Oyster Reef Monitoring and Potential Enhancement Activities on the Florida Springs Coast

Southwest Florida Water Management District

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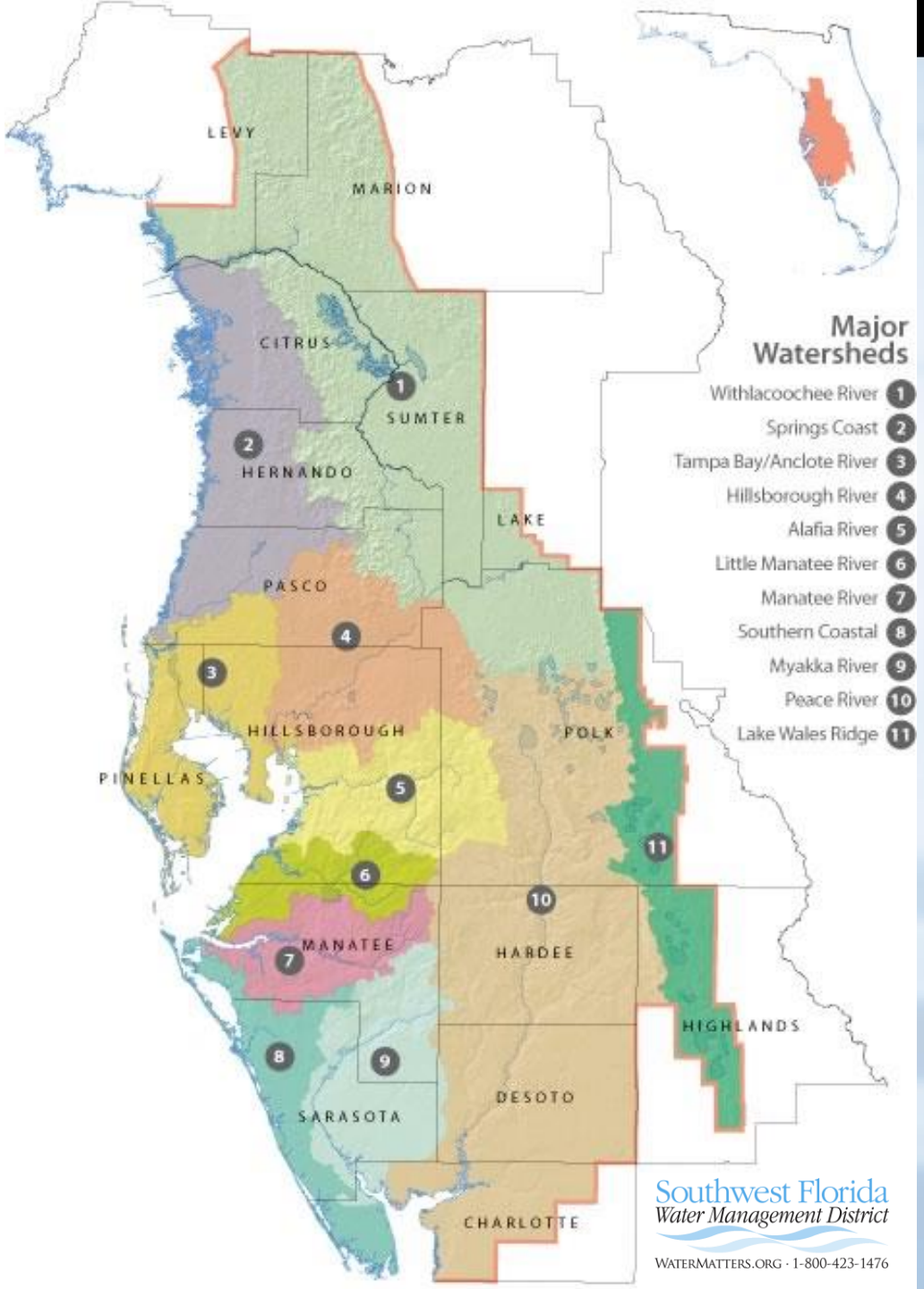
Natural Systems & Restoration

Natural Systems

Flood Protection

Water Quality

Water Supply



Major Watersheds

1. Withlacoochee River
2. Springs Coast
3. Tampa Bay/Anclote River
4. Hillsborough River
5. Alafia River
6. Little Manatee River
7. Manatee River
8. Southern Coastal
9. Myakka River
10. Peace River
11. Lake Wales Ridge

