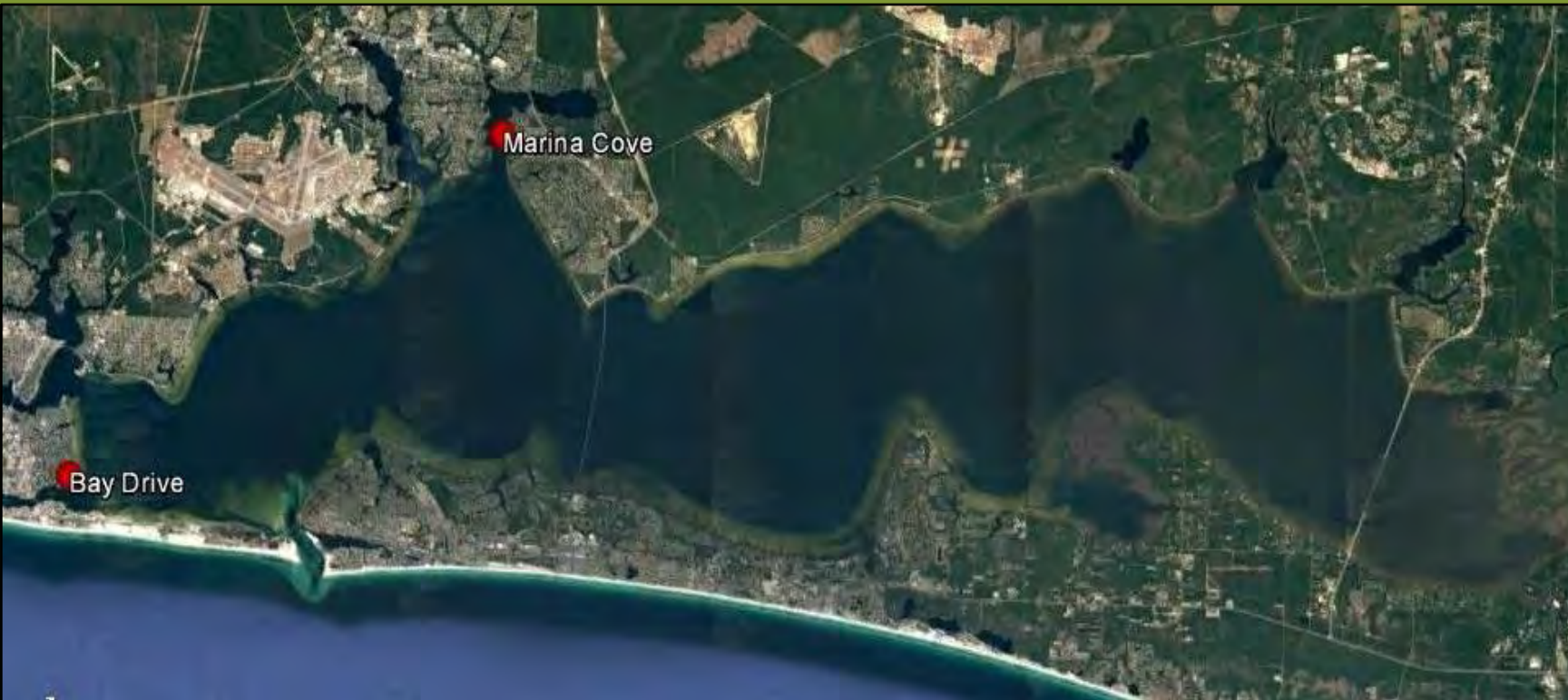
**REVETMENT -**  
Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with existing hardened shoreline structures.



**BULKHEAD -**  
Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for high energy settings and sites with existing hard shoreline structures.







