

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 06/06/2011 (ENSO La Niña Condition)

Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using 4 methods: Croley's method¹, the SFWMD empirical method², a sub-sampling of La Nina warm years³ and a sub-sampling of warm years of the Atlantic Multidecadal Oscillation (AMO) in combination with La Nina ENSO years⁴. The results for Croley's method and the SFWMD empirical method are based on the [CPC Outlook](#).

Table of the Lake Okeechobee Net Inflow Outlooks in feet of equivalent depth. All methods are updated on a weekly basis with observed net inflow for the current month.

Season	Croley's Method ¹		SFWMD Empirical Method ²		Sub-sampling of La Niña ENSO Years ³		Sub-sampling of AMO Warm + La Niña ENSO Years ⁴	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Jun-Nov)	3.46	Very Wet	2.60	Very Wet	1.73	Wet	2.42	Very Wet
Multi Seasonal (Jun-Apr)	3.85	Wet	2.86	Wet	1.20	Normal	1.89	Normal

See [Seasonal](#) and [Multi-Seasonal](#) tables for the classification of Lake Okeechobee Outlooks.

The recommended methods and values for estimating the Lake Okeechobee Net Inflow Outlook are shaded and should be used in the LORS2008 Release Guidance Flow Charts.

[Tributary Hydrologic Conditions Graph:](#)

-3288 cfs 14 day running average for Lake Okeechobee Net Inflow through 06/05/2011. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Dry.

-2.69 for Palmer Index on 06/04/2011.

According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Dry

The wetter of the two conditions above is **Dry**.

[LORS2008 Classification Tables:](#)

Lake Okeechobee Stage on 06/06/2011

Lake Okeechobee Stage: **9.89 feet**

[USACE Report for Lake Okeechobee](#)

[Lake Okeechobee Stage Hydrograph](#)

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.02	
Operational Band	High sub-band	15.53	
	Intermediate sub-band	15.04	
	Low sub-band	13.05	
Base Flow sub-band		12.60	
Beneficial Use sub-band		10.60	
Water Shortage Management Band			← 9.89

[Part C of LORS2008: Discharge to WCA's](#)

Release Guidance Flow Chart Outcome: No releases to WCAs.

[Part D of LORS2008: Discharge to Tidewater](#)

Release Guidance Flow Chart Outcome: No base flow releases

Technical Input Summaries from:

- **[Lake Okeechobee Division](#)**
- **[Coastal Ecosystems](#)**
- **[Everglades Ecosystems Division](#)**
- **[Water Supply Department](#)**
- **[Water Resource Management Release Recommendation](#)**
- **[Kissimmee Watershed Environmental Conditions](#)**
- **[Operations Department](#)**

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LORS2008 Implementation on 06/06/2011 (ENSO La Niña Condition):

Water Supply Department Technical Input

Water Supply Outlook:

District wide, Raindar rainfall 0.01” for the week ending 06/06/2011. Lake stage on 06/06/2011 is 9.89 ft, down 0.25 ft from last week.

The updated June 2011 SFWMM Position Analysis [percentile graph](#) and [tracking chart](#) for Lake Okeechobee show that the lake stage is in the Water Shortage Management Band.

The LORS2008 tributary [indices](#) are classified as **Dry**. The PDSI indicates dry condition and the LONIN is dry. The classification is based on the wetter of the two.

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Water Shortage Management Band	H
	Palmer Index for LOK Tributary Conditions	-2.69	H
		(Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Forecast	2.42 ft (Normal to Extremely Wet)	L
	AMO warm/ENSO La Niña		
LOK Multi-Seasonal Net Inflow Forecast	1.89 ft (Normal)	M	
AMO warm/ENSO La Niña			
WCAs	WCA 1: Site 1-8C	Below Line 2 (13.53 ft)	H
	WCA 2A: Site S11B HW	Below Line 2 (9.67 ft)	H
	WCA-3A: S333 HW	Below Line 2 (6.58 ft)	H
LEC	Service Area 1	Modified Phase II restrictions in effect	H
	Service Area 2	Modified Phase II restrictions in effect	H
	Service Area 3	Modified Phase II restrictions in effect	H

Note: the LORS2008 tributary indices are different from the indices from the latest Adaptive Protocol for Lake Okeechobee presented in the table.

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Disclaimer: Information contained in the report addresses environmental conditions only and is not the official South Florida Water Management District operations recommendation or decision.

M E M O R A N D U M

TO: Susan Sylvester, Director, Operations and Hydrologic
Data Management Department

FROM: SFWMD Staff Environmental Advisory Team

DATE: June 7, 2011

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Discharge from Lake Kissimmee averaged 272 cubic feet per second (cfs) at S65 over the week. Lake Okeechobee stage is 9.86 feet NGVD, which is 0.26 feet lower than a week ago, 0.90 feet lower than a month ago, and 4.59 feet lower than it was a year ago. The current stage is 3.27 feet lower than the historical average for this date and 2.11 feet lower than the simulated average using the current regulation schedule (LORS 2008). Average salinity levels in the St. Lucie estuary are fair for the oyster, *Crassostrea virginica*, considering the location in the estuary and time of year. In the Caloosahatchee Estuary, the 30-day average salinity at the Ft. Myers station is 21.0 practical salinity units; as such, conditions are poor in the upper estuary for tape grass, *Vallisneria americana*. Salinities at Shell Point and the Sanibel Causeway indicate that conditions are good for seagrass in San Carlos Bay, but poor considering the salinity preference of the oyster, *Crassostrea virginica*.

Dry conditions dominate all conservation areas; between 80% and 100% of their surfaces are exposed, up slightly from a week ago. Stages in WCA-1 remain close to the lowest ever recorded. Note: Of special concern is central western WCA-3A, the location of some of the best Ridge and Slough patterns and habitat, which is now experiencing very large areas with depths far below ground, further degrading the remaining patterns. This subtropical patterned peatland is extremely rare globally. This is the third severe drought affecting this area since 2006.

Water depths in the conservation areas and Everglades National Park (ENP) are drier compared to the previous week. Relative to a month ago, depths in the conservation areas are lower than a month ago, with local exceptions. Water depths in large areas of the Park and Big Cypress Preserve are higher than a month ago. Depths remain much lower (1.5 to over 2.5 feet) than a year ago, particularly in the middle of WCA-3A, northwestern WCA-3A, and WCA-3B southward most of the way through ENP. Salinity continues to climb across Florida Bay. Most areas are 5 – 10 psu above their seasonal average concentrations.

Weather Conditions and Forecast

Limited daily shower activity, increasing Thursday and Friday. High pressure over the area will limit shower development over the District today through Wednesday. However, east winds will still develop isolated to widely scattered shower activity along the east coast during the mornings and then west during the afternoons each day. A low pressure system located south of Grand Cayman will move generally northward over the next few days and increase moisture and shower activity over the District Thursday and Friday. The next ten days precipitation outlook is near average with low confidence.

KISSIMMEE BASIN

Kissimmee Basin Rainfall

The Upper Kissimmee Basin received 0.22 inches of rainfall in the past week and the Lower Basin 0.04 inches (SFWMD Daily Rainfall Report 6/7/2011).

Upper Kissimmee Basin

Lakes in the Kissimmee Chain of Lakes (KCOL) are at, slightly above, or within 1.1 feet below regulation schedule (Table 1). The USACE interim operating schedule and the most recent SFWMD position analysis for S65 are shown in Figures 8-9.

Table 1. Departures from KCOL flood regulation or temporary deviation schedules (feet NGVD). Data are provisional real-time data from SFWMD DualTrend; reported discharge values are averages for the week ending on the report date unless otherwise specified.

6/7/2011

Water Body	Structure	Schedule	Discharge (cfs), week's average	Today's average discharge (cfs)	Today's Regulation Stage (SFWMD Operations Control)	Today's Stage (SFWMD Operations Control)	This week's departure from schedule	Last week	Two weeks ago	Three weeks ago	Four weeks ago
Lakes Hart and Mary Jane	S62	F	0		59.5	59.0	-0.5	-0.4	-0.4	-0.6	-0.5
Lakes Myrtle, Preston, and Joel	S57	F	0		60.0	59.0	-1.0	-0.8	-0.7	-0.7	-0.7
Alligator Chain	S60	F	0		62.0	61.1	-0.9	-0.8	-0.9	-1.0	-1.1
Lake Gentry	S63	F	0		59.5	59.2	-0.3	-0.2	-0.3	-0.4	-0.5
East Lake Toho	S59	S	26		55.4	55.4	0.1	0.1	0.3	0.1	0.0
Lake Toho	S61	S	16	0	52.3	52.4	0.1	-0.1	0.2	0.1	0.1
Lakes Kissimmee, Cypress, and Hatchineha	S65	F	272	262	49.0	48.8	-0.2	-0.1	0.0	0.1	0.2

T = temporary schedule, F = USACE flood control schedule, S = Temporary snail kite schedule

KCOL snail kite nesting statistics as of May 2011. Data from University of Florida Survey 4.

Water Body	Total Nests Monitored	Percent Active (building, incubating, or with nestlings)	Percent Successful	Percent Failed
East Toho	56	48%	29%	21%
Toho	78	26%	27%	47%
Kissimmee	16	13%	25%	63%
Hatchineha	5	20%	0%	80%
Jackson	2	50%	0%	50%

Lower Kissimmee Basin

Discharges, stages, and dissolved oxygen concentrations are shown in Table 2. Estimated Phase I area floodplain water depths are mapped in Figures 10 and 11; estimated Kissimmee River floodplain stages are shown in Figure 12.

Table 2. Mean discharge at S-65x structures and 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 for the week ending on the report date unless otherwise specified.

6/7/2011

Metric	Location	This week's average	Last week	Two weeks ago	Three weeks ago	Four weeks ago
Discharge (cfs)	S-65	272	474	521	843	1091
Discharge (cfs)	S-65A	231	447	521	834	1056
Discharge (cfs)	S-65C	161	403	521	803	961
Headwater stage (feet NGVD)	S-65C	33.3	33.3	33.3	33.5	33.7
Discharge (cfs)	S-65D	258	449	521	850	1012
Discharge (cfs)	S-65E	123	267	521	648	778
DO concentration (mg/L)	Phase I river channel	**	**	**	**	**
Mean depth (feet NGVD) *	Phase I floodplain	0.06	0.08	0.10	0.13	0.16

* Data from South Florida Water Depth Assessment Tool (SFWDAT); data are for two days previous to report date shown.

** Data not available.

Water Management Recommendations

Reduce discharge at S-65 to 150 cfs. Headwater stage at S-65C can be raised at a rate of up to 1.25 feet/week (0.18 feet/day) for the next two weeks. This is intended to increase the area flooded above S-65C in the event that flow from S-65 to the river must be stopped due to rapidly declining stage in Lake Kissimmee.

KCOL Hydrographs

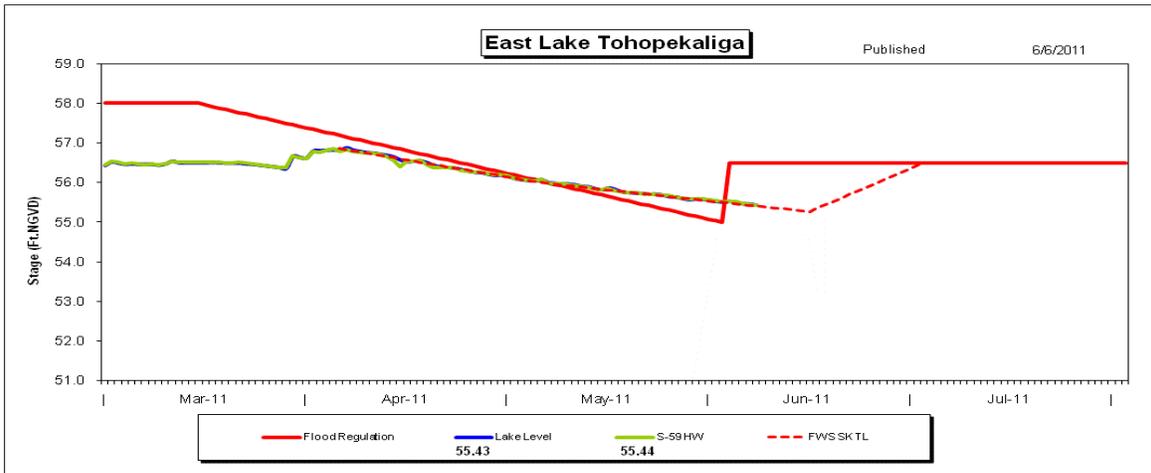


Figure 1.

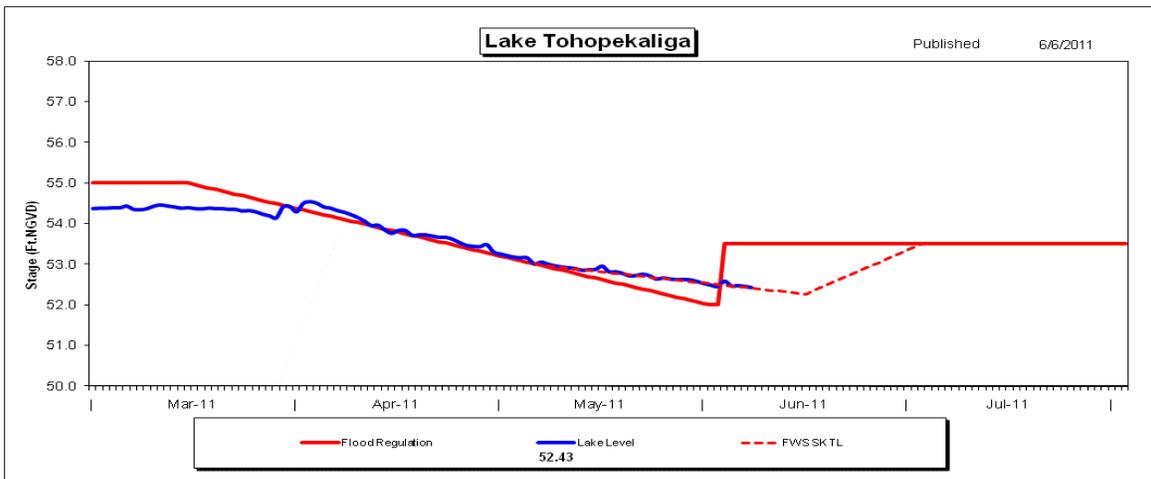
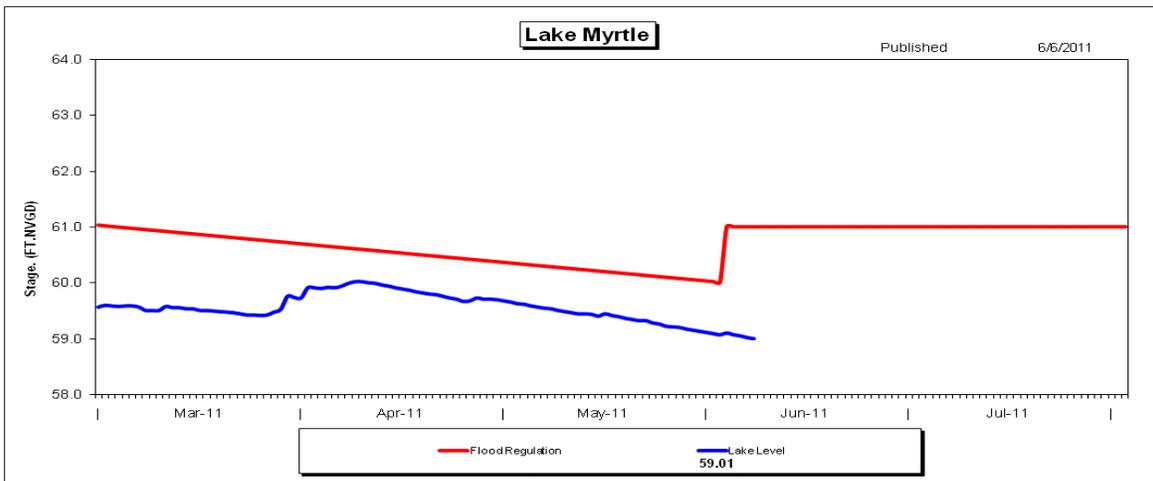
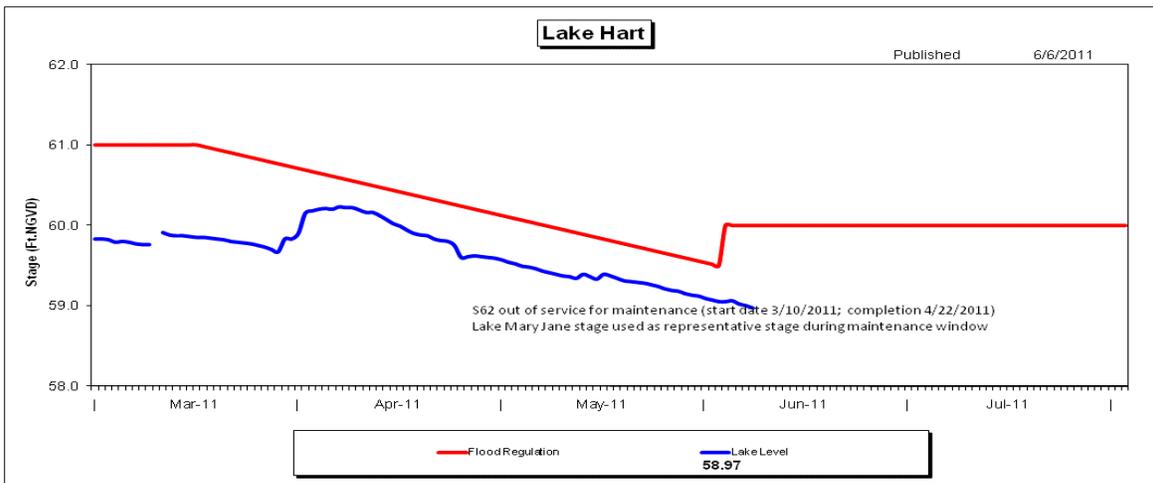
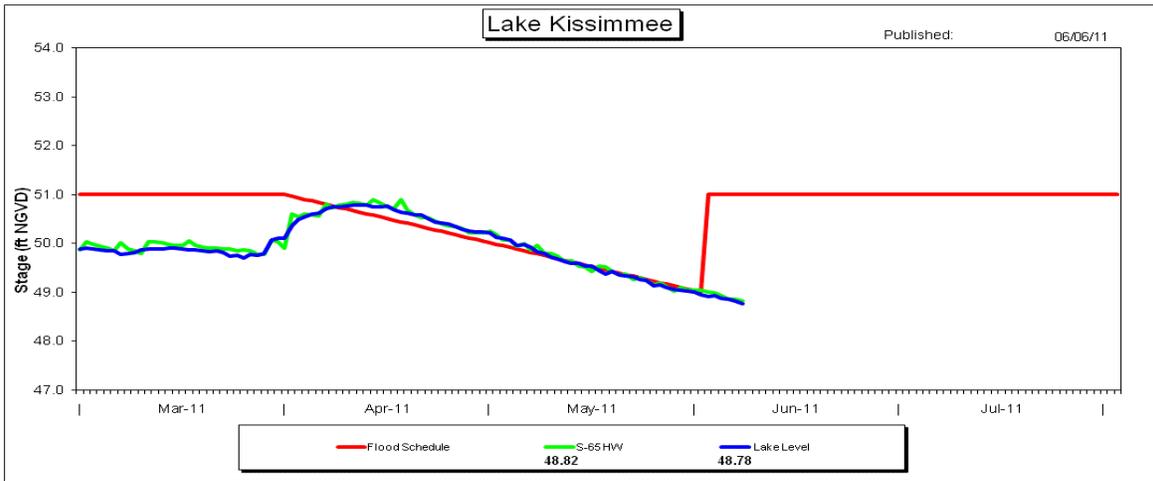