Southwest Florida
Water Management District

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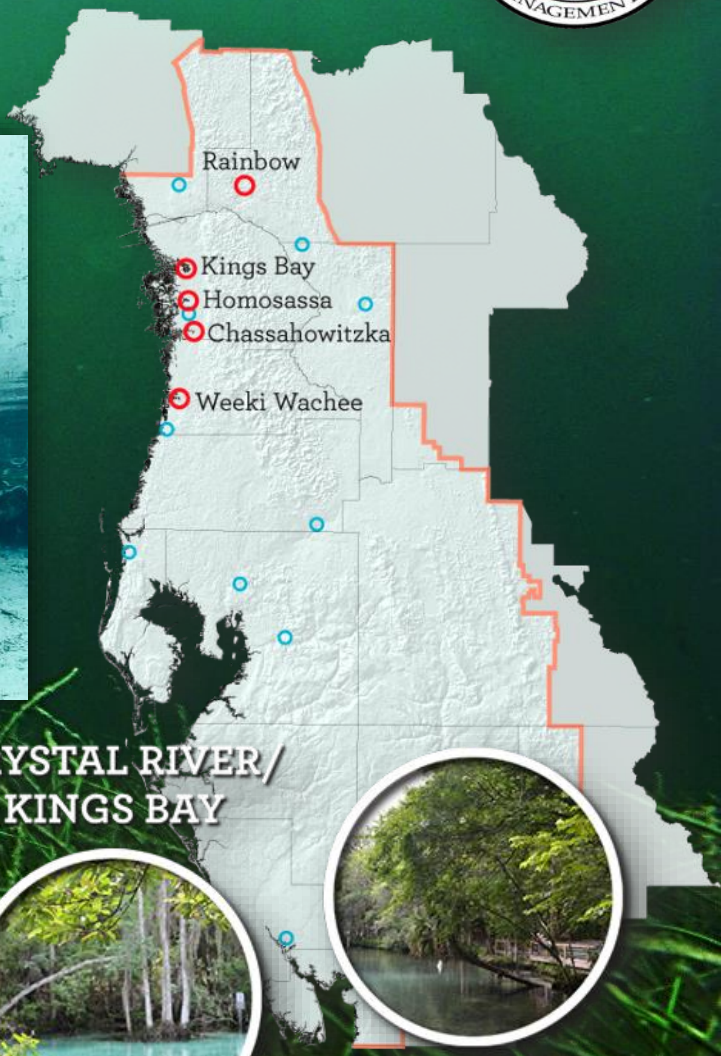
The Florida Springs Coast

"The Land of Mermaids & Manatees"