## Phase I: Loose Shell Reefs

In partnership with FDEP

Bay Drive and Marina Cove reefs were built in 2006

Subtidal reefs were constructed from loose shell collected from local restaurants

Within 25 feet of the shoreline



# Phase I: Reef Success

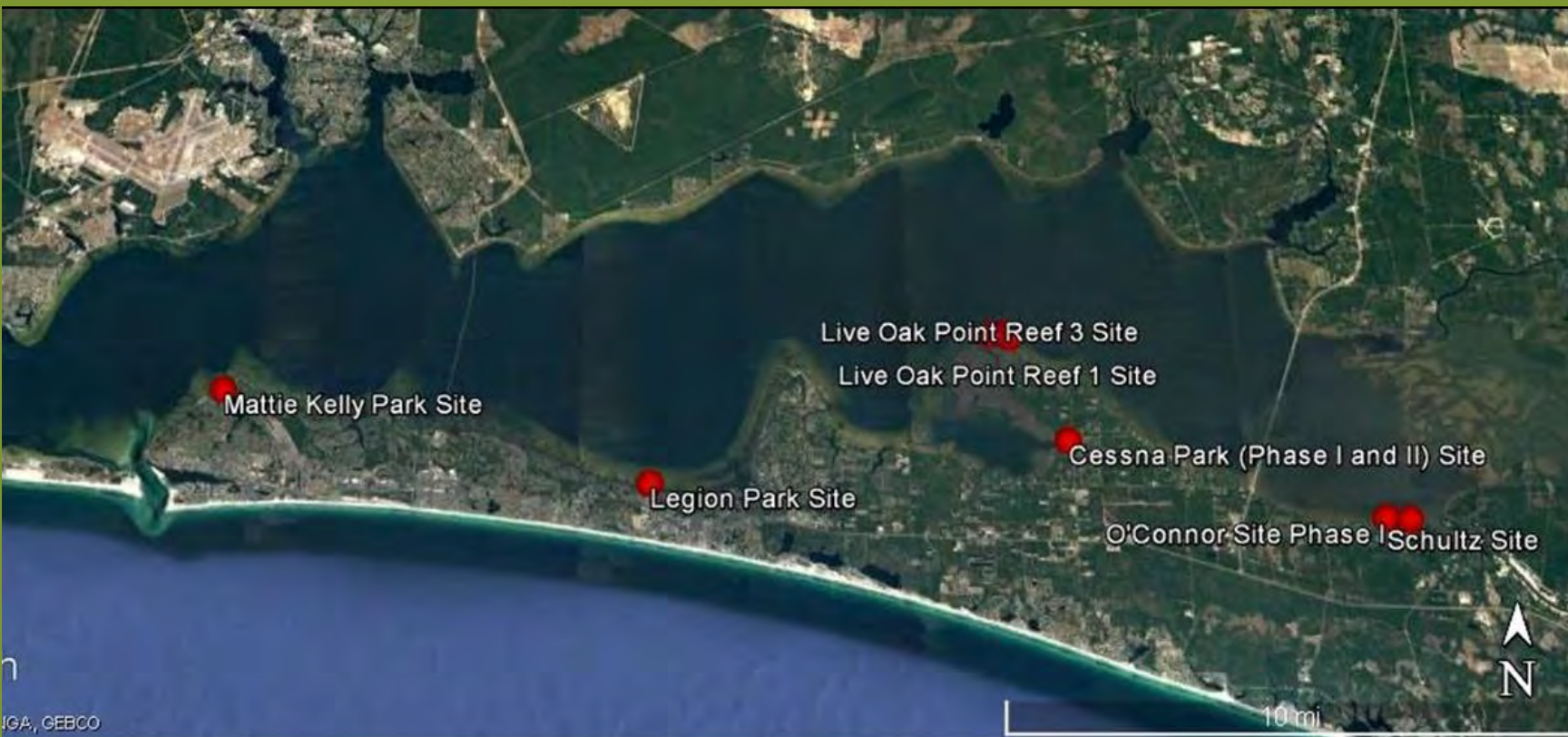
Phase I reef after deployment



Phase I reef at 3 years







## Phase II: Straight Bagged Shell Reefs

2009 – 2012

Intertidal reefs were constructed using fossilized oyster shell in mesh bags

Within 20 feet of the shoreline





# Phase II: Reef Success

Phase II Reef 6 months after deployment



Phase II reef after 1 ½ years



Phase II reef after 3 years





# Phase II: Variations

O'Connor

Straight reef sections with breaks



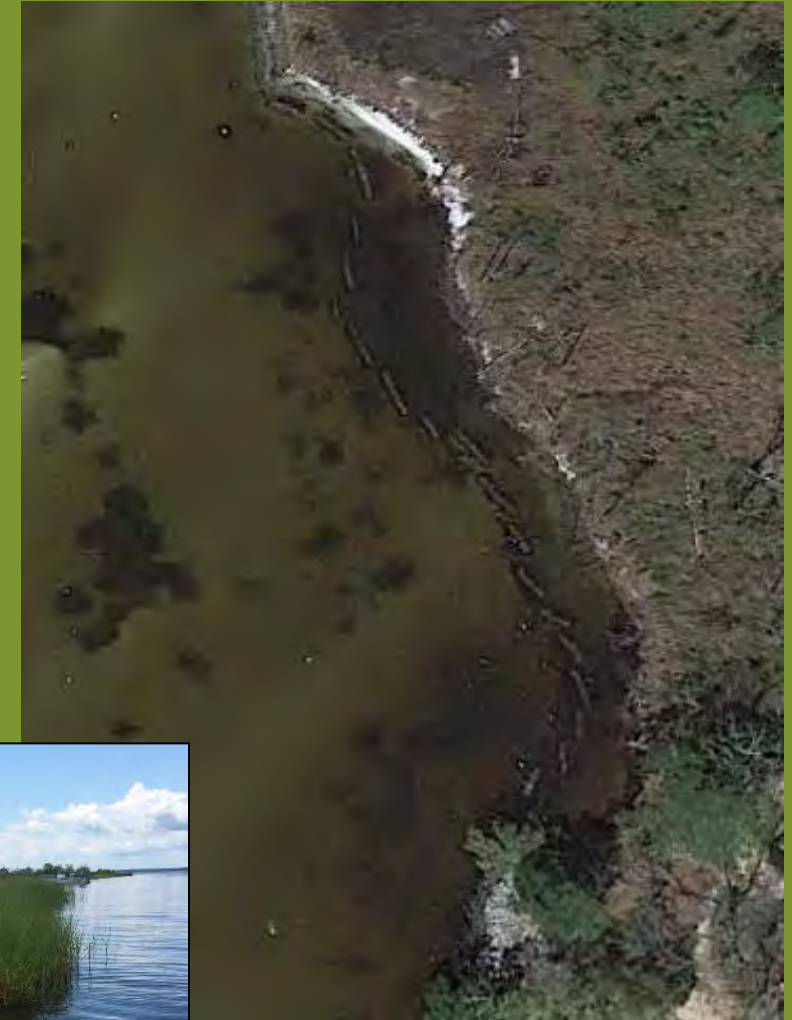
Live Oak Point