Figure 2.



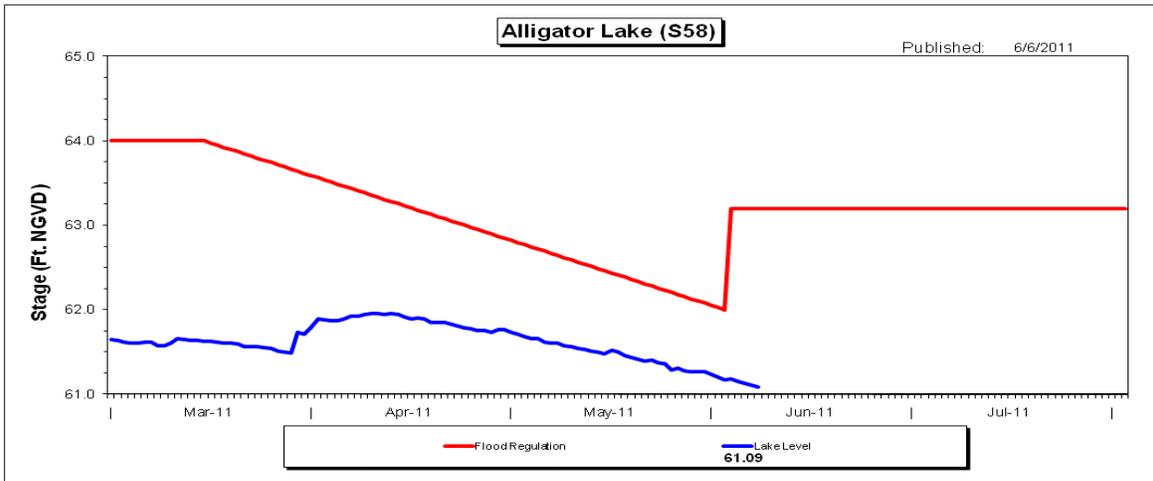


Figure 6.

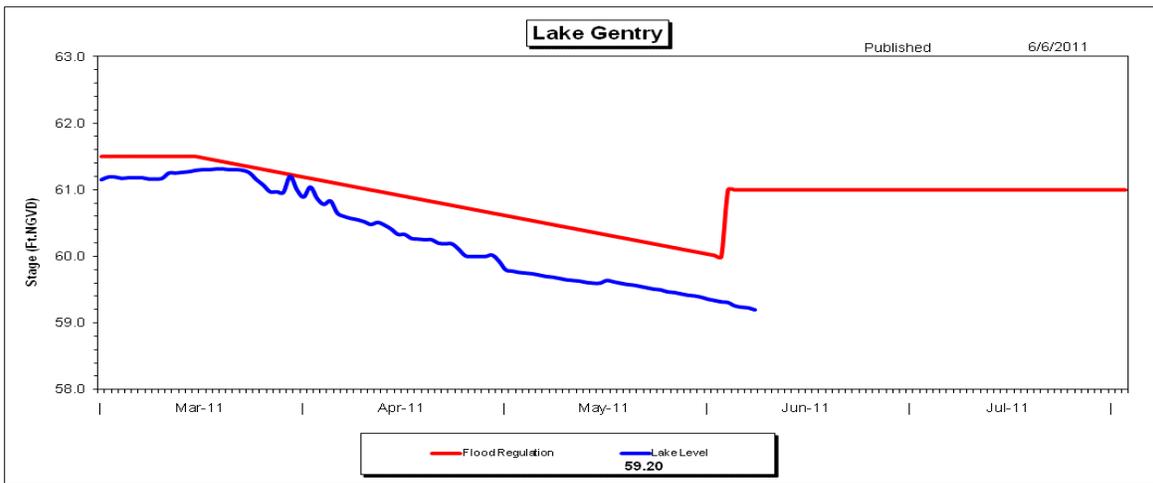


Figure 7.

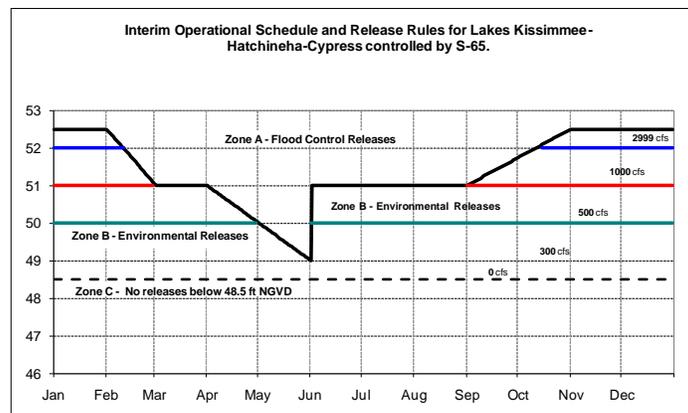


Figure 8. Interim operations schedule for S-65.

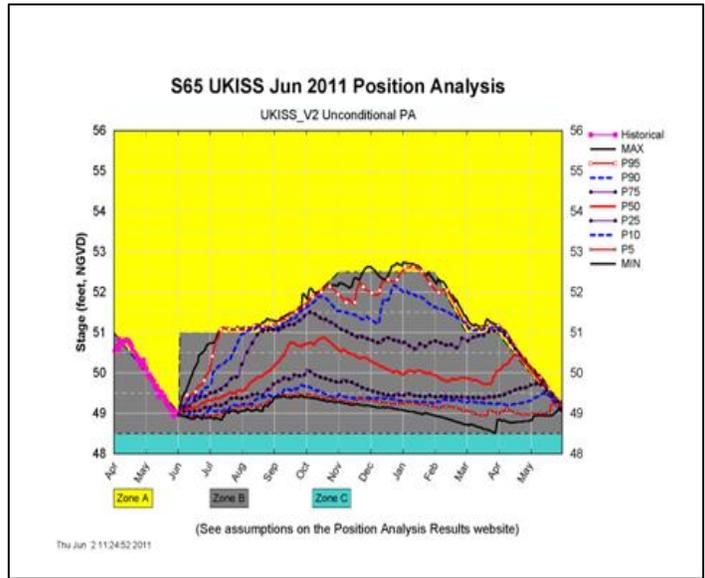


Figure 9. Most recent Position Analysis for S-65 headwater stage (Lake Kissimmee).

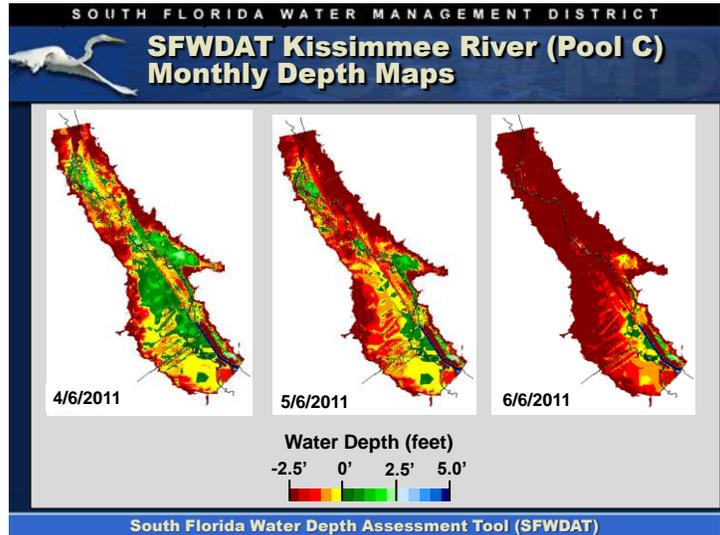


Figure 10.

Kissimmee River Phase I Restoration Area Floodplain Hydrographs

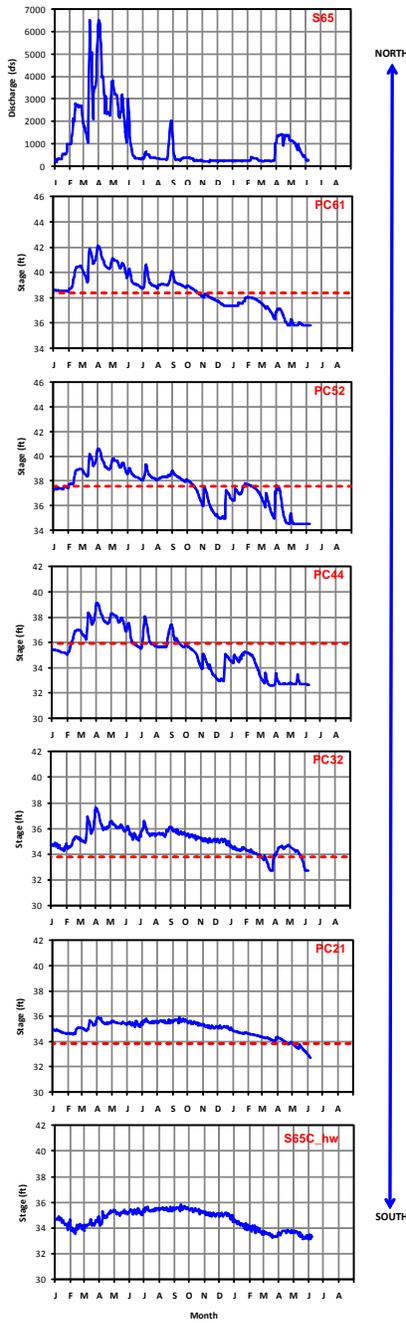


Figure 12. Discharge at S65, stages at five monitoring stations in the Phase I area of the Kissimmee River floodplain, and headwater stage at S65-C in the past 12 months. The most recent data (~2 weeks) are provisional real-time data from SFWMD DualTrend; previous data are from SFWMD DB-HYDRO (validated).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

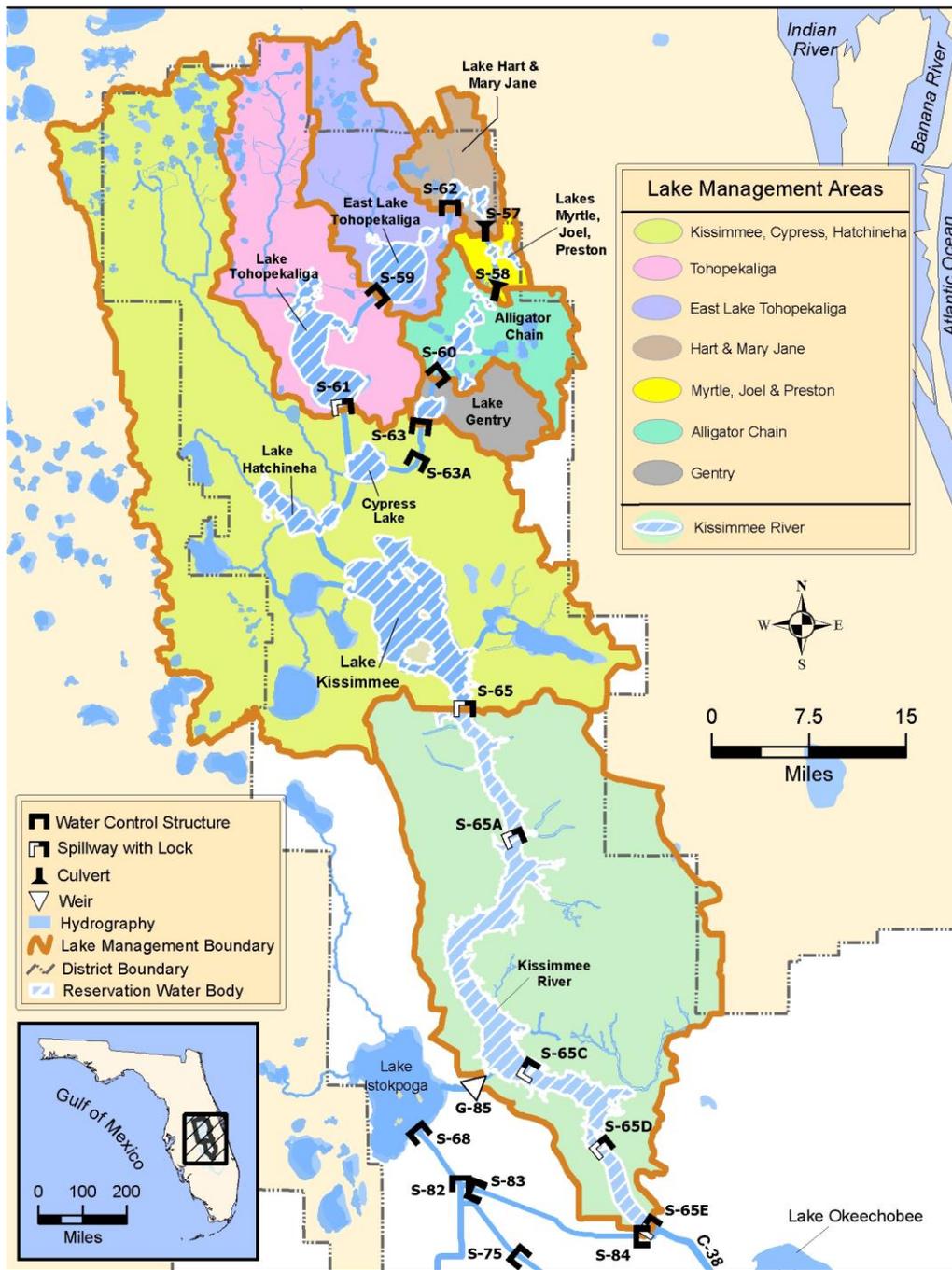


Figure 13. The Kissimmee Basin.

