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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: October 27, 2015

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Kissimmee

On Sunday, stages in East Lake Toho and Toho were ~0.7 and ~0.6 feet below schedule, respectively; Kissimmee-Cypress-Hatchineha (KCH) was 1.7 feet below schedule. Discharge from East Toho and Toho is currently zero. Discharge from KCH is currently ~1600 cfs at S65 and at S65A 1400 cfs. As stage in KCH declines below 50.5 feet today or tomorrow, discharge will be reduced by up to 75 cfs/day following the zones in the discharge plan for S65/S65A. Over the past week, discharge at S65 averaged 1590 cfs and at S65A 1420 cfs; discharge at S65E averaged 1675 cfs over the past week. Tuesday morning discharges: S65 ~1600 cfs; S65A ~1410 cfs; S65C ~1740 cfs; S65E ~1615 cfs. Dissolved oxygen in the Kissimmee River averaged 4.18 mg/L over the past week and 4.70 mg/L on Sunday, and is currently rising with the reductions in discharge to the Kissimmee River and lower water temperatures. Kissimmee River mean floodplain depth is currently 1.17 feet.

Lake Okeechobee

The reversal in Lake stage continued over the past week. Lake stage is at 14.59 feet NGVD which is a decrease of 0.10 feet over the past seven days. The Lake is in the Low Flow Sub-band and ecological conditions are good.

Estuaries

Over past week, total freshwater inflow averaged 301 cfs to the St. Lucie with no releases from Lake Okeechobee and 1101 cfs to the Caloosahatchee with 442 cfs Lake releases. In the St. Lucie Estuary, salinity remained in the good range for adult oysters in the mid-estuary. In the Caloosahatchee Estuary, salinity increased and the conditions were in the good range for adult oysters at Cape Coral and Shell Point, and slightly above the upper limit of good range at Sanibel. Salinities were also in the good range for tape grass in the upper Caloosahatchee Estuary. Pulse releases averaging 200~500 cfs at S-80 and 650~1200 cfs at S-79 will help maintain salinities in the healthy ranges for adult oysters and submerged aquatic vegetation in both estuaries.

Everglades

Basin-wide stages decreased in most areas of the Everglades but increased in WCA-2B and WCA-3B. Conditions in the WCAs are typical of the end of the wet season. The 30-day salinity at the Florida Bay Minimum Flows and Levels (MFL) site decreased slightly to 18.6 psu and the cumulative inflow from the five creeks into Florida Bay increased to 112,875 acre-feet. Much more rainfall is required to approach seasonally normal conditions in Florida Bay and Everglades National Park.

Weather Conditions and Forecast

Scattered shower activity today. A low-pressure system currently over Louisiana is moving slowly northward and its associated cold front will move from the eastern Gulf of Mexico to north Florida today and tonight. This cold front is expected to move into central Florida Wednesday and then south Florida Thursday. Moisture will increase over the District ahead of this front and help generate scattered shower activity mainly west and north today, mainly north and northeast Wednesday, and then southeast Thursday. The front is expected to then slide into the Florida Straits Friday and should keep some shower activity over the Keys and the southern end of the District Friday and Saturday.

KISSIMMEE BASIN

Kissimmee Basin Rainfall

The Upper Kissimmee Basin received 0.13 inches of rainfall in the past week and the Lower Basin received 0.20 inches (SFWMD Daily Rainfall Report 10/26/2015).

Upper Kissimmee Basin

Stages and departures in the Kissimmee Chain of Lakes (KCOL) are shown in Table 1.

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: 10/27/2015

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)						
							10/25/15	10/18/15	10/11/15	10/4/15	9/27/15	9/20/15	9/13/15
Lakes Hart and Mary Jane	S62	0	LKMJ	60.3	R	60.8	-0.5	-0.3	0.0	-0.1	-0.1	0.0	0.1
Lakes Myrtle, Preston, and Joel	S57	0	S57	61.6	R	61.8	-0.2	-0.1	-0.1	0.1	-0.2	0.2	0.4
Alligator Chain	S60	0	ALLI	63.2	R	63.9	-0.7	-0.5	-0.4	-0.3	-0.3	-0.3	-0.3
Lake Gentry	S63	0	LKGT	61.2	R	61.4	-0.2	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2
East Lake Toho	S59	0	TOHOE	57.1	R	57.8	-0.7	-0.4	-0.1	0.0	0.3	0.8	1.3
Lake Toho	S61	0	TOHOW	54.2	R	54.8	-0.6	-0.4	-0.1	-0.1	-0.2	-0.1	0.0
Lakes Kissimmee, Cypress, and Hatchineha	S65	1593	LKISSP, KUB011, LKIS5B	50.6	R	52.3	-1.7	-1.1	-0.5	-0.2	-0.3	-0.2	-0.1

* 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.

DATA ARE PROVISIONAL

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: 10/27/2015

Metric	Location	Sunday's 1-day average	Weekly Average**									
			10/25/15	10/18/15	10/11/15	10/4/15	9/27/15	9/20/15	9/13/15	9/6/15	8/30/15	8/23/15
Discharge (cfs)	S-65	1589	1593	1540	1370	1534	2329	3923	4603	4525	3970	2629
Discharge (cfs)	S-65A	1410	1419	1457	1483	1694	2655	5089	6066	6098	4585	2783
Discharge (cfs)	S-65C	1761	1758	2151	2579	3300	4558	5476	5643	4961	3464	1995
Headwater stage (feet NGVD)		36.1	35.5	35.4	35.3	35.3	35.4	35.5	35.3	35.4	35.3	35.3
Discharge (cfs)	S-65D****	1673	1790	2291	2882	3891	5253	6193	6236	5553	3764	2328
Discharge (cfs)	S-65E	1497	1677	2203	2787	3853	5133	6064	5906	5323	3539	2122
DO concentration (mg/L)***	Phase I river channel	4.70	4.18	2.50	1.65	0.93	0.74	0.34	0.58	0.68	0.97	2.23
Mean depth (feet)*	Phase I floodplain	1.17	N/A	1.25	1.44	1.64	2.06	2.76	2.80	2.89	2.24	1.61

* 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 for PC62 and PC33 starting June 2. PC33 omitted for week of Aug16. DO for week of Sept 15-22 is for PC33 only.

**** 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.

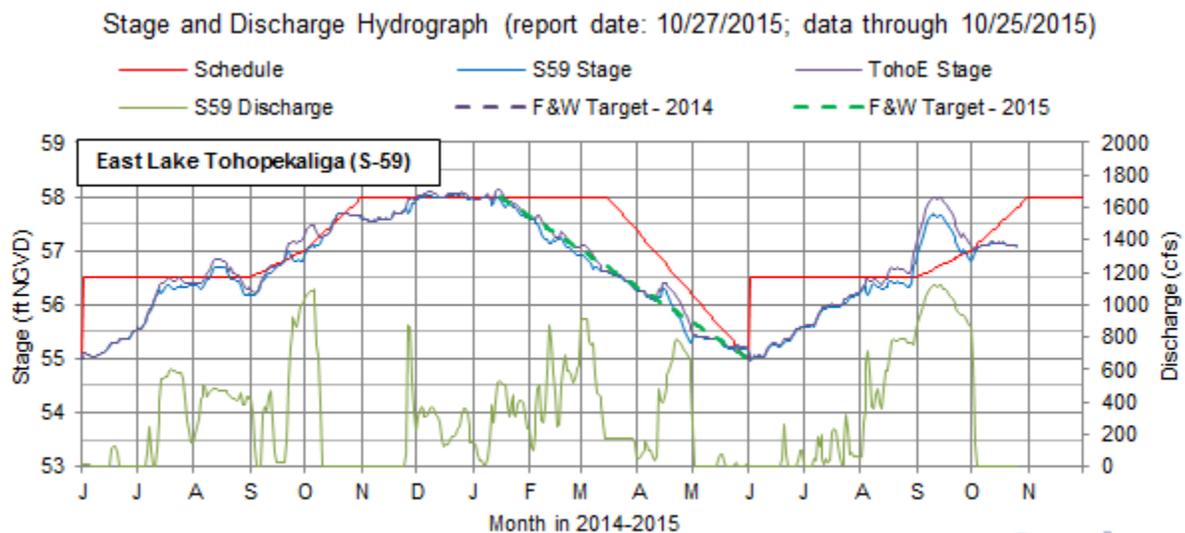
DATA ARE PROVISIONAL

Water Management Recommendations

Kissimmee Basin Recommendations and Operational Actions

Date	Recommendation	Purpose	Outcome	Source
10/27/2015	No new recommendations.			
10/20/2015	No new recommendations.			
10/13/2015	No new recommendations.			
10/6/2015	No new recommendations.			
9/28/2015	No new recommendations.			
9/22/2015	No new recommendations.			
9/15/2015	No new recommendations.			
9/8/2015	No new recommendations.			
9/1/2015	No new recommendations.			
8/25/2015	No new recommendations.			
8/18/2015	No new recommendations.			
8/11/2015	No new recommendations.			
8/4/2015	No new recommendations.			
7/28/2015	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.			

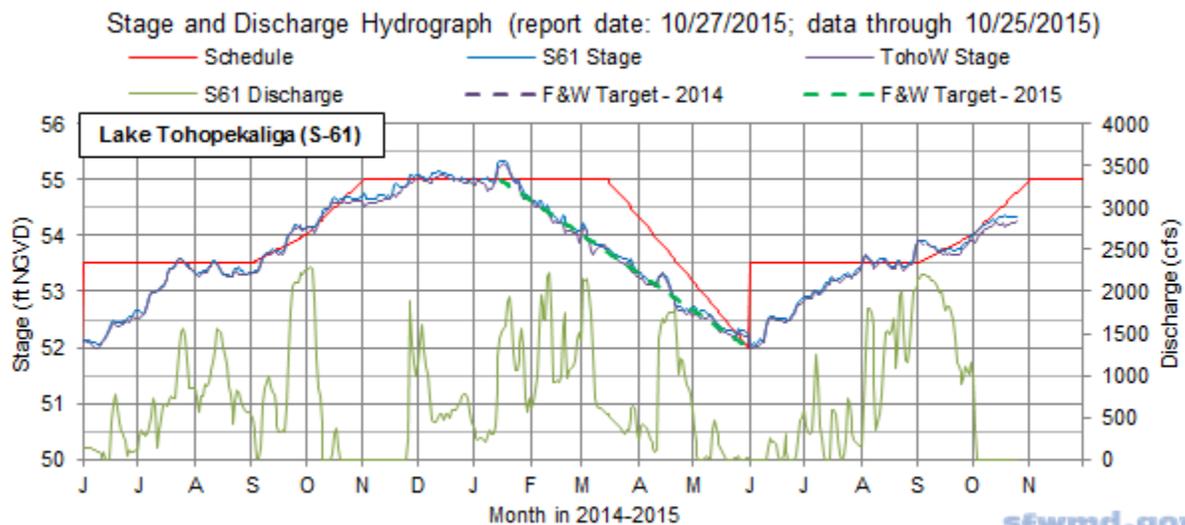
KCOL Hydrographs (through Sunday midnight)



*Departures from schedule are calculated using TohoE stage.

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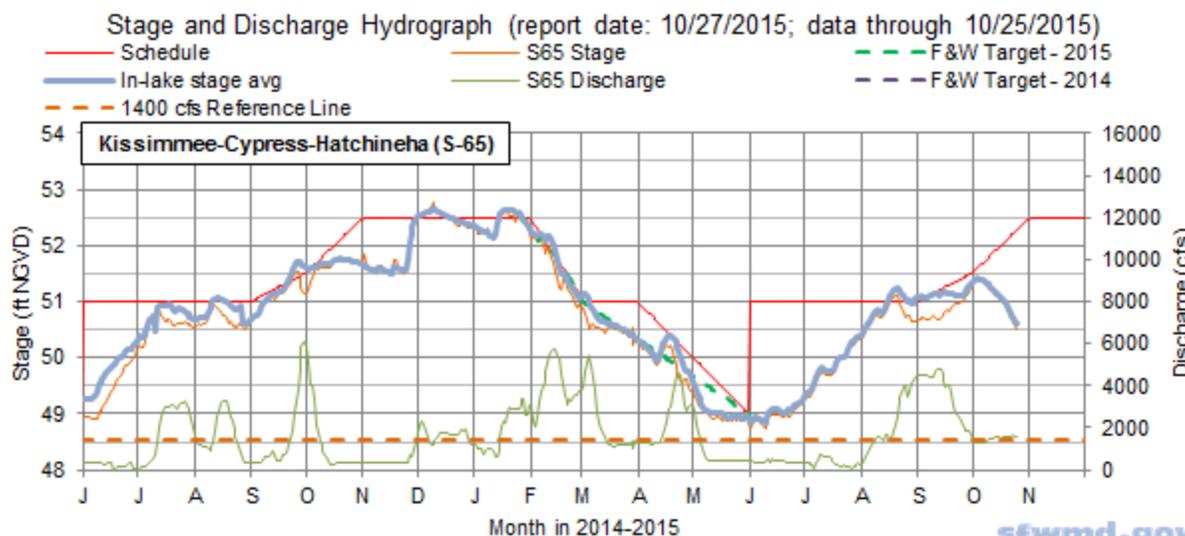
Figure 1.



*Departures from schedule are calculated using TohoW stage.

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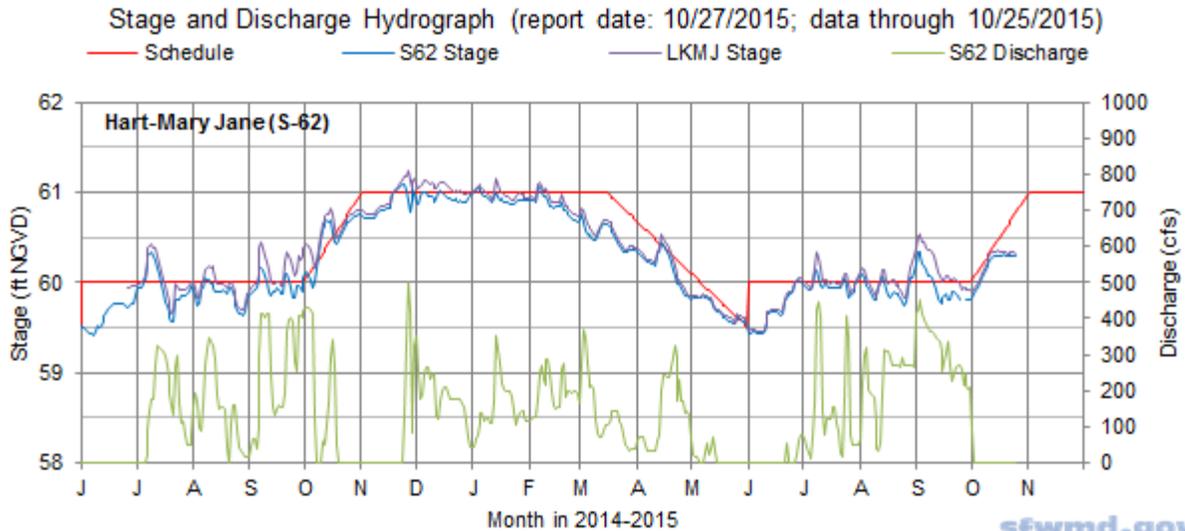
Figure 2.



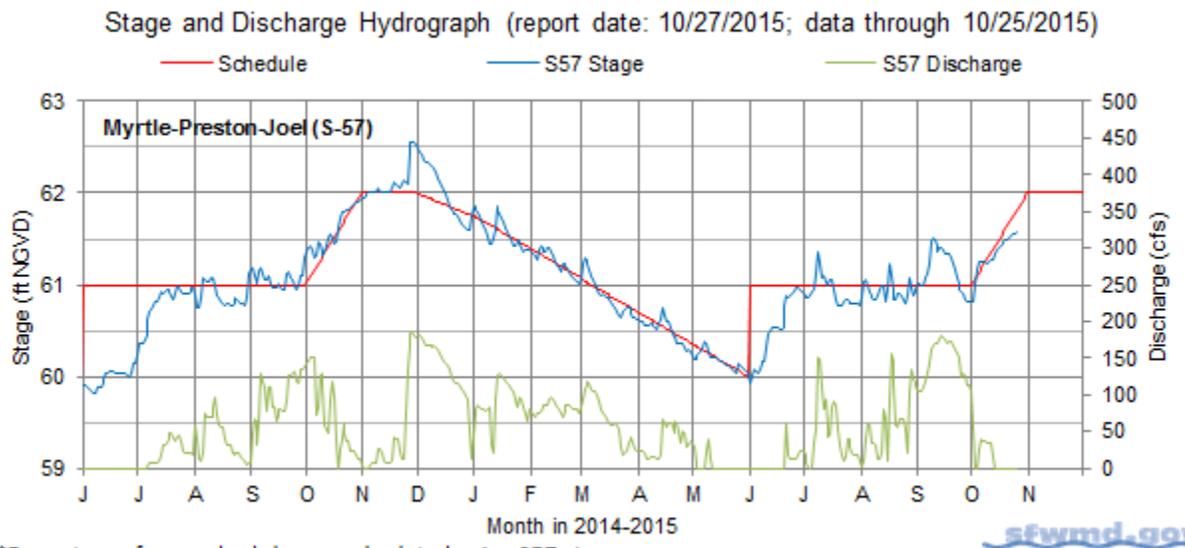
*Schedule departures use In-lake stage avg (L KISS, KUB011, and LKIS5B).

