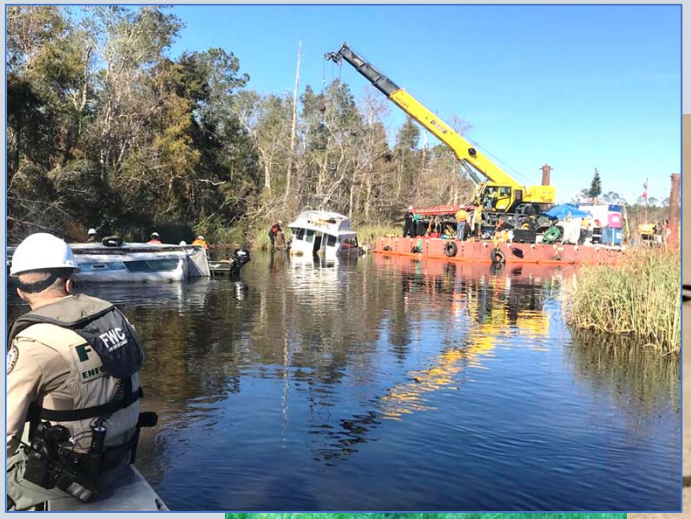
Hurricane Michael ESF-10
Environmental Unit

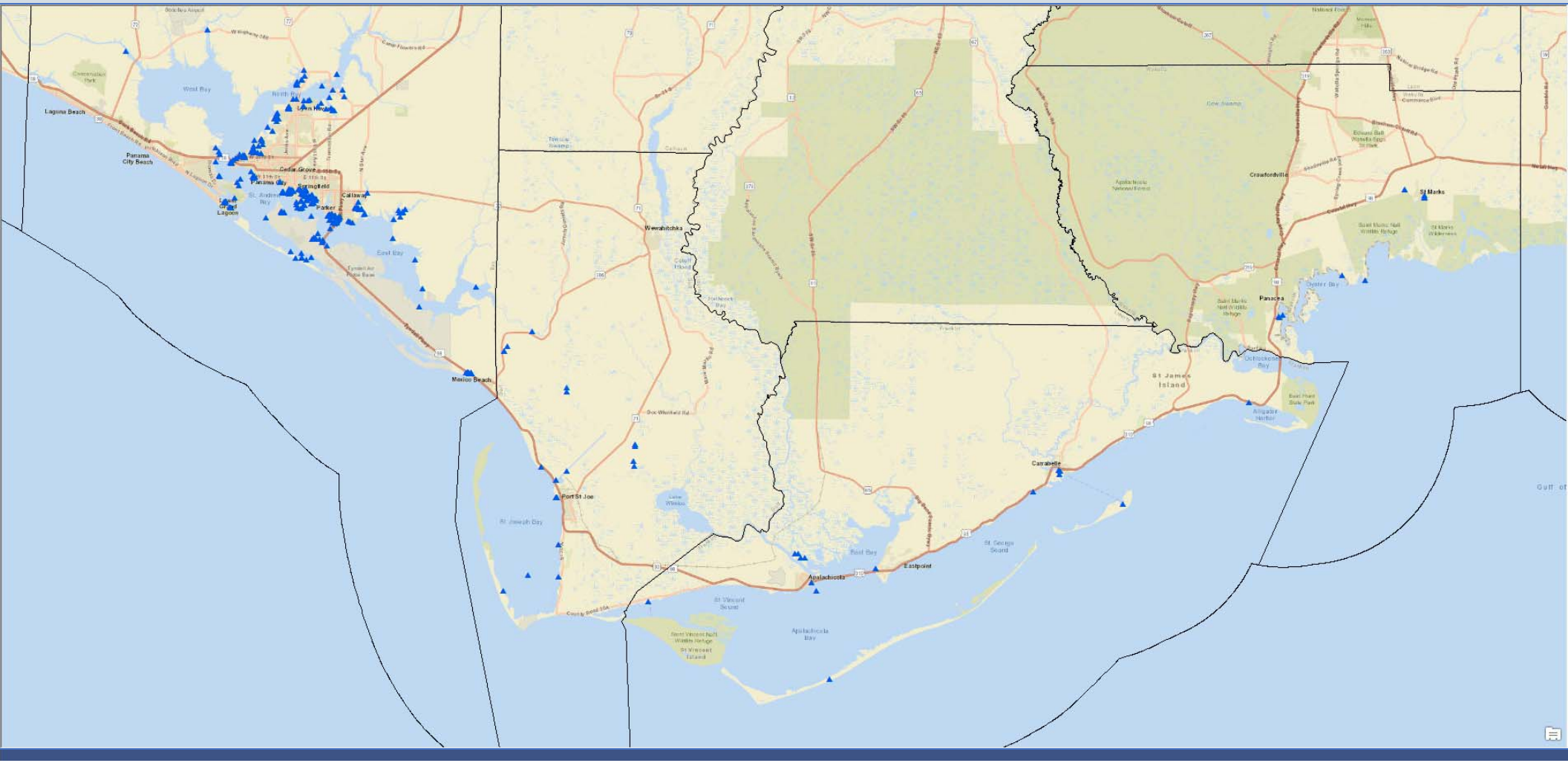



FWC

ESF-10 Environmental Unit Functions

- Resources at Risk for AOR
- Agency Consultations and Coordination
- Development of Best Management Practices
- Permitting
- Identification of Vessels in Sensitive Sites
- Electronic EU Consultation (ArcCollector)
- On-Scene Resource Advisors
- Staging/Storage Area Site Assessments
- Environmental Training and Job Aids

