

Governing Board Meeting
October 13, 2016

Ecological Conditions Update

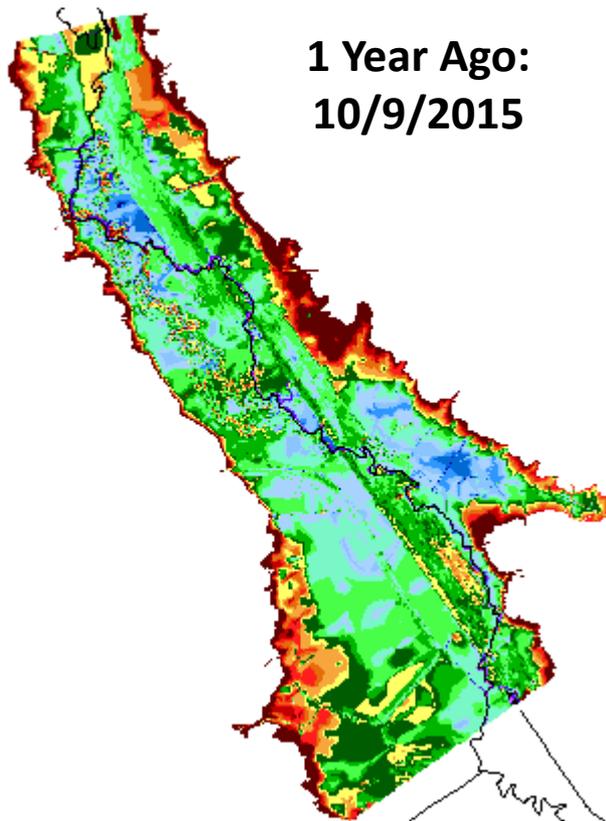
Terrie Bates

Water Resources
Division Director

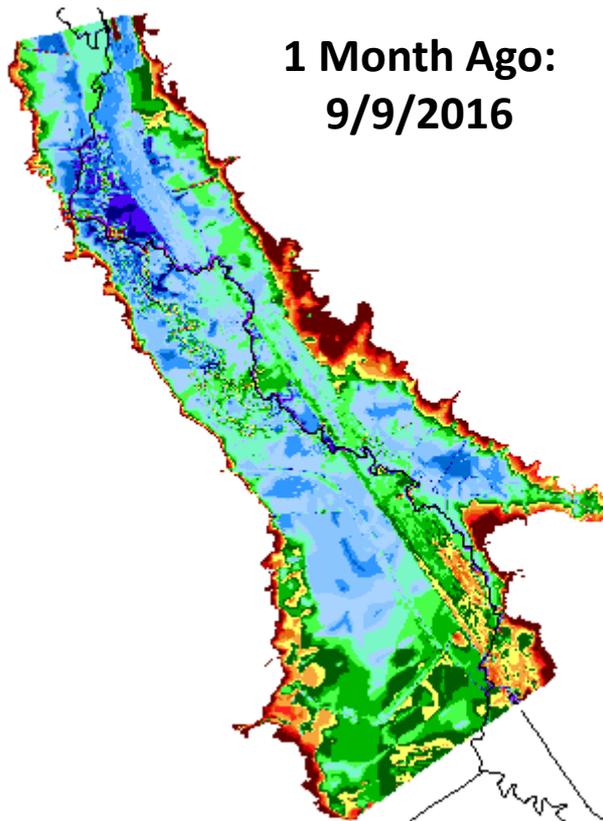


Kissimmee River Phase I Restoration Area Water Depth Maps

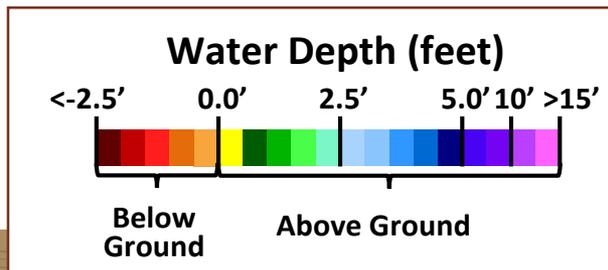
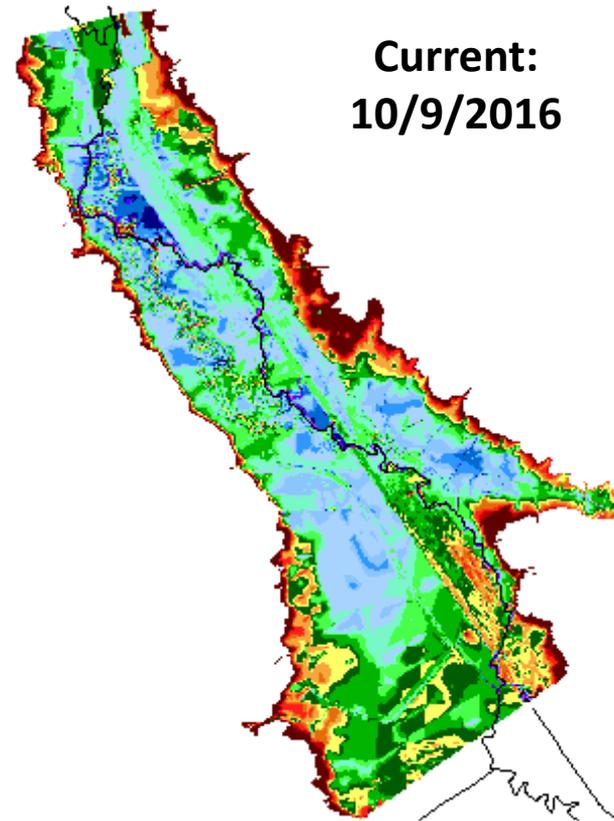
1 Year Ago:
10/9/2015



