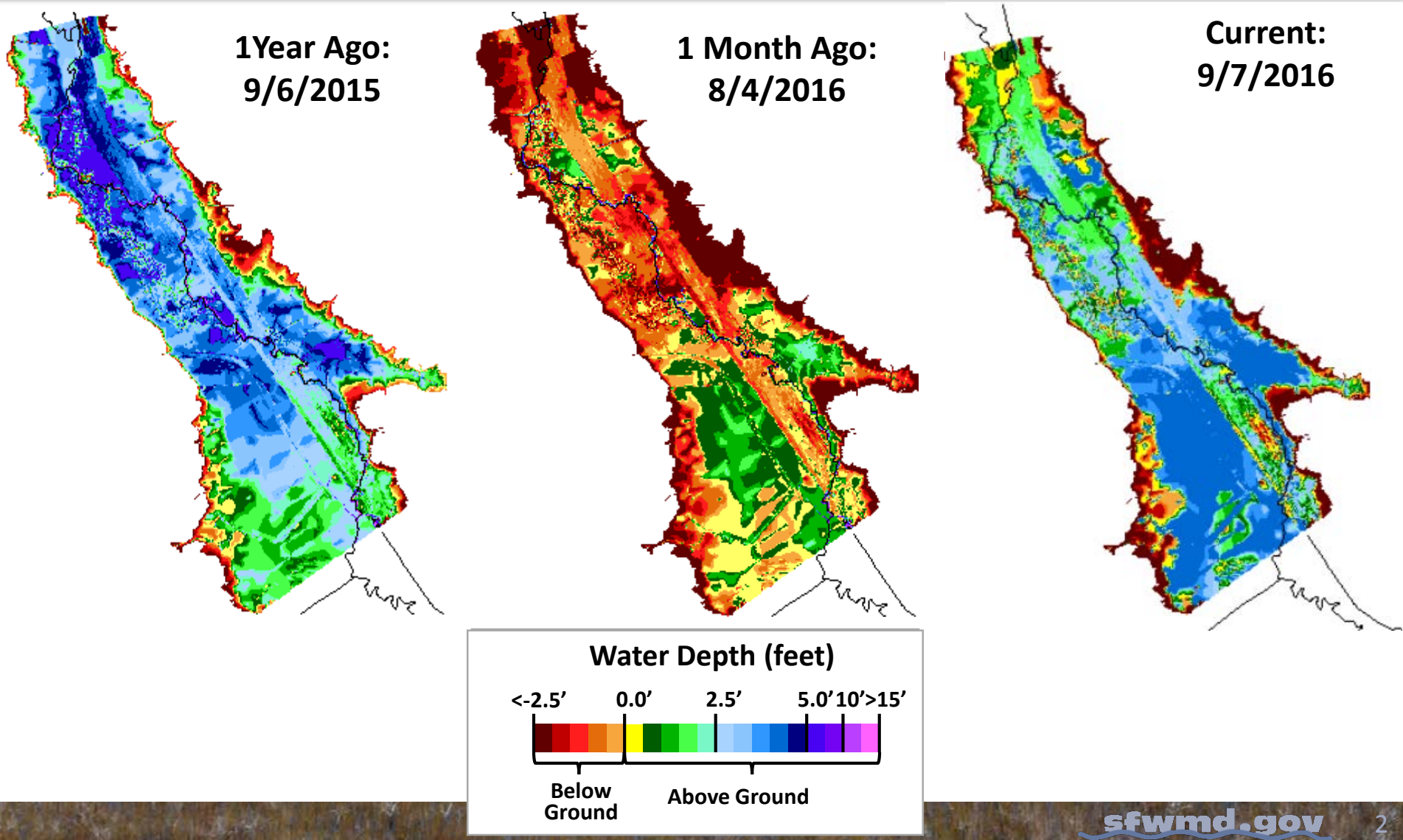
Governing Board Meeting
September 8, 2016

Ecological Conditions Update

Terrie Bates
Division Director,
Water Resources

White-tailed deer forage in the Kissimmee Prairie State Preserve

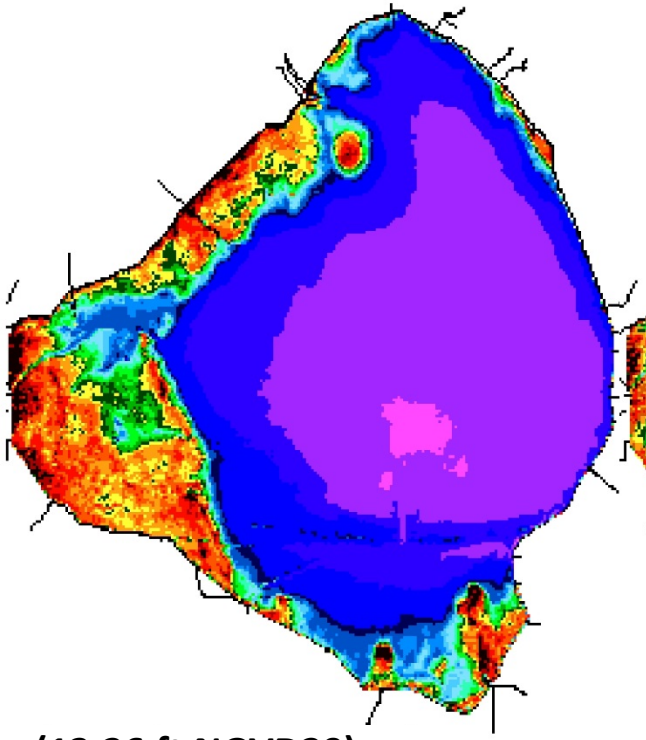
Kissimmee River Phase I Restoration Area Water Depth Maps



Kissimmee River Phase I Restoration Area MacArthur Ditch Backfilling

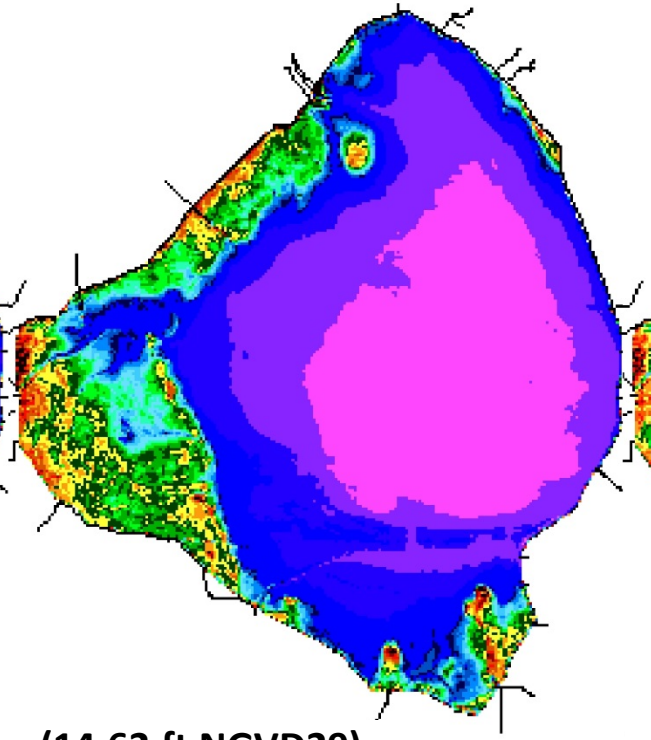
Lake Okeechobee
Water Depth Maps

1 Year Ago: 09/05/2015



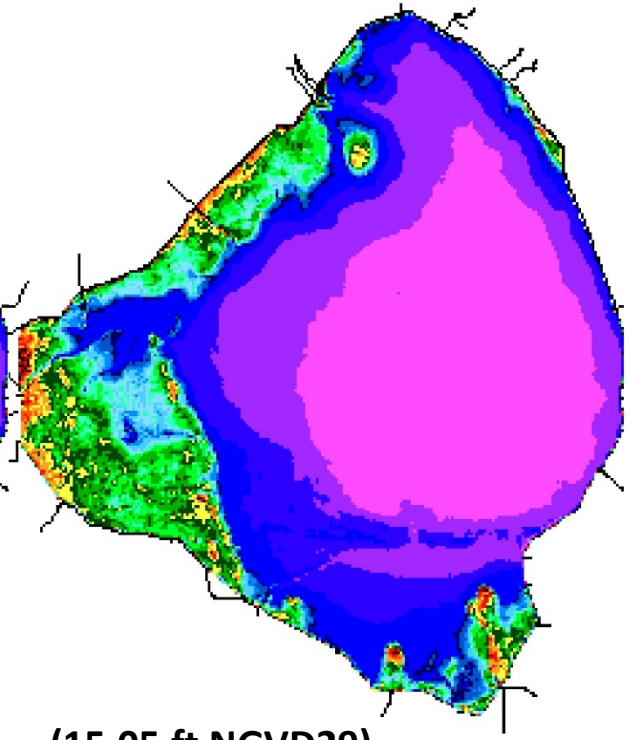
(13.26 ft NGVD29)

1 Month Ago: 08/06/2016

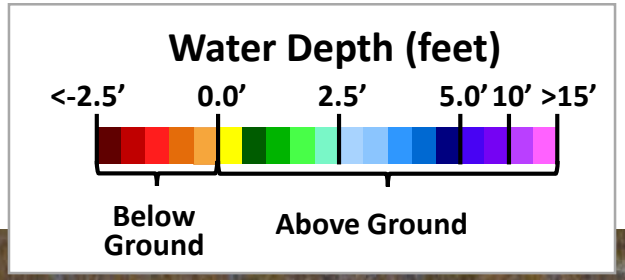


(14.62 ft NGVD29)

Current: 09/07/2016

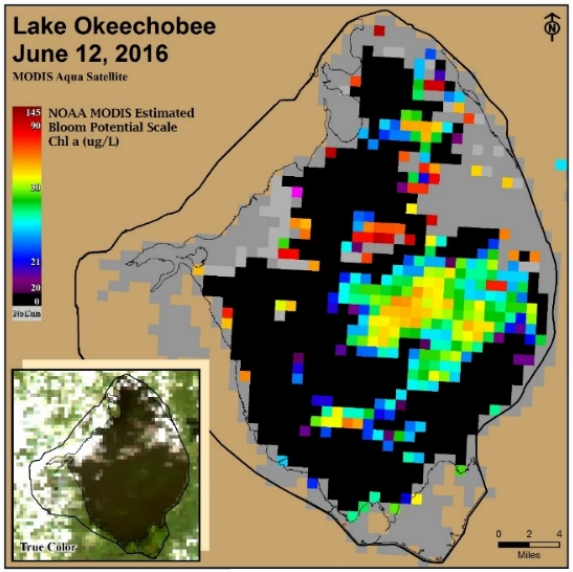


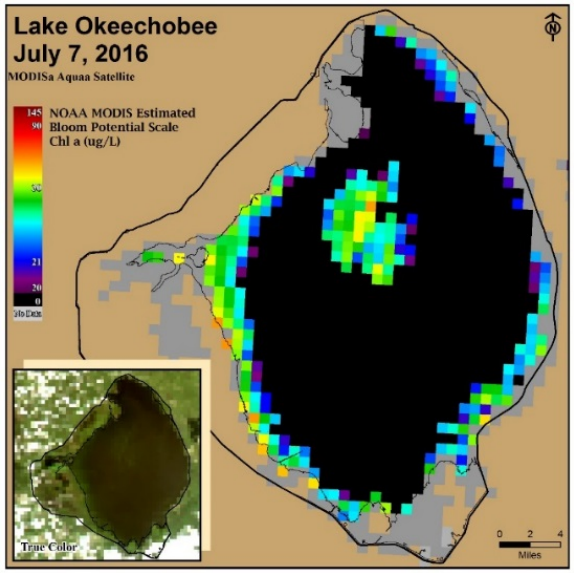
(15.05 ft NGVD29)

