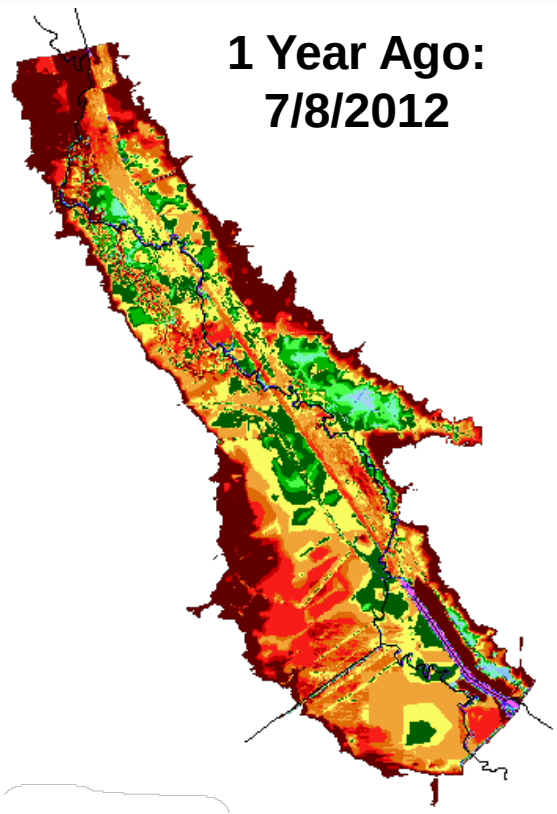
Governing Board Meeting
July 11, 2013

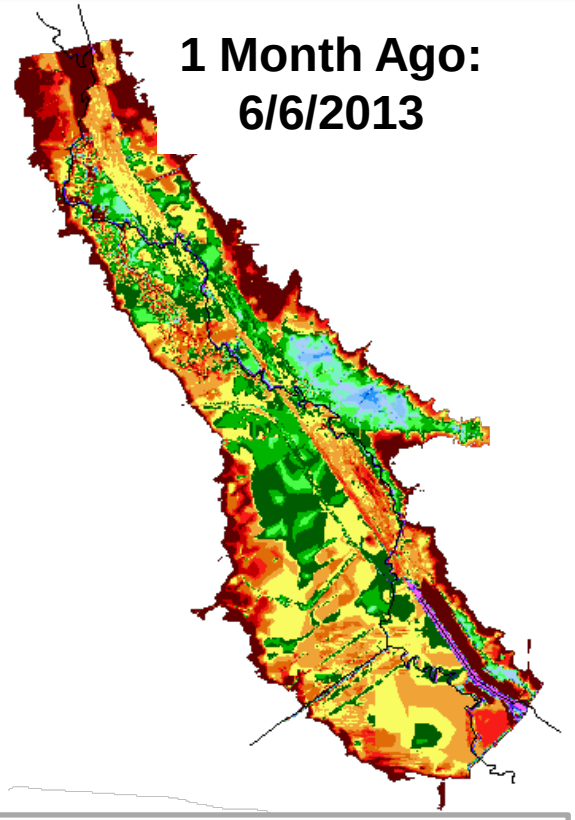
Ecological Conditions Update

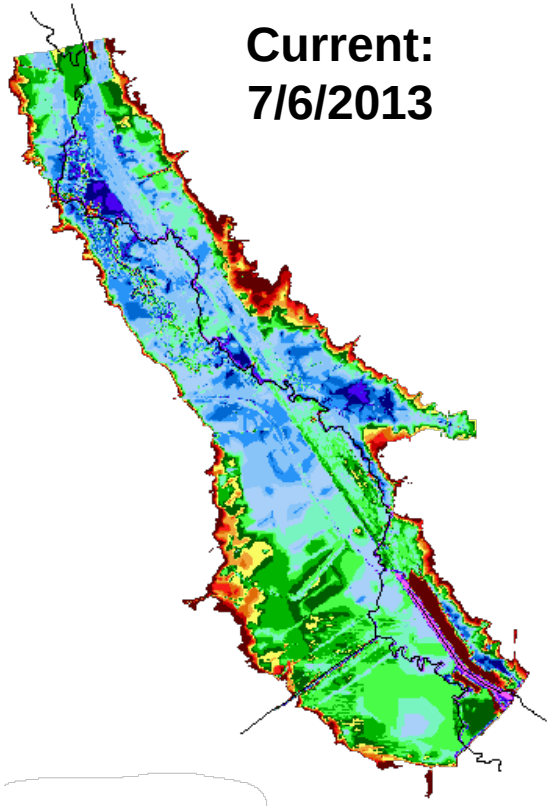
Terrie Bates
Director, Water Resources Division

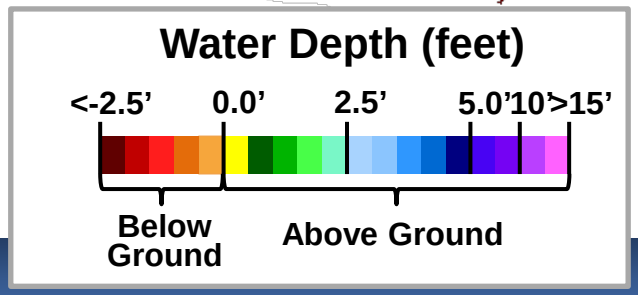
Kissimmee River (Pool C)

Monthly Water Depth Maps

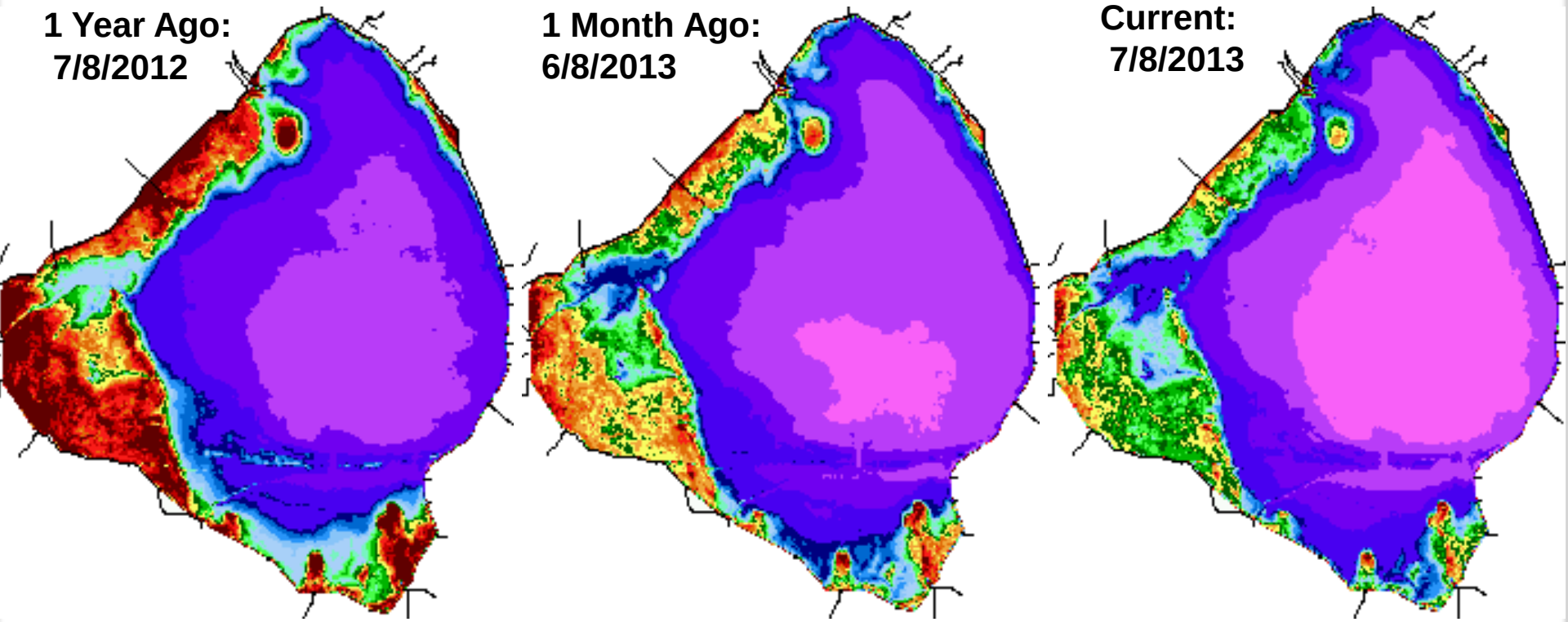






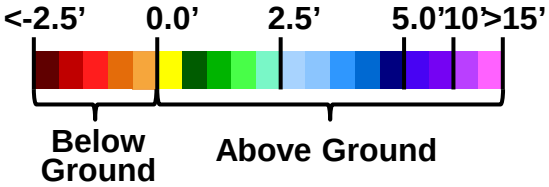


Lake Okeechobee
Water Depth Timeseries Maps



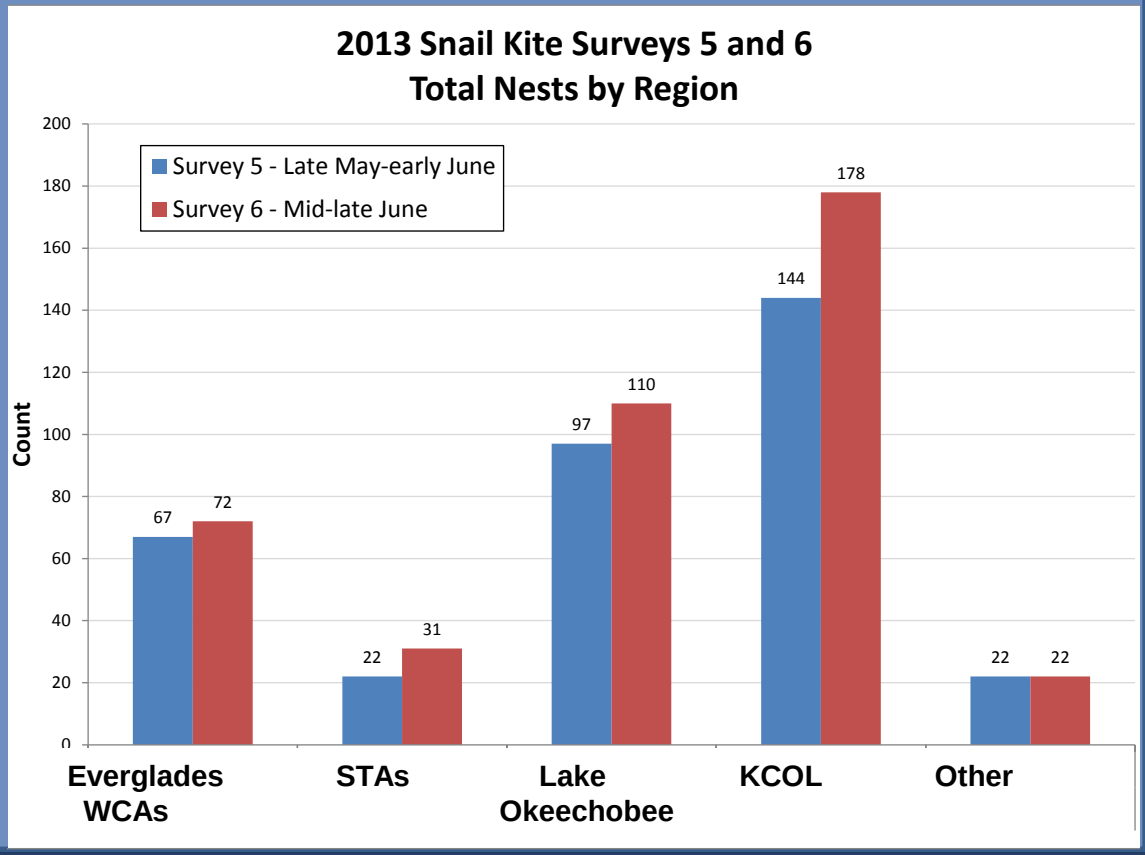
(12.01 ft NGVD29) (13.77 ft NGVD29) (14.75 ft NGVD29)