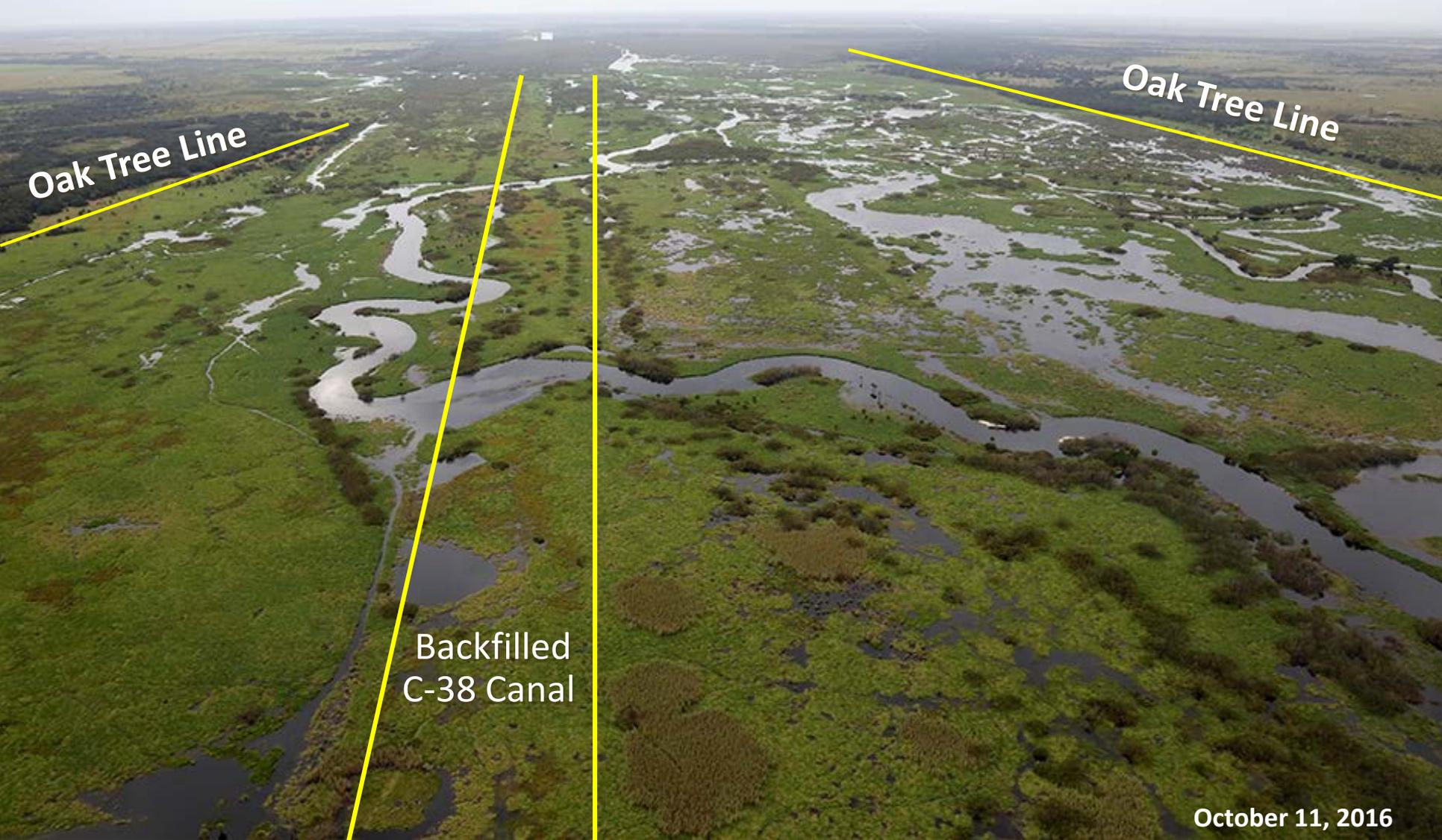
1 Month Ago:
9/9/2016



Current:
10/9/2016



**Kissimmee River Restoration Project
looking south from the northern Phase I Restoration Area**



Oak Tree Line

Oak Tree Line

Backfilled
C-38 Canal

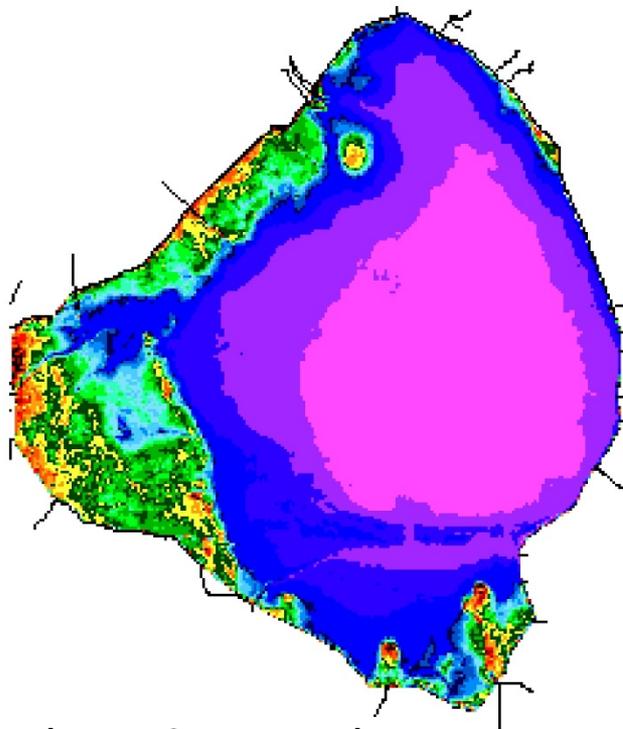
October 11, 2016

Lake Okeechobee Water Depth Maps

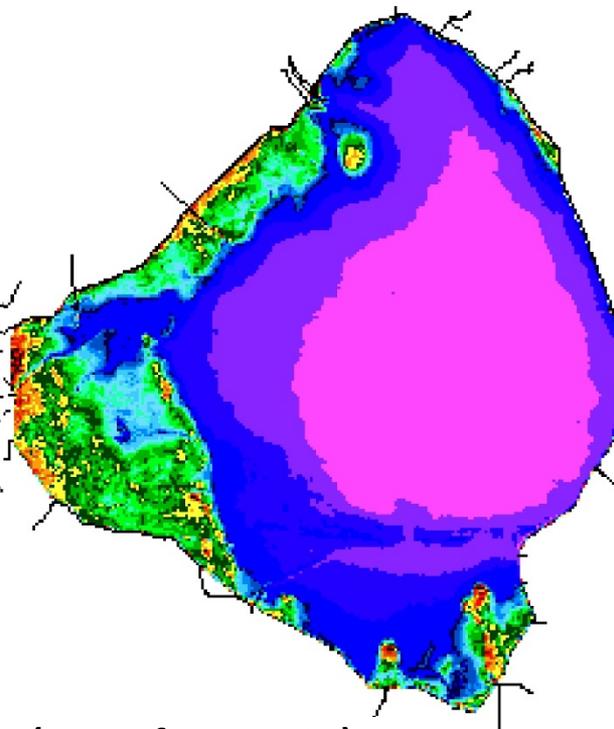
1 Year Ago: 10/10/2015

1 Month Ago: 09/10/2016

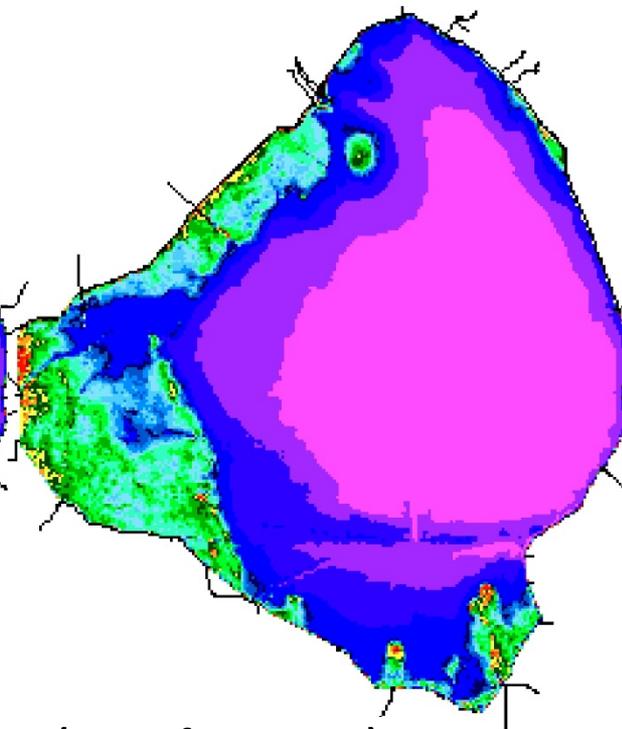
Current: 10/10/2016



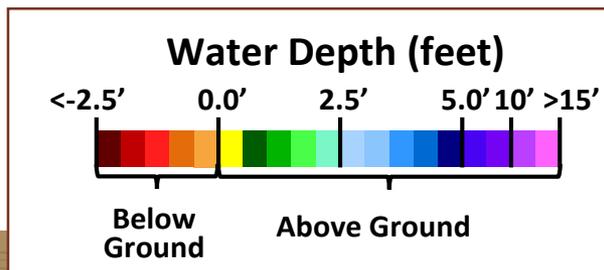
(14.80 ft NGVD29)



(15.19 ft NGVD29)



(16.01 ft NGVD29)



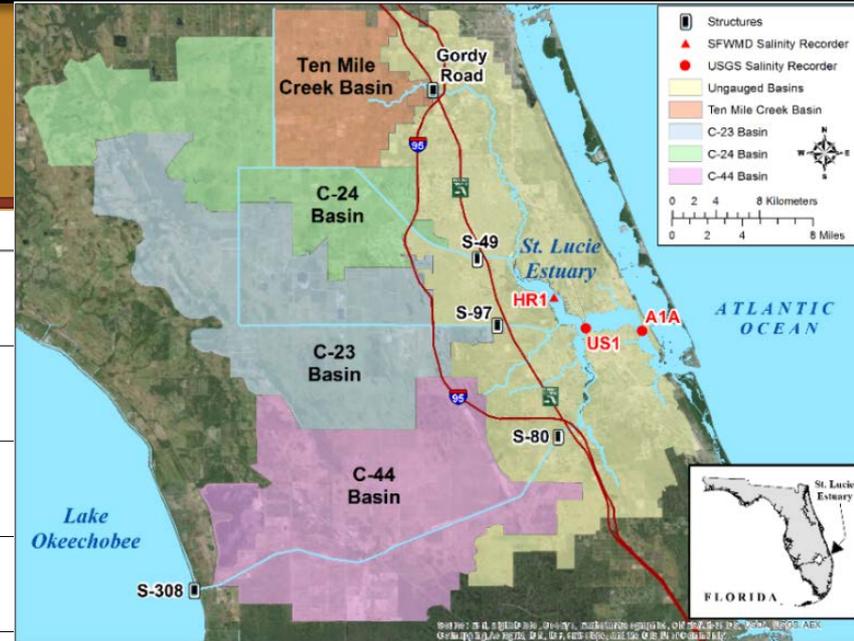
Lake Okeechobee Water Quality



Parameter		Jul 2016	Aug 2016	Sep 2016
TP ppb	Nearshore	96	89	90
	Pelagic	114	105	121
	Lakewide	104	97	105
TSS ppm	Nearshore	11	13	17
	Pelagic	15	17	25
	Lakewide	13	15	21

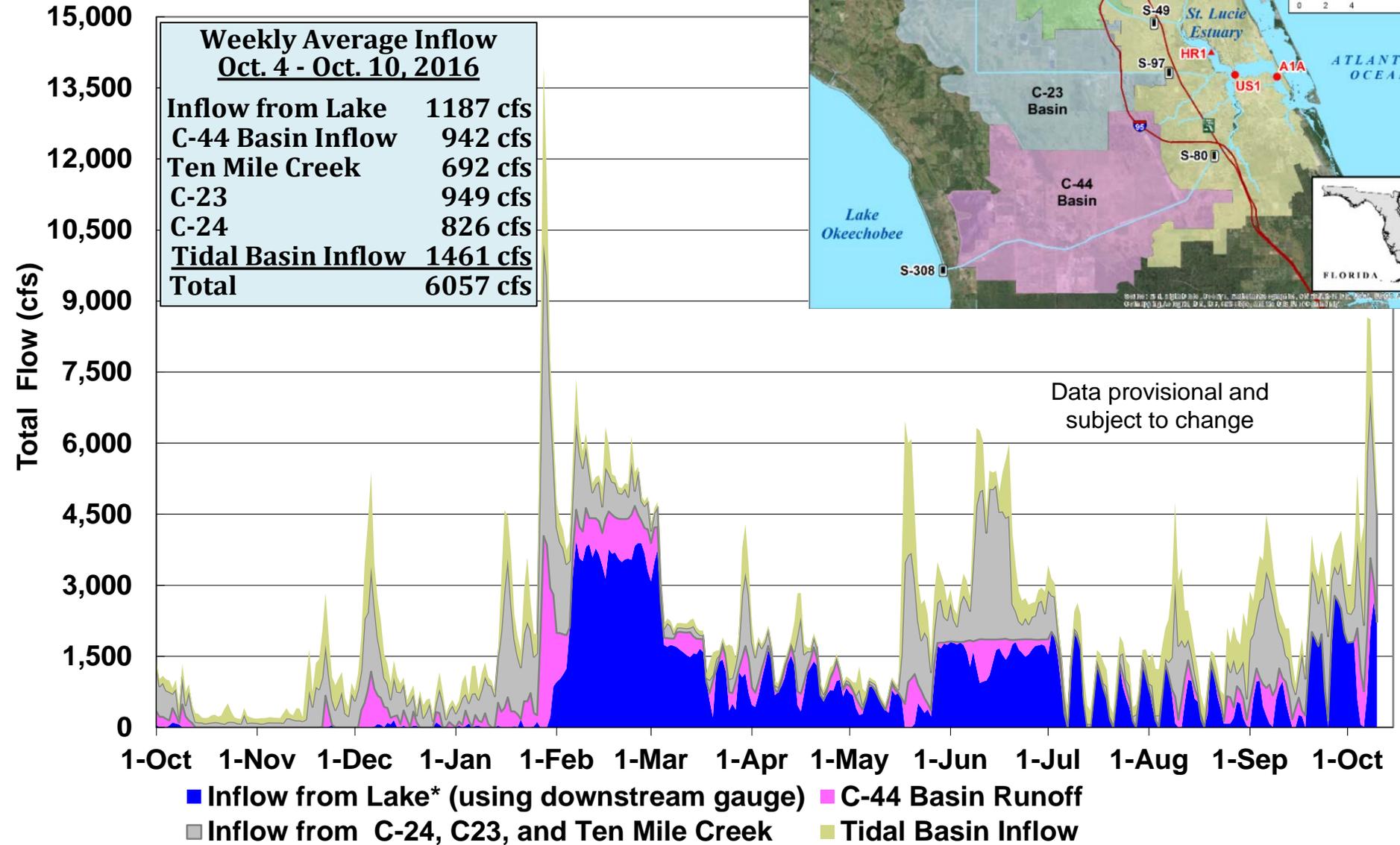
Total Phosphorus (ppb)
Total Suspended Solids (ppm)

