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MEMORANDUM

TO: John Mitnik, Chief, Engineering and Construction Bureau
Paul Linton, Administrator, Water Control Operations Section

FROM: SFWMD Staff Environmental Advisory Team

DATE: July 28, 2015

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Stages in Lakes East Toho, Toho, Kissimmee-Cypress-Hatchineha continue to rise; East Toho and Toho are within their ascension rate targets (<0.5 feet in the last 14 days); KCH has slightly exceeded 0.5 feet in 14 days. On Sunday, discharge at S-65 and S65A averaged 145 cfs and 284 cfs, respectively. Discharge at S-65E averaged 550 cfs over the past week. Tuesday morning discharges were: S65 ~140 cfs; S65A ~300 cfs; S65C ~850 cfs; S65E ~800 cfs. Kissimmee River dissolved oxygen concentration averaged 4.85 mg/L over the past week. Kissimmee River mean floodplain depth was 0.44 feet on Monday.

Lake Okeechobee is at 12.13 feet NGVD, having risen 0.14 feet over the past week. It remains in the Beneficial Use Sub-band. Satellite imagery indicates low to moderate bloom conditions persisting in the western and southwestern nearshore regions. The bloom reported at the S-308 structure last week has dissipated. A new bloom was observed in the rim canal off Clewiston, extending approximately 3 miles from shore. Future recommendations for the short term will depend in large measure on wet season rainfall patterns and amounts. However, operations that increase inflows and restrict discharges are favored at this time, the operational goal being to maintain a steady increase in Lake stage, not to exceed 0.5 feet per month throughout the wet season.

Over the past week, total freshwater inflow to both estuaries was dominated by local basin runoff, averaging 770 cfs to the St. Lucie and 3624 cfs to the Caloosahatchee. In the St. Lucie Estuary, salinity was in the good range for adult oysters. In the Caloosahatchee Estuary, salinity continued to be in the good range for adult oysters at Cape Coral and Shell Point, but approaching the fair range at Cape Coral. Salinities were also in the good range for tape grass in the upper-Caloosahatchee Estuary, and are forecasted to remain so over the next two weeks, even with no flow through S-79. There are no ecological benefits associated with additional releases from Lake Okeechobee.

Rainfall was lower than last week, ranging from 0.54 inches to 2.28 inches across the Water Conservation Areas and Everglades National Park (ENP). Water levels remain 0.34 feet below ground in northeastern WCA-3A, therefore, additional inflow is needed in far northeastern WCA-3A to protect the peat soils from fires and oxidation, particularly with the summer heat and high evaporation. The 30-day moving average salinity at the Florida Bay Minimum Flows and Levels sentinel site increased to 41 psu following upstream surges from Florida Bay. Inflows to the Bay are lower than they have been since 2005 and at 104,139 acre-feet, have fallen below the MFL criteria, as well. There are no new recommendations for this week.

Weather Conditions and Forecast

Showers and thunderstorms will be focused north. A weak surface low over the eastern Gulf of Mexico has move northward a bit and nudged the trough which had been across central Florida northward across north Florida. Daytime heating will still generate afternoon thunderstorms focused north but scattered activity south of Lake Okeechobee will have less coverage due to some drier air over that area. The surface low is forecast to move slowly northward into Georgia on Wednesday and then bring the trough back south into north-central Florida Thursday and central Florida Friday. Expect daily thunderstorm coverage to increase and be focused north and east Thursday and Friday because of this trough. The next two weeks is expected to have average rainfall (~1.5 inches each week).

KISSIMMEE BASIN

Kissimmee Basin Rainfall

The Upper Kissimmee Basin received 1.35 inches of rainfall in the past week and the Lower Basin received 1.07 inches (SFWMD Daily Rainfall Report 7/27/2015).

Upper Kissimmee Basin

Stages and departures in the Kissimmee Chain of Lakes (KCOL) are shown in Table1.

Table 1. Departures from KCOL flood regulation (F) or temporary schedules (T, A, or S) (feet NGVD). Discharge and stage data are provisional real-time data from SFWMD OASyS DualTrend; reported values are averages through midnight of the Sunday prior to the report date unless otherwise specified.

Report Date: 7/28/2015

Water Body	Structure/Site	Discharge (cfs), week's average**	Stage Monitoring Site***	Lake Stage (feet)	Schedule*	Regulation (R) or Target (S or T) Stage (feet)	Sunday Departure (feet)						
							7/26/15	7/19/15	7/12/15	7/5/15	6/28/15	6/21/15	6/14/15
Lakes Hart and Mary Jane	S62	163	LKMJ	59.9	R	60.0	-0.1	0.0	0.0	-0.1	0.1	-0.1	-0.3
Lakes Myrtle, Preston, and Joel	S57	26	S57	60.8	R	61.0	-0.2	-0.2	0.0	-0.1	-0.1	-0.1	-0.5
Alligator Chain	S60	129	ALLI	63.1	R	63.3	-0.2	-0.1	-0.2	-0.2	0.0	-0.1	-0.5
Lake Gentry	S63	189	LKGT	60.9	R	61.0	-0.1	0.0	0.0	-0.1	0.0	-0.6	-1.1
East Lake Toho	S59	124	TOHOE	56.2	R	56.5	-0.3	-0.5	-0.5	-0.9	-0.9	-1.2	-1.2
Lake Toho	S61	310	TOHOW	53.2	R	53.5	-0.3	-0.3	-0.4	-0.6	-0.7	-1.0	-1.0
Lakes Kissimmee, Cypress, and Hatchineha	S65	145	LKISSP, KUB011, LKIS5B	50.3	R	51.0	-0.7	-1.0	-1.2	-1.6	-1.8	-1.9	-1.9

* T = temporary schedule, R = USACE flood control schedule, S = temporary snail kite schedule, A = projected ascension line, N/A= not applicable or data not available.

** Seven-day average of weighted daily means through Sunday midnight.

*** Names of in-lake monitoring sites and structures used to determine lake stage; if more than one site is listed, an average is reported.

Lower Kissimmee Basin

Discharges and stages at Lower Basin structures are shown in Table 2. SFWDAT depth maps for the Phase I restoration area are shown in Figure 11. Kissimmee River floodplain stages at selected stations are shown in Figure 12.

Table 2. Mean weekly discharge at S-65x structures, and mean weekly Phase I area river channel dissolved oxygen and floodplain mean water depth. Discharge and stage data are provisional real-time data from SFWMD OASyS DualTrend; reported values are averages through midnight of the Sunday prior to the report date unless otherwise specified.

Report Date: 7/28/2015

Metric	Location	Sunday's 1-day average	Weekly Average**								
			7/26/15	7/19/15	7/12/15	7/5/15	6/28/15	6/21/15	6/14/15	6/7/15	5/31/15
Discharge (cfs)	S-65	105	145	447	513	314	352	395	423	392	421
Discharge (cfs)	S-65A	288	284	411	597	277	273	296	331	285	285
Discharge (cfs)	S-65C	714	682	762	958	430	435	478	533	390	450
Headwater stage (feet NGVD)		34.4	34.2	34.2	33.9	33.4	33.3	33.4	33.5	33.3	33.9
Discharge (cfs)	S-65D****	753	774	872	1076	480	515	588	628	454	558
Discharge (cfs)	S-65E	543	550	652	870	325	361	415	468	285	380
DO concentration (mg/L)***	Phase I river channel	4.28	4.85	4.90	5.15	7.26	8.09	7.24	5.81	6.27	6.35
Mean depth (feet)*	Phase I floodplain	0.44	N/A	0.47	0.68	0.22	0.19	0.25	0.33	0.12	0.14

* 1-day spatial average from South Florida Water Depth Assessment Tool (SFWDAT).

** Seven-day average of weighted daily means through Sunday midnight.

*** DO is the average of KRBN and PC62 through May 21, 2015; is for PC62 only for May 22-June 1; and is the average for PC62 and PC33 starting June 2..

**** S-65D discharge combines discharge at S-65D, S-65DX1, and S-65DX2

***** 1-day spatial average from field measurements in Pools A and BC

N/A Not applicable or data not available.

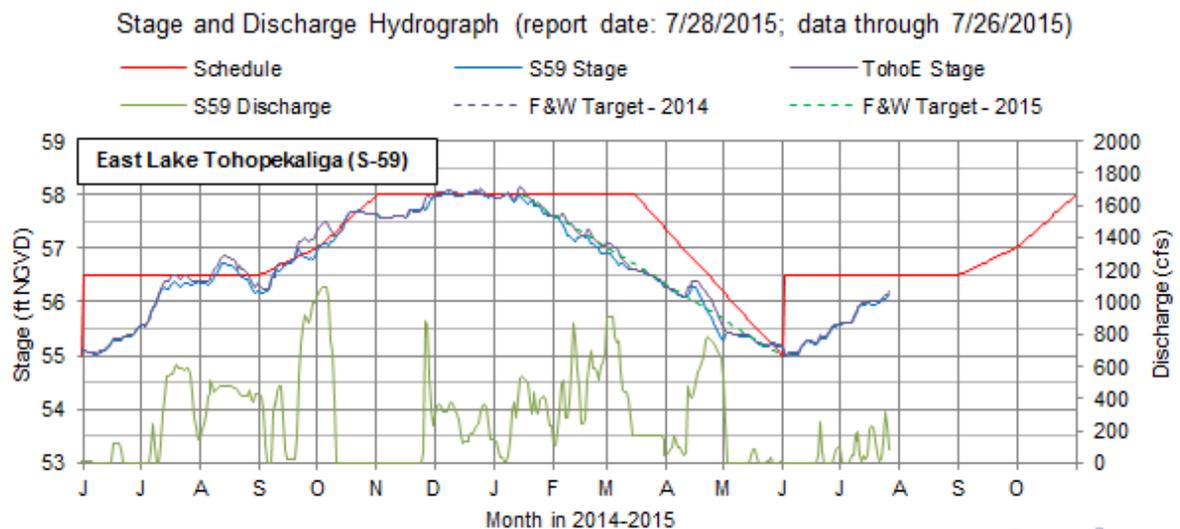
DATA ARE PROVISIONAL

Water Management Recommendations

Kissimmee Basin Recommendations and Operational Actions

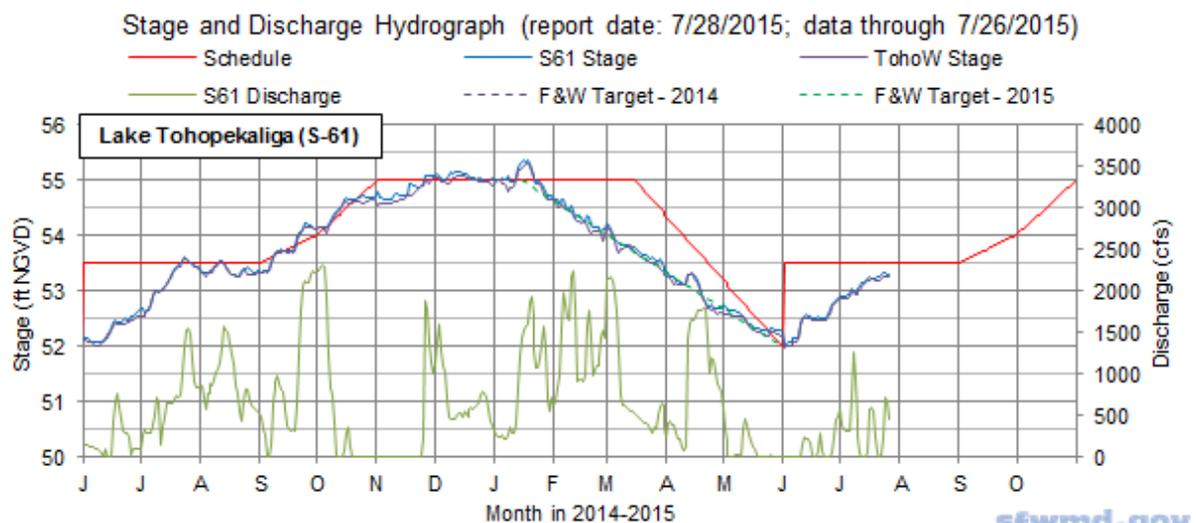
Date	Recommendation	Purpose	Outcome	Source
7/28/2015	No new recommendations.			
7/21/2015	No new recommendations.			
7/14/2015	No new recommendations.			
6/30/2015	No new recommendations.			
6/23/2015	No new recommendations.			
6/16/2015	No new recommendations.			
6/9/2015	No new recommendations.			
6/1/2015	For S65/65A maintain 300 cfs as long as stage is above 48.5 ft. When stage approaches 50.5 ft begin transitioning to 1400 cfs using the rampup/rampdown guidelines in standing recommendation.	Allow KCH lake stage to rise	Implemented	KB Operations
5/29/2015	2015 KB Wet Season Standing Recommendations provided to Operations Control	Comprehensive wet season guidance	Implemented	KB Operations
5/26/2015	No new recommendations.			
5/19/2015	No new recommendations.			
5/12/2015	No new recommendations.			
5/5/2015	No new recommendations.			
4/7/2015	No new recommendations.			
3/31/2015	No new recommendations.			
3/24/2015	No new recommendations.			
3/17/2015	No new recommendations.			
3/9/2015	No new recommendations.			
3/4/2015	No new recommendations.			
2/23/2015	No new recommendations.			
2/17/2015	No new recommendations.			
2/10/2015	No new recommendations.			
2/3/2015	No new recommendations.			
1/27/2015	Starting today, follow a new SK recession line for KCH, which will be drawn from today's stage to regulation stage on March 1.	Snail kite recession in KCH	Implemented	

KCOL Hydrographs (through Sunday midnight)



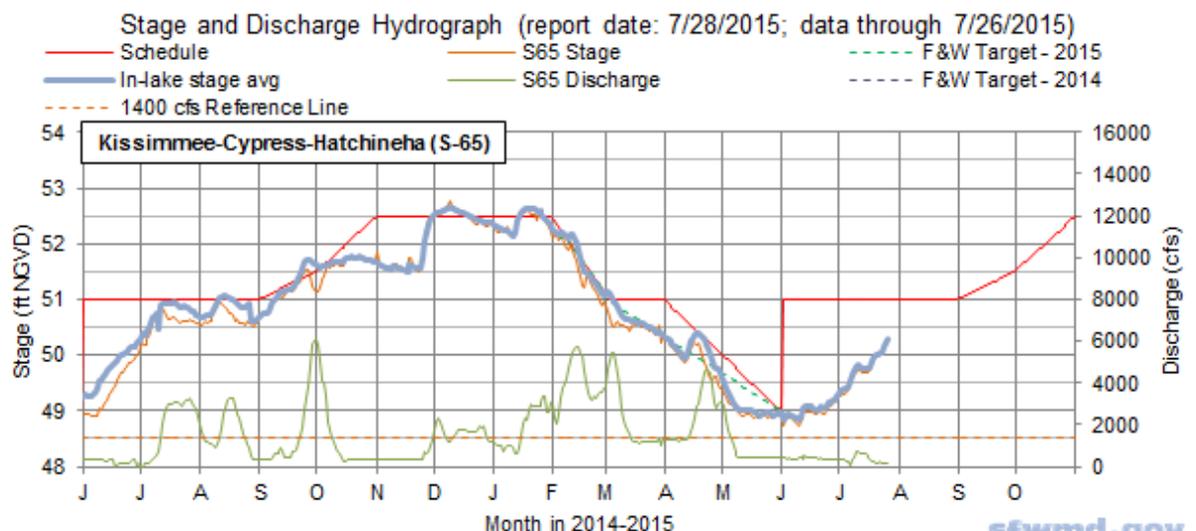
*Departures from schedule are calculated using TohoE stage.

Figure 1.



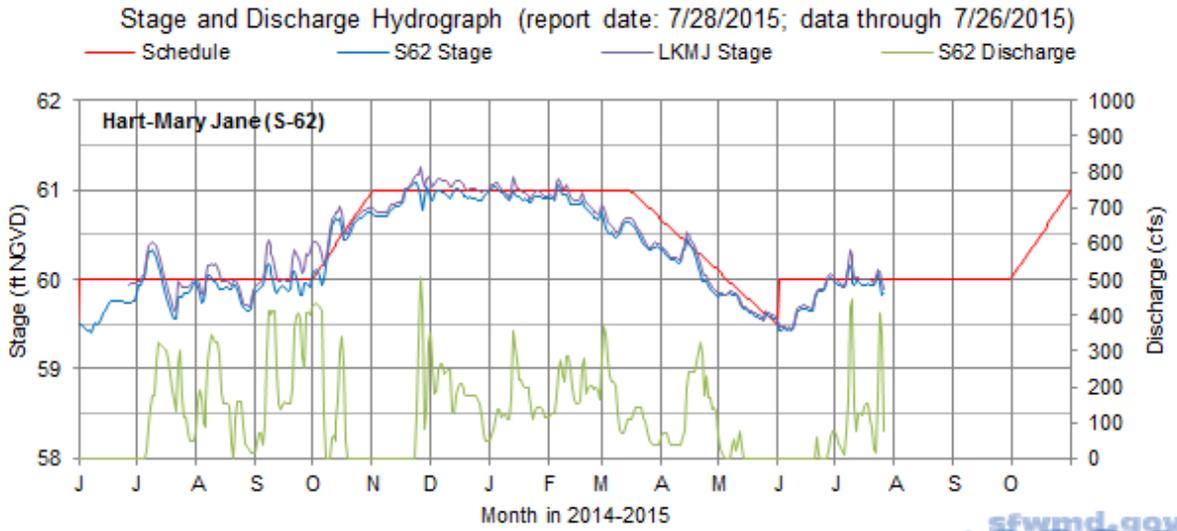
*Departures from schedule are calculated using TohoW stage.