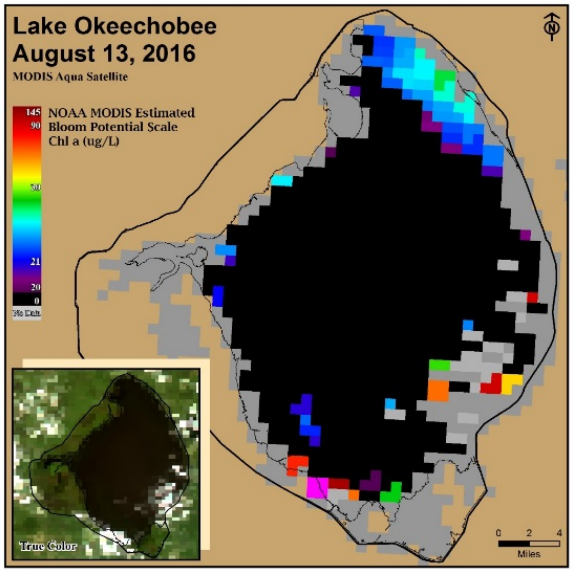


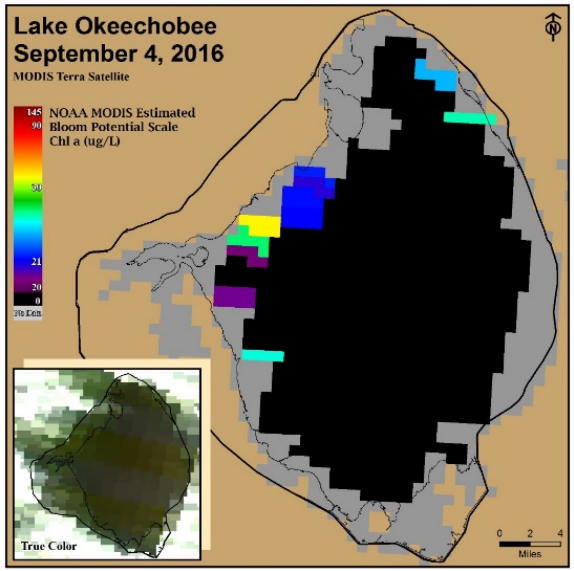
MODIS Satellite Bloom Monitoring

NOAA – Experimental Data, Ongoing Validation



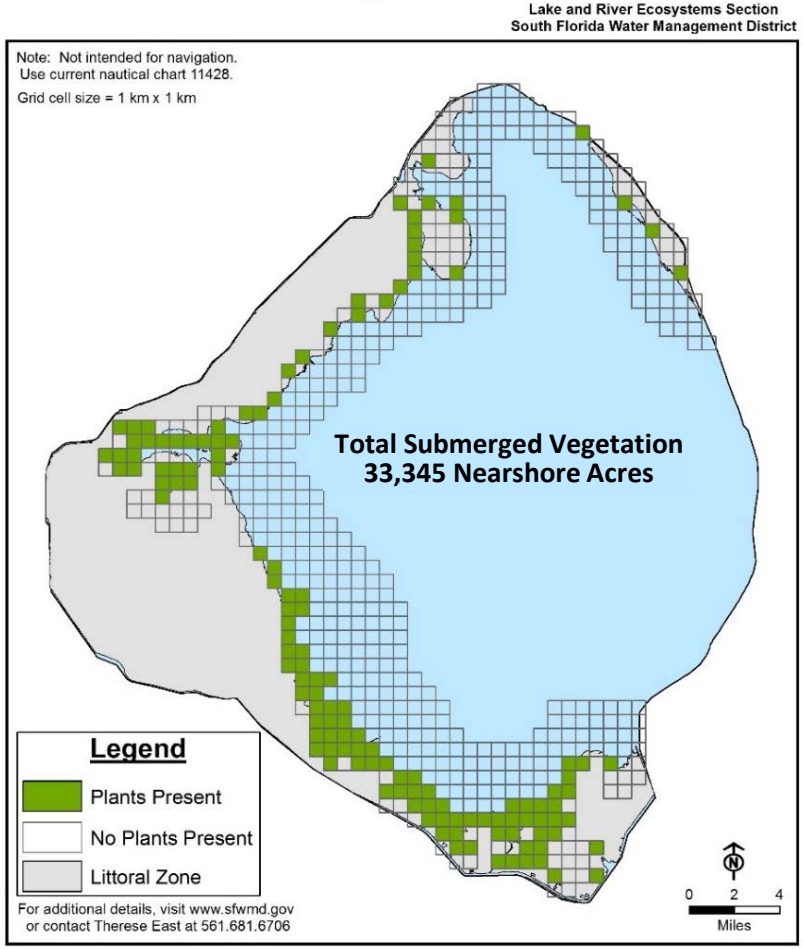




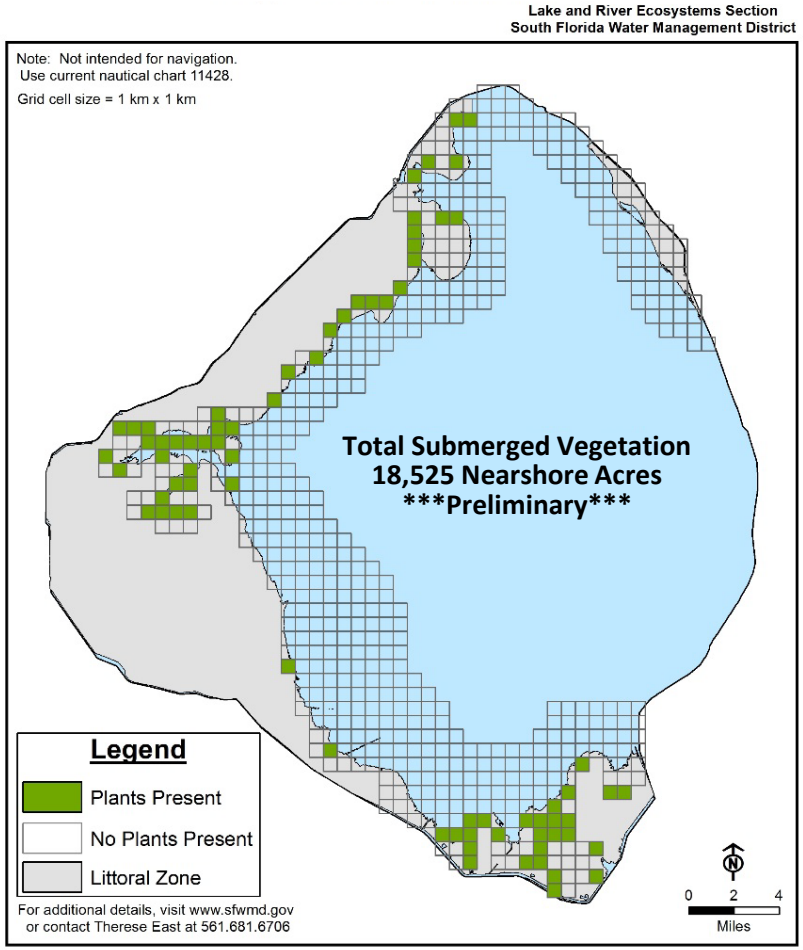


Lake Okeechobee
Submerged Aquatic Vegetation

August 2015
Map for Lake Okeechobee Nearshore Submerged Aquatic Vegetation

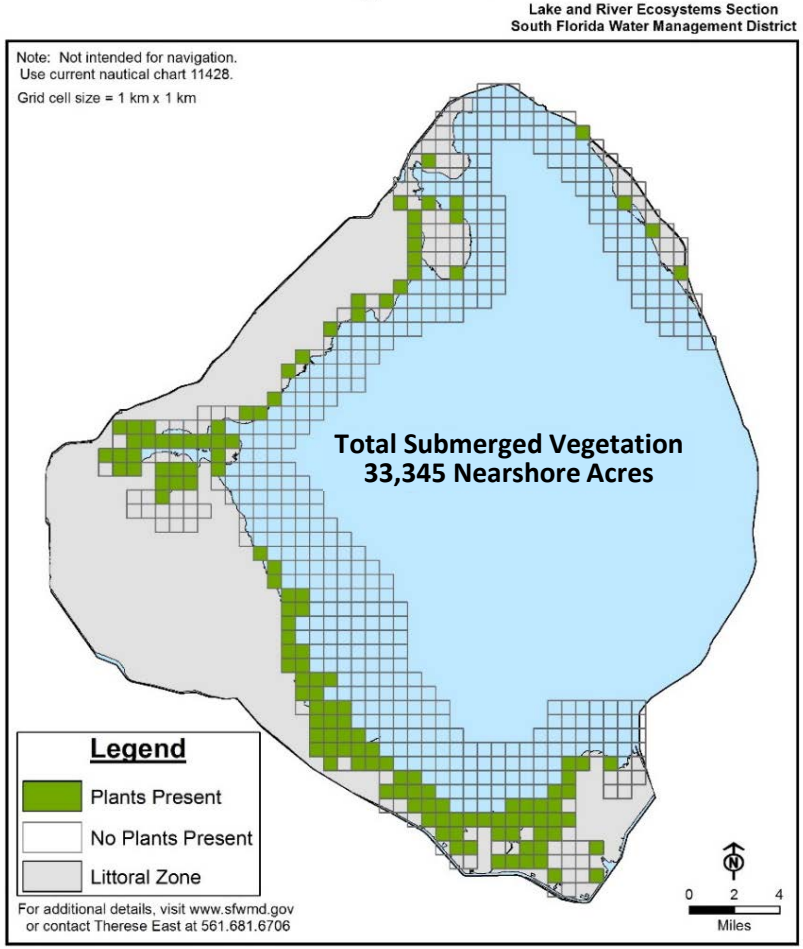


August 2016 (preliminary)
Map for Lake Okeechobee Nearshore Submerged Aquatic Vegetation

