February 2015 Ecological Conditions Update

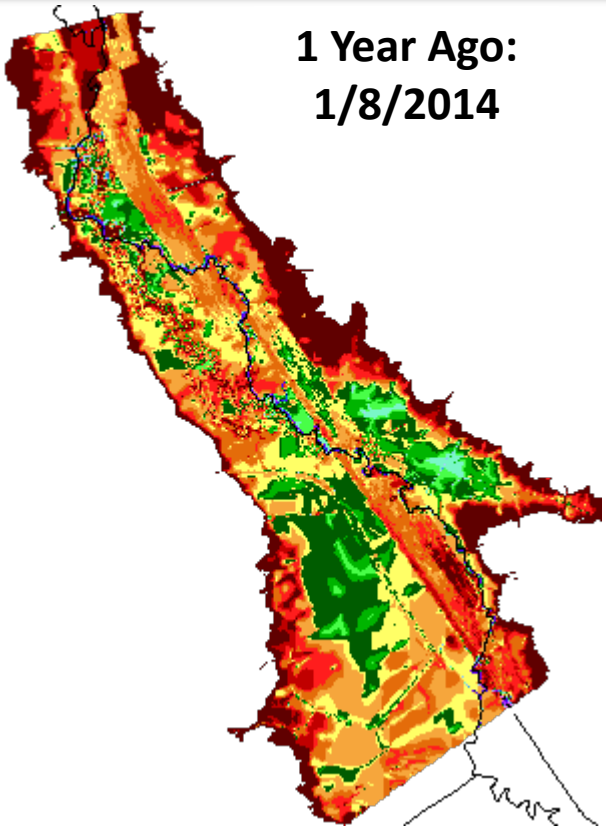
Terrie Bates

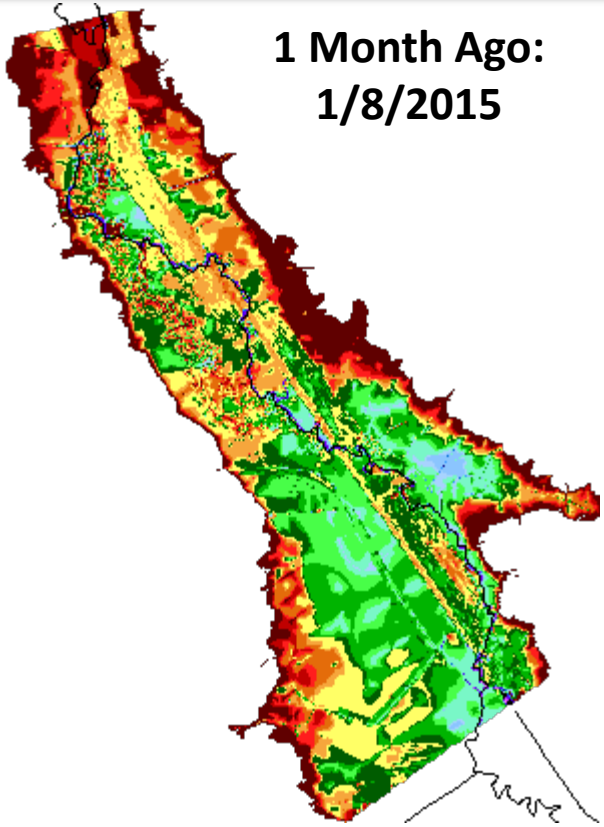
Director, Water Resources Division

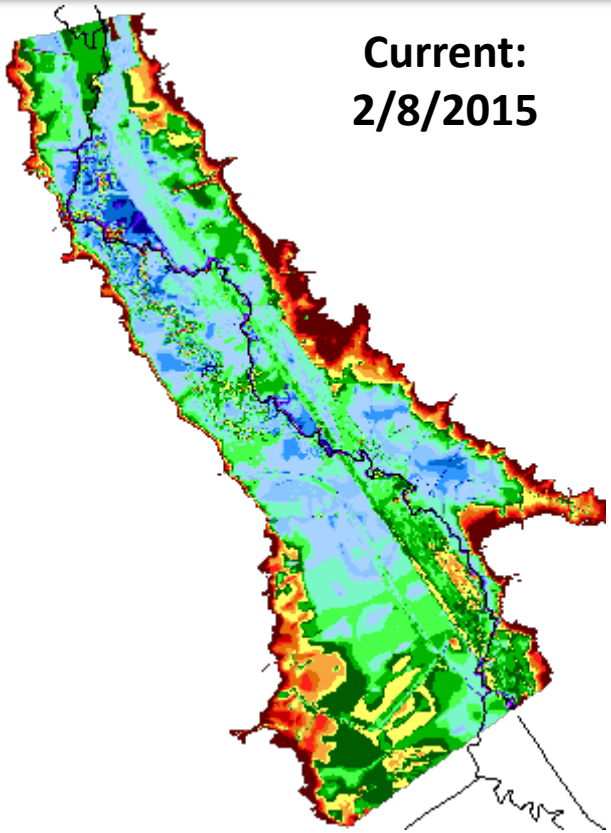
Governing Board Meeting
February 12, 2015

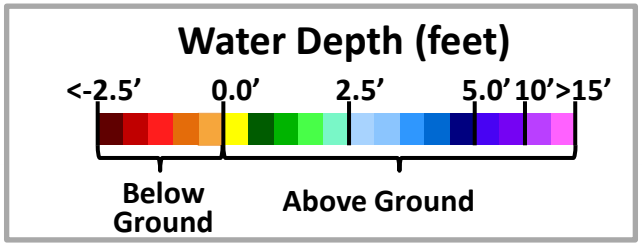
Photo: Kissimmee Valley Rainstorm

Kissimmee River (Phase I Restoration Area) Monthly Water Depth Maps









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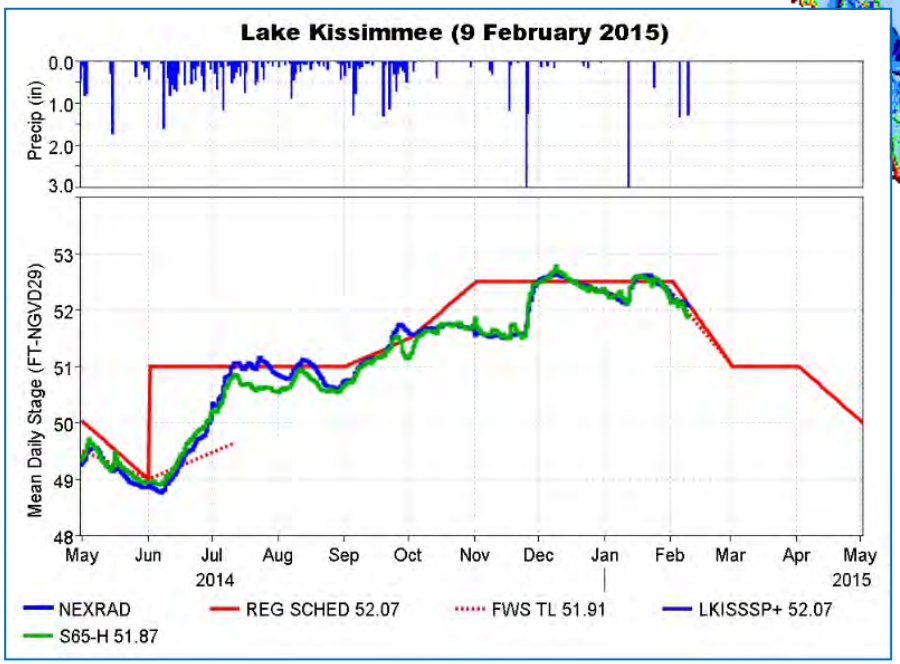
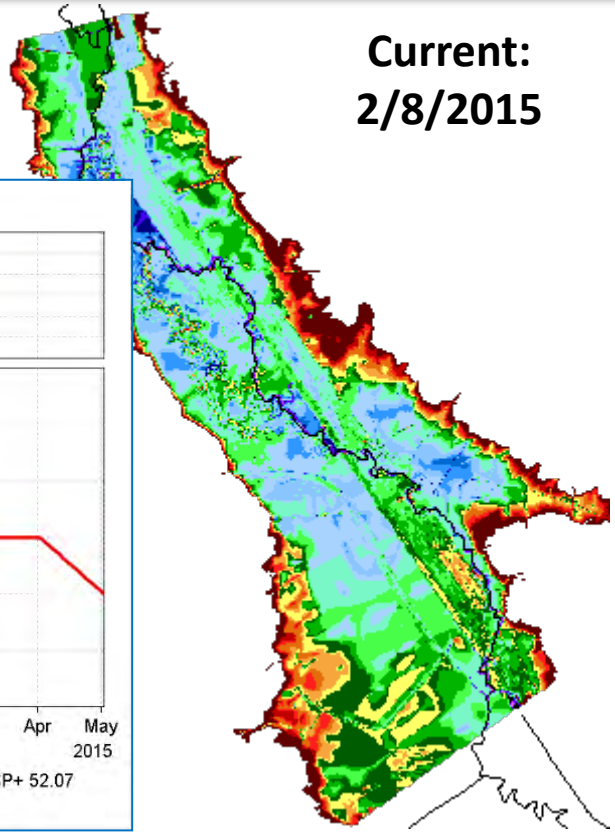
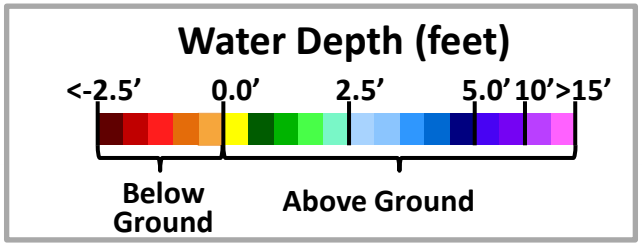
Kissimmee River & Headwater Lakes