Figure 2.



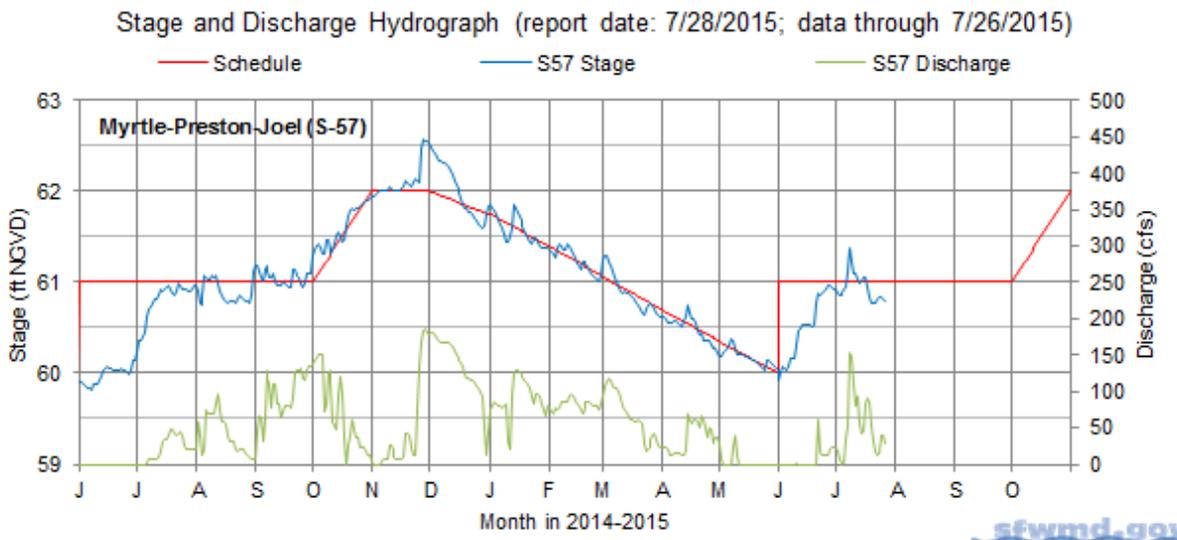
*Schedule departures use In-lake stage avg (L KISS, KUB011, and LKIS5B).

Figure 3.



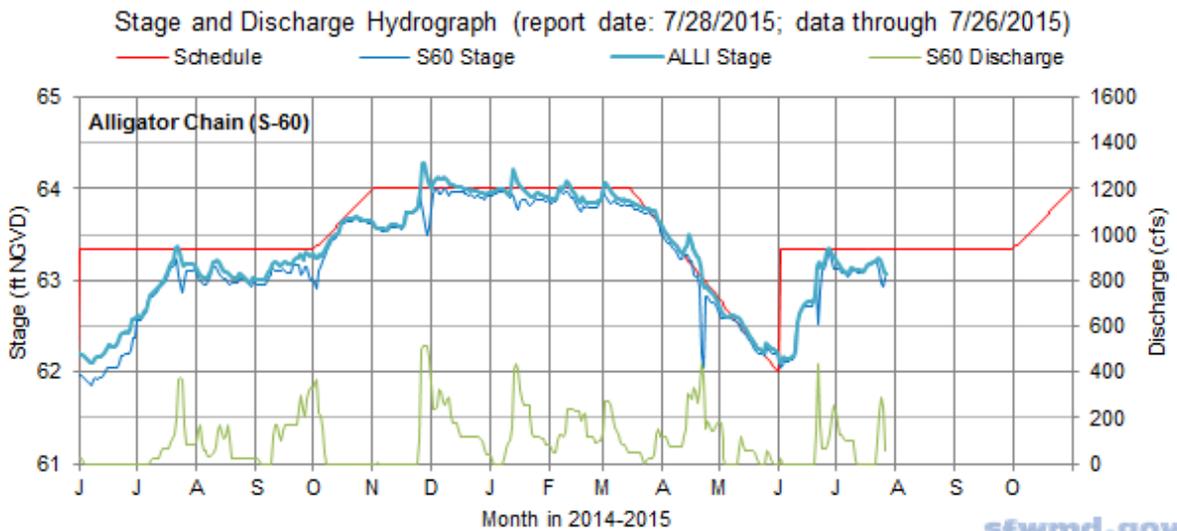
*Departures from schedule are calculated using LKMJ stage.

Figure 4.



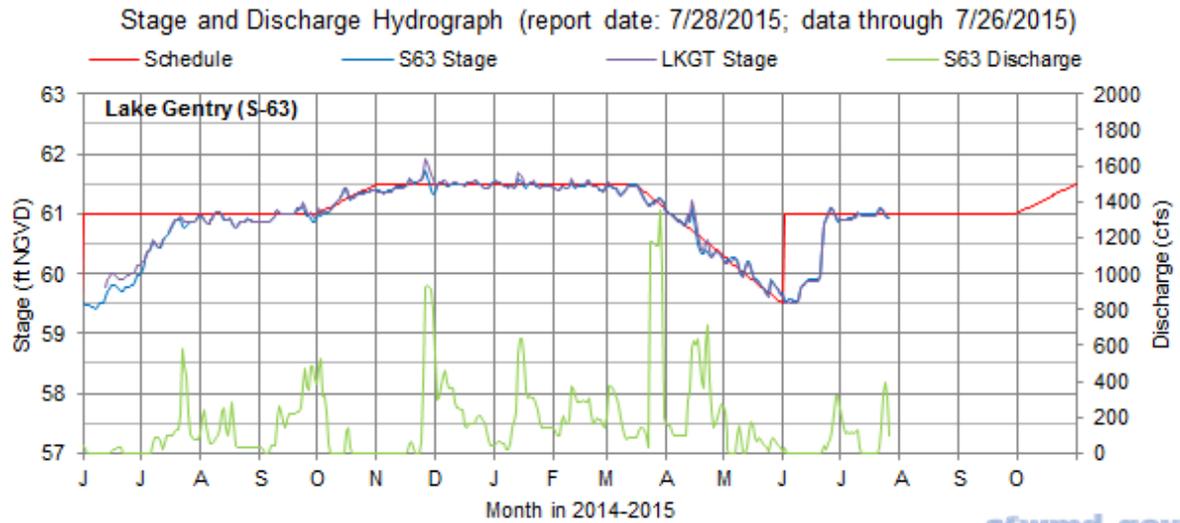
*Departures from schedule are calculated using S57 stage.

Figure 5.



*Departures from schedule are calculated using ALLI stage.

Figure 6.



*Departures from schedule are calculated using LKGT stage.

Figure 7.

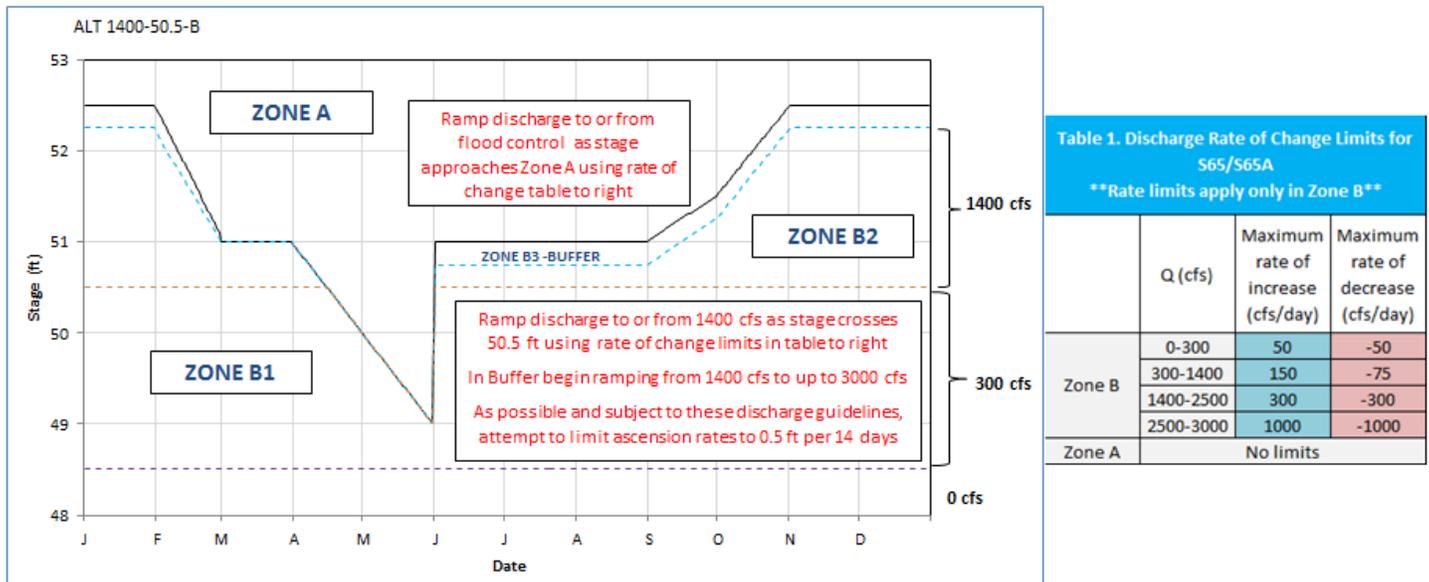


Figure 8a. Final S65 operational plan for Wet Season 2015.

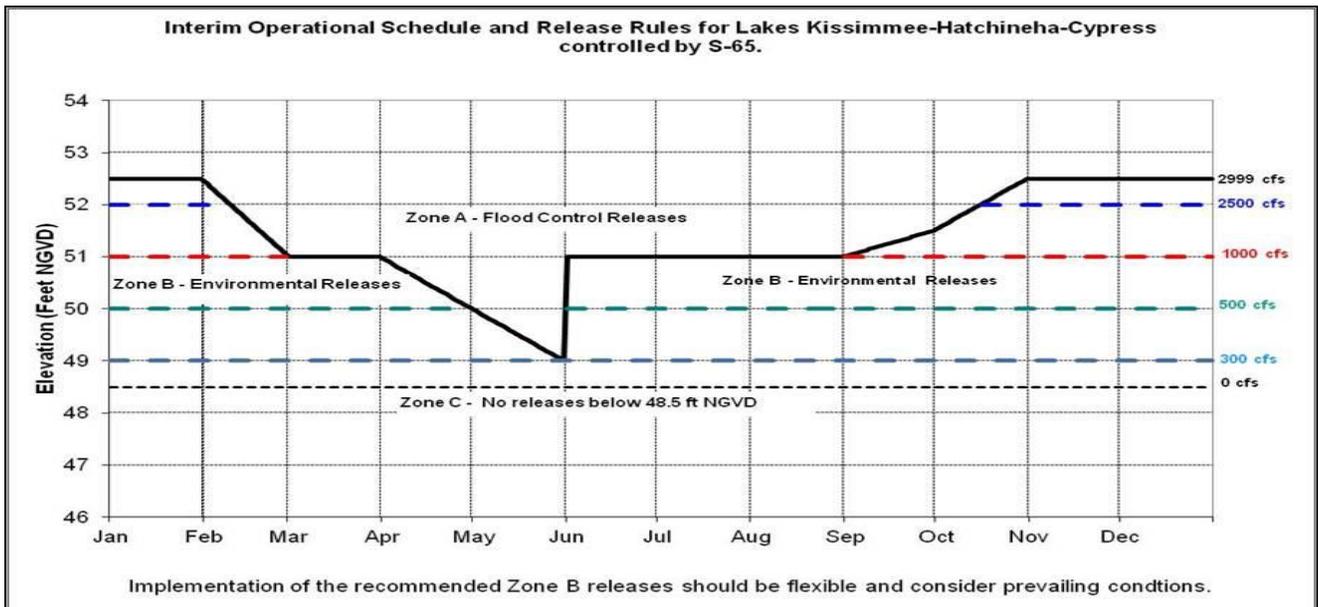


Figure 8b. Interim operations schedule for S-65. The discharge schedule shown to the right has not been used in recent years or in Wet Season 2015.

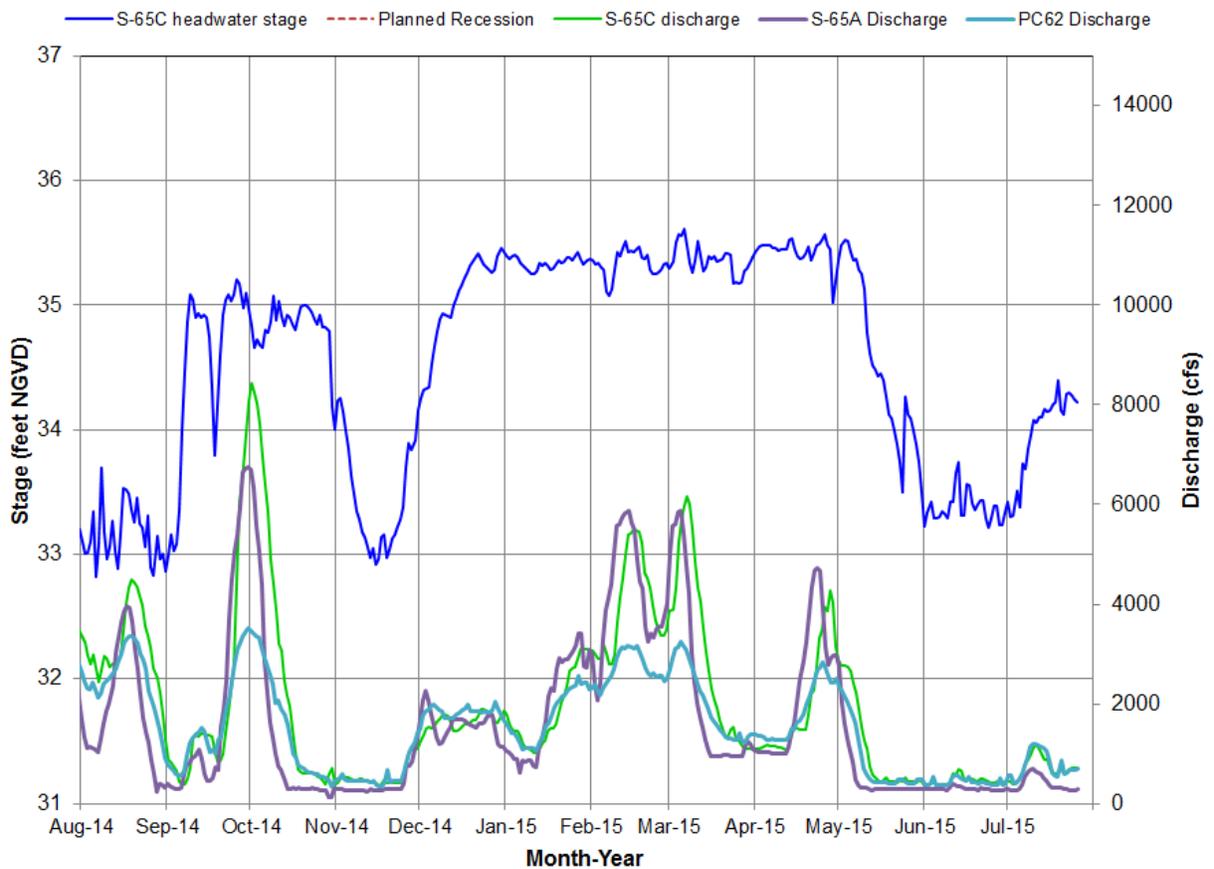


Figure 9. S-65C headwater stage in relation to discharge at S-65C, S-65A, and PC62.