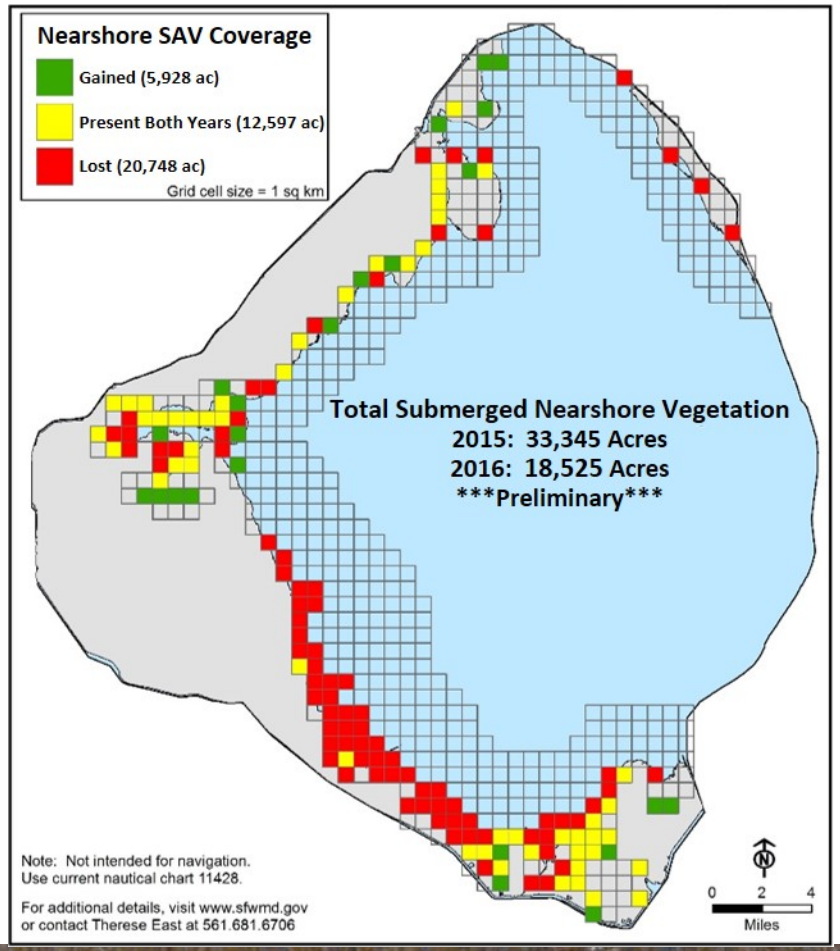


Lake Okeechobee
Submerged Aquatic Vegetation

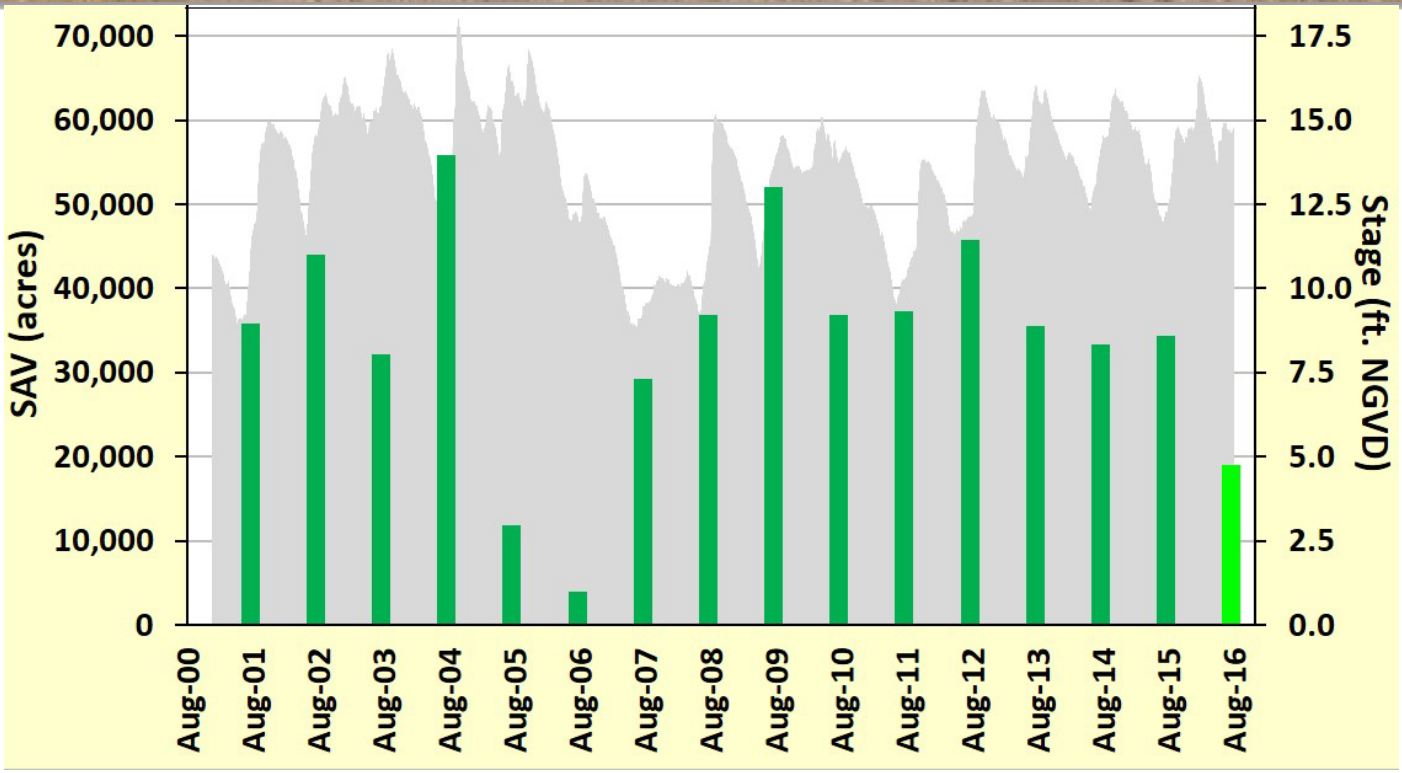
August 2015
Map for Lake Okeechobee Nearshore Submerged Aquatic Vegetation



Spatial Extent Contrast of SAV in Lake Okeechobee from 2015 to 2016



Lake Okeechobee
Submerged Aquatic Vegetation & Lake Stage

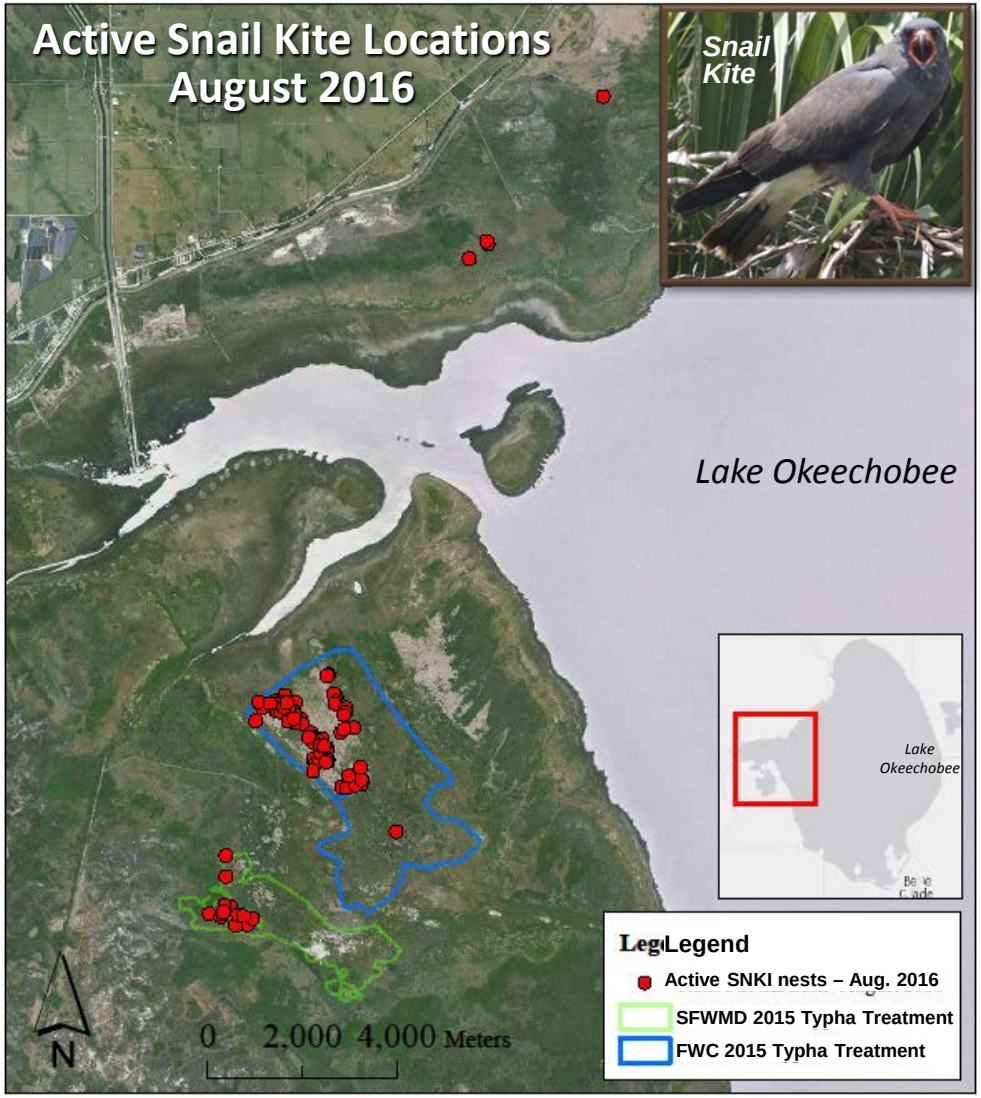


<u>August 2015</u>
33,345 acres

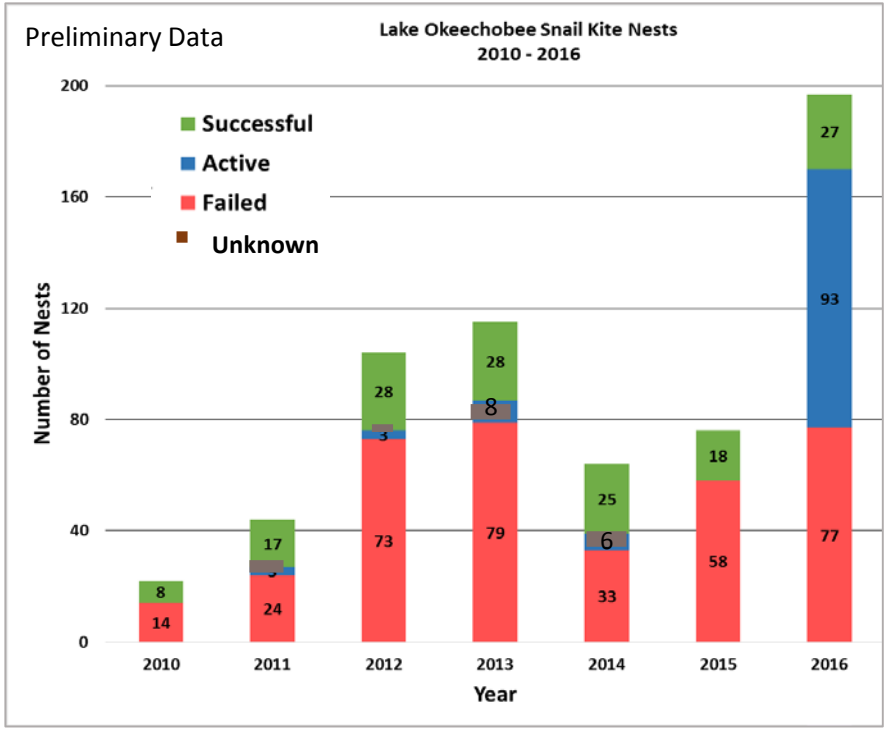
<u>August 2016</u>
18,525 acres

- Lowest coverage recorded since hurricane impacted years of 2005 & 2006
- Decrease likely due to poor underwater light conditions
- Lake has been almost continuously above elevation 14’ NGVD since September 2015, peaking at 16.4’ NGVD in February 2016