Current: 2/8/2015



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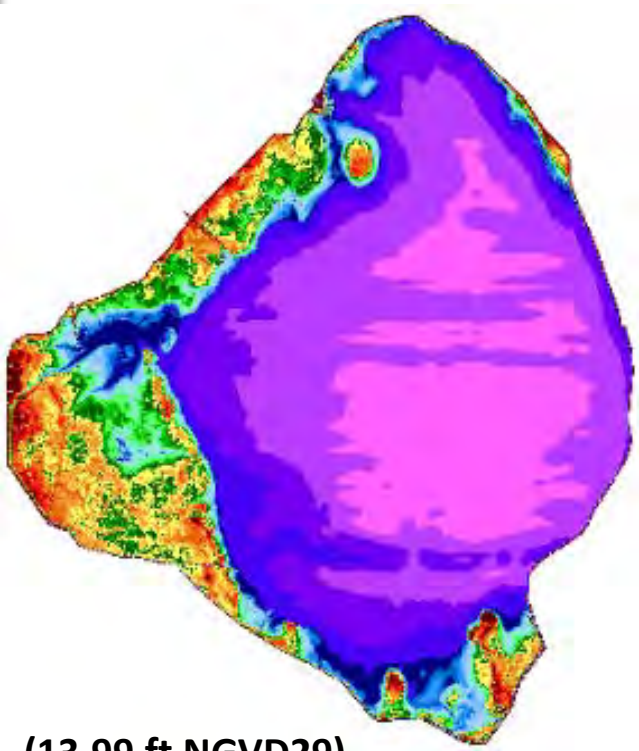
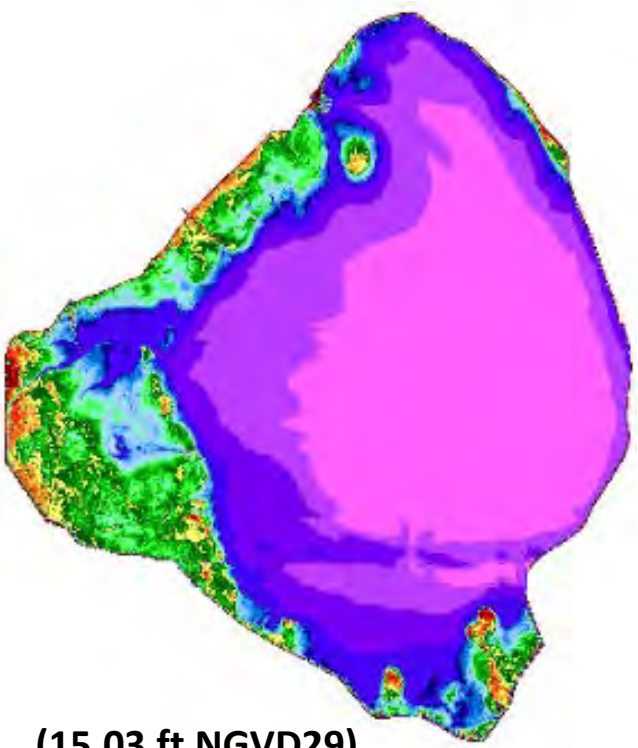
Lake Okeechobee Water Depth Timeseries Maps

1 Year Ago: 02/12/2014



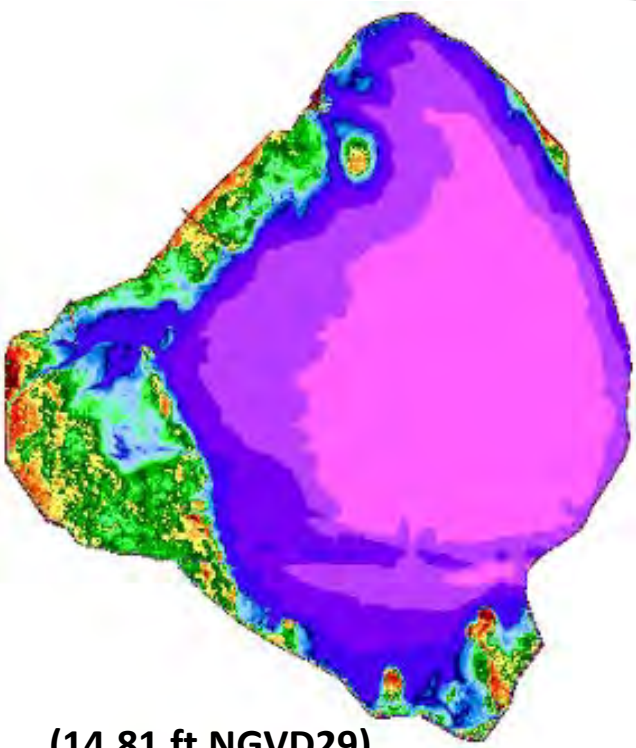
(13.99 ft NGVD29)

1 Month Ago: 01/10/2015



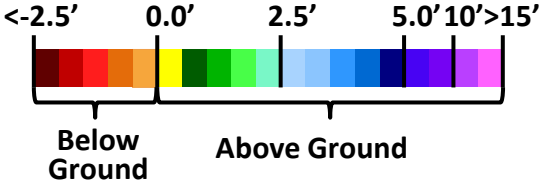
(15.03 ft NGVD29)

Current: 02/10/2015



(14.81 ft NGVD29)

Water Depth (feet)



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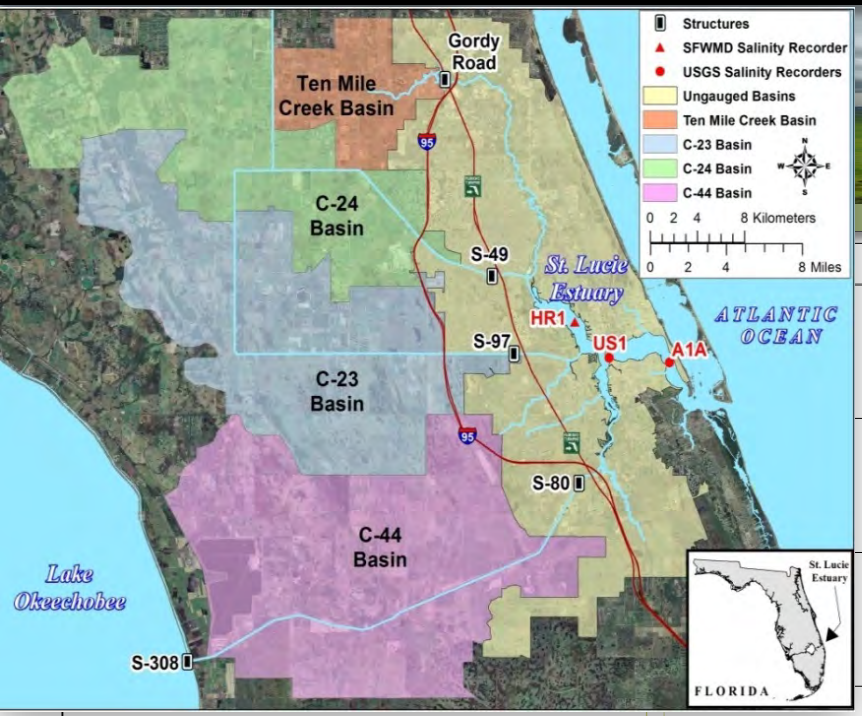
Lake Okeechobee Prescribed Burn

- January 28, 2015
- Interagency burn team
- Cochran's Pass
- 150 acres of previously treated cattail

- Reduces muck accumulation
- Accelerates replacement of nuisance vegetation with desirable native species

St. Lucie Estuary



Weekly Average Inflow Feb. 3 - Feb. 9, 2015	
Inflow from Lake	279 cfs
C-44 Basin Inflow	117 cfs
Tenmile Creek	123 cfs
C-23	61 cfs
C-24	78 cfs
Tidal Basin Inflow	341 cfs
Total	999 cfs

Data provisional and subject to change

Total Flow (cfs)

7,000
6,000
5,000
4,000
3,000
2,000
1,000
0

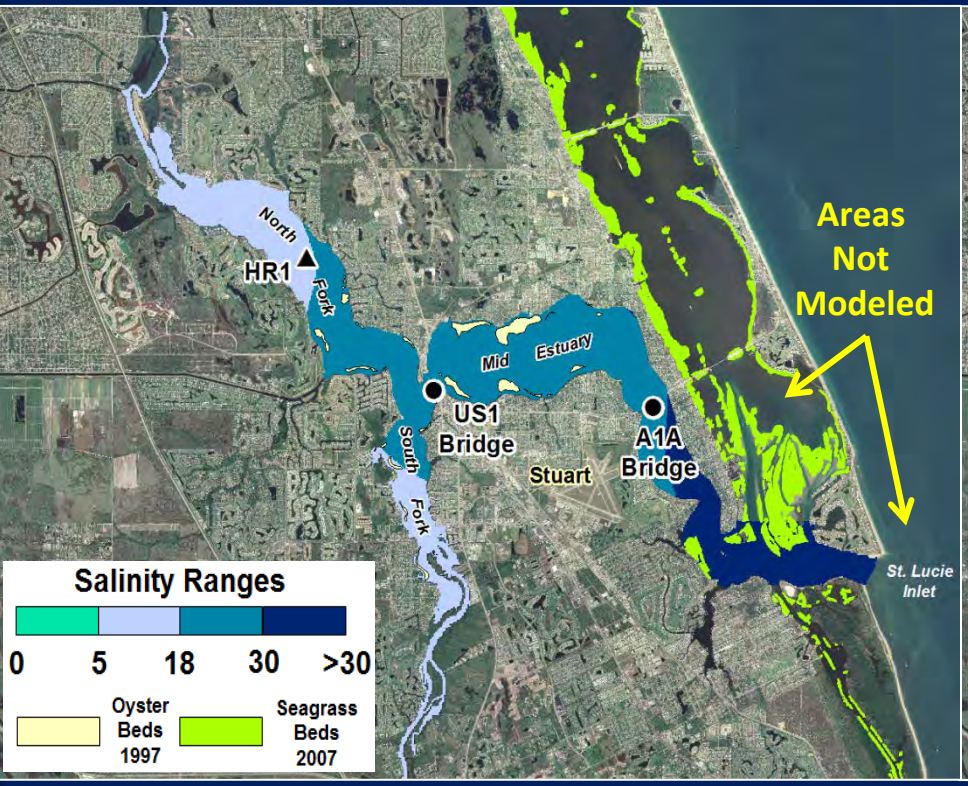
1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Sep 1-Oct 1-Nov 1-Dec 1-Jan 1-Feb

■ Inflow from Lake ■ C-44 Basin Runoff ■ Inflow from C-24, C23, and Tenmile Creek ■ Tidal Basin Inflow