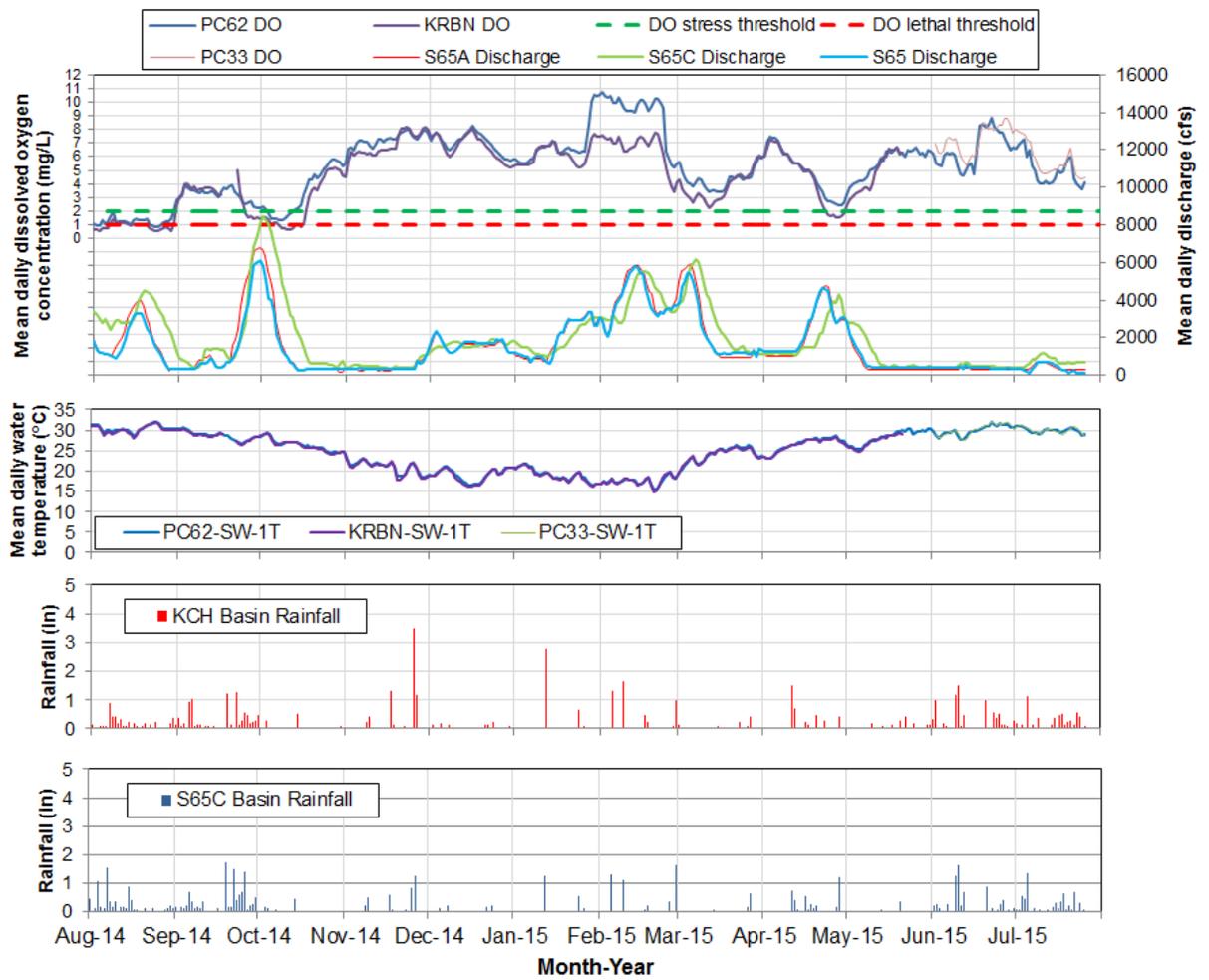
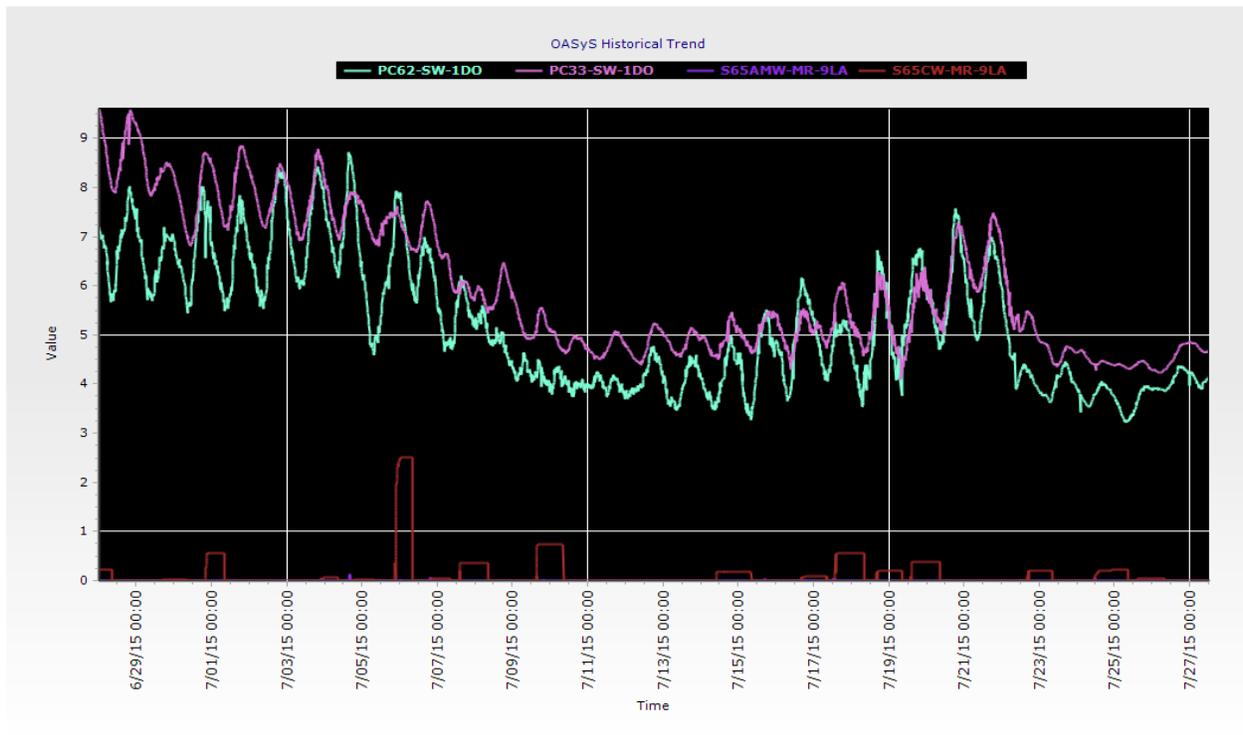


Figure 10. Mean daily DO, discharge, temperature and rainfall in the Phase I river channel.



Insert A. Phase I river channel DO (measured at 15 minute intervals) and rainfall at S65A and S65C.

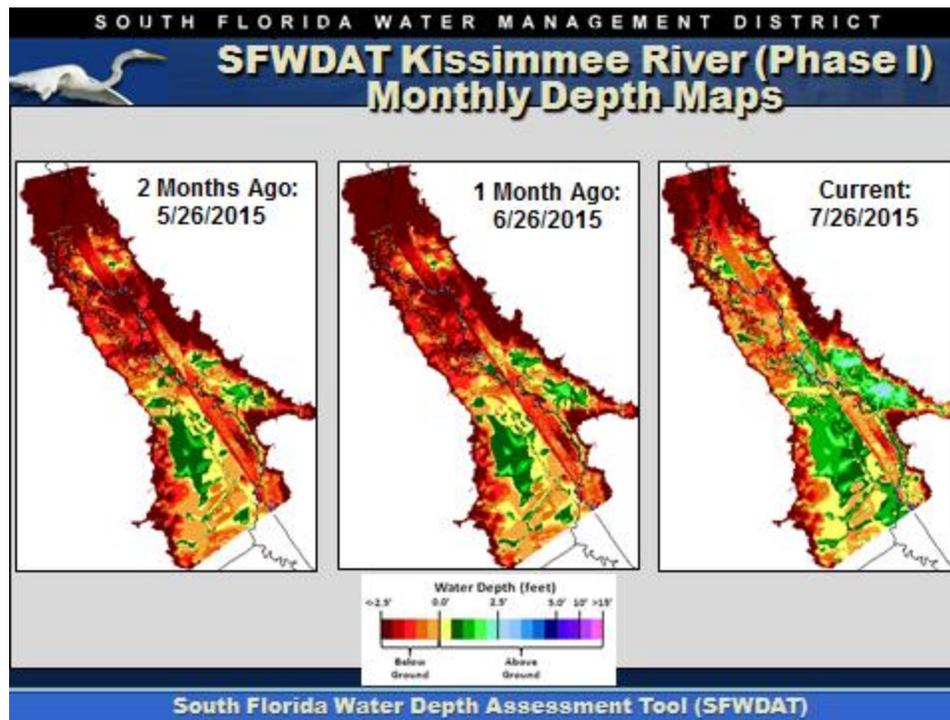


Figure 11. Phase I area floodplain water depths for this week, one month ago, and two months ago. Note that the WDAT color-coding has been modified to accommodate greater water depths; these maps are not directly comparable to Kissimmee Basin WDAT maps published prior to Jan. 16, 2012.

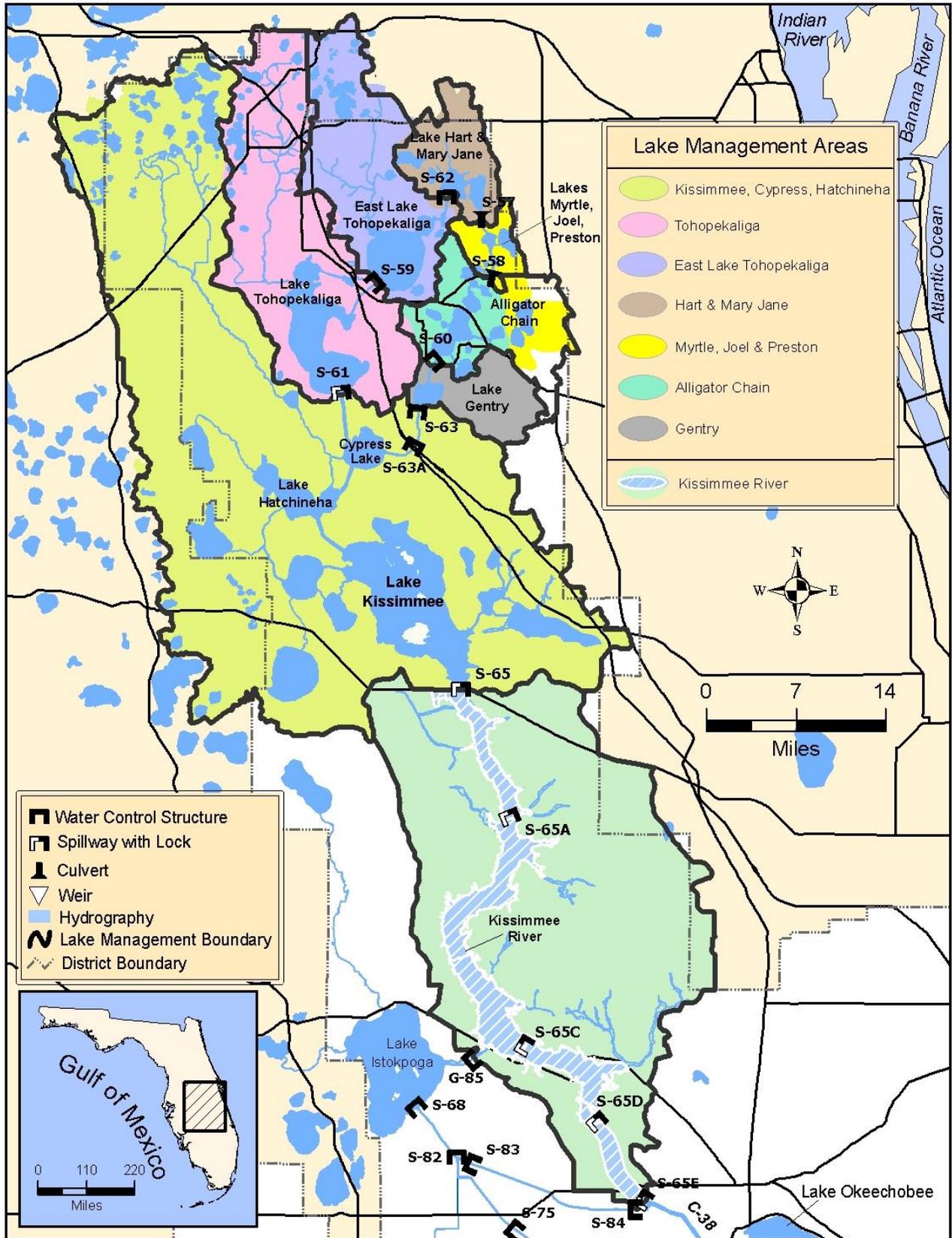


Figure 13. The Kissimmee Basin.

LAKE OKEECHOBEE

According to the USACE web site, Lake Okeechobee stage is at 12.13 feet NGVD for the period ending at midnight on July 27, 2015. There was a net increase in Lake stage of 0.14 feet over the past seven days. The Lake is now 0.12 feet lower than it was a month ago and 1.73 feet lower than it was a year ago (Figure 1). The Lake is in the Beneficial Use Sub-band and within 0.47 feet of the top of the water shortage management sub-band (Figure 2). According to RAINDAR, 1.9 inches of rain fell directly over the Lake during the past seven days. Similar amounts fell to the south of the Lake while rainfall north of the Lake tended to be lower. (Figure 3).

Based on USACE reported values, current Lake inflow is approximately 1918 cfs consisting of flows as indicated below.

Structure	Flow cfs
S65E	739
S154	9
S84 & 84X	613
S71	0
S72	0
C5	0.
S191	0
S133 PUMPS	0
S127 PUMPS	0
S129 PUMPS	0
S131 PUMPS	0
S135 PUMPS	0
Fisheating Creek	557
S2 Pumps	0
S3 Pumps	0
S4 Pumps	0

Outflows from the Lake consist of 403 cfs exiting at S-351, S-352 and S-354. There is no reported flow through S-77 or S-308. The L8 is reporting a backflow of 206 cfs. Corrected average weekly evapotranspiration was 3000 cfs. Change in elevation equivalents and average weekly flows for major structures are presented in Figure 4.

The most recent MODIS satellite images (July 24) (Figure 5) indicate low to moderate potential bloom conditions along much of the northern, western, and southern nearshore zone. The bloom reported at the S-308 structure last week had low concentrations of microcystin. This bloom has now dissipated and microcystin concentrations are below the detectable limit. District staff reported a dense bloom in the rim canal near Clewiston at the end of last week (Figure 6).

July water quality data (Figure 7) collected during the early part of the month indicated continuing stable total suspended solids (TSS) levels and small decreases in nearshore and pelagic total phosphorus (TP) concentrations, probably related to low inflow and typical summer reductions in wind and wave activity limiting resuspension of the internal nutrient pool.

Water Management Recommendations

Lake levels increased slightly this week, however, the Lake remains below the optimal Lake stage for this time of year. Future recommendations for the short term will depend in large measure on wet season rainfall patterns and amounts. However, operations that increase inflows and restrict discharges are favored at this time, the operational goal being to maintain a steady increase in Lake stage, not to exceed 0.5 feet per month throughout the wet season.