St. Lucie Estuary



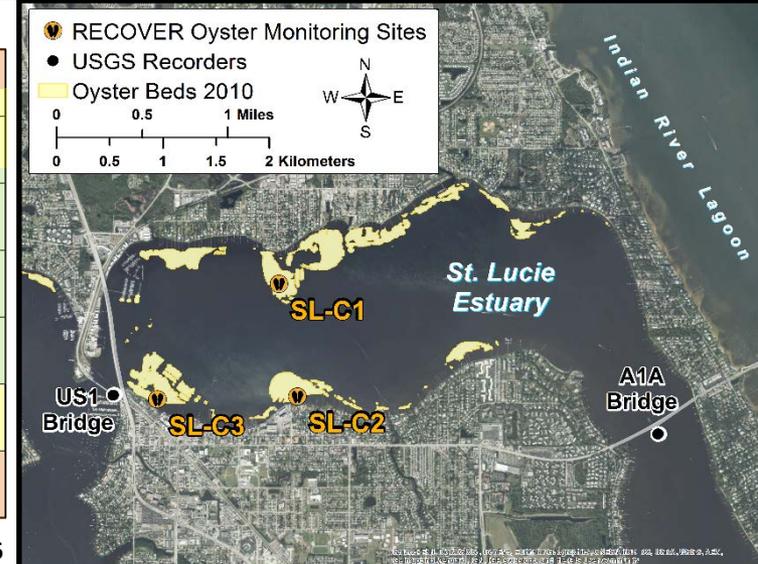
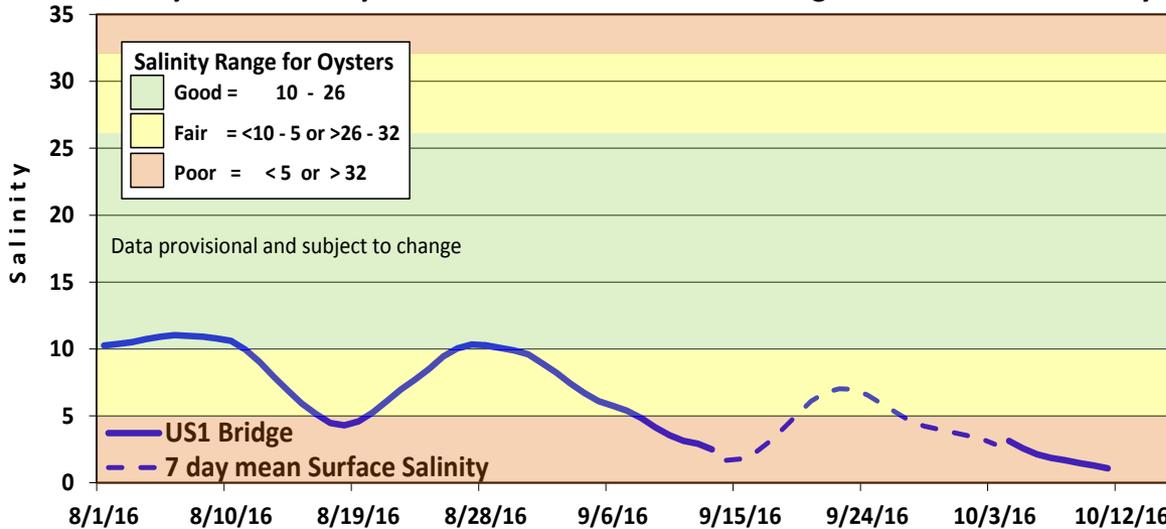
Weekly Average Inflow Oct. 4 - Oct. 10, 2016

Inflow from Lake	1187 cfs
C-44 Basin Inflow	942 cfs
Ten Mile Creek	692 cfs
C-23	949 cfs
C-24	826 cfs
Tidal Basin Inflow	1461 cfs
Total	6057 cfs

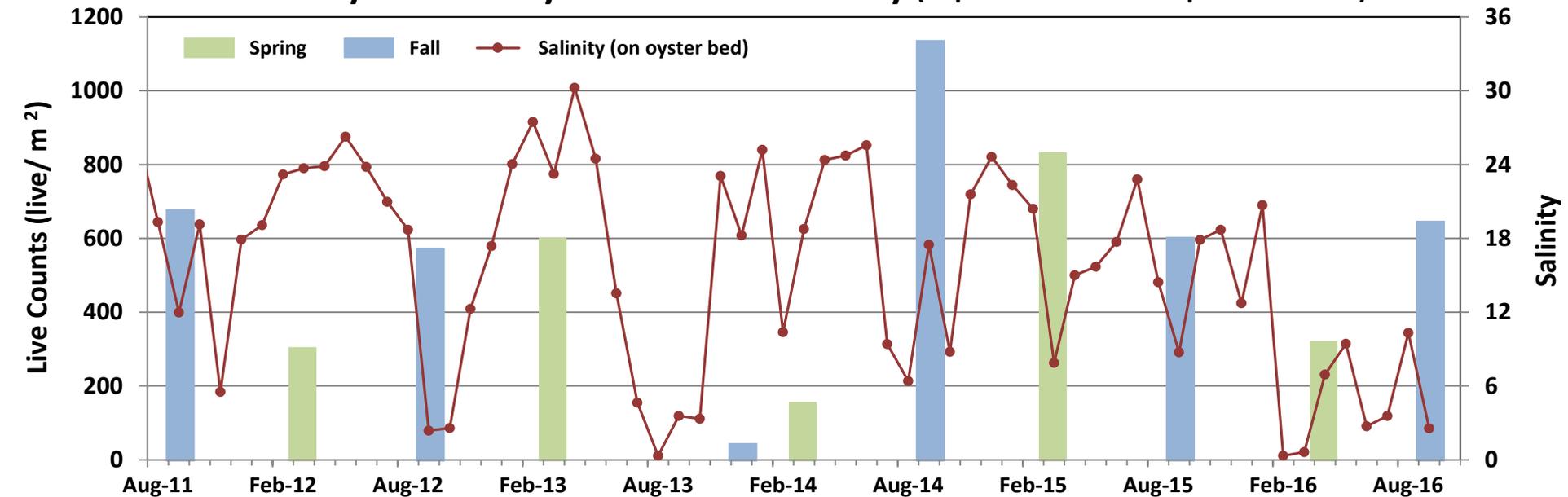


St. Lucie Estuary - Oyster Density

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



Live Oyster Density Counts - Mid Estuary (September 2011 - September 2016)