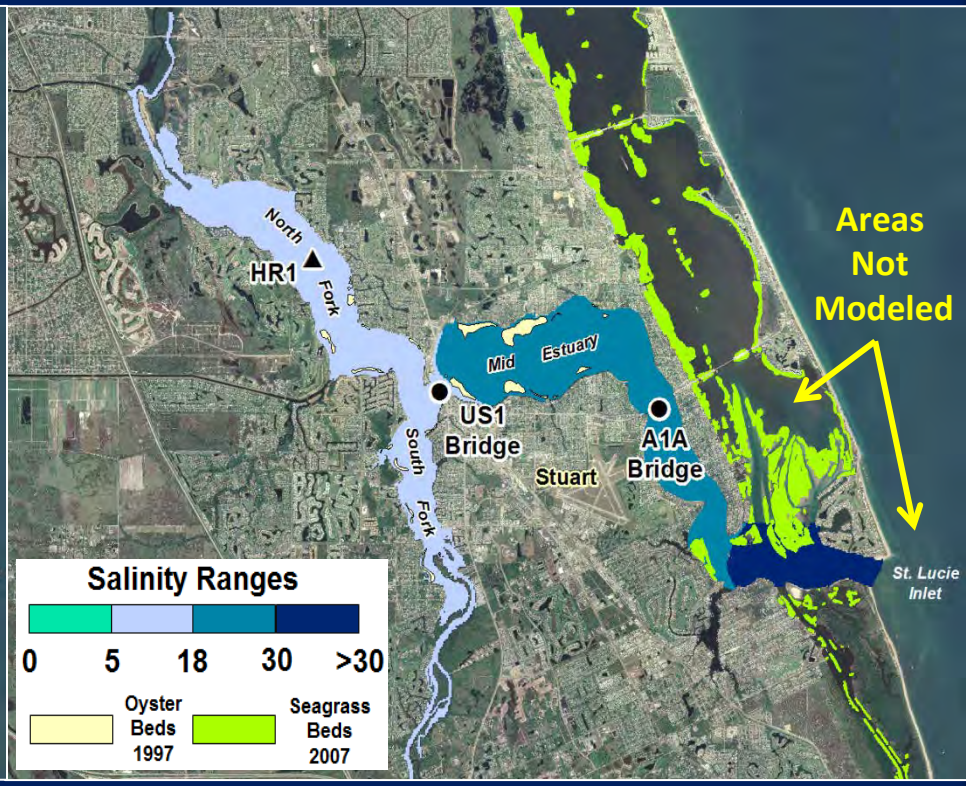
St. Lucie Estuary

Salinity Conditions

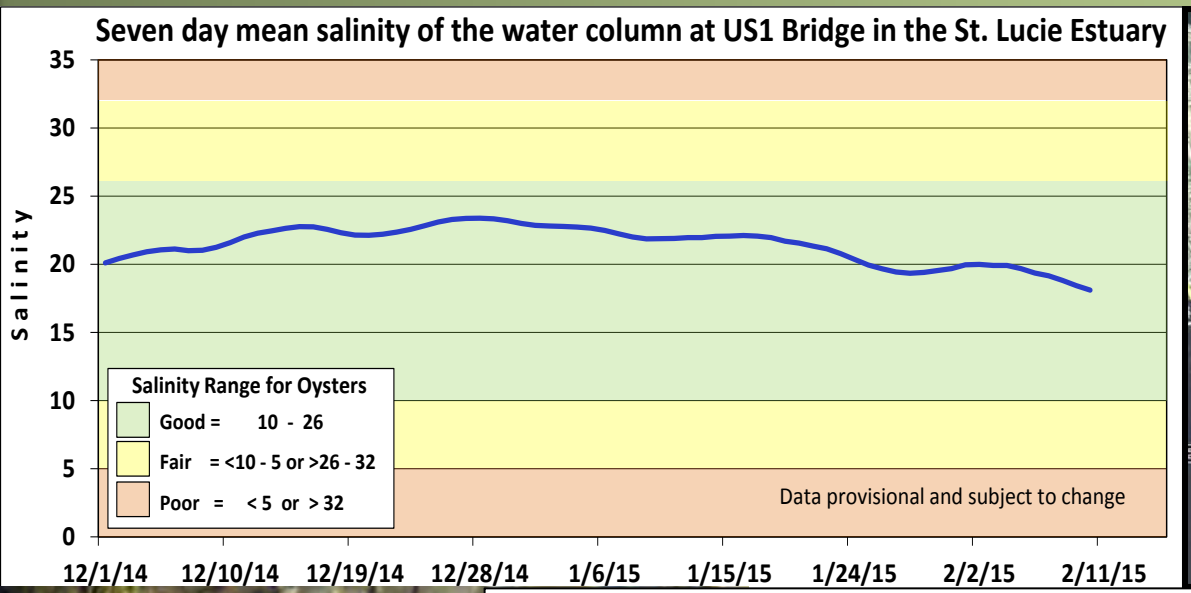
January 12, 2015

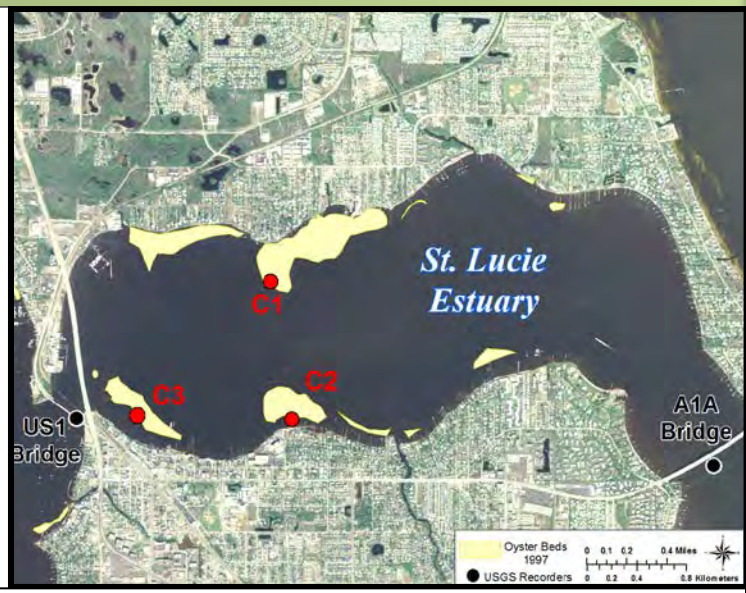


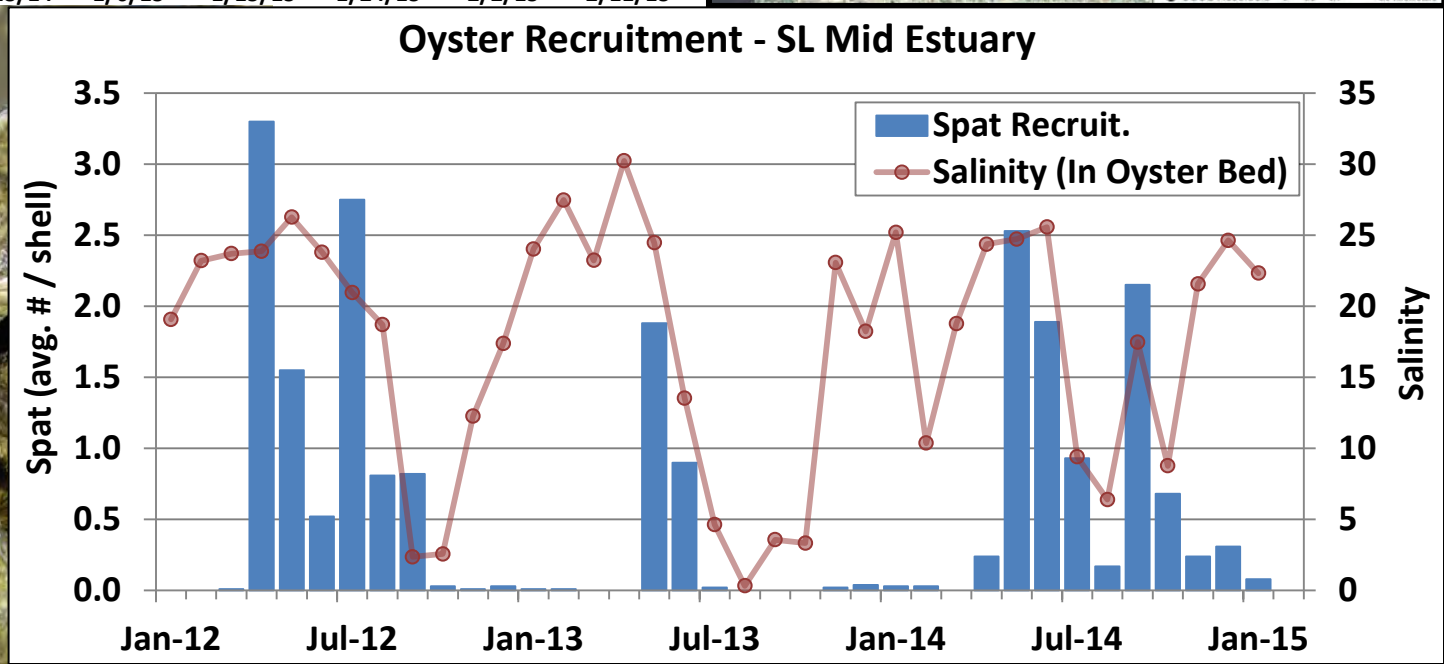
February 9, 2015



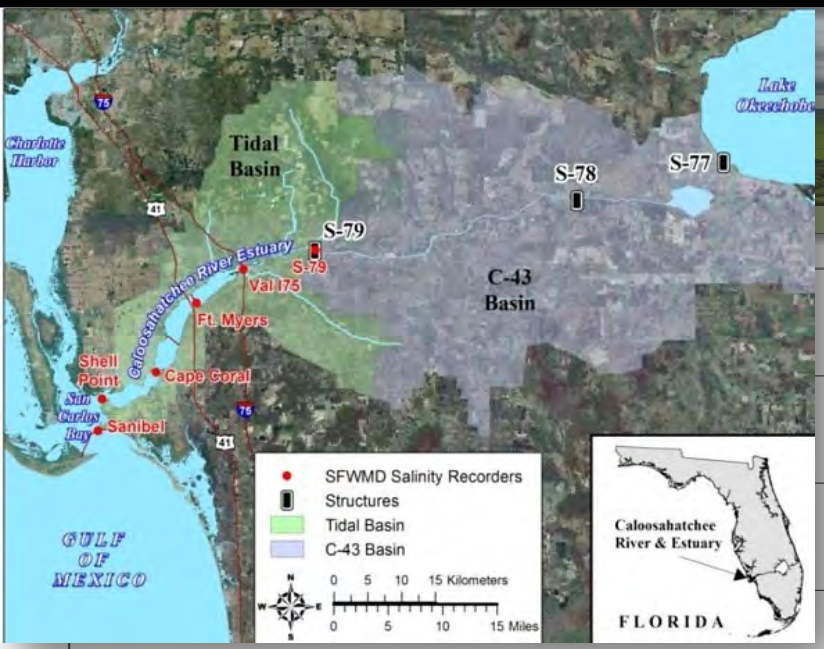
St. Lucie Estuary - Oysters

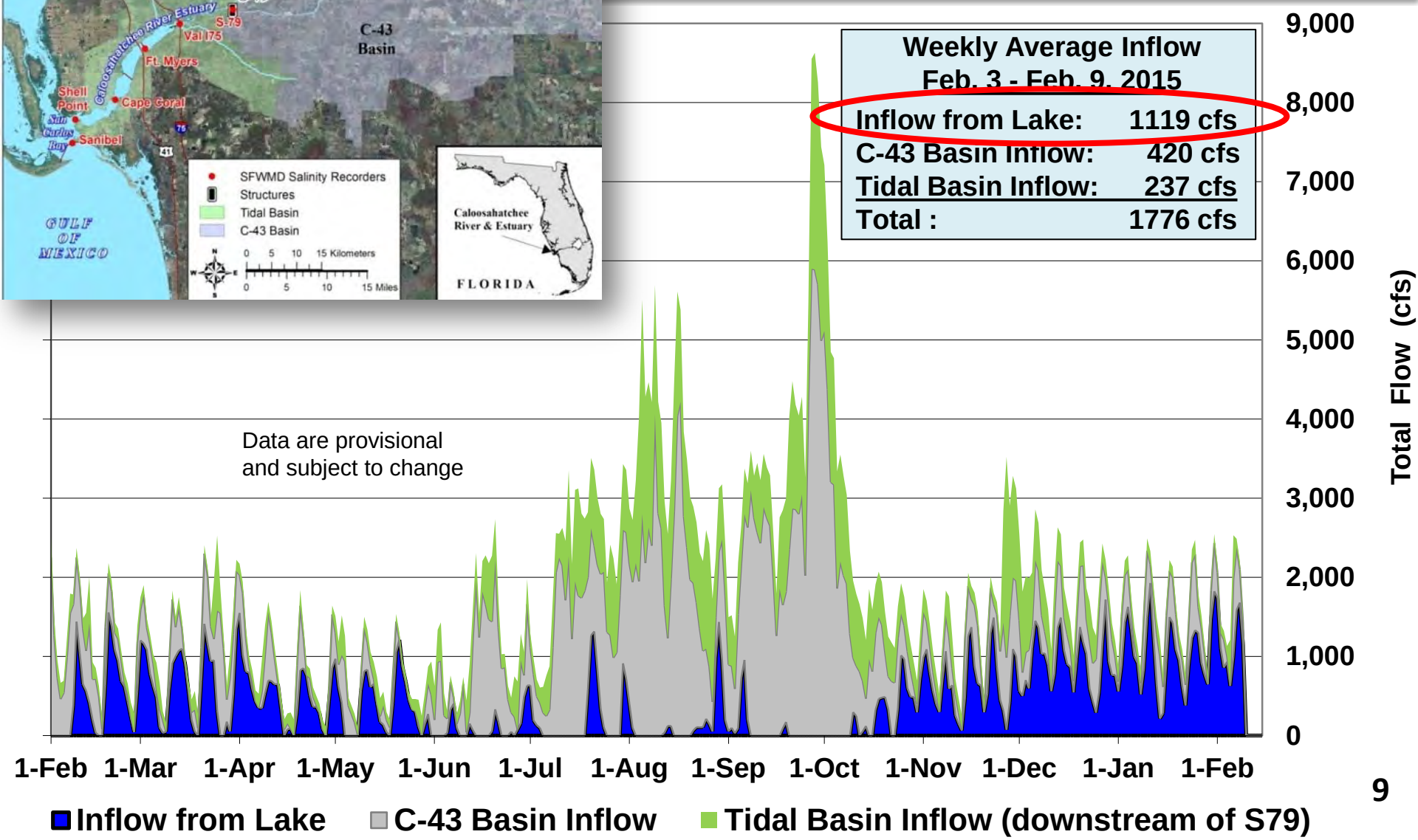






CALOOSAHATCHEE ESTUARY

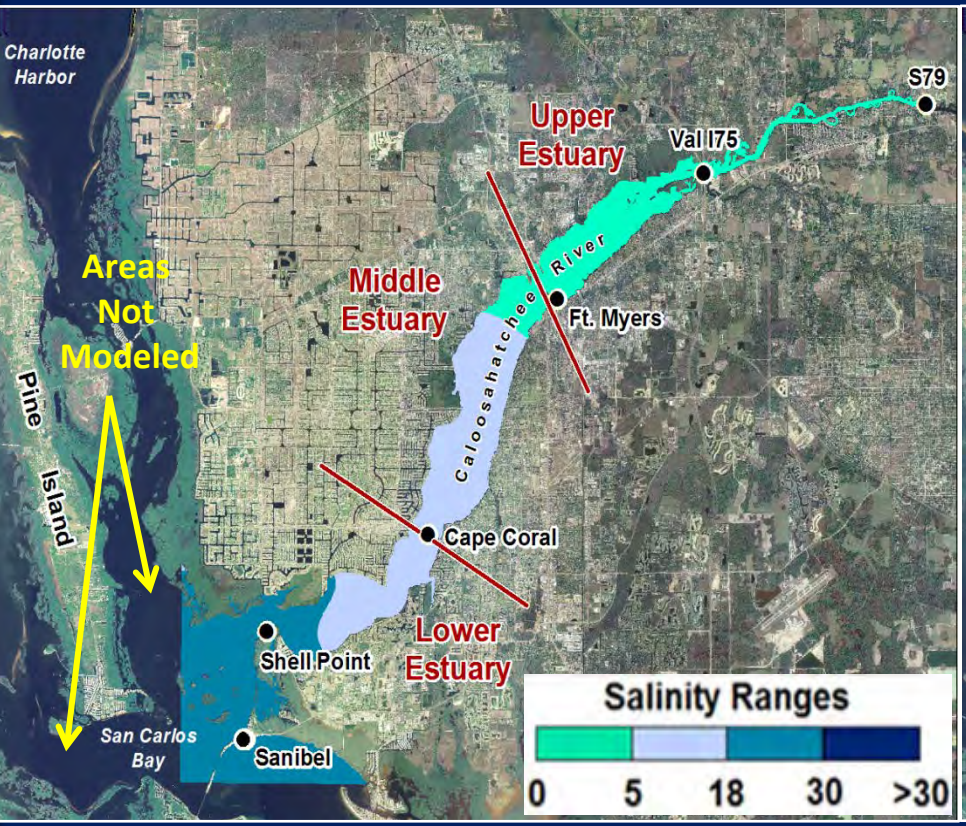




CALOOSAHATCHEE ESTUARY

Salinity Conditions

January 12, 2015