Lake Okeechobee Snail Kite Nests in 2016

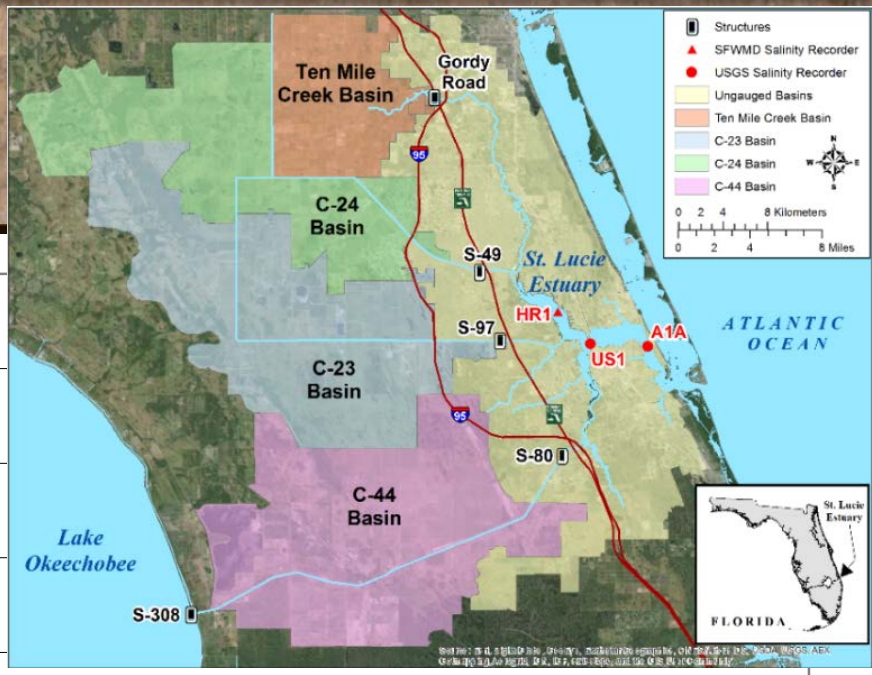


- 197 total nests (27 new since Aug)
- 27 Successful
- 77 Failed
- 93 Still Active (60 w/ chicks)



Data from the University of Florida and provided by FFWCC

St. Lucie Estuary



Weekly Average Inflow
August 30 - Sept. 5, 2016

Inflow from Lake	460 cfs
C-44 Basin Inflow	310 cfs
Ten Mile Creek	158 cfs
C-23	349 cfs
C-24	437 cfs
Tidal Basin Inflow	966 cfs
Total	2680 cfs

Data provisional and subject to change

Total Flow (cfs)

15,000
13,500
12,000
10,500
9,000
7,500
6,000
4,500
3,000
1,500
0

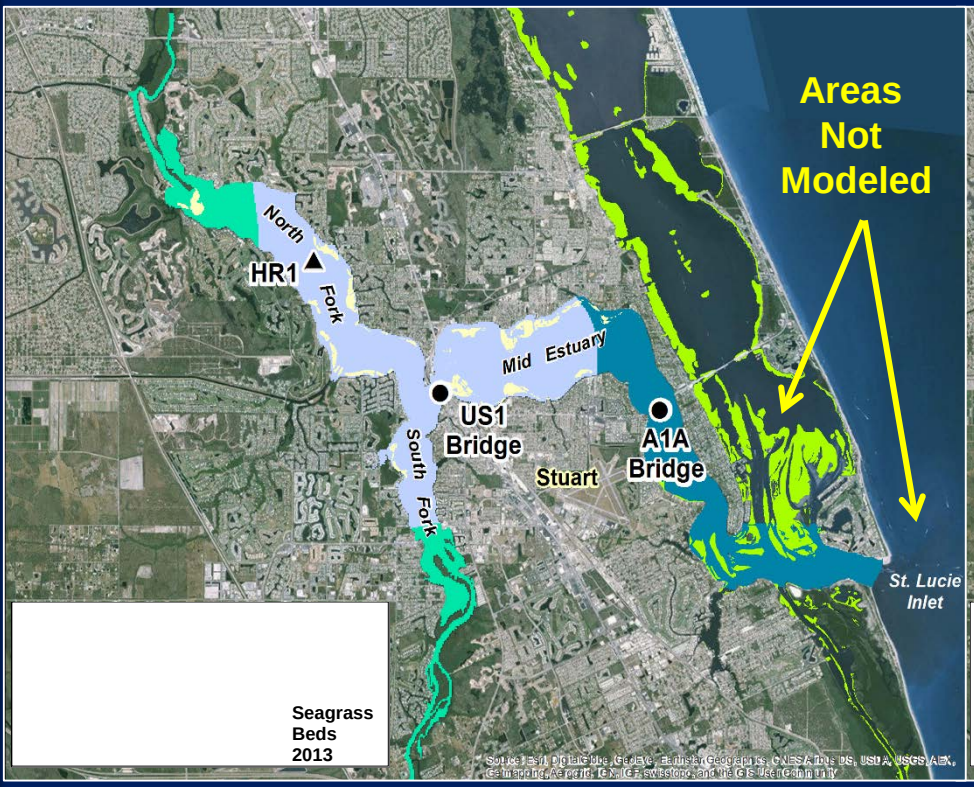
1-Sep 1-Oct 1-Nov 1-Dec 1-Jan 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Sep

- Inflow from Lake* (using downstream gauge)
- C-44 Basin Runoff
- Inflow from C-24, C23, and Ten Mile Creek
- Tidal Basin Inflow