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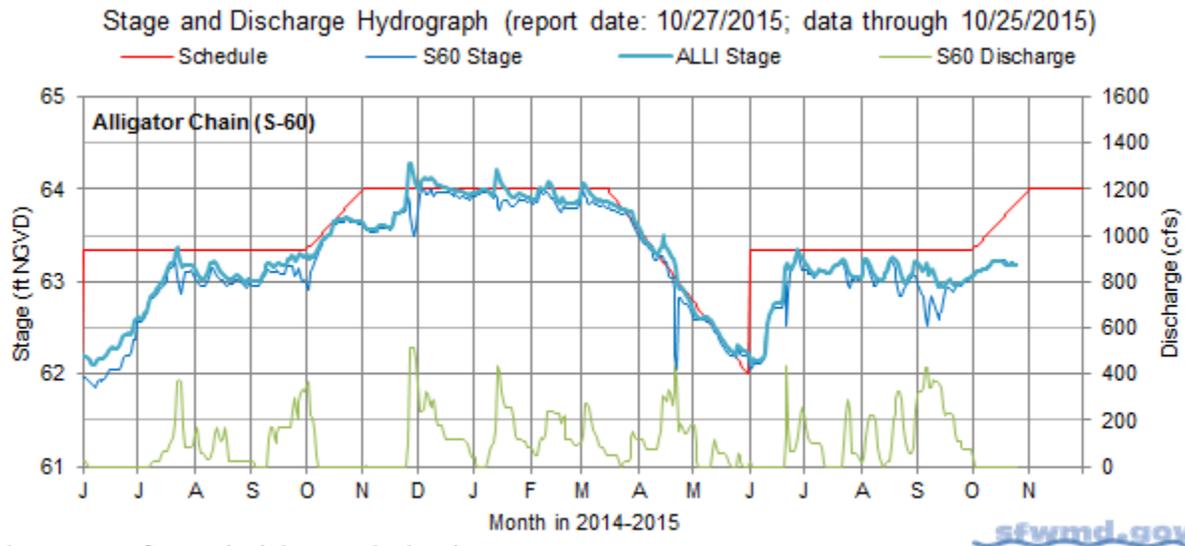
Figure 3.



*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.

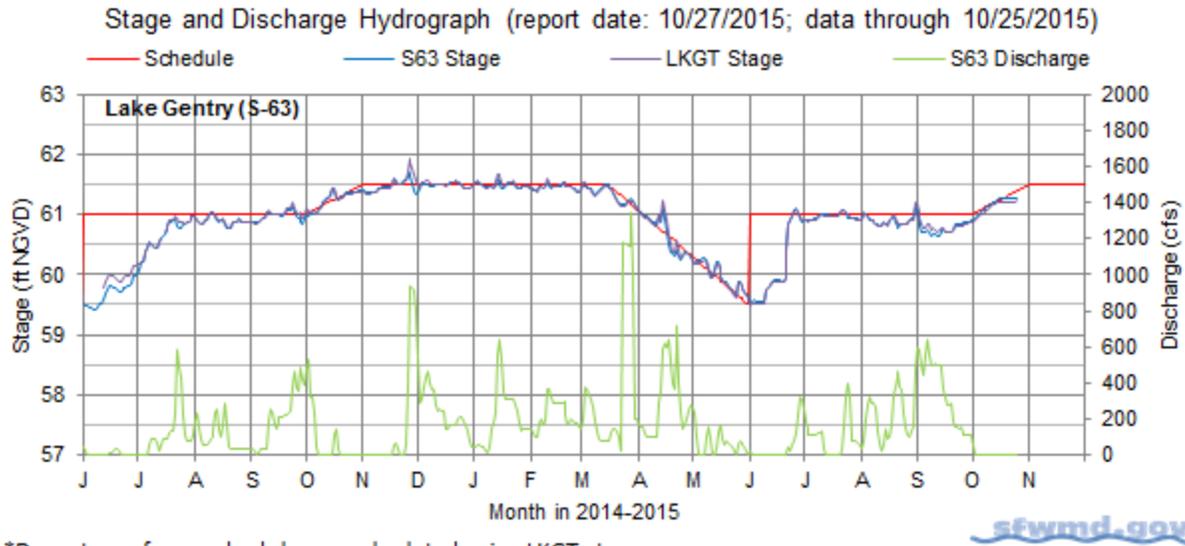


Figure 7.

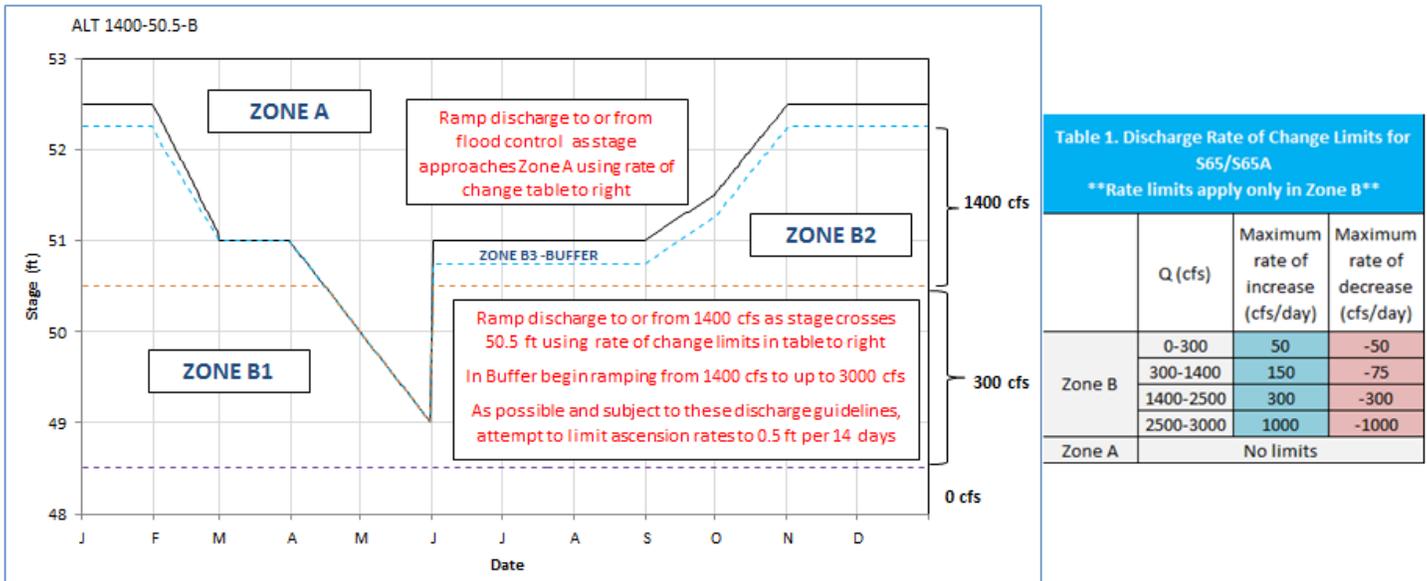


Figure 8a. Final S65 operational plan for Wet Season 2015.

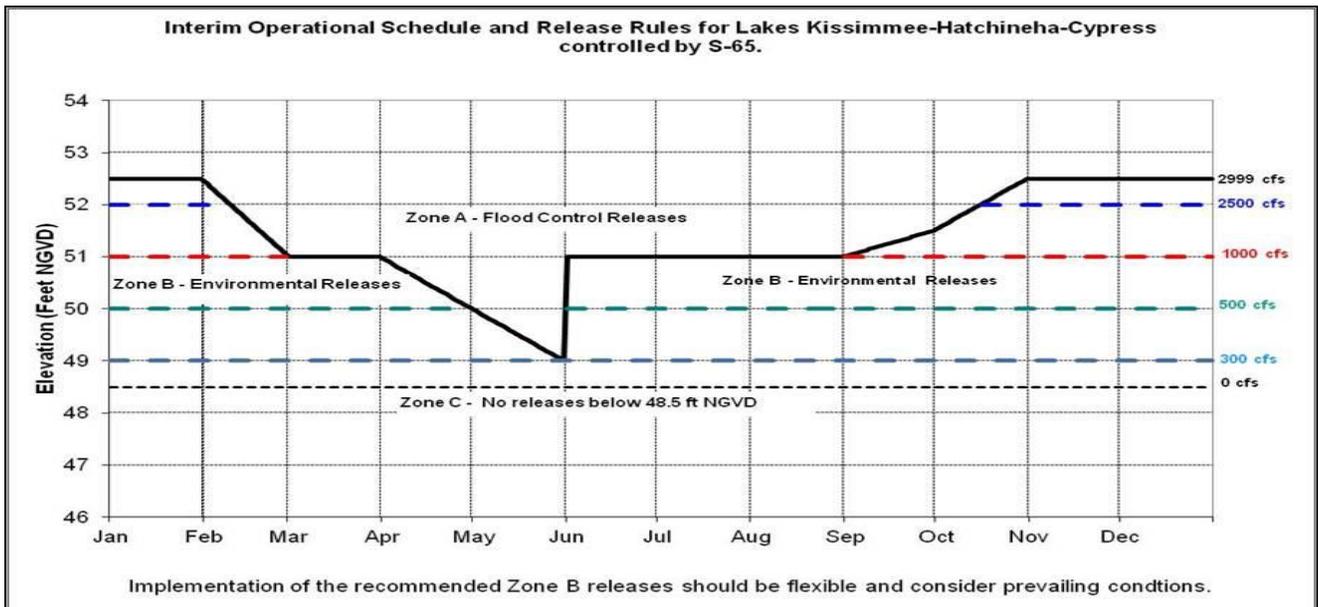


Figure 8b. Interim operations schedule for S-65. The discharge schedule shown to the right has not been used in recent years or in Wet Season 2015.

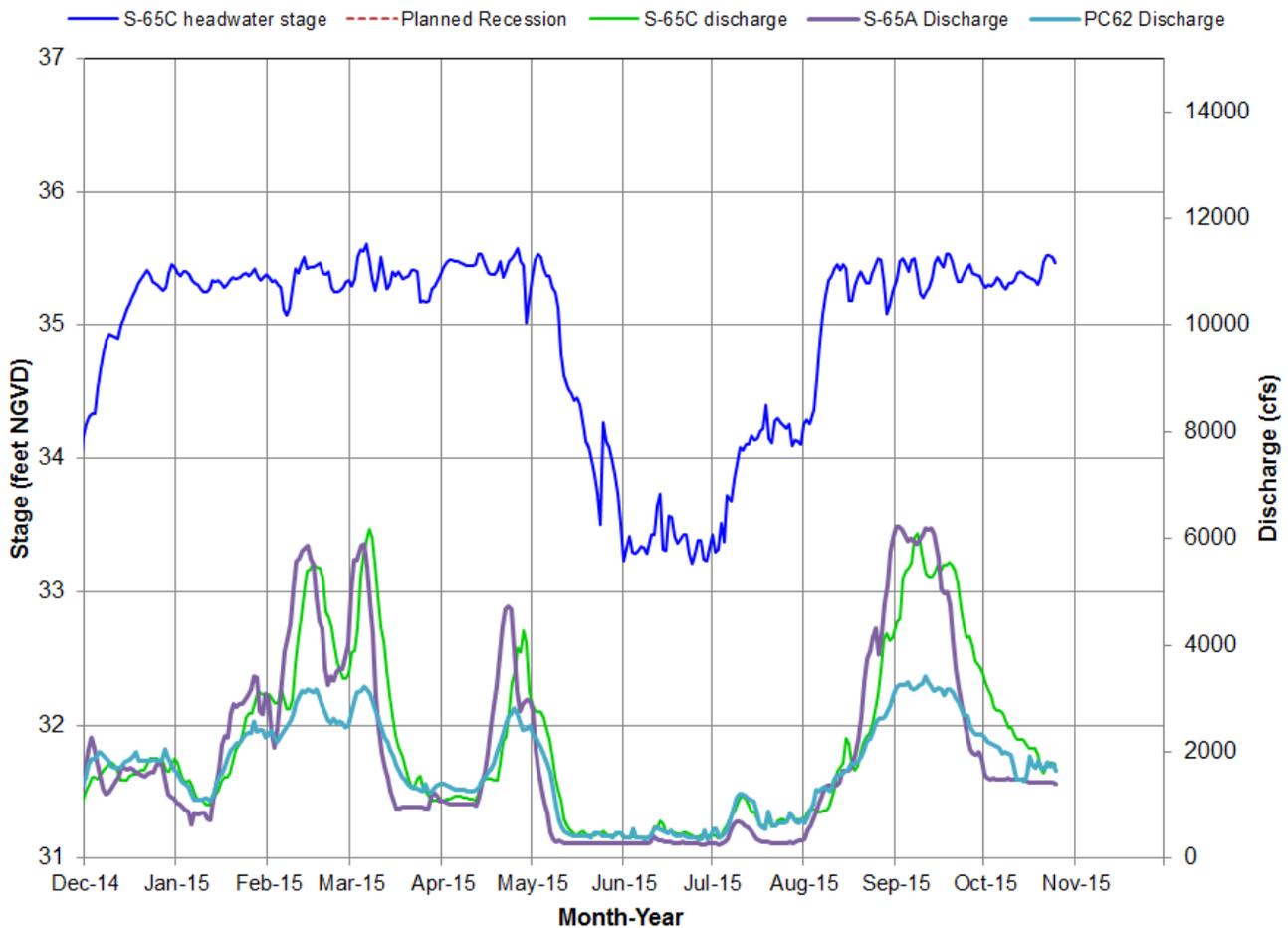


Figure 9. S-65C headwater stage in relation to discharge at S-65C, S-65A, and PC62.