LAKE OKEECHOBEE

Lake Okeechobee:

According to the USACE web site Lake Okeechobee stage is 9.86 feet NGVD for the period ending at midnight on June 6, 2011. This value is based on the use of four interior Lake stations (L001, L005, L006, and LZ40) and the following three perimeter stations (S4, S352, and S133). The Lake level has declined by 0.26 feet since last week, equivalent to the loss of approximately 3,800 inundated acres, and is 0.90 feet lower than a month ago and 4.59 feet lower than a year ago (Figure 1). The Lake is in the Water Supply Management Sub-band and is now below its MFL (Figure 2). The current stage is 3.27 feet lower than the historical average for this date and 2.11 feet lower than the simulated average using the current regulation schedule (LORS 2008). Lake inflow is reported as 81

cfs, all of which is coming through S65E (weekly average 120 cfs). Total Lake outflow is estimated at 1725 cfs consisting of flows through the following structures:

Structure	Flow cfs
S354	837
S351	688
S308	93
L8	28
S77	172

According to Raindar 0.015 inches of rain fell directly over the Lake during the past seven days. Lake stage continues to decline which is impacting areas colonized by submerged aquatic vegetation (SAV) and emergent vegetation (Figure 3). This loss of SAV puts additional stress on any remnant native apple snail populations and increases the probability that a multi-year recovery period will be necessary to restore apple snail populations to their pre-drought condition.

The FWC state wide snail kite coordinator reported today that only one active snail kite nest remains on Lake Okeechobee. Lake Okeechobee field crew report that a number of boat ramps around the Lake are no longer usable due to declining water levels.

Water Management Recommendations

Indications are that Lake levels may continue to fall for some time. Consequently, operational activities that limit the release of Lake water should be practiced wherever possible. At the current Lake stages, the entire Lake Okeechobee marsh and large portions of South Bay, Moonshine Bay and Fisheating Bay for all intents and purposes are dry and continued declines in Lake stage will extend negative impacts further into the near shore zone. The longer the duration of low Lake stages, the more severe impacts become and the more time it will take for the ecosystem to recover.

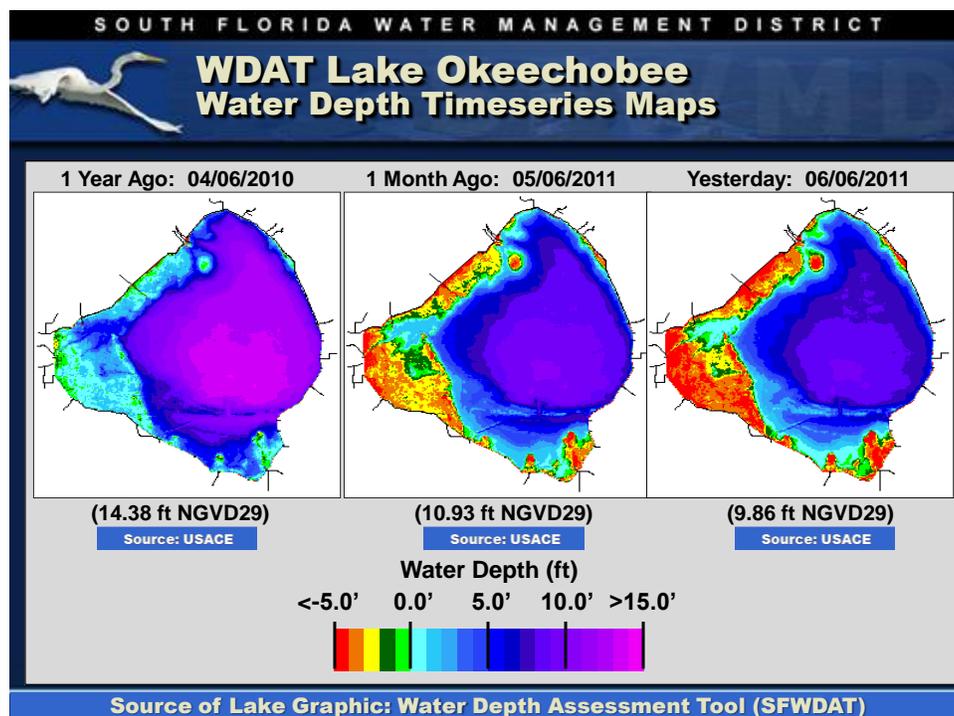


Figure 1

Lake Okeechobee Water Level History and Projected Stages

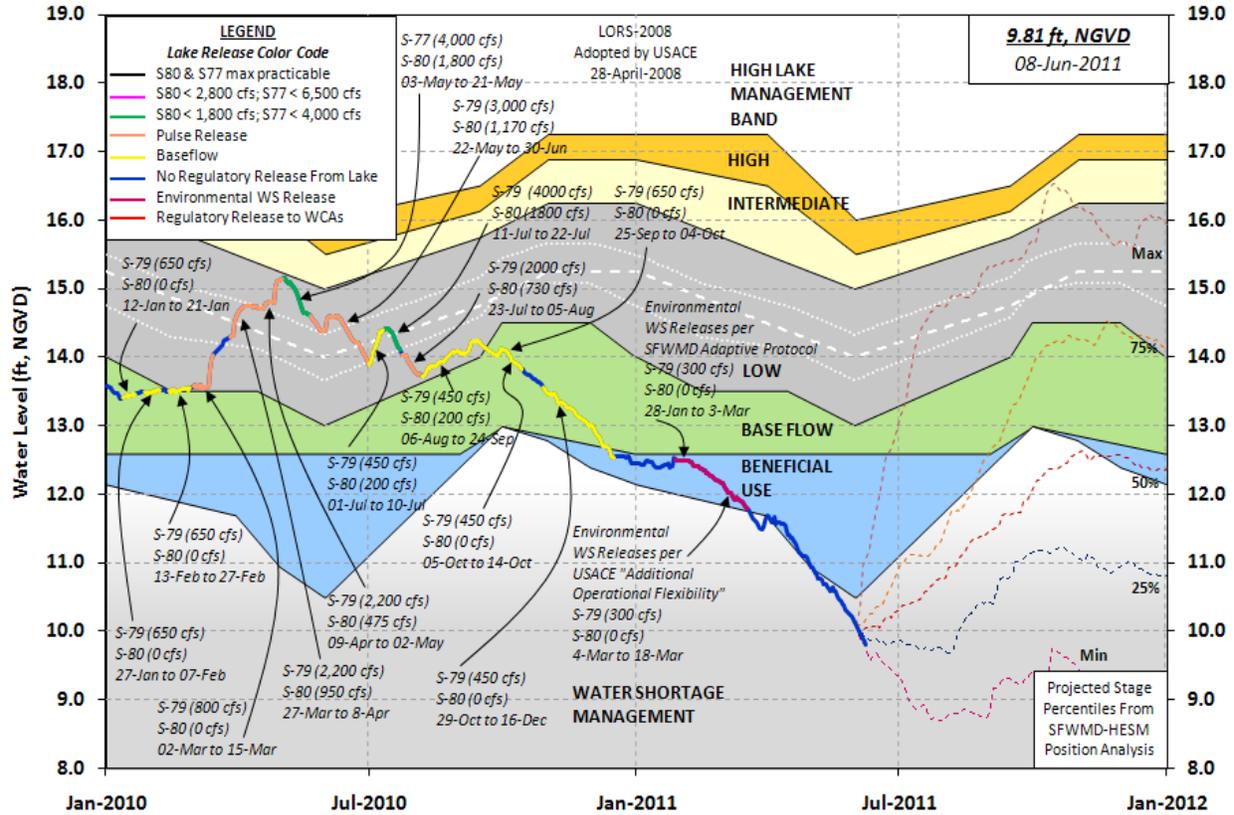


Figure 2

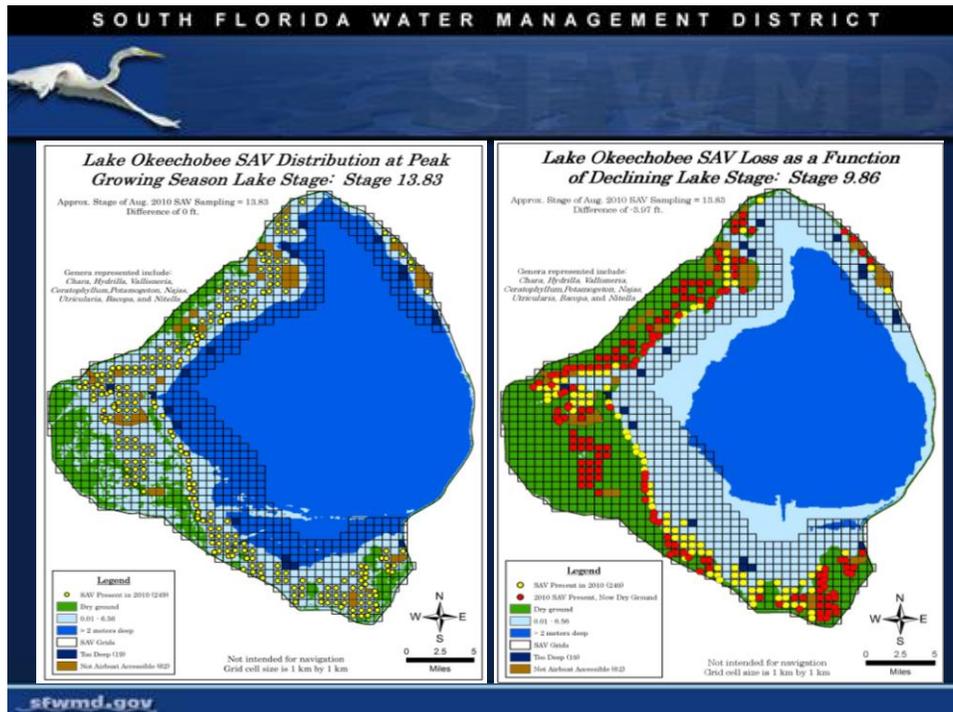


Figure 3

Lake Istokpoga:

According to the USACE web site Lake Istokpoga stage on June 7, 2011 was 37.74 feet NGVD which is 0.23 feet lower than last week. The Lake is 0.51 feet below schedule and 0.74 feet above the zone C line (Figure 4). According to Raindar, 0.14 inches of rain fell in the Lake Istokpoga watershed during the past seven days.

Lake Okeechobee field crew reported finding eggs of the exotic apple snail, *Pomacea insularum* at Lake Istokpoga this past week. FWC scientists confirm that they have been seeing the exotic snail on the Lake as well. Because of the limited vertical range of the Lake Istokpoga regulation schedule, fluctuations in Lake level have minimal impacts on Lake ecology.

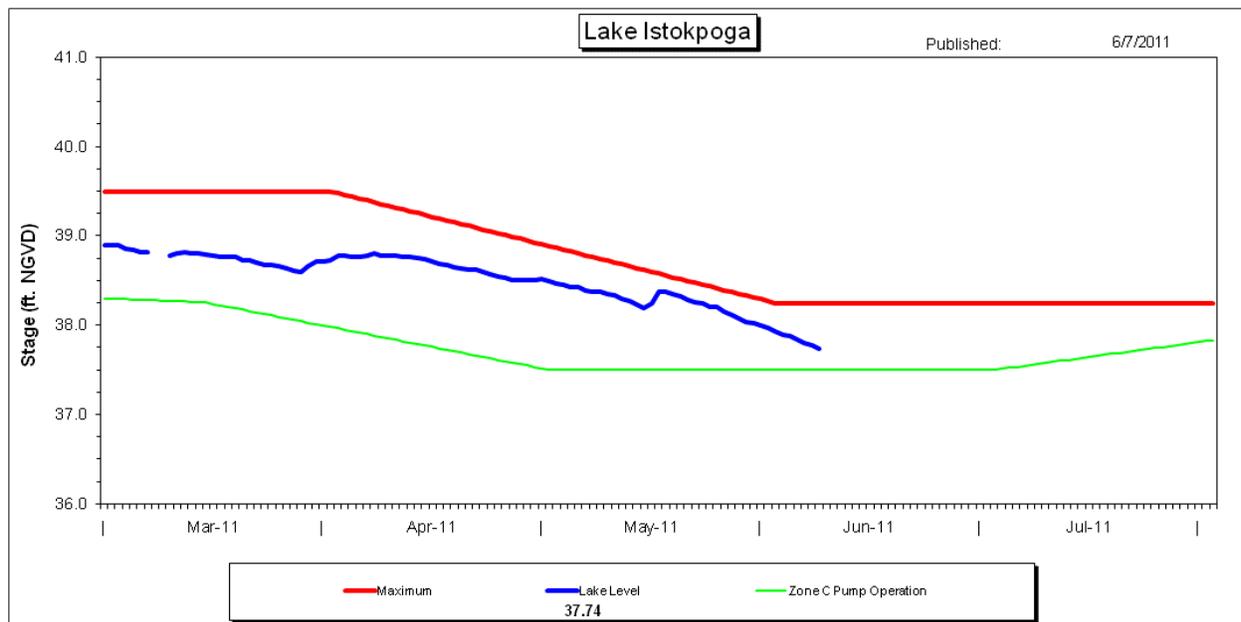


Figure 4

ESTUARIES

Current Conditions

St. Lucie Estuary:

Over the past week, flow averaged 0 cubic feet per second (cfs) at S-80 (Figures 1 and 2) and was 790 cfs at S-308. Provisional data indicate that discharge averaged 0 cfs at S-49 on C-24 and 0 cfs at S-97 on C-23. The current weekly average salinity (in bold) at the three monitoring sites in the St. Lucie Estuary are given below in practical salinity units (psu), along with the previous week's (in parenthesis).

Weekly Average Salinity (psu)			
Sampling Site	Surface	Bottom	Envelope
HR1 (N. Fork)	26.6 (26.6)	28.0 (27.7)	NA ¹
US1 Bridge	29.9 (28.9)	29.8 (29.1)	8.0 – 25.0
A1A Bridge	33.6 (33.0)	34.3 (33.4)	20.0 – 31.0

¹Envelope not applicable.

Over the past week, average salinity increased throughout the estuary (Figures 3 and 4). The 30-day moving average of surface salinity at the US1 Bridge is above the preferred range. Salinity conditions in the estuary are poor considering the time of year, the location in the estuary, and salinity preference of the oyster, *Crassostrea virginica*.

Caloosahatchee Estuary:

During the past week, flow averaged about 219 cfs at S-77, 99 cfs at S-78, 0 cfs at S-79 (Figures 5 and 6). The concentration of chlorides at the Olga Plant was > 200 parts per million yesterday. The current weekly average salinity (in bold) at the seven monitoring sites in the Caloosahatchee estuary are given below in practical salinity units (psu), along with the previous week's (in parenthesis).

Weekly Average Salinity (psu)		
Sampling Site	Surface	Bottom
S-79 (Franklin Locks)	15.7 (11.5)	17.7 (16.6)
BR31	NR ¹ (14.3)	NR (17.3)
Val I75	16.4 (14.3)	17.7 (18.1)
Ft. Myers Yacht Basin	21.9 (20.9)	22.2 (22.1)
Cape Coral	28.6 (28.0)	28.9 (28.6)
Shell Point	35.2 (35.2)	36.0 (36.7)
Sanibel	36.3 (35.8)	37.5 (37.2)

¹Not reliable or not reporting.

Over the past week average salinity increased throughout the estuary (Figures 7 and 8). The 30-day moving average salinity is 14.5 psu at Val I-75 (Figure 9) and 21.0 psu at Ft. Myers; therefore, conditions are poor in the upper estuary for tape grass, *Vallisneria americana*. Salinities at Shell Point and the Sanibel Causeway indicate that conditions are good for seagrass in San Carlos Bay, but poor considering the salinity preference of the oyster, *Crassostrea virginica*.