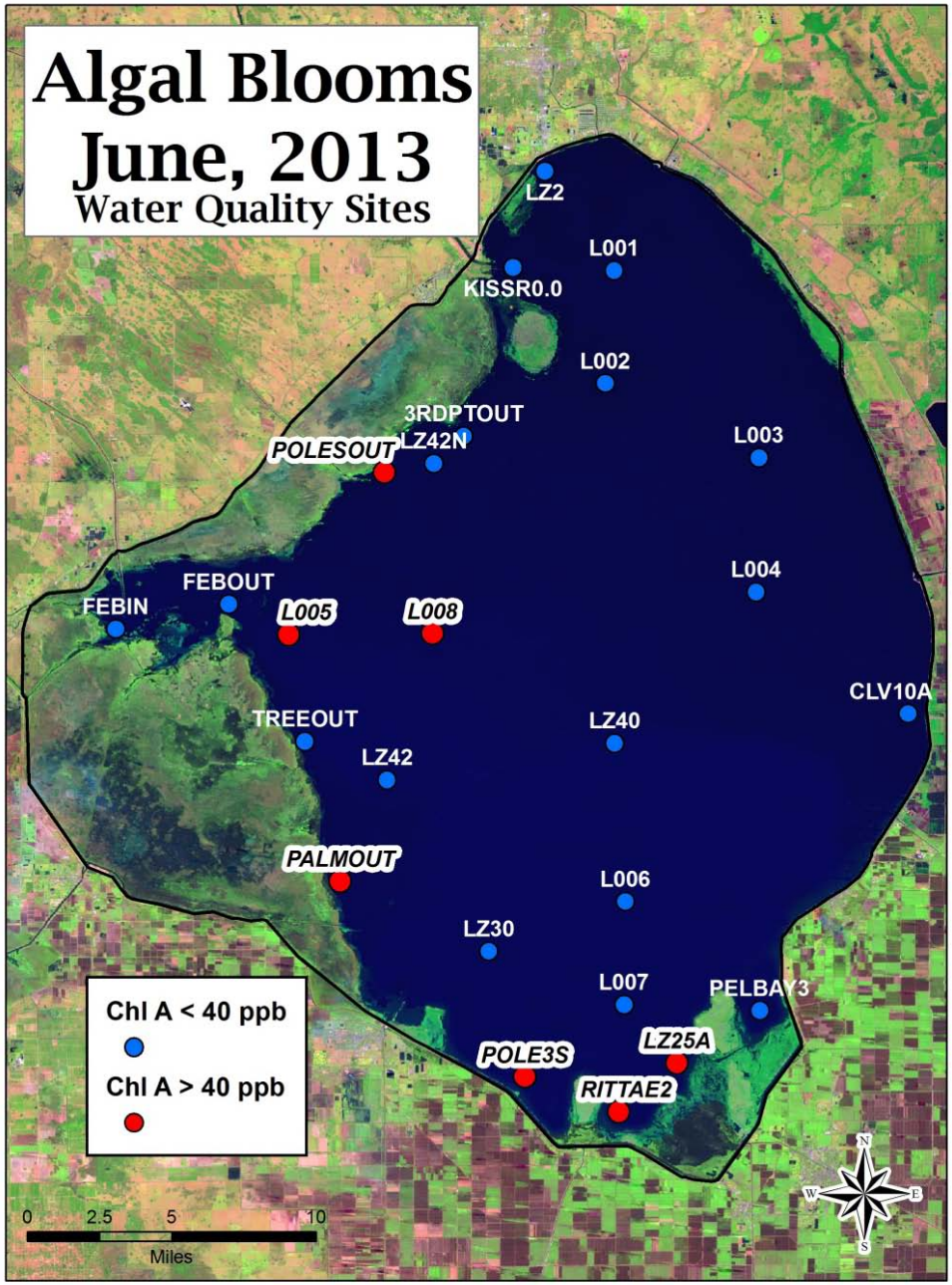
Water Depth (feet)



Snail Kites

- More snail kite nesting attempts in WCA-3 this year than any other year since 2006
  - 51 in WCA-3A
  - 11 in WCA-3B
- 18 nests have been successful; 14 more nests are still active



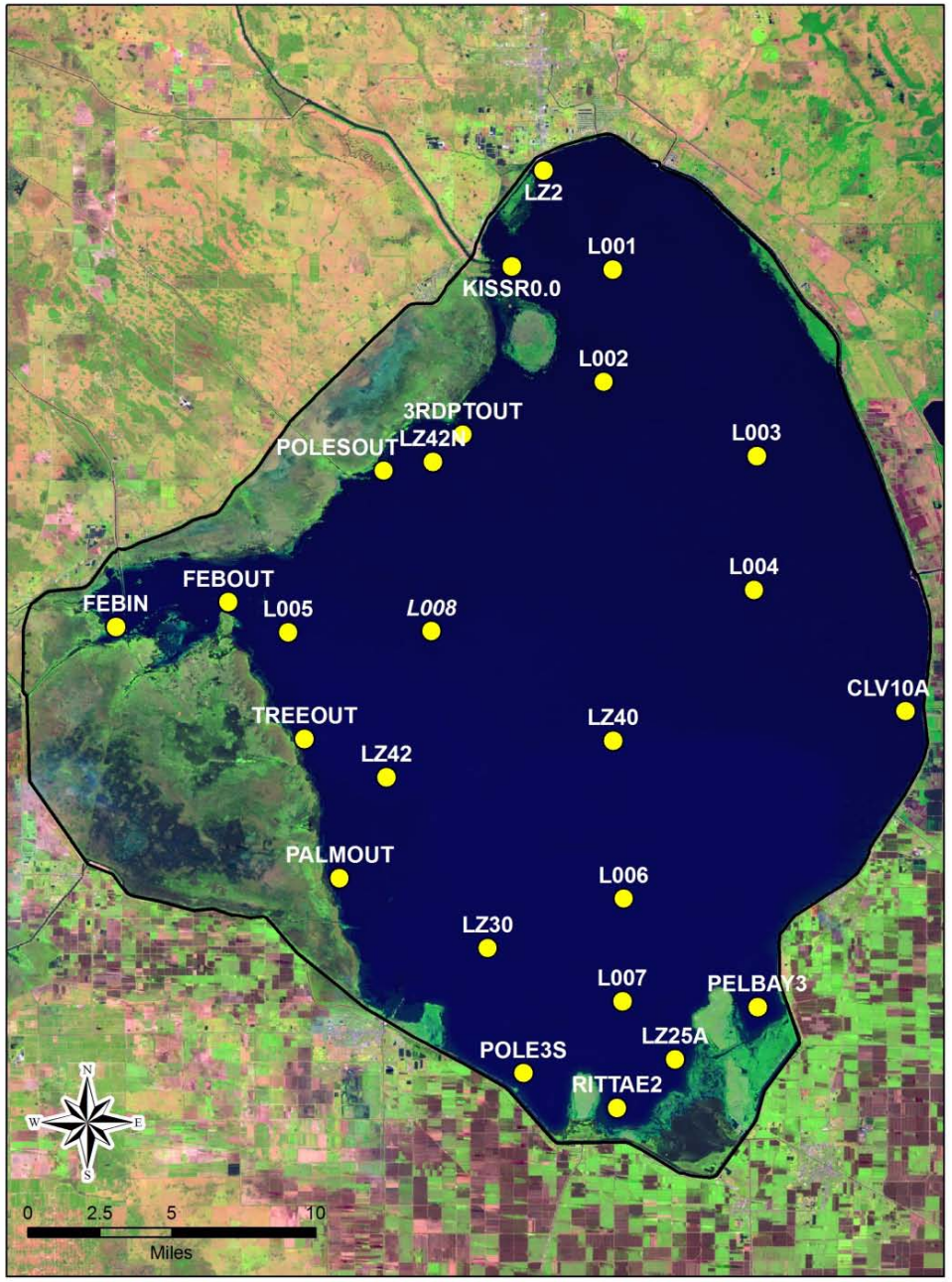


Lake Okeechobee Chlorophyll-a

- 7 sites with chlorophyll concentrations over 40 ppb; which is the accepted threshold defining bloom conditions
- Only one of the indicated sites exceeded a chlorophyll concentration of 80 ppb; which is the accepted definition for a dense bloom

Lake Okeechobee Water Quality

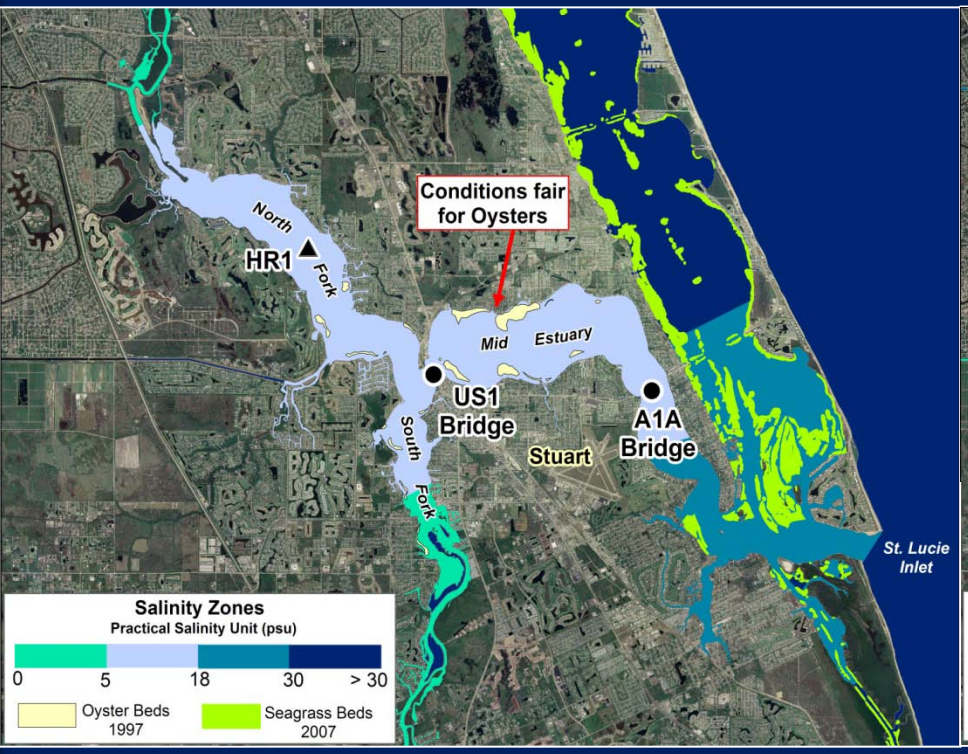
Parameter	April 2013	May 2013	June 2013
Lakewide TP ppb	109	111	82
Nearshore TP ppb	81	76	62
Lakewide TSS ppm	16	23	11
Nearshore TSS ppm	11	14	9