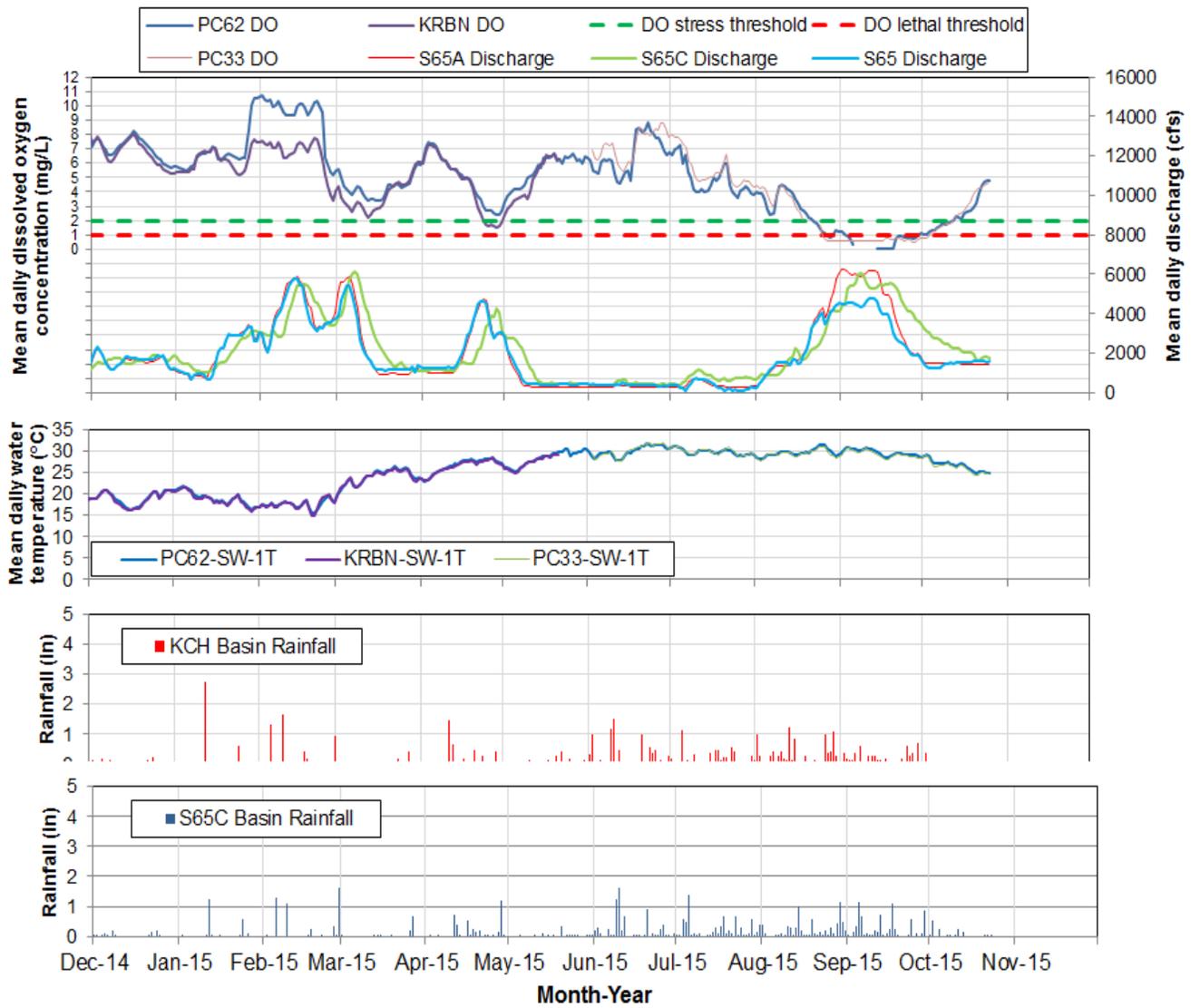
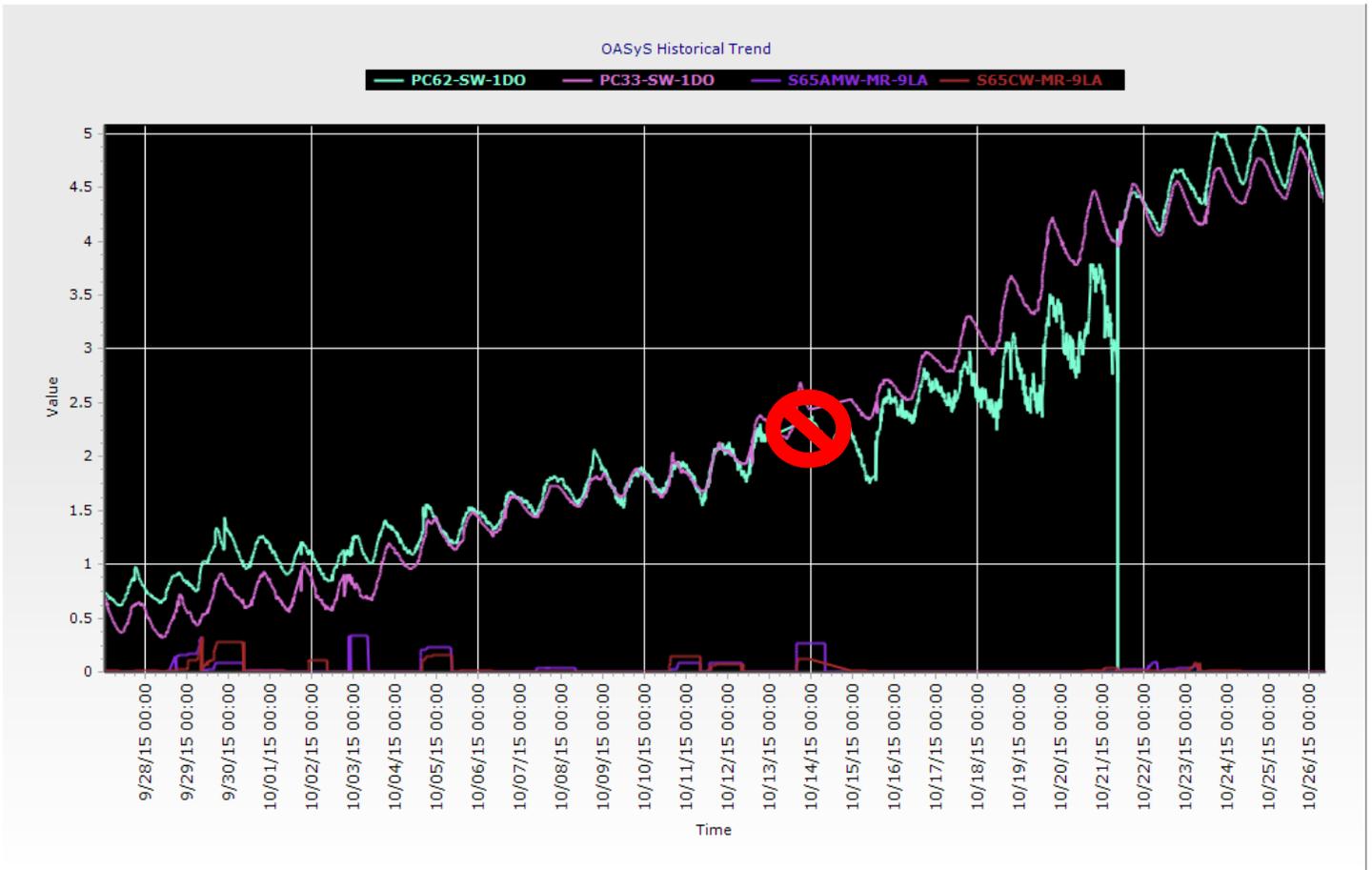


Figure 10. Mean daily DO, discharge, temperature and rainfall in the Phase I river channel.



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

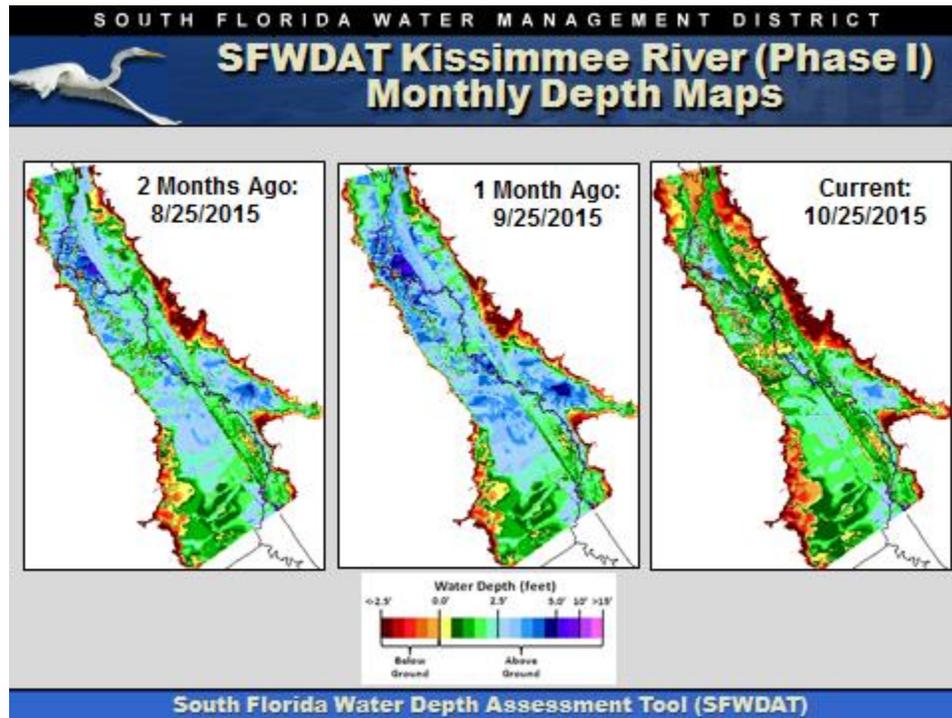


Figure 11. Phase I area floodplain water depths for this week, one month ago, and two months ago. Note that the WDAT color-coding has been modified to accommodate greater water depths; these maps are not directly comparable to Kissimmee Basin WDAT maps published prior to Jan. 16, 2012.

Kissimmee River Hydrographs

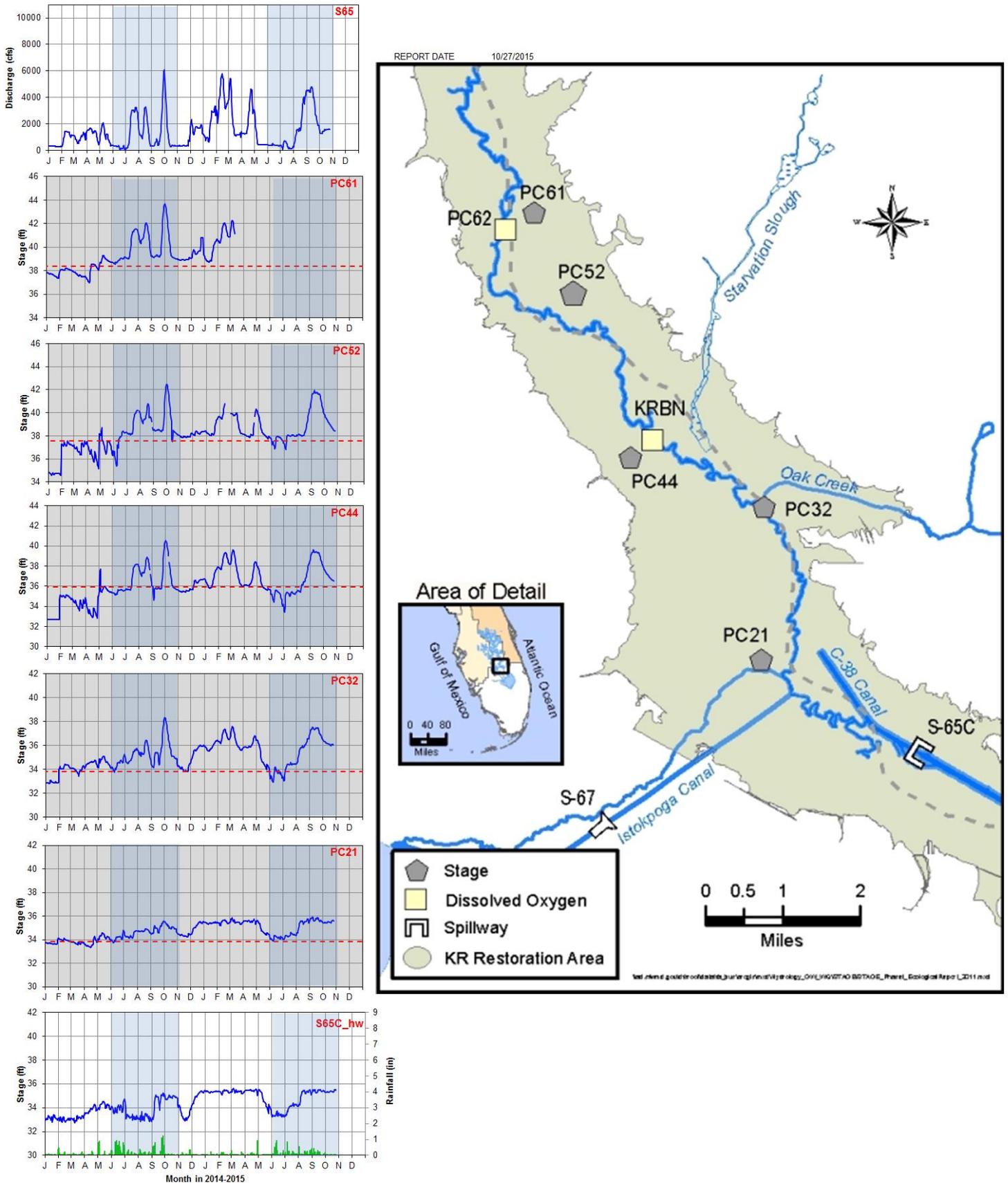


Figure 12. Discharge at S65, stages at five monitoring stations in the Phase I area of the Kissimmee River floodplain, and headwater stage at S65-C since January 1, 2013. The most recent data (~2 weeks) are provisional real-time data from SFWMD DualTrend; previous data are from SFWMD DB-HYDRO (validated). Dashed lines are ground elevations.

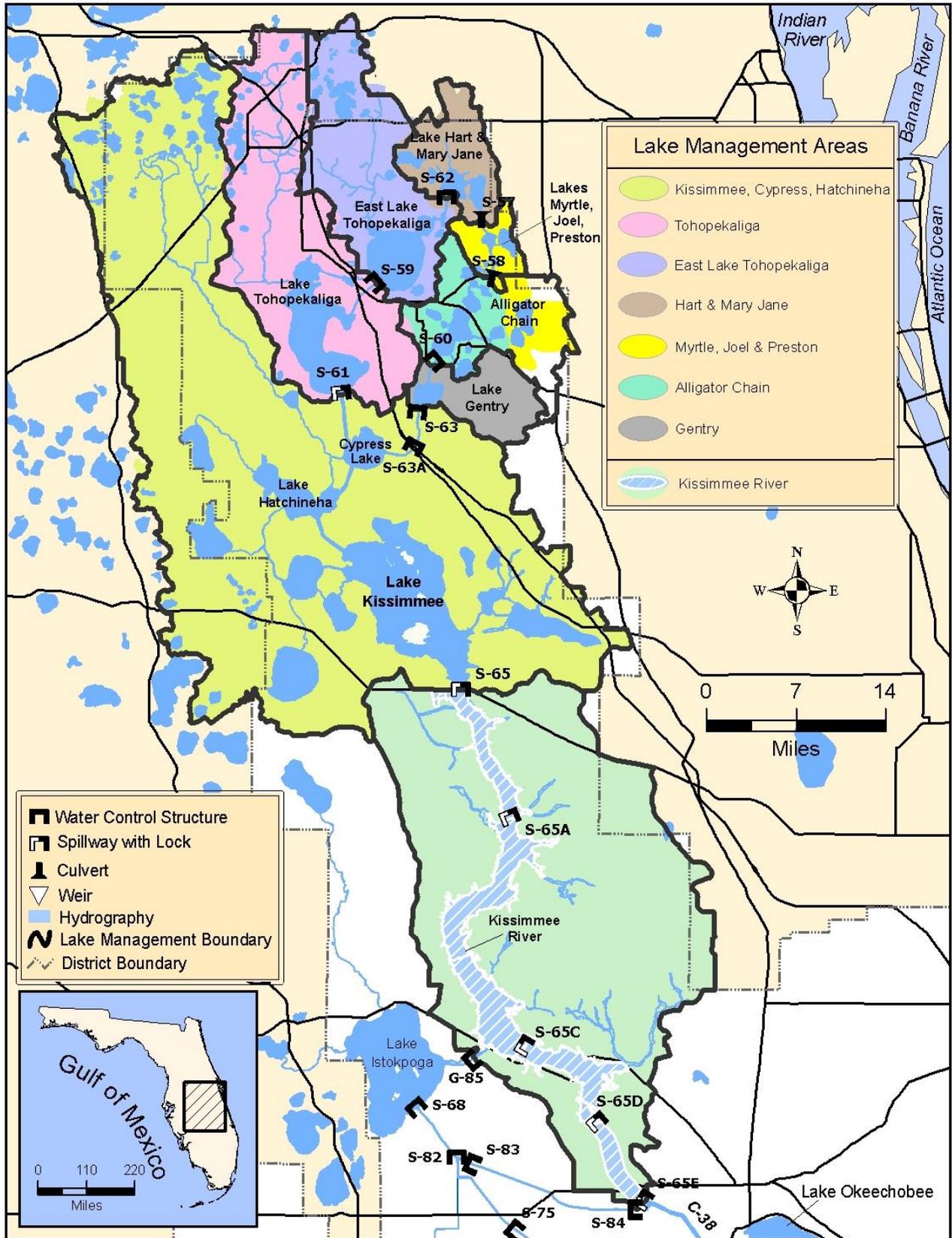


Figure 13. The Kissimmee Basin.

LAKE OKEECHOBEE

According to the USACE web site, Lake Okeechobee stage is at 14.59 feet NGVD for the period ending at midnight on October 26, 2015. Lake stage decreased by 0.10 feet over the past week. The Lake is now at the same stage it was a month ago and 1.36 feet lower than it was a year ago (Figure 1). The Lake is in the Low Flow Sub-band but only 0.09 feet from the top of the Base Flow Sub-band (Figure 2). According to RAINDAR, 0.024 inches of rain fell directly over the Lake during the past seven days. Similar amounts of rain fell in the nearby west and south portions of the watershed, while higher amounts of rain fell north of the Lake, along the east coast and in the southern most portions of the watershed (Figure 3).

Based on USACE reported values, current Lake inflow is approximately 2,673 cfs, consisting of inflows as indicated below.

Structure	Flow cfs
S65E	1989
S154	0
S84 & 84X	277
S71	96
S72	0
C5	0
S191	0
S133 PUMPS	0
S127 PUMPS	0
S129 PUMPS	0
S131 PUMPS	0
S135 PUMPS	0
Fisheating Creek	311
S2 Pumps	0
S3 Pumps	0
S4 Pumps	0

Current Lake outflow is approximately 3,670 cfs exiting through S77 (873 cfs), S351 (1,205 cfs), S352 (945 cfs) S354 (70 cfs) and to the L8 canal through Culvert 10A (202 cfs). Corrected evapotranspiration this past week was equivalent to an outflow of 1,516 cfs.

Change in elevation equivalents and average weekly flows for major structures are presented in Figure 4.

Monthly water quality monitoring indicated that mean total phosphorus concentrations were similar to last month at the nearshore sights and were approximately 10 ppb higher at the pelagic sites. Total suspended solids concentrations also were 6 to 7 ppm higher at both the nearshore and pelagic sites (Figure 5). The associated chlorophyll monitoring indicated the presence of microcystin (>0.2 µg/L) at one northwestern site (Poles Out) (Figure 6) and potential small areas of algal bloom conditions in the northwest, west and southwestern portions of the nearshore and pelagic regions (Figure 7). Bloom conditions in the south and eastern portions of the nearshore and pelagic regions in the October 24 image appears to be cloud cover, as illustrated in the corresponding true color image.