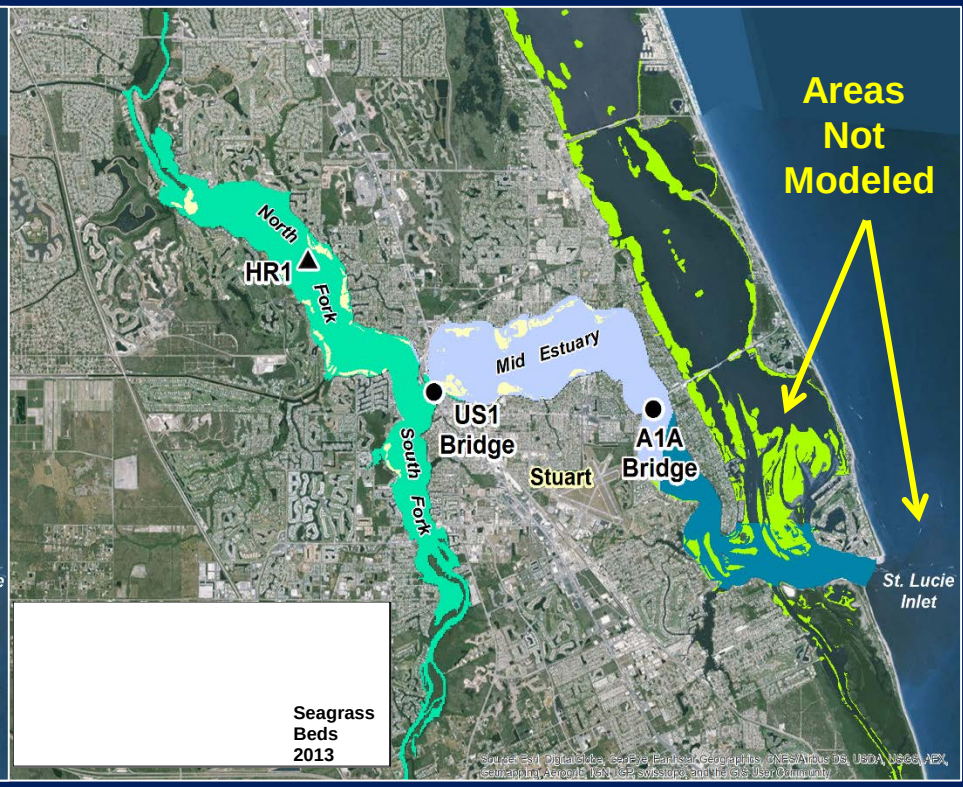
St. Lucie Estuary

Salinity Conditions

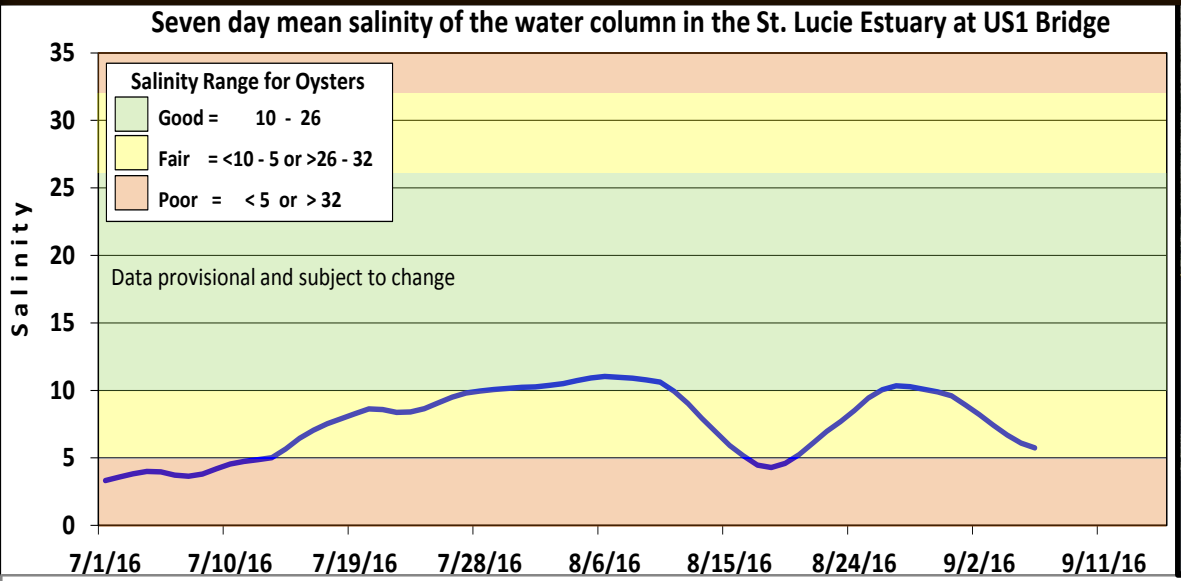
August 8, 2016

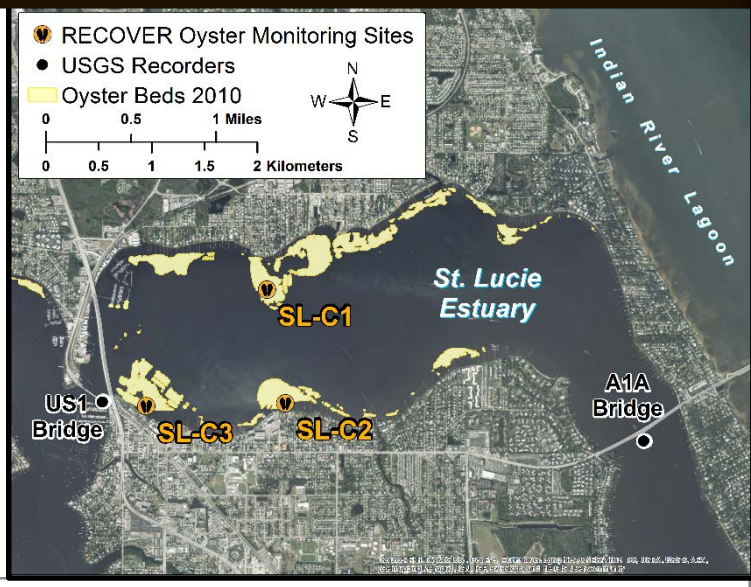


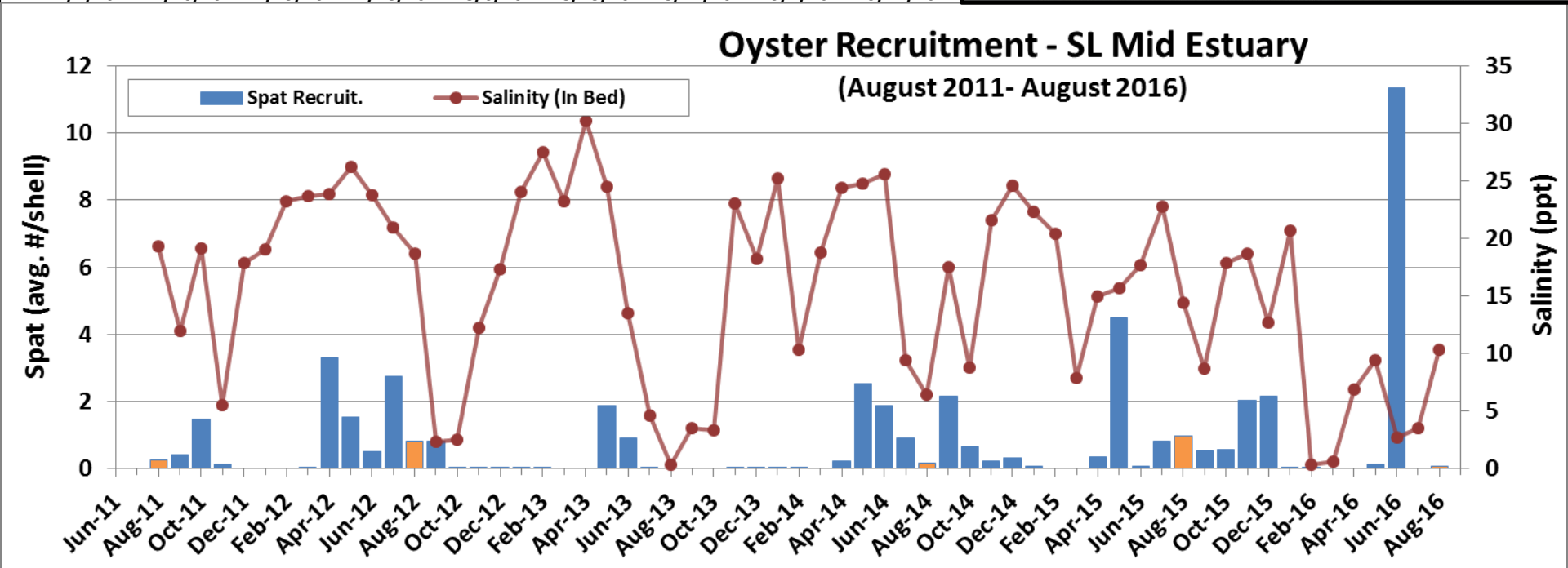
September 5, 2016



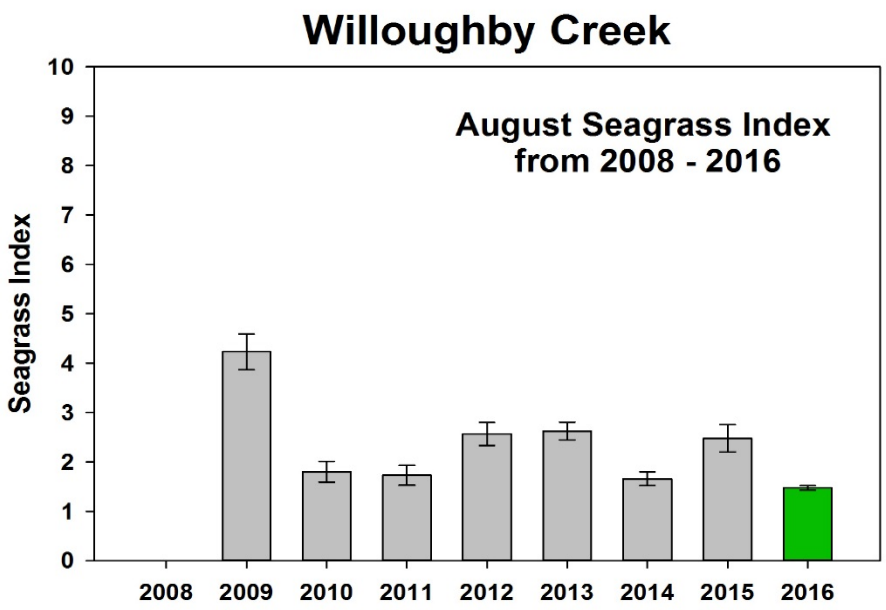
St. Lucie Estuary - Oyster Spat Recruitment

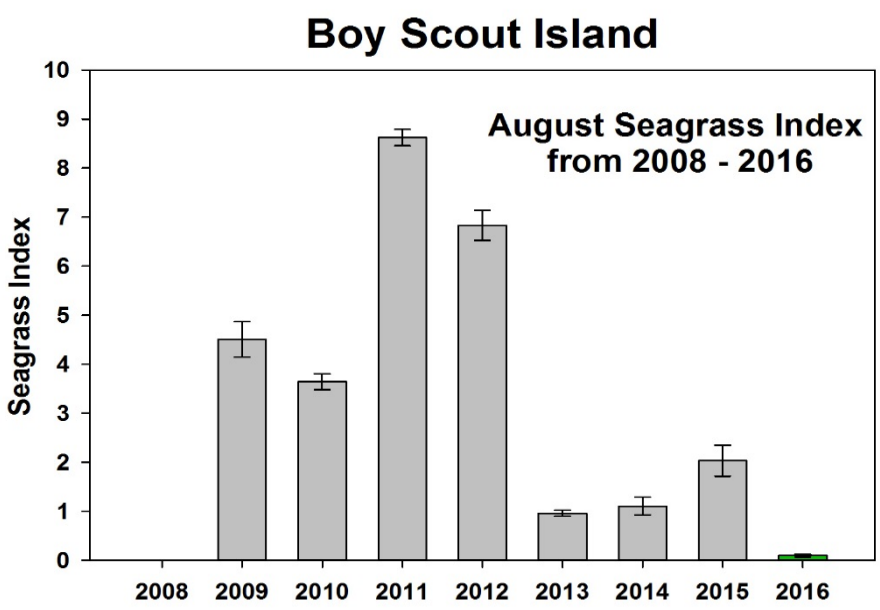




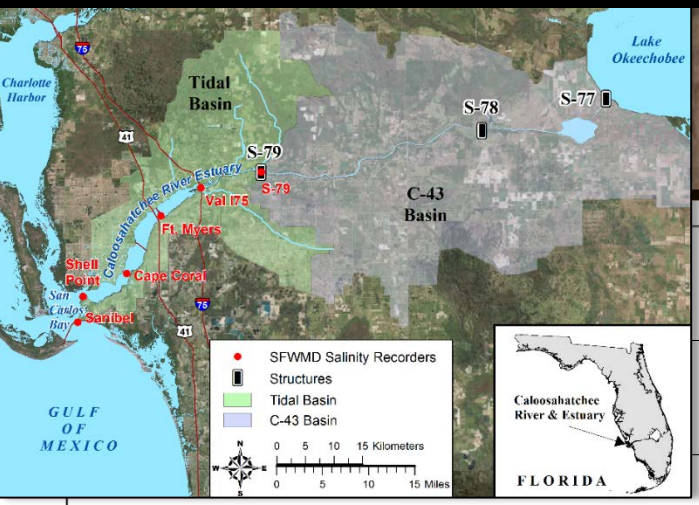


St. Lucie Estuary – Seagrass





Caloosahatchee Estuary



Weekly Average Inflow
August 30 - Sept. 5, 2016

Inflow from Lake:	674 cfs
C-43 Basin Inflow:	2948 cfs
Tidal Basin Inflow:	1785 cfs
Total :	5407 cfs

Data are provisional and subject to change

Total Flow (cfs)

18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0

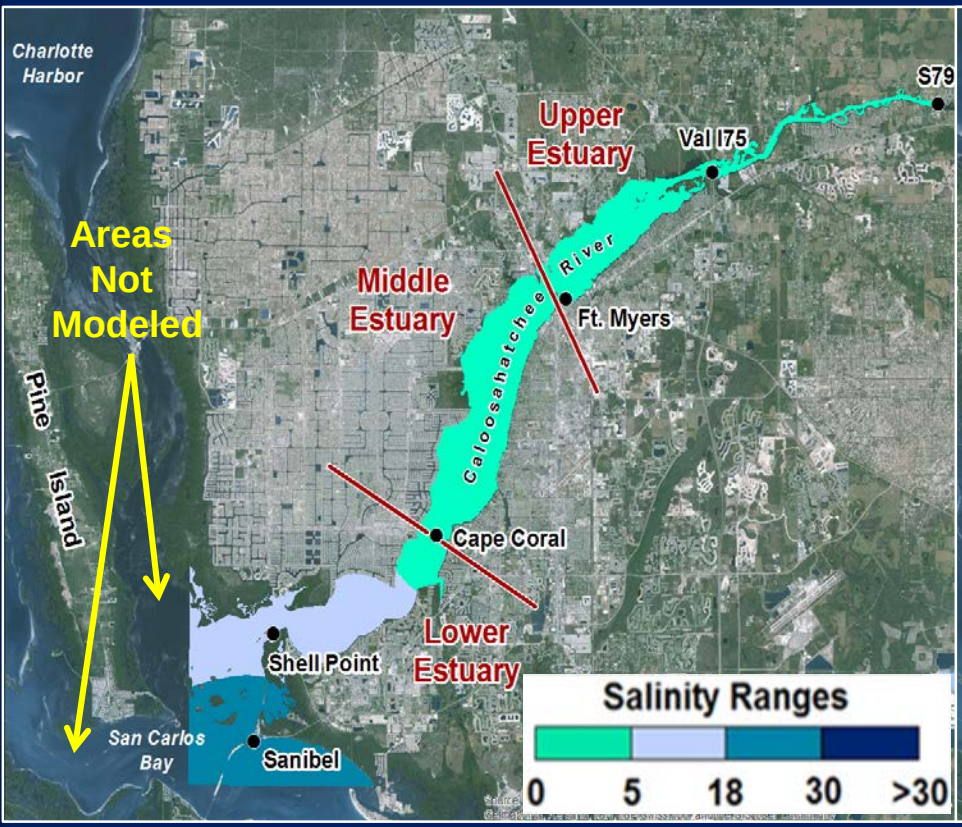
1-Sep 1-Oct 1-Nov 1-Dec 1-Jan 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Sep

Inflow from Lake* (using downstream gauge) | C-43 Basin Inflow | Tidal Basin Inflow (downstream of S79)