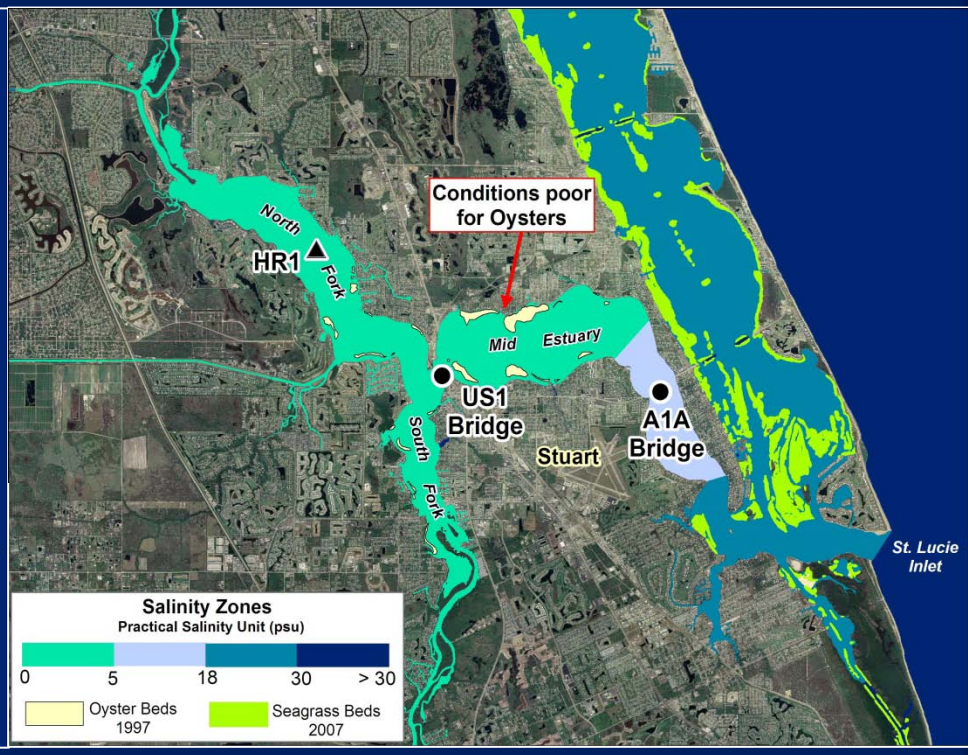
St. Lucie Estuary

Salinity Conditions

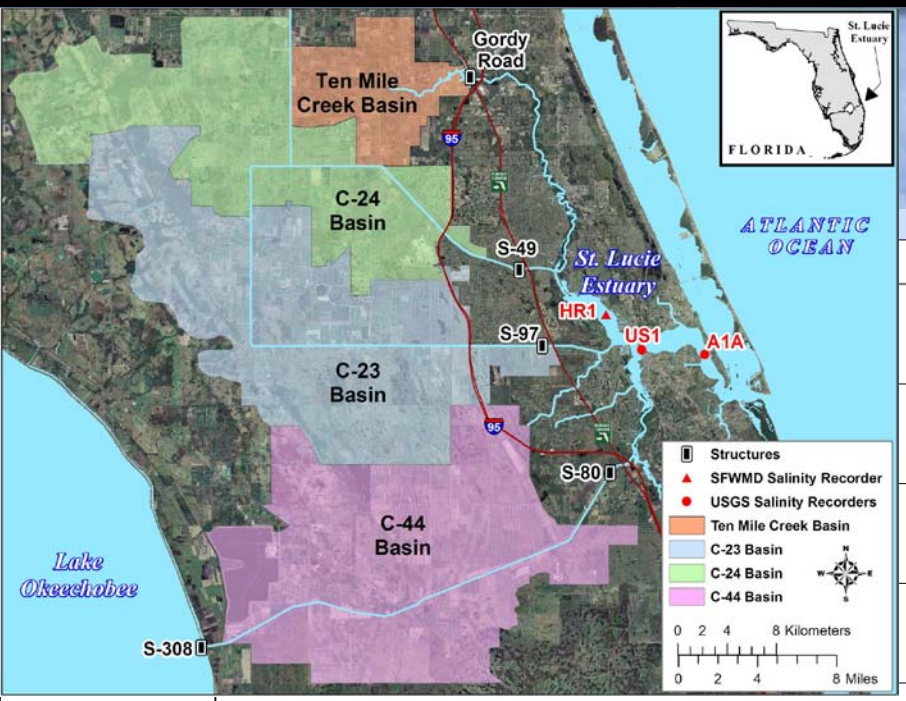
June 9, 2013

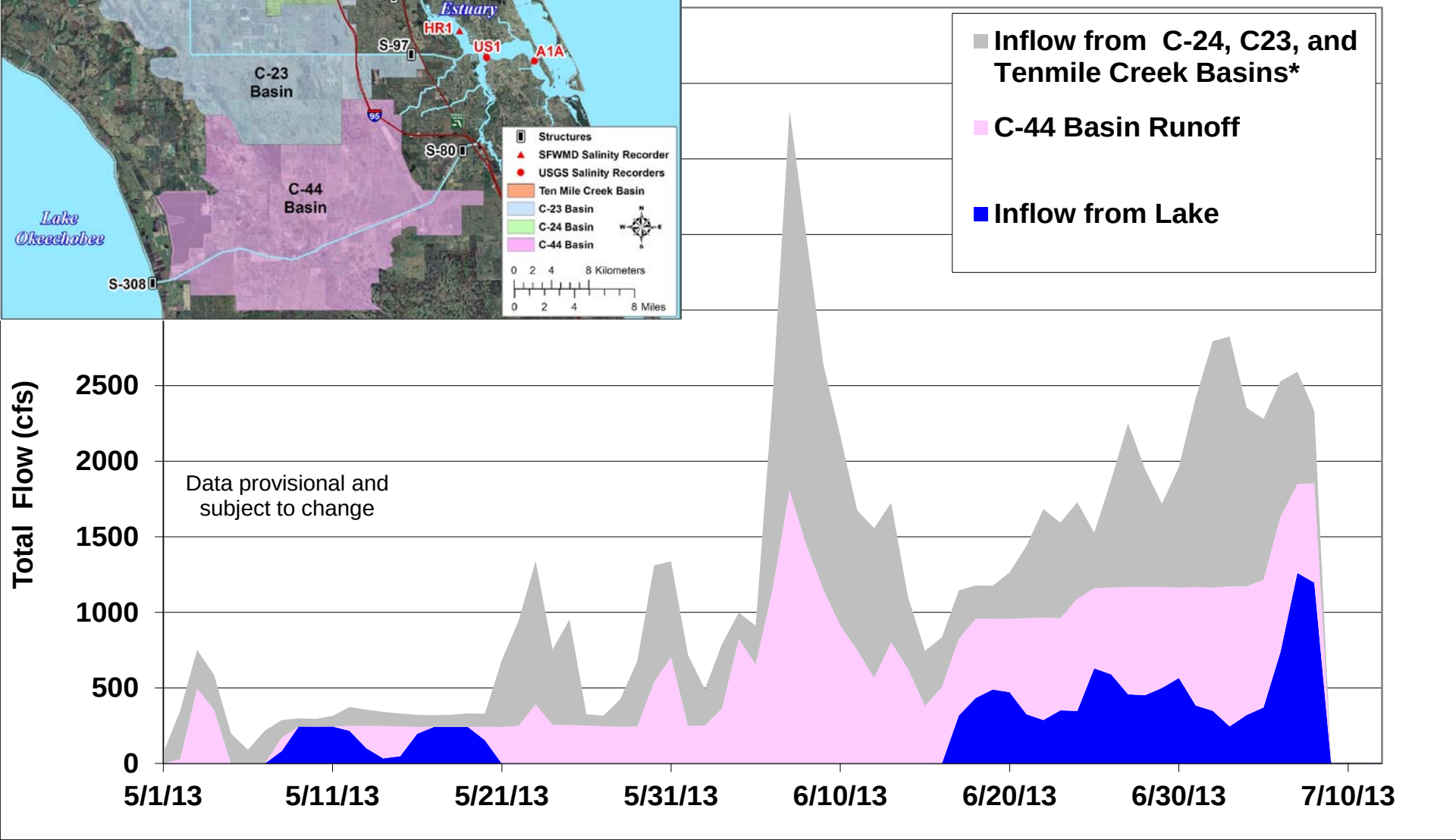


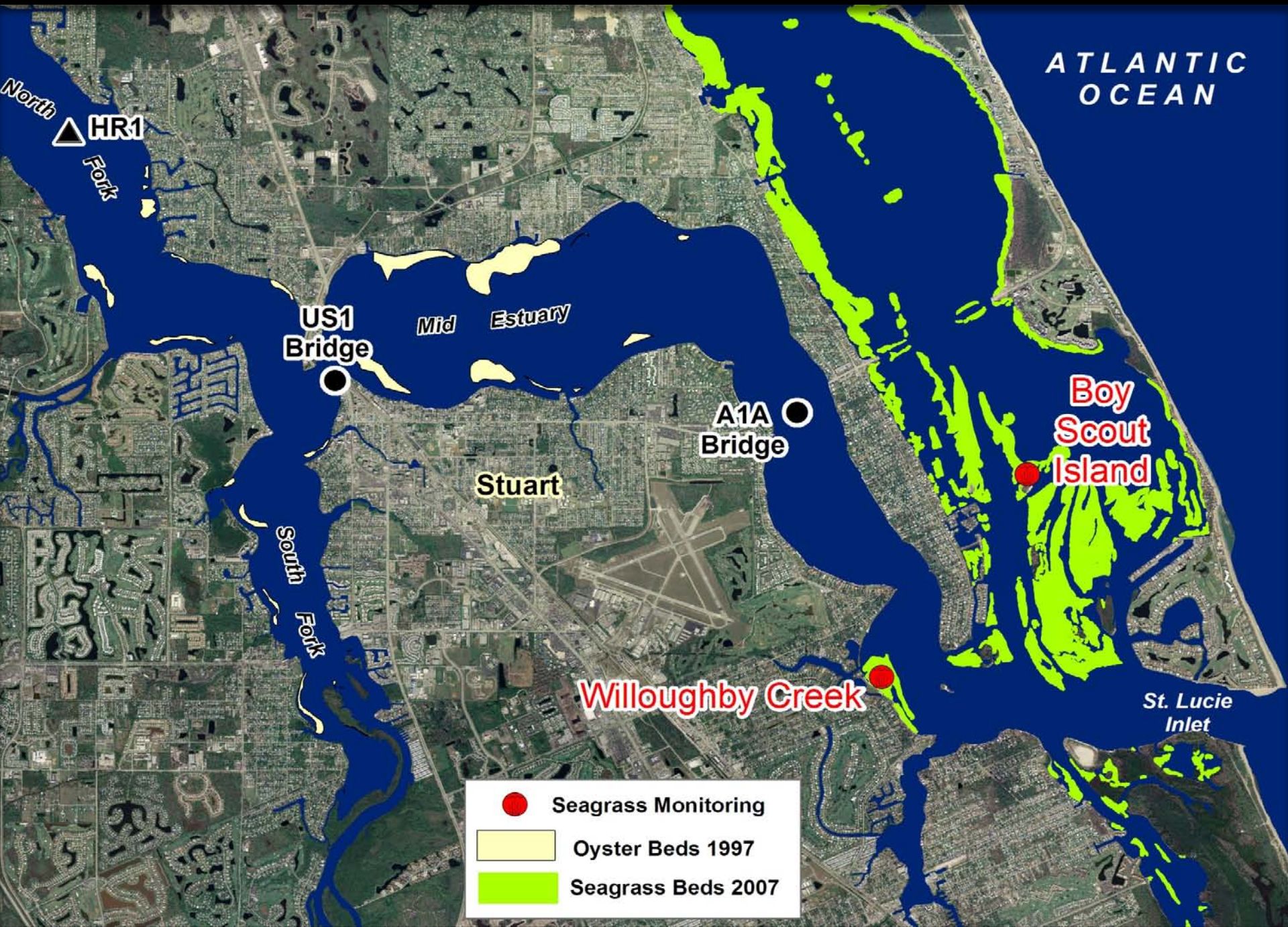
July 8, 2013



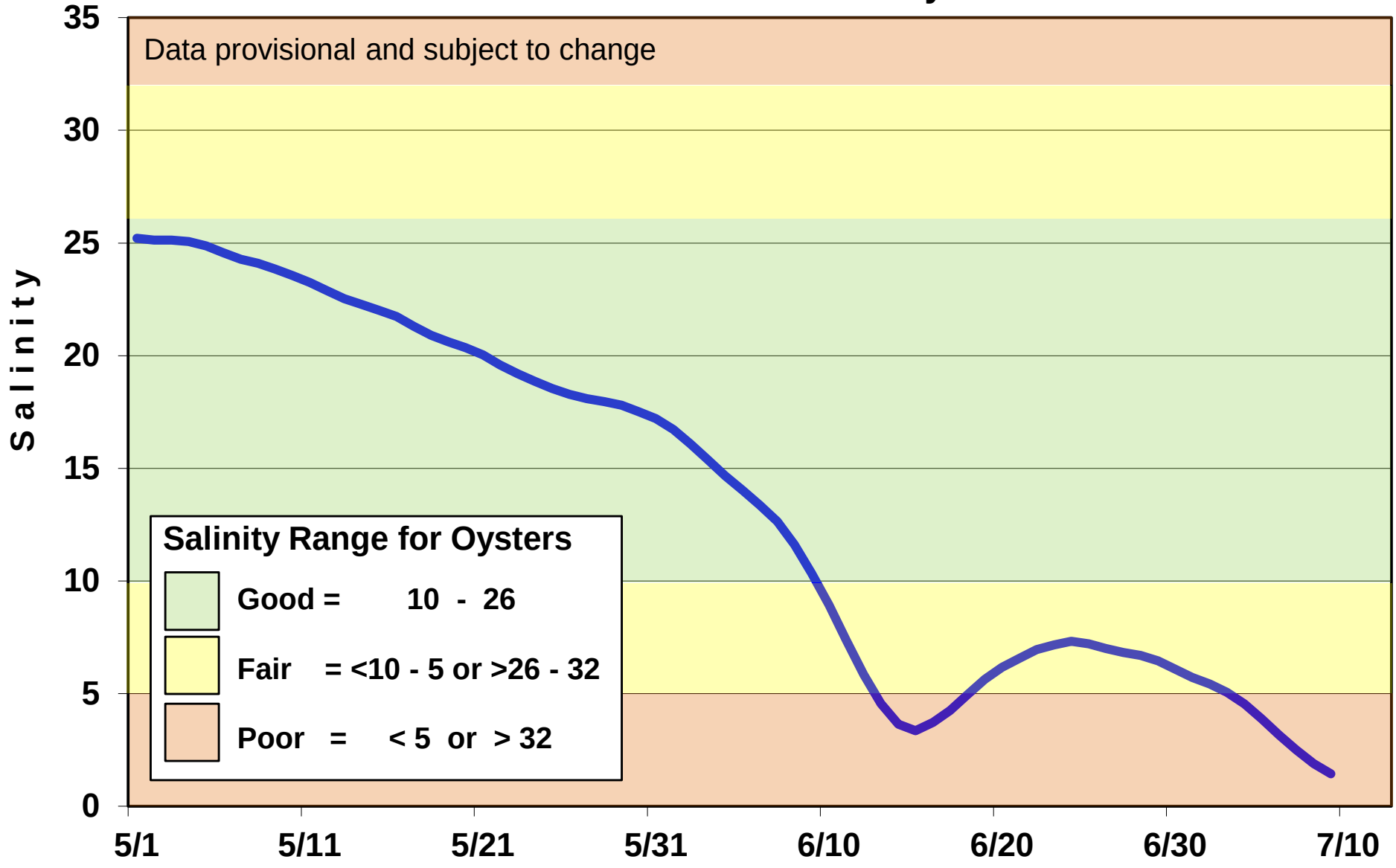
St. Lucie Estuary

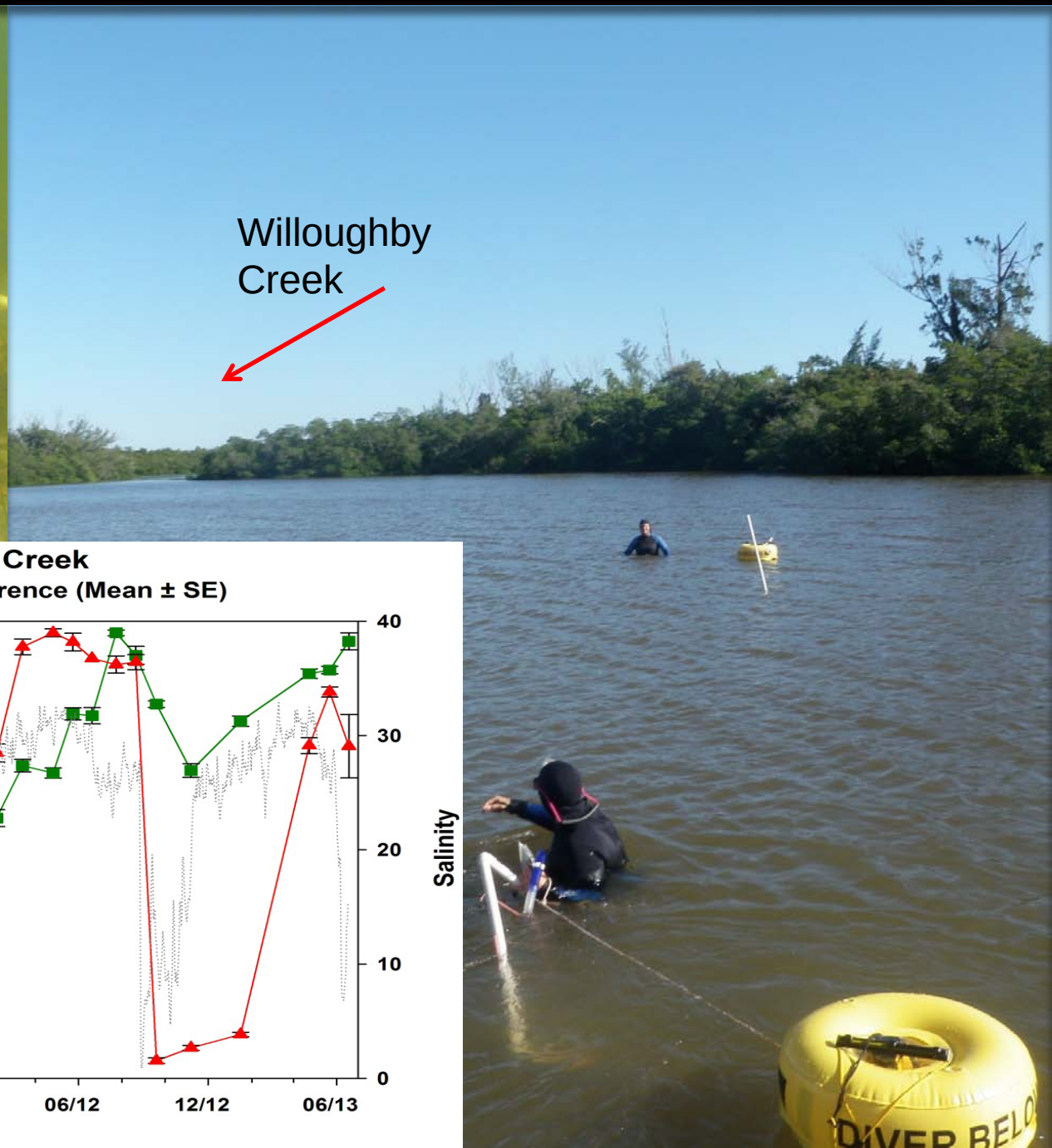


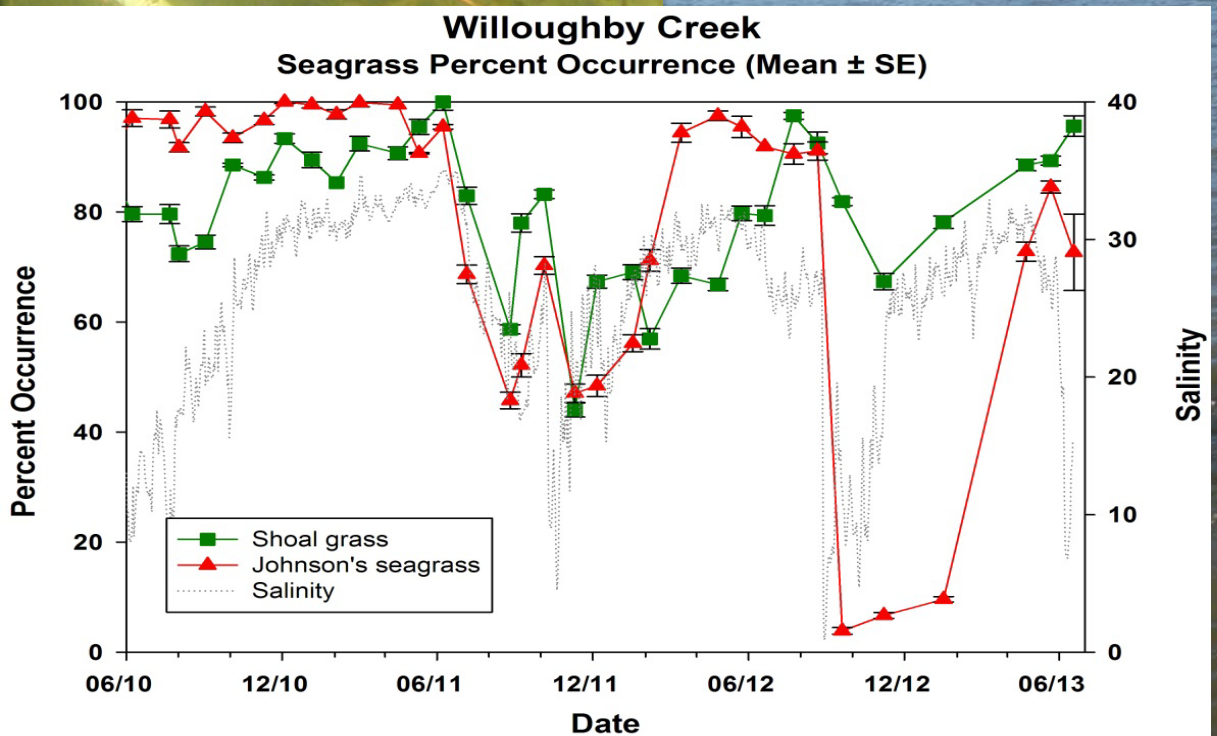



ATLANTIC OCEAN
North Fork
HR1