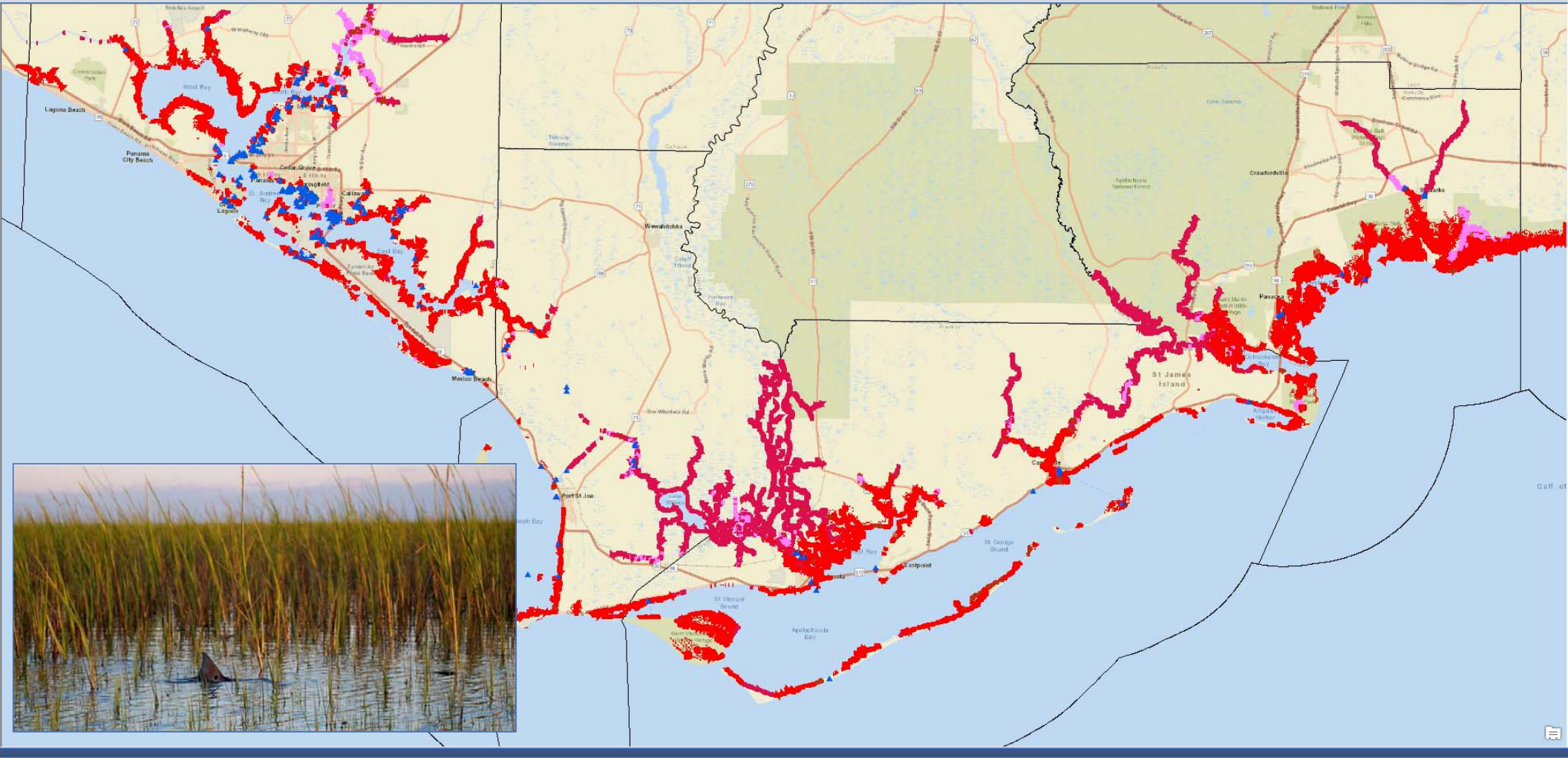
Targets After Initial Assessment



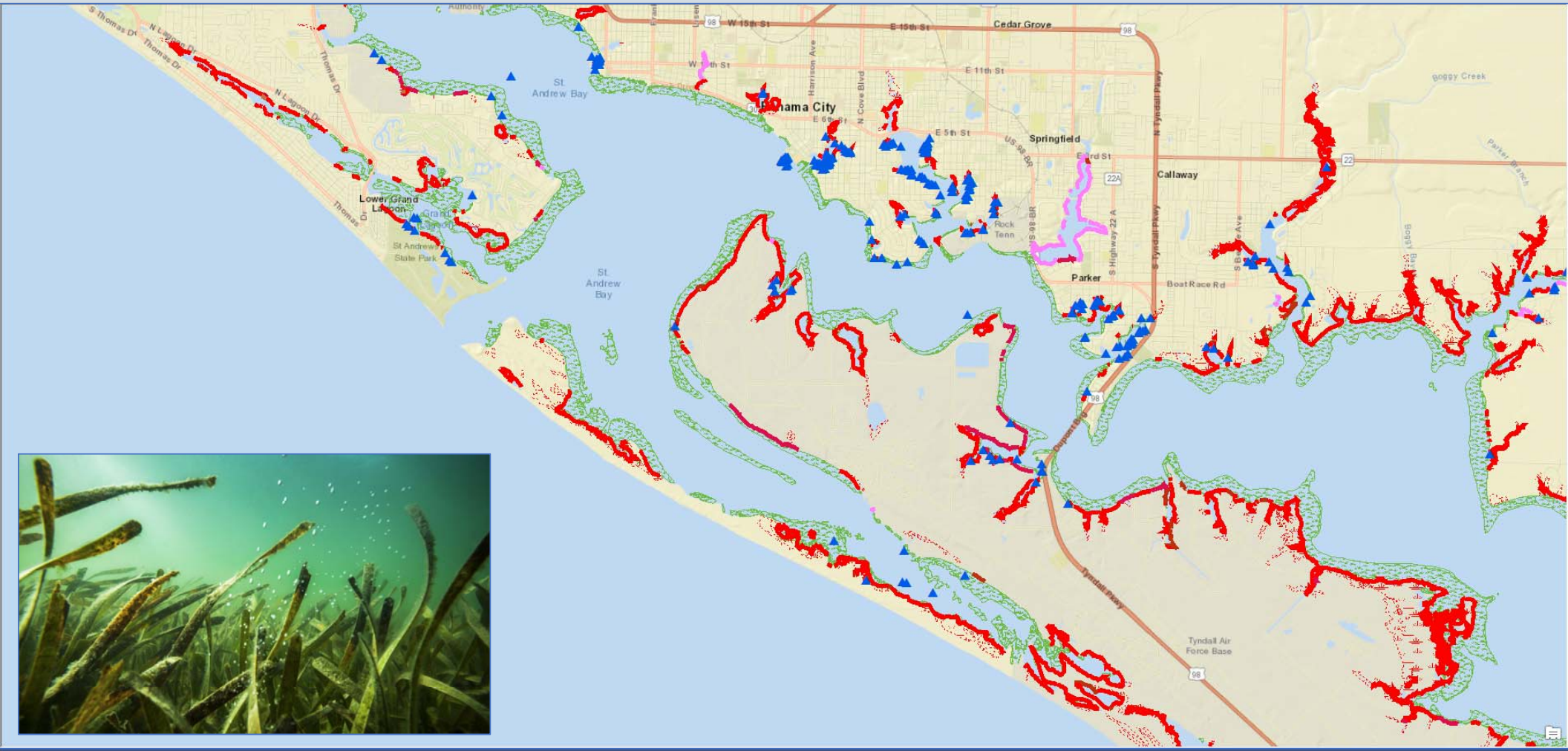
Sensitive Site Criteria

- ESI-10 Shorelines
- Saltmarsh
- Seagrass
- Oyster Beds
- Aquatic Preserves
- State Parks
- State Critical Wildlife Areas
- National Estuarine Research Reserves
- State Historic Preservation Office sites
- National Wildlife Refuges
- Federal Critical Habitats

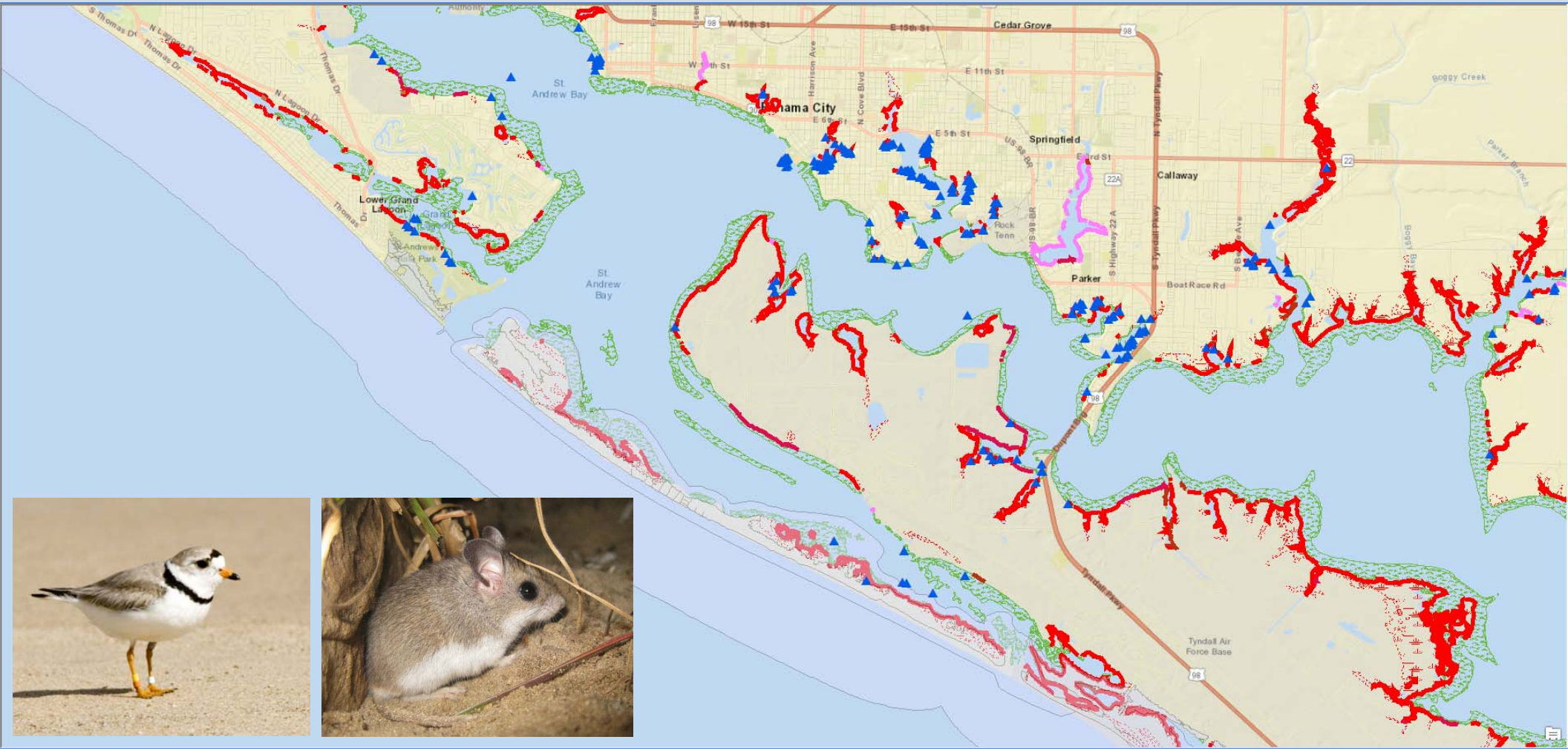
Sensitive Site Criteria – ESI 10 Shorelines