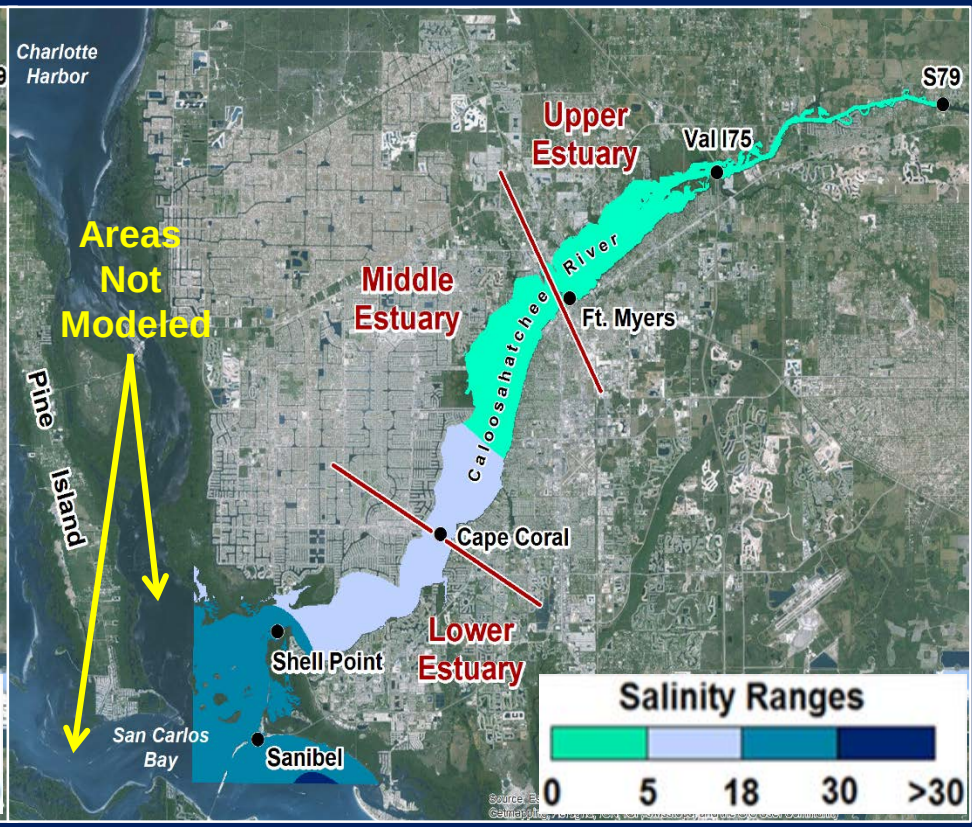
Caloosahatchee Estuary

Salinity Conditions

August 8, 2016



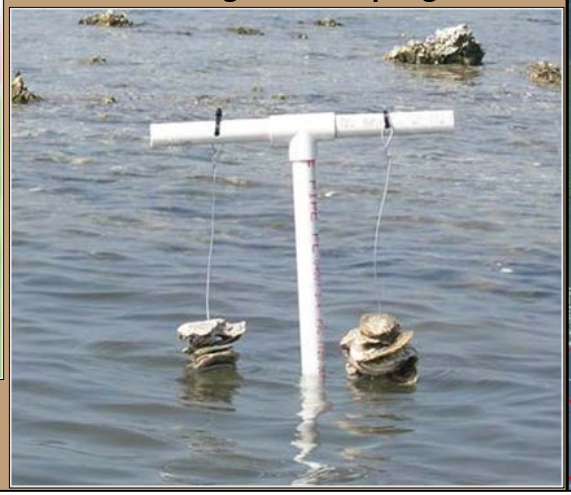
September 5, 2016

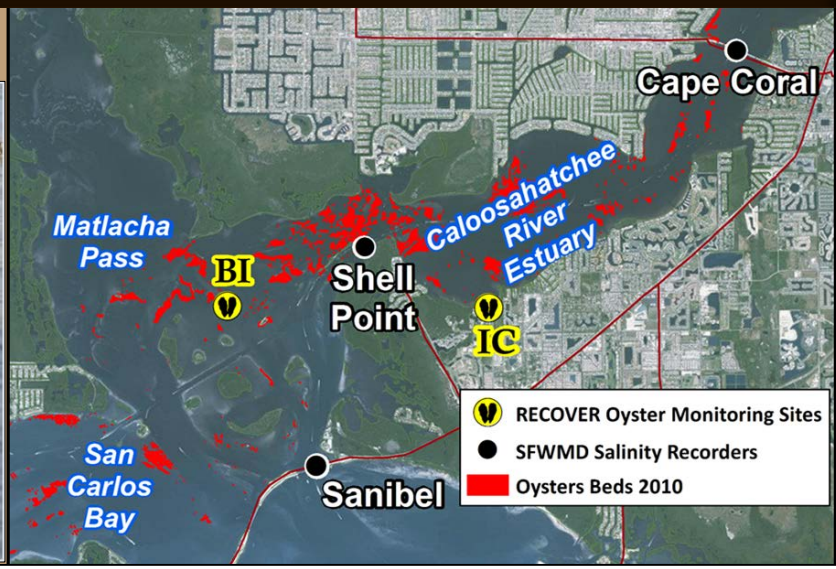


Caloosahatchee Estuary - Oysters

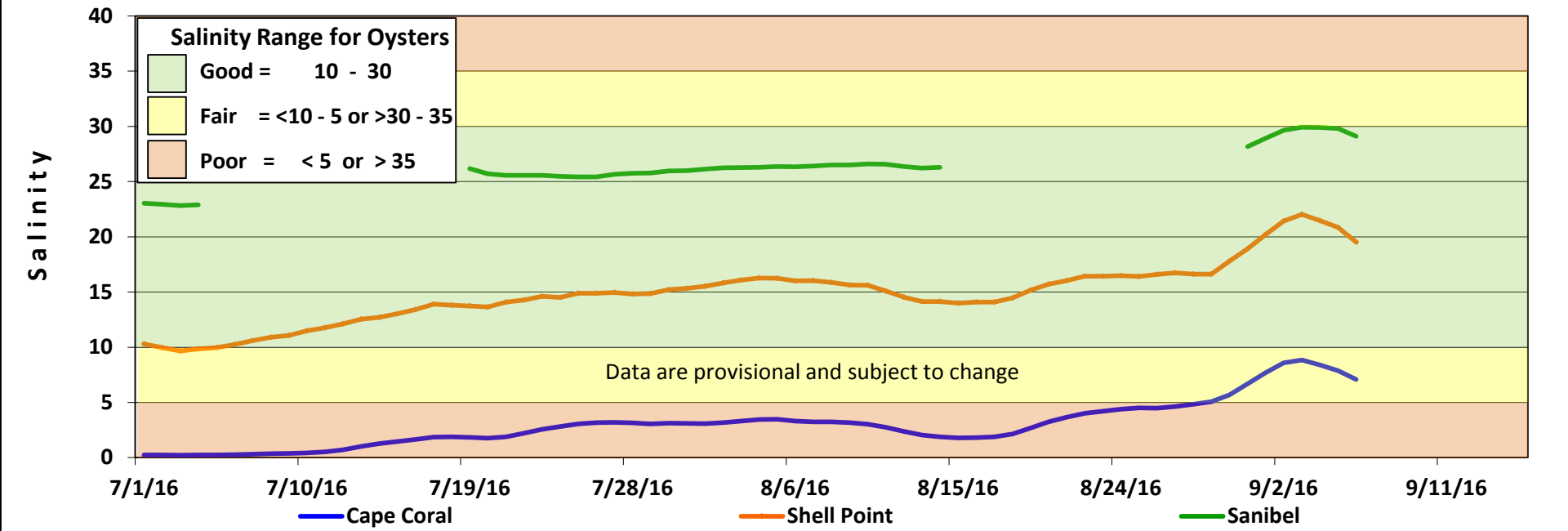
Oyster spat

Each month 10 new oyster shells are hung from sampling T's

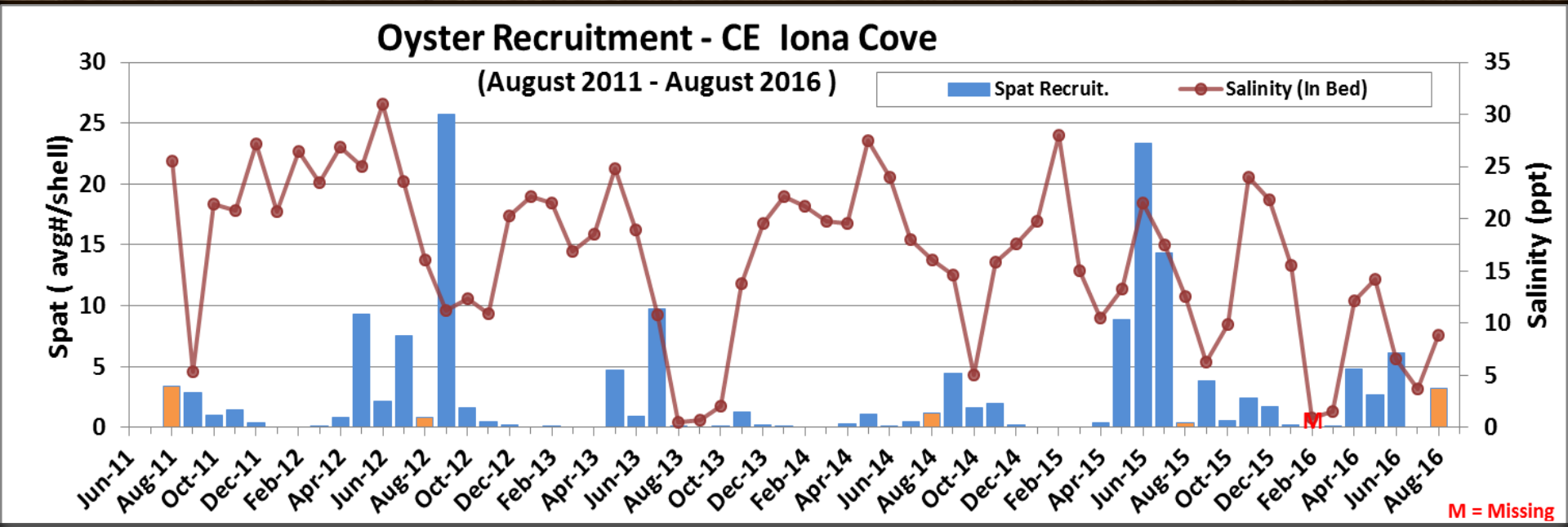


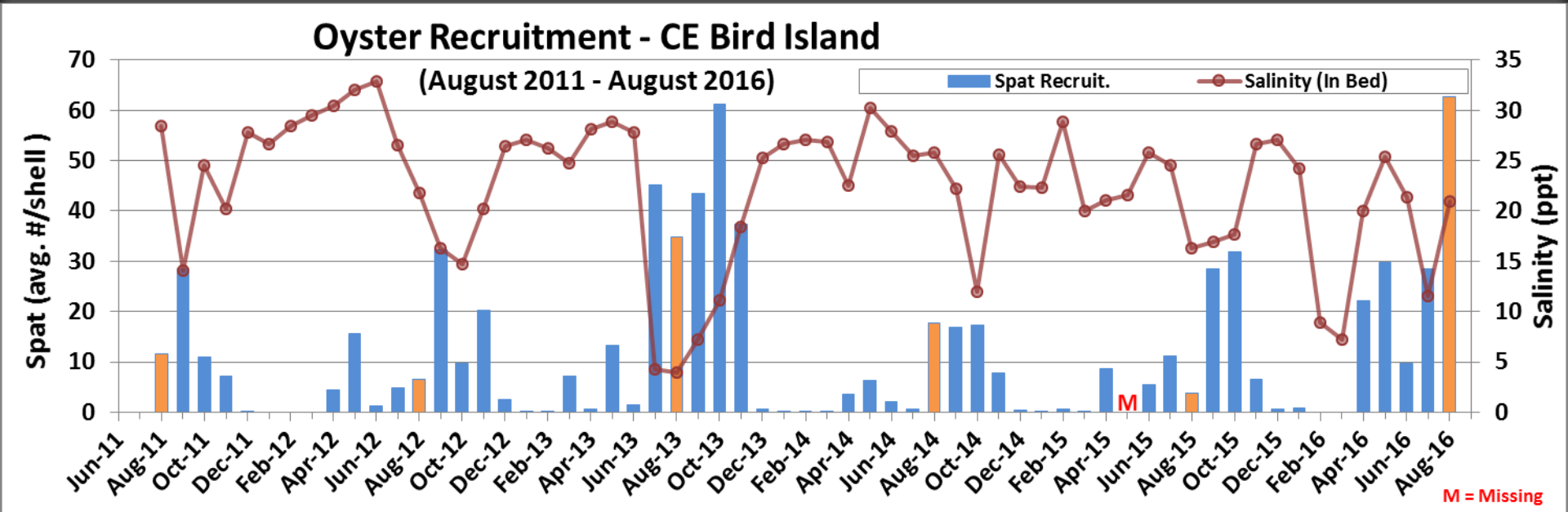


Seven day mean salinity of the water column at 3 monitoring stations in the Caloosahatchee Estuary