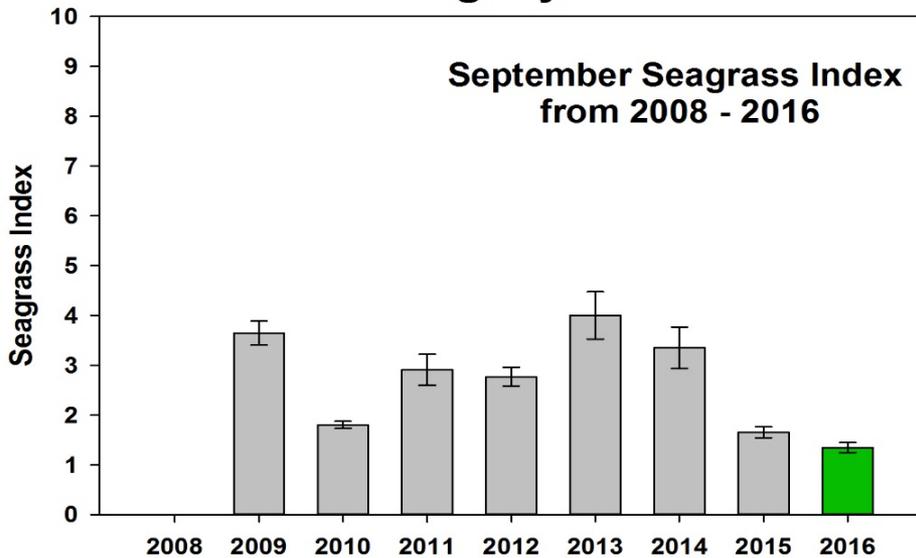


St. Lucie Estuary - Seagrass



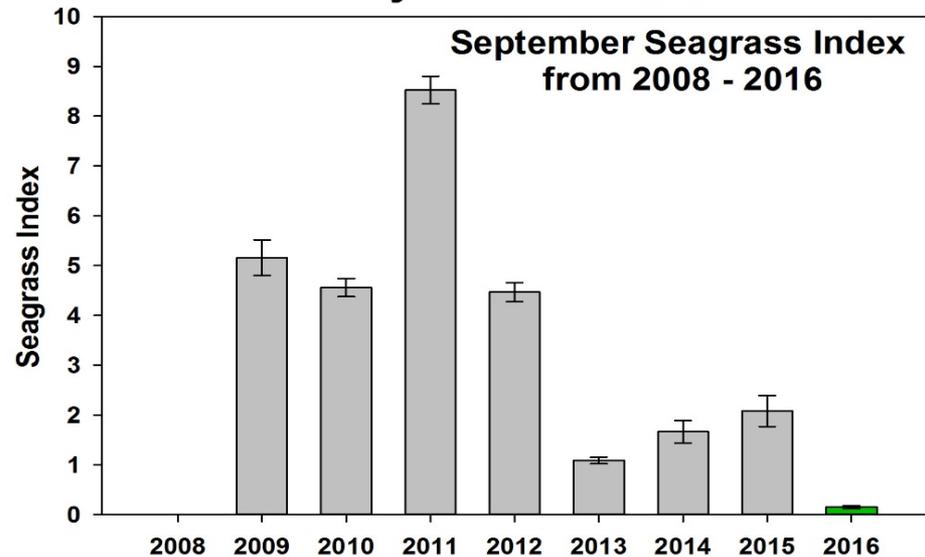
Willoughby Creek

September Seagrass Index from 2008 - 2016

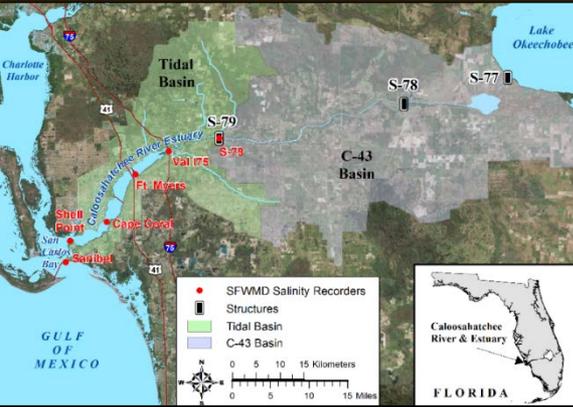


Boy Scout Island

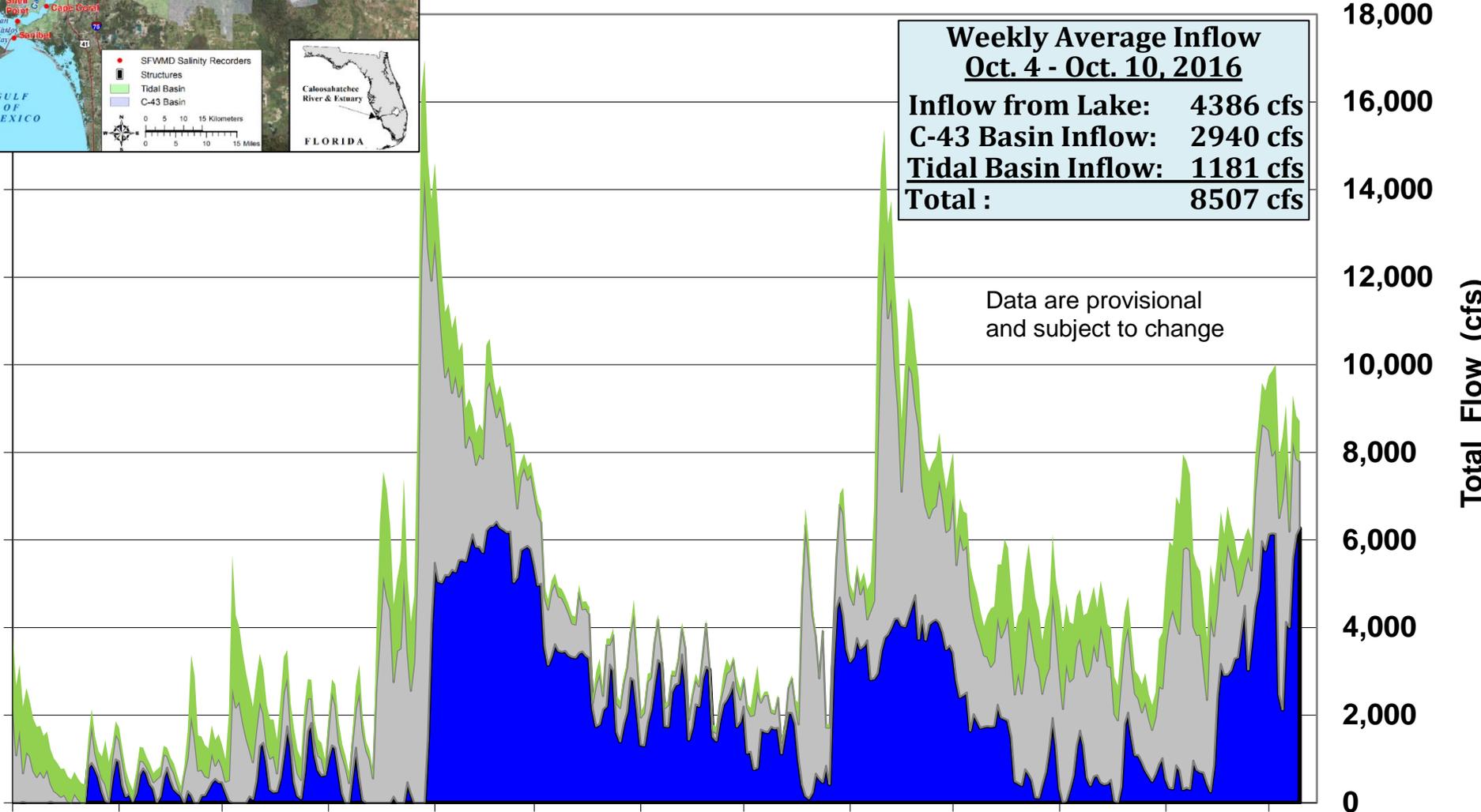
September Seagrass Index from 2008 - 2016



Caloosahatchee Estuary



Weekly Average Inflow Oct. 4 - Oct. 10, 2016	
Inflow from Lake:	4386 cfs
C-43 Basin Inflow:	2940 cfs
Tidal Basin Inflow:	1181 cfs
Total :	8507 cfs



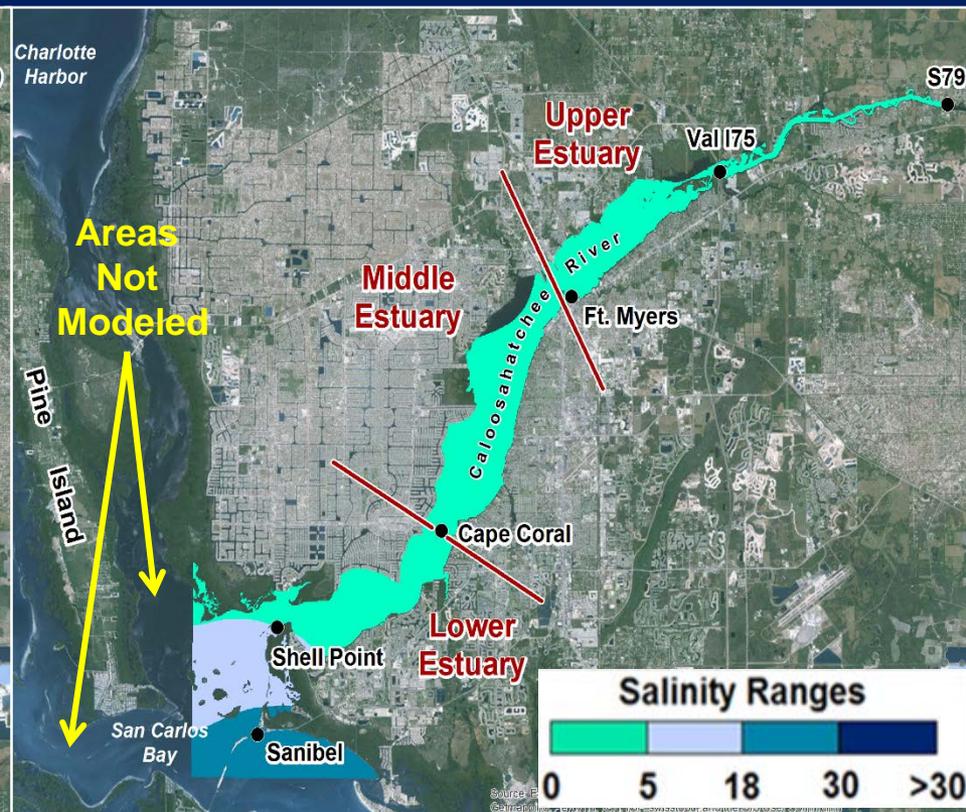
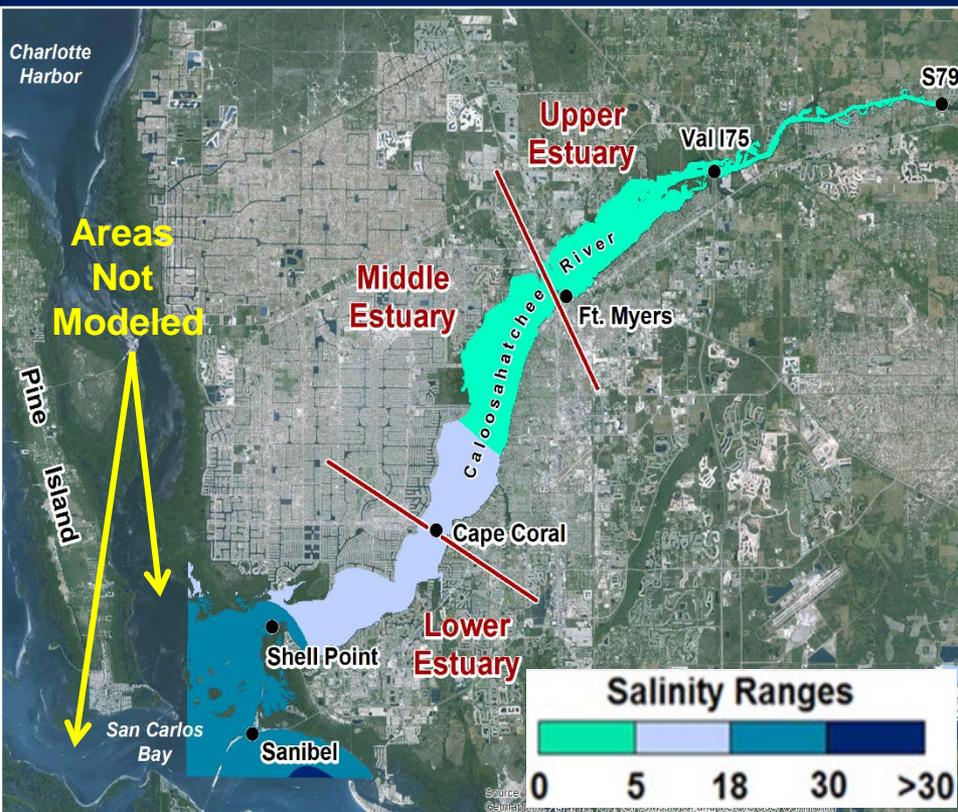
■ Inflow from Lake* (using downstream gauge)
 ■ C-43 Basin Inflow
 ■ Tidal Basin Inflow (downstream of S79)