WEEKI WACHEE SPRINGS

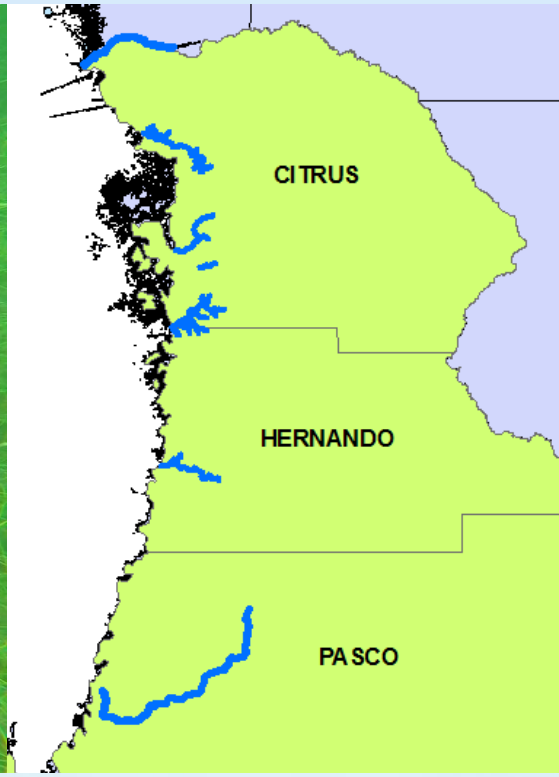
CHASSAHOWITZKA SPRINGS

RAINBOW SPRINGS

CRYSTAL RIVER/ KINGS BAY

HOMOSASSA SPRINGS

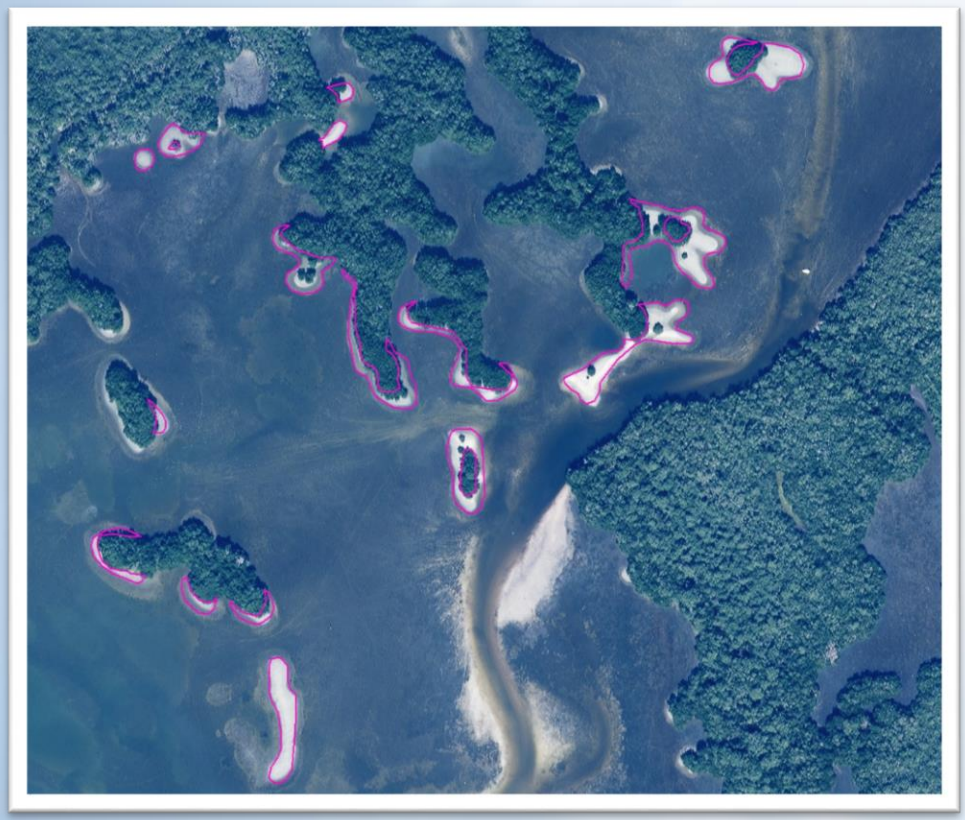
Springs Coast



Oysters in the Springs Coast

- Dominated by *Crassostrea virginica*
- Larger oysters near the river mouths
- Mostly intertidal
- Low sediment input from rivers
- Landward migration due to sea-level rise

Mapping Efforts



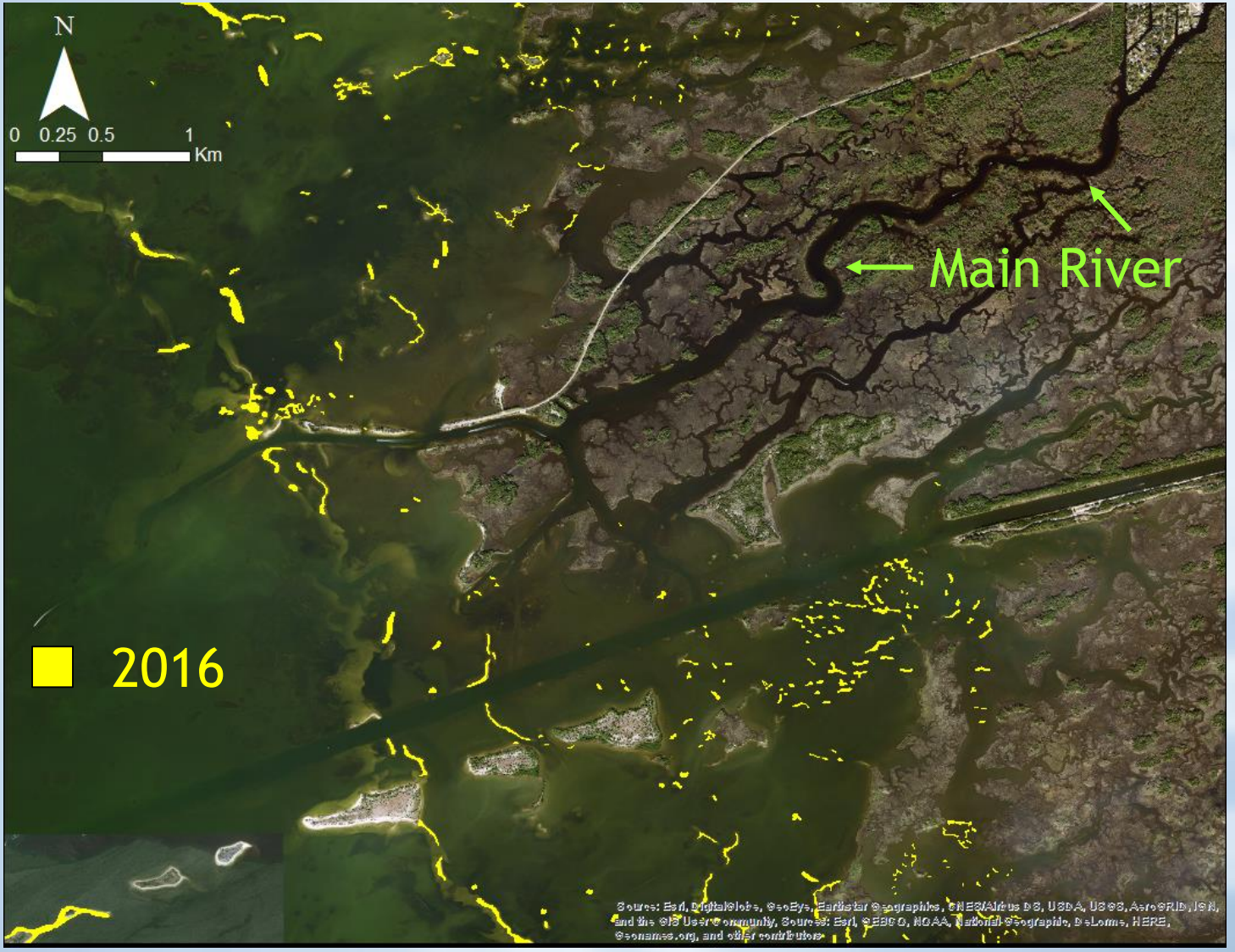
Seagrass mapping and monitoring in the Springs

(2007, 2012, 2016, **2020**)

Oysters were added as a new coverage class in 2014

Oyster Bars (6450)- Dense collection of sessile mollusks found as linear or oval shaped substrates. Hash or dead oyster shell is not differentiated from live oysters and can be included in this class.