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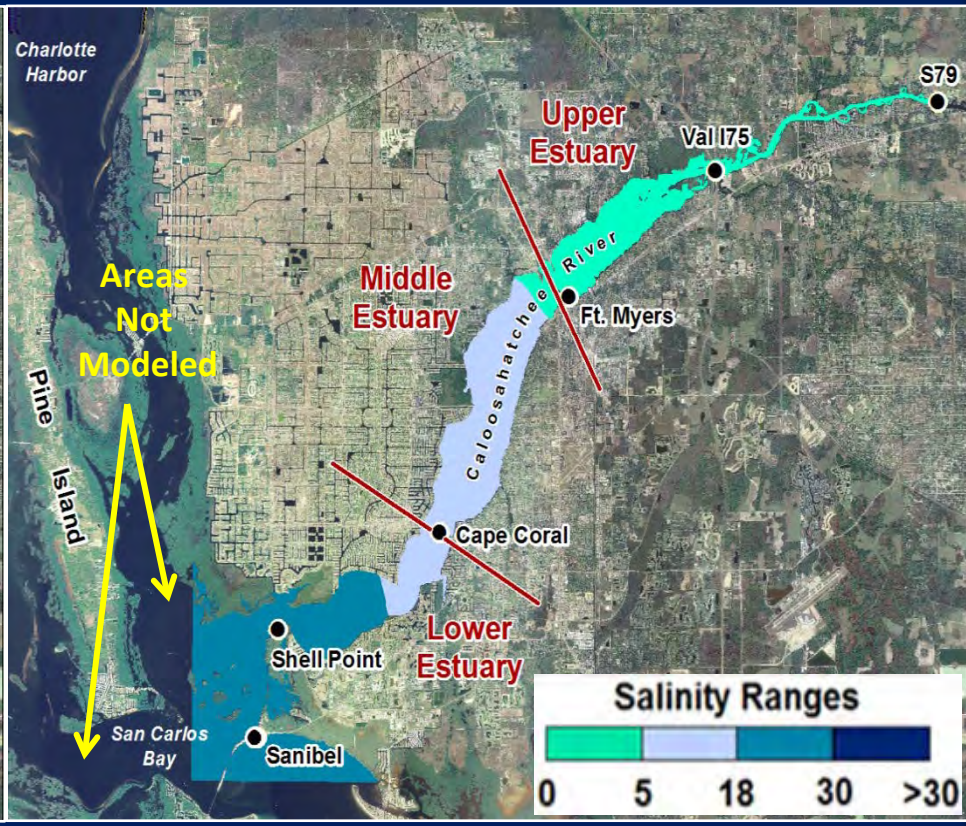
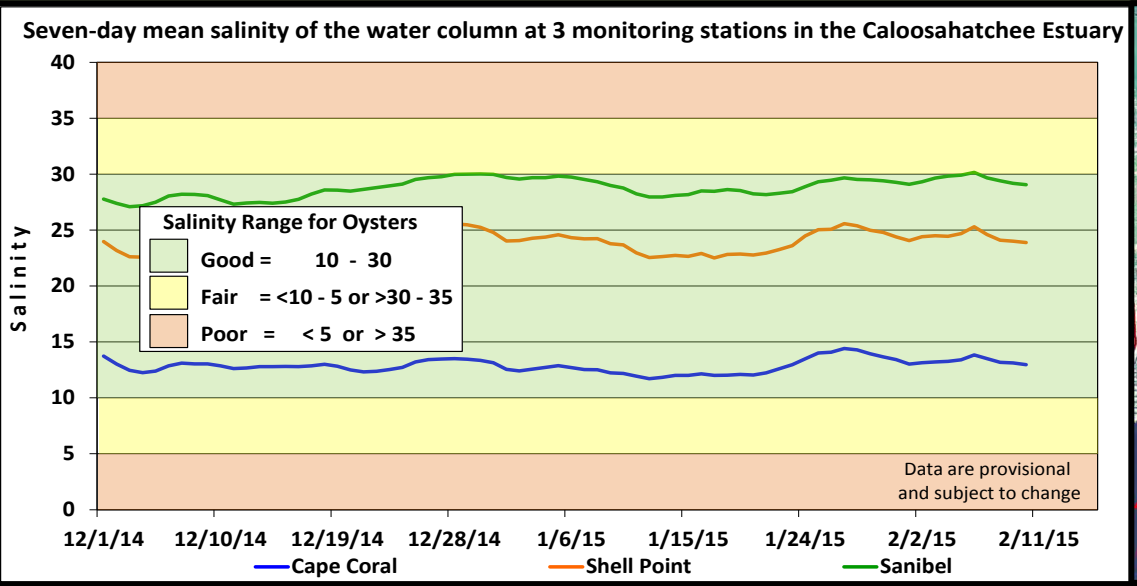
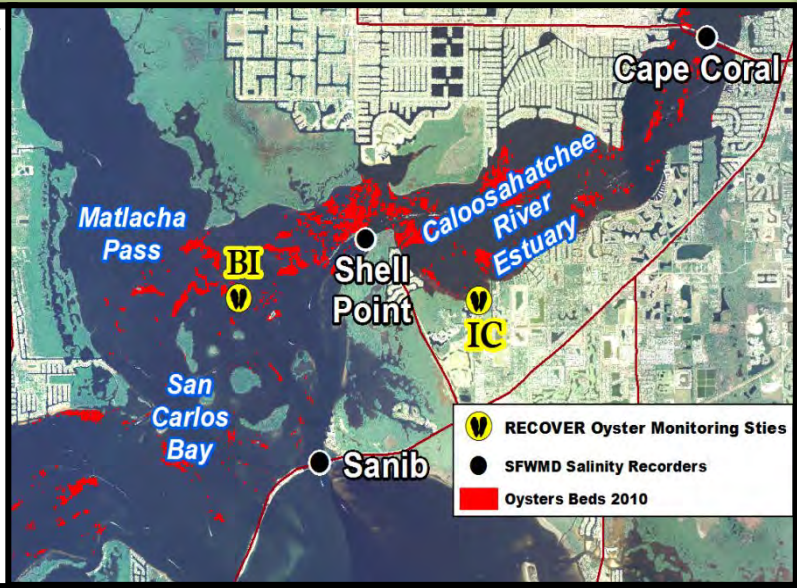
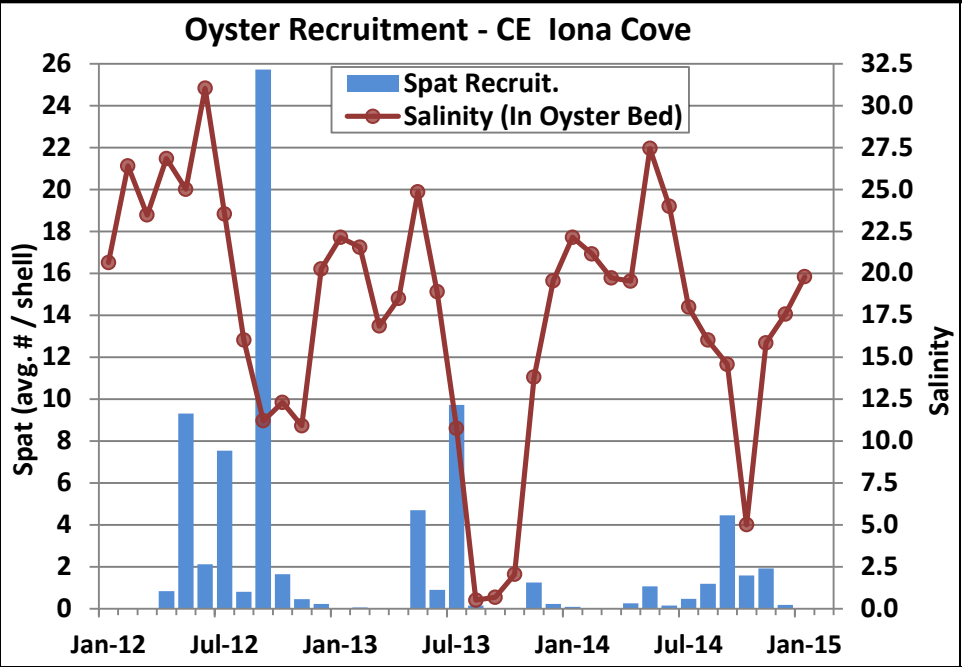
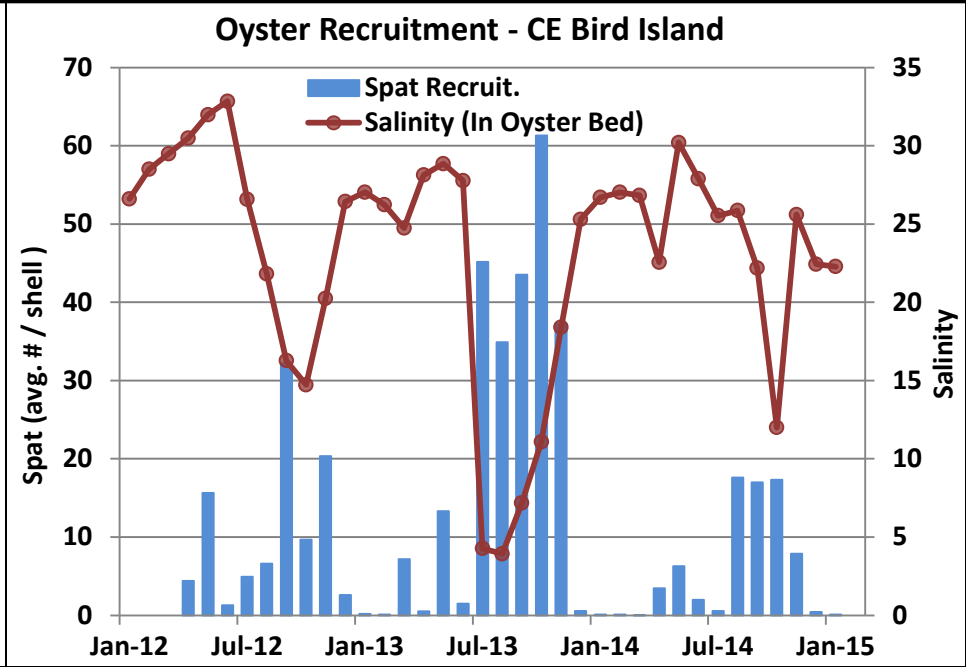


CALOOSAHATCHEE ESTUARY - OYSTERS





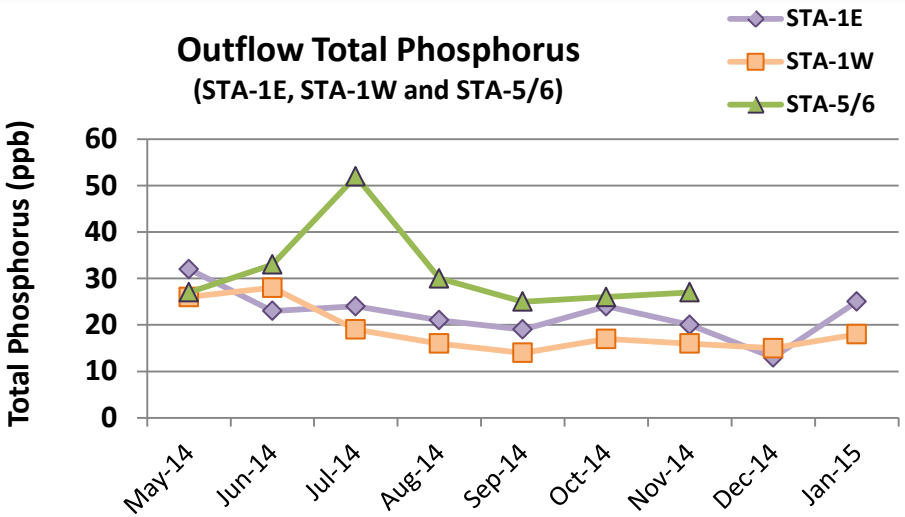




Stormwater Treatment Areas (STAs) Current Conditions

STAs treated ~420,000 ac-ft of Lake Okeechobee Regulatory Releases (May 2014 – 2/2/15)

- Current deliveries to STA-2 & STA-3/4
- Flows to STA-1E & STA-1W stopped due to elevated turbidity