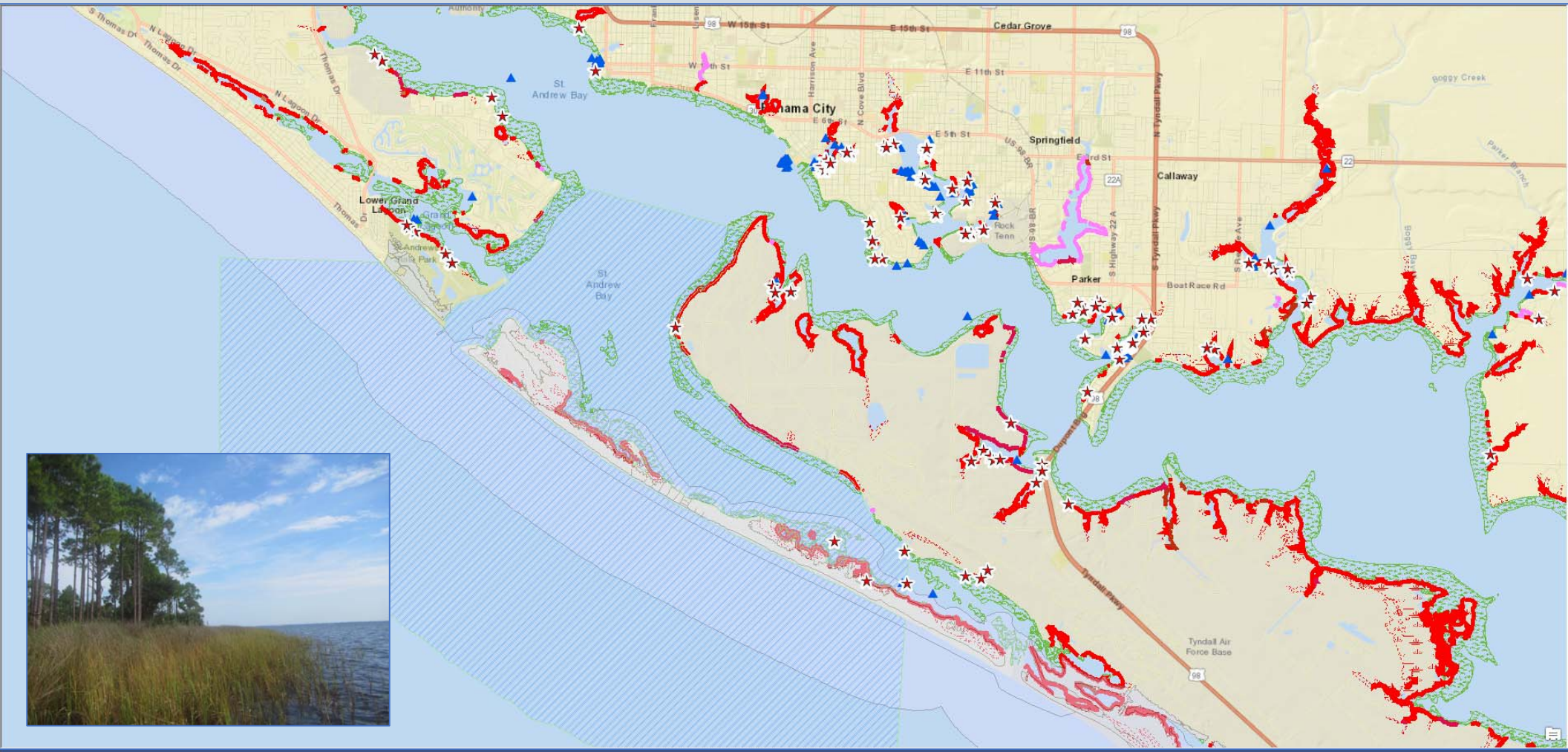
Sensitive Site Criteria - Seagrasses

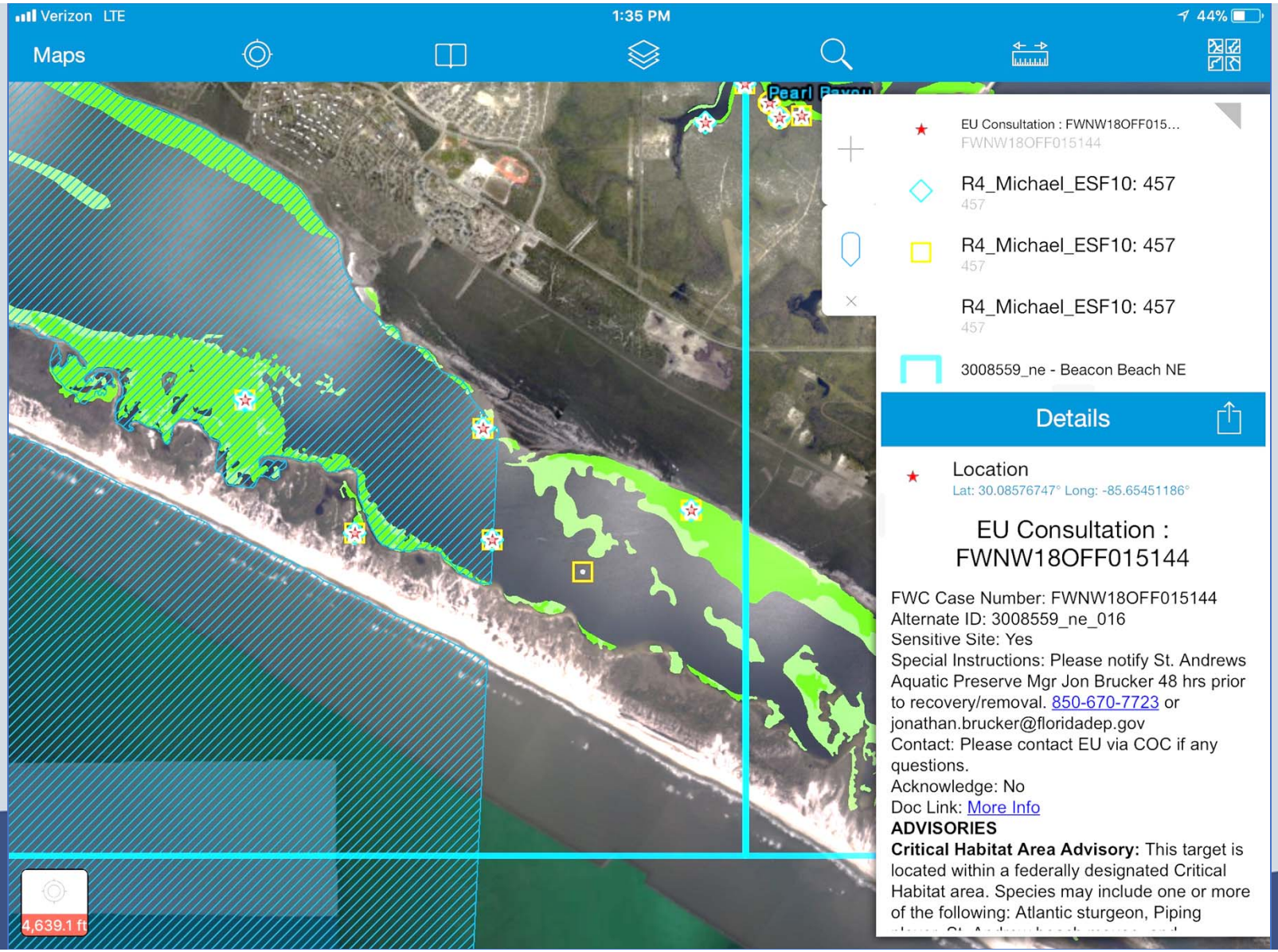


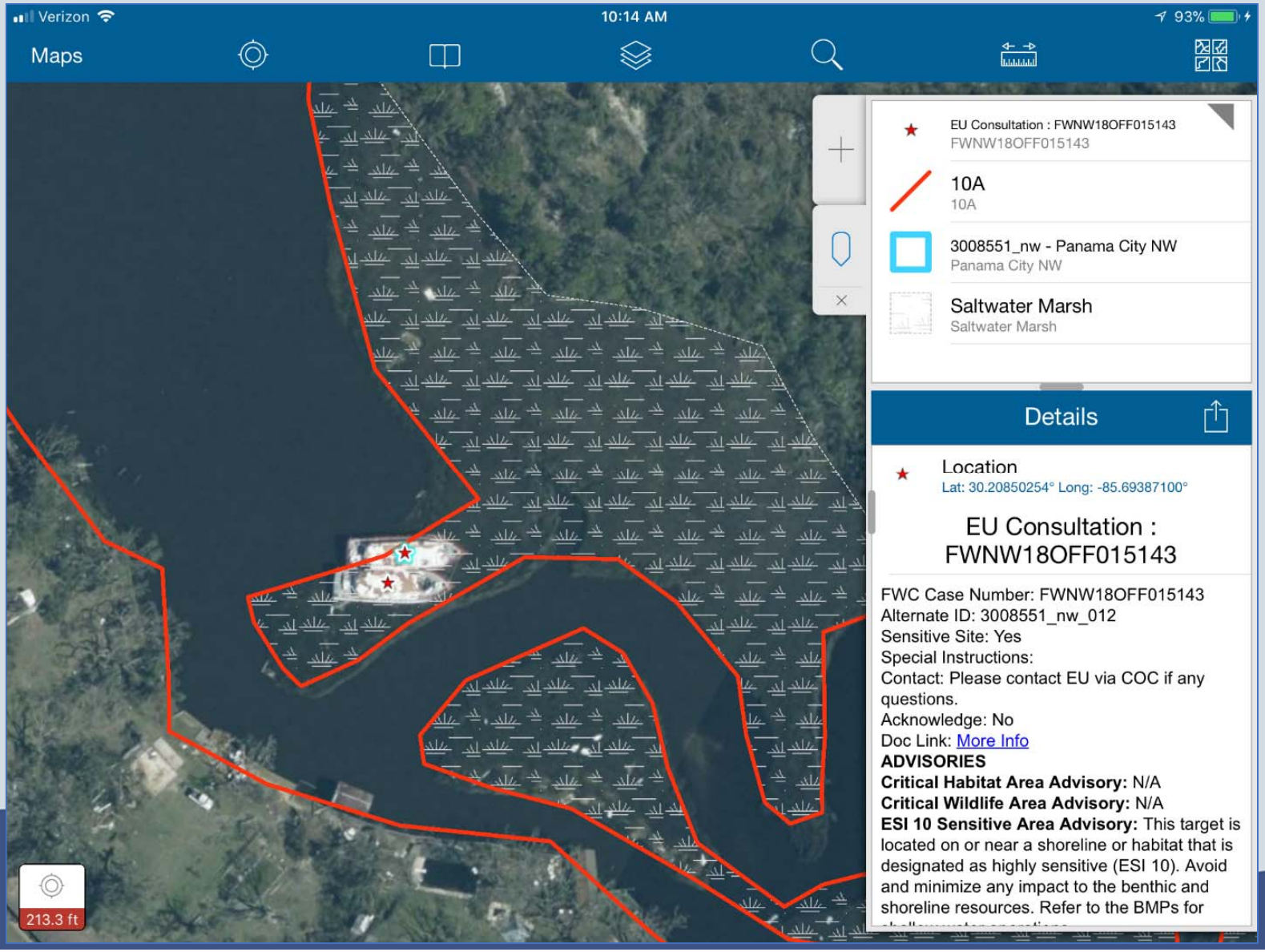
Sensitive Site Criteria
Critical Habitats for Endangered Species