Monitoring data collected by the River, Estuary and Coastal Observing Network of Sanibel-Captiva Conservation Foundation indicated that dissolved oxygen concentrations at Ft. Myers ranged between 4.7 and 7.7 mg/L, and at Shell Point between 4.3 and 7.0 mg/L. Chlorophyll *a* concentration at Ft. Myers ranged between 4.2 and 23.0 µg/L. At Shell Point, chlorophyll *a* concentrations generally ranged between 0.6 and 1.6 µg/L with one spike to 3.2 µg/L.

The Florida Fish and Wildlife Research Institute reported that *Karenia brevis*, the Florida red tide organism, was not detected in water samples collected this week alongshore of Pinellas, Hillsborough, Sarasota, Charlotte, Lee and Collier counties or offshore of Pinellas and Manatee counties. One sample collected alongshore of Manatee County contained background concentrations of *K. brevis*.

Water Management Recommendations

St. Lucie Estuary Performance Measure (PM) update:

The 30-day moving average (mean) of surface salinity at the US1 Bridge is being utilized as an indicator of estuarine health. Salinity at this location should range from eight to about 25 psu based on the most favorable salinity conditions for the eastern oyster. Salinity greater than about 25 psu increases the potential for predation on the oysters. The 30-day mean salinity is above this range at about 29 psu, but should not cause significant impacts to eastern oyster populations at this location or areas upstream. Since salinity over some of the oyster beds between the US1 Bridge and A1A

Bridge is greater than 30 psu, it is considered poor conditions for oysters downstream of the US1 Bridge.

Recommendation: Conditions in the SLE are acceptable environmentally. It is recommended that the estuary should not receive inflows from the Lake or from C-44 basin runoff.

Caloosahatchee Estuary Performance Measure (PM) update:

The salinity PM being utilized for the Caloosahatchee Estuary is in accordance with the “Final Adaptive Protocols for Lake Okeechobee Operations (September 16, 2010)”. The 30-day moving average (mean) salinity at Station VALI75 (I-75 bridge) is being utilized as an indicator of estuarine health. Salinity at this location should be maintained below five psu based on the most favorable conditions for tape grass. The District predicts freshwater inflows in order to forecast salinity two weeks into the future at the I-75 Bridge. If predicted salinity is greater than five psu at any time within the next two weeks, the estuary needs inflow from S-79 to lower the salinity in the upper estuary where tape grass is present. The need for inflow is defined as: “Estuary needs water when the 30-day moving average salinity at the I-75 bridge is projected to exceed 5 psu within 2 weeks”. The 30-day mean is forecasted to be greater than five psu within two weeks (Figure 10). Therefore, the salinity criterion indicates the estuary needs additional flow this coming week (Figure 11); however, the current Lake Okeechobee water level is within the water shortage band which precludes a recommendation for water releases.

Recommendation: Although the Caloosahatchee estuary needs freshwater to reduce salinity, it is recommended that no water releases be made from Lake Okeechobee according to water shortage rules unless otherwise authorized by the District’s Governing Board.

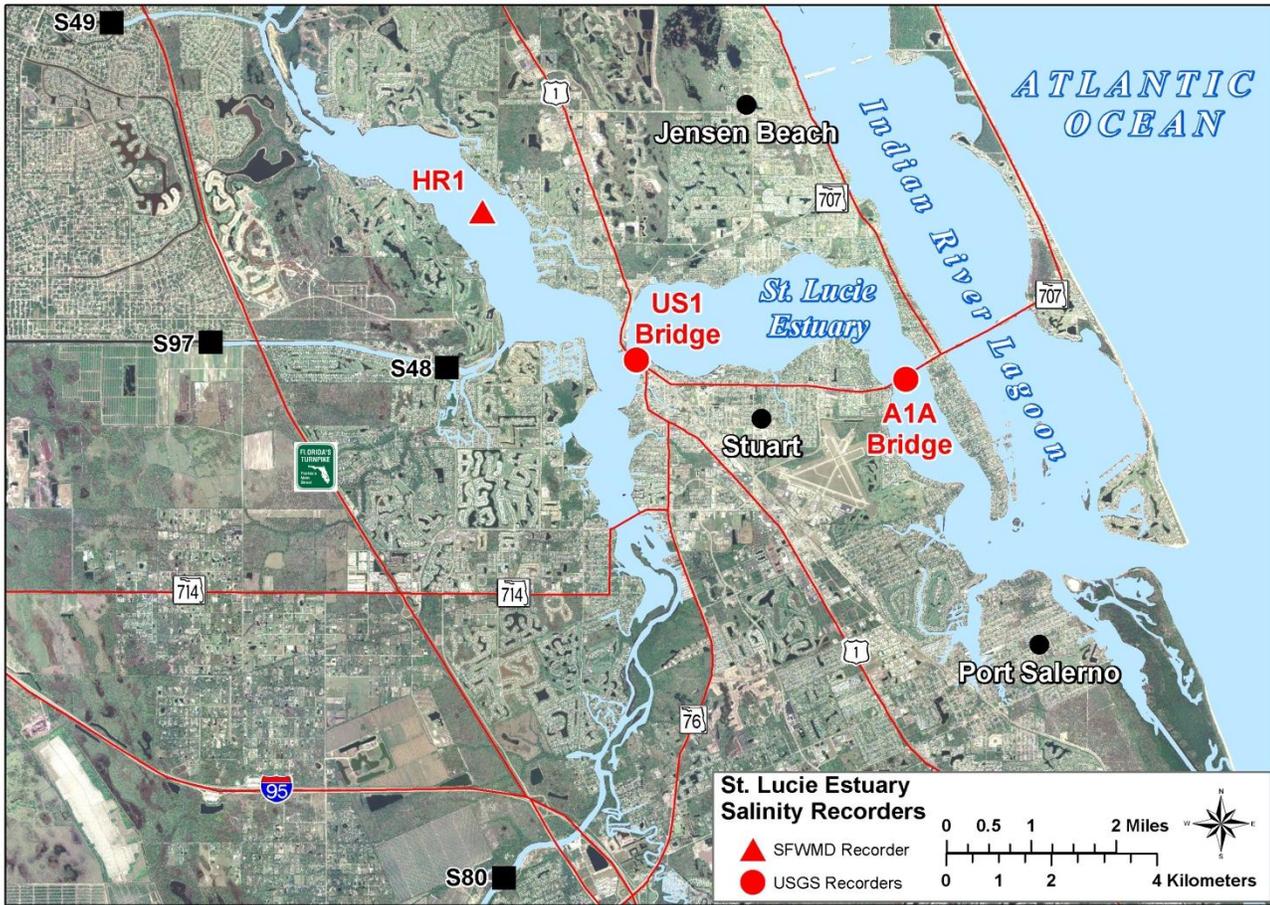


Figure 1. Salinity stations in the St. Lucie Estuary.

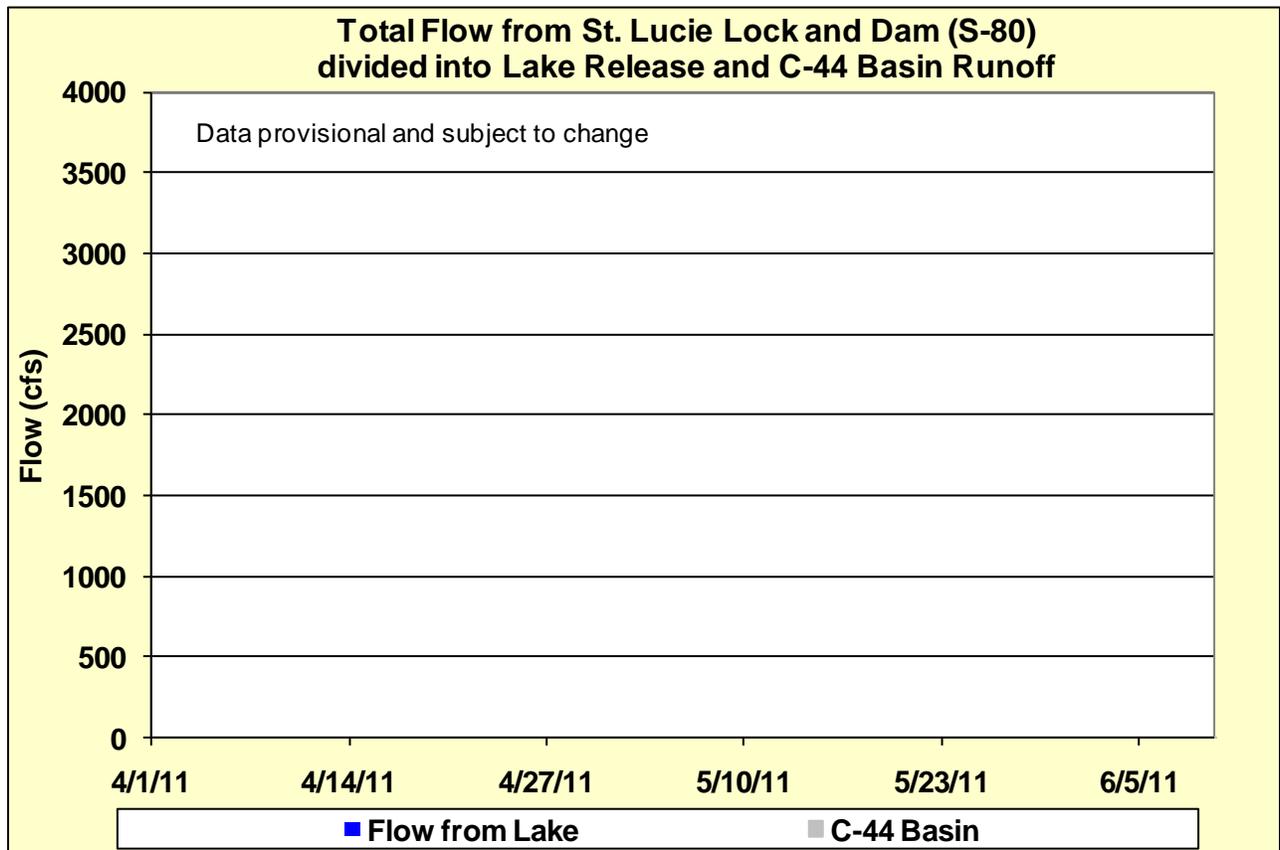


Figure 2. Estimated freshwater discharges from Structure 80 into the St. Lucie Estuary.

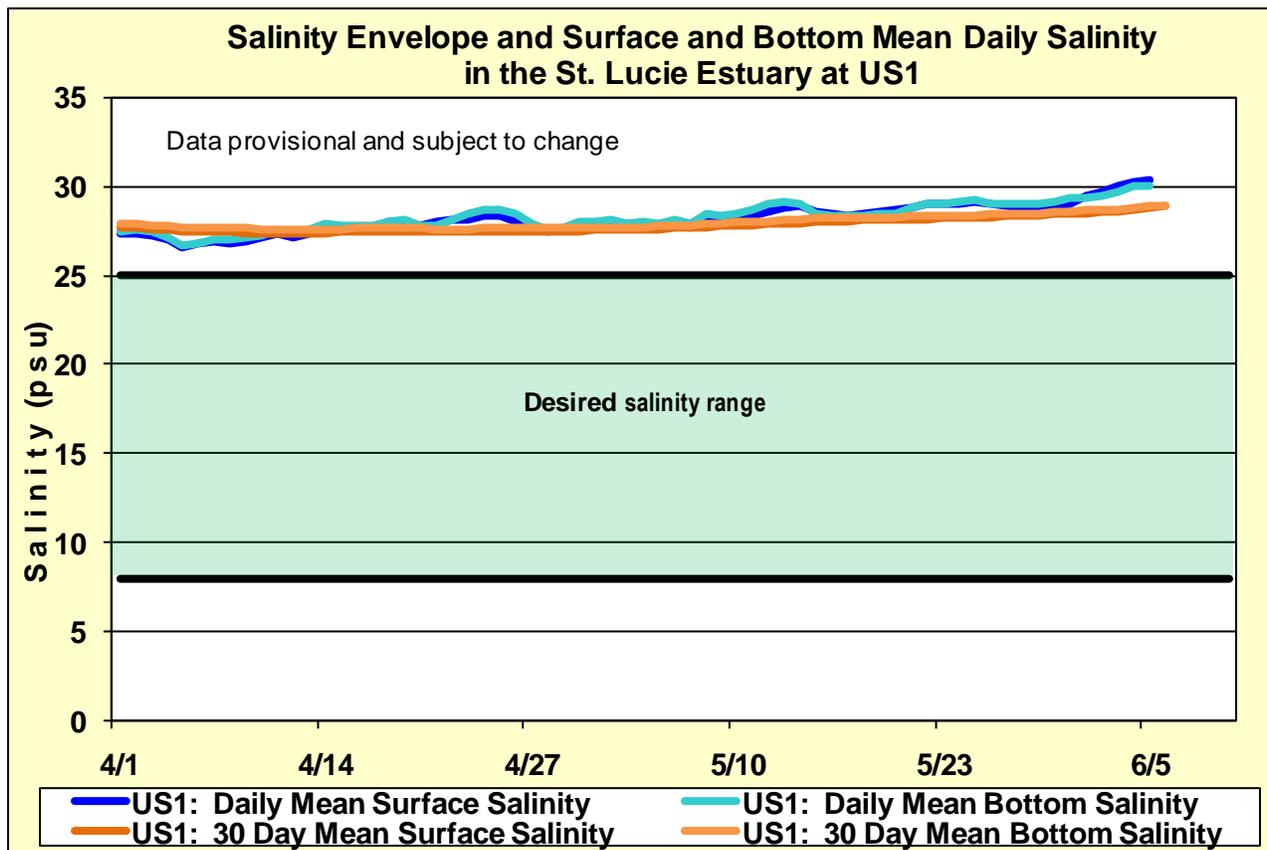


Figure 3. Daily mean and 30-day mean salinity at the U.S. Highway 1 bridge.

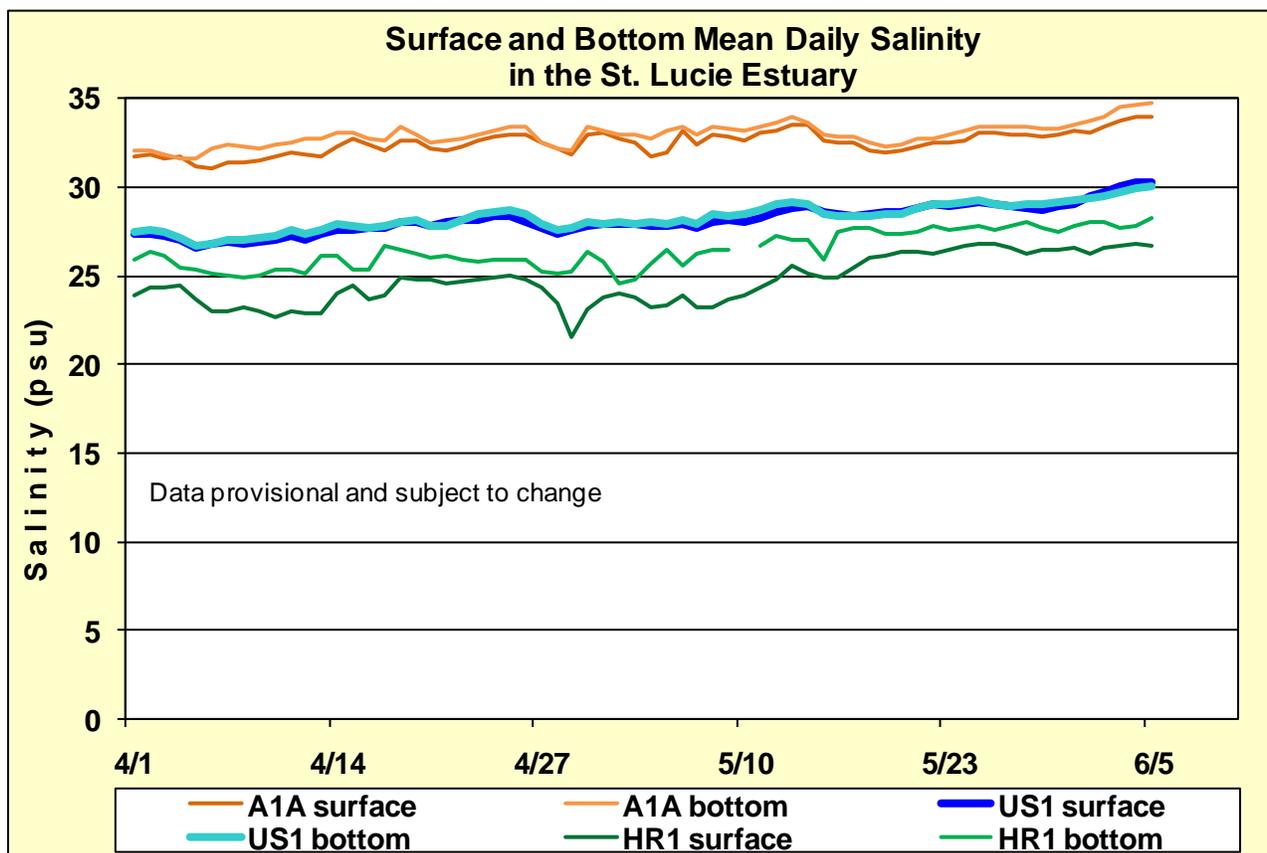


Figure 4. Mean daily salinity at the A1A and HR1 stations.