Lower Withlacoochee River

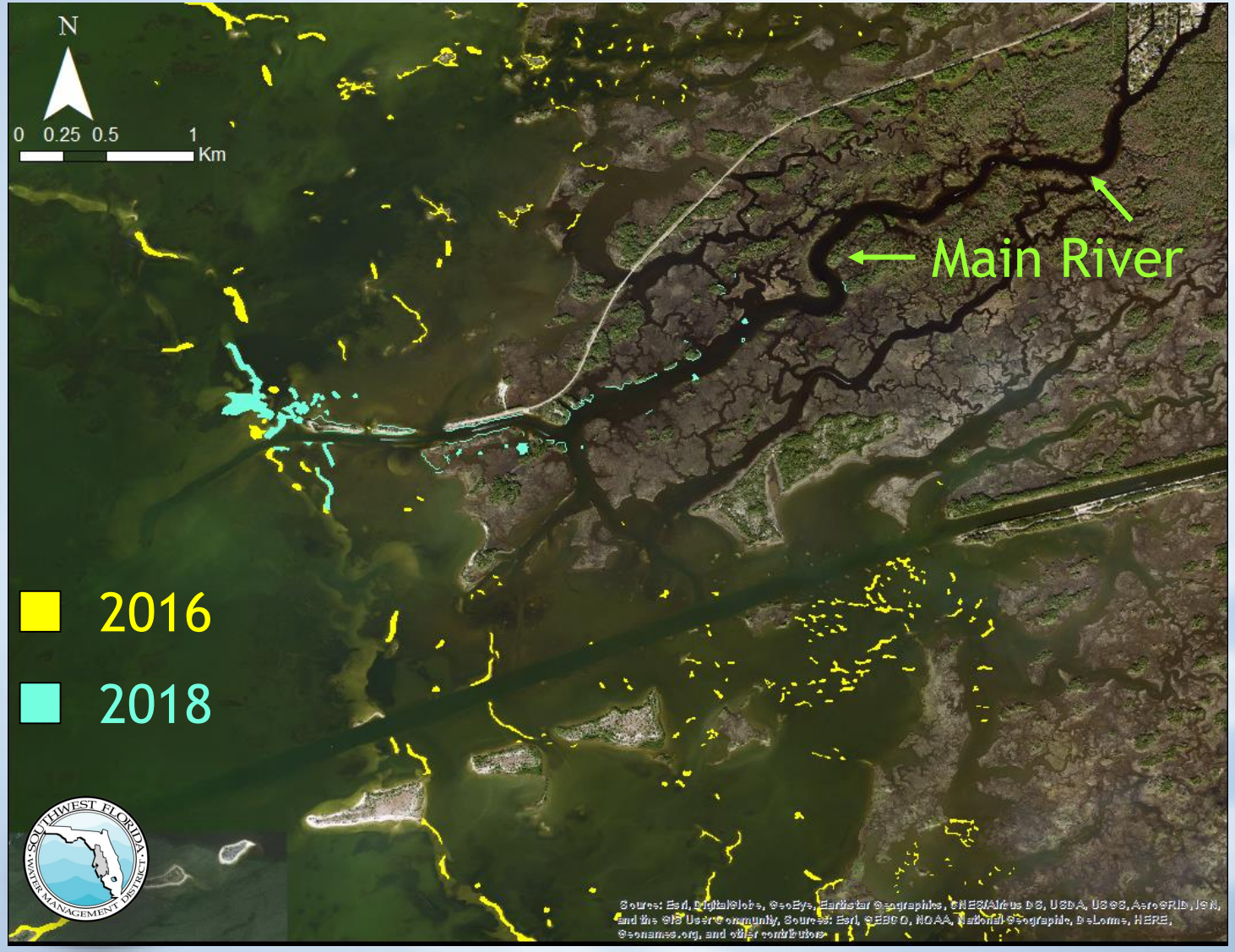


Oyster Mapping Efforts

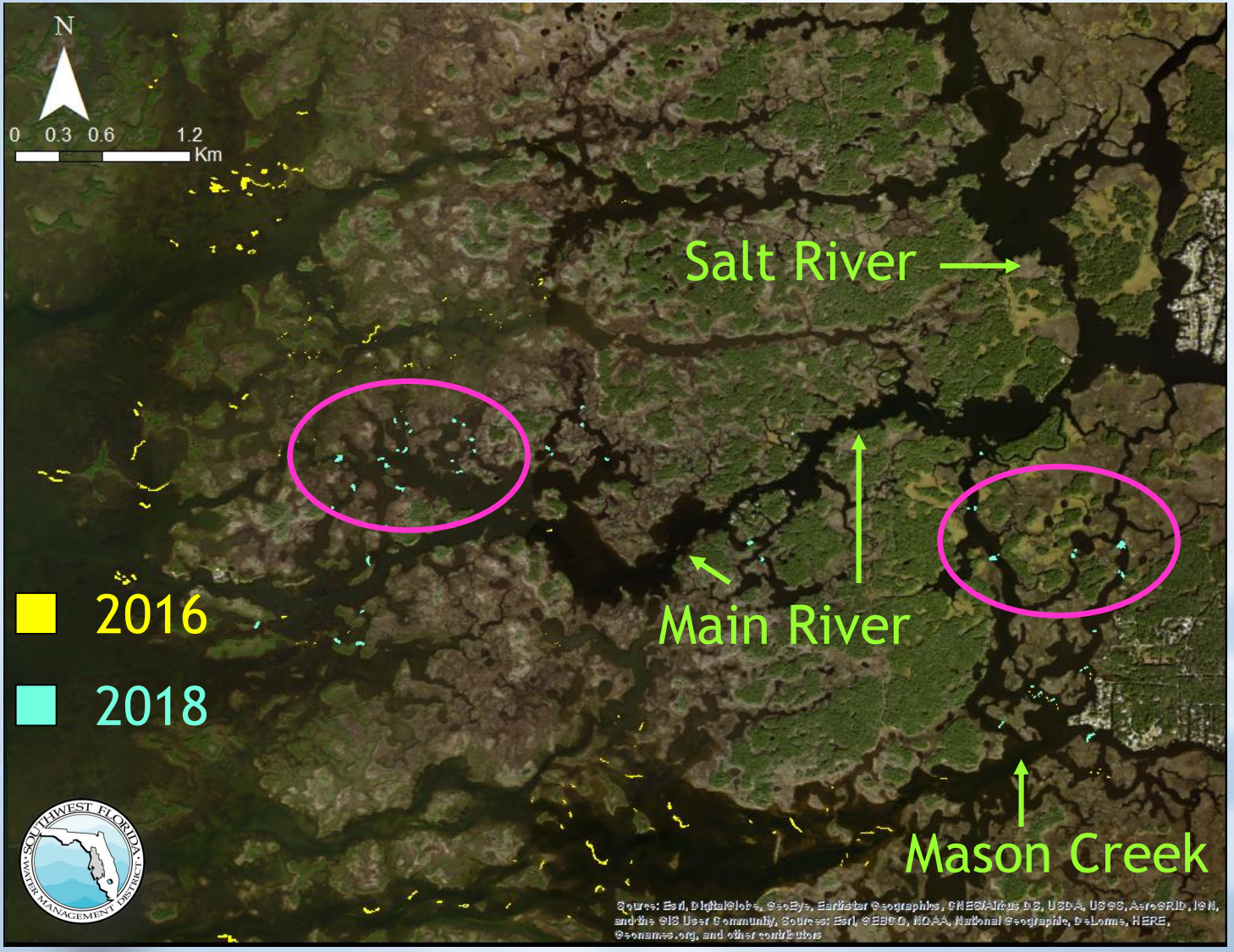
Minimum flows an levels

- Water-supply planning