Water Management Recommendations

Lake levels decreased and the current monthly rate of change is within the preferred rate of no more than 0.5 feet per month. If Lake levels continue to decline at the current rate of 0.10 feet per week, the optimal monthly recession rate will be maintained. Any activities that contribute to retaining the current rate of decrease in Lake stage would be ecologically beneficial.

Future recommendations for the short term will depend in large measure on the near-term rainfall patterns and amounts. The operational goal continues to be to maintain a steady change (increase/decrease) in water levels not to exceed 0.5 feet per month (0.125 feet/week).

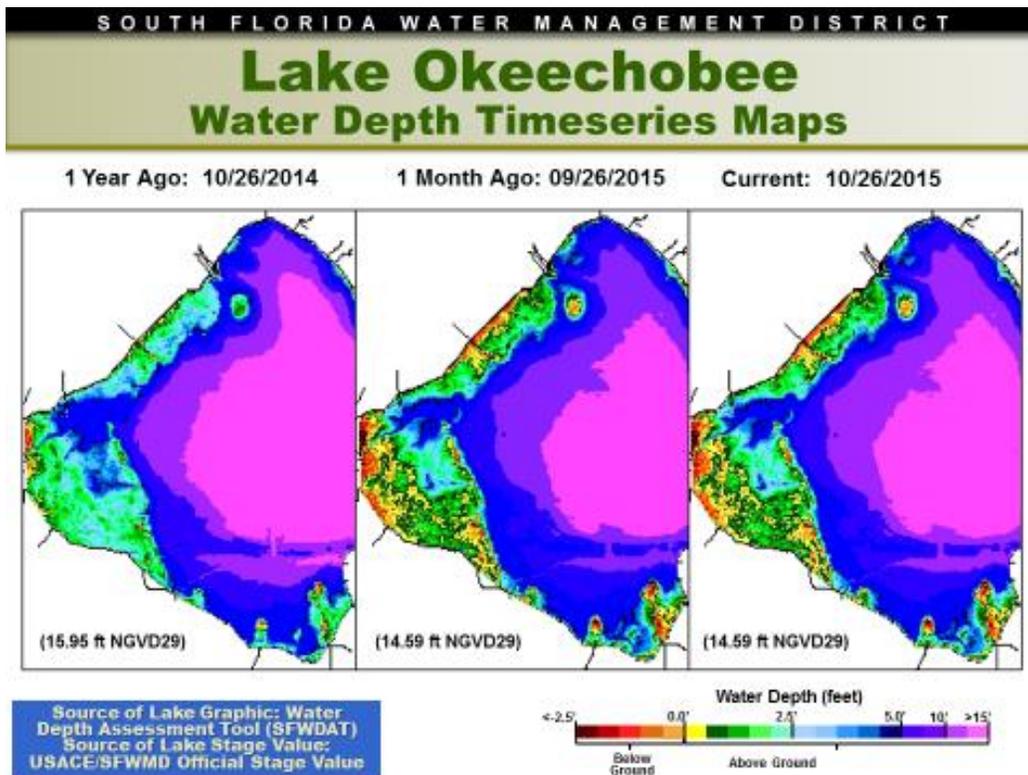


Figure 1

Lake Okeechobee Water Level History and Projected Stages

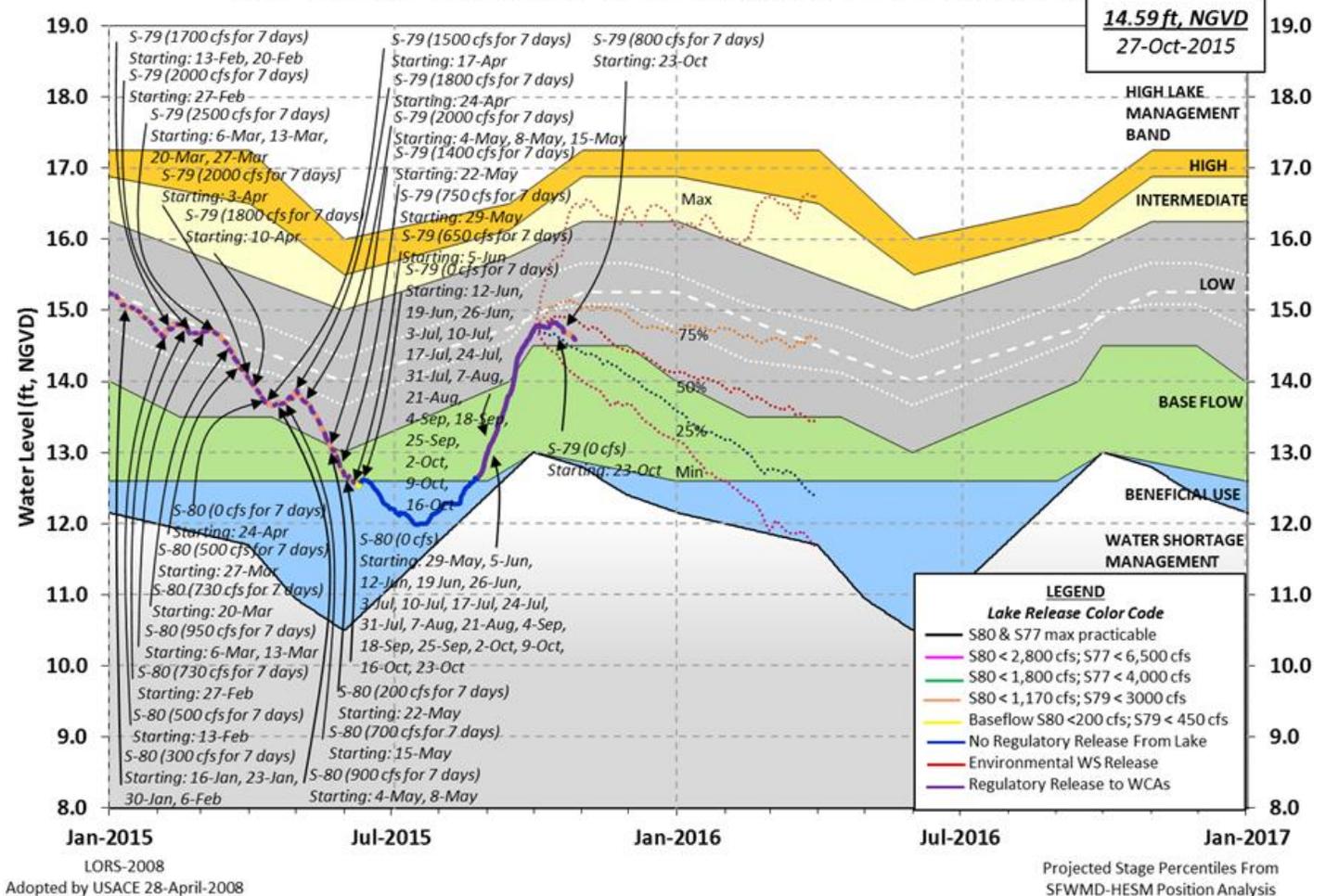
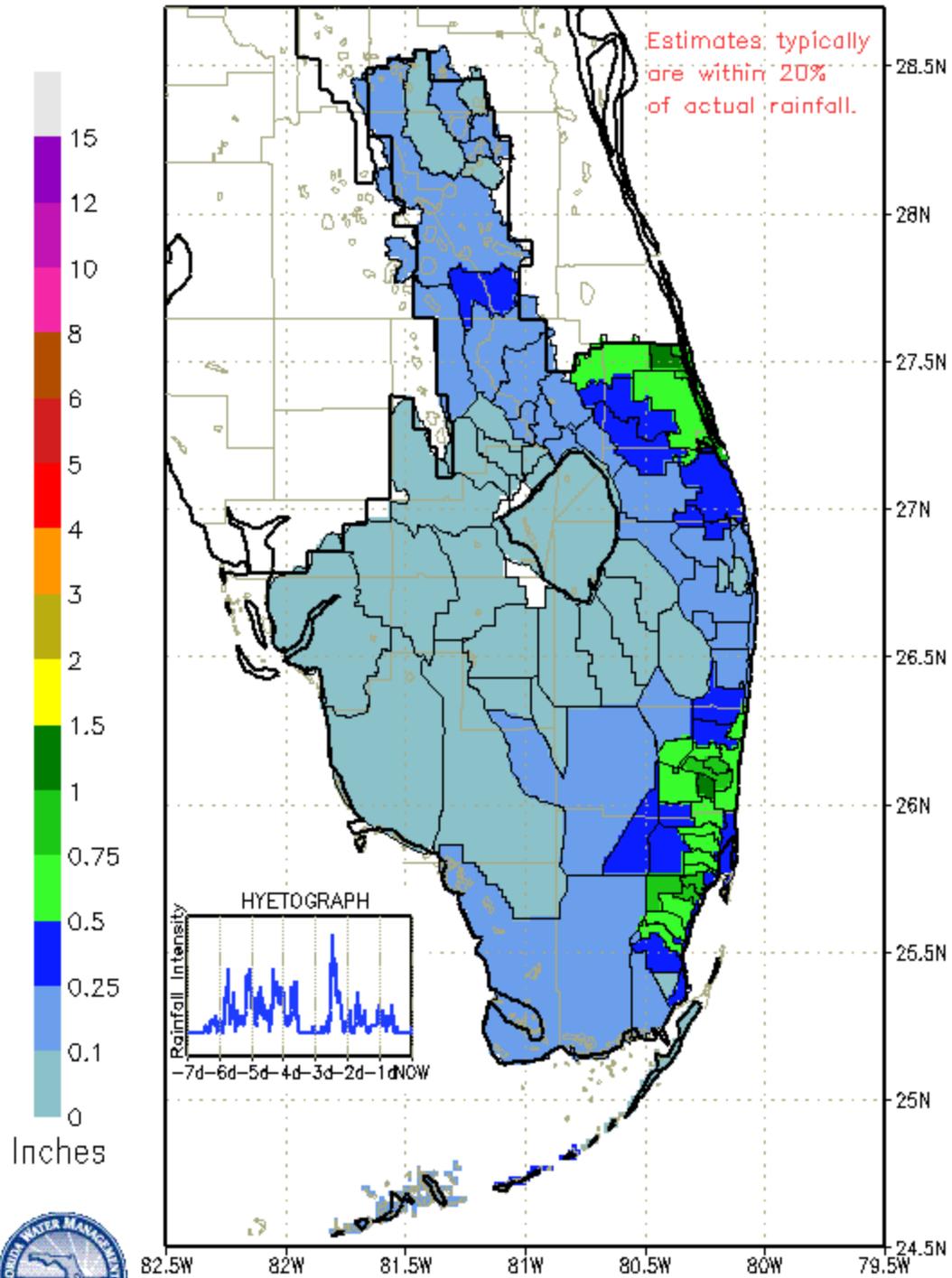


Figure 2

SFWMD PROVISIONAL RAINDAR 7-DAY BASIN RAINFALL ESTIMATES

FROM: 0530 EST, 10/20/2015 THROUGH: 0530 EST, 10/27/2015



DISTRICT-WIDE RAINFALL ESTIMATE: 0.168"

Figure 3

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Okeechobee Algal Blooms

October 5-7, 2015		
Site	Microcystin ug/L	Chlorophyll a ug/L
FEBIN		1.4
FEBOUT		1.8
LZ2	0.20	19.8
KISSR0.0	0.20	5.1
PALMOUT		22.2
PELBAY3		34.4
POLE3S		36.2
POLESOUT	0.56	23.0
RITTAE2		34.6
LZ25A		33.6
L001		17.0
L004		9.8
L005	0.20	5.3
L006		3.4
L007		36.8
L008		28.0
LZ40		36.4
LZ30	0.20	45.1
LZ40		5.2
CLV10A	0.20	11.0

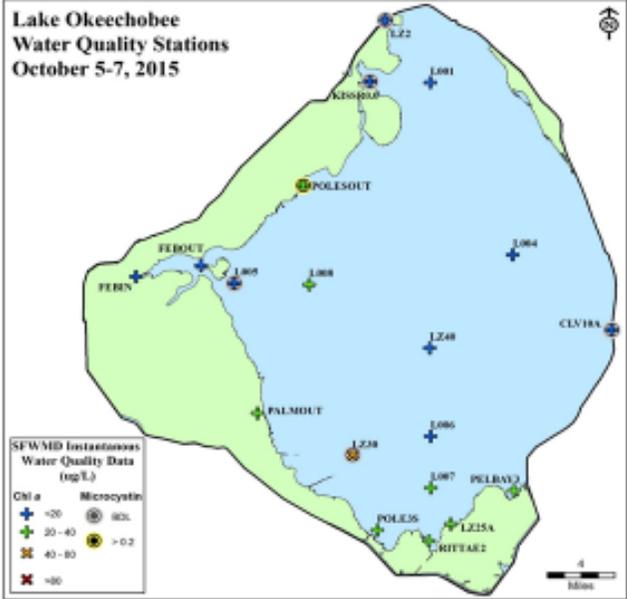


Figure 6

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Lake Okeechobee Algal Blooms

Unvalidated Data

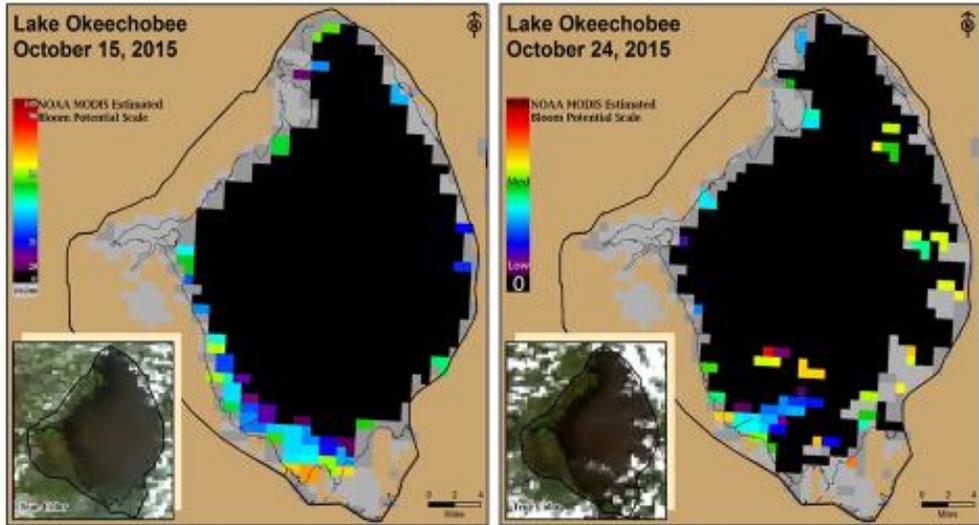


Figure 7

Lake Istokpoga

Lake Istokpoga stage is 39.44 feet NGVD today and is currently 0.06 feet below its regulation schedule of 39.50 feet NGVD, which is peak high pool (Figure 8). Average flows into the Lake from Arbuckle and Josephine creeks were 551 and 73 cfs respectively, a decrease of 127 cfs from last week. Average discharge from S68 and S68X this past week was 355 cfs, a decrease of 461 cfs from the preceding week. According to RAINDAR, 0.15 inches of rain fell in the Lake Istokpoga watershed during the past seven days.

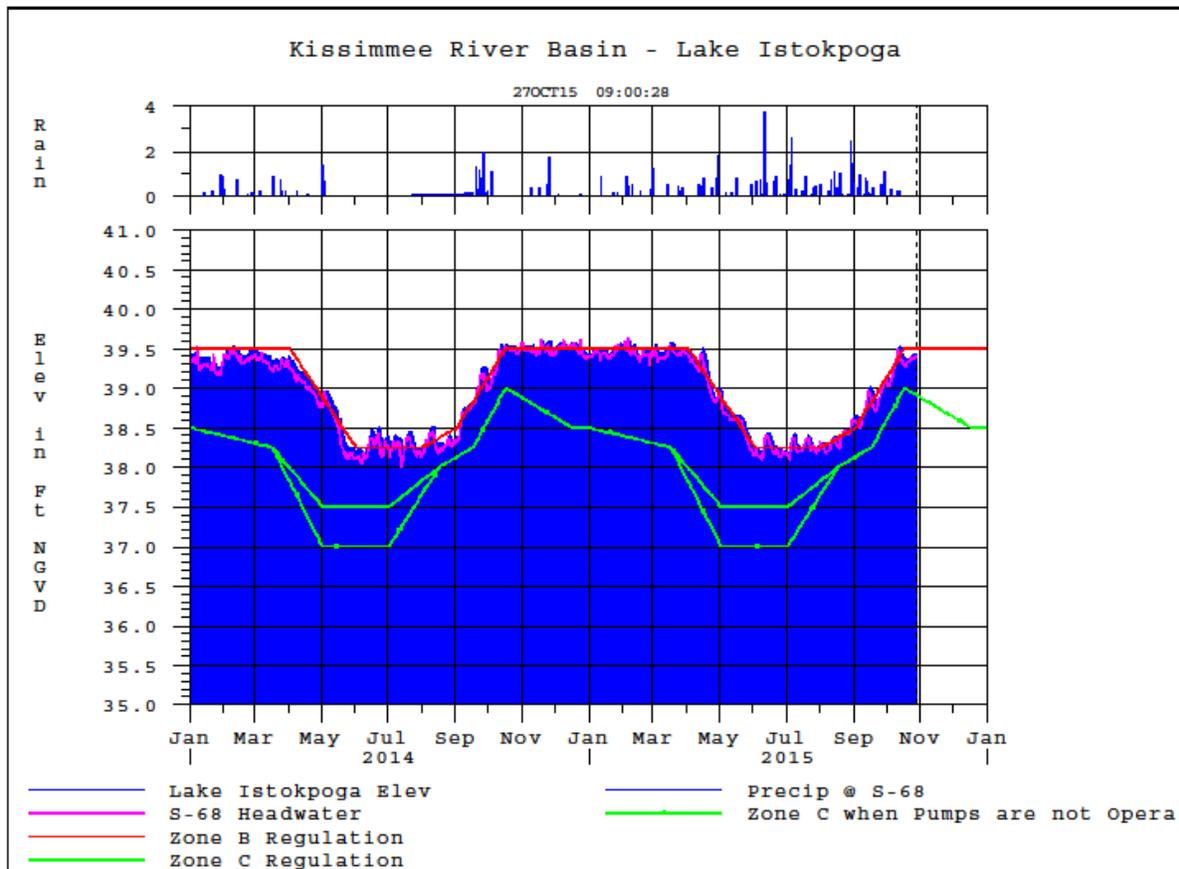


Figure 8

ESTUARIES

St. Lucie Estuary

Over the past week, provisional flows averaged 0 cfs at S-80, 184 cfs at S-308, 1 cfs at S-49 on C-24, 1 cfs at S-97 on C-23, and 100 cfs from Ten Mile Creek at the Gordy Road Structure. Average inflow from tidal basin tributaries is estimated to be 201 cfs (Figures 1 and 2). Total inflow averaged about 303 cfs last week and 808 cfs over last month.