Caloosahatchee Estuary

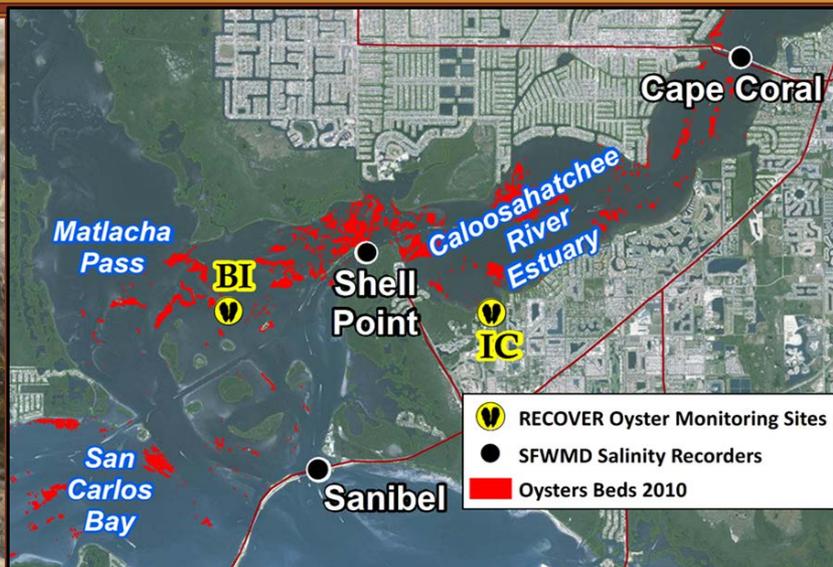
Salinity Conditions

September 5, 2016

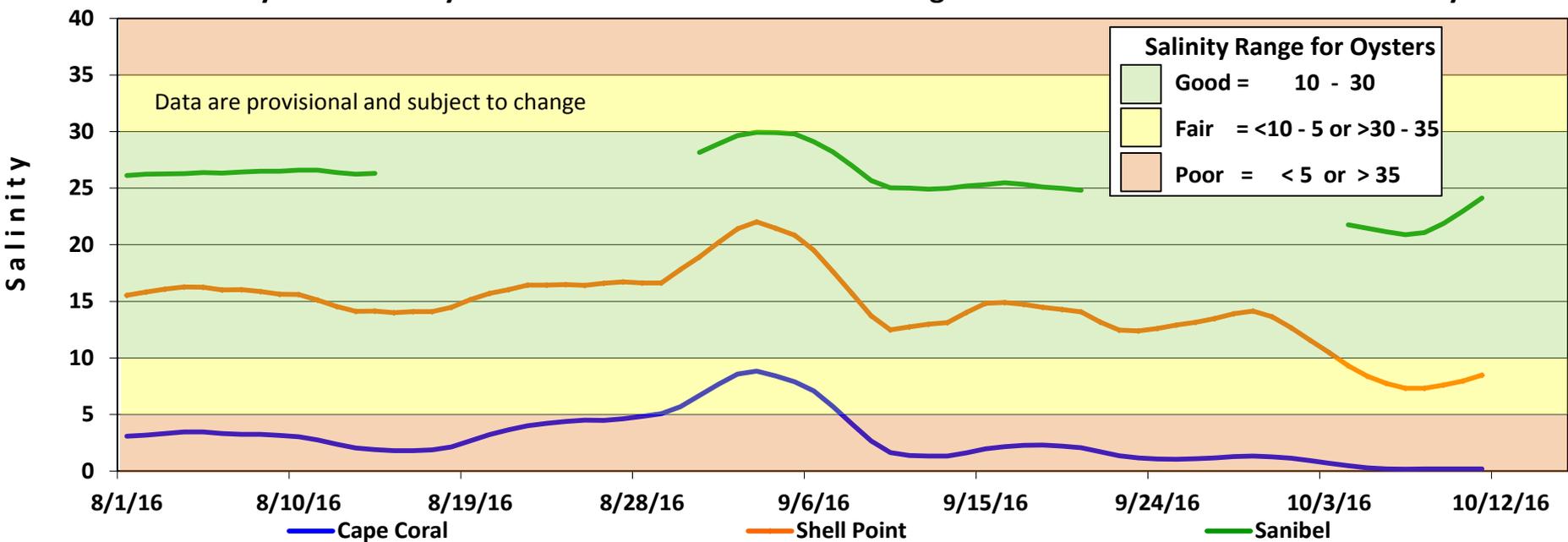
October 10, 2016



Caloosahatchee Estuary - Oysters

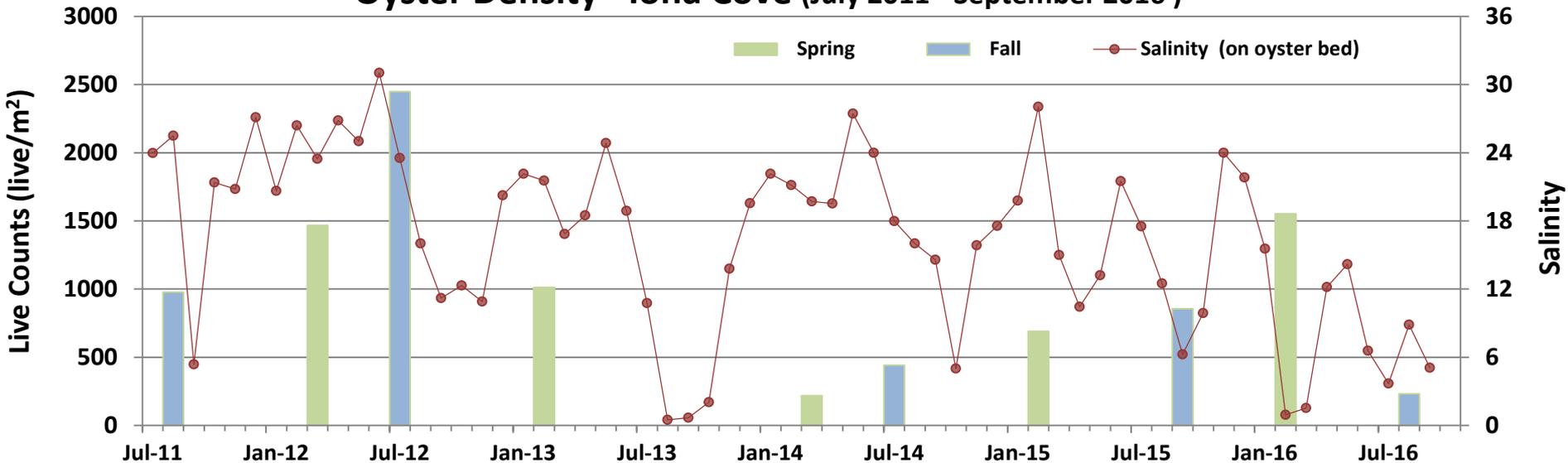


Seven day mean salinity of the water column at 3 monitoring stations in the Caloosahatchee Estuary

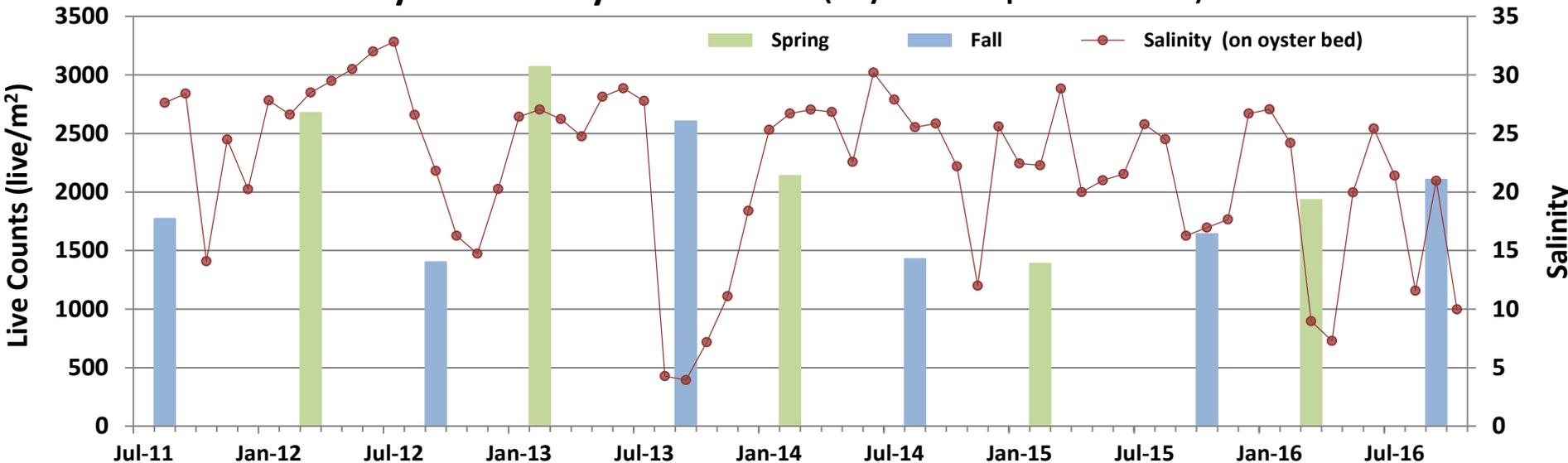


Caloosahatchee Estuary Oyster Density

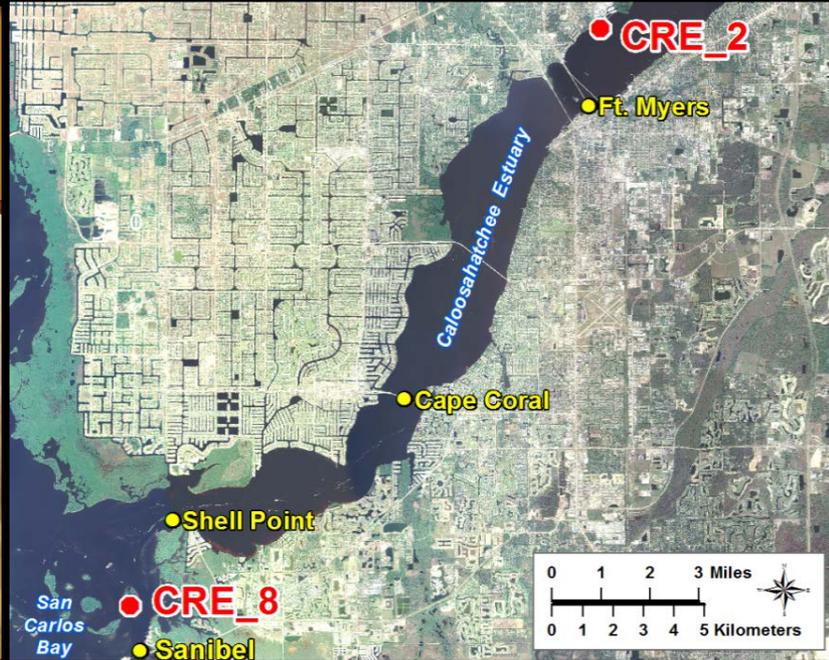
Oyster Density - Iona Cove (July 2011 - September 2016)



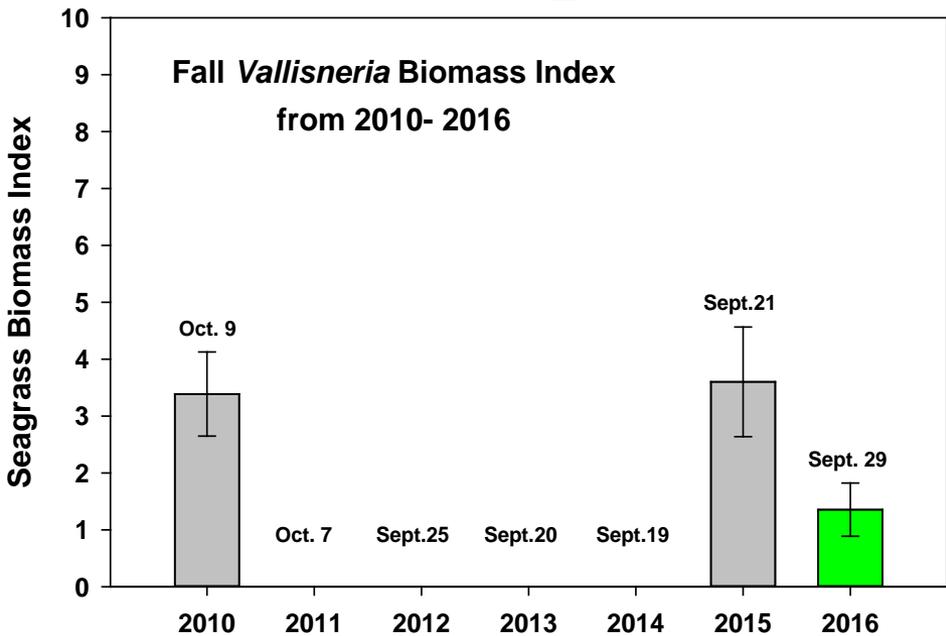
Oyster Density - Bird Island (July 2011 - September 2016)