- Protect salinity-based habitats

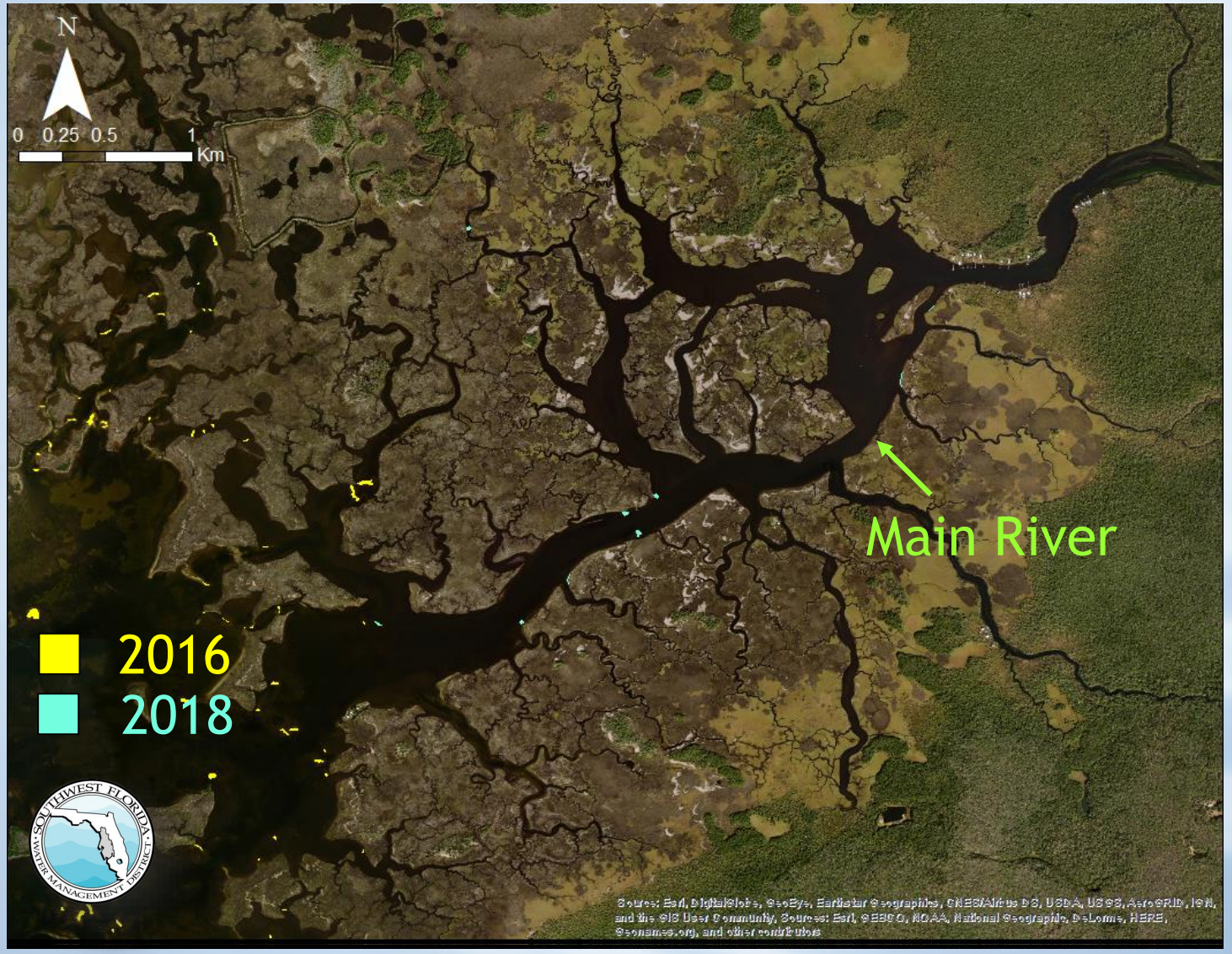
Lower Withlacoochee River



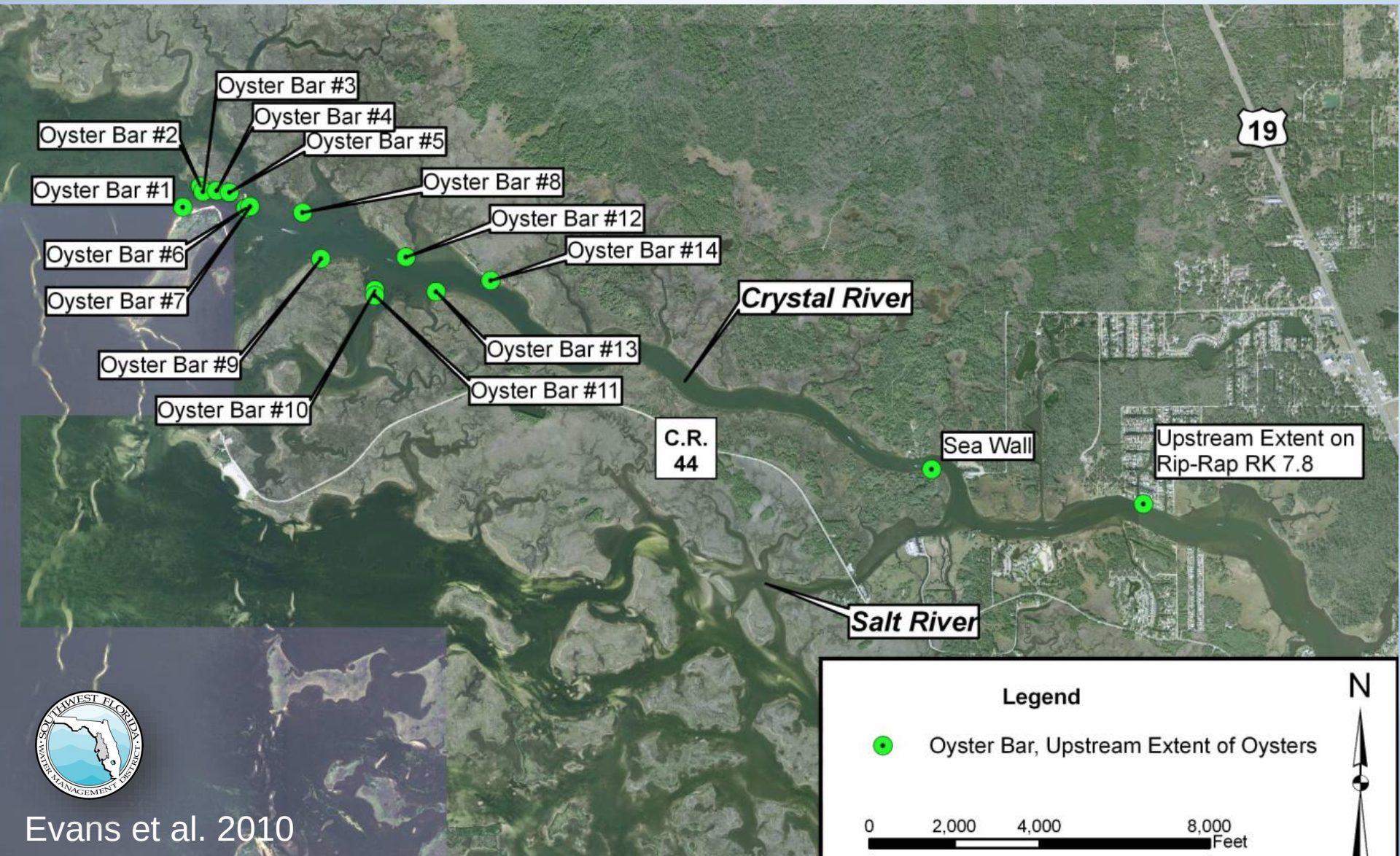
Homosassa River



Chassahowitzka River