Over the past week, surface salinity increased throughout the estuary (Table 1, Figures 3 and 4). The seven-day moving average salinity of the water column at the US1 Bridge is 17.2. Salinity conditions in the middle estuary remain 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)	13.0 (12.1)	15.1 (15.3)	NA ¹
US1 Bridge	17.0 (15.8)	17.5 (17.0)	10.0-26.0
A1A Bridge	27.2 (24.3)	29.4 (27.4)	NA

¹Envelope not applicable

Caloosahatchee Estuary

During the past week, provisional flows averaged approximately 885 cfs at S-77, 449 cfs at S-78, and 690 cfs at S-79. Average inflow from tidal basin tributaries is estimated to be 411 cfs (Figures 5 and 6). Total inflow averaged 1101 cfs last week and 1914 cfs over last month.

Over the past week, salinity increased throughout the estuary (Table 2, Figures 7 & 8). The seven-day average salinity values are within the good range for oysters at Cape Coral and Shell Point, but within the fair range at Sanibel (Figure 9). The 30-day moving average surface salinity is 0.6 at Val I-75 and 2.2 at Ft. Myers. Salinity conditions at Val I-75 are in the good range for tape grass. However, if there were no discharges at S-79, daily salinity at Val I-75 would continue to increase, reaching about 8 in two weeks (Figure 10).

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)	1.3 (0.2)	1.3 (0.2)	NA ¹
Val I75	1.5 (0.4*)	3.0* (0.7*)	0.0-5.0 ²
Ft. Myers Yacht Basin	6.5 (1.9)	9.5 (2.9)	NA
Cape Coral	13.3 (8.1*)	16.0* (10.3*)	10.0-30.0
Shell Point	25.1 (20.9)	25.8 (~22.0)	10.0-30.0
Sanibel	30.1 (28.3)	30.9 (29.1)	10.0-30.0

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

*Val I75 is temporarily offline due to bridge construction. Cape Coral is temporarily unavailable due to communications issues. Salinity values are estimated using models developed for these sites.

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	2.1 – 4.7
Dissolved Oxygen (mg/l)	NA	NA	5.75 – 7.5

The Florida Fish and Wildlife Research Institute reported on October 23, 2015, that a bloom of *Karenia brevis*, the Florida red tide organism, is currently present along and offshore of Manatee, Sarasota, Charlotte, and northern Lee counties in Southwest Florida. Background to medium concentrations of *K. brevis* were detected in 37 samples collected in, along, and offshore of Manatee, Sarasota, and Charlotte counties, whereas background to very low concentrations were detected in five samples collected in, along, and offshore of Lee County.

Water Management Recommendations

Lake Okeechobee's water level is within the Low Operational Sub-band; the tributary hydrological conditions are Normal; and the seasonal and multi-seasonal forecasts are Wet and Wet, respectively. The Lake Okeechobee Regulation Schedule (LORS) recommends releases up to 3000 cfs at S-79 and 1170 cfs at S-80.

Currently, the USACE is implementing a seven-day pulse release averaging 800 cfs at S-79 and 0 cfs at S-80. If releases are to be continued under LORS guidance, flows averaging 650~1200 cfs at S-79 will help maintain salinity conditions in the Caloosahatchee Estuary favorable for both tape grass downstream of I-75 Bridge (upper estuary) and adult oysters downstream of Cape Coral Bridge (lower estuary). Similarly, flows averaging 200~500 cfs at S-80 will not lower salinity beyond the favorable range for adult oysters downstream of US1 Bridge in the St. Lucie Estuary provided that watershed inflow continues to be low. The releases should be conducted in a pulse pattern to mitigate potential stratification and phytoplankton accumulation in the water column. Suggested pulse schedules are given below in Table 4.

Table 4. Schedules for 7-day pulse releases at S-80 and S-79

7-day pulses at S-80								
Day	200 cfs	300 cfs	400 cfs	500 cfs	650 cfs	800 cfs	950 cfs	1170 cfs
1	200	300	400	500	650	800	950	1290
2	600	700	800	900	1100	1200	1400	1800
3	300	500	650	800	900	1100	1200	1500
4	200	300	450	600	800	900	1100	1300
5	100	200	300	400	600	700	900	1000
6	0	100	200	300	400	600	700	800
7	0	0	0	0	100	300	400	500
7-day pulses at S-79								
Day	650 cfs	800 cfs	1000 cfs	1200 cfs	1500 cfs	2000 cfs	2600 cfs	3000 cfs
1	1150	1300	1500	1700	2000	2500	3100	3500
2	1400	1700	1900	2100	2400	3100	3900	4300
3	900	1100	1600	1800	2100	2600	3400	3800
4	600	700	900	1100	1400	1900	2500	2900
5	400	500	700	900	1200	1700	2300	2700
6	100	300	400	600	900	1400	2000	2400
7	0	0	0	200	500	800	1000	1400

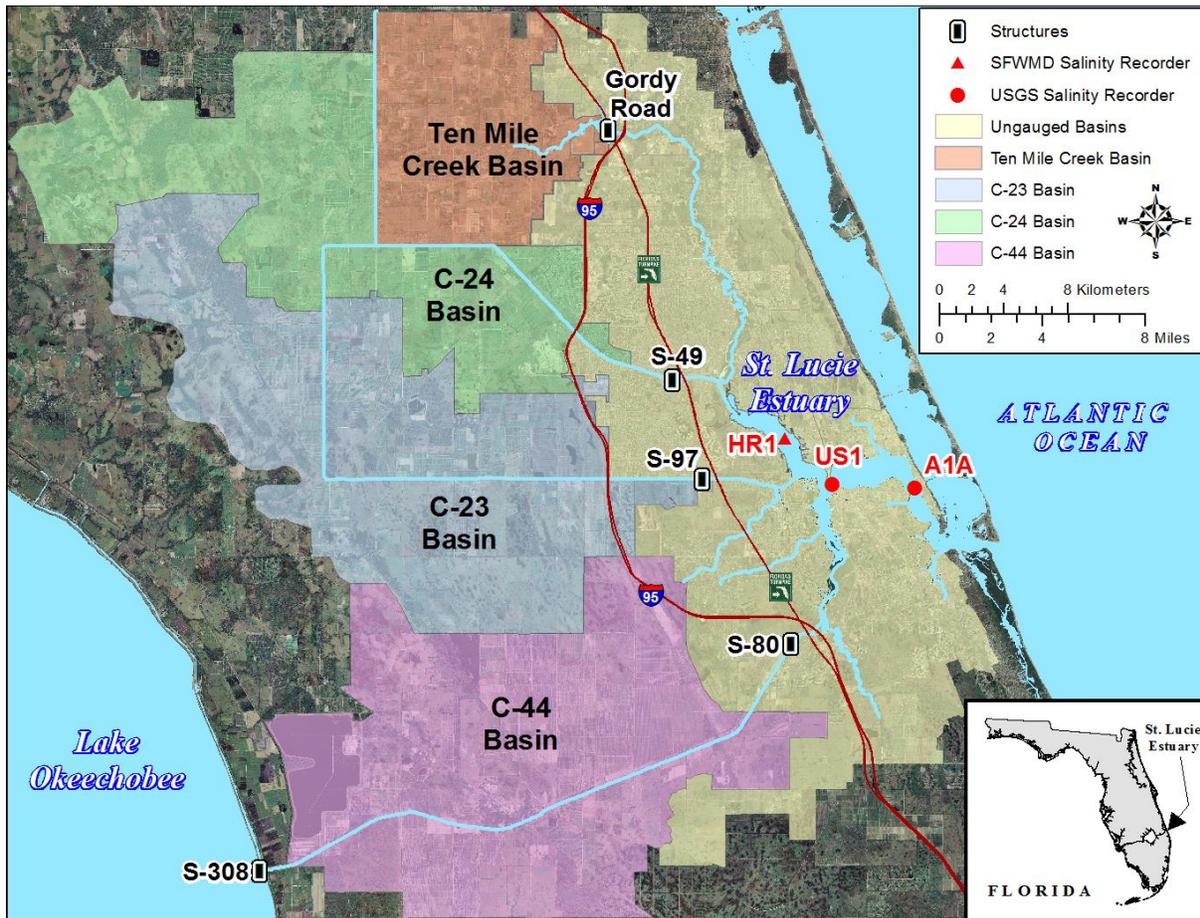


Figure 1. Basins, water control structures, and salinity monitoring for the St. Lucie Estuary.

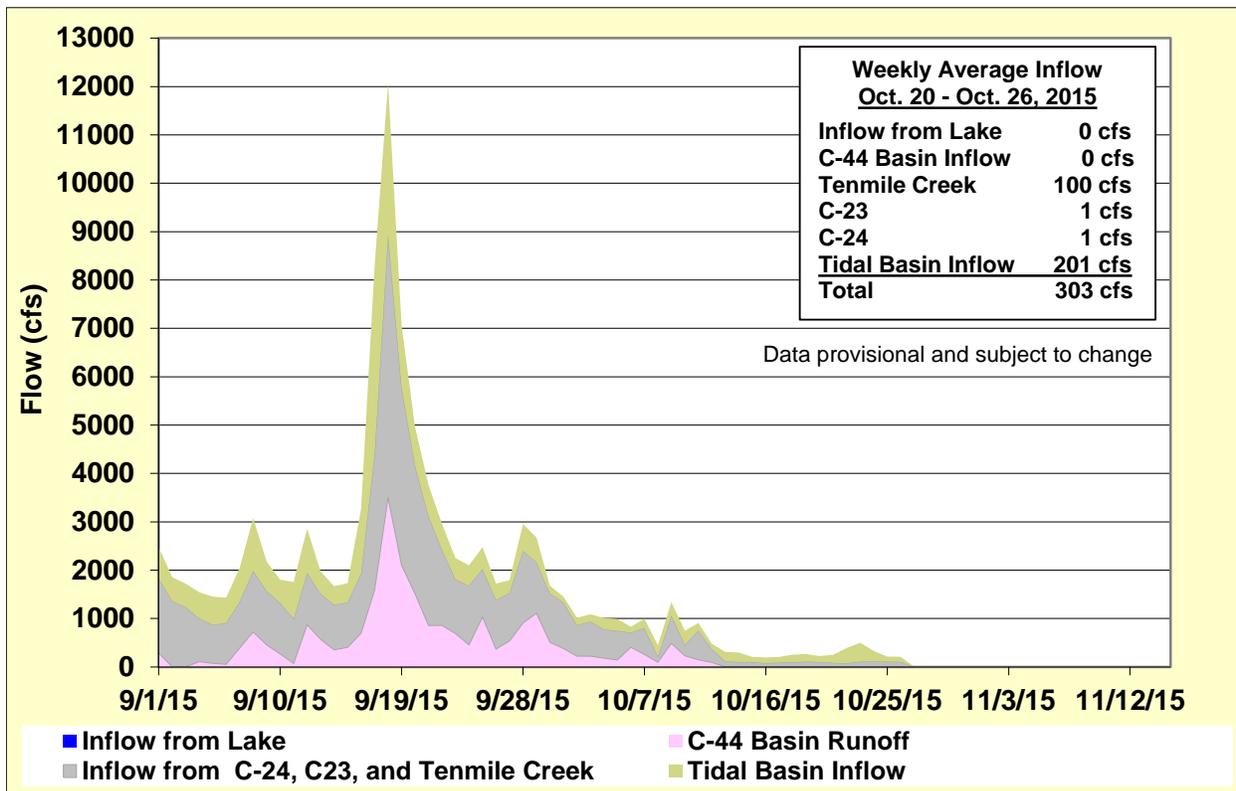


Figure 2. Estimated surface freshwater inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and tidal basins into the St. Lucie Estuary.

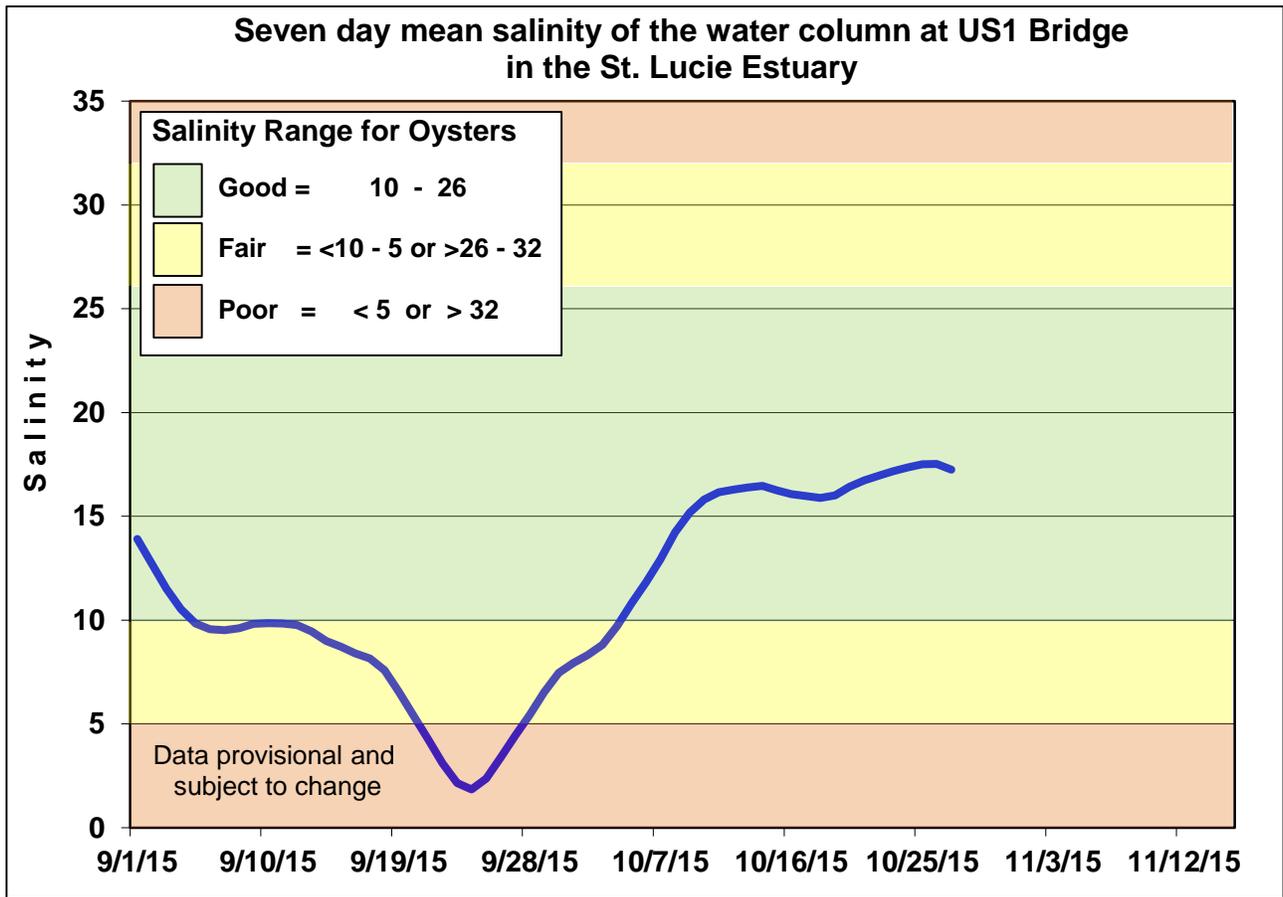


Figure 3. Seven-day mean salinity of the water column at the U.S. Highway 1 Bridge.