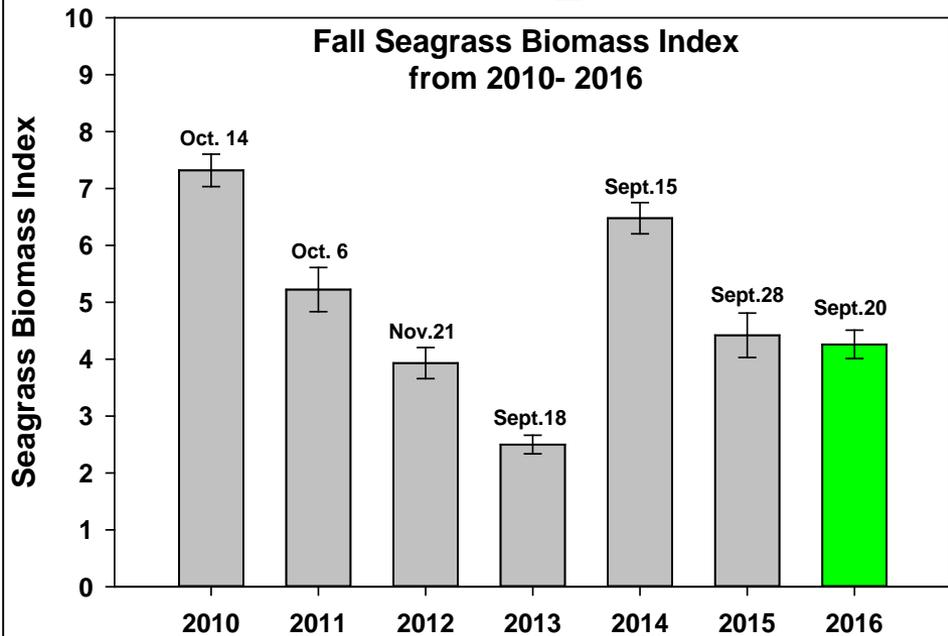
Caloosahatchee Estuary – Submerged Aquatic Vegetation



CRE_2

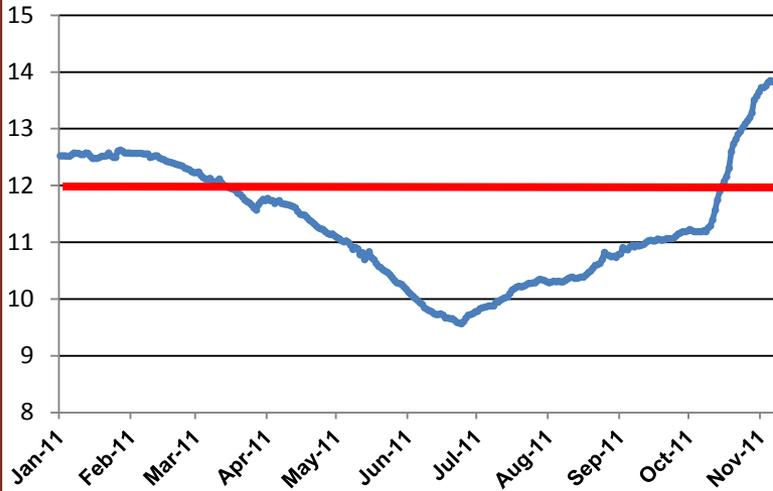


CRE_8



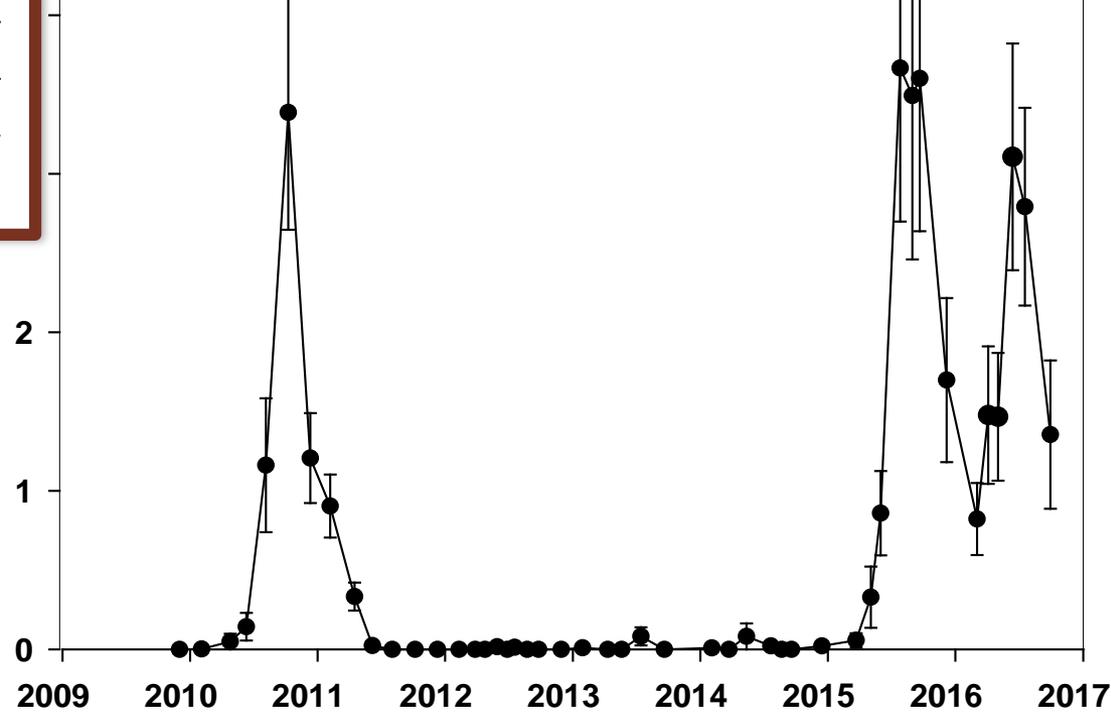
Vallisneria Americana Biomass Index Time Series from 2009 to 2016

Lake Okeechobee NGVD Feet



Vallisneria Biomass Index
at CRE_2 from 2009 to 2016

Seagrass Bic

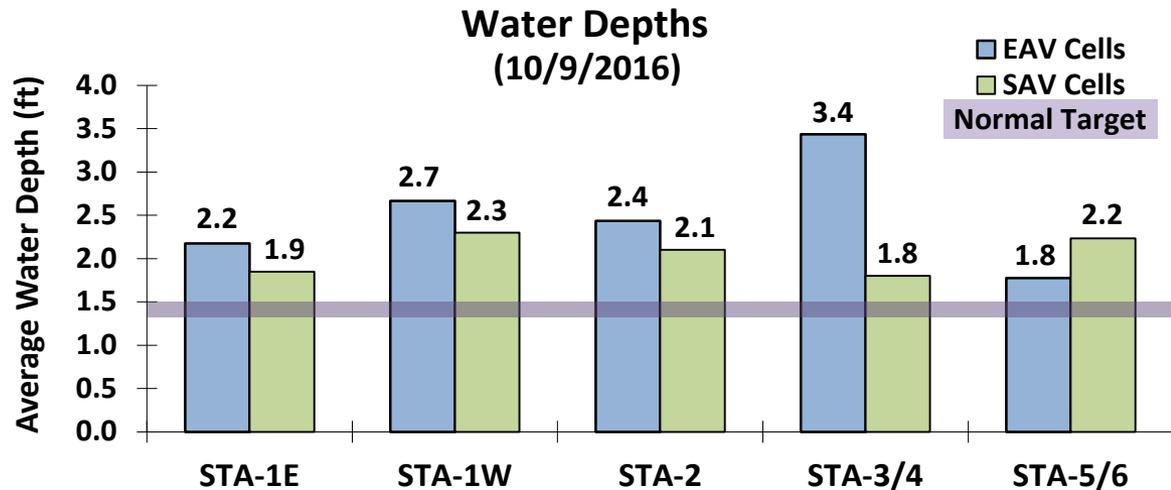


Everglades Stormwater Treatment Areas Current Conditions

- STAs and A-1 FEB received runoff throughout Sept.
 - Lake releases were sent south to A-1 FEB and STAs when conditions allowed
 - Total Lake regulatory releases to FEBs/STAs in WY2017 (since May 1) ~70,000 ac-ft
- Snail kite nesting in the STAs ended in mid-September
- STA water depths remain above target following Hurricane Matthew

Water Year 2017 5/1/16 to 9/25/16						
	STA-1E	STA-1W	STA-2	STA-3/4	STA-5/6	All STAs combined
Inflow Flow-weighted Mean TP Concentration (ppb)	134	140	93	37	153	87
Outflow Flow-weighted Mean TP Concentration (ppb)	23	23	14	11	18	16
Inflow Volume (ac-ft)	94,273	54,183	207,630	270,986	77,475	704,547

Includes preliminary data



Includes preliminary data

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

A-1 FEB



Stage Based: Relative to Target Stage (TS)

- Deep Water Level (> 2.5' above TS)
- High Water Level (1.5' - 2.5' above TS)
- 0.5' - 1.5' above TS
- Target Stage (TS +/- 0.5')
- Low Water Level (< 0.5' below TS)