Crystal River



Evans et al. 2010

Oyster Habitat Restoration & Monitoring Efforts

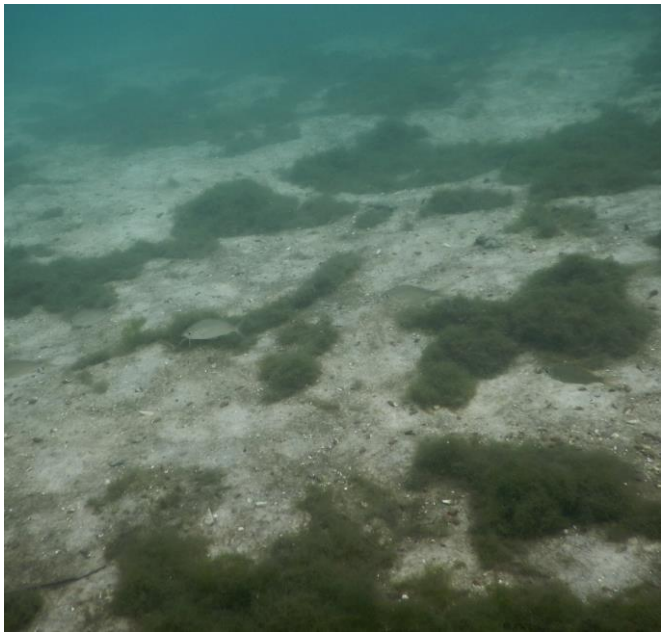
2018: Feasibility study in Crystal and Homosassa rivers