- Presently, no adverse impact on outflow TP observed

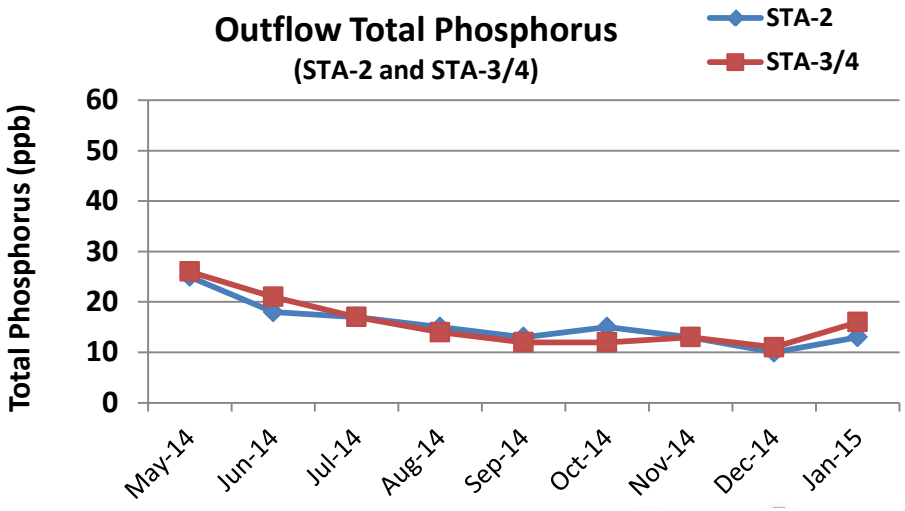


Water Year 2015
Running Total (May, 2014 - 2/1/15)

	STA-1E	STA-1W	STA-2	STA-3/4	STA-5/6[a]
Inflow TP (ppb)	162	158	75	66	228
Outflow TP (ppb)	20	19	14	14	31
Inflow Volume (ac-ft)	92,246	127,011	404,314	369,657	65,785
Flows from Lake Okeechobee	41,500	48,100	177,300	155,000	800

Based on Preliminary Data, reporting date 2/1/15

[a] = Lake Okeechobee flows to STA-5/6 were for water supply purposes.