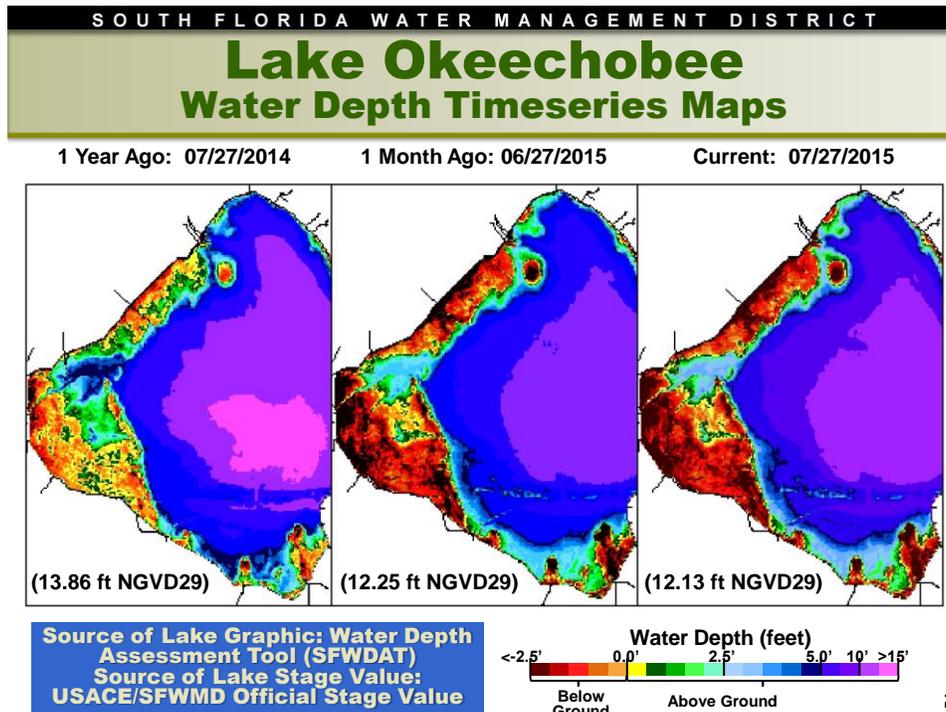


Figure 1

Lake Okeechobee Water Level History and Projected Stages

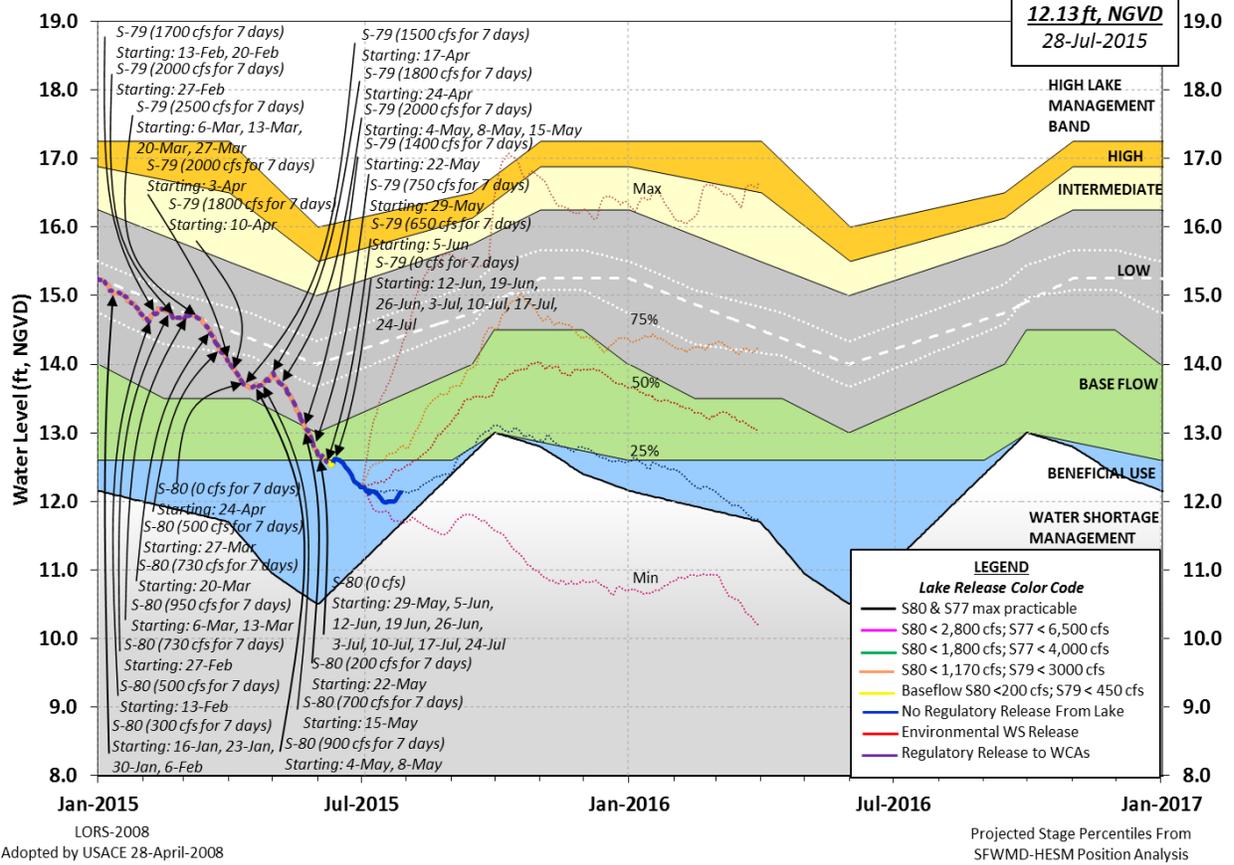


Figure 2

SFWM D PROVISIONAL RAINDAR 7-DAY BASIN RAINFALL ESTIMATES
 FROM: 0215 EST, 07/21/2015 THROUGH: 0215 EST, 07/28/2015

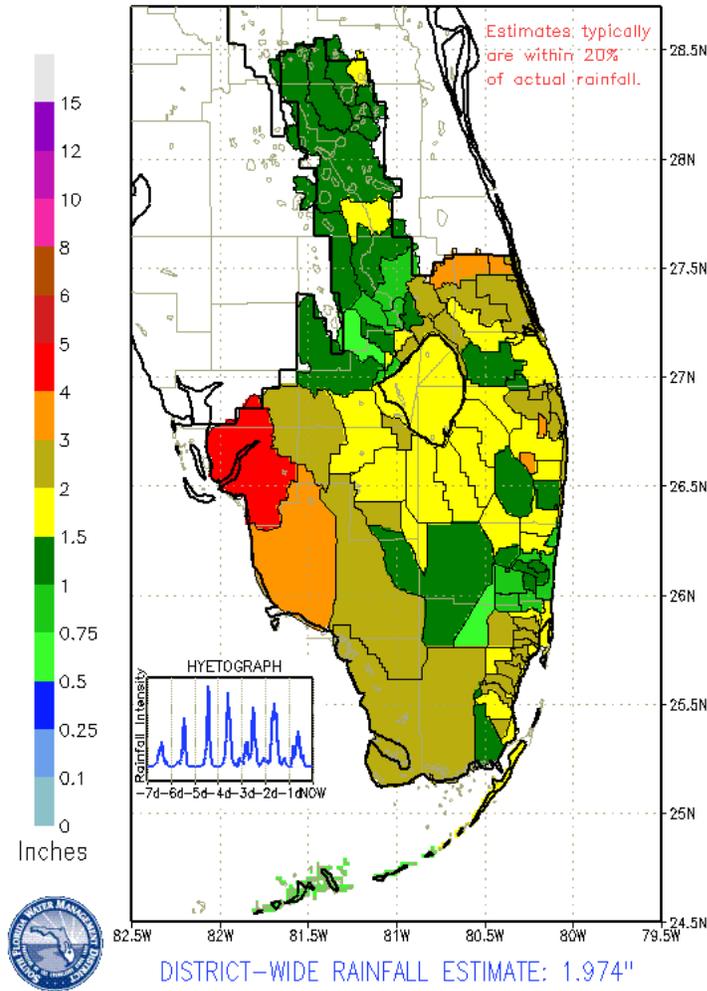


Figure 3

INFLOWS	Average Daily Flow Past Week cfs	Feet of Change Past Week
S65E	567	0.022
S71 & 72	0	0.001
S84 & 84X	567	0.026
Fisheating Creek	432	0.017
Rainfall	N.A.	0.158
OUTFLOWS	Average Daily Flow Past Week cfs	Feet of Change Past Week
S77	27	0.001
S308	0	0.000
S351	32	0.001
S352	392	0.015
S354	48	0.002
L8	-202	-0.008
ET	3000	0.115

Figure 4

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Okeechobee

Algal Blooms

Unvalidated Data

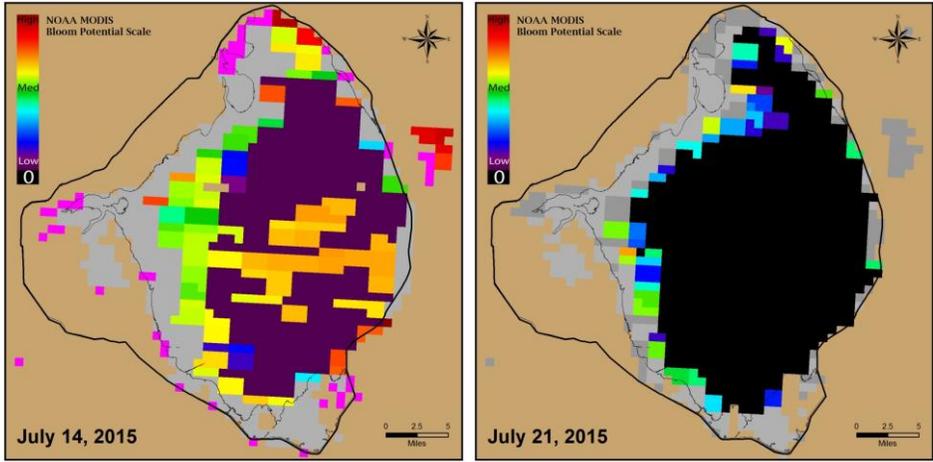


Figure 5

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Okeechobee

Clewiston Rim Canal Algal Blooms



Figure 6

Lake Okeechobee Water Quality

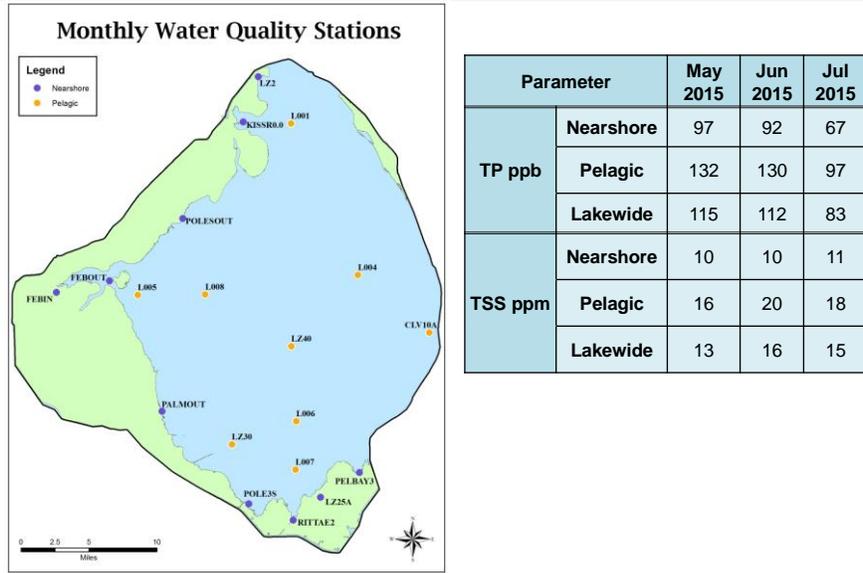


Figure 7

Lake Istokpoga

Lake Istokpoga stage is 38.24 feet NGVD today. It is currently 0.01 feet below its regulation schedule (38.25 feet NGVD) (Figure 8). Average flows into the Lake from Arbuckle and Josephine creeks were 121 and 158 cfs respectively, a net increase from last week. Average discharge from S-68 and S-68X this past week was 774 cfs, a small increase from the preceding week. According to RAINDAR, 1.1 inches of rain fell in the Lake Istokpoga watershed during the past seven days.

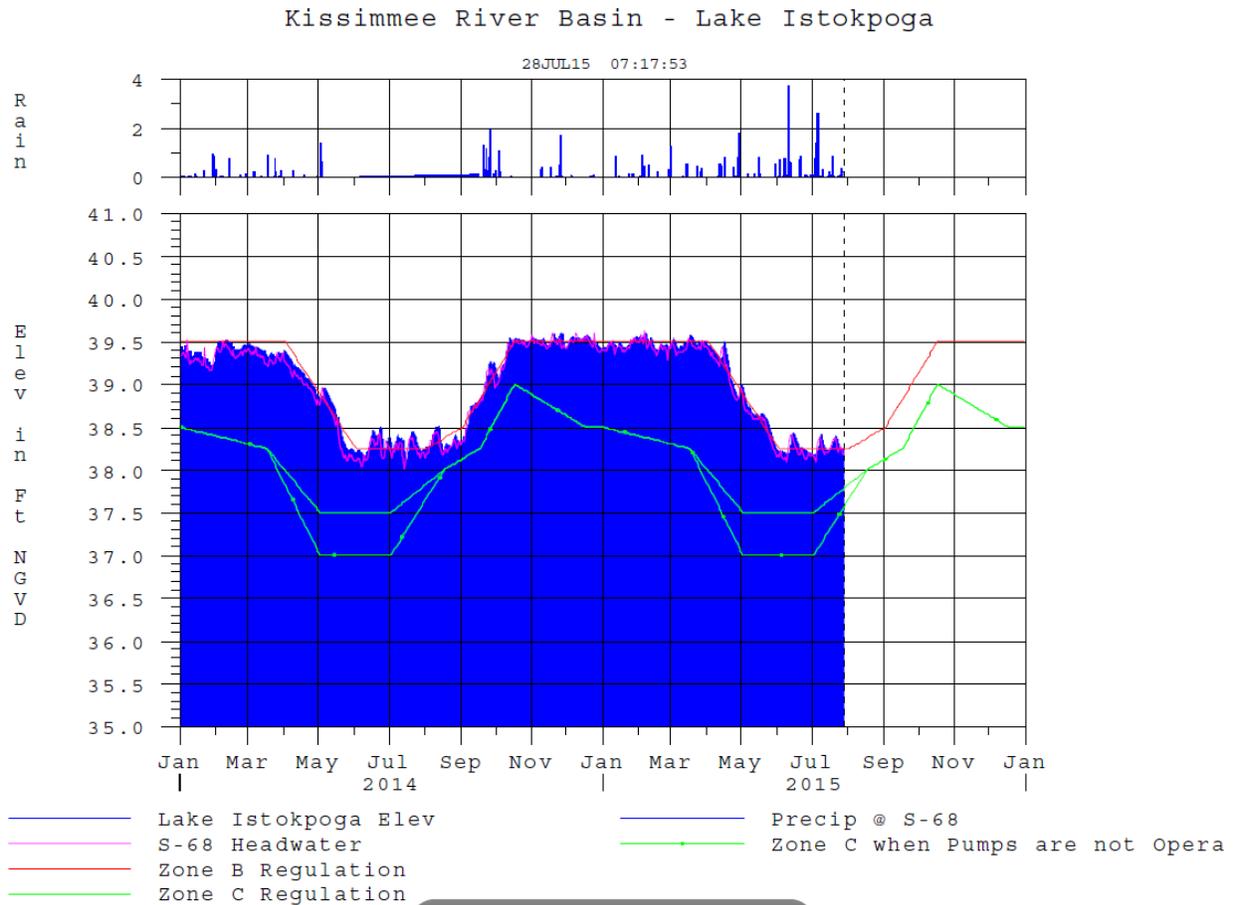


Figure 8

ESTUARIES

St. Lucie Estuary

Over the past week, provisional flows averaged 0 cfs at S-80, 0 cfs at S-308, 109 cfs at S-49 on C-24, 19 cfs at S-97 on C-23, and 147 cfs from Ten Mile Creek at the Gordy Road Structure. Average inflow from tidal basin tributaries is estimated to be 495 cfs (Figures 1 and 2). Total inflow averaged 770 cfs last week and 466 cfs over last month.

Over the past week, salinity decreased throughout the estuary (Table 1, Figures 3 and 4). The seven-day moving average salinity of the water column at the US1 Bridge is 20.2. Salinity conditions in the middle estuary are in the good range for the adult eastern oyster.

Table 1. Seven-day average salinity at three monitoring stations in the St. Lucie Estuary. Current average is in bold face type, previous average in parentheses. The envelope reflects the preferred salinity range for adult eastern oysters (*Crassostrea virginica*) in the middle estuary.

Sampling Site	Surface	Bottom	Envelope
HR1 (N. Fork)	NR (~16)	NR (NR)	NA ¹
US1 Bridge	18.7 (19.7)	21.6 (21.9)	10.0-26.0
A1A Bridge	26.7 (27.3)	29.7 (30.6)	NA

¹Envelope not applicable

Caloosahatchee Estuary

During the past week, provisional flows averaged approximately 22 cfs at S-77, 142 cfs at S-78, and 1639 cfs at S-79. Average inflow from tidal basin tributaries is estimated to be 1985 cfs (Figures 5 and 6). Total inflow averaged 3624 cfs last week and 2729 cfs over last month.

Over the past week, salinity decreased throughout the estuary (Table 2, Figures 7 and 8). The seven-day average salinity values are within the good range for oysters at Cape Coral, Shell Point, and Sanibel (Figure 9). The 30-day moving average surface salinity is 0.7 at Val I-75 and 3.5 at Ft. Myers. Salinity conditions at Val I-75 are in the good range for tape grass.

Table 2. Seven-day average salinity at six monitoring stations in the Caloosahatchee Estuary. Current average is in bold face type, previous average in parentheses. The envelope reflects the preferred salinity range for tape grass (*Vallisneria americana*) at Val I-75 and for adult eastern oysters (*Crassostrea virginica*) elsewhere.

Sampling Site	Surface	Bottom	Envelope
S-79 (Franklin Lock)	0.2 (0.3)	0.2 (0.3)	NA ¹
Val I75	0.4 (0.7*)	0.8* (1.2*)	0.0-5.0 ²
Ft. Myers Yacht Basin	1.5 (3.7)	2.3 (4.4)	NA
Cape Coral	9.2 (11.4)	11.0 (12.9)	10.0-30.0
Shell Point	21.7 (24.7)	22.5 (25.3)	10.0-30.0
Sanibel	28.3 (29.8)	30.8 (31.5)	10.0-30.0

¹Envelope not applicable, ²Envelope is based on a 30-day average.

*Val I75 is temporarily offline due to bridge construction.

Salinity values are estimated using models developed for the site.

Salinity forecasts during the next two weeks were constructed for the following scenarios: a) no release (Figure 10), b) 100 cfs, c) 300 cfs, and d) 450 cfs pulse release. There are increased rainfall events expected with a predicted tidal basin runoff of 1688 cfs. By August 10, 2015, the predicted daily salinity at the Val I75 location would be 0.4, 0.3, 0.3 and 0.3 for the four cases, respectively. And the 30-day moving average salinity is predicted to be 0.5, 0.5, 0.5 and 0.5, respectively.

Monitoring data collected by the River, Estuary and Coastal Observing Network of Sanibel-Captiva Conservation Foundation using continuous sensors are summarized in Table 3 as concentration ranges of Chlorophyll *a* and dissolved oxygen at Beautiful Island, Ft. Myers, and Shell Point in the Caloosahatchee Estuary.

Table 3. Weekly ranges of Chlorophyll *a* (a measure of algal biomass) and dissolved oxygen concentrations at three monitoring stations maintained by the Sanibel-Captiva Conservation Foundation.

	RECON Monitoring Stations		
	Beautiful Island	Ft. Myers	Shell Point
Chlorophyll <i>a</i> (µg/l)	NA	NA	1.5 – 6.7
Dissolved Oxygen (mg/l)	NA	NA	3.3 – 7.5

The Florida Fish and Wildlife Research Institute reported on July 24, 2015, that *Karenia brevis*, the Florida red tide organism, was detected in background concentrations in one sample collected alongshore of Pinellas County and in one sample collected offshore of Hillsborough County. Additional samples collected throughout southwest Florida this week did not contain *K. brevis*.