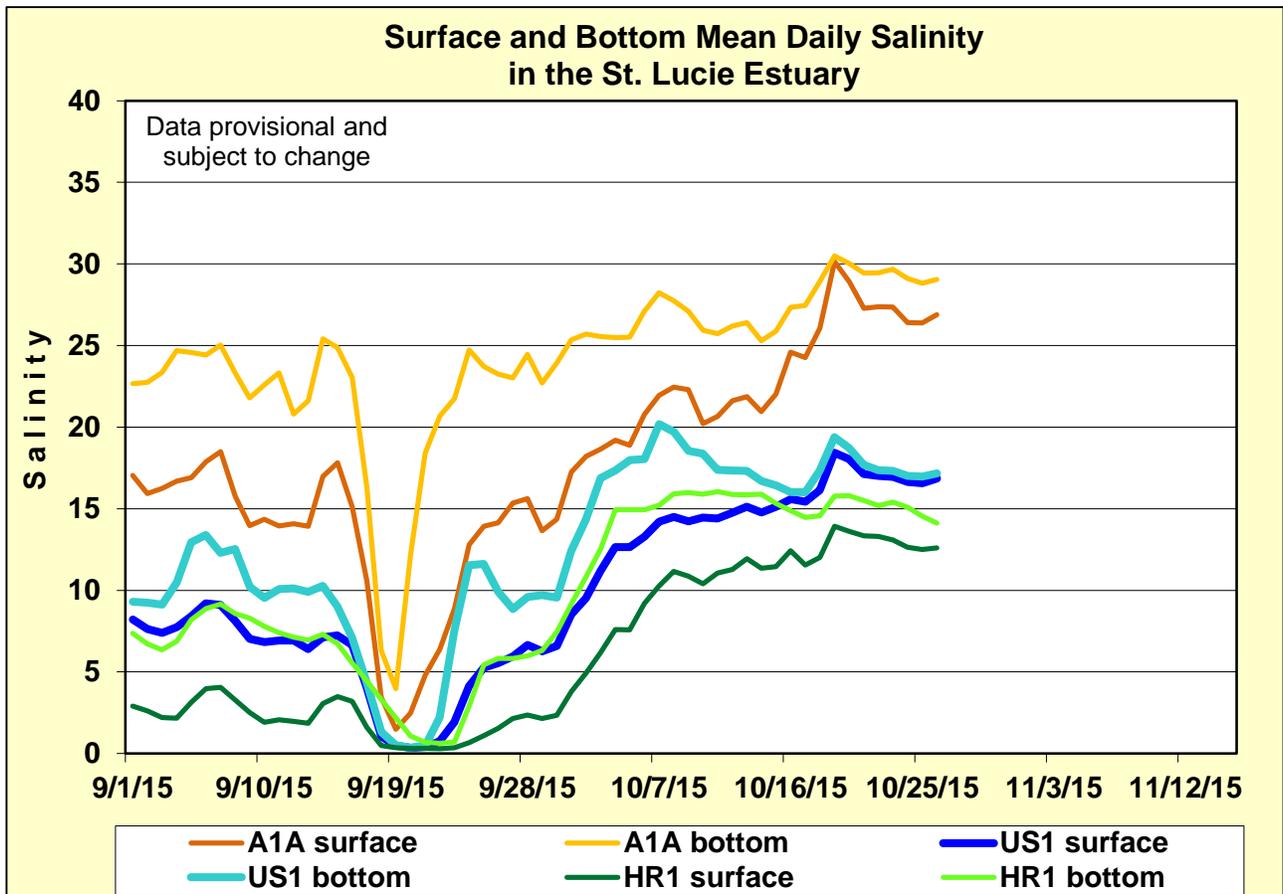


Figure 4. Daily mean salinity at the A1A, US1 and estimated HR1 stations.

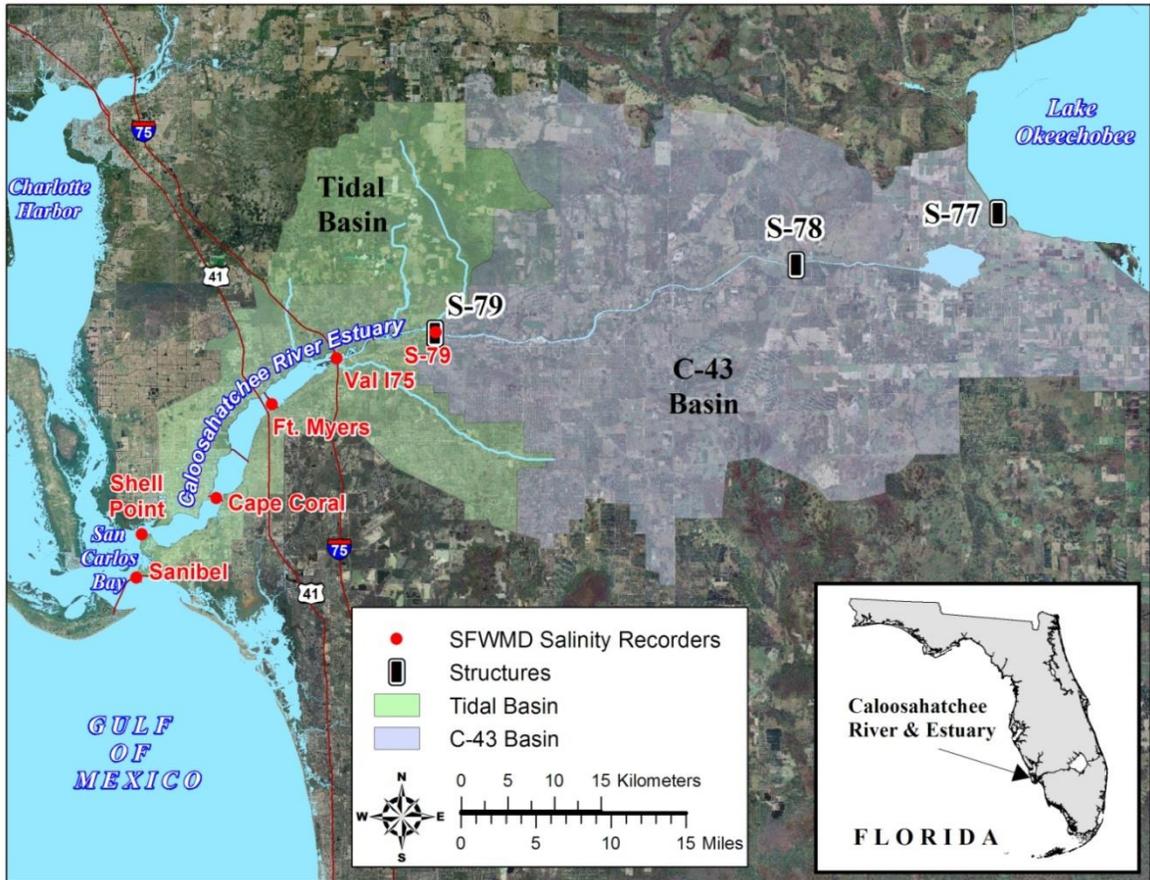


Figure 5. Basins, water control structures, and salinity monitoring for the Caloosahatchee Estuary.

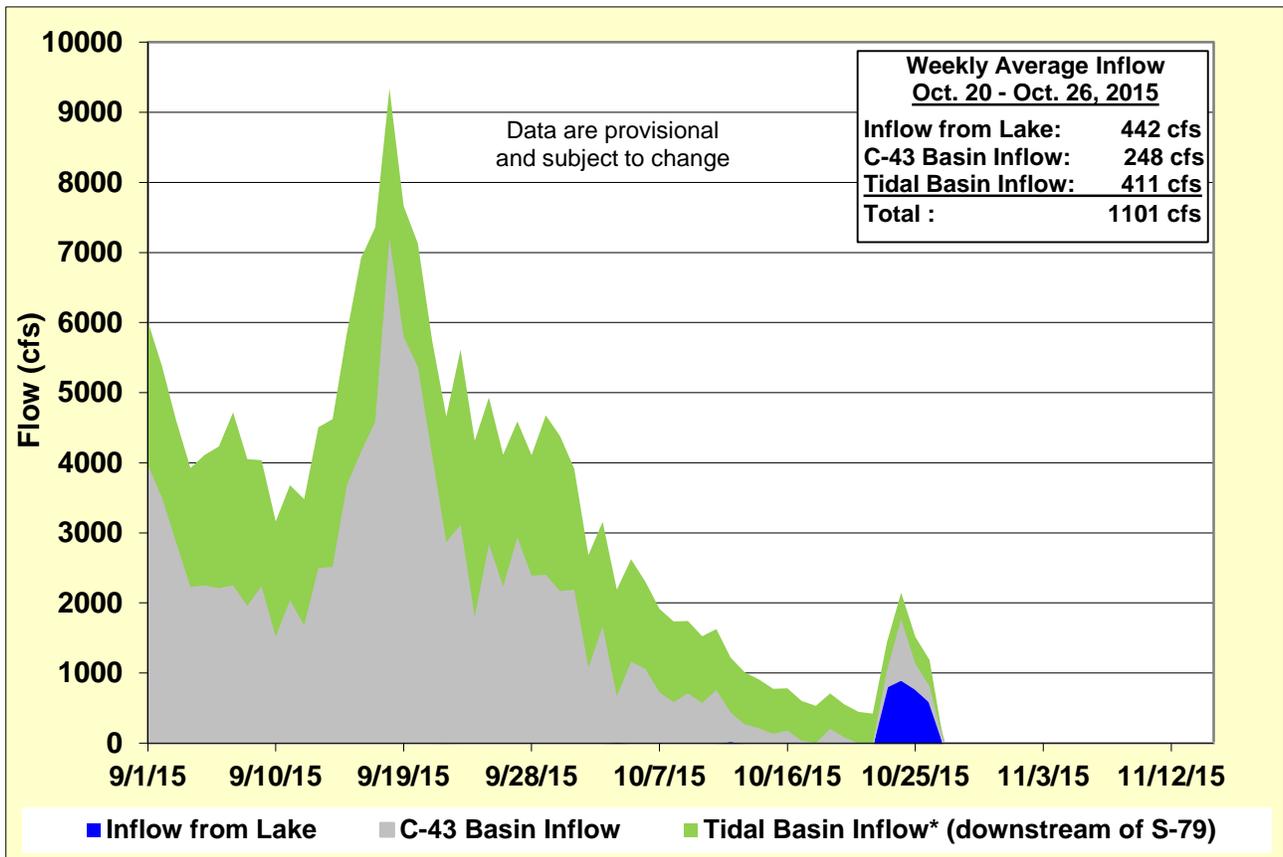


Figure 6. Surface freshwater inflows from Lake Okeechobee, runoff from the C-43 basin, and tributaries in the tidal basin into the Caloosahatchee River Estuary.

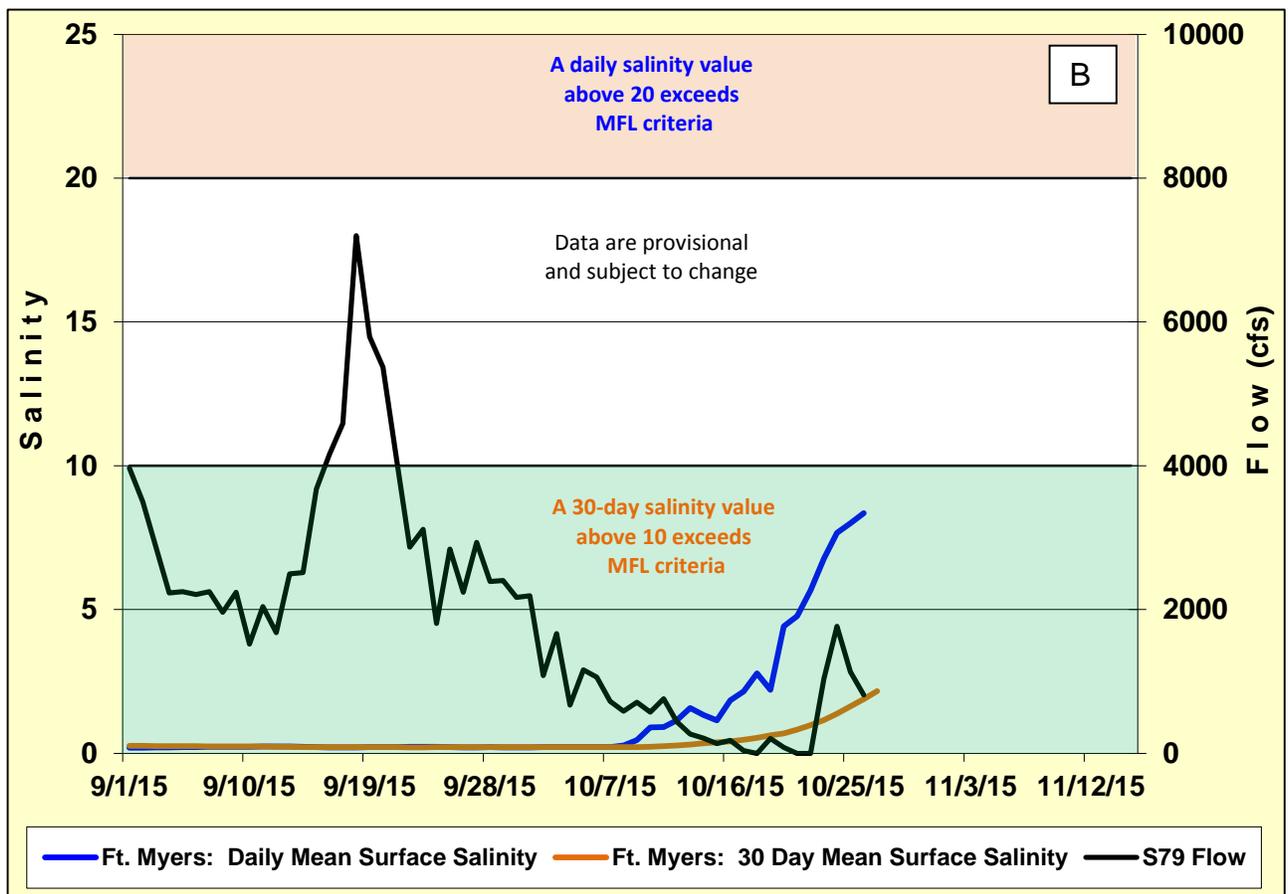


Figure 7. Daily mean flows at S-79 and salinity at upper estuary monitoring stations (A) and 30-day moving average salinity at Ft. Myers (B).

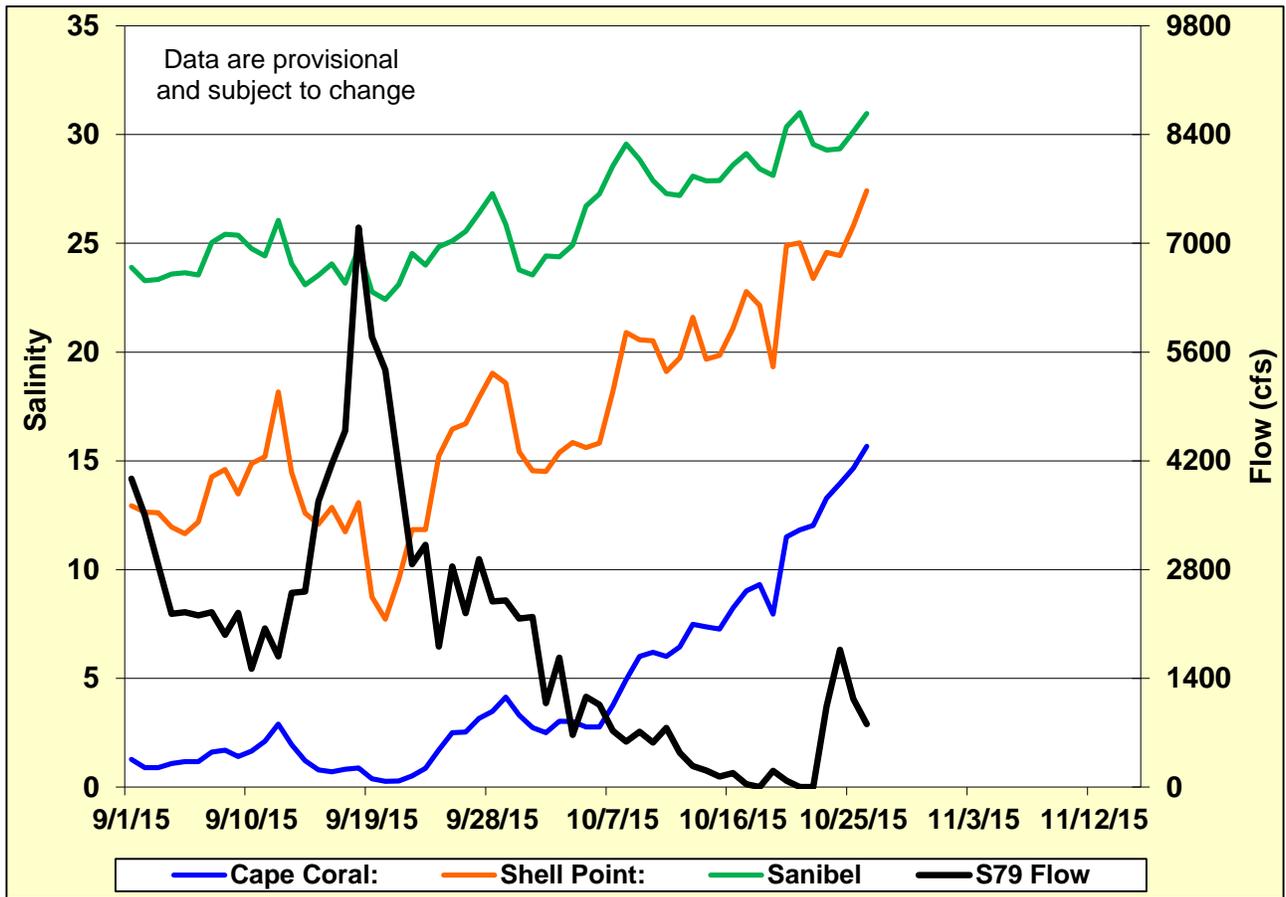


Figure 8. Daily mean flows at S-79 and salinity at lower estuary stations.