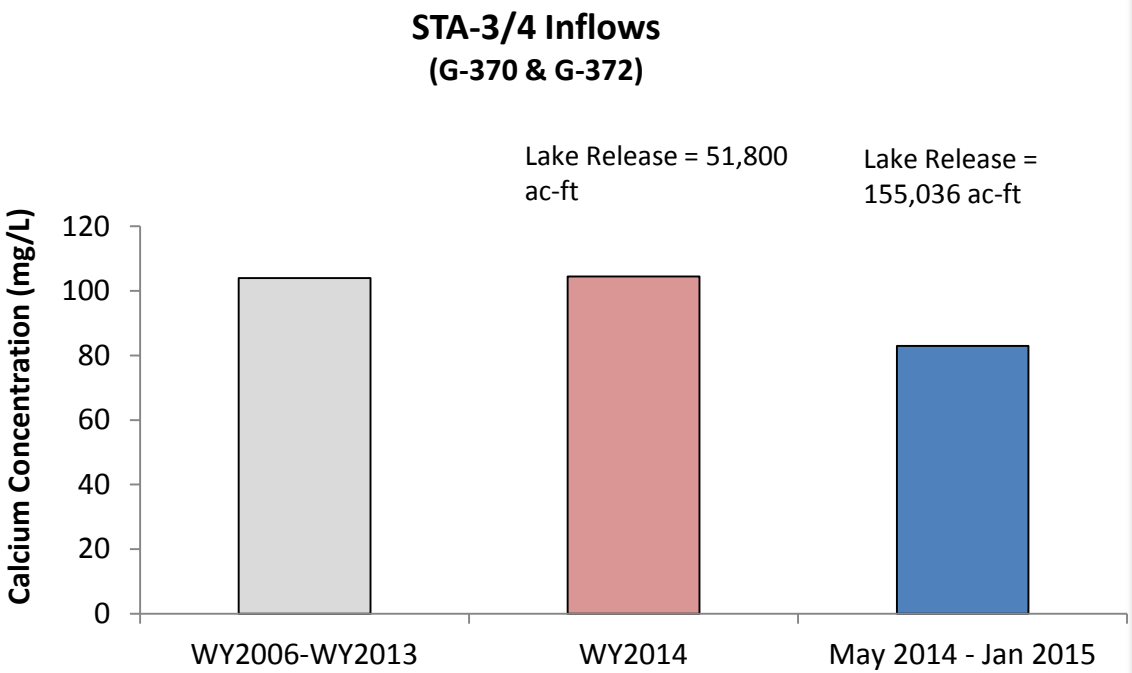


Preliminary data shown

Stormwater Treatment Areas (STAs)
Additional Information

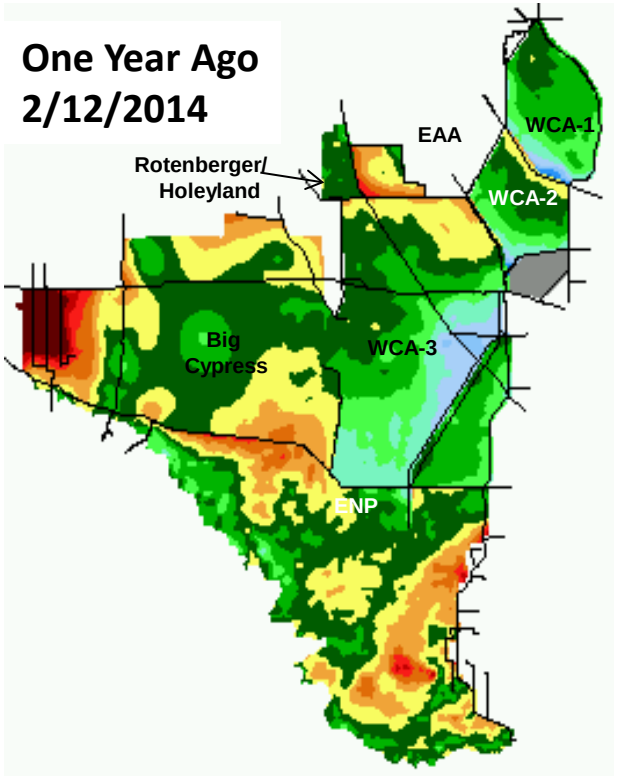
- Monitoring declining inflow calcium concentrations associated with lake releases at STA-2 & STA-3/4
- Three (3) Snail Kite nests in STA-5/6

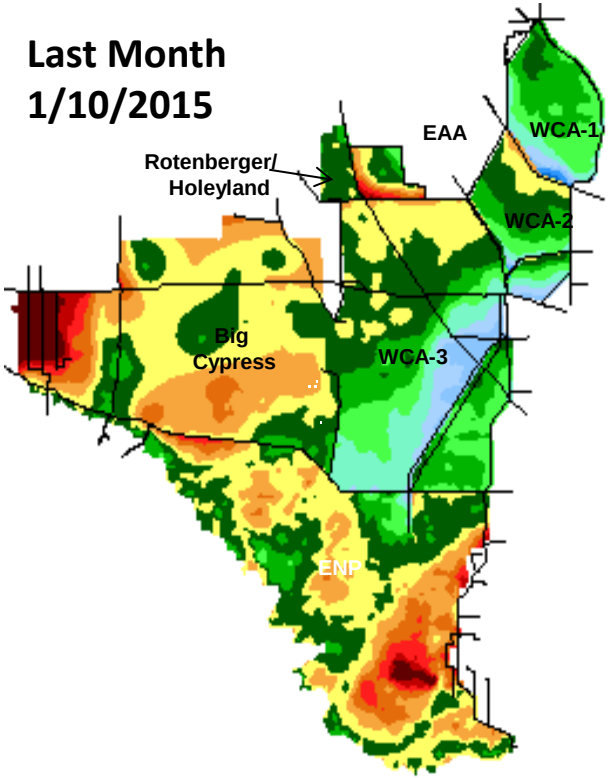
Photo by Brian Garrett

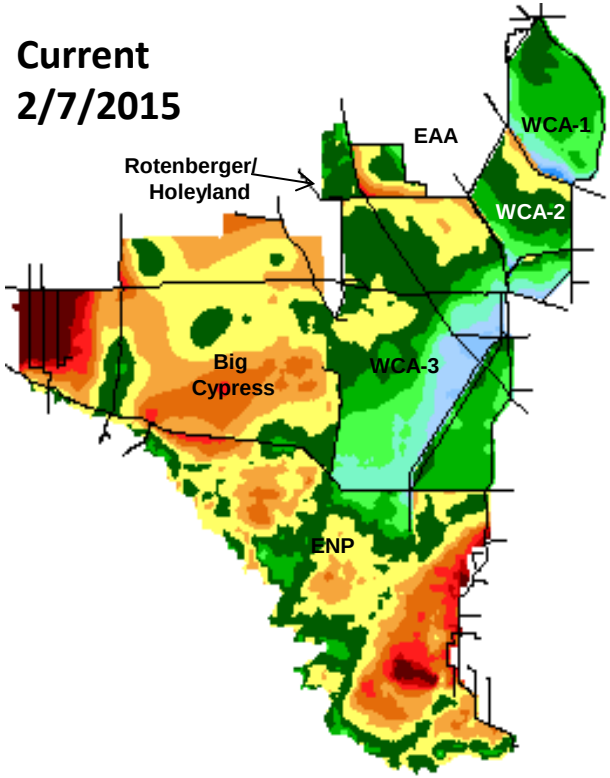


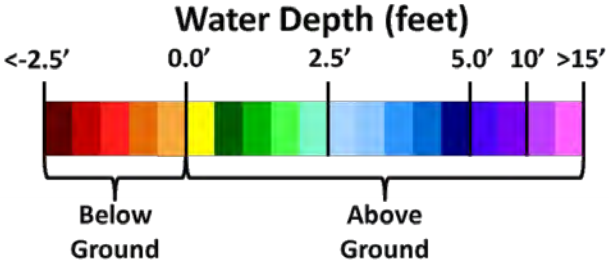
WY = Water Year (May - Apr)
Calcium concentrations from WY2006 - WY2013 primarily from basin runoff

Greater Everglades Water Depth Monthly Snapshots









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Most CERP Indicator Species Exhibited Reduced Nesting in 2014