Water Management Recommendations

Lake Okeechobee's water level is within the Beneficial Use Sub-band; the tributary hydrological conditions are Normal; and the seasonal and multi-seasonal forecasts are Very Wet and Wet, respectively. The current and forecasted 30-day average salinity at the Val-I75 site are below the 5 psu threshold within the next two weeks. The Lake Okeechobee Regulation Schedule (LORS) and Lake Okeechobee Adaptive Protocols (LOAP) prescribe no Lake releases at either S-80 or S-77.

Currently, the USACE is not releasing water from Lake Okeechobee to the Caloosahatchee and St. Lucie estuaries. Local basin runoff is maintaining salinity within the preferred ranges of oysters and submerged aquatic vegetation in both estuaries. There are no ecological benefits associated with additional releases from Lake Okeechobee.

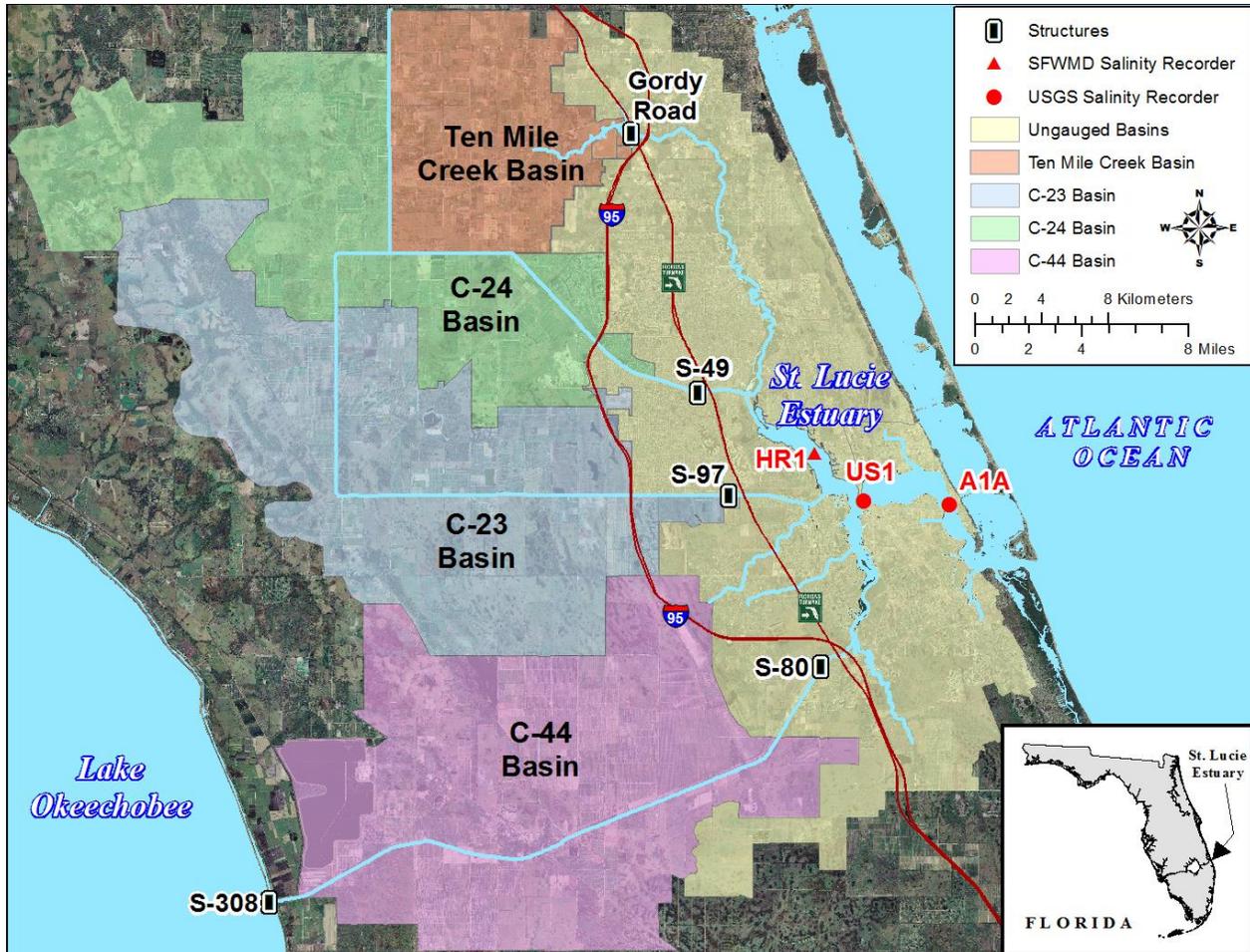


Figure 1. Basins, water control structures, and salinity monitoring for the St. Lucie Estuary.

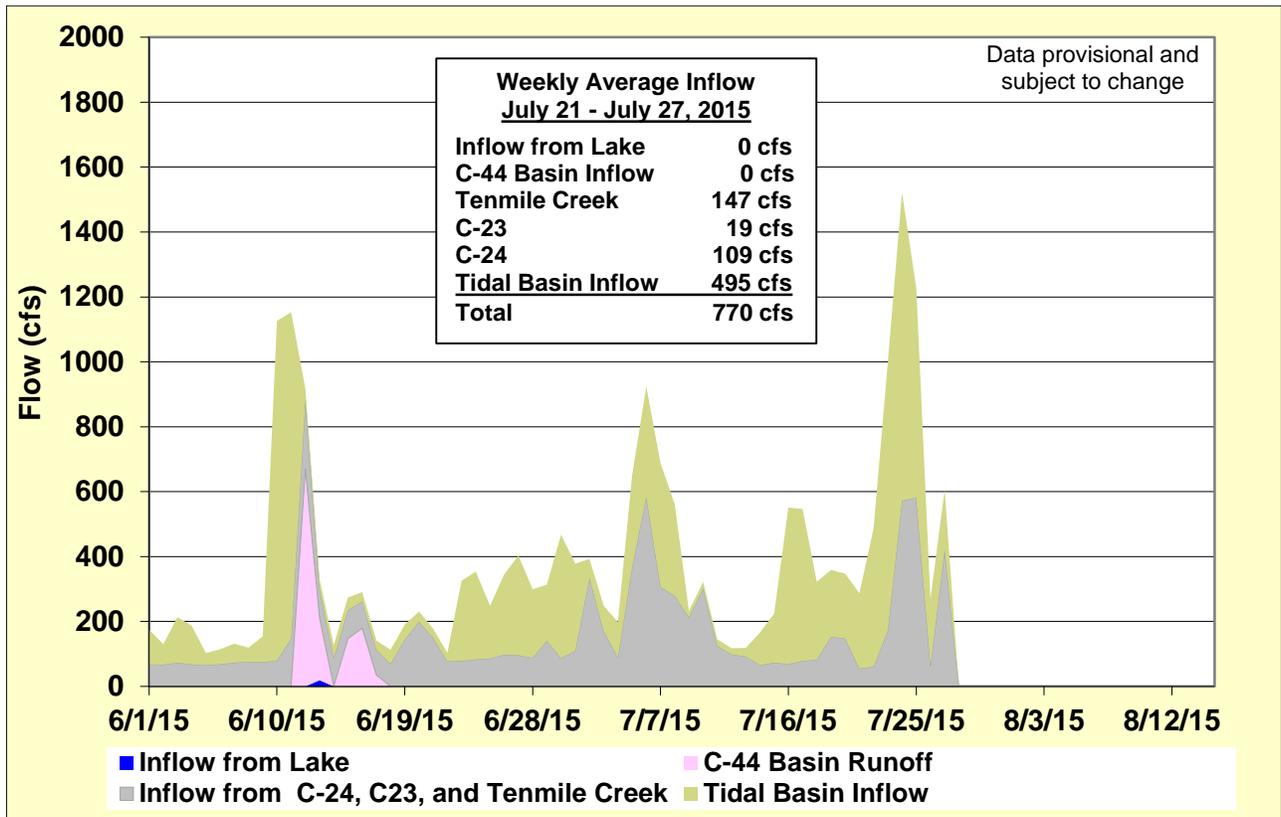


Figure 2. Estimated surface freshwater inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and tidal basins into the St. Lucie Estuary.

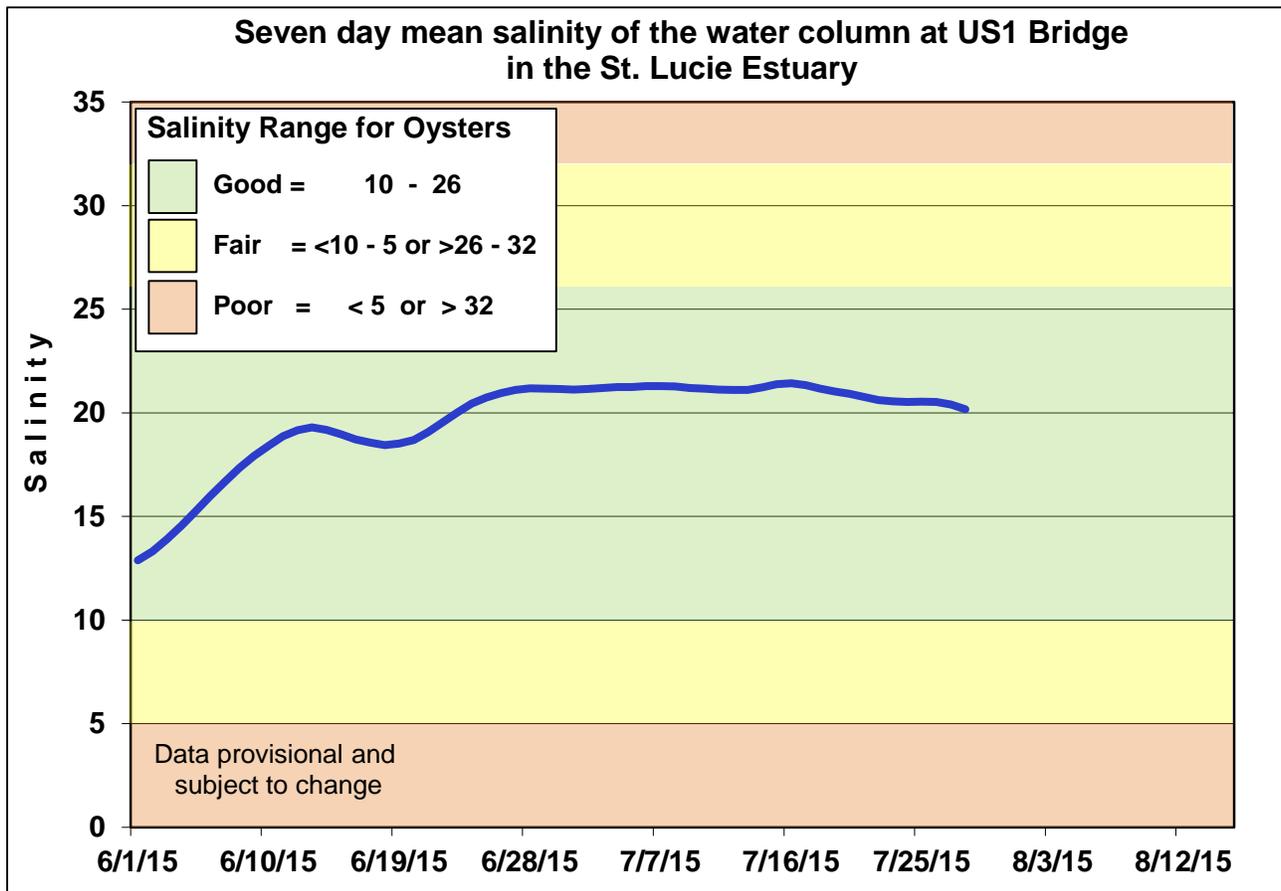


Figure 3. Seven-day mean salinity of the water column at the U.S. Highway 1 Bridge.

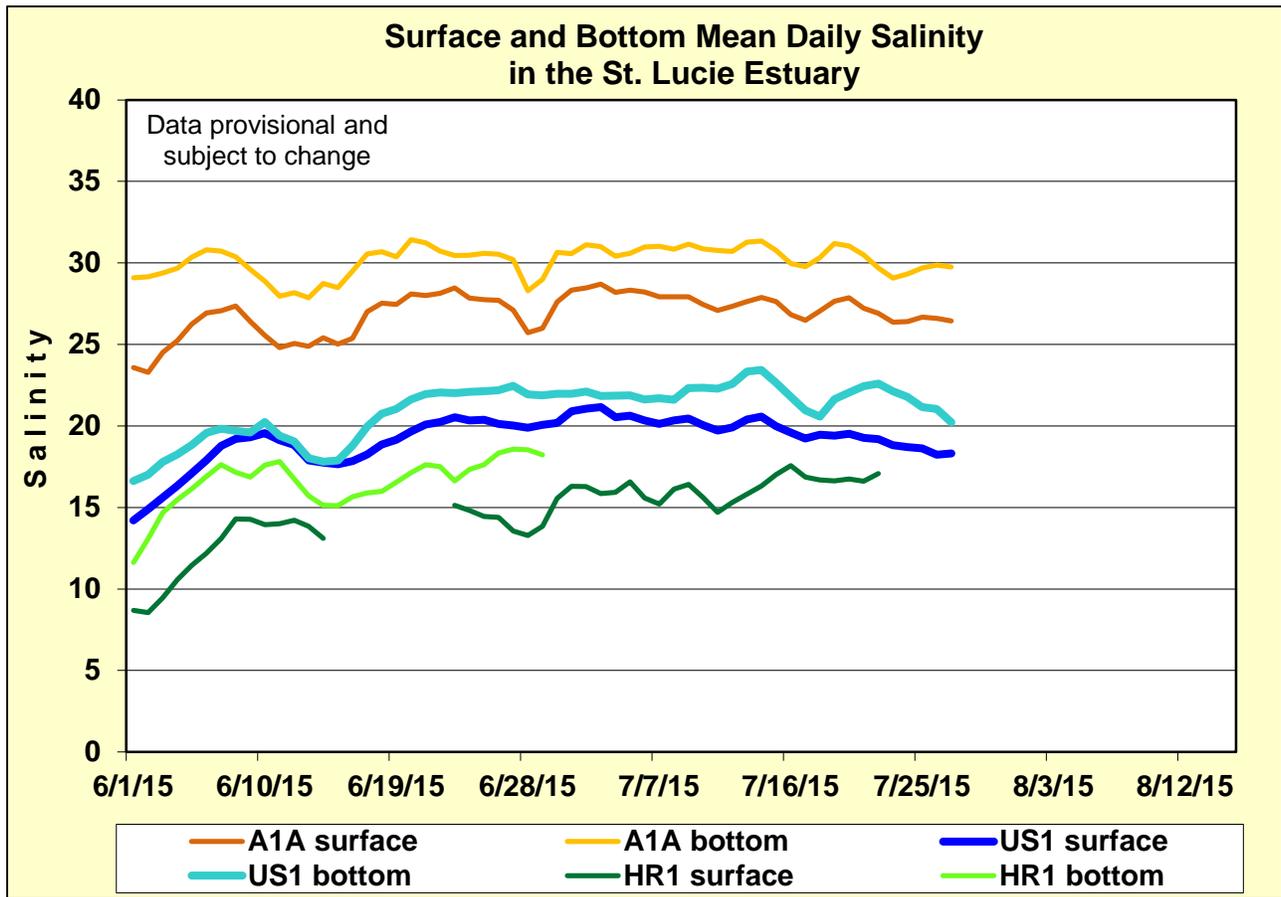


Figure 4. Daily mean salinity at the A1A, US1 and HR1 stations.

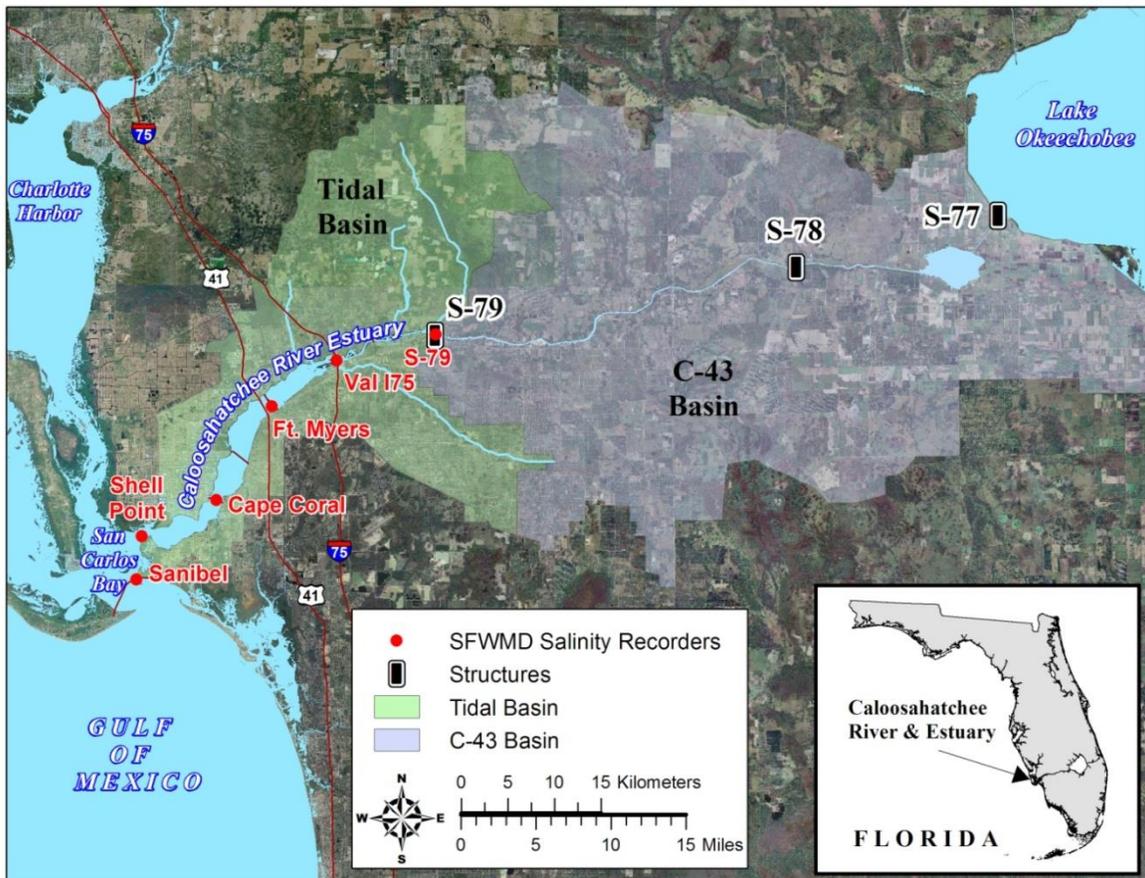


Figure 5. Basins, water control structures, and salinity monitoring for the Caloosahatchee Estuary.