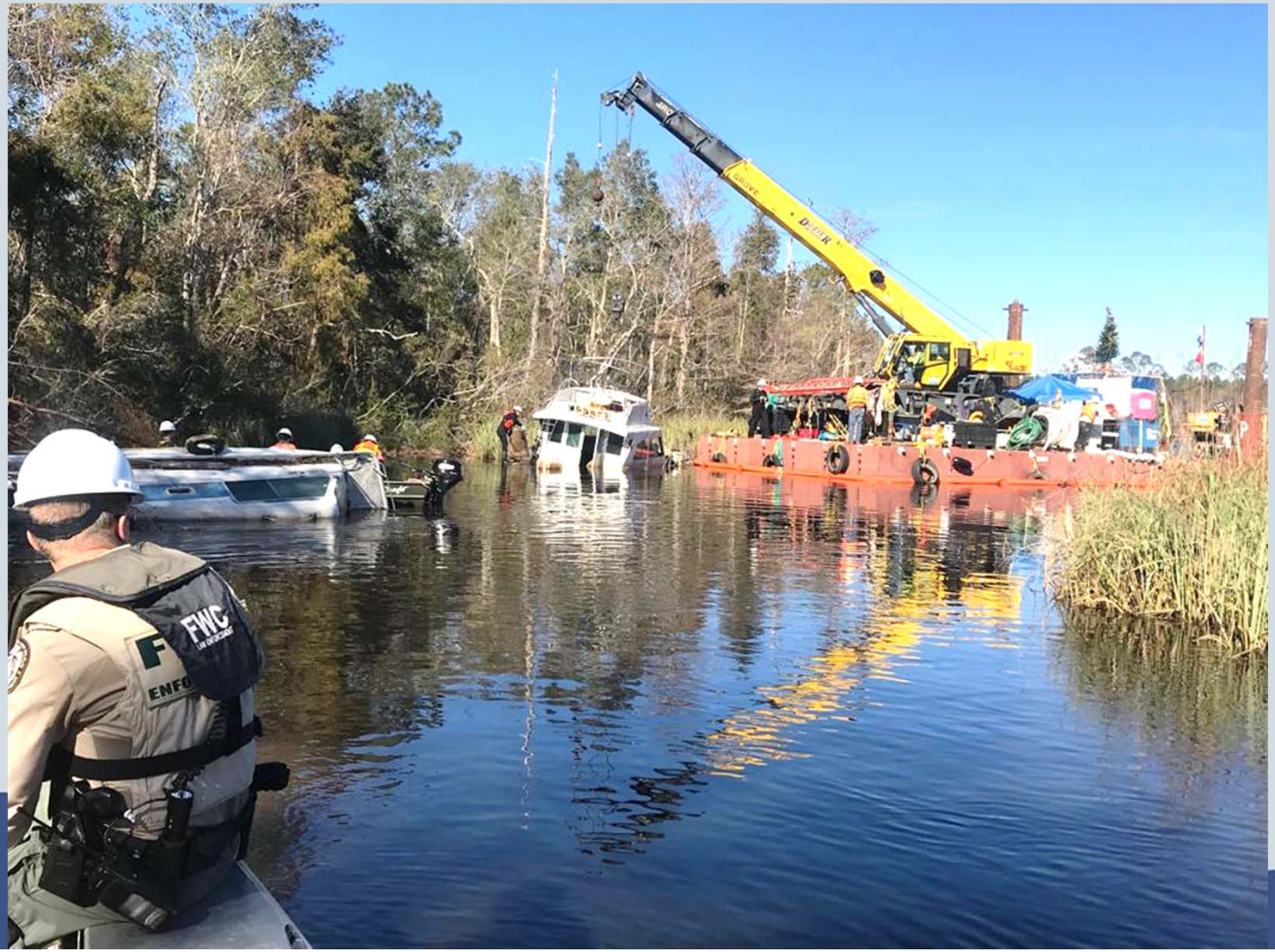
Sensitive Site Criteria – Aquatic Preserves




Verizon LTE
1:35 PM
44%
Maps
Pearl Bayou
EU Consultation : FWNW18OFF015...
FWNW18OFF015144
R4_Michael_ESF10: 457
457
R4_Michael_ESF10: 457
457
R4_Michael_ESF10: 457
457
3008559_ne - Beacon Beach NE
Details
Location
Lat: 30.08576747° Long: -85.65451186°
EU Consultation : FWNW18OFF015144
FWC Case Number: FWNW18OFF015144
Alternate ID: 3008559_ne_016
Sensitive Site: Yes
Special Instructions: Please notify St. Andrews Aquatic Preserve Mgr Jon Brucker 48 hrs prior to recovery/removal. 850-670-7723 or jonathan.brucker@floridadep.gov
Contact: Please contact EU via COC if any questions.
Acknowledge: No
Doc Link: More Info
ADVISORIES
Critical Habitat Area Advisory: This target is located within a federally designated Critical Habitat area. Species may include one or more of the following: Atlantic sturgeon, Piping
4,639.1 ft


Verizon
10:14 AM
93%
Maps
EU Consultation : FWNW18OFF015143
FWNW18OFF015143
10A
10A
3008551_nw - Panama City NW
Panama City NW
Saltwater Marsh
Saltwater Marsh
Details
Location
Lat: 30.20850254° Long: -85.69387100°
EU Consultation : FWNW18OFF015143
FWC Case Number: FWNW18OFF015143
Alternate ID: 3008551_nw_012
Sensitive Site: Yes
Special Instructions:
Contact: Please contact EU via COC if any questions.
Acknowledge: No
Doc Link: More Info
ADVISORIES
Critical Habitat Area Advisory: N/A
Critical Wildlife Area Advisory: N/A
ESI 10 Sensitive Area Advisory: This target is located on or near a shoreline or habitat that is designated as highly sensitive (ESI 10). Avoid and minimize any impact to the benthic and shoreline resources. Refer to the BMPs for
213.3 ft