Part of larger restoration efforts to create a mosaic of estuarine tidal habitat and water quality

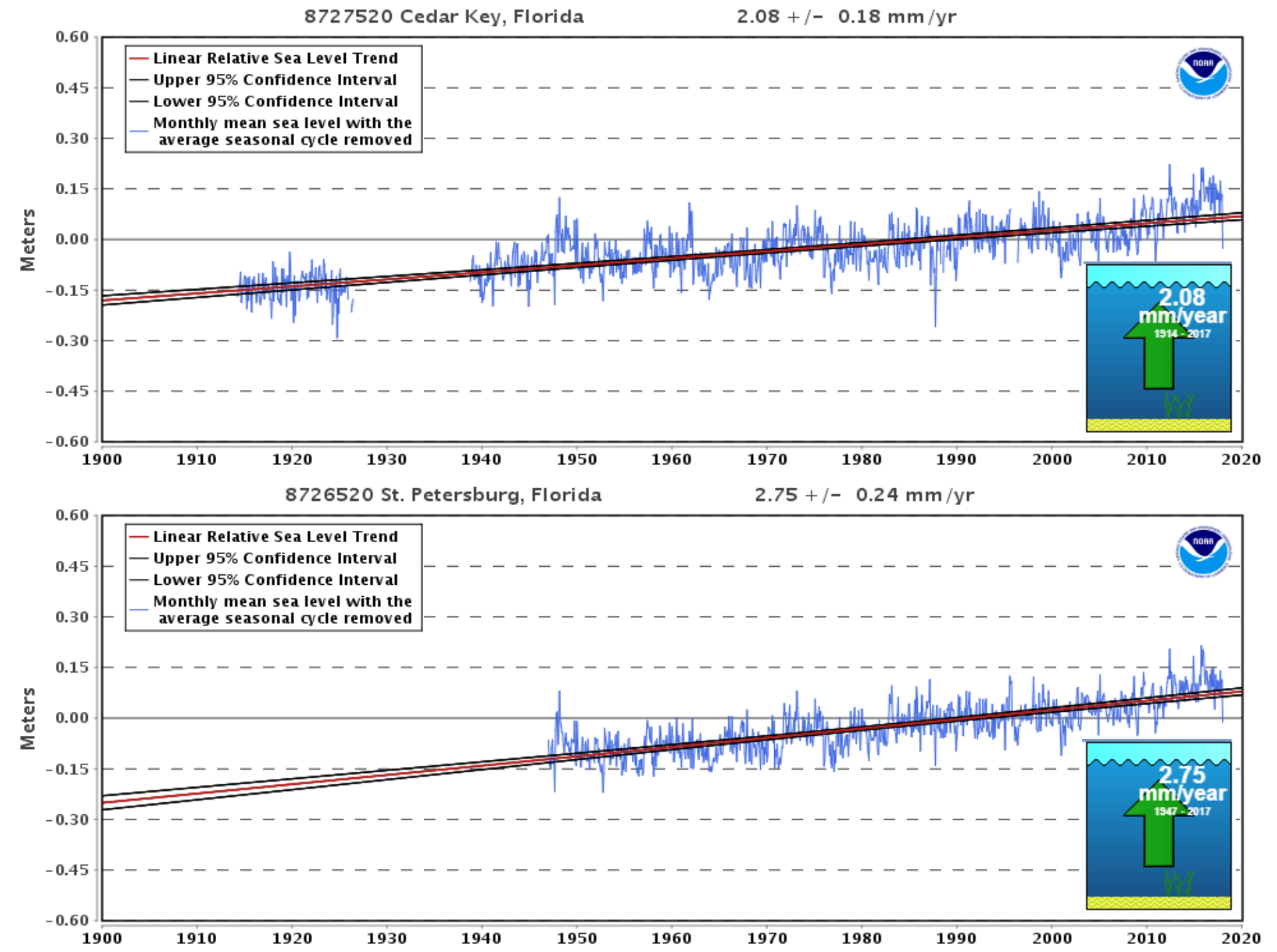
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