US1 Bridge
Mid Estuary
A1A Bridge
Stuart
South Fork
Boy Scout Island
Willoughby Creek
St. Lucie Inlet
Seagrass Monitoring
Oyster Beds 1997
Seagrass Beds 2007

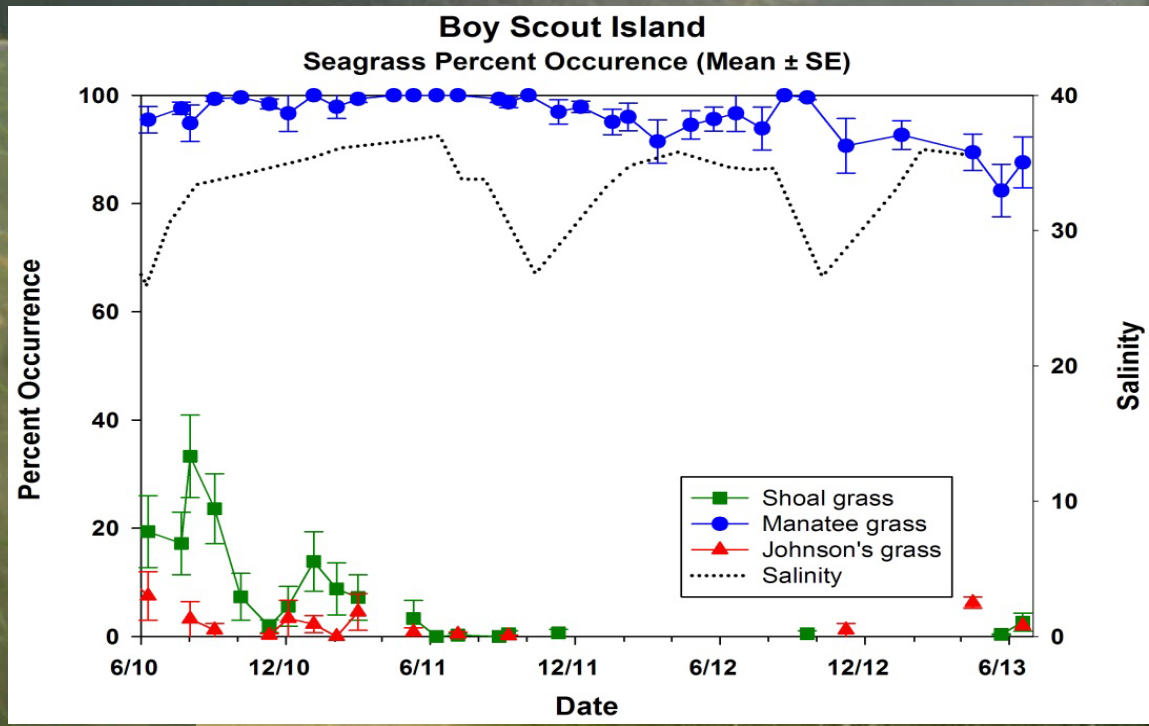
Seven day mean salinity of the water column at US1 Bridge in the St. Lucie Estuary




Willoughby
Creek


Willoughby Creek
Seagrass Percent Occurrence (Mean ± SE)
Percent Occurrence
Salinity
Date
100
80
60
40