Vessel Removals from Sensitive Sites



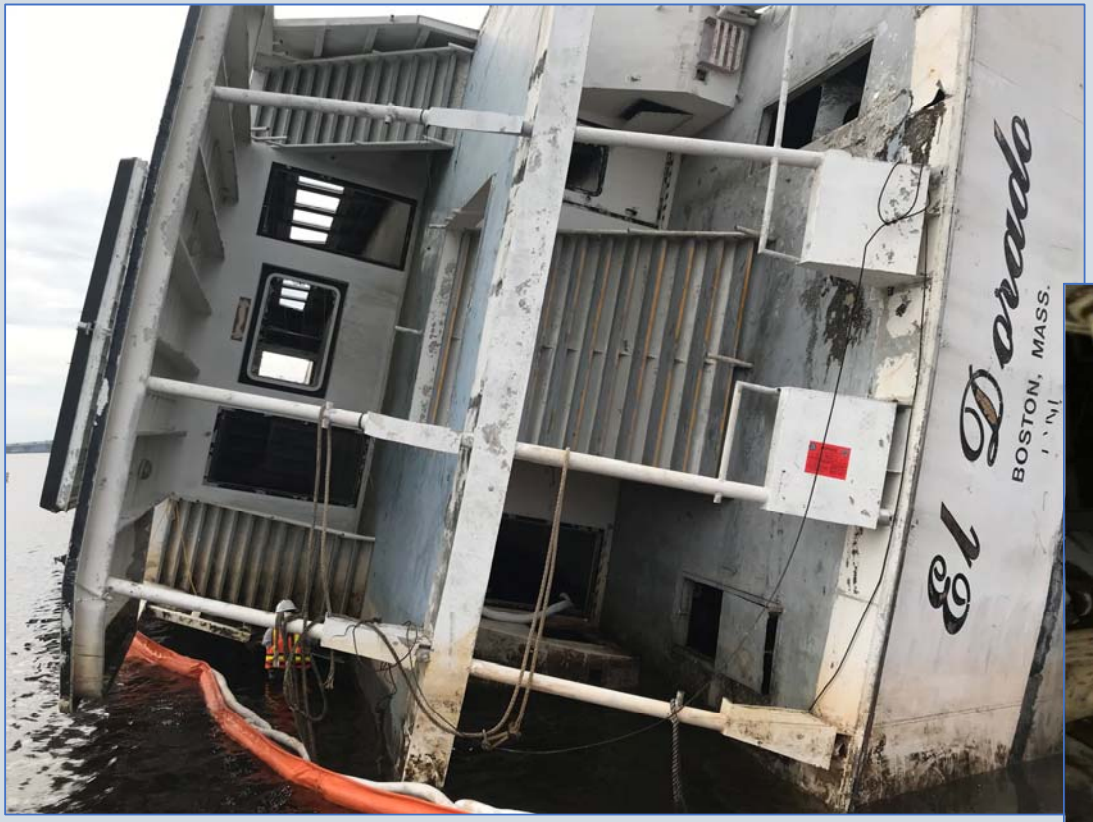
Apalachicola National Estuarine Research Reserve

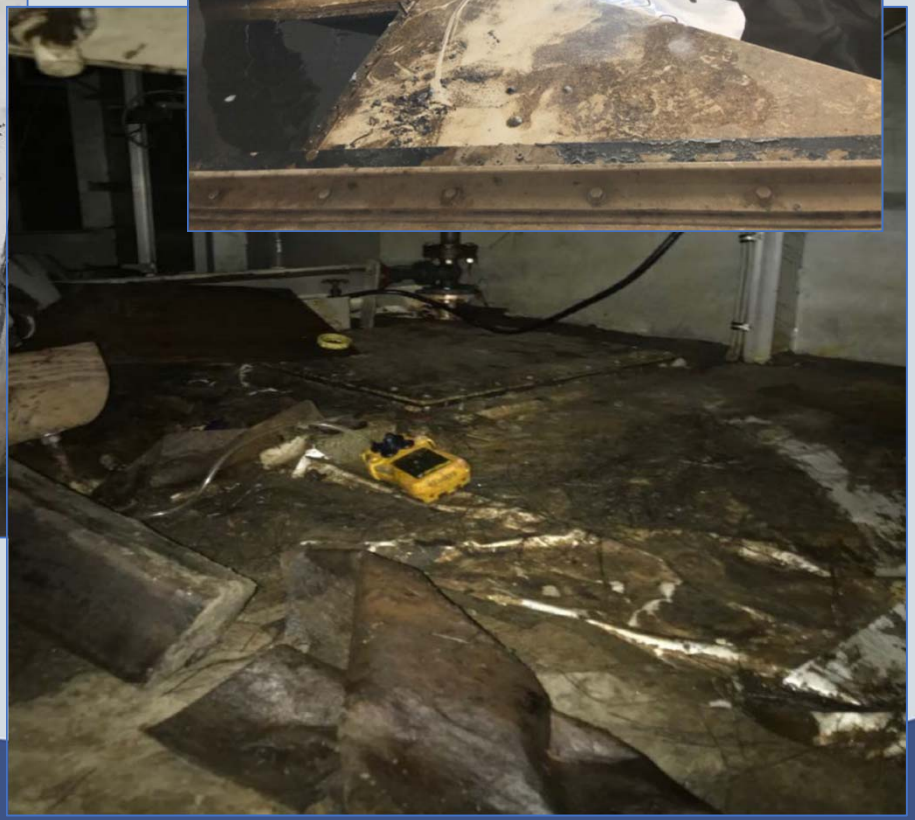
St. Joseph Bay Aquatic Preserve

El Dorado – 144’ Dinner Boat – 225 Tons

ESF-10 Criteria

- In State Waters? *Yes.*
- Sensitive Site? *Yes*
- Insured? *No.*
- Pollutants?
  - Fuel Tanks?
  - Engine Oil?
  - Transmission Oil?
  - Hydraulic Oil?
  - Refrigerants?
  - Asbestos?


El Dorado
BOSTON, MASS.



Salvage Plan

GLOBAL
Diving & Salvage, Inc.

HURRICANE MICHAEL RESPONSE
Salvage Plan
M/Y EL DORADO

Date: January 9, 2019 Rev 3

Submitted By:
Global Diving & Salvage, Inc.
3880 Greenhouse Road, Suite 108
Houston, TX 77084
281-206-9036

By:
Kerry Walsh
Signed / Dated: 9 January 2019
Global Diving & Salvage, Inc.

Approved:

FOSCR:
Signature:_____ Date/Time:_____

SOSCR:
Signature:_____ Date/Time: _____

Confidentiality Statement

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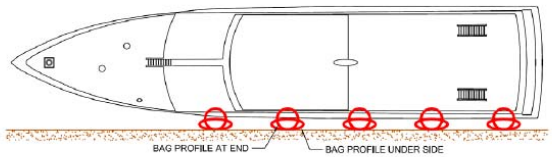


4.5 Pulling Casualty to Deeper Water

The force to drag the vessel from its present location to deeper water is estimated to be a maximum of 70 tons. The coefficient of friction of sand on steel underwater should be between 0.3 and 0.4. The roller bags will greatly reduce this force. Global estimates that the roller bags will reduce the required pulling force down to roughly 15 tons. However, in order to rotate the vessel and get it started on top of the bags Global would like to have 70 tons of pulling capability on hand. This extra pulling capability should be plenty to remove it from its current location with the mud piled up around it, while also using airbags as needed to lift the vessel and break suction.

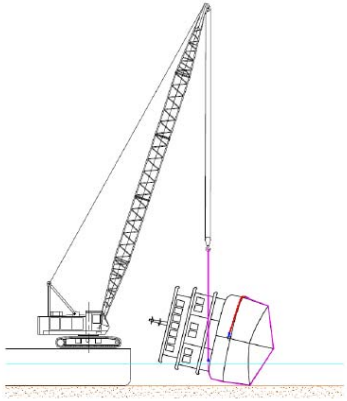
The water between the casualty and the drop off is only 2 to 3 feet deep meaning that man power and small boats can be used to move the bags from the stern of the EL DORADO back to the bow as the vessel is pulled toward deeper water. Once the EL DORADO is moved to deep water and into the parbuckle location messenger lines will be placed under the hull to pull the parbuckle rigging through. When the rigging is in place the roller bags will be deflated and pulled out from underneath the hull. During the deflation care will be taken to not create a slope that might allow the vessel to slide on the roller bags by monitoring and controlling the pressure in the roller bags.

After the El Dorado is pulled to the U-805 and safely away from the seagrass, the U-805 will pump out ballast, refloat, pull spuds, and rotate 90 degrees to be stern to the top side of the EL DORADO. This is done to reduce the working radius of the crane for the parbuckle and refloat.