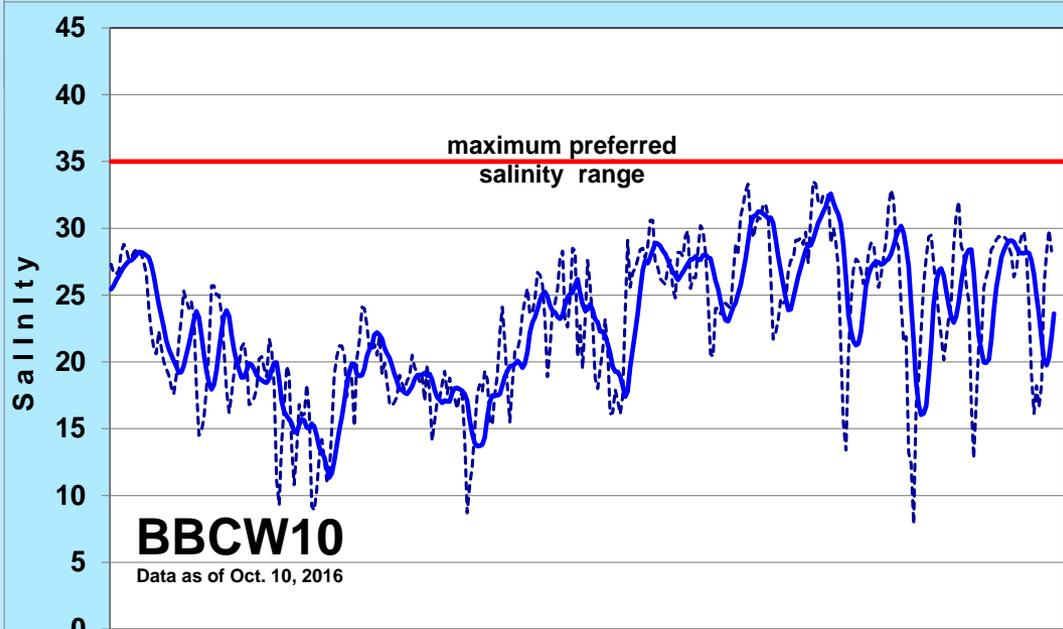
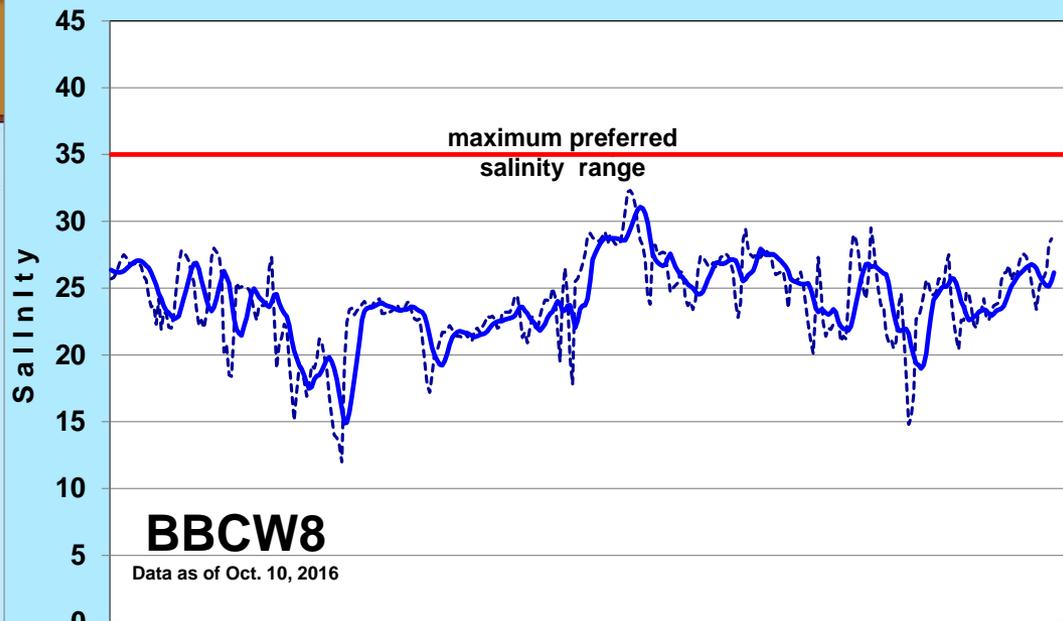
STA-3/4



STA-1W Cell 1A
Recent Plantings

STA	Cell	Avg. Stage (9/20/2016)	Avg. Stage (9/27/2016)	Avg. Stage (10/4/2016)	Current Avg. Stage (10/11/2016)
STA-1E	1	18.4	18.3	18.2	18.3
STA-1E	2	17.8	17.3	17.1	17.6
STA-1E	3	18.1	17	17.5	17.8
STA-1E	4N	15.9	15.9	15.9	15.9
STA-1E	4S	14.2	13.7	13.7	14
STA-1E	5	14.6	14.6	14.7	15.1
STA-1E	6	13.5	13.6	13.4	13.4
STA-1E	7	13.9	14.1	13.8	13.6
STA-1W	1A	12.5	12.6	12.5	12.7
STA-1W	1B	12.4	12.5	12.2	12.6
STA-1W	2A	11.8	11.6	11.5	11.3
STA-1W	2B	11.7	11.5	11.5	10.7
STA-1W	3	11.6	11.7	11.5	11.6
STA-1W	4	11.1	11.1	11.1	11.1
STA-1W	5A	11.3	11.1	10.8	10.8
STA-1W	5B	10.4	10.4	10.4	10.3
STA-2	1	14	14	13.9	13.9
STA-2	2	13.4	13.1	12.9	12.8
STA-2	3	11.8	11.5	12	12
STA-2	4	11	11.1	10.9	11
STA-2	5	11.3	11.5	11.3	11.3
STA-2	6	11.2	11.6	11.3	11.3
STA-2	7	11.8	11.8	11.7	11.7
STA-2	8	10.5	10.3	10.2	10.3
STA-3/4	1A	12.1	12.6	12.3	12.2
STA-3/4	1B	11	11.3	11.3	11.2
STA-3/4	2A	12.2	12.3	12.3	12.4
STA-3/4	2B	11.2	11.1	11	11.1
STA-3/4	3A	12.8	12.8	12.5	12.5
STA-3/4	3B	11.3	11.4	11.2	11.2

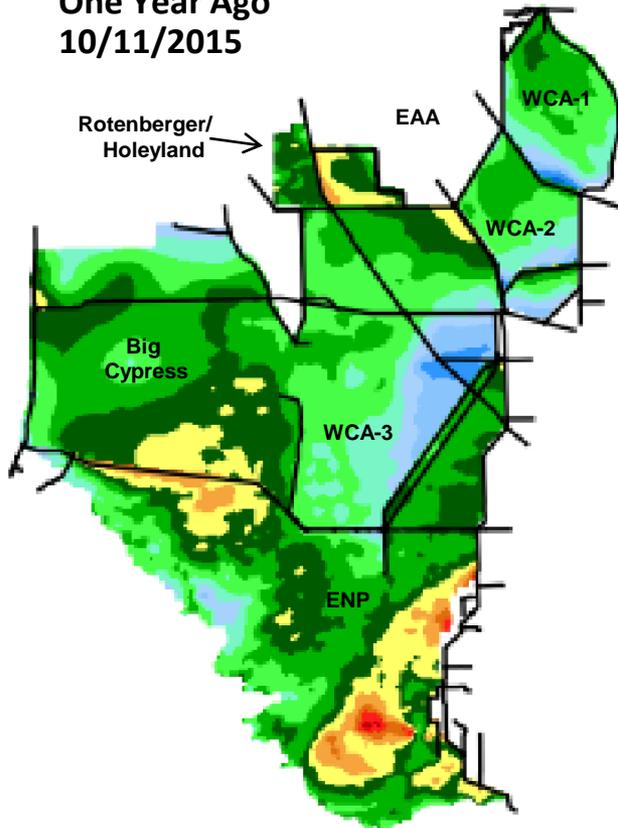
Biscayne Bay Salinity



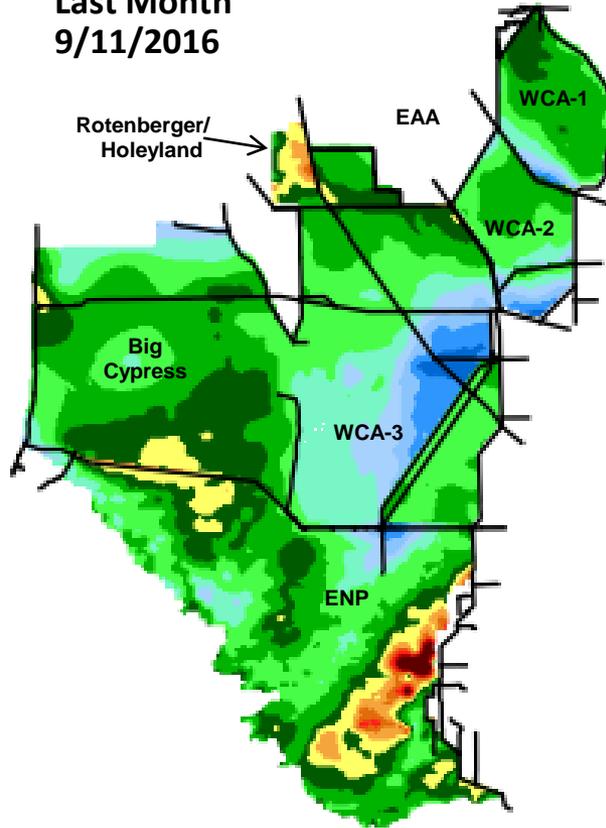
--- Daily Average Salinity — Moving 7-day prior Daily Average Salinity

Everglades Water Depth Maps

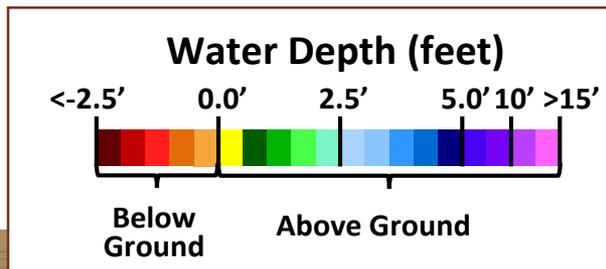
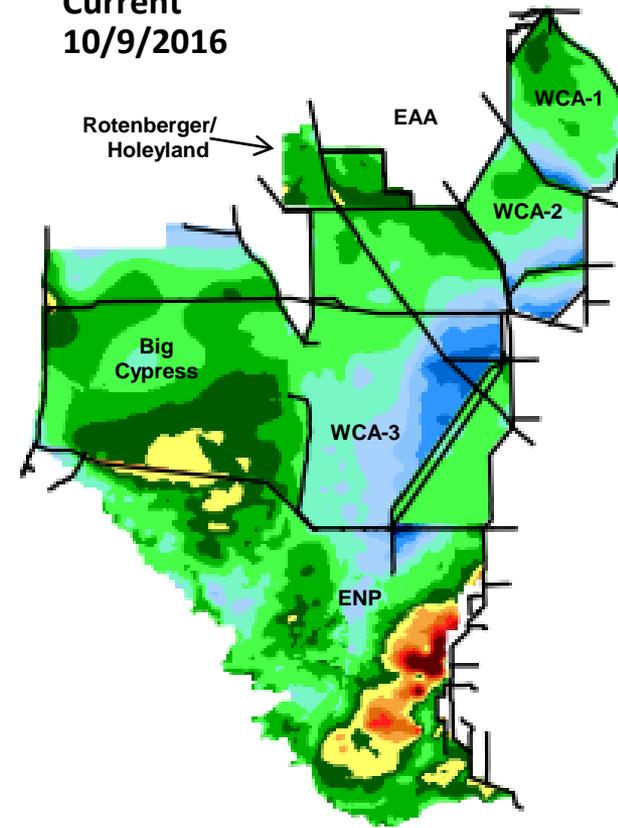
One Year Ago
10/11/2015