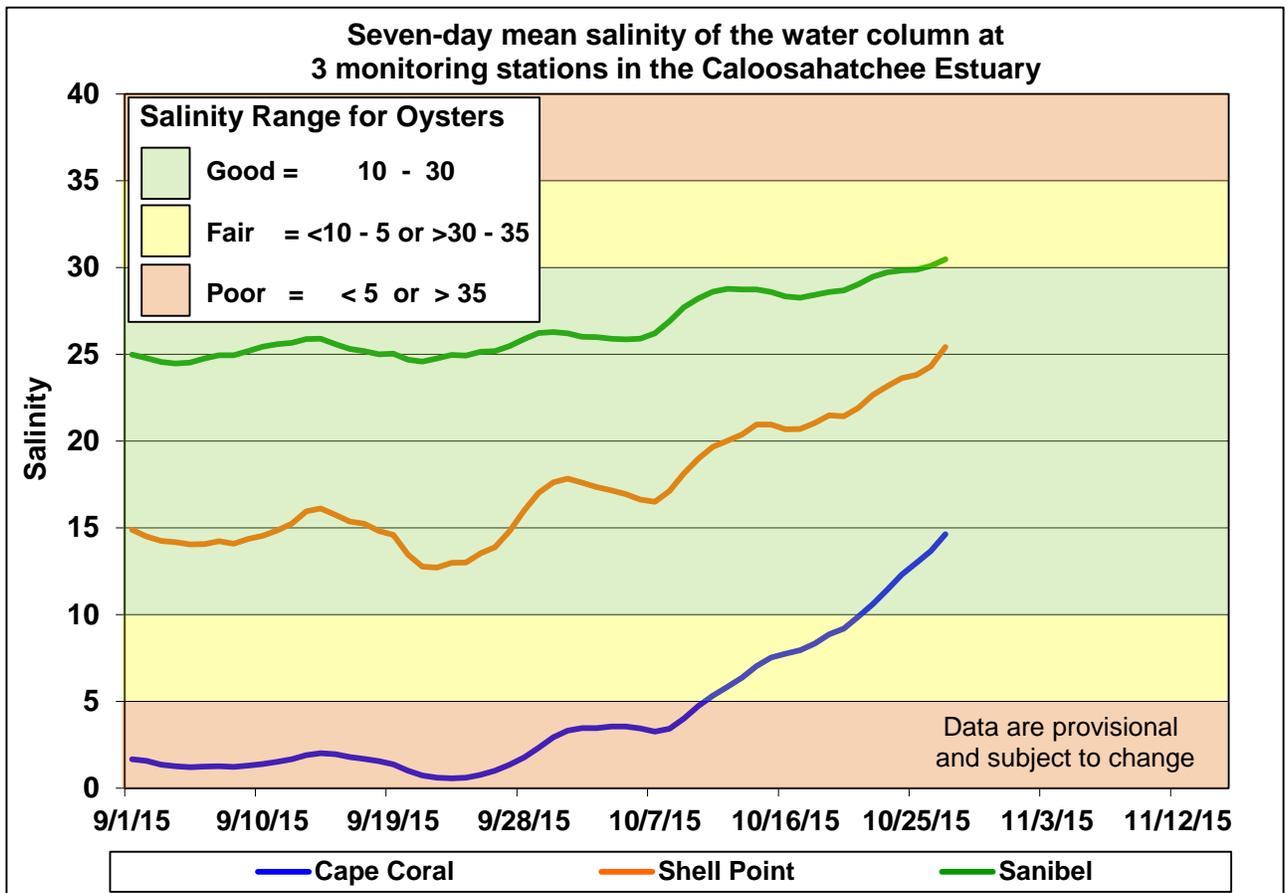


Figure 9. Seven-day mean salinity at Cape Coral Bridge, Shell Point and Sanibel Bridge monitoring stations.

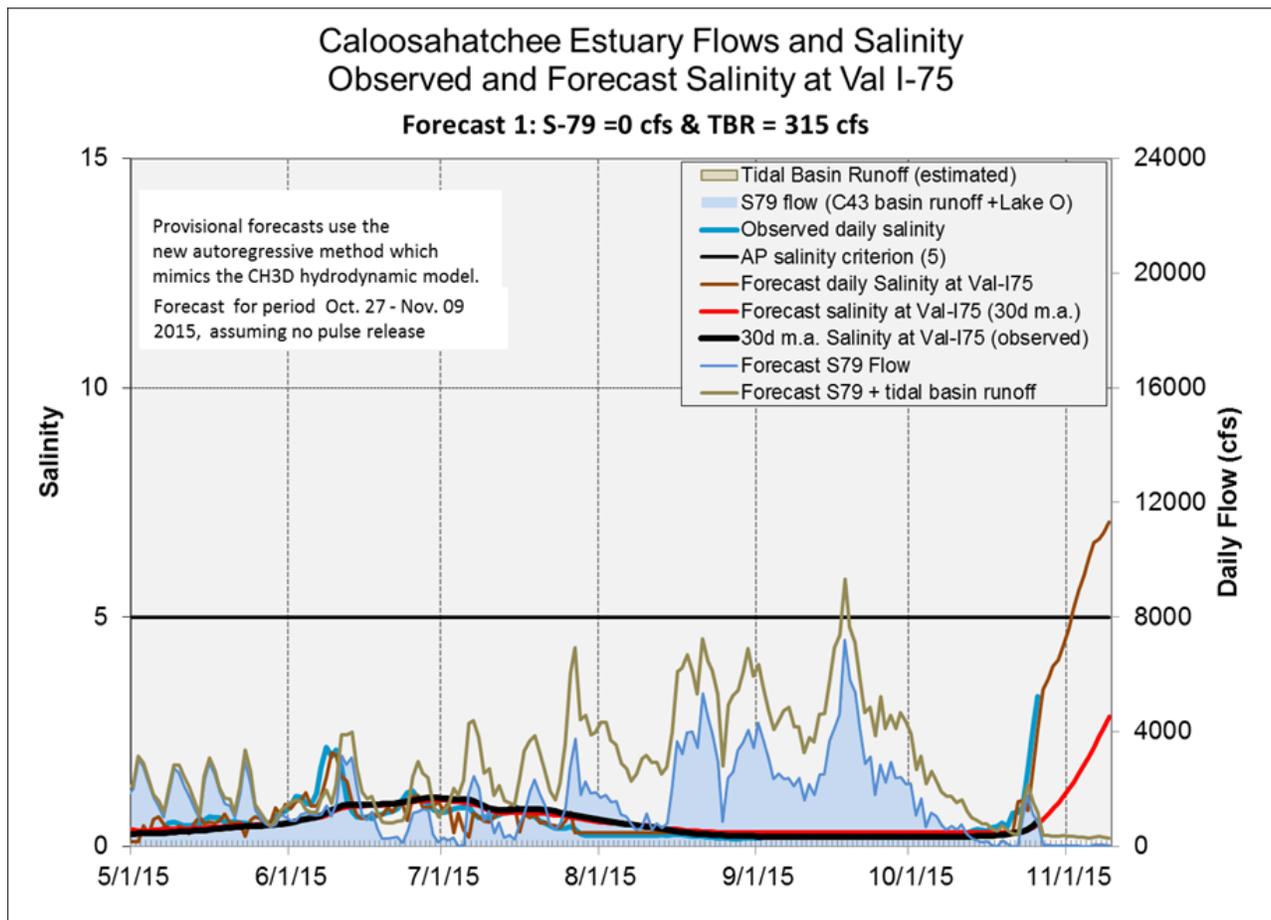
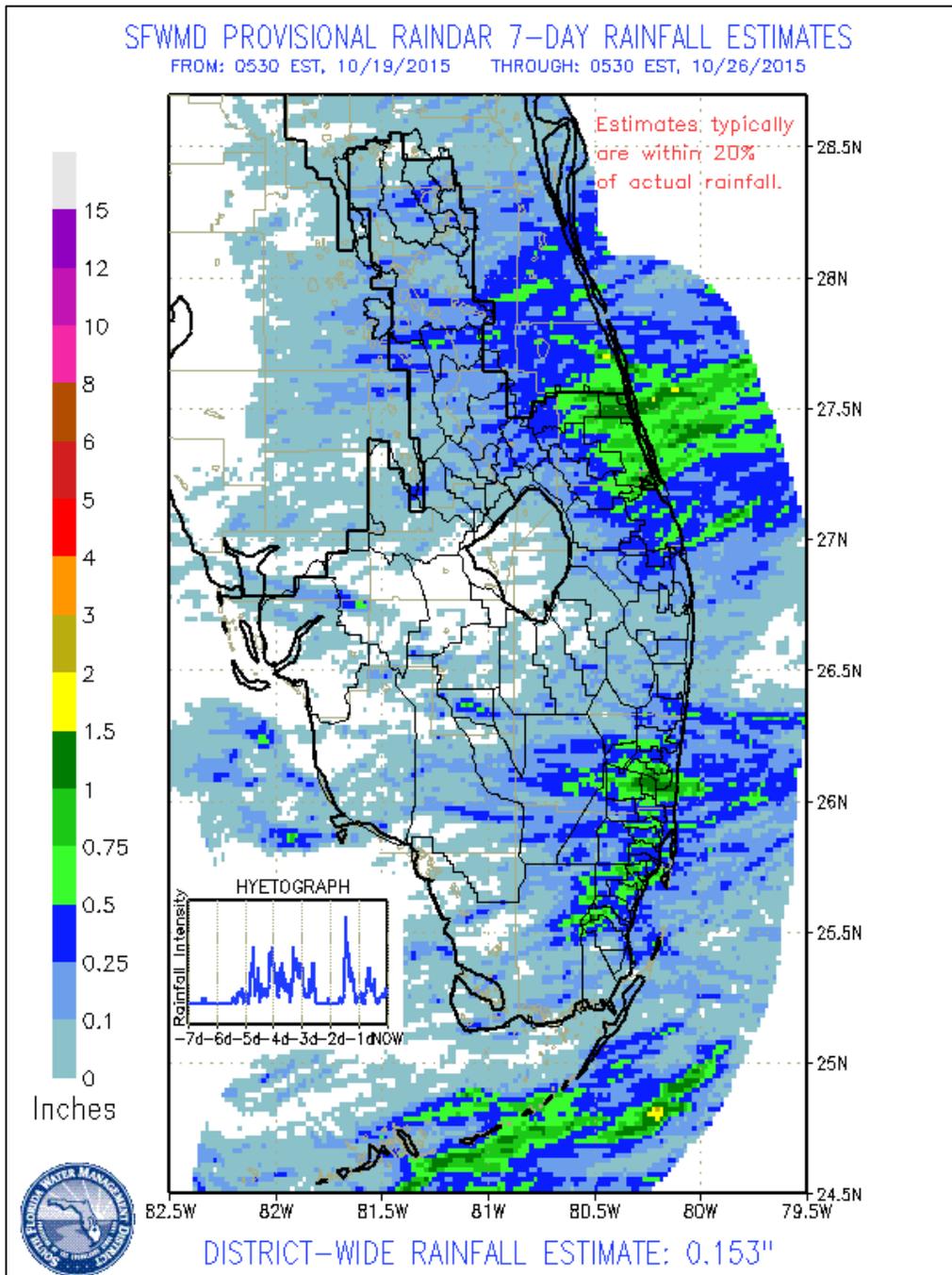


Figure 10. 14-day salinity forecast at Val I-75 assuming no releases at S-79.

GREATER EVERGLADES

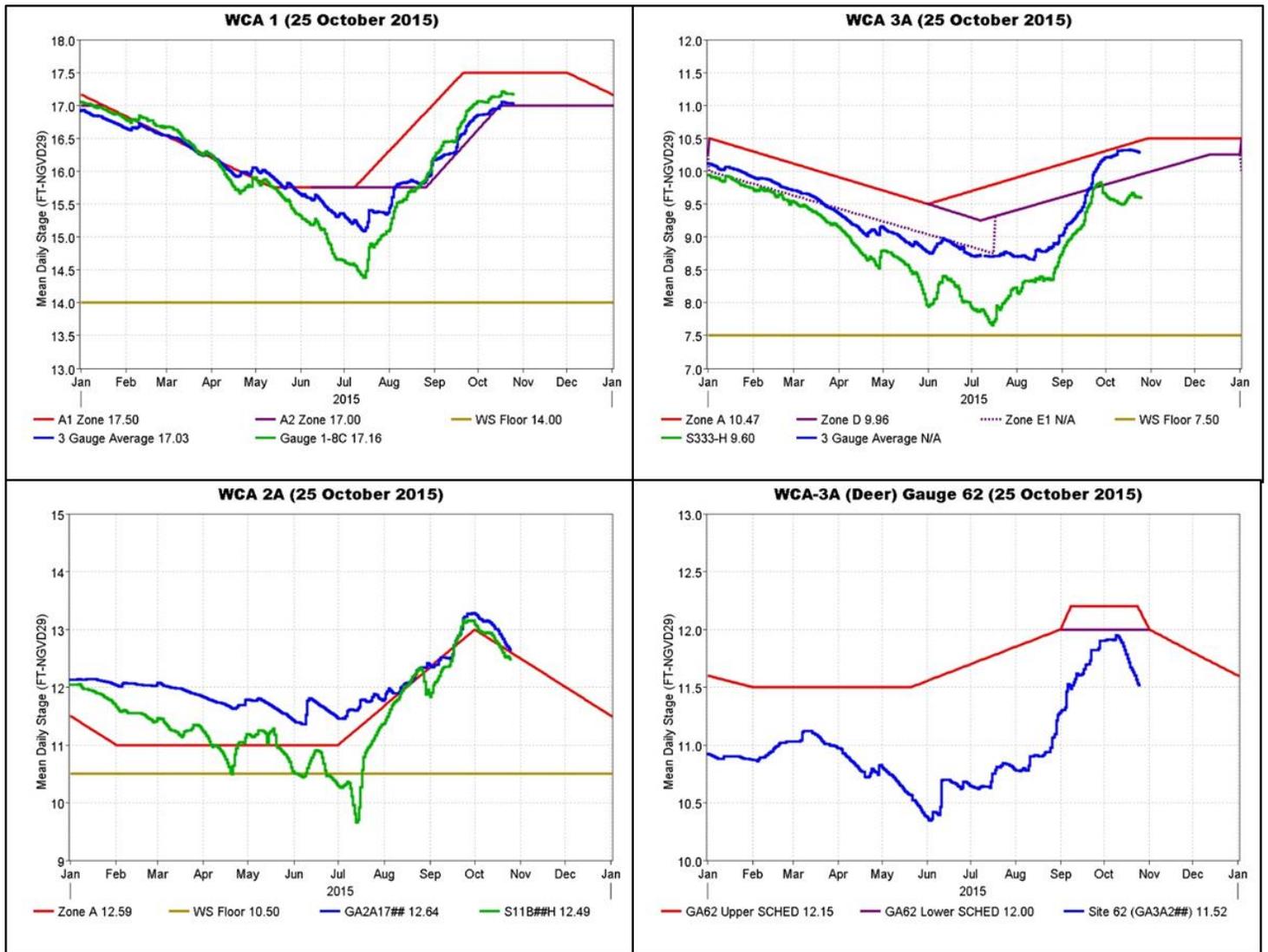
Rainfall was extremely light with basin averages below half an inch. WCA-2B had the highest average for the past week. Basin-wide stage changes ranged from -0.16 to 0.06 feet. Pan evaporation is 1.32 inches, 24% above the 1.06 inches pre-project average.

Everglades Region	Rainfall (Inches)	Stage Change (feet)
WCA-1	0.08	-0.02
WCA-2A	0.12	-0.26
WCA-2B	0.46	0.04
WCA-3A	0.19	-0.08
WCA-3B	0.28	0.06
ENP	0.10	-0.03



Regulation Schedules

Stages declined at the regulation schedule sites last week. WCA-1 stage remains below regulation and just slightly above (0.03 feet above) the Zone A2 criteria. The WCA-2A stage decreased and is now only 0.05 feet above regulation. In WCA-3A, the 3-gauge average stage remains in Zone D. The water level at the northwestern WCA-3A gauge stage (gauge 62) decreased again and is 0.48 feet below the lower regulation schedule.