Straight reef sections with sub-reefs at breaks



Marina Cove

Shorter overlapping angled reef sections



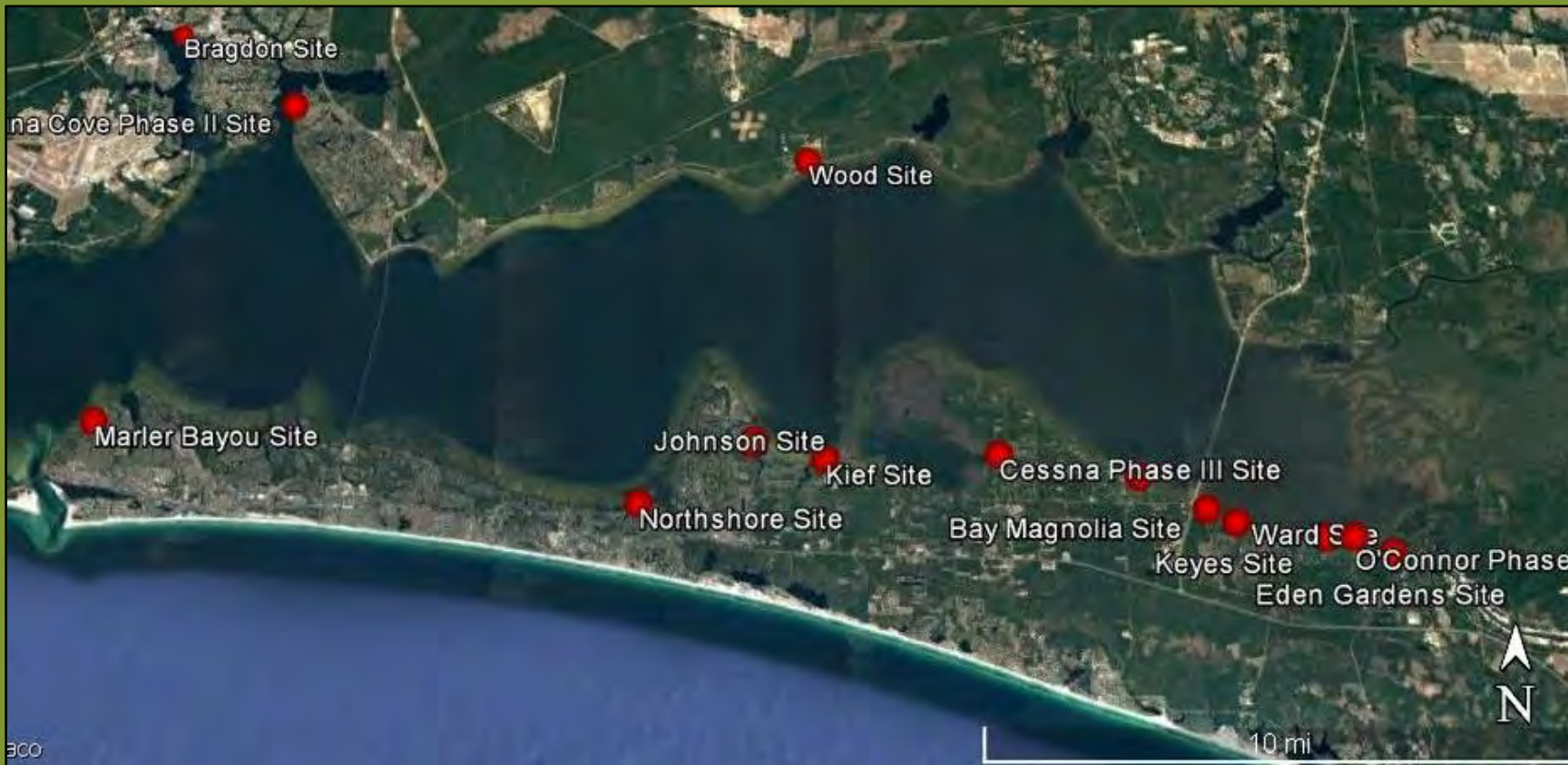
November 2012



July 2016







## Phase III: Alternating Crescent Bagged Shell Reefs

2013 – Present

Intertidal reefs are constructed using recycled or fossilized oyster shell in mesh bags

Within 15 feet of the shoreline, with 3 foot breaks between every 20 linear feet of reef





# Phase III: Structural Adaptations







## Phase III: Reef Success

Extreme low tide shows that curved reef sections with offset breaks allow for less shoreline scouring than the straight sections.

Reefs still allow for good oyster settlement.





# Planting Adaptations





# Planting Adaptations: Site Comparison



May 2014



May 2015

Poquito Bayou Boat Ramp Site





# Shoreline Contouring with Coir Logs



January 2015



September 2015



May 2016

January 2015



August 2015







# Experimental Living Shoreline Techniques

Gabion-sized limestone (unbagged) used  
to construct reef sections.

First used January 2018.

Oversized, unbagged fossilized oyster  
shell pieces used to create a loose-shell  
breakwater.

Section on right constructed in April  
2016







## Potential costs

CBA building costs range from \$40-\$75 per linear foot of shoreline, depending on design, materials, and accessibility of the site. Because of materials needed plus remote location of Live Oak Point, a shoreline like the one pictured would most likely cost \$65-\$70 per foot.

1100 feet of shoreline \* 40 feet of depth = ~ 1 acre

@\$70/ft, 1 acre = \$77,000





# Questions?