20
0
40
30
20
10
0
06/10
12/10
06/11
12/11
06/12
12/12
06/13
Shoal grass
Johnson's seagrass
Salinity

Boy Scout Island
Atlantic Ocean
St. Lucie Estuary
Inlet

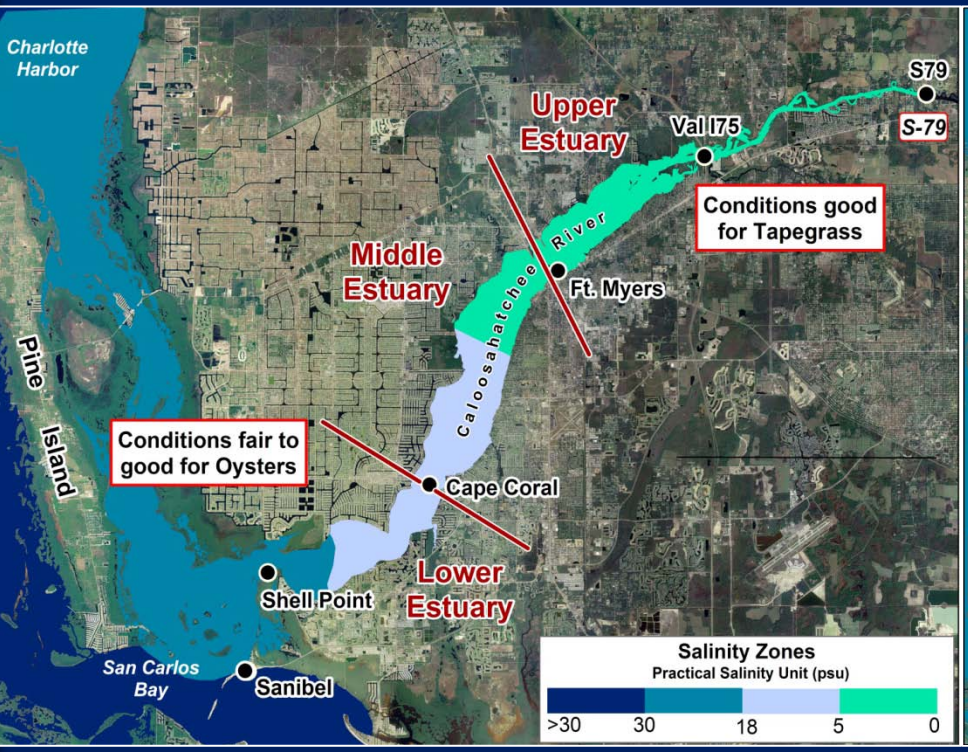

Boy Scout Island
Seagrass Percent Occurence (Mean ± SE)
Percent Occurrence
Salinity
Date
100
80
60
40
20
0
40
30
20
10
0
6/10
12/10
6/11
12/11
6/12
12/12
6/13
Shoal grass
Manatee grass
Johnson's grass
Salinity