4.6 Parbuckling

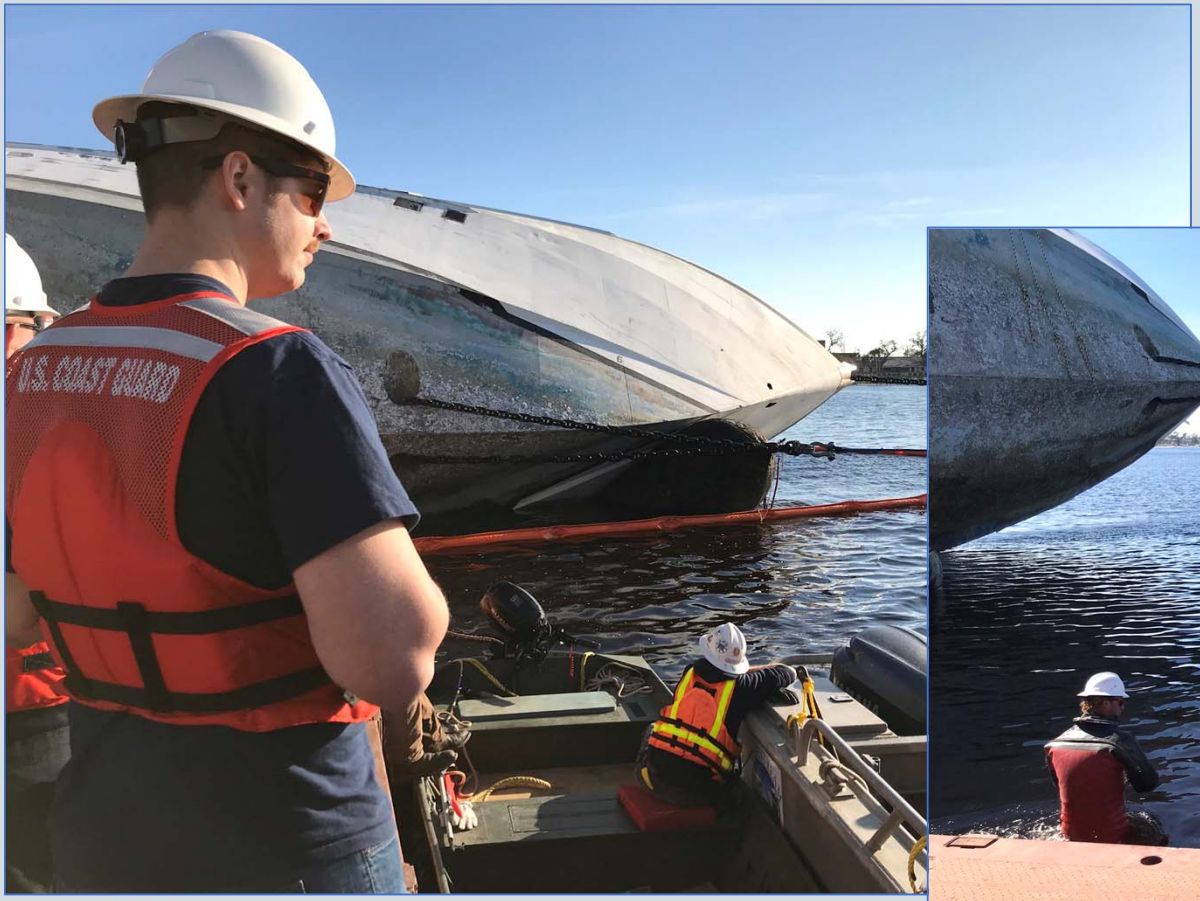
In order to parbuckle the vessel the salvage team will pull rigging underneath the hull. This rigging will then wrap over the deck of the vessel allowing the vessel to roll upright as tension is brought on by the crane. The parbuckling force is estimated to be 70 tons based on a combination of engineering calculations and previous experience with similar vessels. The figure below shows the intended rigging arrangement for parbuckle. The rigging for parbuckle will consist of a 35 ton shackle through the two parbuckle padeyes connecting two a piece of 1-3/4" chain to a second 35 ton shackle to synthetic slings

to a third 35 ton shackle and finally to another pair of synthetic slings. The chain will be used to get from the centerline of the deck to the gunnel. At the gunner the transition will be made to soft slings. Softeners will be used and care will be taken as tension is brought up to prevent the synthetic slings from cutting. After parbuckle, rigging will be arranged to prevent the EL DORADO from rolling away from the stern of the U-805.



4.7 Pumping Out and Refloating

After the EL DORADO is parbuckled, the salvage team will pump out the vessel to regain buoyancy. This will be done with a combination of 3" and 2" diesel powered trash pumps. As buoyancy is restored and the vessel begins to refloat the crane will keep steady pressure on the hull to prevent free surface effects from capsizing the vessel. The EL DORADO only has small tanks, so it is not planned to pump out tanks during this step. After the vessel is floating freely the tanks can be pumped out to further reduce draft if necessary.

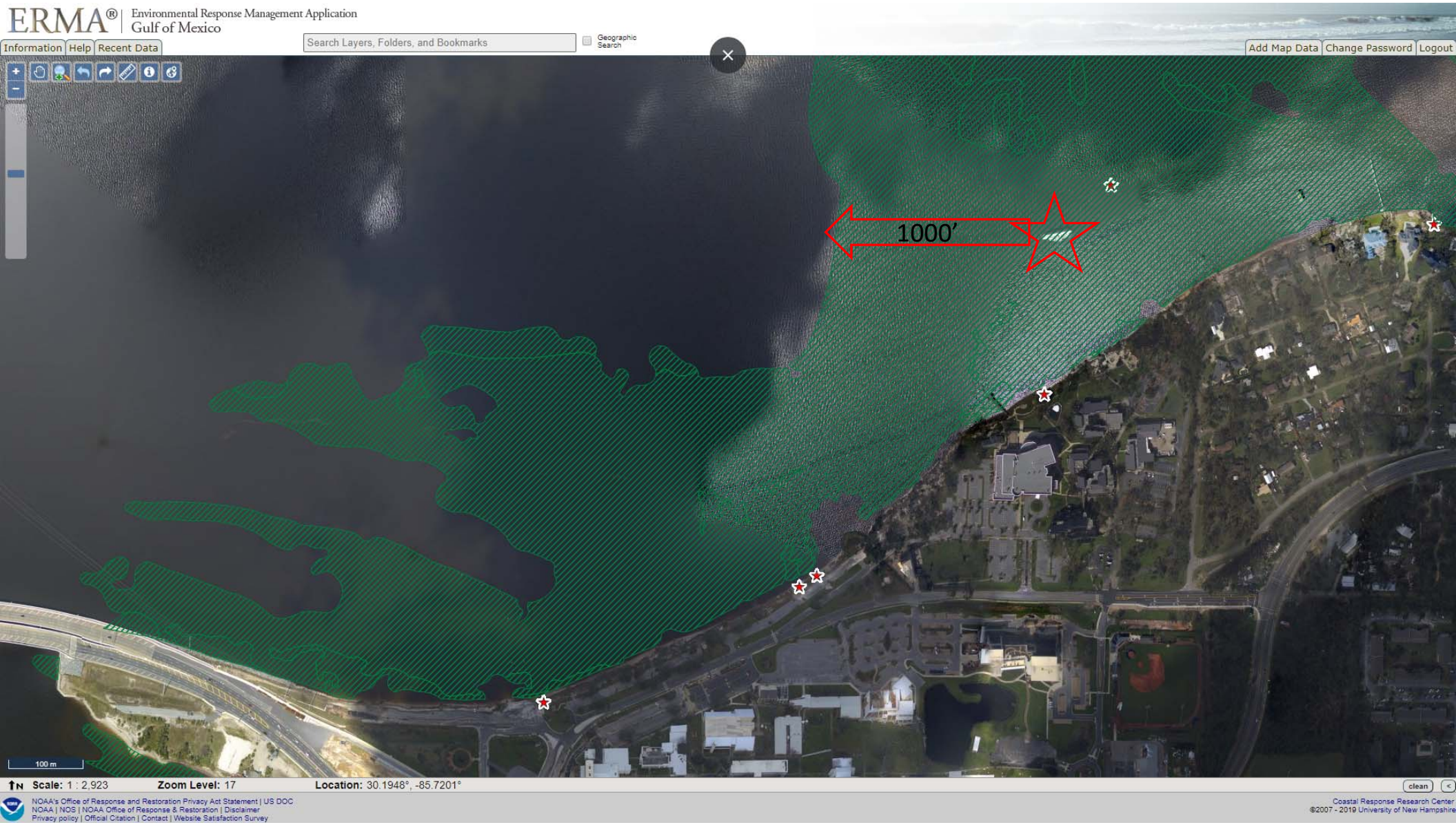

U.S. COAST GUARD


U.S. COAST GUARD

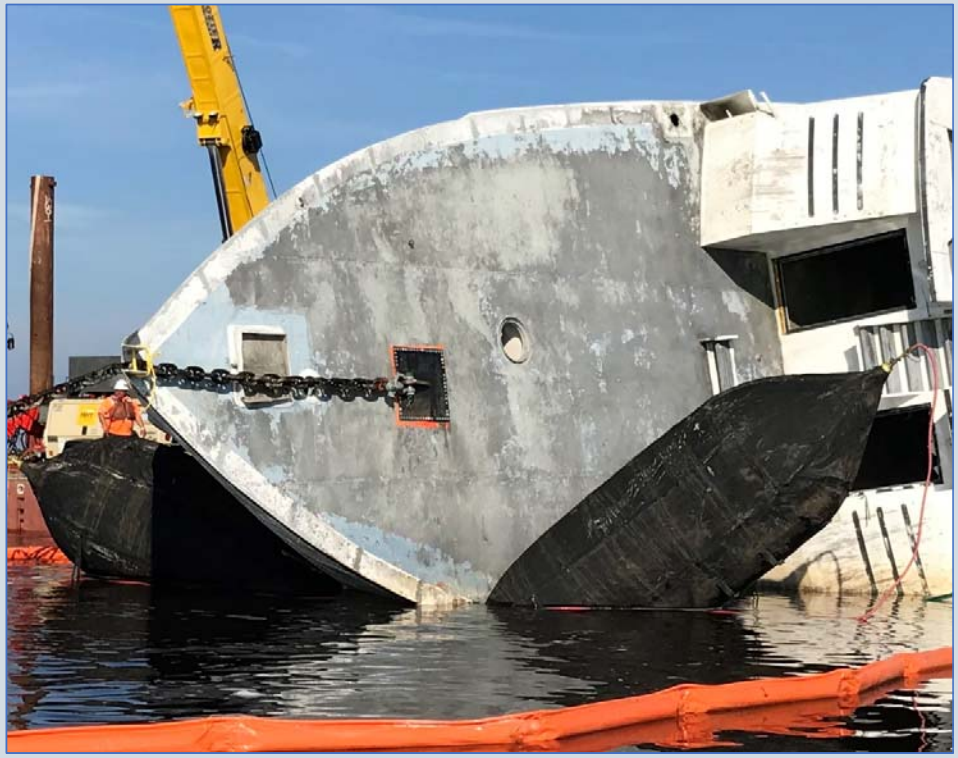
Permits

- DEP State Lands and Environmental Resources Permitting
  - Emergency Field Authorization
- US Army Corps of Engineers, Regulatory Division
  - Seagrass/Seafloor Impacts
  - Essential Fish Habitat