Caloosahatchee Estuary Oyster Spat Recruitment





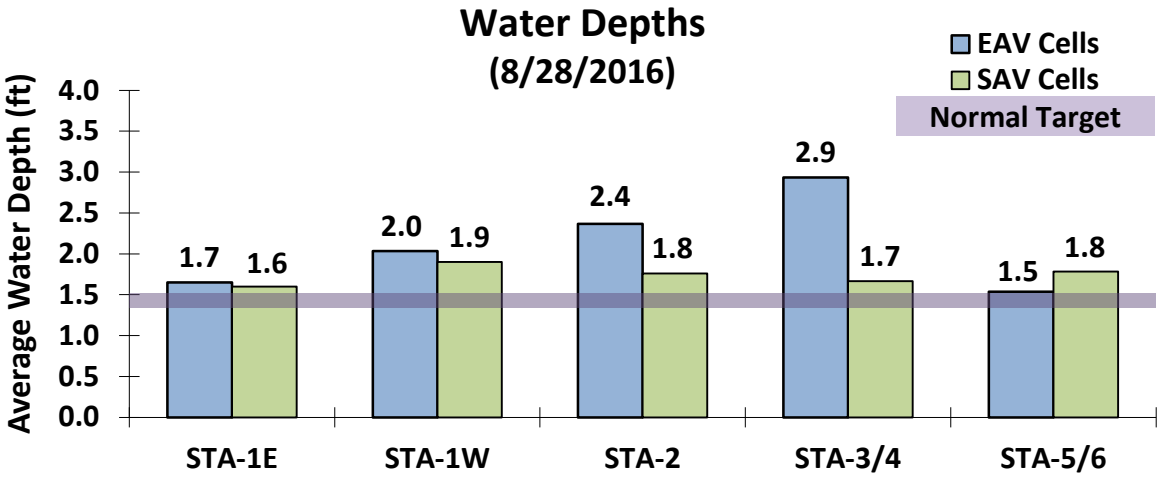
Everglades Stormwater Treatment Areas Current Conditions

- STAs and A-1 FEB received high inflow volumes in August due to above average EAA rainfall
  - Continued to send Lake releases south through A-1 FEB and STAs
  - Total Lake regulatory releases to FEBs/STAs in WY2017 (since May 1) ~61,000 ac-ft
- All treatment cells are at or above target depths

Water Year 2017
(5/1/16 to 8/28/16)

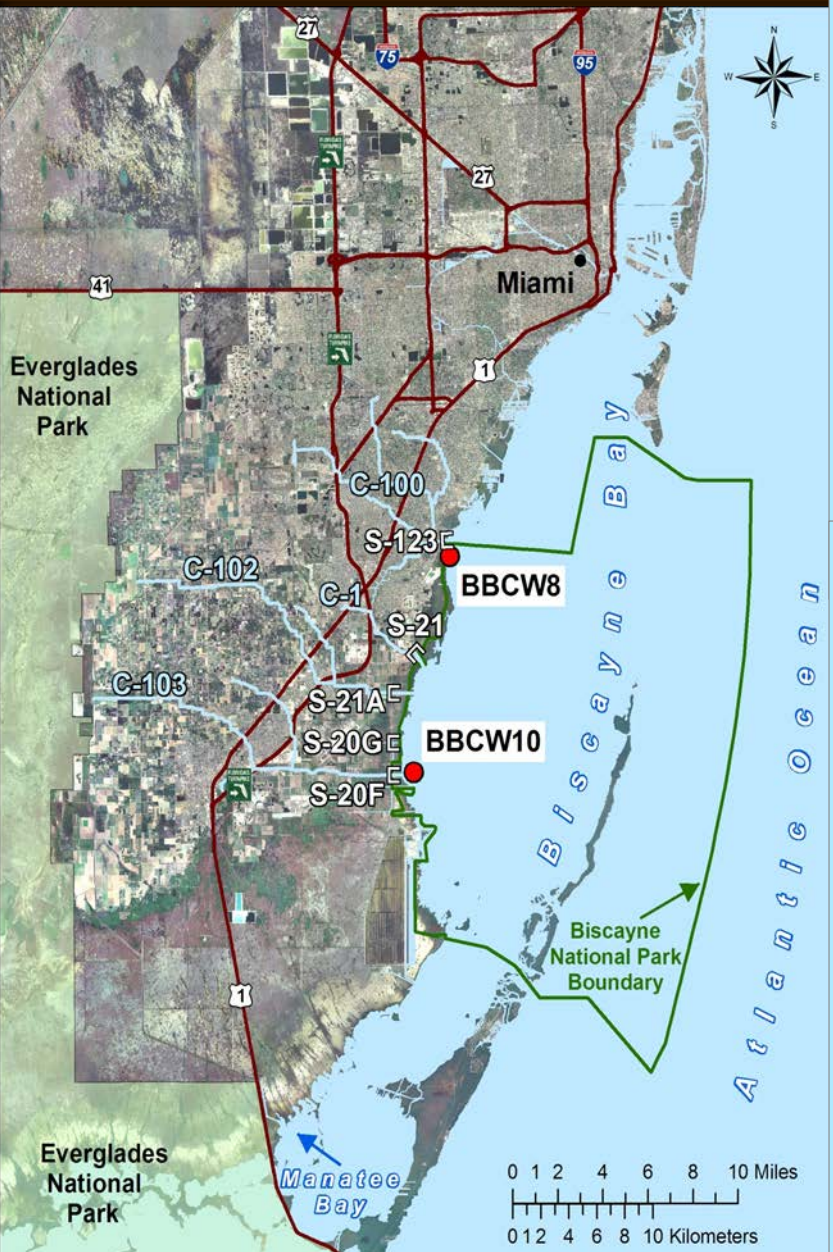
	STA-1E	STA-1W	STA-2	STA-3/4	STA-5/6	All STAs combined
Inflow Flow-weighted Mean TP Concentration (ppb)	151	154	99	38	157	91
Outflow Flow-weighted Mean TP Concentration (ppb)	25	25	16	12	20	17
Inflow Volume (ac-ft)	63,412	40,017	142,972	211,207	52,565	510,173