Figure 5. Salinity stations in the Caloosahatchee River Estuary.

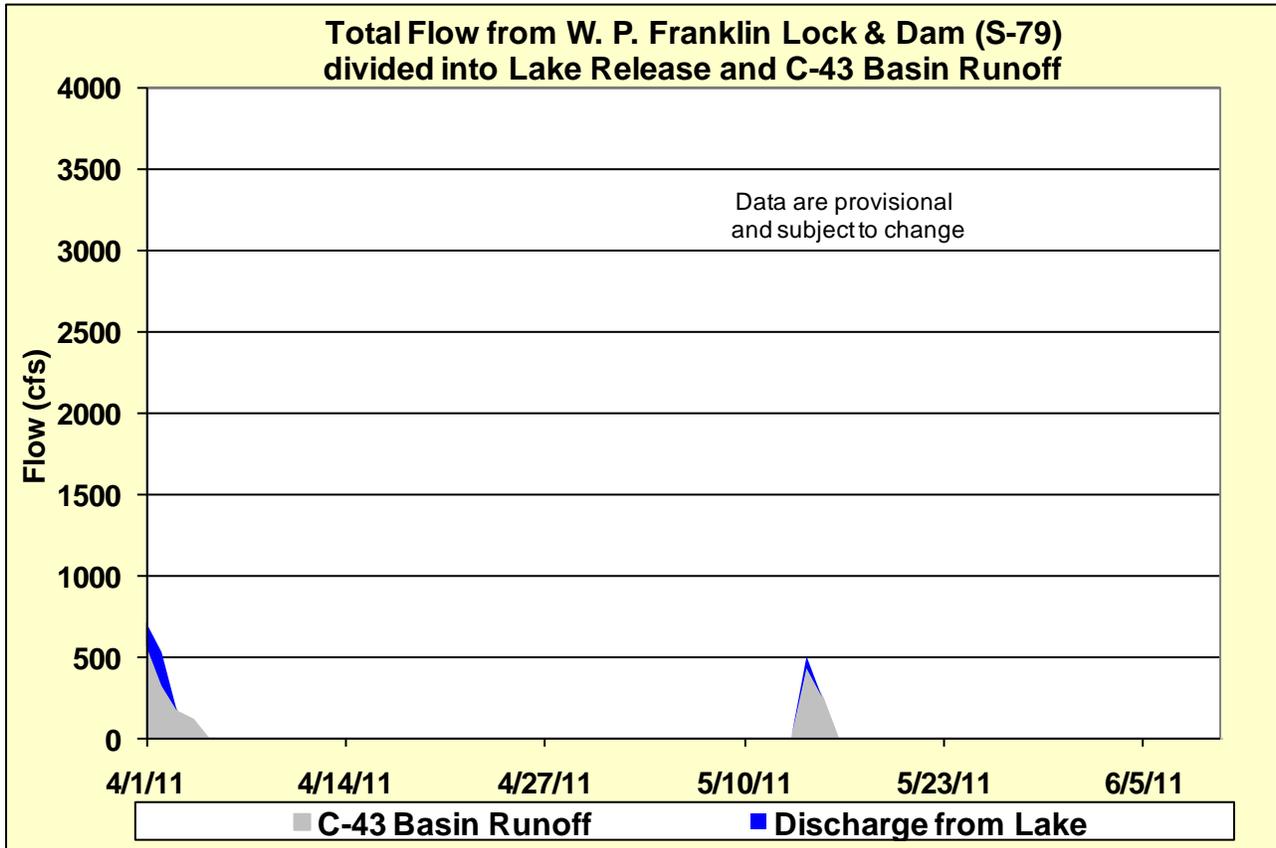


Figure 6. Freshwater flows from Structure 79 into the Caloosahatchee River Estuary.

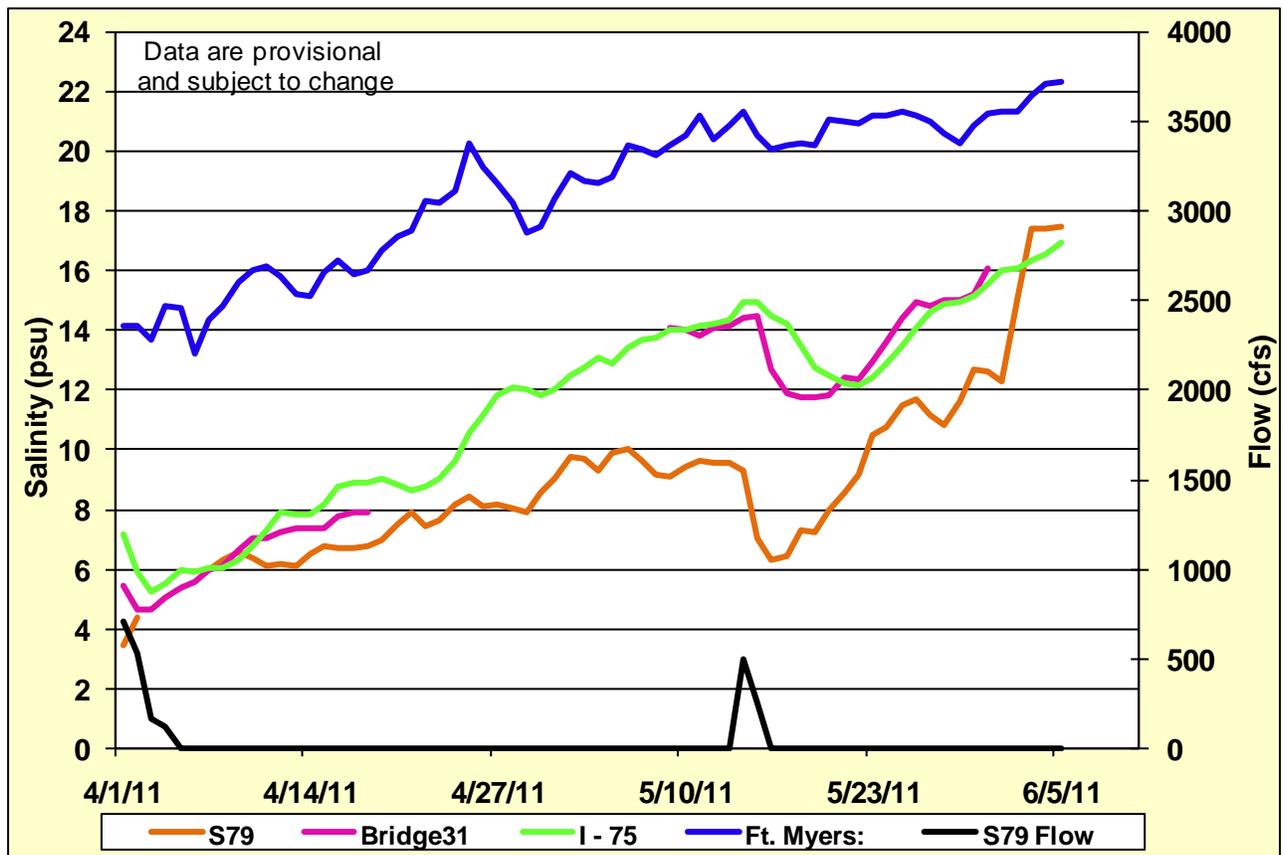


Figure 7. Mean daily flows at S-79 and salinity at upper estuary monitoring stations.

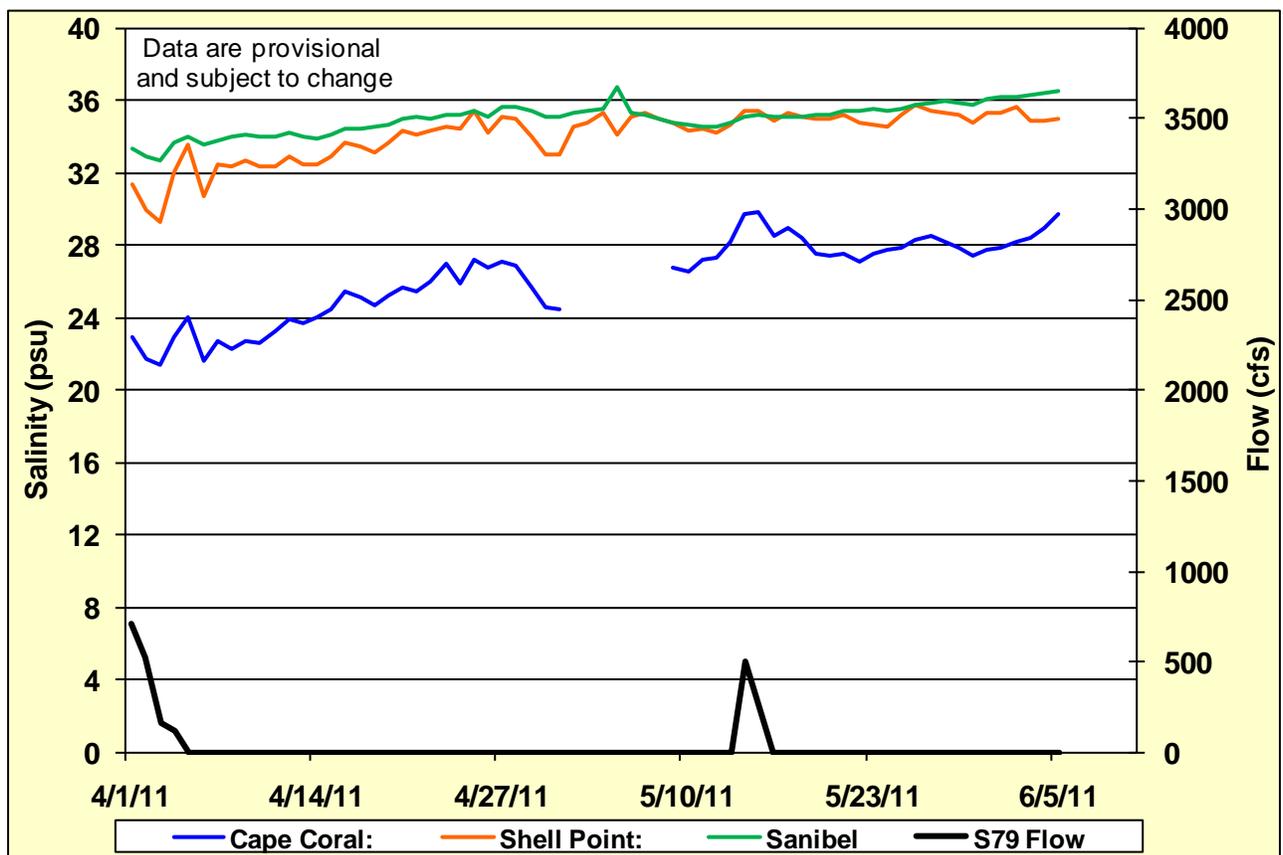


Figure 8. Mean daily flows at S-79 and salinity at lower estuary stations.

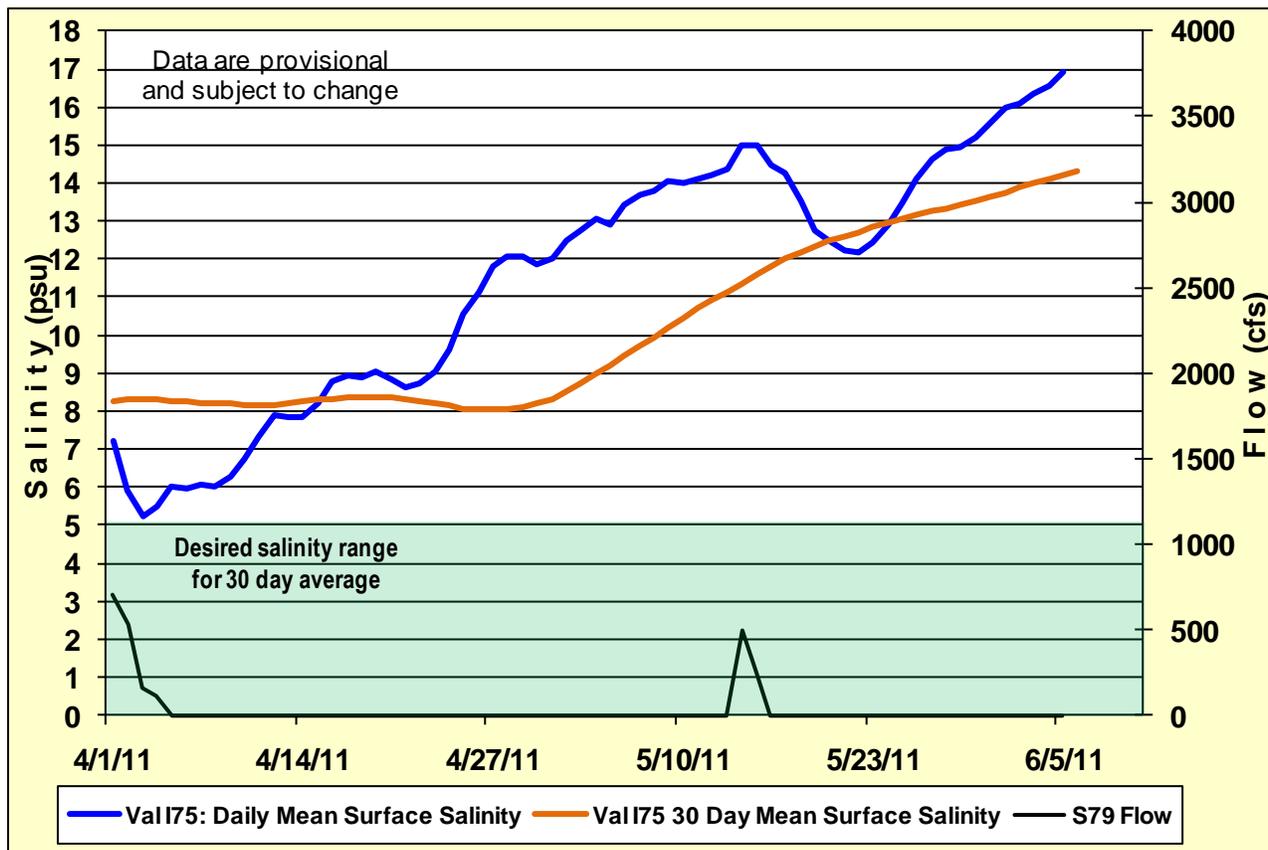


Figure 9. Daily mean surface and 30-day mean surface salinity at Station Vall75.