US Army Corps of Engineers ®
Jacksonville District

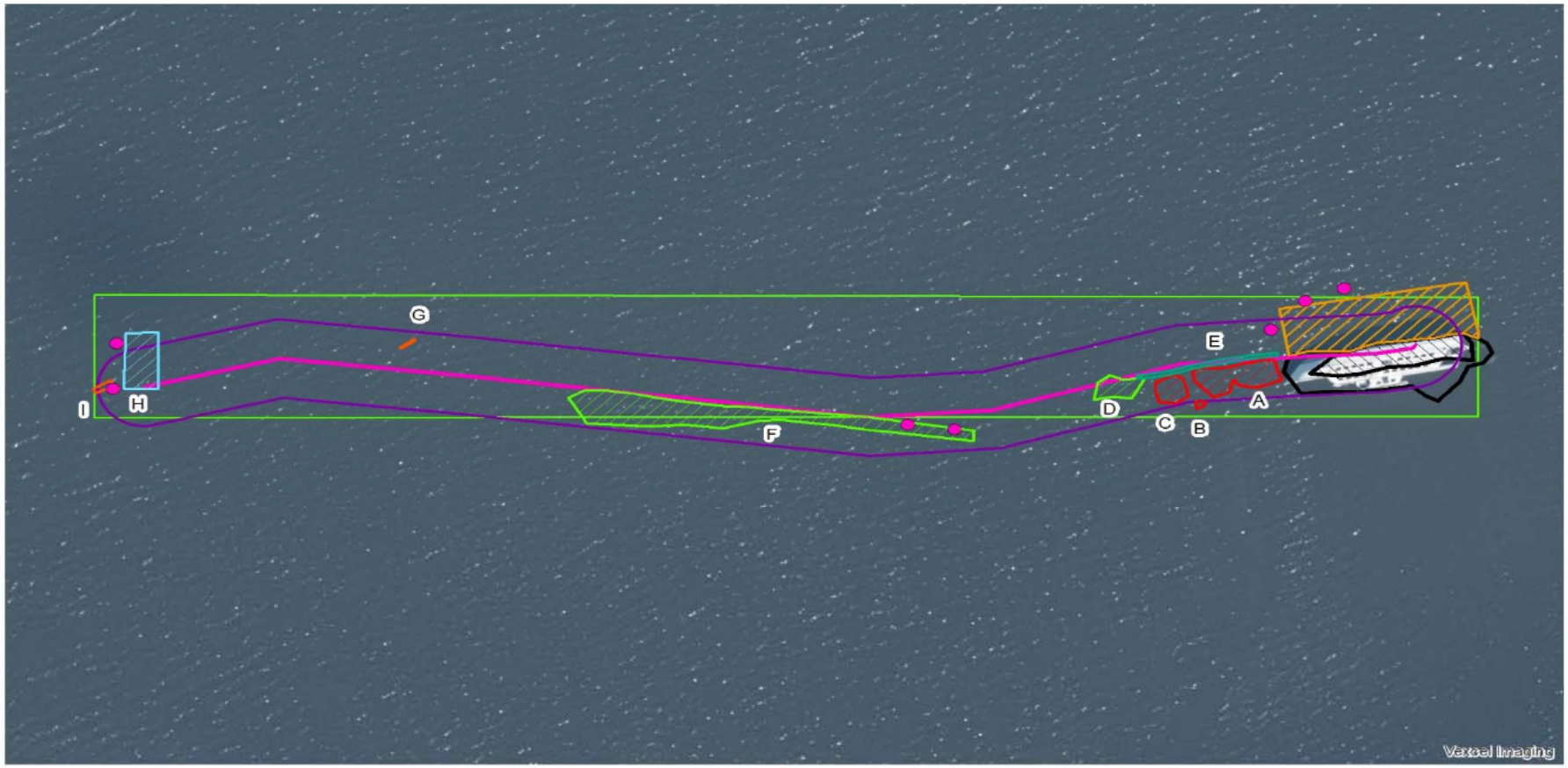

ERMA®
Environmental Response Management Application
Gulf of Mexico
Information
Help
Recent Data
Search Layers, Folders, and Bookmarks
Geographic Search
Add Map Data
Change Password
Logout
1000'
100 m
Scale: 1 : 2,923
Zoom Level: 17
Location: 30.1948°, -85.7201°
clean
NOAA's Office of Response and Restoration Privacy Act Statement | US DOC
NOAA | NOS | NOAA Office of Response & Restoration | Disclaimer
Privacy policy | Official Citation | Contact | Website Satisfaction Survey
Coastal Response Research Center
©2007 - 2019 University of New Hampshire


HAPPY
HOLIDAYS




DRUM 1
DRUM 2

The Parbuckle



M/V El Dorado Removal
Post Remova Impact Assessment

Assessment conducted under the following permits:
USACE permit #SAJ-2019-00089
FDEP Emergency Field Authorization # 0371817-001-EE/03

N

0 10 20 Meters

0 100 200 Feet

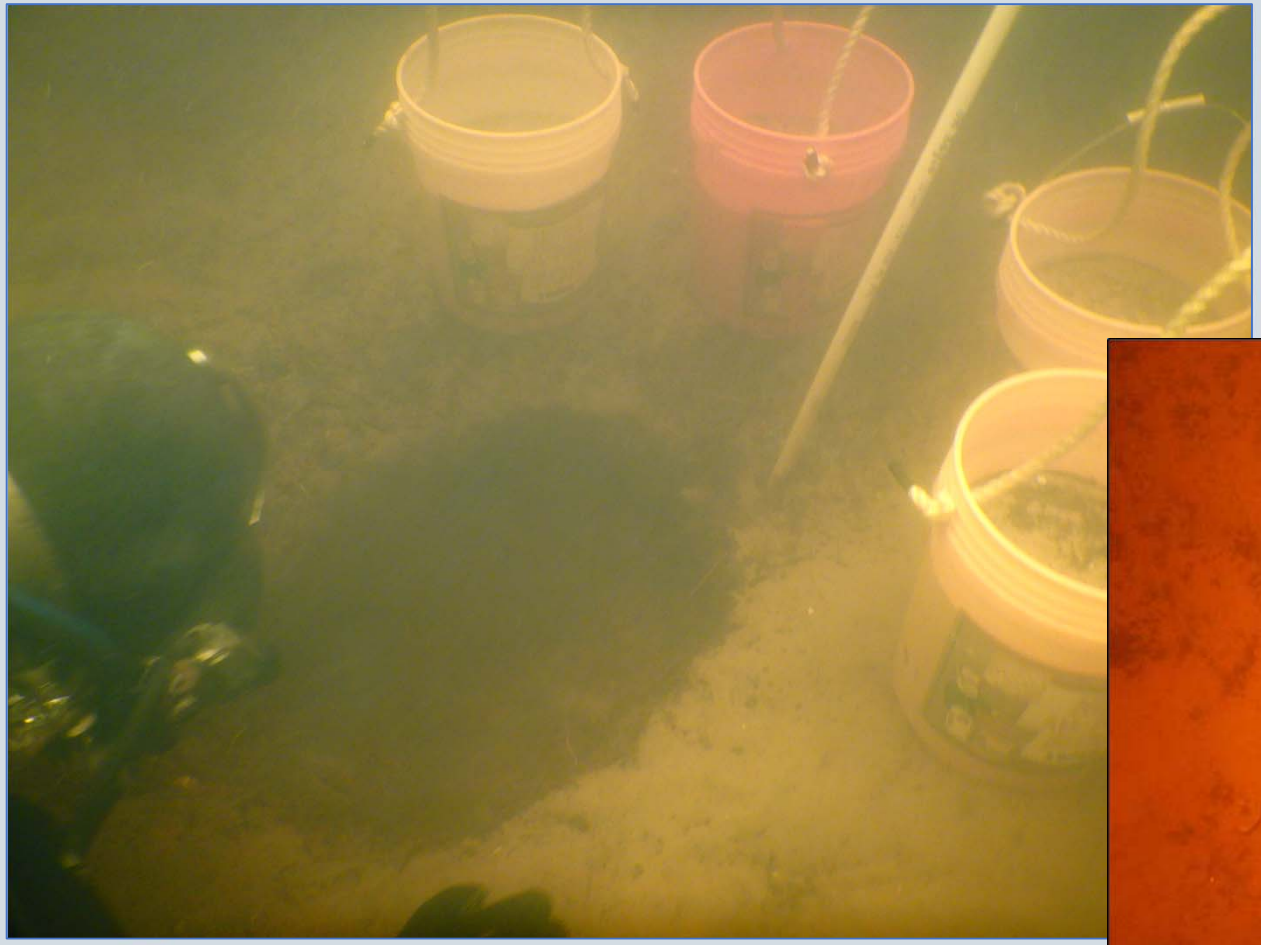
Legend

ESF-10 response related impact features

- Sand deposits
- Substrate Disturbance
- Vessel / barge scar
- Vessel removal scar
- Barge grounding
- Spud Holes