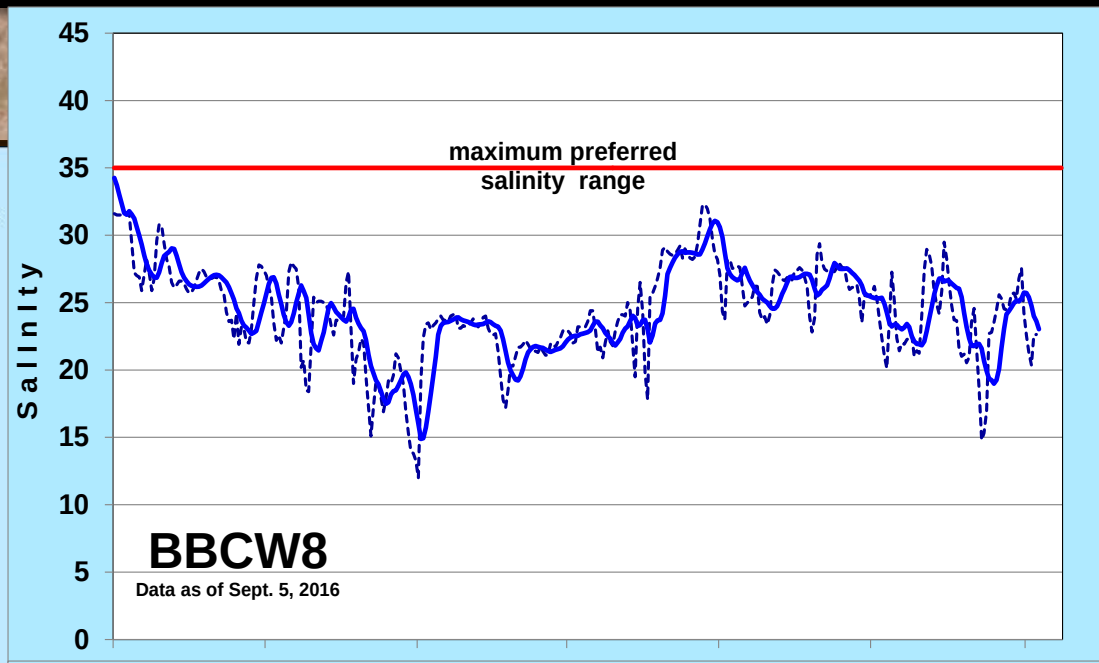
Includes preliminary data

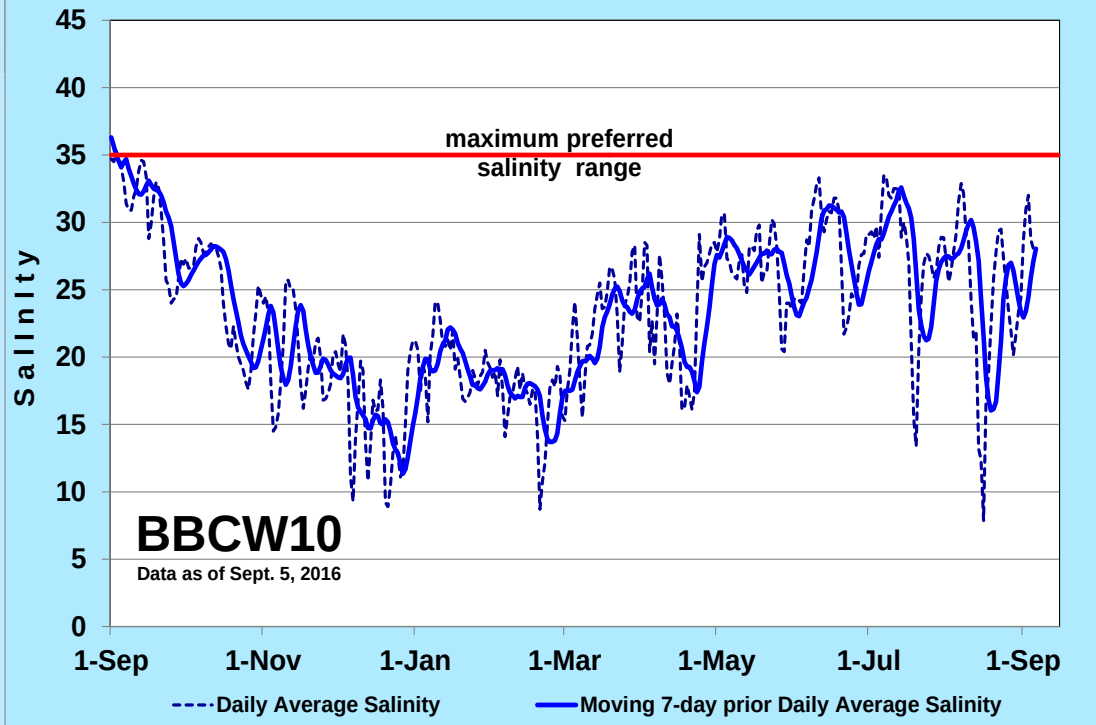


Includes preliminary data

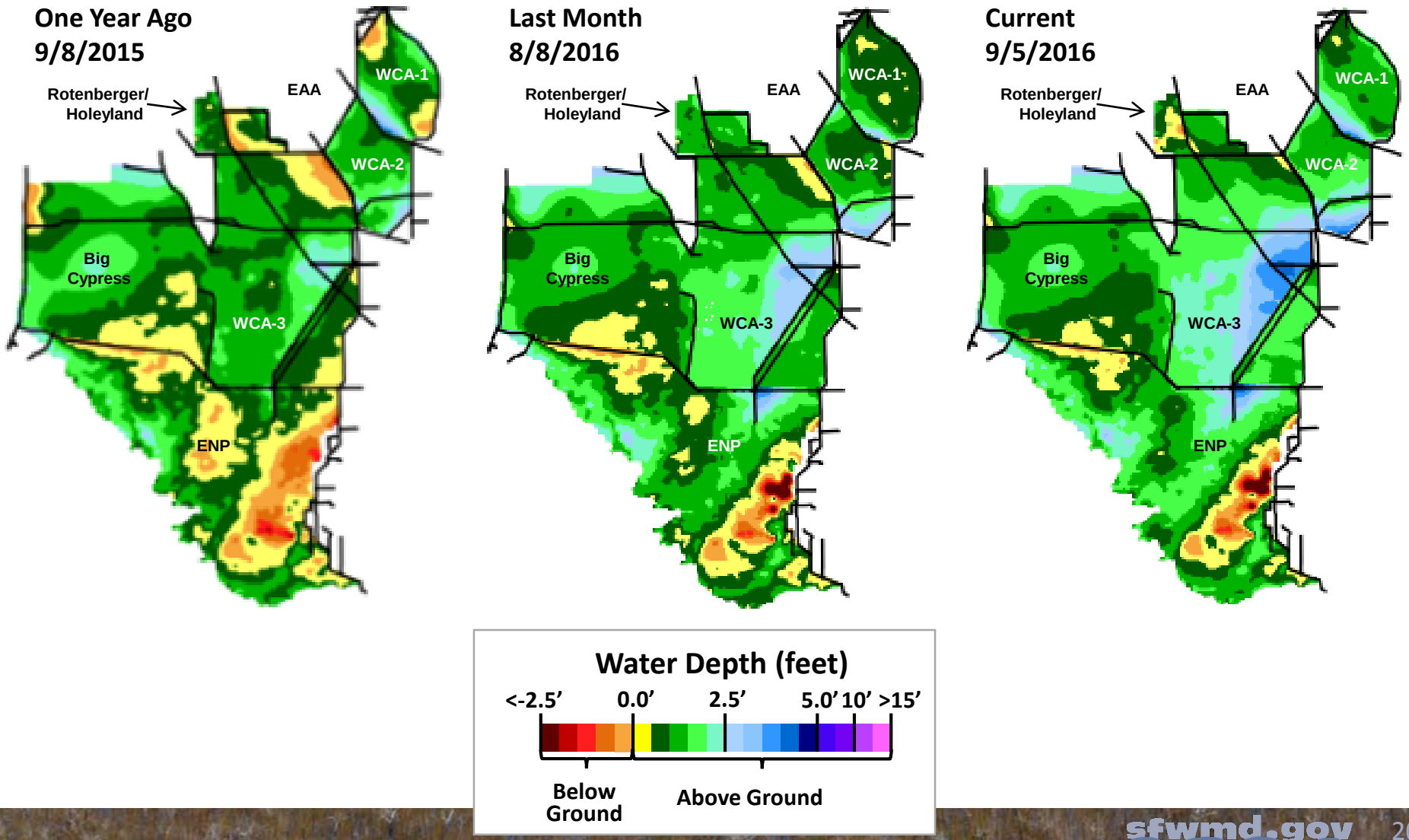
Biscayne Bay Salinity



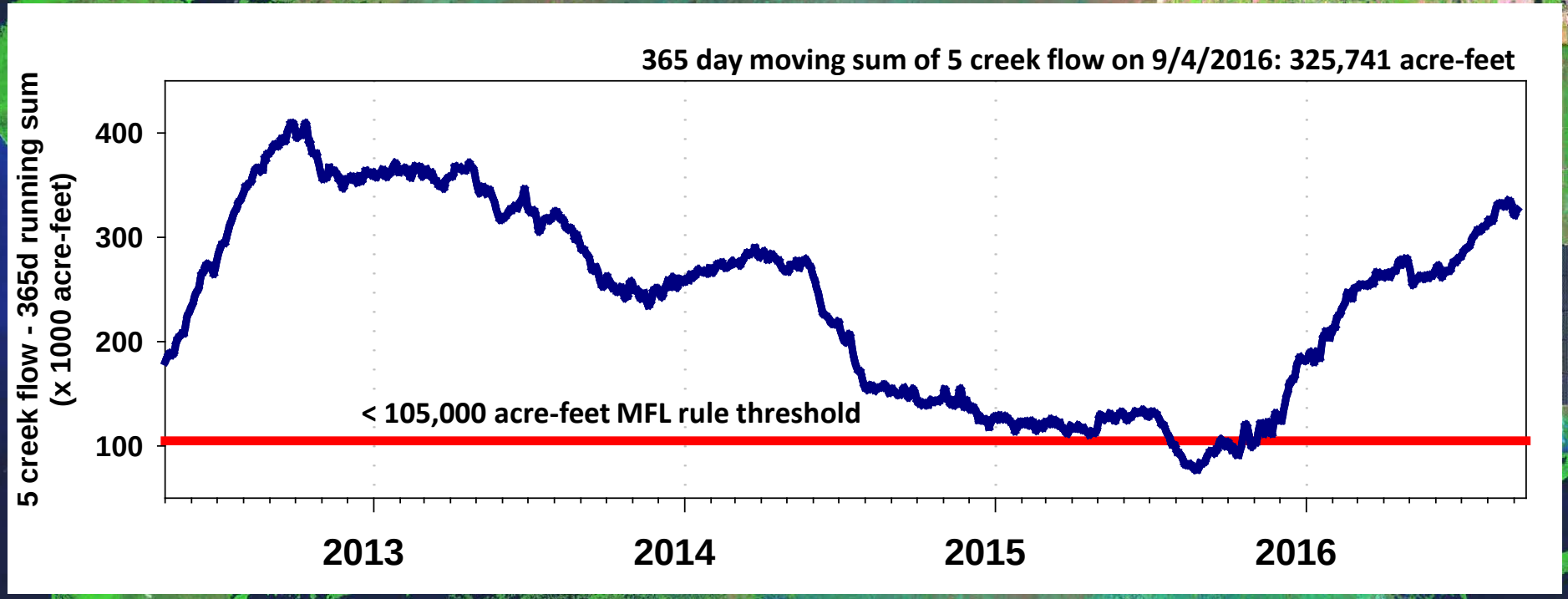




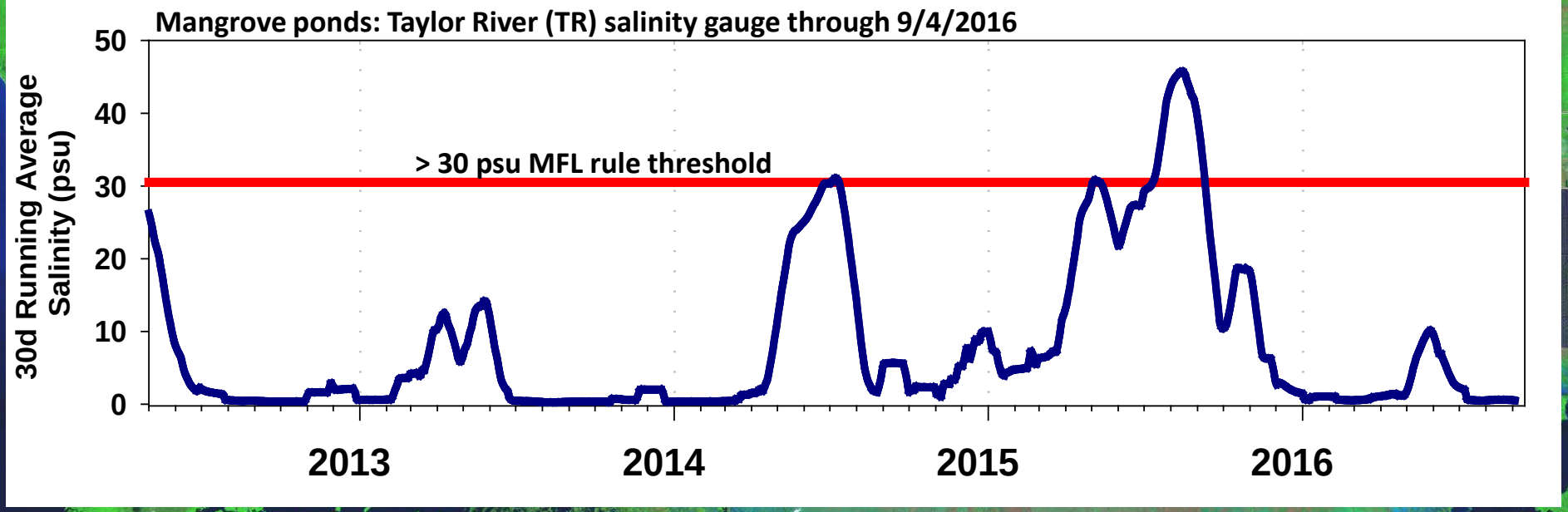
Everglades
Water Depth Maps



Florida Bay Flow Update

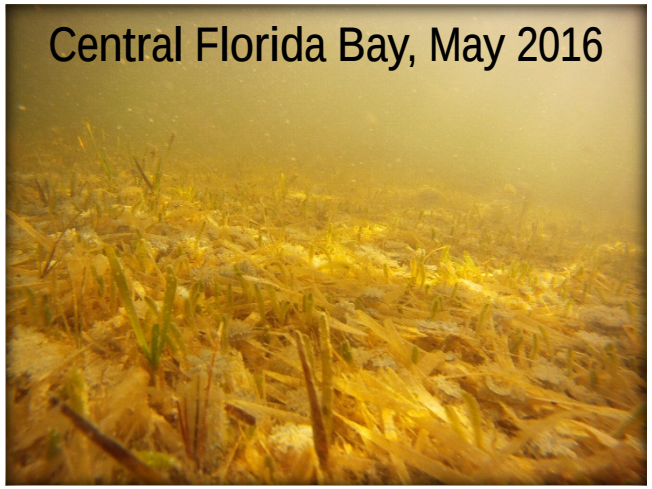


Florida Bay Salinity Update



Florida Bay Conditions & Activities

- From National Oceanic & Atmospheric Administration:
  - Blue-green algae levels are elevated in central Florida Bay
  - Sea Trout have been doing well this year after several years of low numbers
- September Activities:
  - Florida Fish & Wildlife Conservation Commission seagrass team will be on site evaluating the central and western bay areas in mid- September
  - SFWMD team will be conducting another WQ mapping survey towards the middle to end of September



photos from FFWCC

Questions