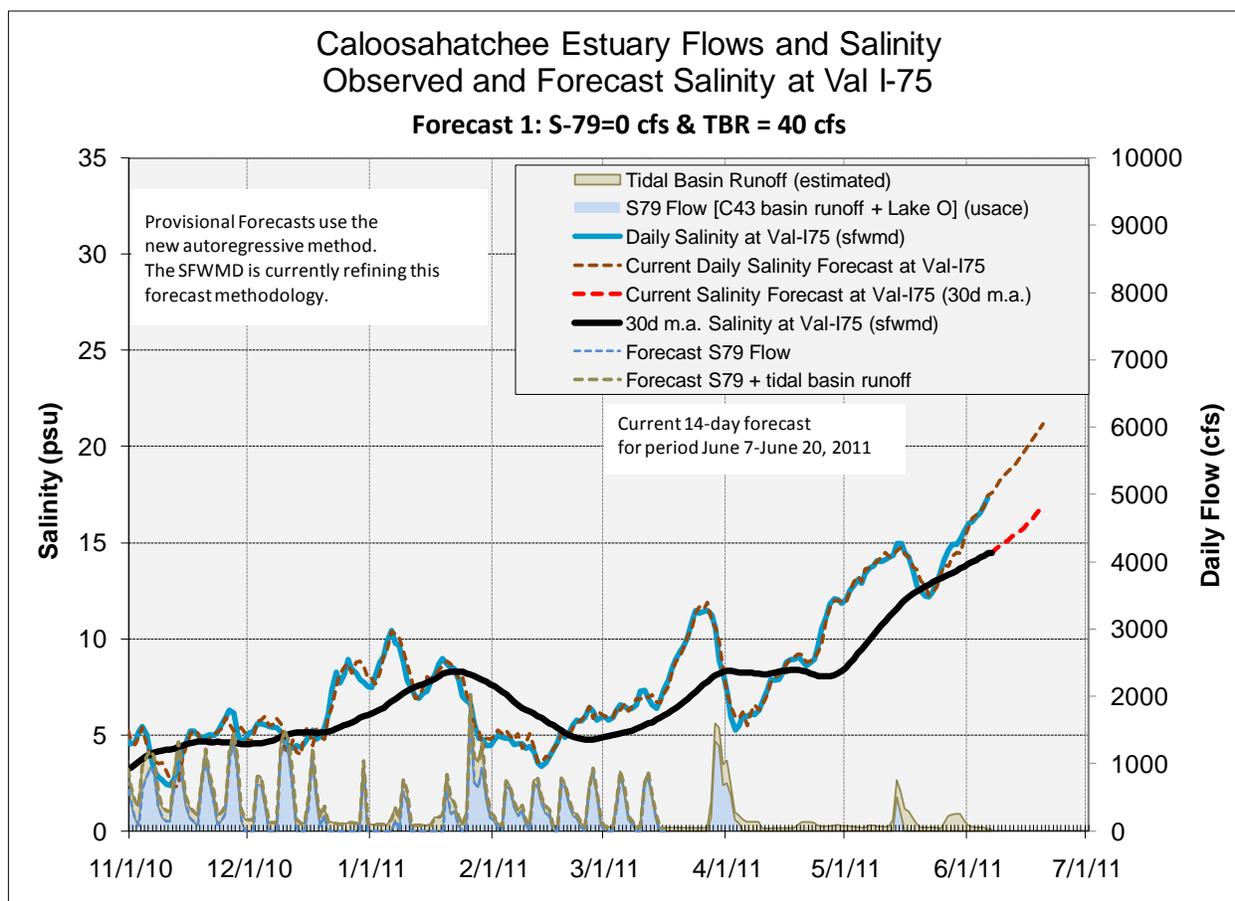
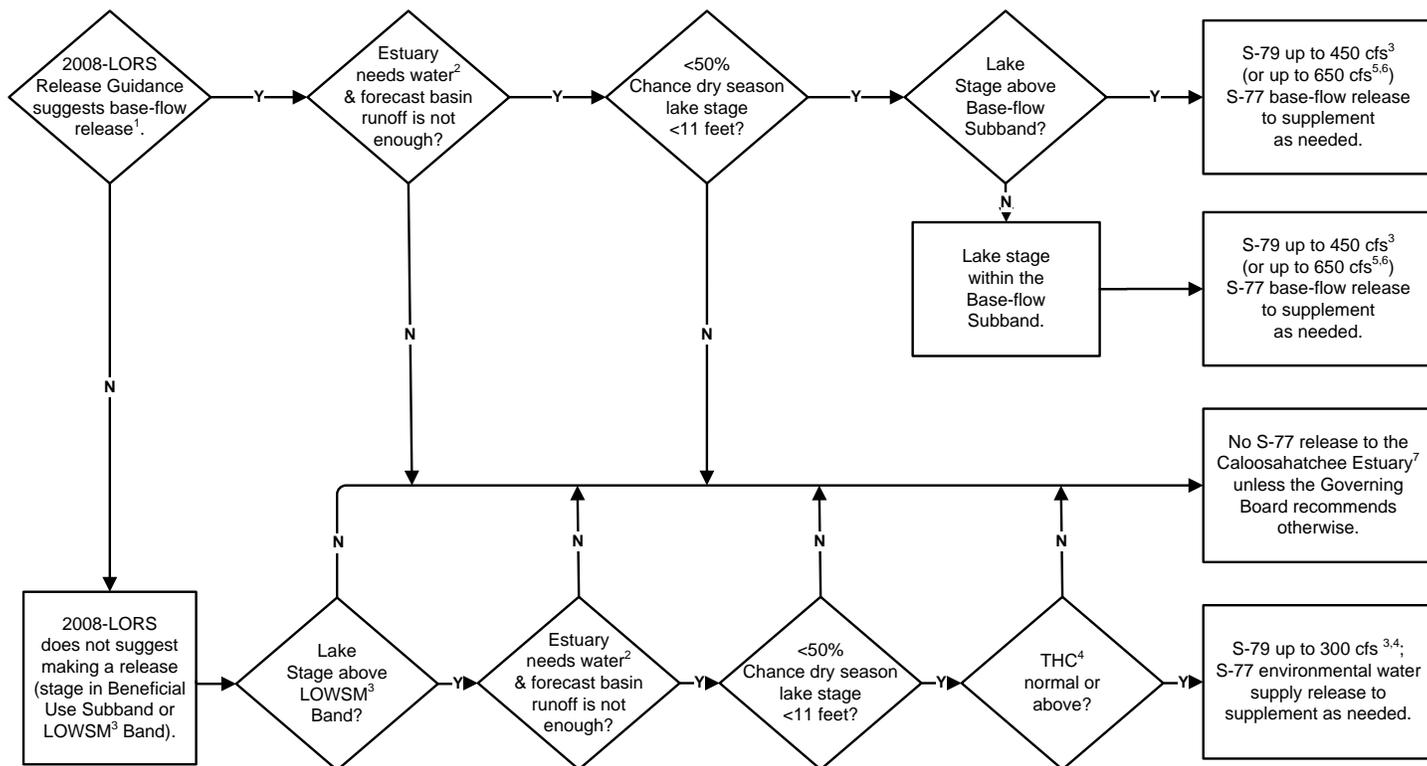


Figure 10. Provisional Val I-75 salinity forecast for June 7 – June 20, 2011. Created on June 7, 2011.



¹The 2008-LORS Release Guidance (Part D) can suggest base-flow releases in the intermediate, Low or Base-flow Subbands.
²Estuary "needs" water when the 30-day moving average salinity at the I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.
³LOWSM=Lake Okeechobee Water Shortage Management.
⁴Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.
⁵Can release less than the "up to" limit if a lower release is sufficient to reach or sustain the desired estuarine salinity; cfs=cubic feet per second.
⁶After reviewing conditions in the Water Conservation Areas (WCAs), Stormwater Treatment Areas (STAs), ENP, St. Lucie Estuary, and Lake Okeechobee.
⁷Should this condition be reached, the Governing Board will be briefed at the next regularly scheduled meeting as part of the State of the Water Resources agenda item.

Figure 11. Adaptive Protocols flowchart for the Caloosahatchee Estuary.

GREATER EVERGLADES

Rainfall:

The Greater Everglades basins received very little rain last week. The local maximum was 0.43 inches in western areas of Everglades National Park (ENP). The week's pan evaporation was high but lower than in the past few weeks: 1.95 inches, while the weekly average is 1.61 inches (WCA-3A Rainfall-based Management Plan).

<u>Average Rain:</u>	WCA-1:	0.03 inches	WCA-3A:	0.00 inches
	WCA-2A:	0.01 inches	WCA-3B:	0.00 inches
	WCA-2B:	0.02 inches	ENP:	0.02 inches

Water Conservation Areas:

Stages and Depths: Water depths continue to plummet. All of the fourteen gauges we monitor have dropped below ground surface, including the two that were reporting surface water last week (see WCA Stages spreadsheet). Below are the week's average recession rates of these two gauges (BG=all gauges below ground).

<u>Stage Change:</u>	WCA-1:	BG	WCA-3A:	BG
	WCA-2A:	BG	WCA-3B:	BG
	WCA-2B:	BG	NESRS:	BG

Regulation Schedules: Wetland stages dropped across all WCAs last week. Canal stages are below their floors, as are marsh levels in WCA 3A. Marsh level in WCA 2A is very close to dropping below its floor as well. The WCA-2A stage is -0.5 feet below regulation and WCA-3A stage is nearly -2.1 feet below regulation.

Water Depths and Changes: The WDAT maps show the continued progression of this year's severe drought (see Water Depths map). Dry conditions dominate all conservation areas; between 80% and 100% of their surfaces are exposed, up slightly from a week ago. Stages in WCA-1 remain close to the lowest ever recorded.

Note: Of special concern is central western WCA-3A, the location of some of the best Ridge and Slough patterns and habitat, which is now experiencing very large areas with depths far below ground, further degrading the remaining patterns. This subtropical patterned peatland is extremely rare globally. This is the third severe drought affecting this area since 2006. District staff flew over the region yesterday (see WCA Drought photos).

Water depths in the conservation areas and ENP are drier compared to the previous week. Relative to a month ago, depths in the conservation areas are lower than a month ago, with local exceptions. Water depths in large areas of the Park and Big Cypress Preserve are higher than a month ago. Depths remain much lower (1.5 to over 2.5 feet) than a year ago, particularly in the middle of WCA-3A, northwestern WCA-3A, and WCA-3B southward most of the way through ENP.

Muck Fire Index: As expected from the continued drought, high muck fire risk regions expanded again last week to include over 220,000 acres (see Muck Fire Hazard). Most of the rest of the region is now in the moderate risk category (yellow). Only areas in green are considered to remain at low risk of peat fires.

Fires: Extreme fire danger remains in South Florida, according to the National Weather Service. The "Prairie" Wildfire is currently burning east of WCA-3B, near Krome Avenue. The latest report indicates 1,000 acres have been burned. District staff flew over this fire on Monday, June 6 (see Prairie Fire map and photo).

Minimum Flows and Levels (MFLs): As of June 1, thirteen sites in the Greater Everglades exceeded their MFL rules (see the Minimum Flows and Levels map and table; red dots on the MFL map). These include five new sites: WCA-3A Northeast (3A-NE), WCA-3B (3BS1W1), Central Shark Slough (NP-33), Taylor Slough (NP-67), and Florida Bay (TR). They join the eight that were in violation previously: Rotenberger WMA (Rotts), Holeyland Wildlife Management Area (HoleyG), WCA-3A North (3A-2), WCA-3A North (3A-NW), Northeast Shark Slough (NESRS-2), Central Shark Slough (NP-36), the Marl wetlands west of Shark Slough (G-620), and Rocklands Marl Marsh (G-1502).

Two sites are near exceedance and violation (yellow dots on the MFL June 1 Status map): WCA-3A North (3A-3), and WCA-3A Central (3A-4). Three others are expected to be near Exceedance within thirty days (see the MFL Status table): WCA-1, WCA-2A, and WCA-3A South. The number and locations of these sites signify extremely severe conditions for these wetlands.

Everglades National Park (ENP) and Florida Bay

Rainfall: Very little if any rain fell across Everglades National Park (ENP) and Florida Bay last week (see Raindar).

- ENP station weekly cumulative precipitation range: 0.0 - 0.5 inches.
- 7 day spatially-averaged Raindar totals: 0.02 inches for ENP and C-111 basin.

ENP Wetland Stage: Water levels dropped across ENP wetlands last week (see ENP Water Levels). After increasing last week (from rainfall), stages again dropped rapidly in Shark River Slough (P33) and at Taylor Slough Bridge (TSB). Areas of southern Taylor Slough and the ENP panhandle are approximately one foot below their seasonal mean stages, notable given how resilient this area had been to the drought prior to the past couple months. This is also important in determining how long it will take these areas to rehydrate and begin sending Everglades water towards Florida Bay. Below are the water levels for each station we monitor, including the change over the past week and 30 days. Note: District and Park staff are in the process of verifying ground surface elevations. The water levels described below differ from those used for the SFWDAT.

STATION	6/5 water level (feet)	Weekly change (feet)	30 day change (feet)
Shark River Slough (P33):	+0.04	-0.31	+0.44
ENP Panhandle (EVER6):	-0.61	-0.09	-0.14
Northern Taylor Slough (TSB):	-3.08	-0.31	-0.33
Southern Taylor Slough(CP):	-0.21	-0.13	-0.58

Florida Bay Salinity: Salinity continues to climb across Florida Bay. Most areas are 5 – 10 psu above their seasonal average concentrations. The 30 day moving average salinity at the Taylor River platform, used to track the Florida Bay MFL Rule, measured 31.4 psu as of June 5. Salinity exceeded the 30 psu MFL threshold last week as expected. An exceedance of the Florida Bay MFL rule occurs when the 30 day moving average concentration is over 30 psu at the Taylor River platform. A violation occurs when there are two or more exceedances in two consecutive years within a 10 year moving window. Our last consecutive exceedance event was in 2008 – 2009. With this exceedance in 2011, we would be in violation of the MFL if there is an exceedance in 2012.

Central Florida Bay continues to experience hypersaline conditions (over 40 psu). While concentrations are just three psu above average at Whipray Basin, salinity in the more nearshore area of Terrapin Bay is well above average (over 10 psu) for early June. Continued hot and dry conditions makes evaporation the dominant water budget term, facilitating salinity to continue increasing across all areas of Florida Bay. Tarpon Bay East, downstream from Shark River Slough, is the exception to trends seen in Florida Bay: here (and elsewhere along the southwest coast) salinity has started to decline in response to recent rainfall. Figures are provided for three indicator stations (see ENP Salinity LM/WB and ENP Salinity MFL/TR). Data are also provided in the table below.

AREA OF FLORIDA BAY	6/5 SALINITY (PSU)	WEEKLY CHANGE (PSU)
C-111 basin nearshore embayments (Long Sound)	38.0	+1.6
Taylor Slough nearshore embayments (Little Madeira Bay)	35.2	+2.1
Taylor Slough transition zones ponds (Taylor River):	34.6	+1.9
Northeastern Bay proper (Duck Key):	37.3	+0.8
Central nearshore embayments: (McCormick Creek & Terrapin Bay)	47.8	-0.9
Central Bay proper (Whipray Basin):	44.2	-0.5
Shark River Slough transition zones ponds (Tarpon Bay East):	17.7	-3.7

Wildlife

Wading Birds: The District did not conduct an aerial wading bird survey last week. The WCAs continue to be extremely dry and numbers of foraging birds have been much reduced relative to a few weeks ago. Note the presence and location of foraging flocks on the Foraging Wading Bird Flocks and Depths map is highly uncertain given rapidly declining water levels across the region. Large numbers of nestlings, including those of the endangered wood stork, continue to rely on parental support and will likely incur increased mortality as a consequence of the declining foraging conditions.

Snail Kites: This year there were 42 Snail Kite nests in the WCAs and ENP. Most nests (34) were located in WCA 3A. Of these, somewhere between nine to 24 chicks fledged, but many of the nests have failed. Conditions are so dry, adults have left and juveniles are not likely to survive. Fledgling birds are inexperienced foragers and exhibit high mortality rates even when habitat conditions are conducive for foraging. In addition, apple snail densities have generally been low this year for snail kites. 2010 was a high water year, meaning conditions were not good for egg laying, resulting in poor recruitment and low densities in 2011. Exotic apple snails have become well established in southern 3A.

Cape Sable Seaside Sparrow (results reported for subpopulation A only): Two pairs of sparrows have fledged young and are preparing to re-nest. Two more pairs have nestlings, and two other pairs are likely incubating nests that have not yet been located. Some of the fledglings have been seen flying around on their own.

NP-205 stage remains below ground surface (3.46 feet NGVD) with a depth of approximately -2.55 feet. P-34 stage remains below ground surface (1.81 feet NGVD) with a depth of -0.38 feet. The ground is soft due to rain in mid to late May.

A NP-205 stage of 5.0 feet allows approximately 100% of the western marl prairie habitat to become available (un-flooded) for potential nesting and/or habitat maintenance. The NP-205 stage has been

below 5.0 feet since February 23. The 60 consecutive days breeding window for sparrows began March 1, 98 days ago.