Boy Scout Island
Atlantic Ocean
St. Lucie
Estuary
Inlet

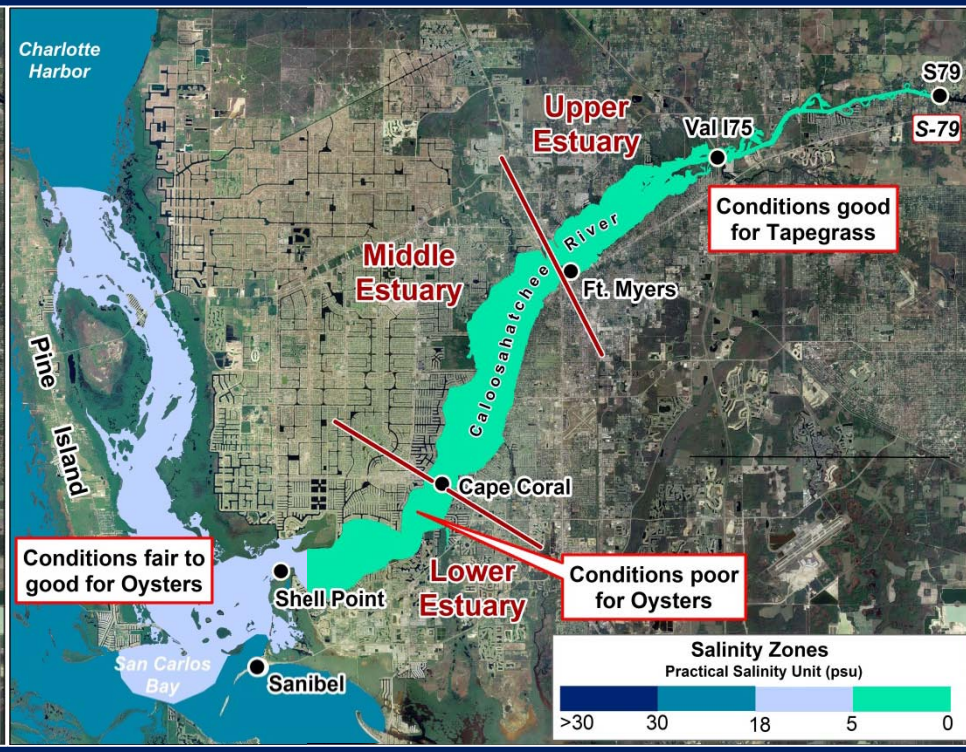
Caloosahatchee Estuary

Salinity Conditions

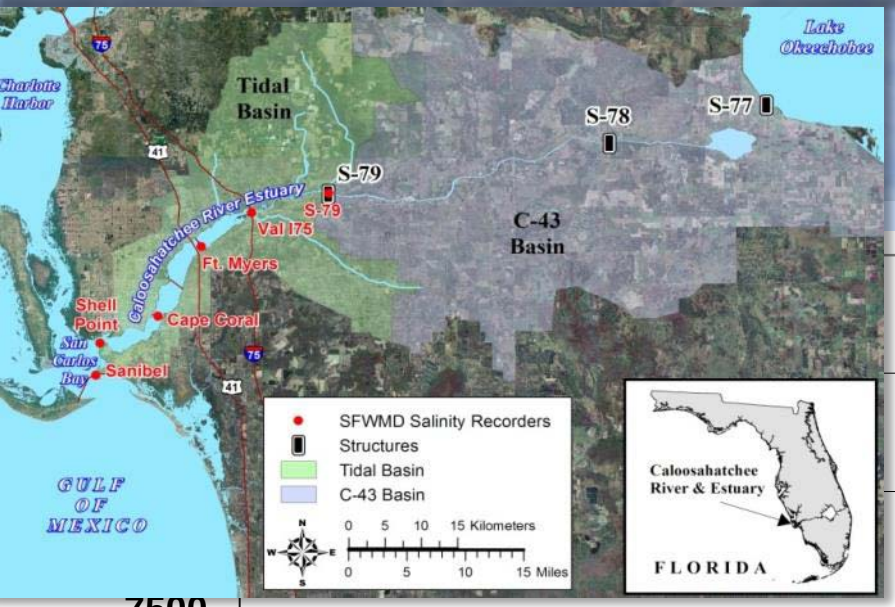
June 9, 2013

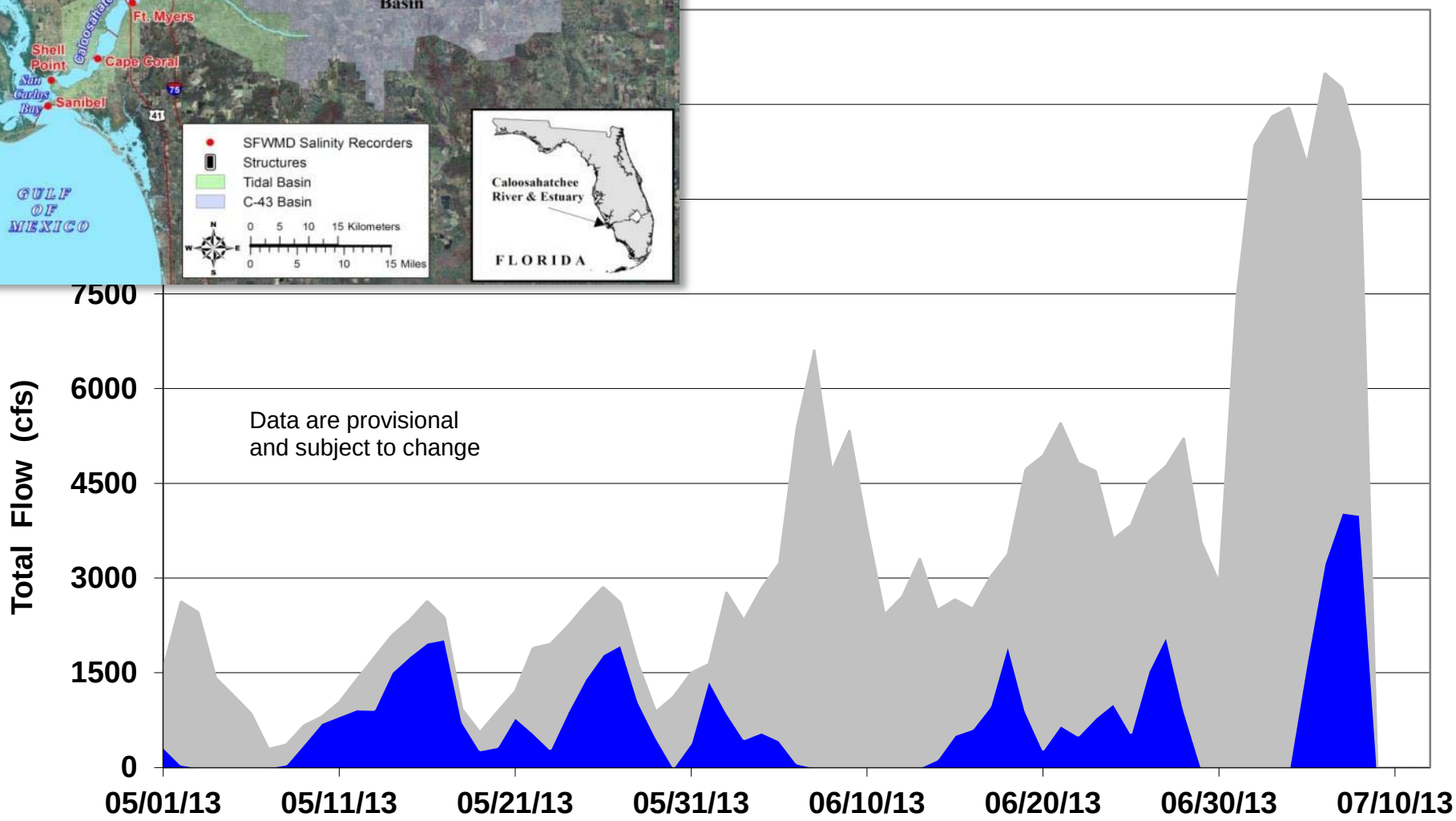


July 8, 2013

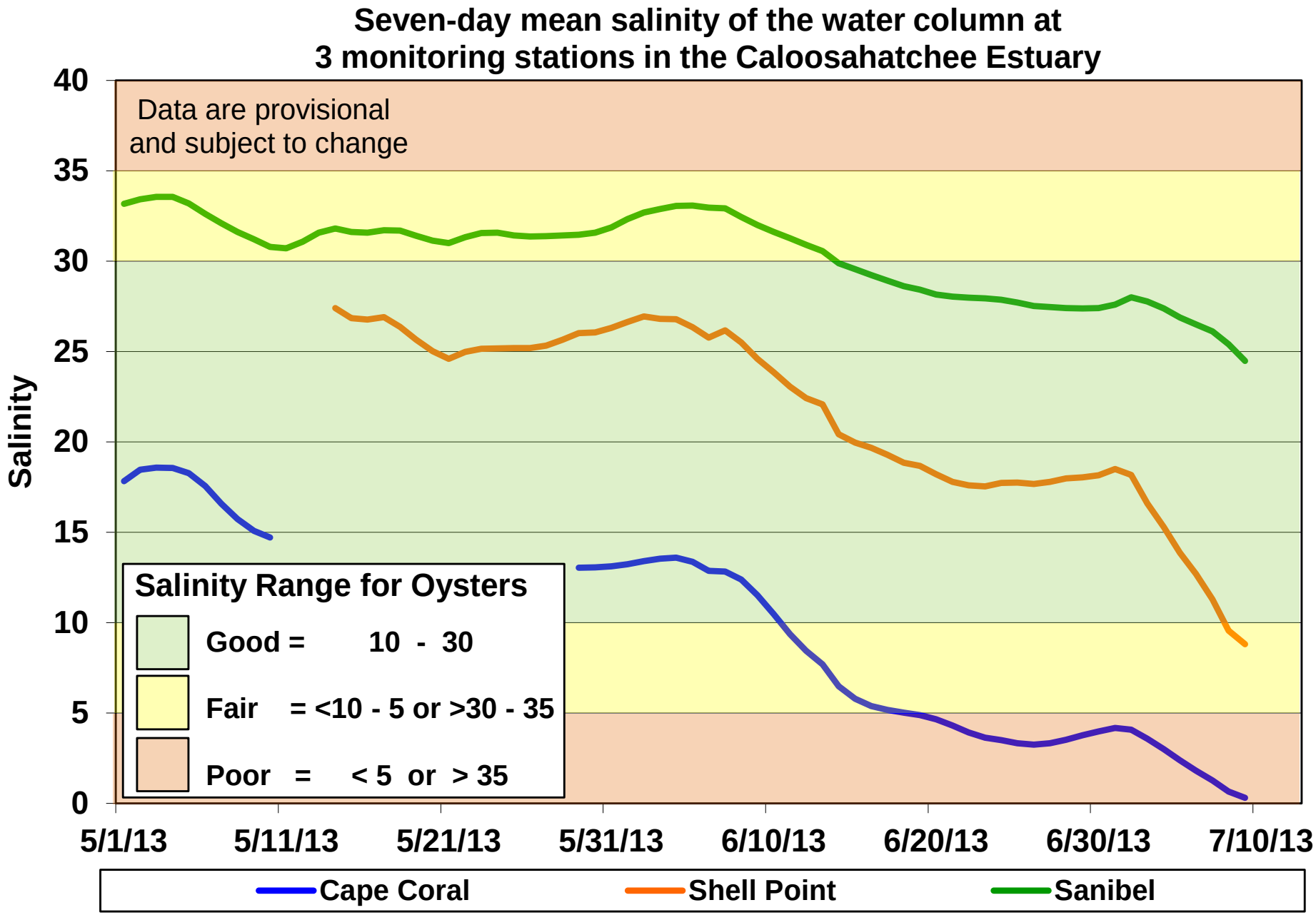


Caloosahatchee Estuary





■ Inflow from Lake ■ Inflow from Basins: C-43 (upstream) and Tidal Basins* (downstream)