TAMPA BAY WATCH

Restoring the Bay Every Day



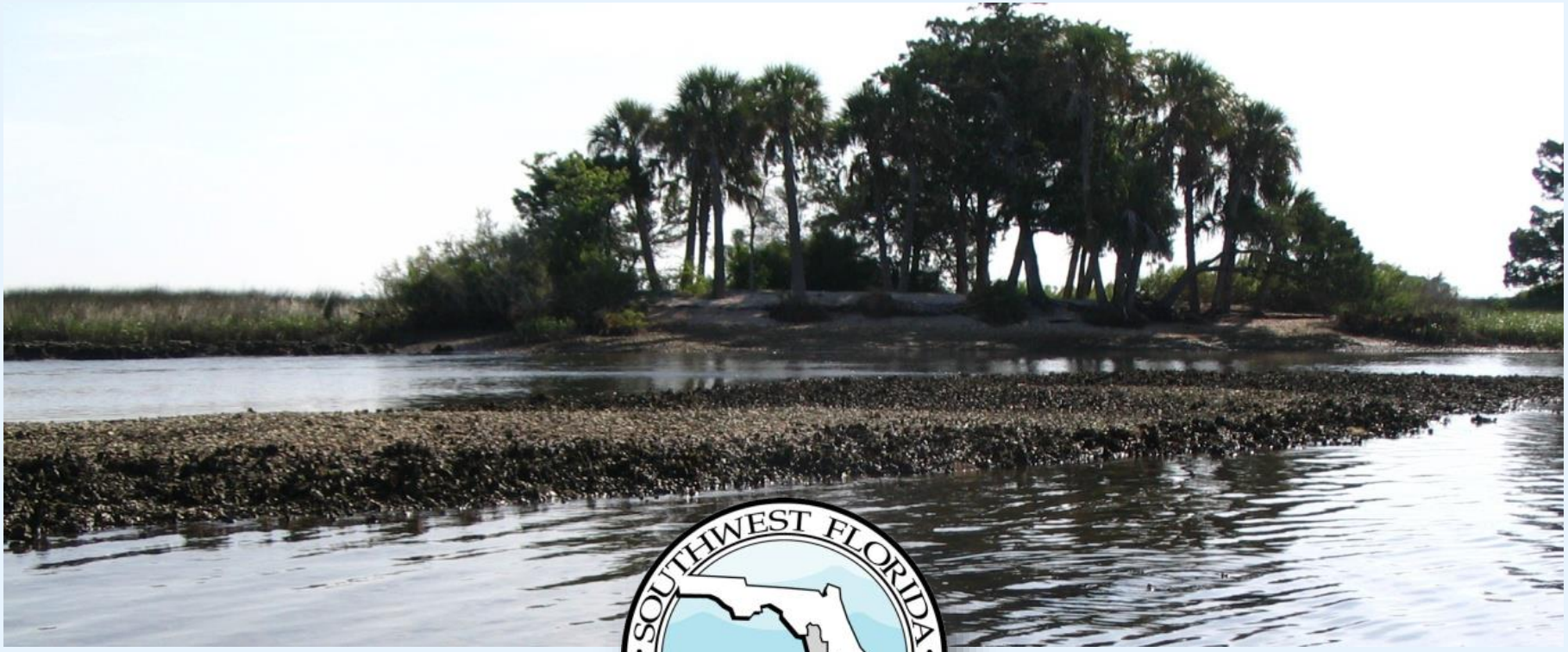
- Reduced Water Clarity
- Changing Salinity
- Potential Decrease in Historic Flows
- Altered Aquatic Vegetation
- Nitrate Enrichment


8727520 Cedar Key, Florida
2.08 +/- 0.18 mm/yr
Linear Relative Sea Level Trend
Upper 95% Confidence Interval
Lower 95% Confidence Interval
Monthly mean sea level with the average seasonal cycle removed
Meters
0.60
0.45
0.30
0.15
0.00
-0.15
-0.30
-0.45
-0.60
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
2.08 mm/year
1914 - 2017
8726520 St. Petersburg, Florida
2.75 +/- 0.24 mm/yr
Linear Relative Sea Level Trend
Upper 95% Confidence Interval
Lower 95% Confidence Interval
Monthly mean sea level with the average seasonal cycle removed
Meters
2.75 mm/year
1947 - 2017

Summary

- SWFWMD seagrass mapping every 4 years; new maps in 2020
  - https://data-swfwmd.opendata.arcgis.com
- Oyster data collected during development of MFLs for tidally-influenced rivers
- Feasibility study for oyster restoration and habitat improvement

My Home. My Springs.
Southwest Florida Water Management District
#MySprings



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