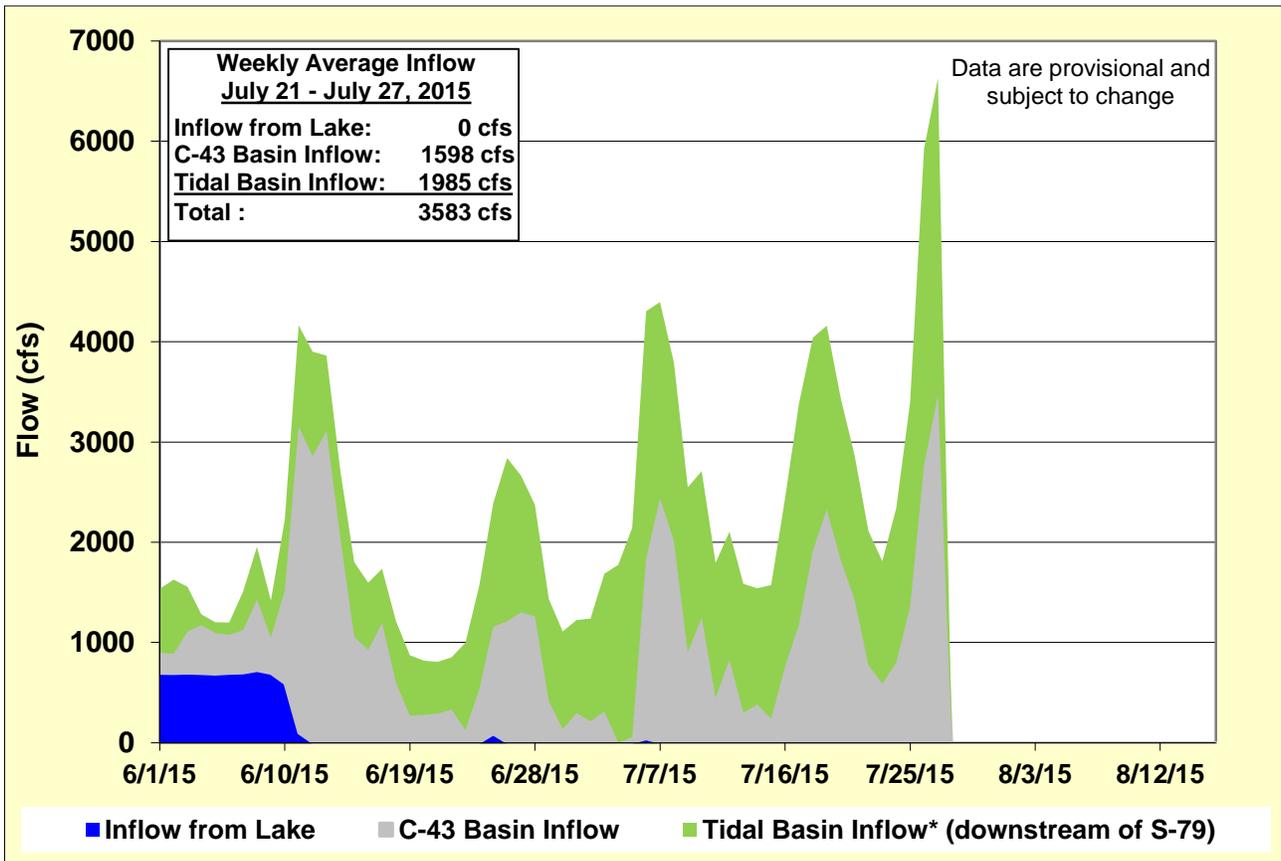
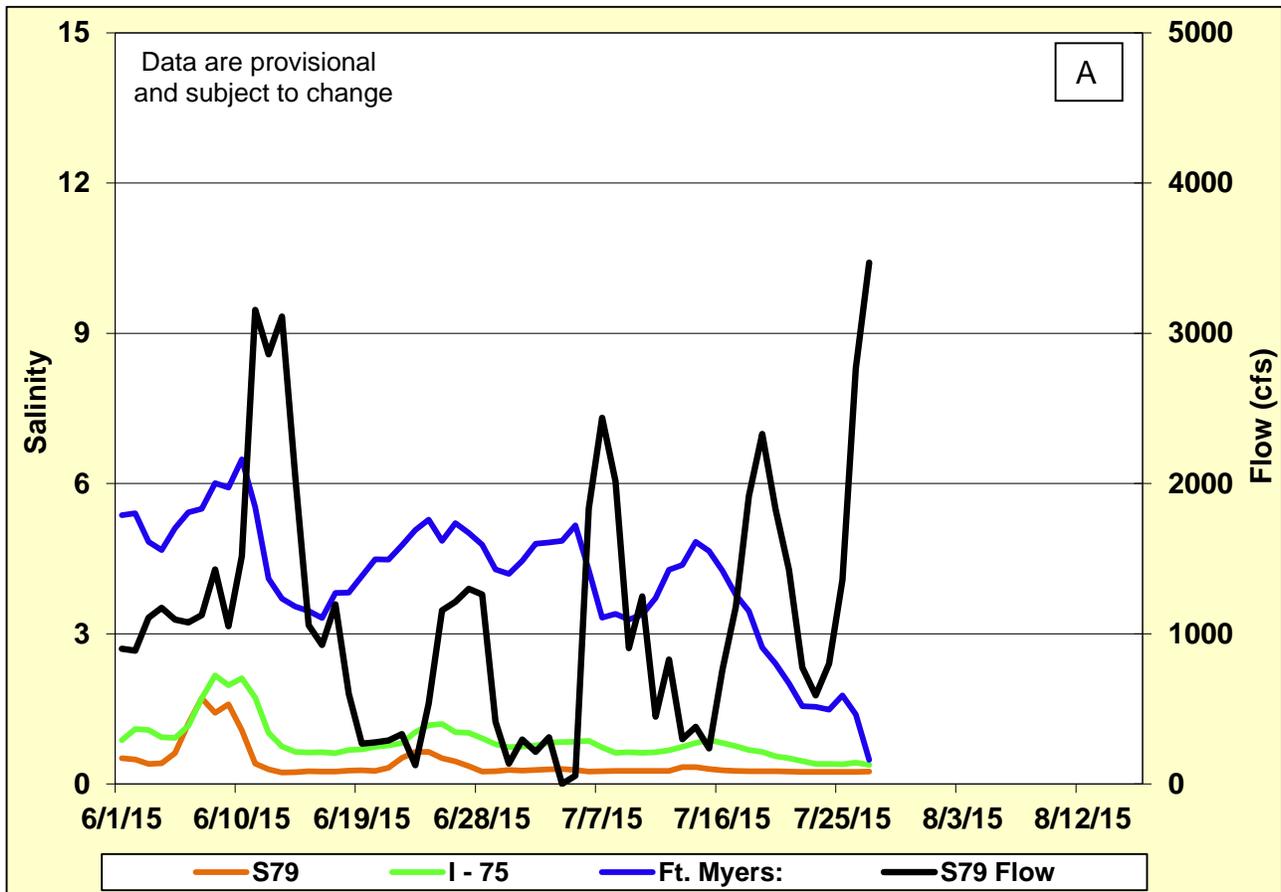


Figure 6. Surface freshwater inflows from Lake Okeechobee, runoff from the C-43 basin, and tributaries in the tidal basin into the Caloosahatchee River Estuary.



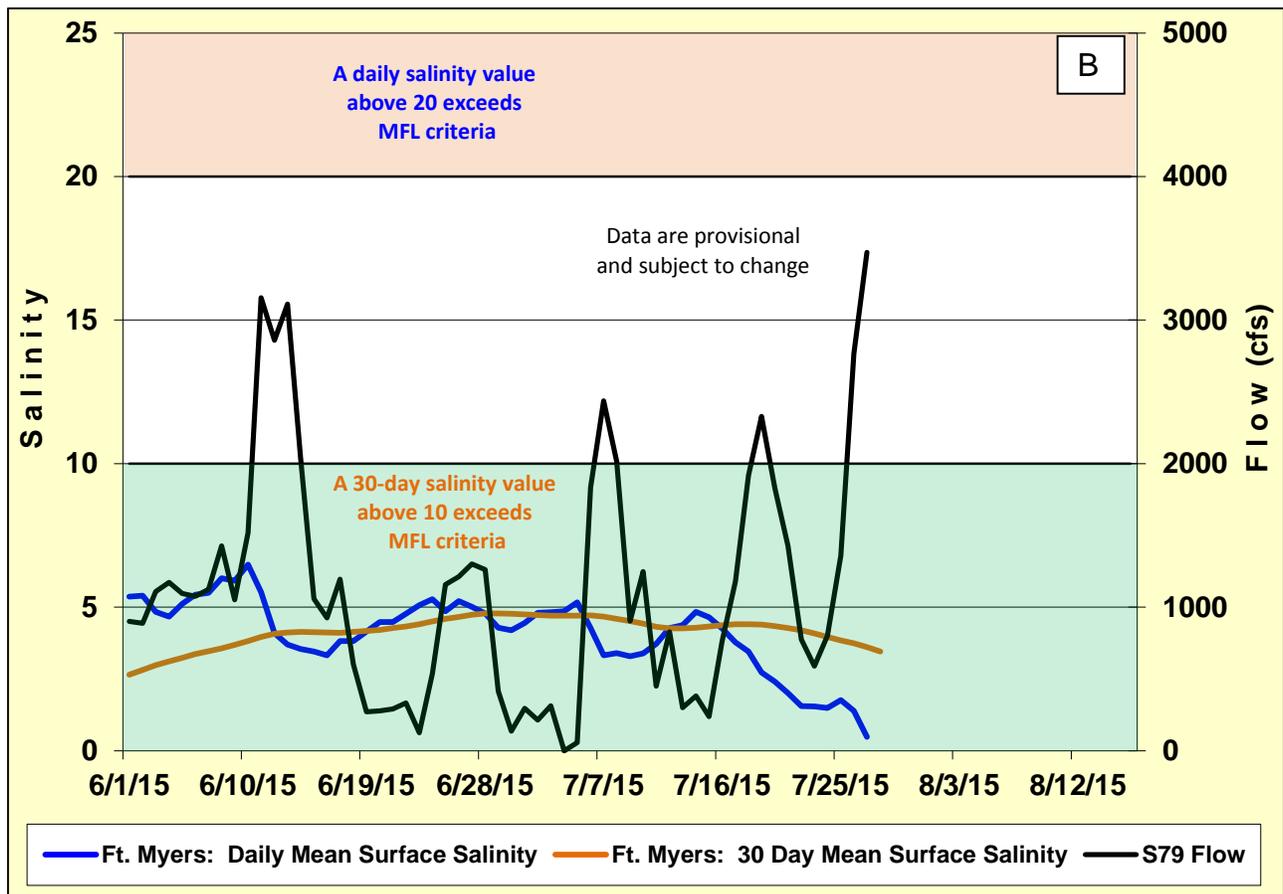


Figure 7. Daily mean flows at S-79 and salinity at upper estuary monitoring stations (A) and 30-day moving average salinity at Ft. Myers (B).

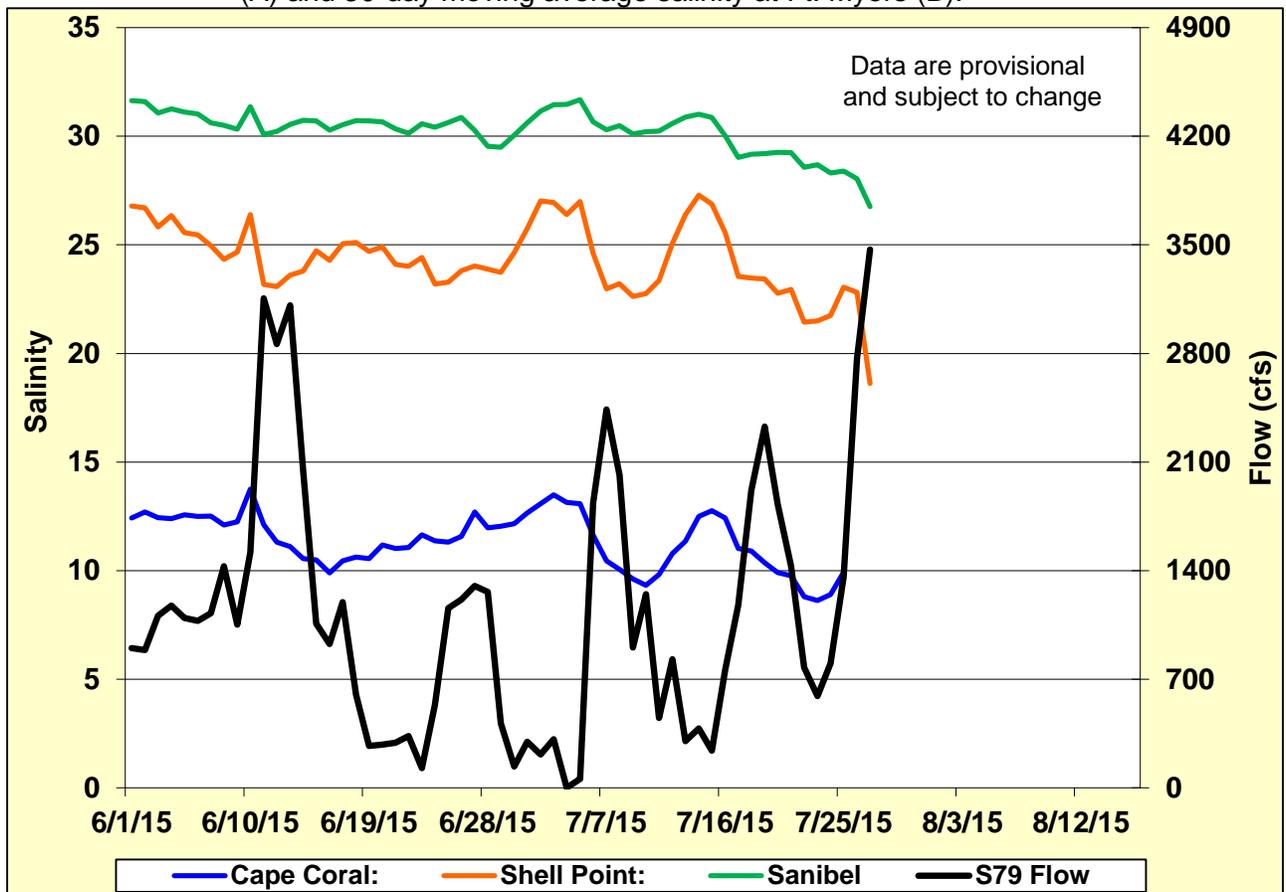


Figure 8. Daily mean flows at S-79 and salinity at lower estuary stations.