34,714 total nests in South Florida: 21% fewer than the 10-year average

Spoonbill
(194 nests)
61%

Tricolored Heron
(7 nests)
99%

Snowy Egret
(812 nests)
68%

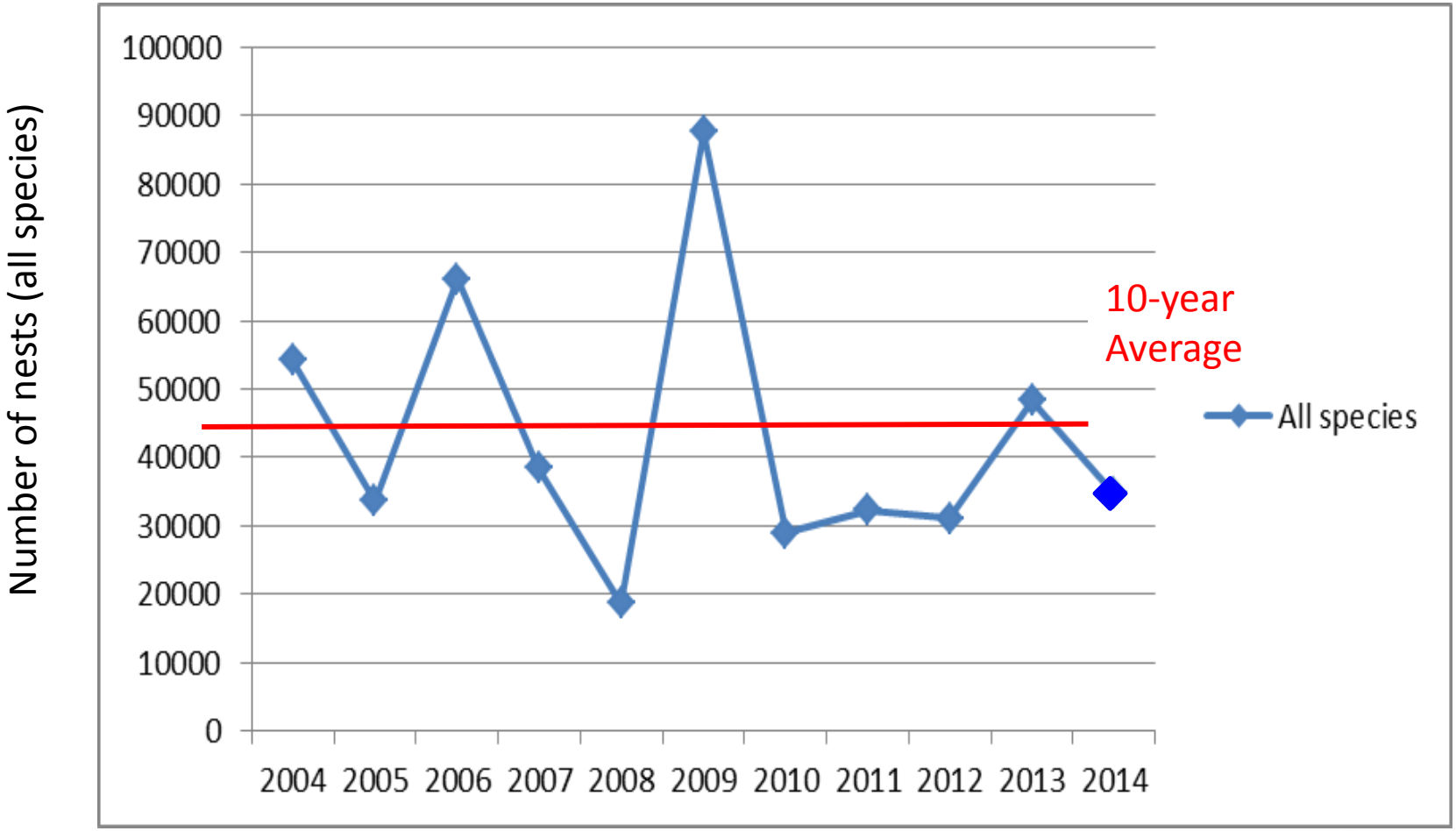
White Ibis
(16,735)
17%

Wood Stork
(1735 nests)
33%

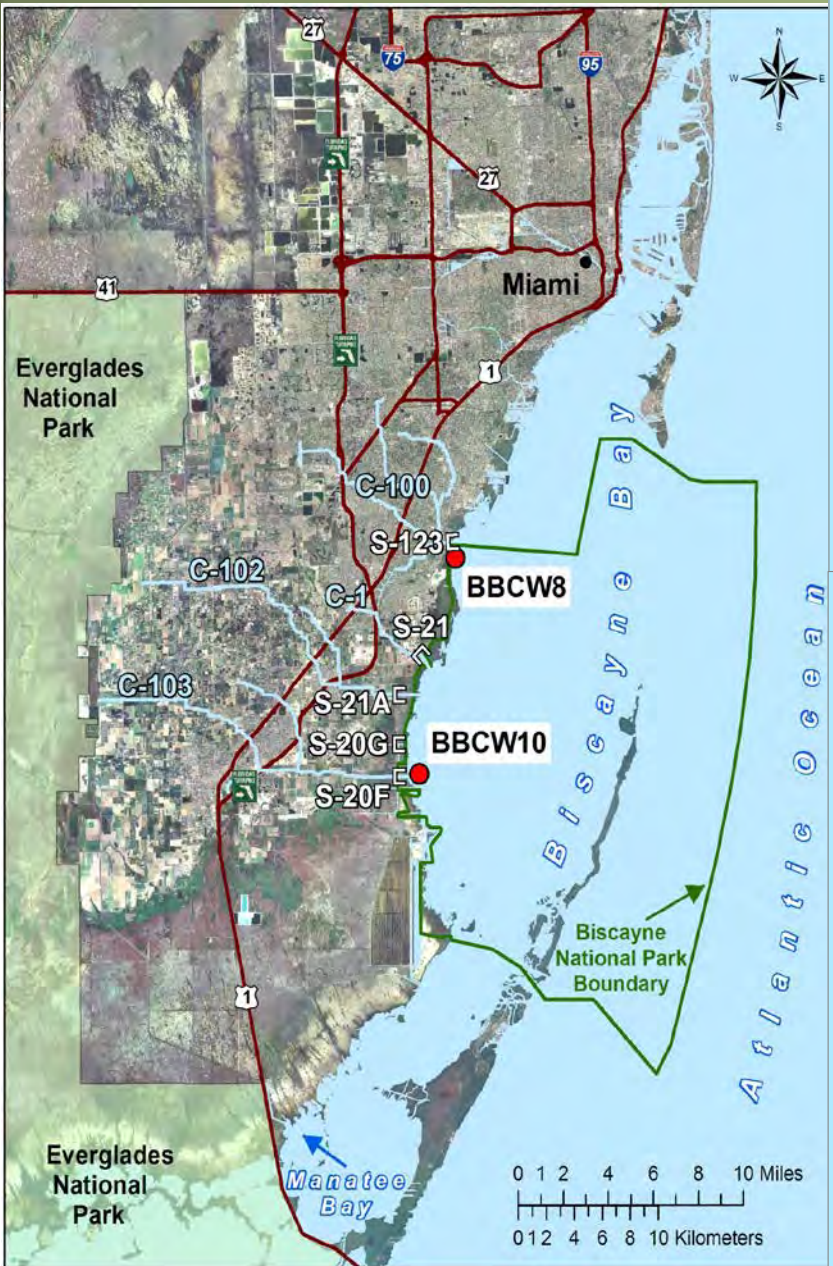
Number of nests and proportional change in nest numbers in 2014 relative to the 10-year average

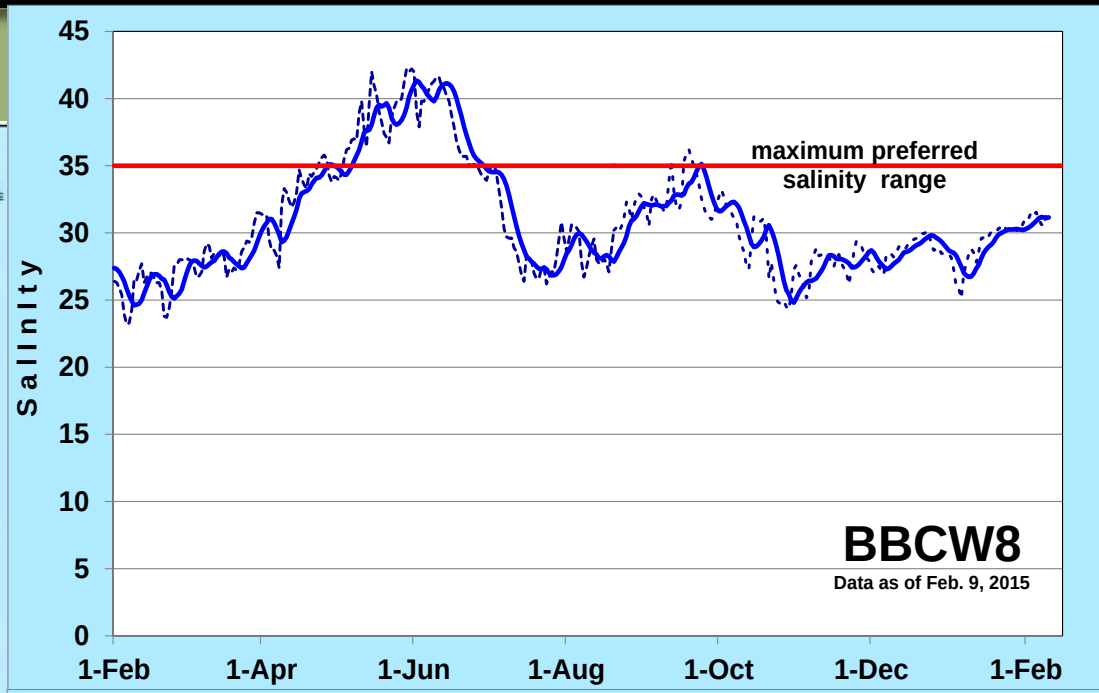
WADING BIRD NESTING IN SOUTH FLORIDA WAS BELOW AVERAGE IN 2014

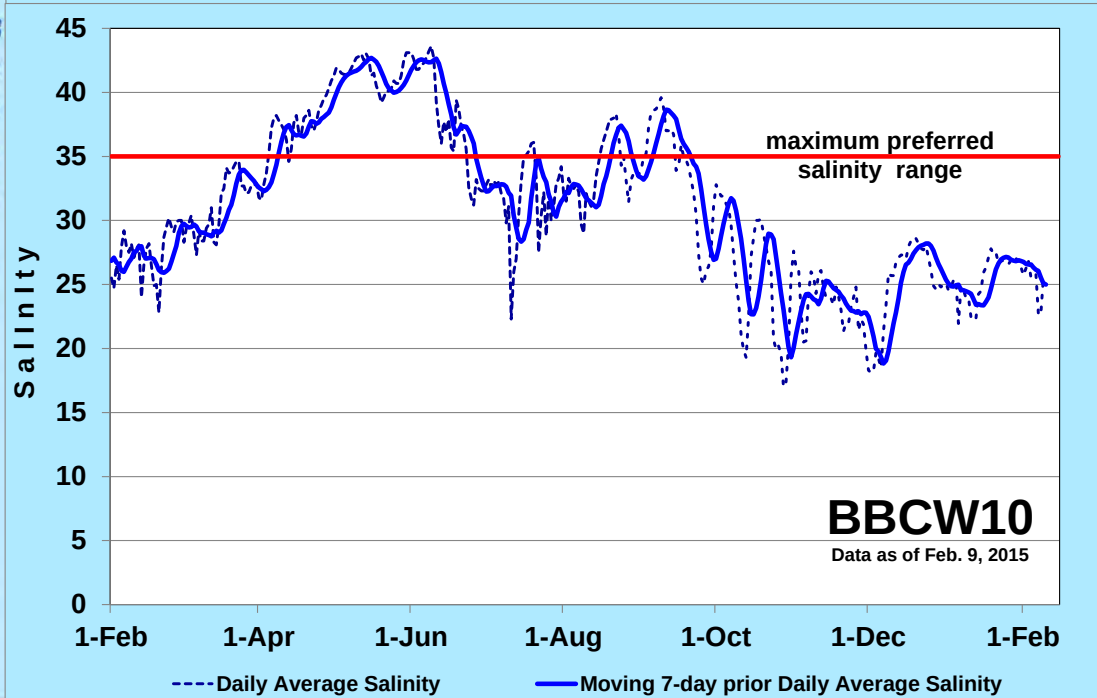
34,714 total nests in South Florida: 21% fewer than the 10-year average