Hurricane Related Impacts - Non ESF-10

- Existing disturbed area
- Original El Dorado scar
- Original El Dorado blowout deposits
- Seagrass survey (pre-vessel removal)
- Actual extraction path centerline
- Extraction path buffer (35 ft each side)

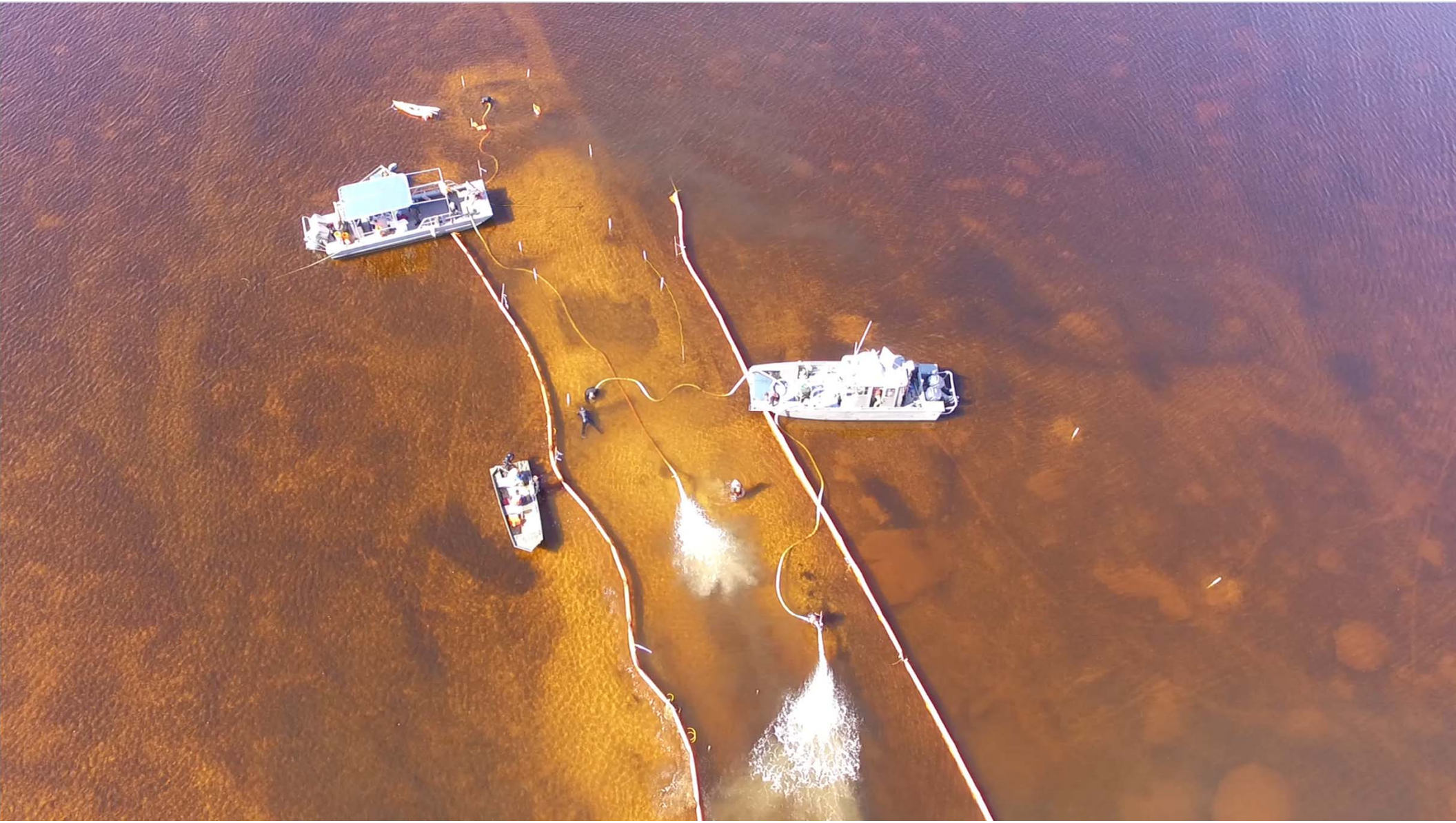


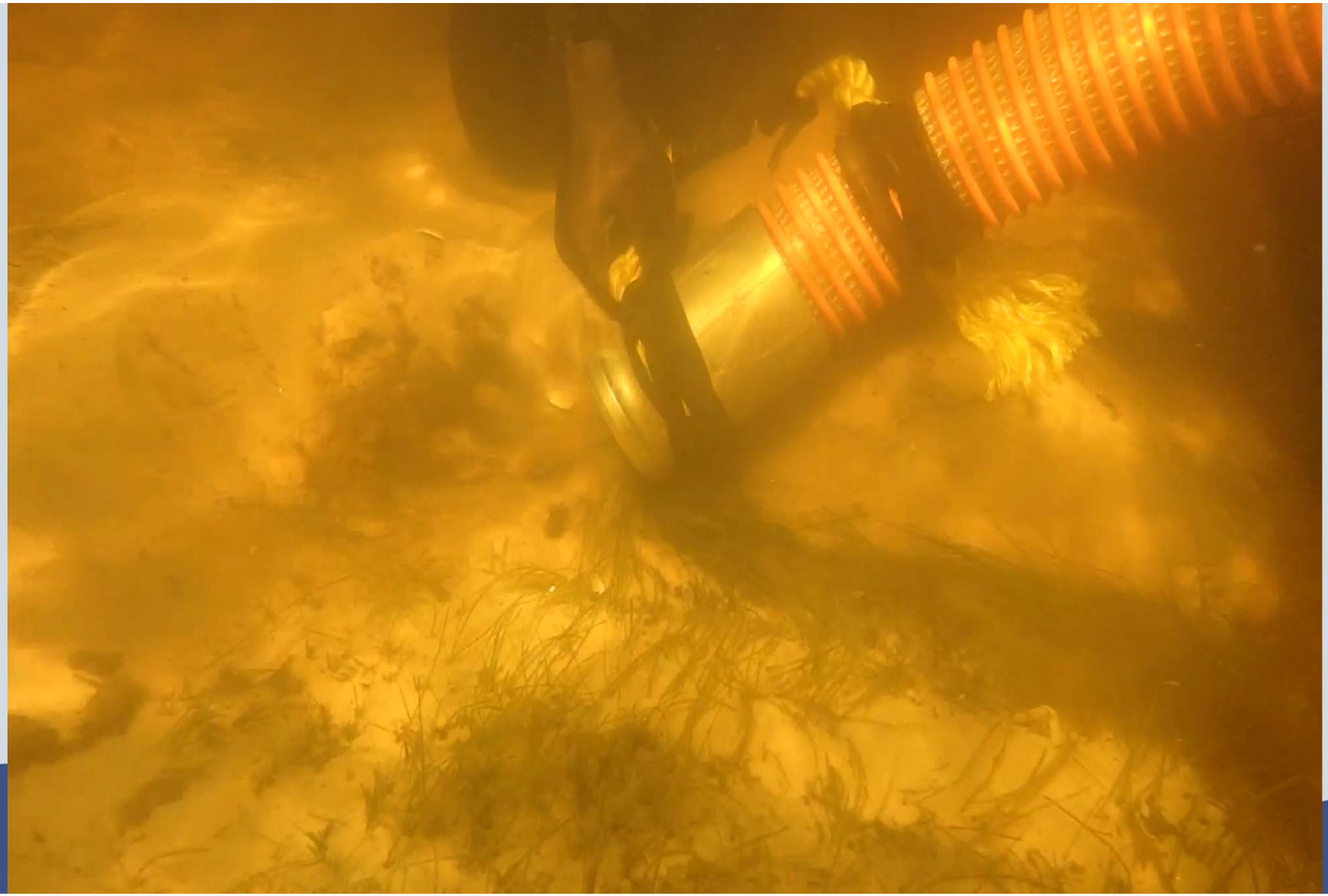
Divers filling spud hole from Heavy 1 Barge

Same spud hole after filling to natural grade


YAMAHA


INVERTER
EU3000is
HONDA





Thank You!

Timyn Rice
State SSC
FWC/FWRI
727-896-8626
Timyn.Rice@MyFWC.com