Water Management Recommendations

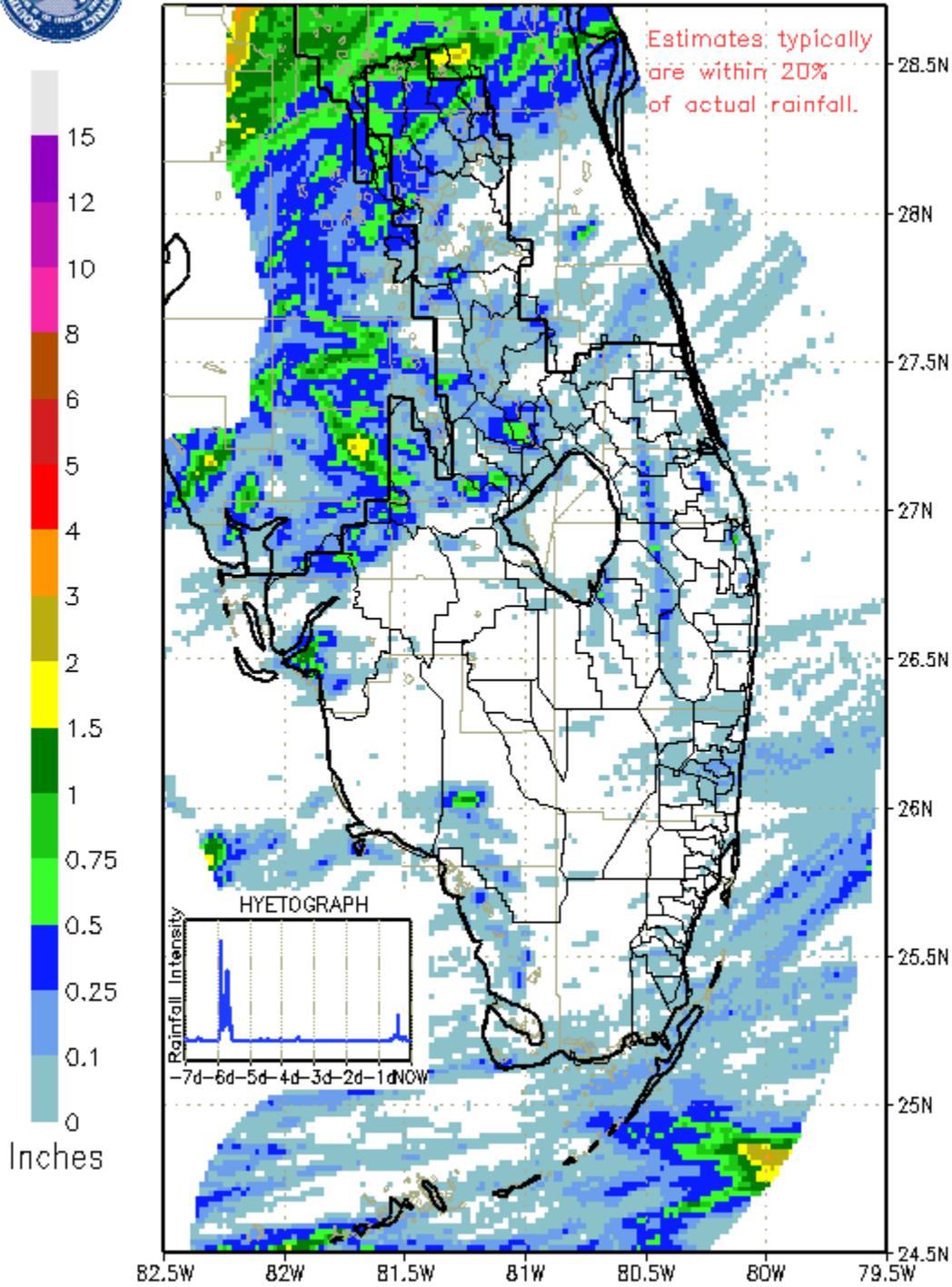
As long as the extremely dry conditions persist, any opportunity to rehydrate the conservation areas, particularly WCA-3A, with clean water would be very welcome ecologically.

Raindar:



SFWMD RAINDAR 7-DAY RAINFALL ESTIMATES

FROM: 0815 EST, 05/31/2011 THROUGH: 0815 EST, 06/07/2011

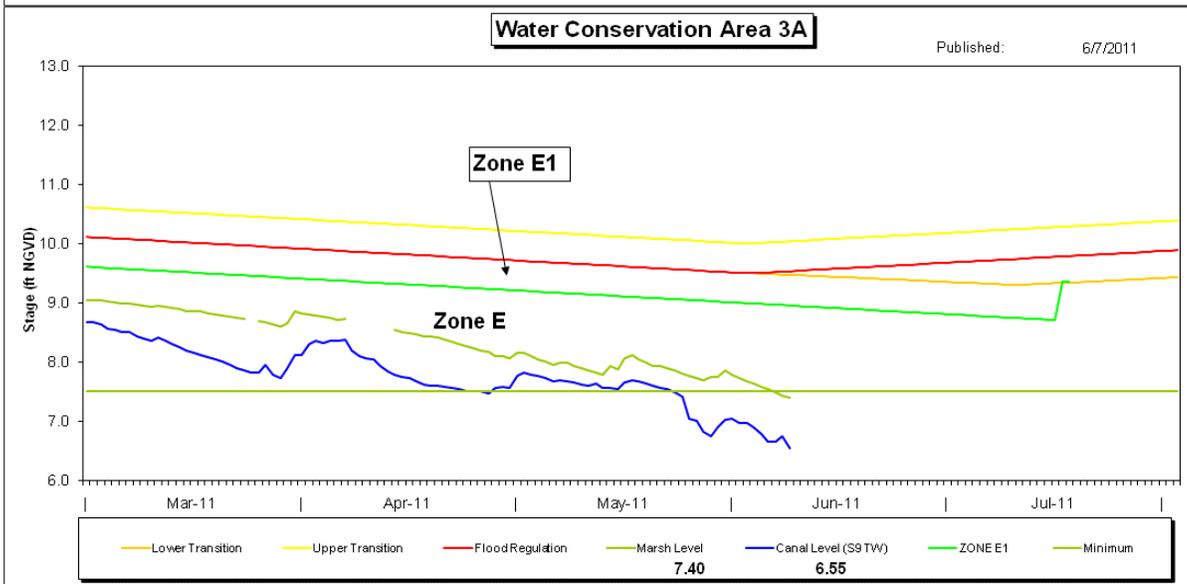
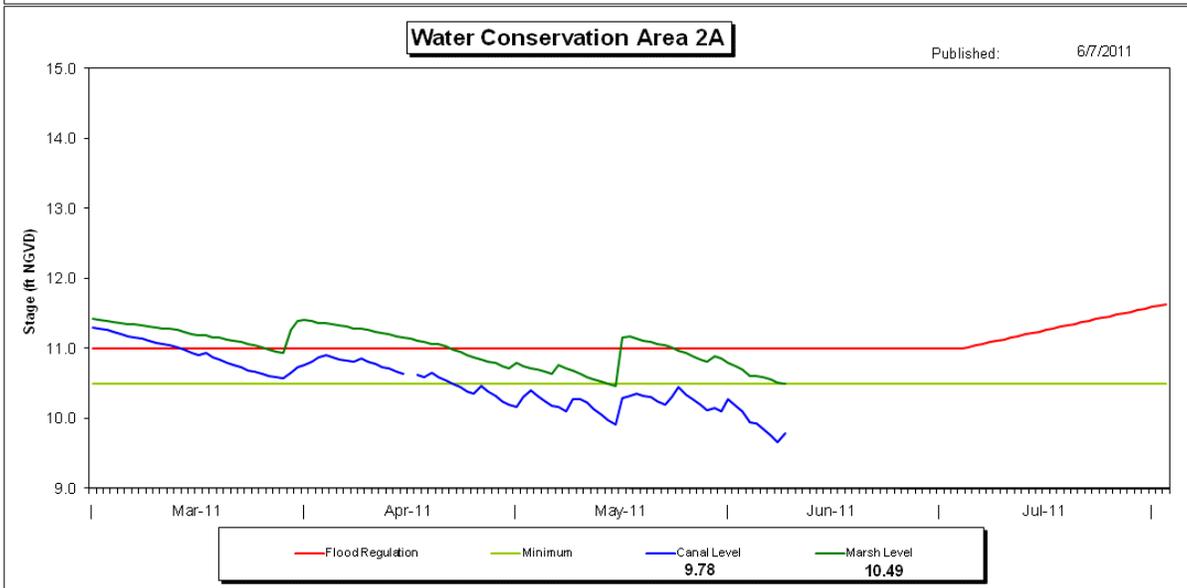
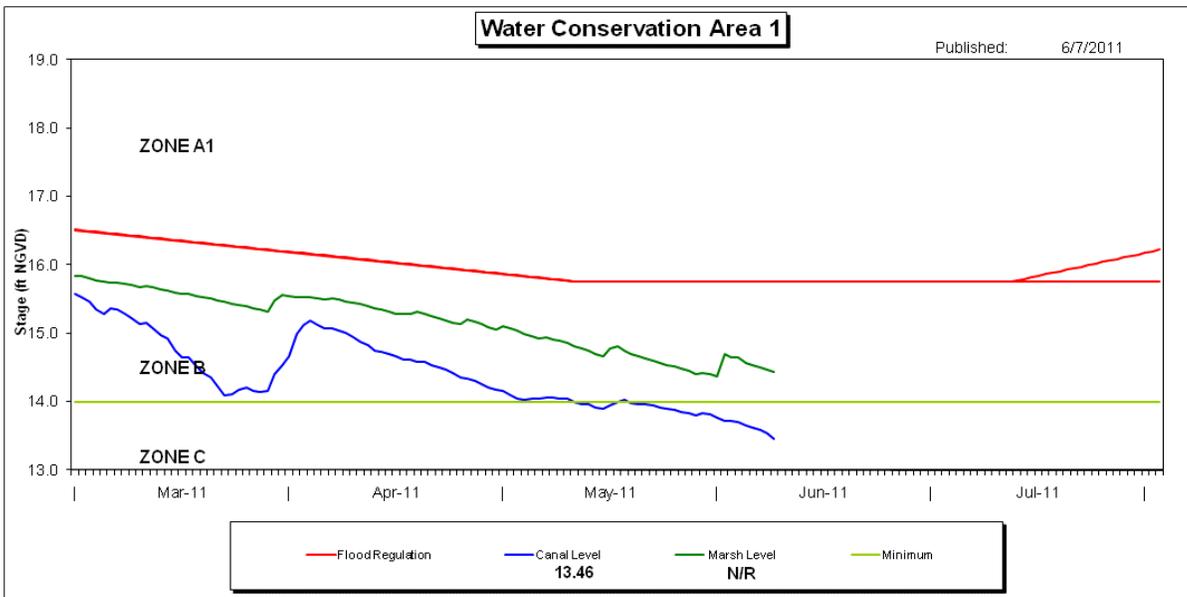


DISTRICT-WIDE RAINFALL ESTIMATE: 0.069"

WCA Stages (BG=below ground, Dry=gauge has bottomed out, na=not applicable):