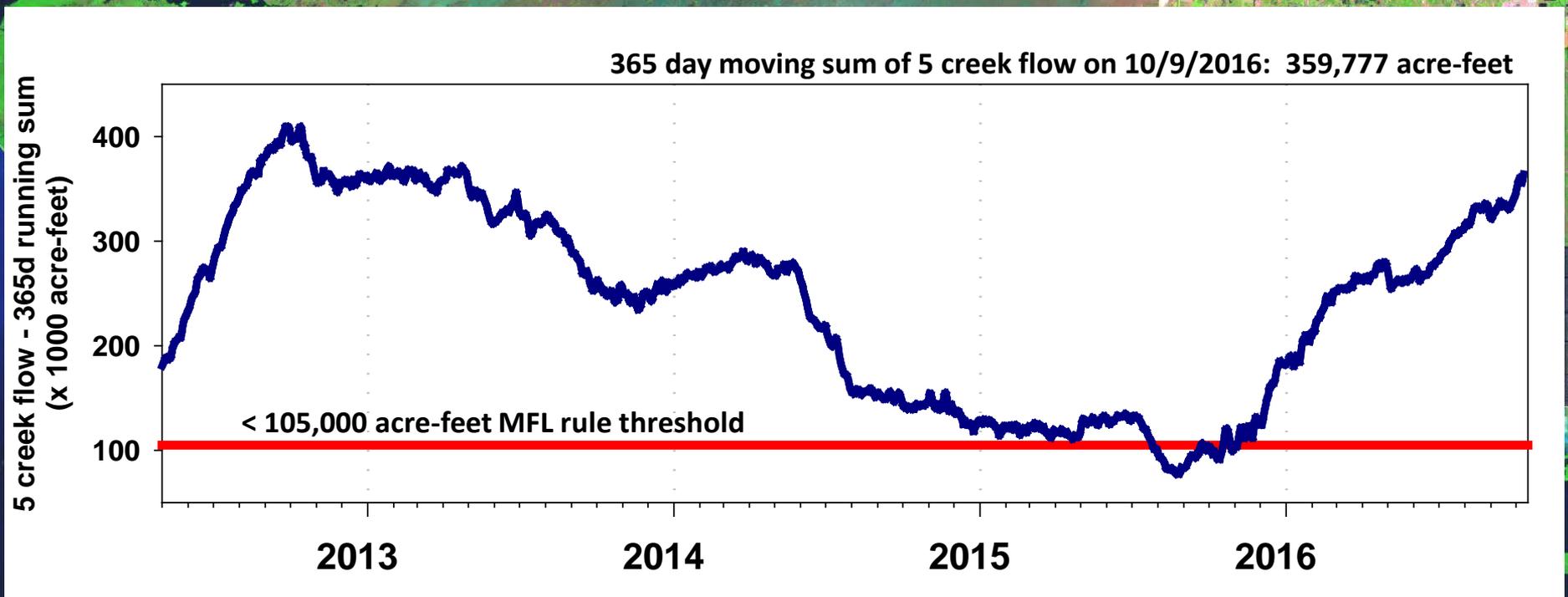
Last Month
9/11/2016



Current
10/9/2016

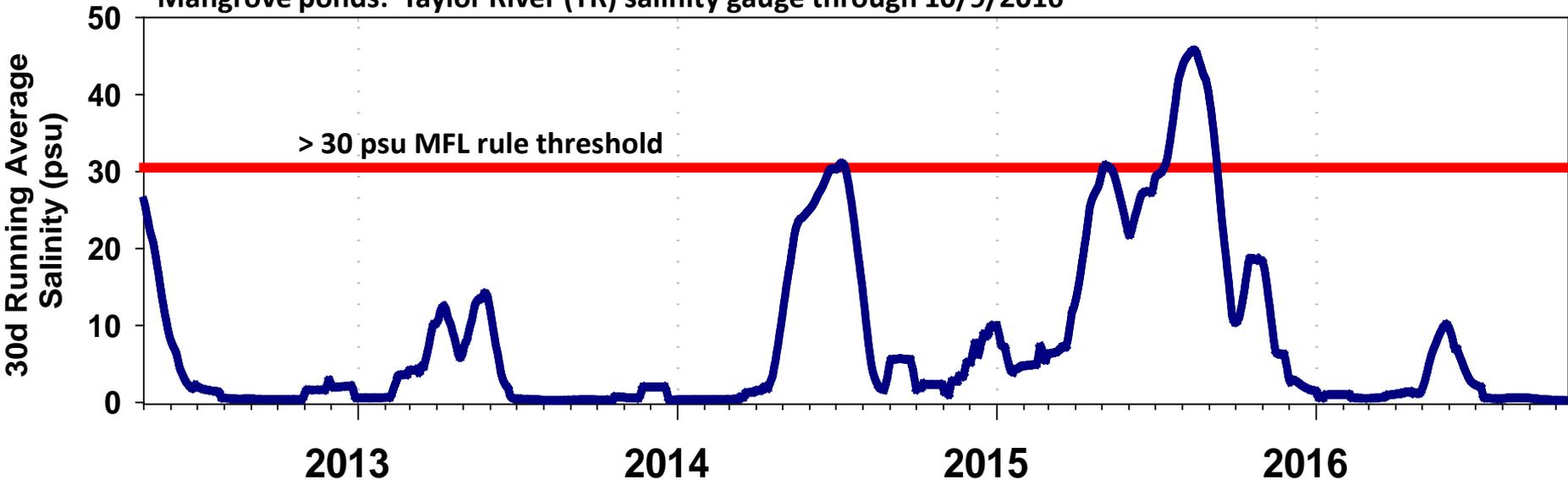


Florida Bay Flow Update

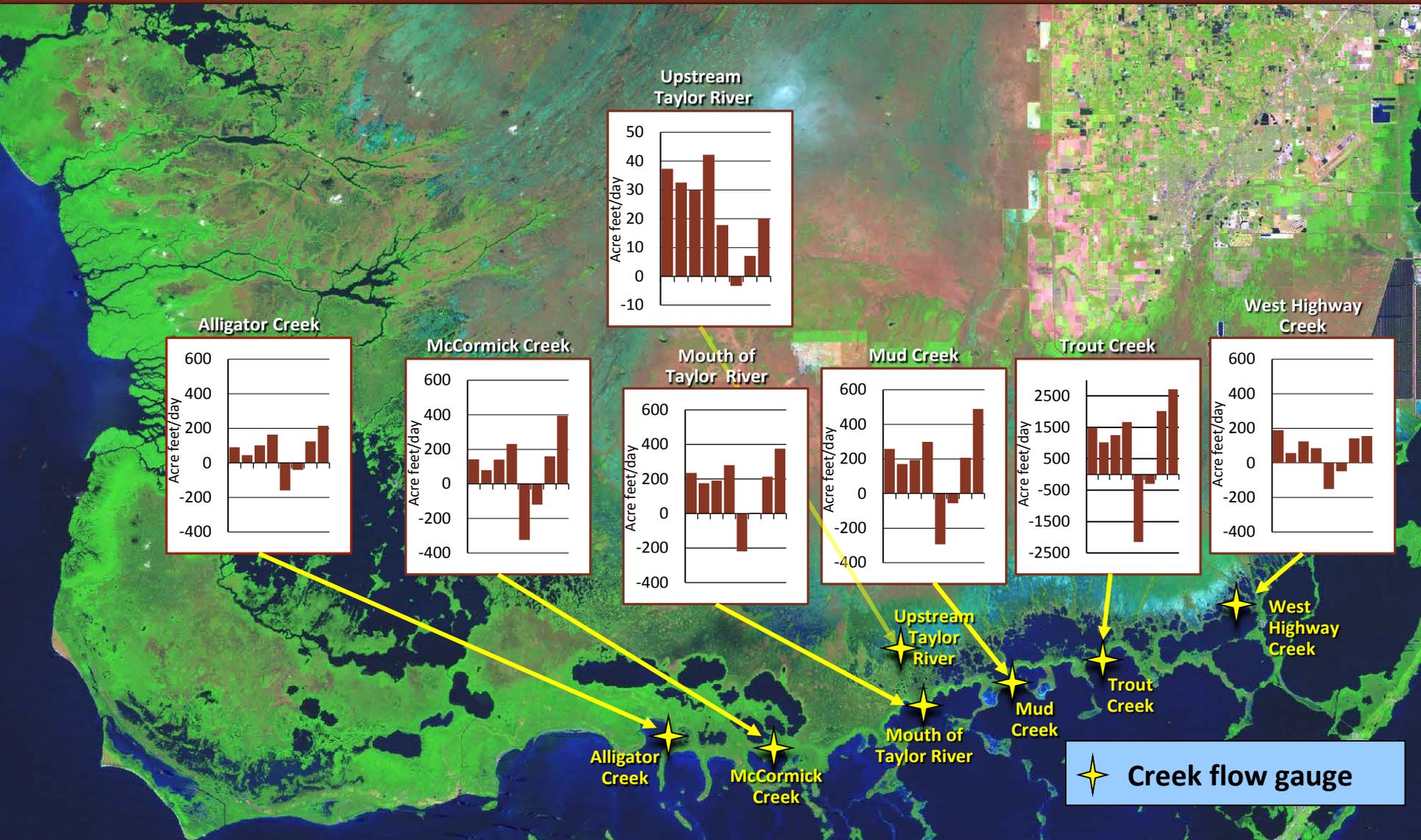


Florida Bay Salinity Update

Mangrove ponds: Taylor River (TR) salinity gauge through 10/9/2016



Florida Bay Creek Flow (ac-ft/day) Oct 3 - Oct 10



★ Creek flow gauge

2017 South Florida Environmental Report Update



- Draft Volume I was posted on September 26 for peer and public review
 - 17 appendices posted October 5
- Initial peer review period ends October 17
- Public review ends October 31
- Final comments will be posted on November 18
- Other SFER activities for Fall:
 - Chapter 5A, Volume II, on Governing Board agenda
 - Editing of other Volume II chapters begins October 31
 - Highlights development begins November 1
 - Editing of final Volume I begins December 19
- **2017 SFER will be delivered March 1, 2017**

Questions

Alligators in STA1-W