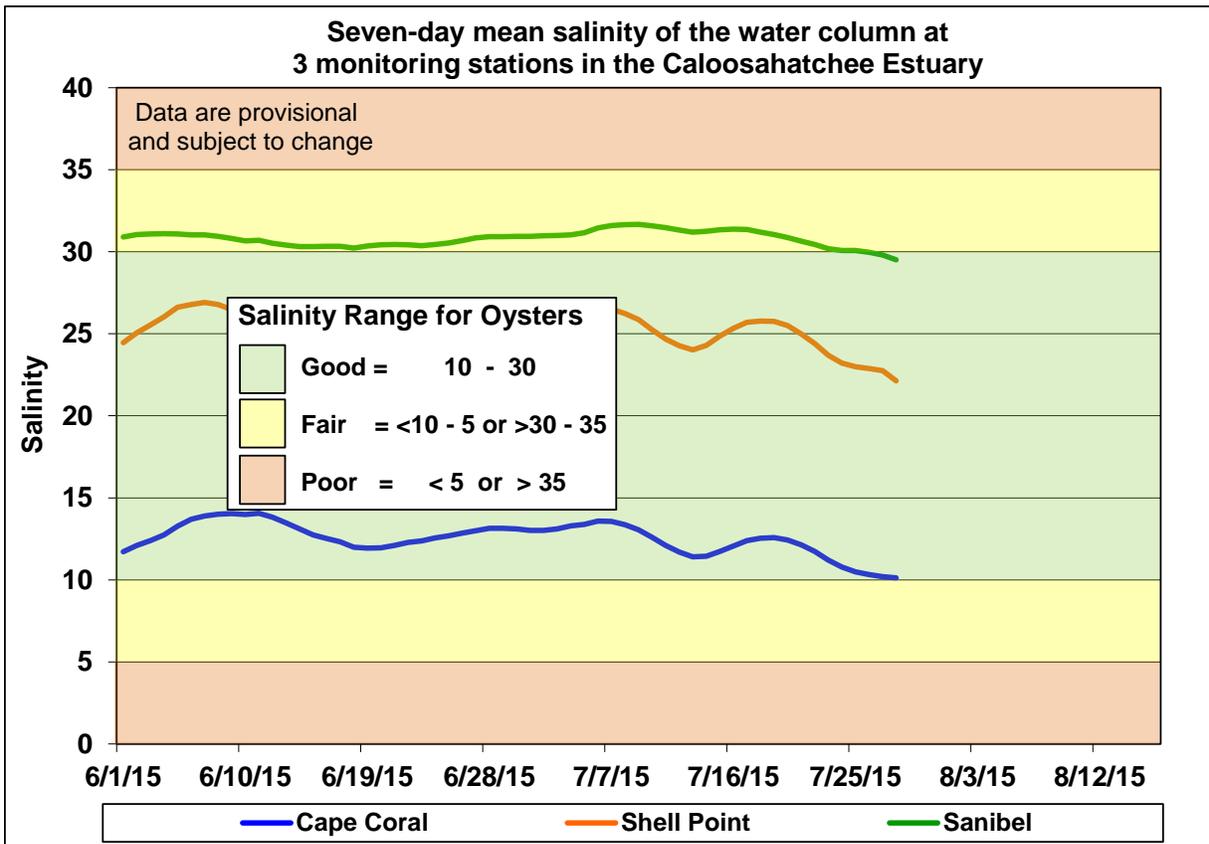


Figure 9. Seven-day mean salinity at Cape Coral Bridge, Shell Point and Sanibel Bridge monitoring stations.

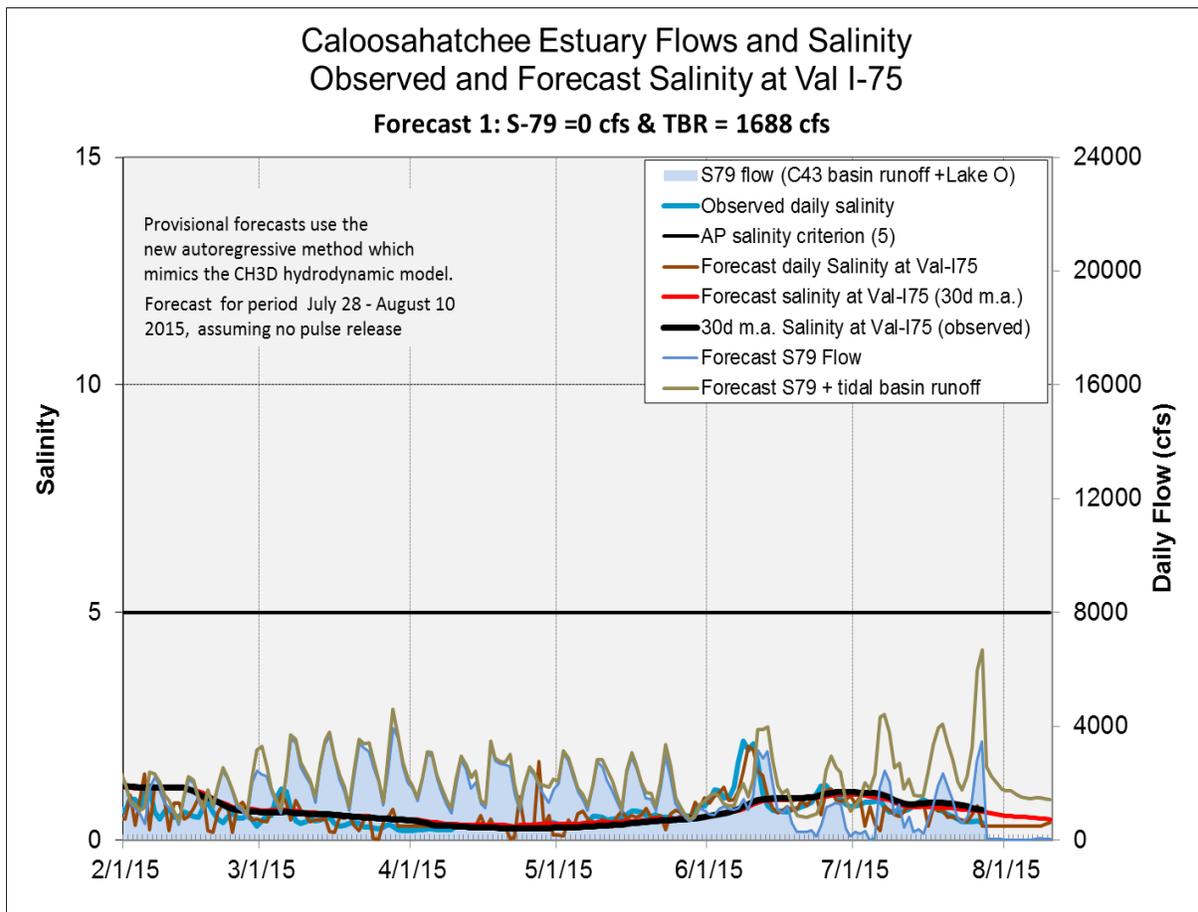
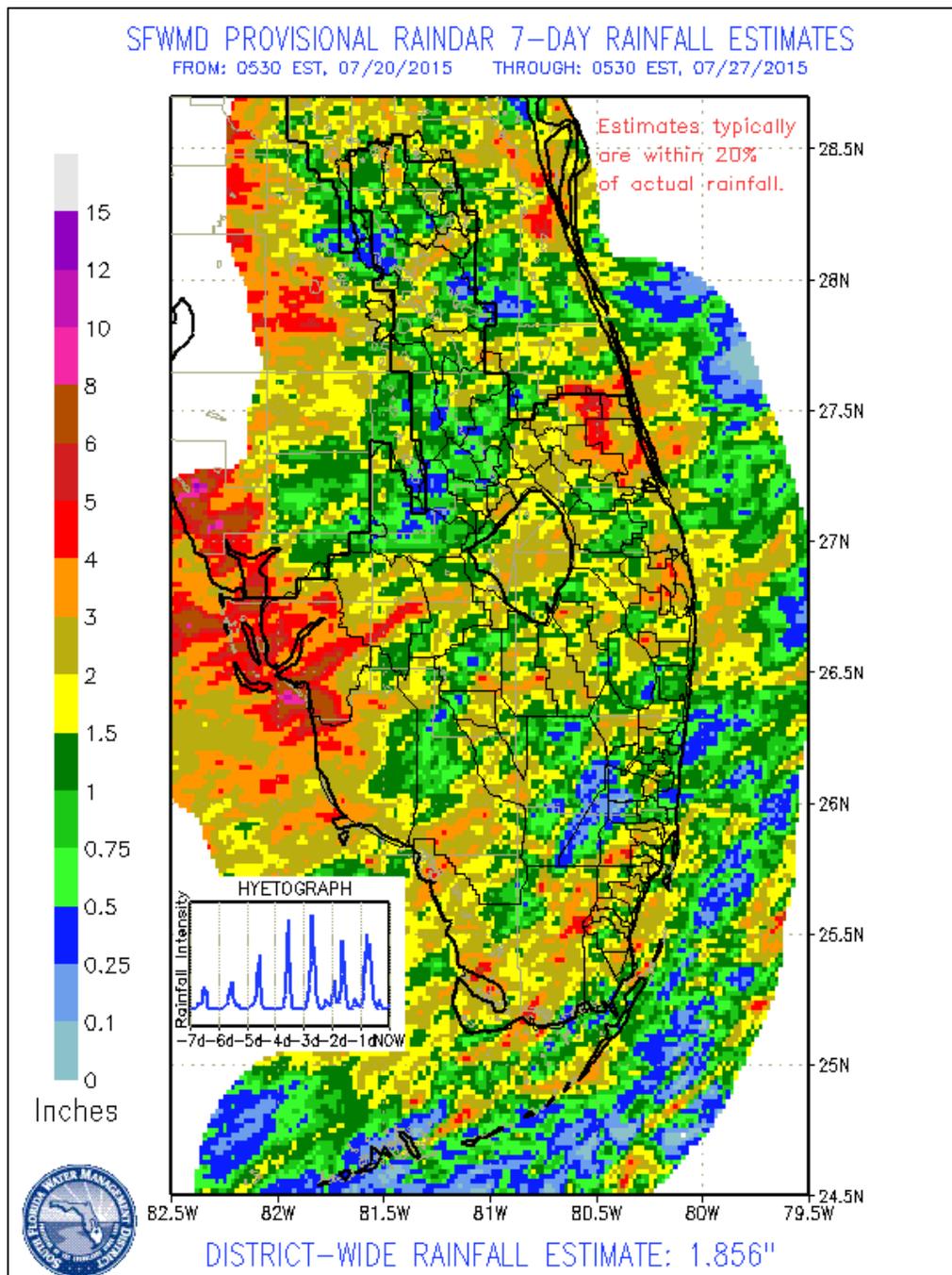


Figure 10. Two-Week Salinity Forecast for Caloosahatchee Val I-75 location assuming 0 cfs flow from S-79.

GREATER EVERGLADES

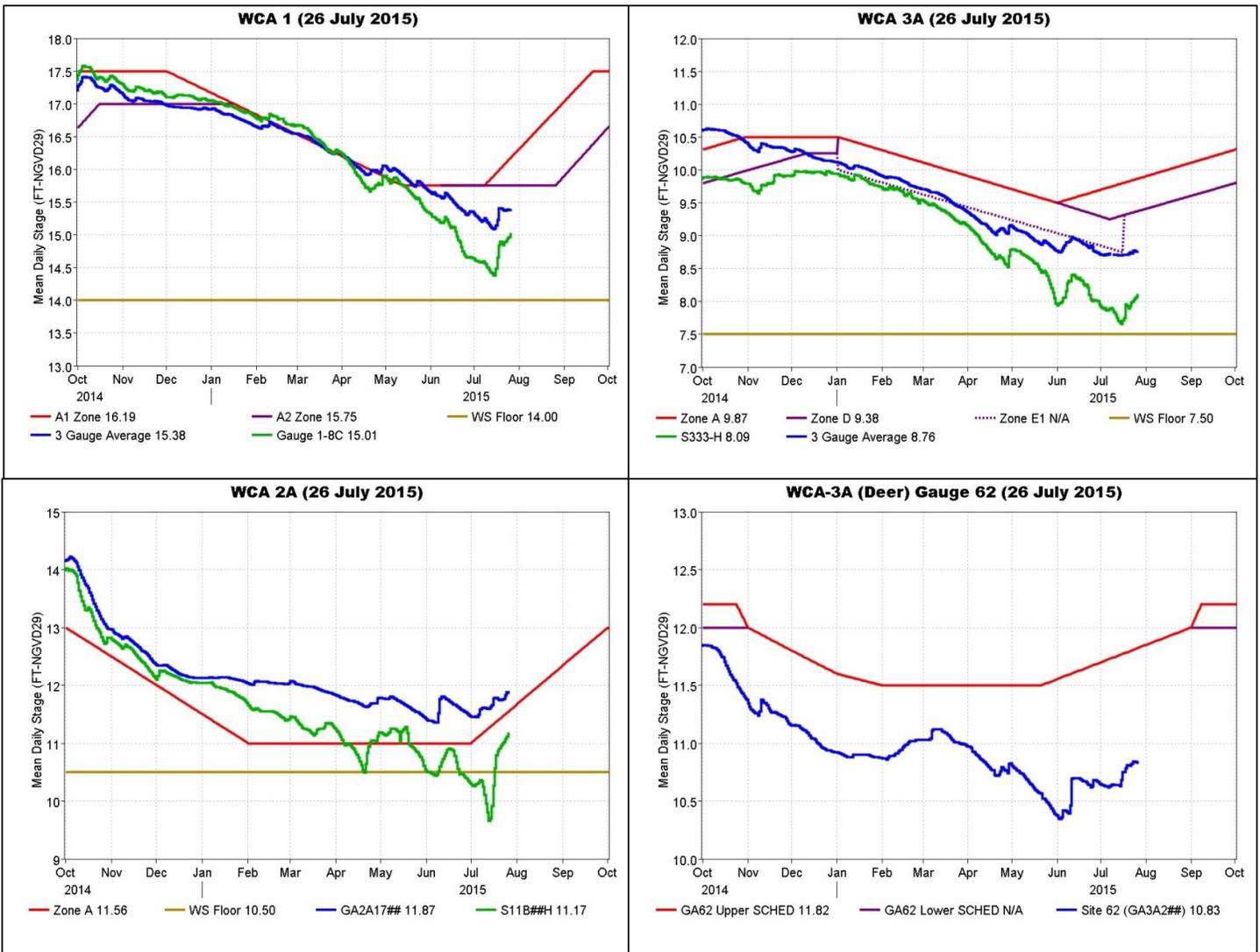
Rainfall was lower than the prior week with basin average totals ranging from 0.54 inch to 2.28 inches and a basin maximum of 6.67 inches in ENP. Basin-wide stage changes were mixed, from a decline of 0.13 feet to an increase of 0.19 feet. Pan evaporation was even higher than last week's at 1.94 inches, 37% above the 1.42-inch pre-project average.

Everglades Region	Rainfall (Inches)	Stage Change (feet)
WCA-1	1.40	-0.02
WCA-2A	1.80	0.12
WCA-2B	1.13	-0.13
WCA-3A	1.29	0.08
WCA-3B	0.54	-0.05
ENP	2.28	0.19



Regulation Schedules

Stage changes at gauges used for the regulation schedules varied last week. In WCA-1, the three gauge average in the wetlands decreased slightly to 0.37 feet below Zone A2. The WCA-2A increased to 0.31 feet above the now rising schedule. In WCA-3A, the three gauge average wetlands stage changed little and is now 0.62 feet below Zone D and well over a foot below Zone A. The water level at the northwestern WCA-3A gauge stage (gauge 62) is 0.99 feet below the upper regulation schedule.



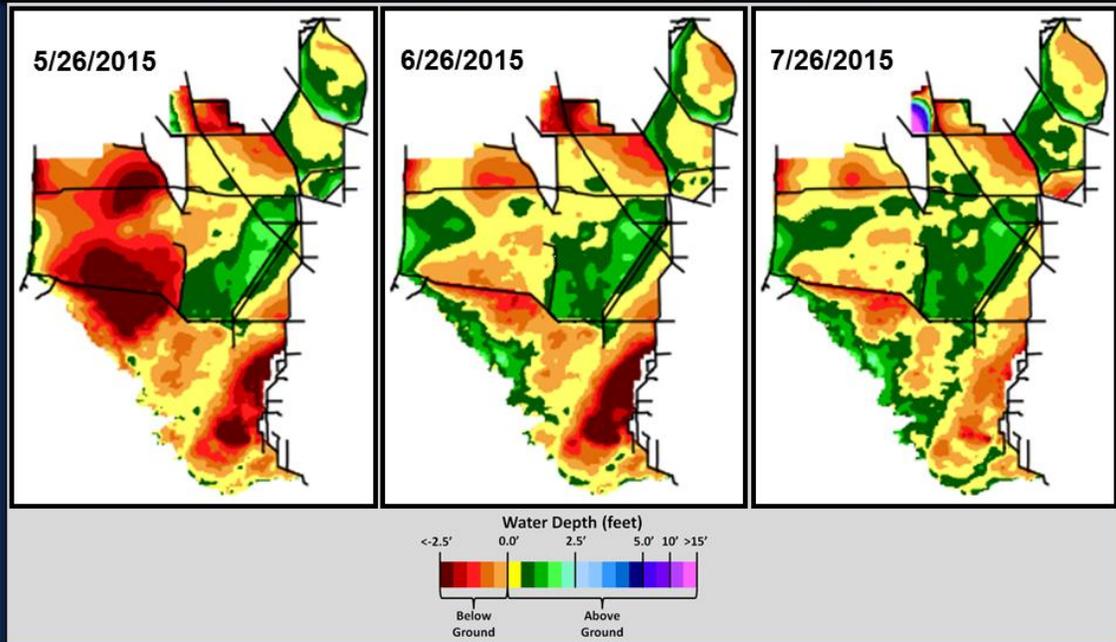
Water Depths and Changes

Water levels are slightly higher than a month ago, and higher than two months ago. Stages range from 1.66 feet or more below ground (WCA-2B) to 1.10 feet above ground (southern WCA-3A) at the monitored gauges. Northeastern WCA-3A is still 0.34 feet below ground.

Stages are mixed relative to last week and to a month ago. Stages are drier to much drier than a year ago. Stage gauge changes ranged from a decrease of 0.14 feet in WCA-3B to an increase of 0.20 feet in northeastern WCA-3A (gauge 63).