Biscayne Bay Salinity

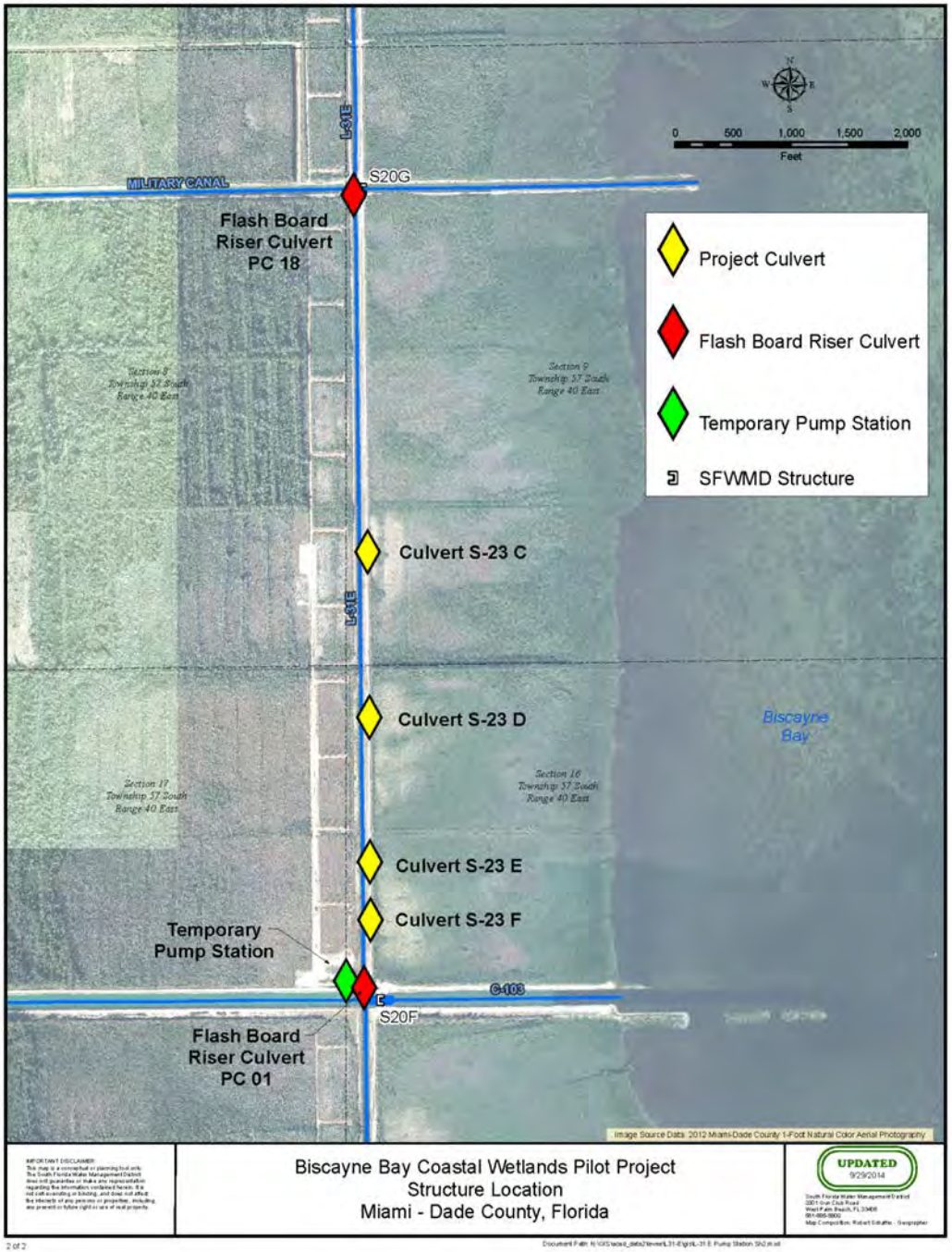






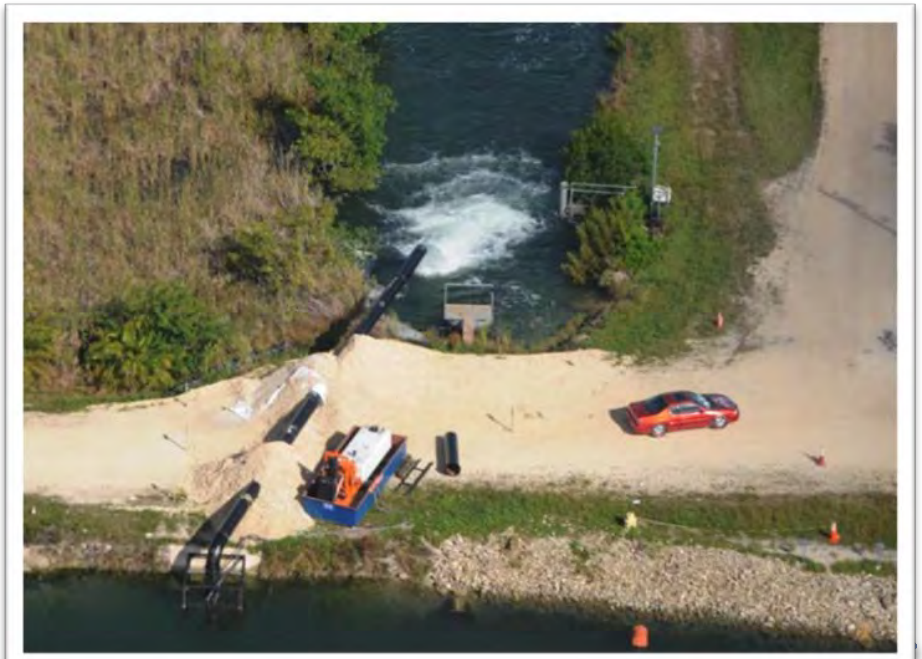
Biscayne Bay Pilot Test

- Temporary pilot pump operation for this dry season implemented on October 15, 2014
- Divert water from point source discharge(S-20F) and redistribute through culverts into remnant tidal creeks



PROJECT UPDATE

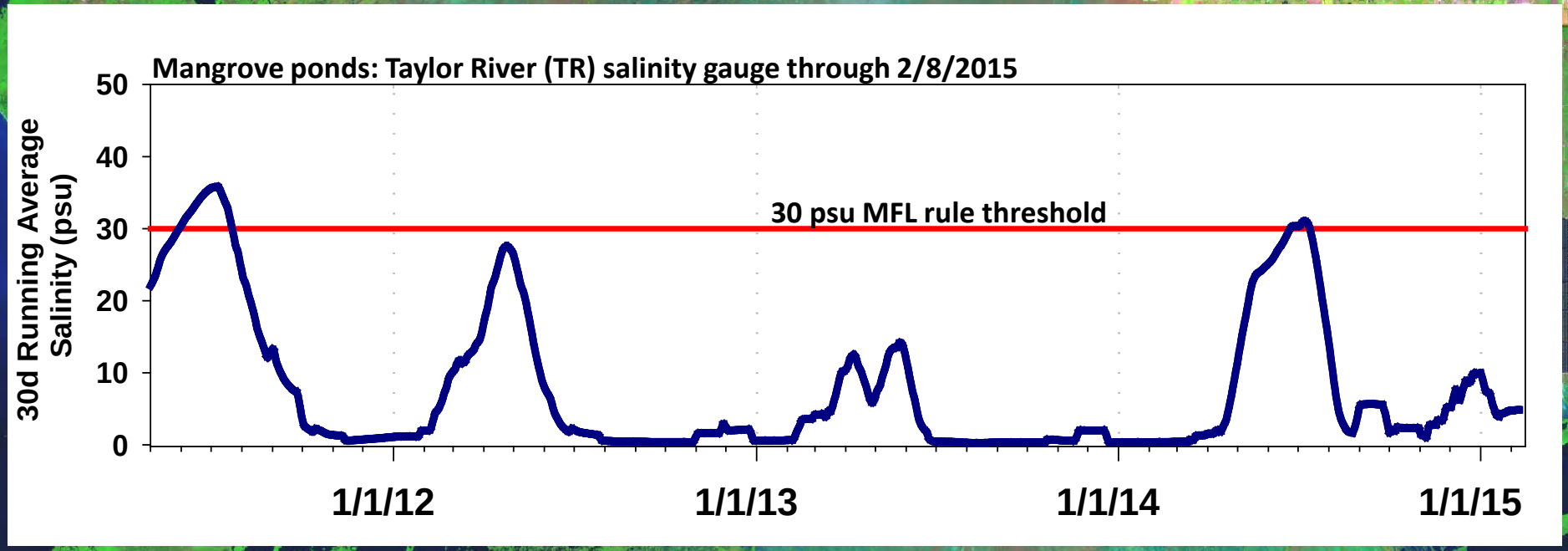
- Approximately 1,917 acre-feet of fresh water diverted to wetlands since Oct 15, 2014
- Pumping maintains L-31E canal stage at optimal level ~2.20' NGVD29
- Point source discharges from coastal discharge structure S-20F have been reduced
- Sufficient water available in system to continue pilot project beyond initial 3 month operational goal



Project Update

- Rehydration of coastal wetlands along L-31E Canal (east & west) on SFWMD, Miami-Dade, FPL and Biscayne National Park lands
- Rehydration along L-31E Canal resulted in improved habitat and changed in vegetation in coastal wetlands
- Enhanced sheet flow to historic tidal creeks

FLORIDA BAY SALINITY UPDATE



Florida Bay MFL salinity threshold was exceeded in June - July of 2014

Roseate spoonbills in the Phase IV restoration area floodplain.