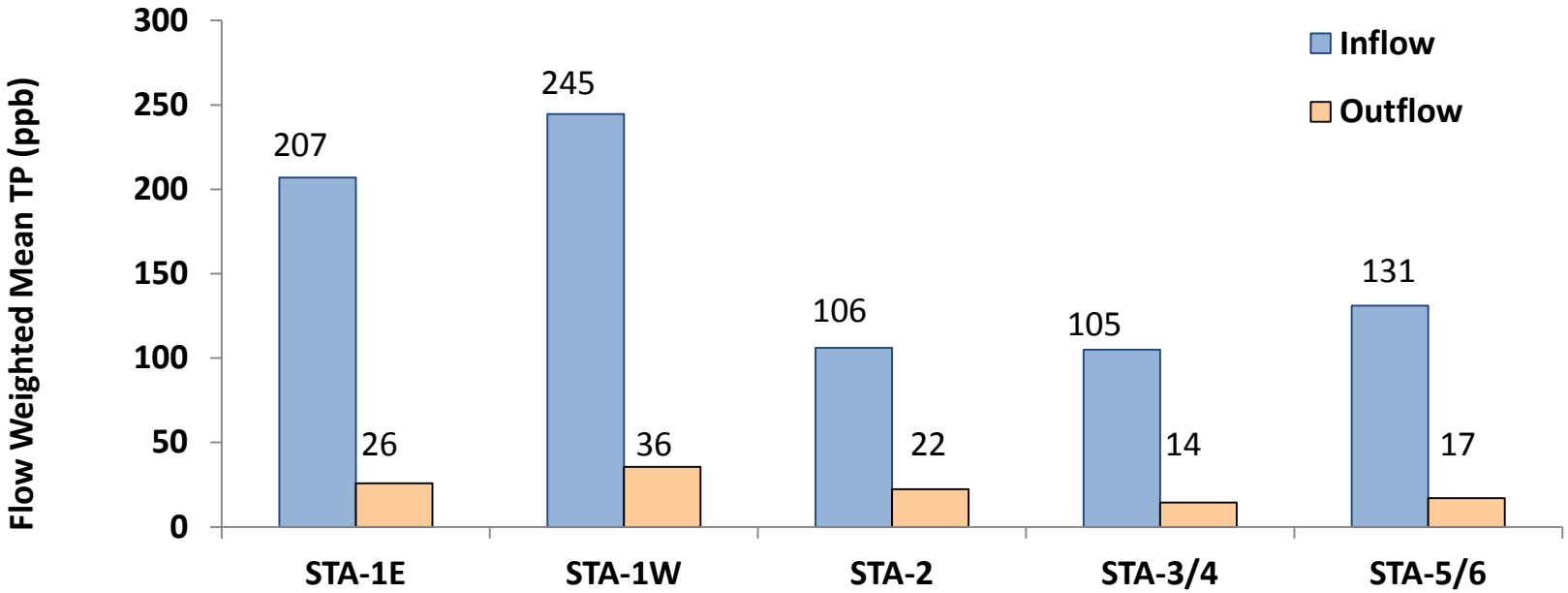

Seven-day mean salinity of the water column at
3 monitoring stations in the Caloosahatchee Estuary
Data are provisional
and subject to change
Salinity
40
35
30
25
20
15
10
5
0
5/1/13
5/11/13
5/21/13
5/31/13
6/10/13
6/20/13
6/30/13
7/10/13
Salinity Range for Oysters
Good = 10 - 30
Fair = <10 - 5 or >30 - 35
Poor = < 5 or > 35
Cape Coral
Shell Point
Sanibel

Everglades Stormwater Treatment Areas

WY2013 Phosphorus Removal Performance

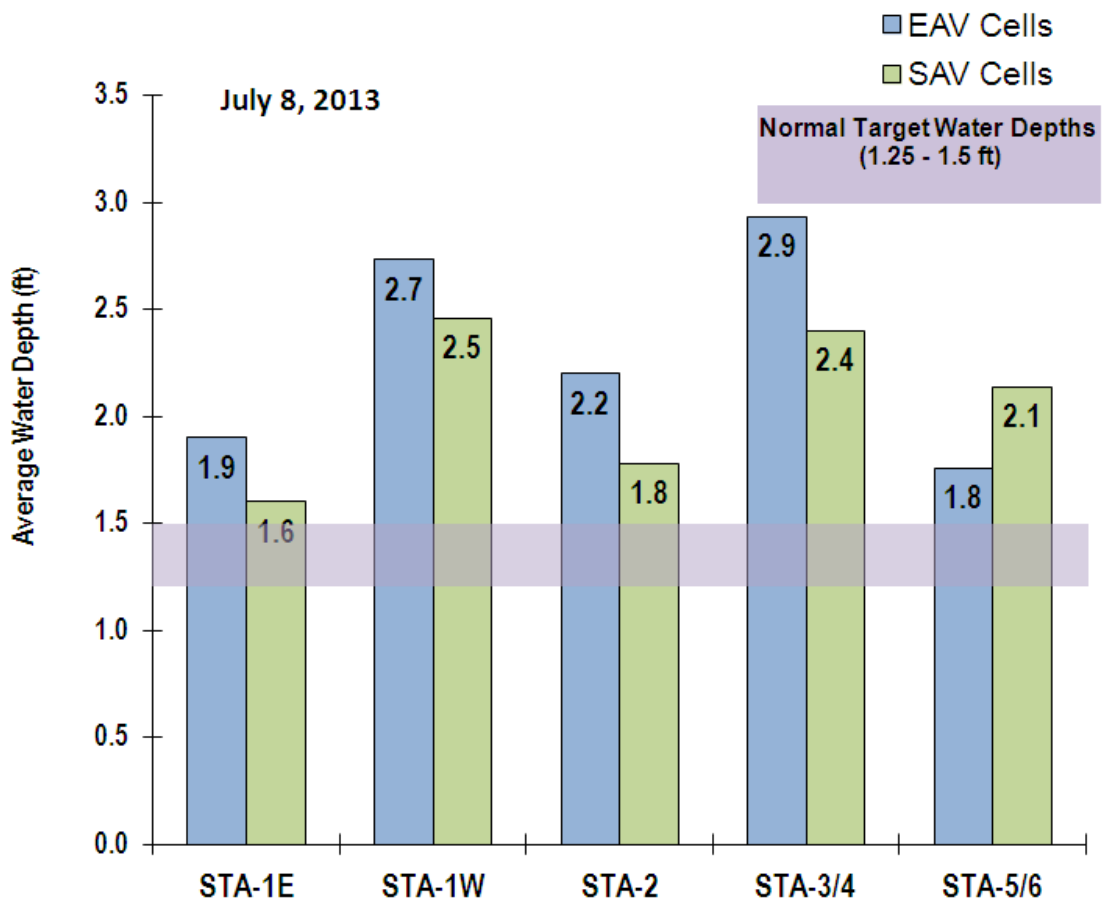
- 1.2 million acre-feet inflow volume received
- 84% TP load retained (166 metric tons TP)
- TP concentration reduced from 138 ppb to 21 ppb
  - STA-3/4 outflow 14 ppb
  - STA-5/6 outflow 17 ppb

Data is preliminary and subject to change.



STA Water Depths

- Water depths elevated in STA-1W and STA-3/4; others at or near targets
- No observed impacts on vegetation following Tropical Storm Andrea
  - Although deep water conditions can be detrimental to EAV



Excluding STA-1E Cells 1 and 2 due to offline status.

Vegetation Rehabilitation
STA-3/4 Cell 2A

- Frequent deep water events resulted in thinning cattail stands and invasion of floating aquatics
- Water levels lowered to encourage cattail expansion
- Bulrush planted in open-water areas

Pumps were used to dewater sections of Cell 2A and bulrush was planted in open-water areas.

Taylor Creek STA
Cell Enhancements

Drawdown Activities

- Water levels lowered for 3-4 weeks to rejuvenate existing vegetation and allow for natural recruitment of cattail and bulrush
- Provided an opportunity to conduct additional plantings in both STA cells

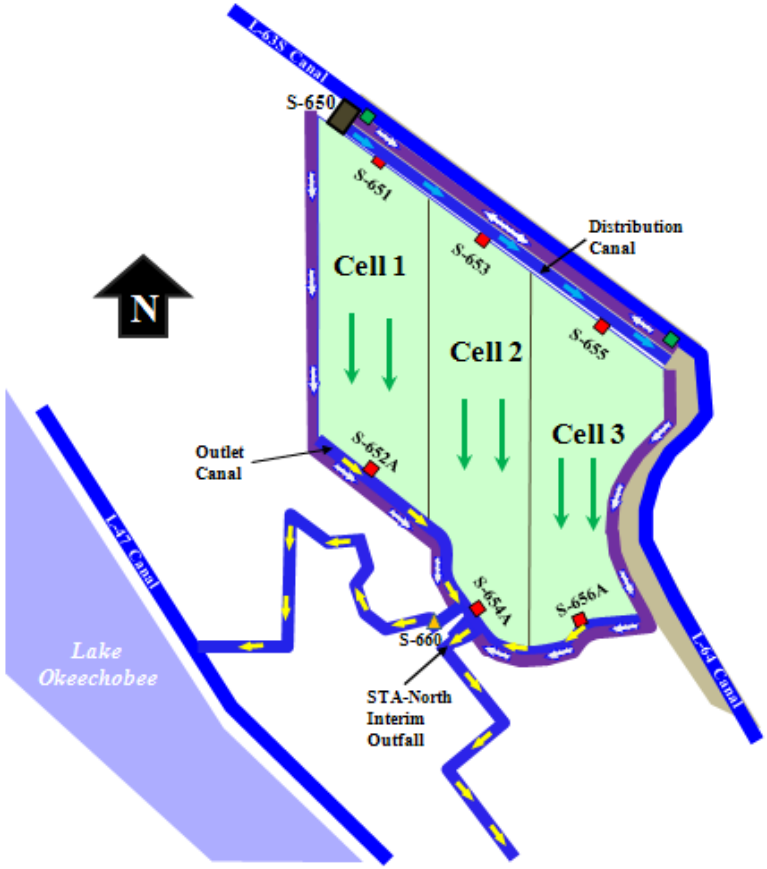
Goal: To enhance the phosphorus removal capability of the STA by establishing a reliable and sustainable treatment system

Birds foraging in Cell 1 (top) and bulrush planted to aid in vegetation establishment.