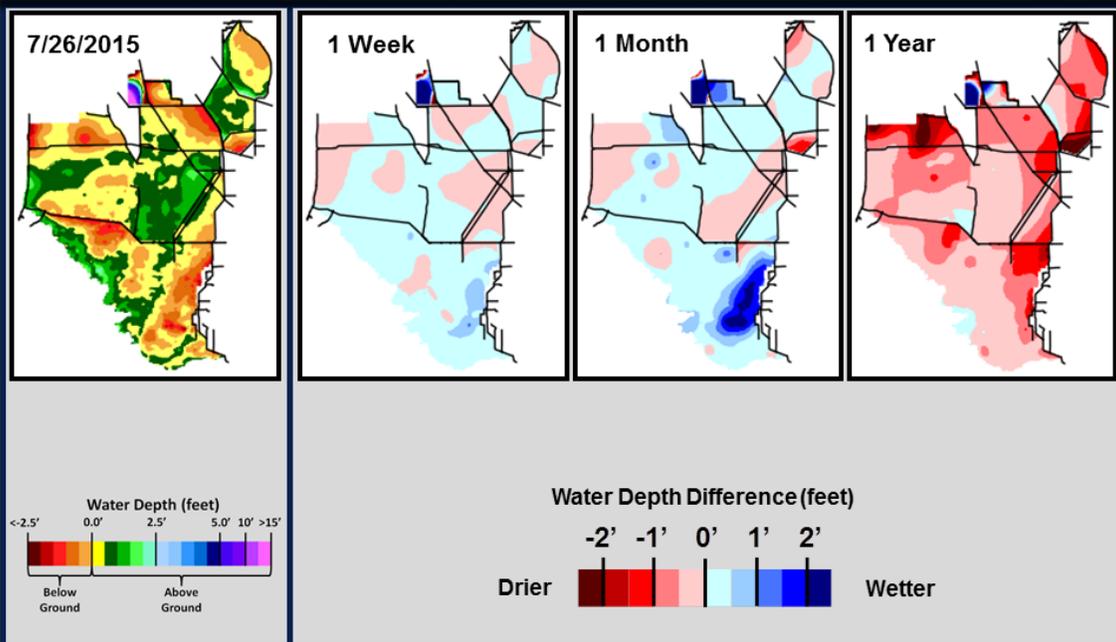
SFWDAT Water Depth Monthly Snapshots



South Florida Water Depth Assessment Tool (SFWDAT)

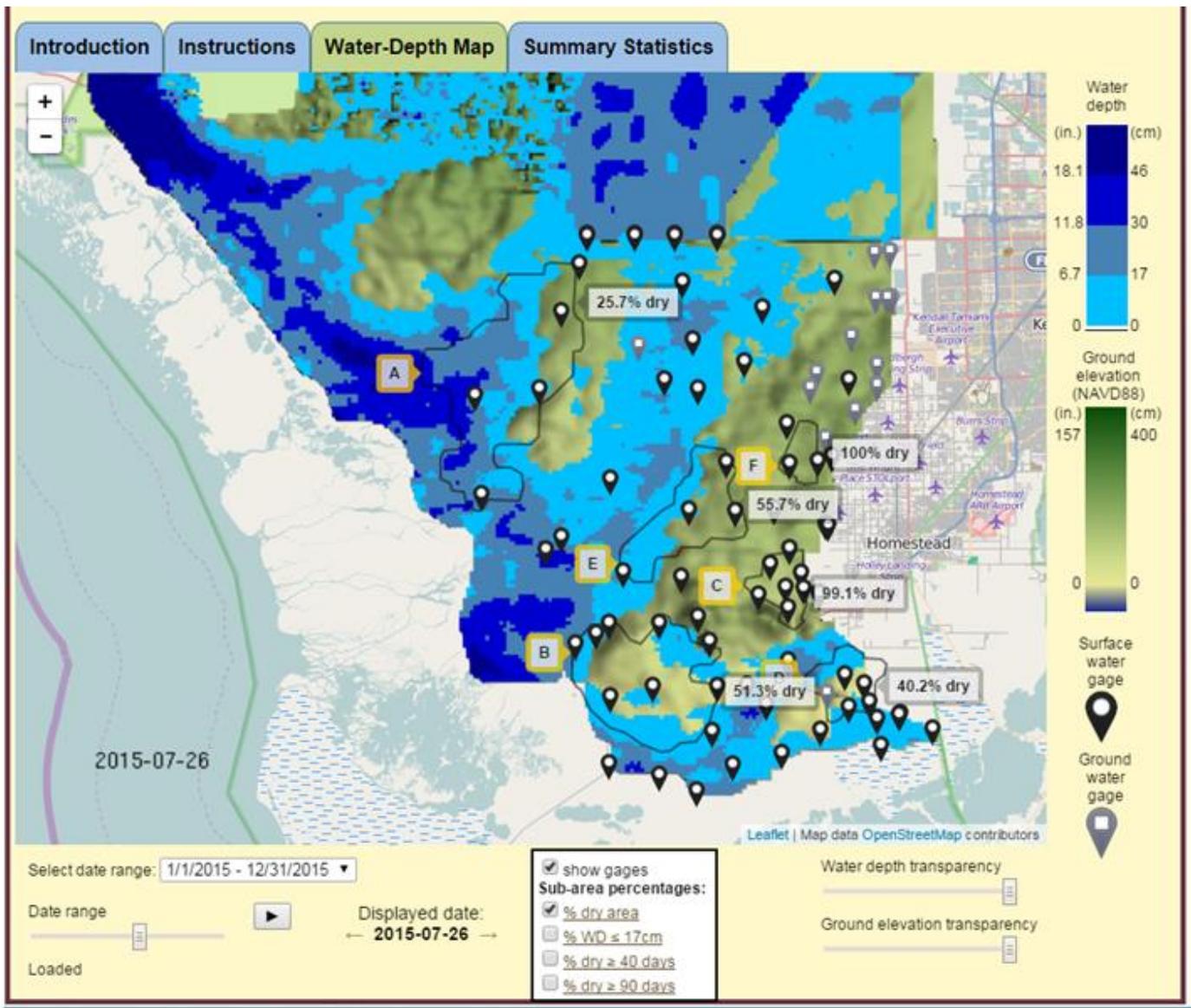


SFWDAT Everglades Difference Maps (Present - Past)



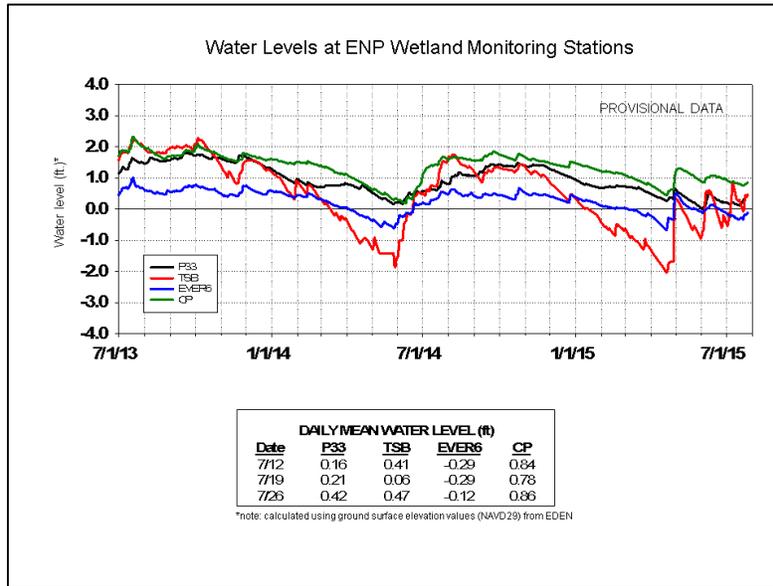
South Florida Water Depth Assessment Tool (SFWDAT)

Cape Sable Seaside Sparrow: There are no updates on Sparrow nesting this week. The map below shows the percent of dry areas in each of the Cape Sable Seaside Sparrow subpopulations on July 26. Rainfall has slightly reduced the area of dry ground but habitat conditions are still supportive of nesting in most subpopulations.



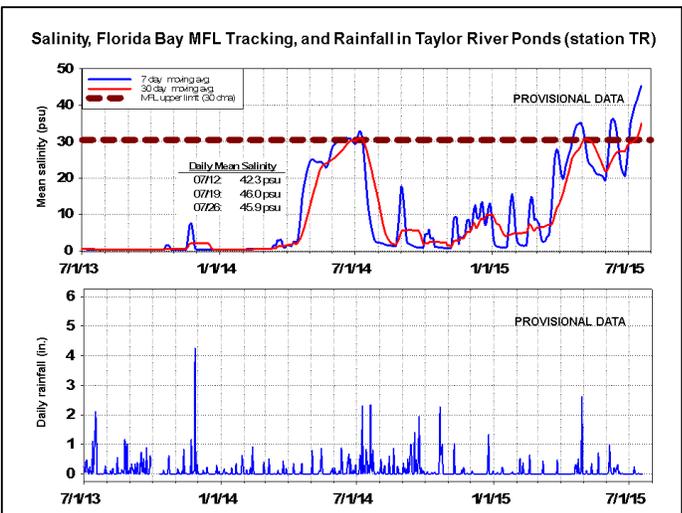
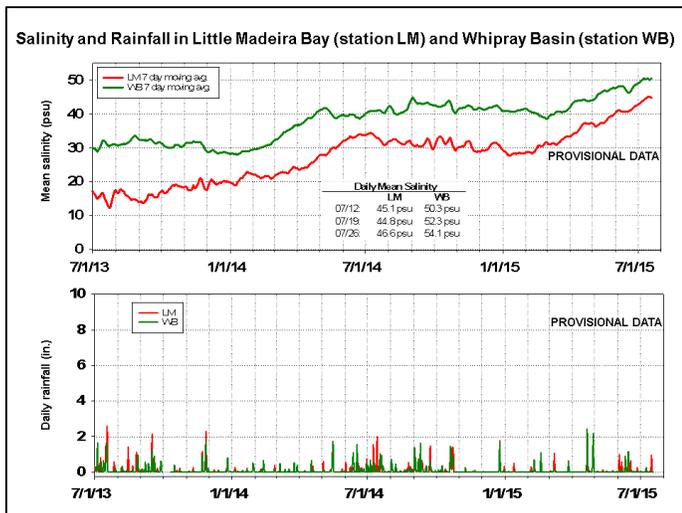
Everglades National Park (ENP) and Florida Bay

Water levels in Taylor Slough increased last week as a result of local rainfall but remain two to eight inches below average in Taylor Slough and the ENP panhandle. The Taylor Slough Bridge (TSB) site in Northern Taylor Slough dried out at the beginning of the week and then increased again to 0.47 feet. Maintaining above ground water levels at TSB is necessary to start and sustain southward flows to Florida Bay.

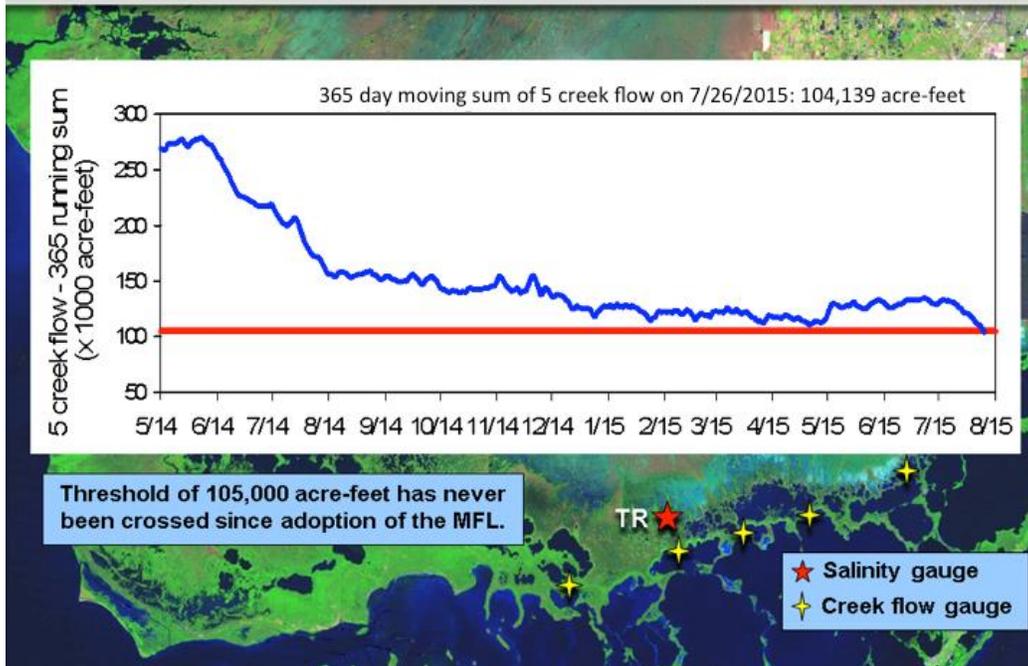


Florida Bay salinities remain elevated by 15 to 28 psu and all of Florida Bay salinities exceed 40 psu. Central Florida Bay and the central nearshore embayments exceed 50 psu. Creek flows are still upstream and this hypersaline water is elevating salinity in the coastal ponds. Local rainfall did lower salinities slightly over the weekend, but salinity at the Taylor Slough (TR) MFL site is still 45.9 psu. The 30-day moving average at TR rose to 40.8 psu and is still rising.

The 365-day running sum of the cumulative flow from five creeks feeding Florida Bay decreased rapidly this past week because of the reversed upstream flows. As of July 26, provisional creek flow data showed the 365-day running sum of the cumulative flow as 104,139 acre-feet, below the 105,000 acre-feet criteria for the Florida Bay MFL. If the provisional data are verified, this will be the first time that flows have fallen this low since the summer of 2005 and the only time that flows have been this low since the adoption of the Florida Bay MFL.



Florida Bay Flow Update



Water Management Recommendations

- We recommend targeting ascension rates of up to 0.25 feet/week (or 0.5 feet/two weeks to allow for large rain events) for the wet season to meet the end of wet season stage targets for environmental needs (prey species support, peat, and plant community needs).
- We continue to recommend releases into northeastern WCA-3A while conditions are very dry. Once water levels rise above ground, additional releases should no longer be needed. Gauge 63 is still below ground by 0.34 feet.
- To protect the breeding Cape Sable Seaside Sparrows in Subpopulation A, S-12A and S-12B should remain closed until all breeding is complete. Sparrows in subpopulation A are still actively nesting.

Site-specific recommendations appear in the summary table below. The red text represents new or modified information or recommendations.

Summary of Everglades Recommendations, July 28, 2015 (SFWMD) (red is new text)

Area	Current Condition	Cause(s)	Recommendation	Reasons
WCA-1	Stages changed from 0.0' to -0.05'	Rainfall, ET, management	Target rainfall driven wetland stages at the top of Zone A2. Ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days, are recommended.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species, but also to allow taking advantage of rain events.
WCA-2A	Stage increased 0.12'. Currently at 11.87' NGVD	Rainfall, ET, management	Ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days, are recommended. High season target stage of 13 ft NGVD at 2-17 on Oct 1	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species, but also to allow taking advantage of rain events.
WCA-2B	Stage decreased -0.13'; Gauge EDEN-13 has been dry for 5 weeks	Rainfall, ET, management	Ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days, are recommended.	High stages preclude wading bird use, but provide good habitat for ducks.
WCA-3A NE	Stage increased 0.20'; gauge 63 is rising and is now -0.34' below ground	Rainfall, ET, management	Releases into far NE 3A are strongly recommended to protect peat and wetland ecosystems until water levels are above ground again. Average water stage of gauges 62 and 63 should remain under 11.60 feet. Ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days, are recommended.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species in 3A, and also to allow taking advantage of rain events.
WCA-3A NW	Stage increased 0.02'	Rainfall, ET, management		
Central WCA-3A S	Stage decreased -0.04'	Rainfall, ET, management	Manage 3AVG below Zone A until Aug 15 or as long as possible. Target wet season high stages (10.67 3AVG) by Oct 30. Ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days, are recommended.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species in 3A, and also to allow taking advantage of rain events. Also to facilitate avoiding or minimizing discharge through S-12A and S-12B at least through August 15 and as long as possible to benefit Cape Sable seaside sparrow nesting and habitat conditions.
Southern WCA-3A S	Stage increased 0.15'	Rainfall, ET, management		
WCA-3B	Stage changes ranged from -0.14' to +0.02'	Rainfall, ET, management	Ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days, are recommended.	Promote native habitat and maintain wetland plant communities. Provide foraging habitat for wading birds.
ENP-SRS	Stage rose by 0.19' and stage is above ground	ET, rainfall, topography, management	Discharges to the Park should be made in accordance with the ERTF rainfall plan. Water deliveries to Shark Slough should be made through S-333, then through S-12D and S-12C.	Promote native habitat and maintain wetland plant communities.
ENP-CSSS habitats	Nesting continues because of dry conditions in subpops A, B, possibly D.	Rainfall, ET, management	Follow ERTF schedule closures and closure plan for Frog Pond and Aerojet structures, and continue to monitor trigger levels. Manage 332 B, C, and D impoundments to avoid exacerbating above ground level water levels in adjoining marsh areas with sparrow breeding. Extend gate closures for S-12A and S-12B until end of nesting.	Provide habitat and appropriate nesting conditions for CSSS.
Taylor Slough	Dry. 2-8 inches below average.	Rain, ET, inflows	Move water southward as possible	Provide freshwater buffer for ecosystems and freshen saline conditions downstream
FB- Salinity	Hypersaline. Still 15-28 psu above average	Rain, ET, inflows, wind.	Move water southward as possible	Southward flows are still needed to reverse/slow salinity increases