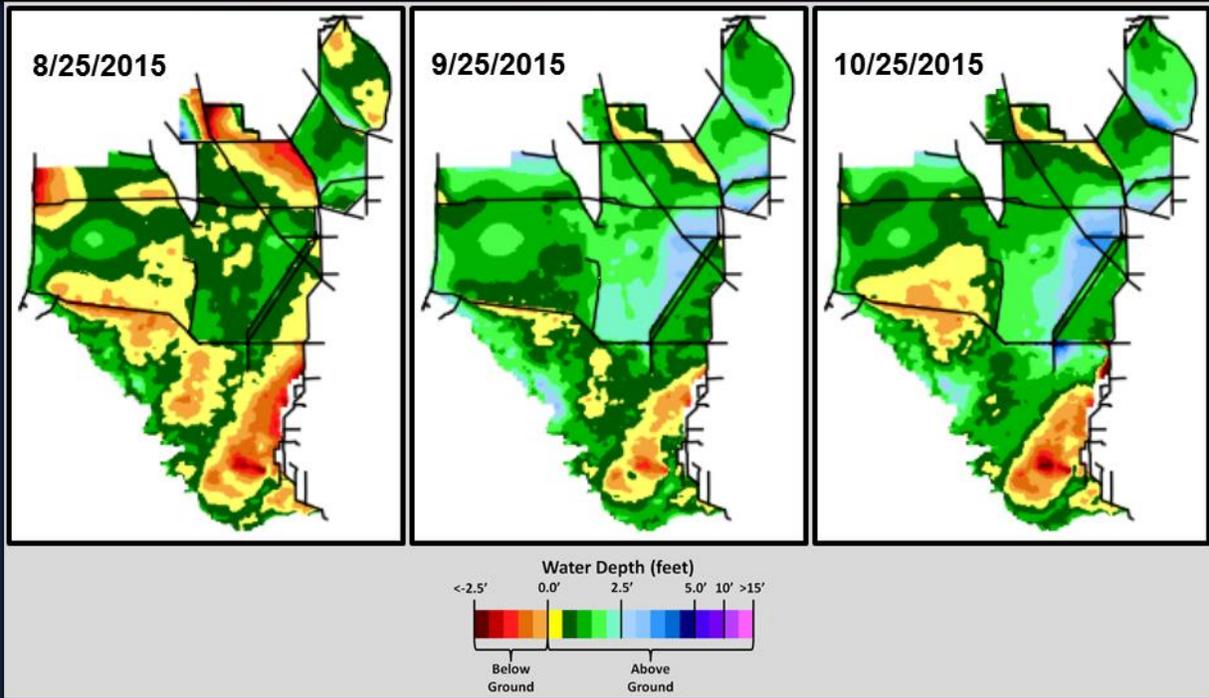
Water Depths and Changes

Water levels are still higher than two months ago but are mixed compared to a month ago. Most areas are still inundated but have decreased notably in a few areas such as Big Cypress, Southern WCA-3A, and Southeastern Everglades National Park (ENP).

Stages are mixed relative to a week ago with most changes being less than 0.5 feet. Compared to a year ago, stages are also mixed with depths both lower and higher. Stage gauge changes over this past week ranged from -0.26 feet to 0.19 feet, which is similar to last week.



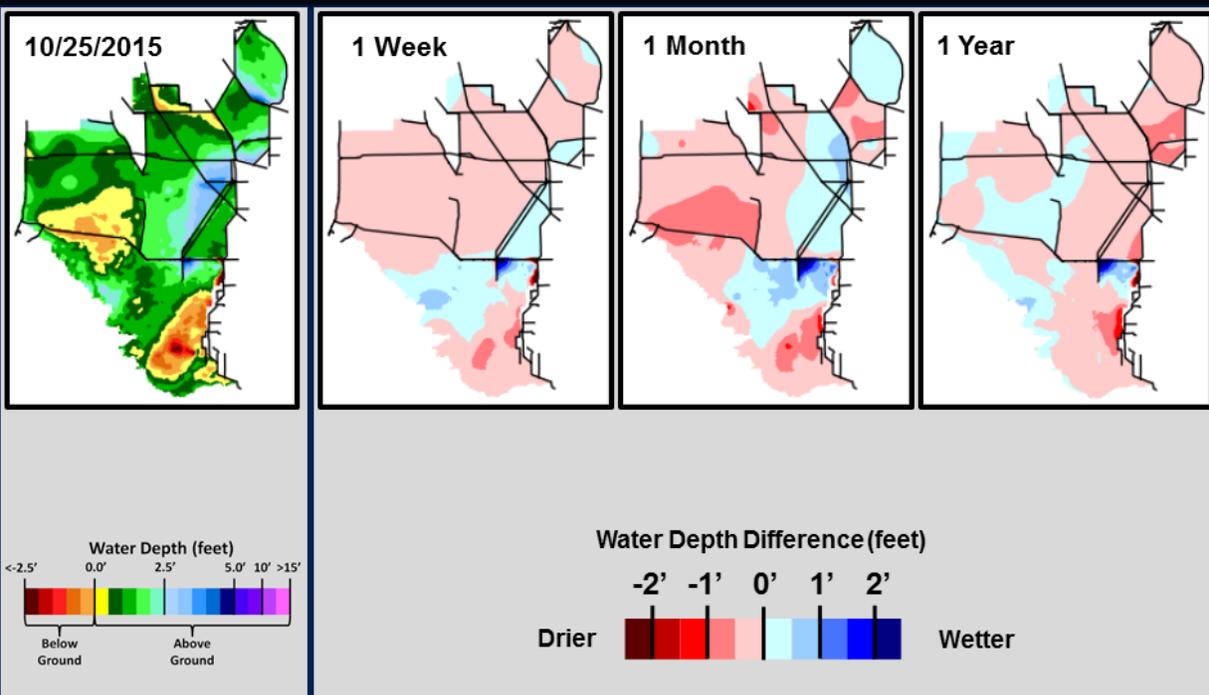
SFWDAT Water Depth Monthly Snapshots



South Florida Water Depth Assessment Tool (SFWDAT)



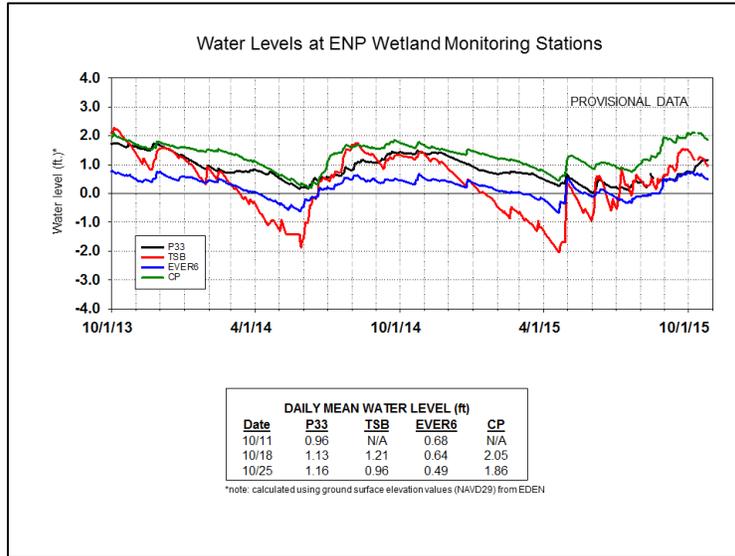
SFWDAT Everglades Difference Maps (Present - Past)



South Florida Water Depth Assessment Tool (SFWDAT)

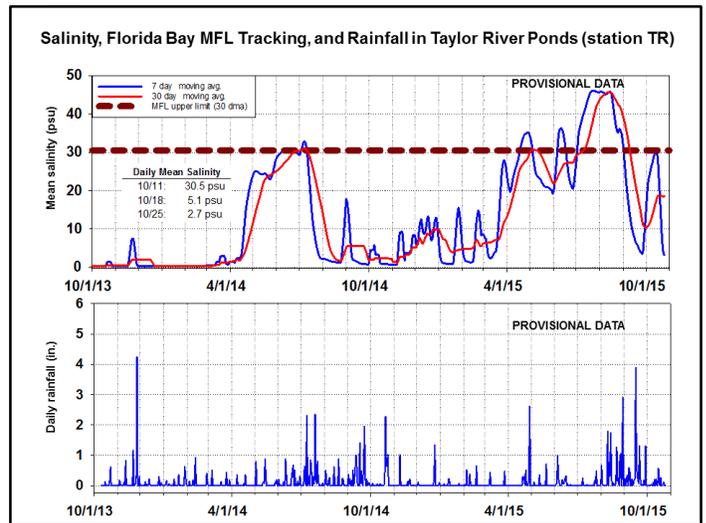
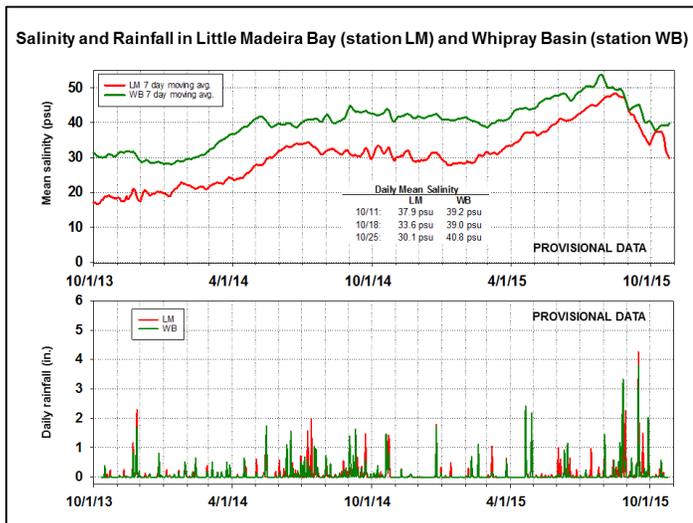
Everglades National Park (ENP) and Florida Bay

Water levels are lower than a week ago in Taylor Slough and the ENP panhandle. Northern Taylor Slough is -7 inches below average, but the shoreline area is within an inch of average.

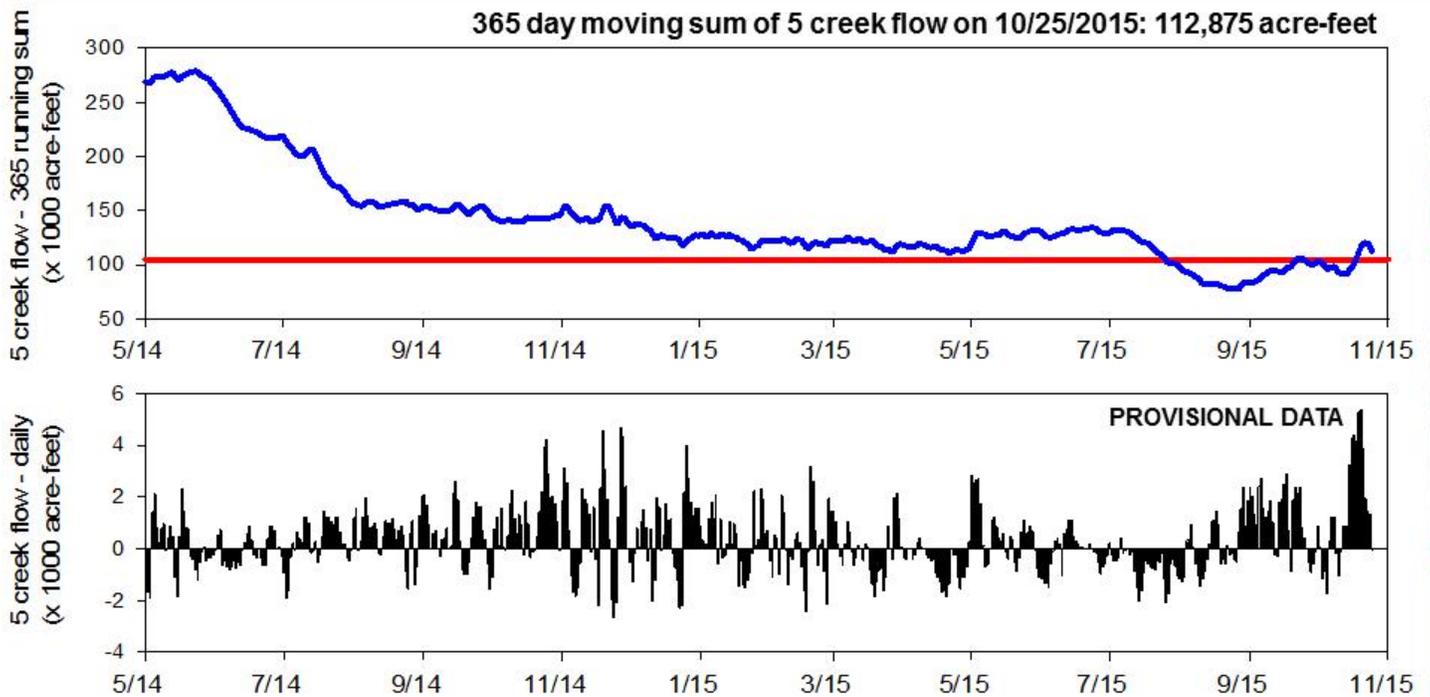


Salinities increased in central and far eastern Florida Bay over the last week and are now 10 to 22 psu above average for this time of year. The daily average salinity at the MFL sentinel site of TR decreased to 2.4 psu on Friday before increasing slightly to 2.7 psu on Sunday (October 25). This is still slightly above average since 1 psu or less is typical for this time of year. The 30-day moving average salinity decreased by -0.1 to 18.6 psu.

The 365-day running sum of the cumulative flow from the five creeks feeding Florida Bay increased to over 120,000 acre-feet on October 22 before decreasing again to 112,875 acre-feet on Sunday, October 25. Daily differences in the 365-day running sum of the cumulative flow from the five creeks represents the difference between current daily flow and flow a year ago. Cumulative flow from the five creeks for the last week (October 19 through 25) was 19,211 acre-feet, which is slightly higher than last week (18,748 acre-feet). Creek flow is provisional data from the USGS.



5 Creek Cumulative Flow and Florida Bay MFL Flow Criteria Tracking



Water Management Recommendations

- We recommend moving as much water south into ENP and Florida Bay as possible and for as long as possible.

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

Summary of Everglades Recommendations, October 26, 2015 (SFWMD) (red is new text)

Area	Current Condition	Cause(s)	Recommendation	Reasons
WCA-1	Stage decreases ranged from -0.02 to -0.03	Rainfall, ET, management	Recommend ascension rates no more than 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species and to take advantage of rain events.
WCA-2A	Stage decreased -0.26'	Rainfall, ET, management	Recommend ascension rates no more than 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species and to take advantage of rain events.
WCA-2B	Stage increases ranged from 0.02' to 0.06'	Rainfall, ET, management	Recommend ascension rates no more than 0.25 ft/wk, or 0.5 ft/14 days.	High stages generally preclude wading bird use, but can provide good habitat for wading bird foraging as stages drop at the end of the dry season.
WCA-3A NE	Stage decreased -0.09'	Rainfall, ET, management	Water levels in northeastern WCA-3A are now above ground. Continuing releases into far northeastern 3A are optional now, but can continue as desired. Average water stage of gauges 62 and 63 should remain under 11.60 feet (11.12' on 10/26) for terrestrial wildlife.	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 decreased -0.19'	Rainfall, ET, management	Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days maximum to protect apple snail egg clusters.	
Central WCA-3A S	Stage decreased -0.02'	Rainfall, ET, management	Continue to move water into WCA-3A. Conditions have improved greatly since mid-summer. El Nino conditions will probably produce higher than normal dry season stages. The wet season stage target is 10.67 3AVG by Oct 30 (10.28' on 10/26). Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Moderate ascension rates to protect habitats and sensitive species in 3A, and take advantage of rain events.
Southern WCA-3A S	Stage decreased -0.02'	Rainfall, ET, management		
WCA-3B	Stage changes ranged from -0.02' to 0.16'	Rainfall, ET, management	Recommend ascension rates up to 0.25 ft/wk, or 0.5 ft/14 days.	Promote native habitat and maintain wetland plant communities. Provide foraging habitat for wading birds.
ENP-SRS	Stage decreased -0.03	ET, rainfall, topography, management	Make discharges to the Park according to the ERTTP 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 is complete. Conditions are now wet.	Rainfall, ET, management	Follow rainfall plan for releases	Provide habitat and appropriate nesting conditions for CSSS.
Taylor Slough	7 inches below average in the north to average in the southwest	Rain, ET, inflows	Move water southward as possible	Provide freshwater buffer for ecosystems and freshen saline conditions downstream
FB- Salinity	Still 10-22 psu above average	Rain, ET, inflows, wind.	Move water southward as possible	Southward flows are still needed to reverse/slow salinity increases