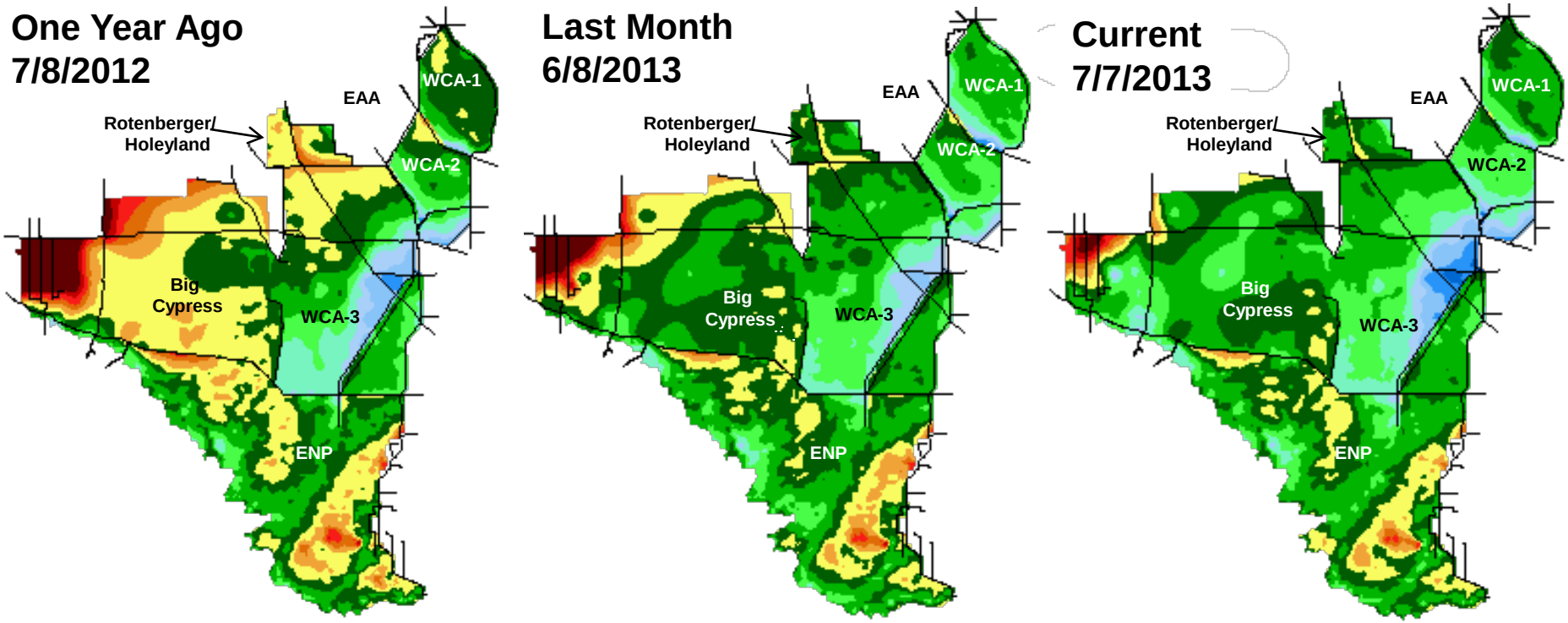
Lakeside Ranch STA
Phase 1

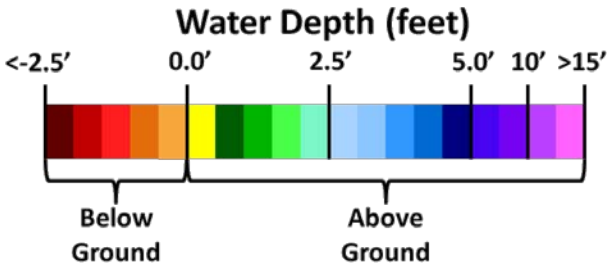
- STA passed start-up in March 2013
- Flow-through operation in Cell 2 will begin 1st week of July

Healthy stands of cattail at the downstream end of Cell 2

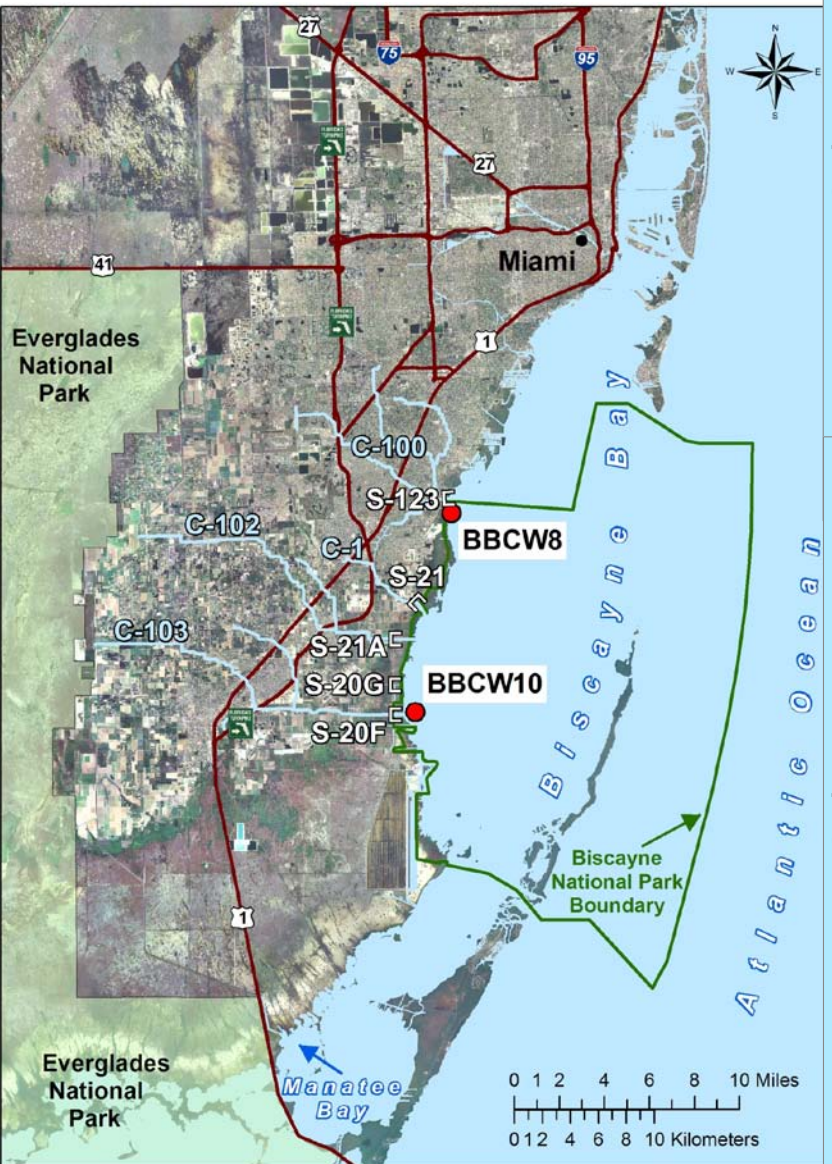


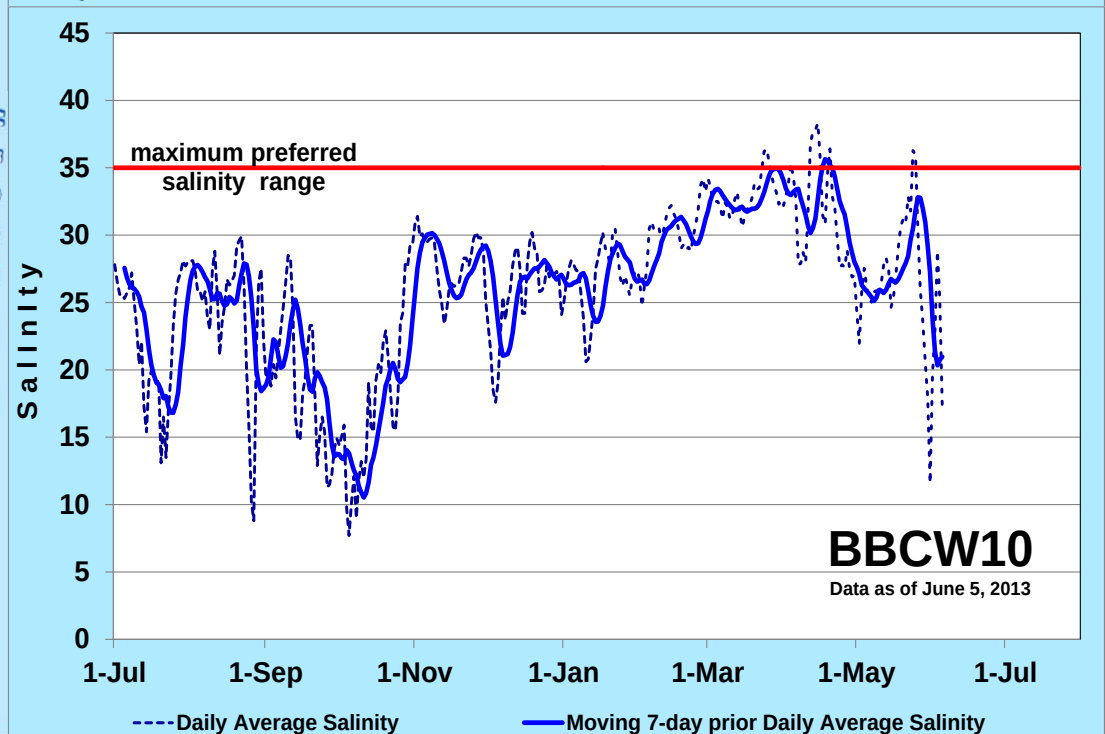
Greater Everglades
Water Depth Monthly Snapshots



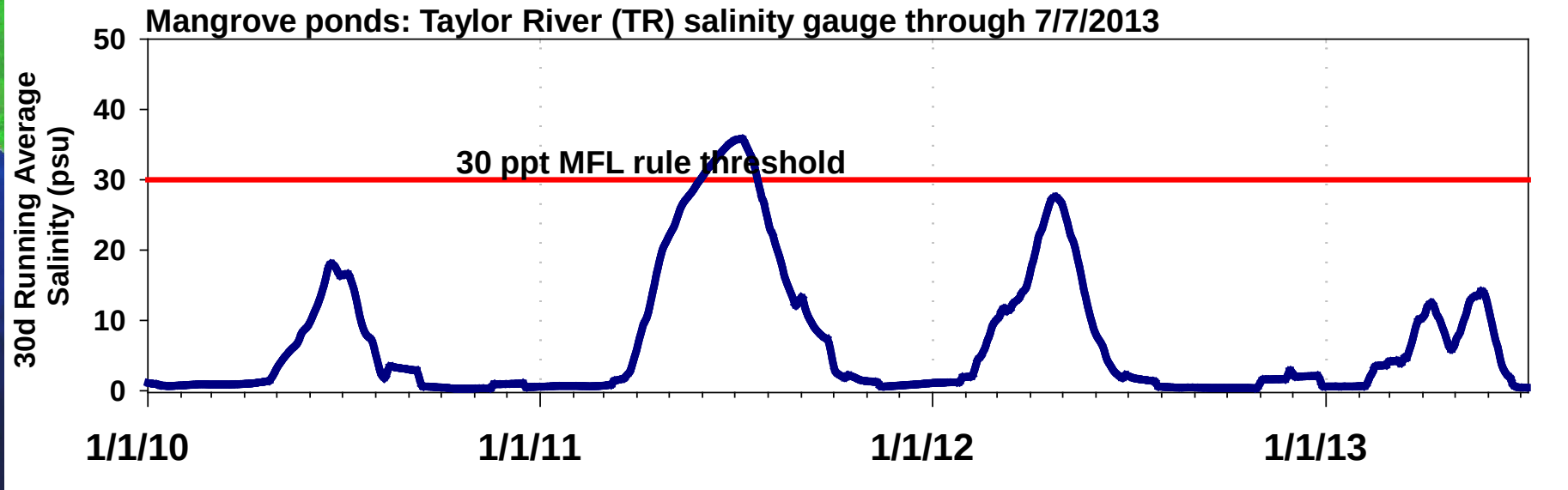


Biscayne Bay Salinity





Tracking Salinity in Florida Bay



Florida Bay MFL salinity threshold was exceeded in late June of 2011

THANK YOU

Terrie Bates
Director, Water Resources Division