Gage	Ground Elevation	Stage 12/7/10	Stage 12/14/10	Stage 12/21/10	Stage 12/28/10	Stage 1/4/11	Stage 1/11/11	Stage 1/18/11	Stage 1/25/11	Stage 2/1/11	Stage 2/8/11	Stage 2/15/11	Stage 2/22/11	Stage 3/1/11	Stage 3/8/11	Stage 3/15/11	Stage 3/22/11	Stage 3/29/11	Stage 4/5/11	Stage 4/12/11	Stage 4/19/11	Stage 4/26/11	Stage 5/3/11	Stage 5/10/11	Stage 5/17/11	Stage 5/24/11	Stage 5/31/11	Stage 6/7/11	Stage Change	
1-7	15.4	16.53	16.48	16.47	16.43	16.39	16.38	16.34	16.29	16.30	16.25	16.18	16.12	16.04	15.97	15.91	15.80	15.97	15.80	15.68	15.58	15.44	15.24	14.98	14.71	14.55	14.32	-0.23		
1-9	14.7	16.48	16.41	16.38	16.32	16.27	16.23	16.18	16.14	16.13	16.07	16.04	15.97	15.89	15.86	15.78	15.68	15.67	15.72	15.63	15.55	15.48	15.39	15.27	15.19	15.02	14.84	14.56	-0.28	
1-8T	16.45	16.38	16.33	16.25	16.16	16.14	16.06	15.99	16.08	16.03	15.95	15.80	15.55	15.32	15.11	14.89	14.91	14.94	14.79	14.72	14.56	14.35	14.12	14.08	13.82	13.67	13.67	0.00		
2-17	11.1	12.25	12.14	12.08	12.03	11.97	11.89	11.78	11.75	11.71	11.62	11.58	11.52	11.43	11.33	11.22	11.08	11.27	11.32	11.20	11.06	10.81	10.70	10.59	11.14	10.94	10.75	10.49	-0.26	
99	6.8	10.31	10.18	10.13	10.01	9.88	9.77	9.71	9.63	9.63	9.51	9.40	9.26	9.10	8.93	8.73	8.49	8.43	8.17	7.91	7.58	7.14	6.98	6.65	6.40	6.10	5.84	5.60	5.36	
EDEN-13	6.7	8.84	8.64	8.59	8.47	8.35	8.27	8.23	8.15	8.13	8.02	7.91	7.80	7.66	7.51	7.39	7.27	7.28	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
62	10.1	10.82	10.74	10.72	10.69	10.64	10.59	10.56	10.53	10.59	10.52	10.46	10.39	10.28	10.15	10.06	9.81	9.77	10.14	9.89	9.53	9.19	8.95	8.91	8.91	8.91	Dry	Dry	Dry	
63	9.08	9.86	9.77	9.74	9.68	9.61	9.53	9.49	9.45	9.45	9.39	9.33	9.24	9.16	9.08	8.99	8.84	8.83	9.13	9.07	8.83	8.55	8.41	8.41	8.41	8.41	Dry	Dry	Dry	
64	8.49	9.86	9.78	9.80	9.72	9.65	9.58	9.55	9.50	9.47	9.40	9.33	9.25	9.17	9.07	8.99	8.85	8.72	8.59	8.20	7.93	7.92	7.72	7.86	7.74	7.74	7.44	-0.30		
65	7.3	9.55	9.47	9.51	9.43	9.35	9.26	9.25	9.20	9.18	9.10	9.01	8.92	8.82	8.73	8.65	8.52	8.40	8.42	8.29	8.19	8.01	7.92	7.87	7.90	7.68	7.59	7.25	-0.34	
76	6.32	7.52	7.48	7.52	7.48	7.45	7.41	7.42	7.39	7.38	7.34	7.31	7.27	7.23	7.18	7.14	7.08	7.07	7.00	6.84	6.61	6.33	6.61	6.31	6.02	5.71	5.44	5.10	-0.34	
71	6.52	7.78	7.73	7.80	7.74	7.69	7.69	7.66	7.65	7.63	7.56	7.51	7.45	7.39	7.32	7.30	7.21	7.13	7.08	6.94	6.78	6.44	6.20	5.96	5.81	5.54	5.28	4.98	-0.30	
SRS1	6.23	7.40	7.35	7.36	7.32	7.28	7.24	7.25	7.24	7.23	7.18	7.12	7.06	6.98	6.86	6.71	6.43	6.22	6.15	5.96	5.75	5.51	5.35	5.13	5.08	4.75	4.53	4.22	-0.31	
NERSR2	5.62	6.69	6.61	6.59	6.52	6.44	6.37	6.38	6.36	6.33	6.24	6.17	6.06	5.88	5.69	5.38	5.06	4.82	5.33	4.78	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
WCA-1	1-7	-0.08	-0.05	-0.01	-0.04	-0.04	-0.01	-0.04	-0.05	-0.01	-0.05	-0.07	-0.06	-0.08	-0.07	-0.06	-0.11	0.07	-0.12	-0.10	-0.14	BG	BG	BG	BG	-0.06	-0.27	-0.16	-0.23	na
1-9	-0.09	-0.07	-0.03	-0.06	-0.05	-0.04	-0.05	-0.04	-0.05	-0.04	-0.06	-0.03	-0.07	-0.08	-0.03	-0.08	-0.10	-0.01	0.05	-0.09	-0.08	-0.07	-0.09	-0.12	-0.08	-0.17	-0.18	-0.28	na	
1-8T	-0.10	-0.07	-0.05	-0.08	-0.09	-0.02	-0.08	-0.07	-0.09	-0.01	-0.08	-0.15	-0.25	-0.23	-0.21	-0.22	-0.02	0.03	-0.15	-0.16	-0.21	-0.23	-0.04	-0.26	-0.15	-0.18	0.00	na		
WCA-2A	2-17	-0.18	-0.11	-0.06	-0.05	-0.06	-0.08	-0.11	-0.03	-0.04	-0.09	-0.04	-0.06	-0.09	-0.10	-0.11	-0.14	0.19	0.05	-0.12	BG	BG	BG	-0.11	0.55	-0.20	-0.19	-0.26	na	
WCA-2B	99	-0.16	-0.13	-0.05	-0.12	-0.13	-0.11	-0.06	-0.08	0.00	-0.12	-0.11	-0.14	-0.16	-0.17	-0.20	-0.24	-0.06	-0.26	-0.26	-0.33	-0.44	-0.16	-0.33	Eqp	Eqp	Eqp	Eqp	na	
EDEN-13	-0.10	-0.20	-0.05	-0.12	-0.12	-0.08	-0.04	-0.08	-0.02	-0.11	-0.11	-0.11	-0.14	-0.15	-0.12	-0.12	0.01	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	na	
WCA-3A	62	-0.10	-0.08	-0.02	-0.03	-0.05	-0.05	-0.03	-0.03	0.06	-0.07	-0.06	-0.07	-0.11	-0.13	-0.09	-0.25	-0.04	0.37	-0.25	BG	BG	BG	BG	0.00	0.00	Dry	Dry	na	
63	-0.10	-0.09	-0.03	-0.06	-0.07	-0.08	-0.04	-0.04	0.00	-0.06	-0.06	-0.09	-0.08	-0.09	-0.15	-0.01	0.30	-0.06	BG	BG	BG	BG	0.00	0.00	Dry	Dry	Dry	na		
64	-0.10	-0.08	0.02	-0.08	-0.07	-0.07	-0.03	-0.05	-0.03	-0.07	-0.07	-0.08	-0.08	-0.10	-0.08	-0.14	-0.13	-0.13	na	BG	BG	BG	BG	0.14	-0.30	0.18	-0.30	na		
65	-0.08	-0.08	0.04	-0.08	-0.08	-0.08	-0.01	-0.05	-0.02	-0.08	-0.09	-0.10	-0.09	-0.08	-0.13	-0.12	0.02	-0.13	-0.10	-0.18	-0.09	-0.05	0.03	-0.22	-0.09	-0.34	-0.34	na		
WCA-3B	76	-0.07	-0.04	0.04	-0.04	-0.03	-0.04	0.01	-0.03	-0.01	-0.04	-0.03	-0.04	-0.04	-0.05	-0.04	-0.06	-0.01	-0.07	-0.16	-0.23	-0.28	0.28	BG	-0.29	-0.31	-0.27	-0.34	na	
71	-0.06	-0.05	0.07	-0.06	-0.05	0.00	-0.03	-0.01	-0.02	-0.07	-0.05	-0.06	-0.06	-0.07	-0.02	-0.09	-0.08	-0.05	-0.14	-0.16	BG	BG	BG	BG	-0.15	-0.27	-0.26	-0.30	na	
SRS1	-0.08	-0.05	0.01	-0.04	-0.04	0.04	0.01	-0.01	-0.01	-0.05	-0.06	-0.06	-0.08	-0.12	-0.15	-0.28	-0.21	-0.07	-0.19	BG	BG	BG	BG	-0.05	-0.33	-0.22	-0.31	na		
ENP	NERSR2	-0.11	-0.08	-0.02	-0.07	-0.08	-0.07	0.01	-0.02	-0.03	-0.09	-0.07	-0.11	-0.18	-0.19	-0.31	-0.32	-0.24	0.51	-0.55	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	na	
WCA-1	1-7	1.13	1.08	1.07	1.03	0.99	0.98	0.94	0.89	0.90	0.85	0.78	0.72	0.64	0.57	0.51	0.40	0.47	0.40	0.28	0.18	0.04	-0.16	-0.36	-0.42	-0.89	-0.85	-1.08	Poor	
1-9	1.78	1.71	1.68	1.62	1.57	1.53	1.48	1.44	1.43	1.37	1.34	1.27	1.19	1.16	1.08	0.98	0.97	1.02	0.93	0.85	0.78	0.69	0.57	0.49	0.32	0.14	-0.14	Poor		
1-8T																														
WCA-2A	2-17	1.15	1.04	0.98	0.93	0.87	0.79	0.68	0.65	0.61	0.52	0.48	0.42	0.33	0.23	0.12	-0.02	0.17	0.22	0.10	-0.04	-0.29	-0.40	-0.51	0.04	-0.16	-0.35	-0.61	Poor	
WCA-2B	99	3.51	3.38	3.33	3.21	3.08	2.97	2.91	2.83	2.83	2.71	2.60	2.46	2.30	2.13	1.93	1.69	1.63	1.37	1.11	0.78	0.34	0.18	-0.15	Eqp	Eqp	Eqp	Eqp	na	
EDEN-13	2.14	1.94	1.89	1.77	1.65	1.57	1.53	1.45	1.43	1.32	1.21	1.10	0.96	0.81	0.69	0.57	0.58	0.57	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Poor	
WCA-3A	62	0.72	0.64	0.62	0.59	0.54	0.49	0.46	0.43	0.49	0.42	0.36	0.29	0.18	0.05	-0.04	-0.29	-0.33	0.04	-0.21	-0.57	-0.91	-1.15	-1.19	-1.19	-1.19	Dry	Dry	Poor	
63	0.78	0.69	0.66	0.60	0.53	0.45	0.41	0.37	0.37	0.31	0.25	0.16	0.08	0.00	-0.09	-0.24	-0.25	0.05	-0.01	-0.25	-0.53	-0.67	-0.67	-0.67	-0.67	Dry	Dry	Poor		
64	1.37	1.29	1.31	1.23	1.16	1.09	1.06	1.01	0.98	0.91	0.84	0.76	0.68	0.58	0.50	0.36	0.23	0.10	na	-0.29	-0.56	-0.57	-0.77	-0.63	-0.93	-0.75	-1.05	Poor		
65	2.25	2.17	2.21	2.13	2.05	1.96	1.95	1.90	1.88	1.80	1.71	1.62	1.52	1.43	1.35	1.22	1.10	1.12	0.99	0.89	0.71	0.62	0.57	0.60	0.38	0.29	-0.05	Poor		
WCA-3B	76	1.20	1.16	1.20	1.16	1.13	1.09	1.10	1.07	1.06	1.02	0.99	0.95	0.91	0.86	0.82	0.76	0.75	0.68	0.52	0.29	0.01	0.29	-0.01	-0.30	-0.61	-0.88	-1.22	Poor	
71	1.26	1.21	1.28	1.22	1.17	1.17	1.14	1.13	1.11	1.04	0.99	0.93	0.87	0.80	0.78	0.69	0.61	0.56	0.42	0.26	-0.08	-0.32	-0.56	-0.71	-0.98	-1.24	-1.54	Poor		
SRS1	1.17	1.12	1.13	1.09	1.05	1.01	1.02	1.01	1.00	0.95	0.89	0																		

WCA Regulation Schedules:

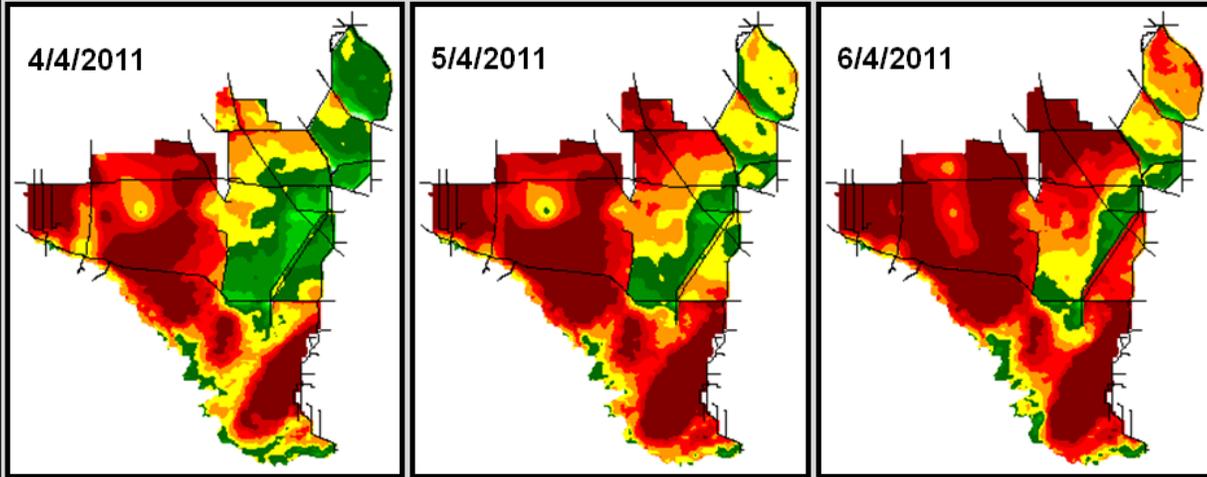


Water Depths:

SOUTH FLORIDA WATER MANAGEMENT DISTRICT



SFWDAT Water Depth Monthly Snapshots



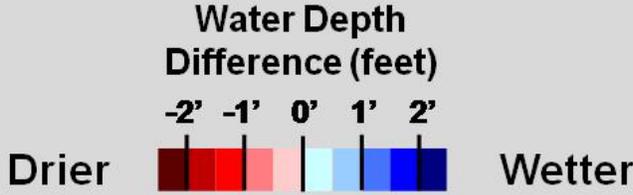
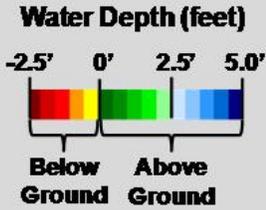
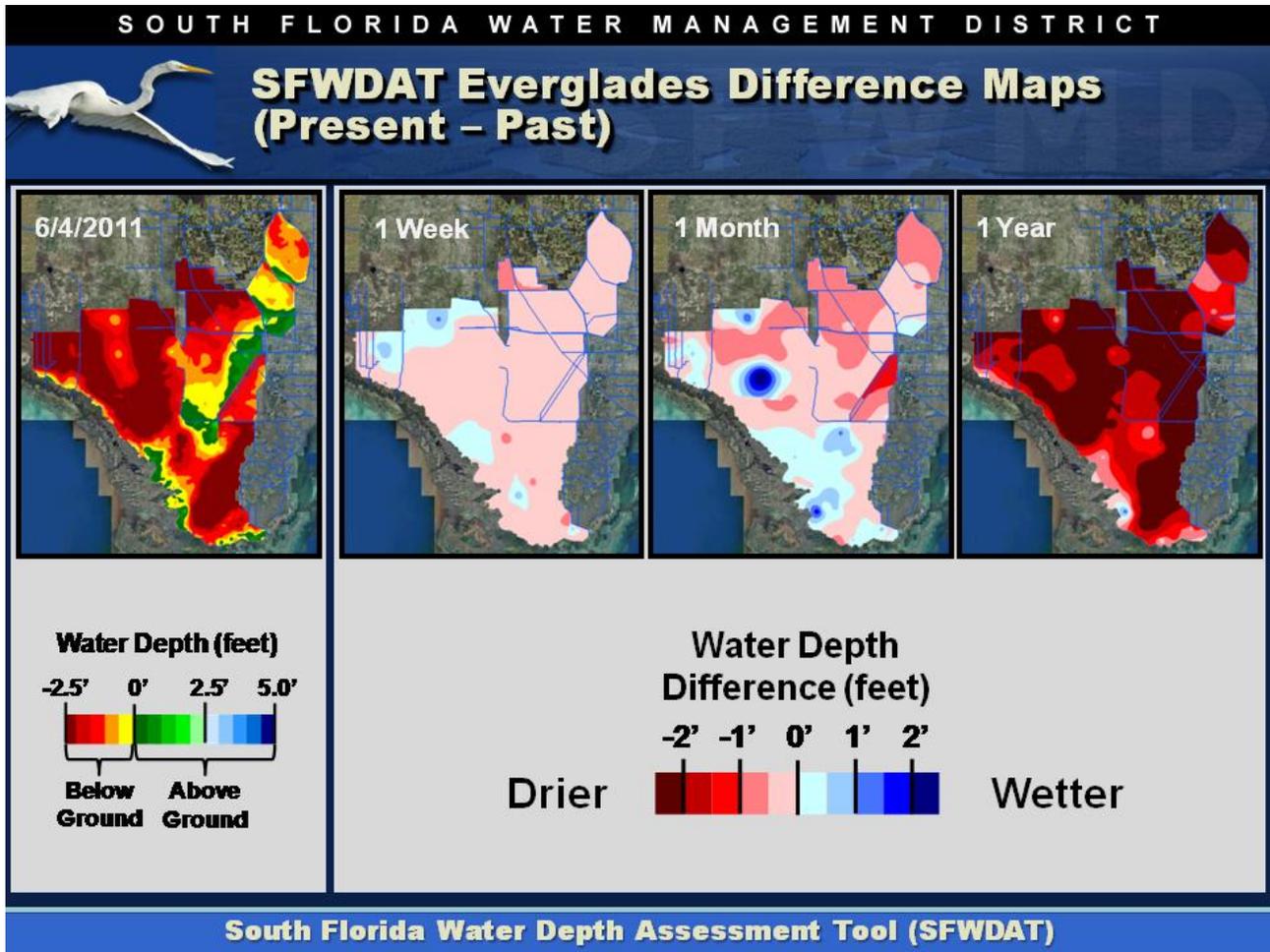
Water Depth (feet)

-2.5' 0' 2.5' 5.0'



South Florida Water Depth Assessment Tool (SFWDAT)

Depth Differences:

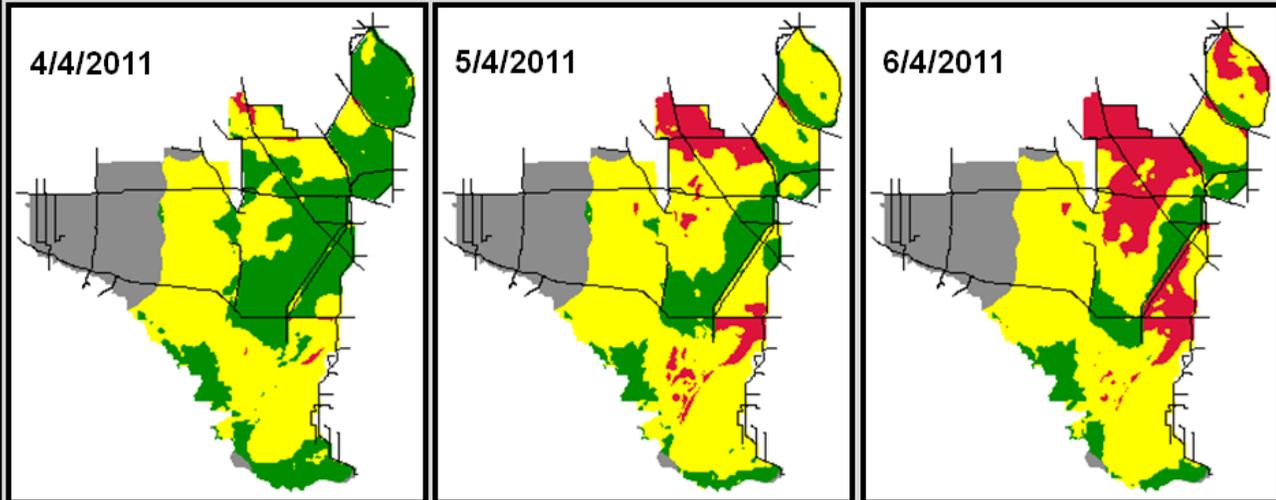


Muck Fire Hazard:

SOUTH FLORIDA WATER MANAGEMENT DISTRICT



**SFWDAT Muck Fire Area Index (MFAI)
Monthly Snapshots**

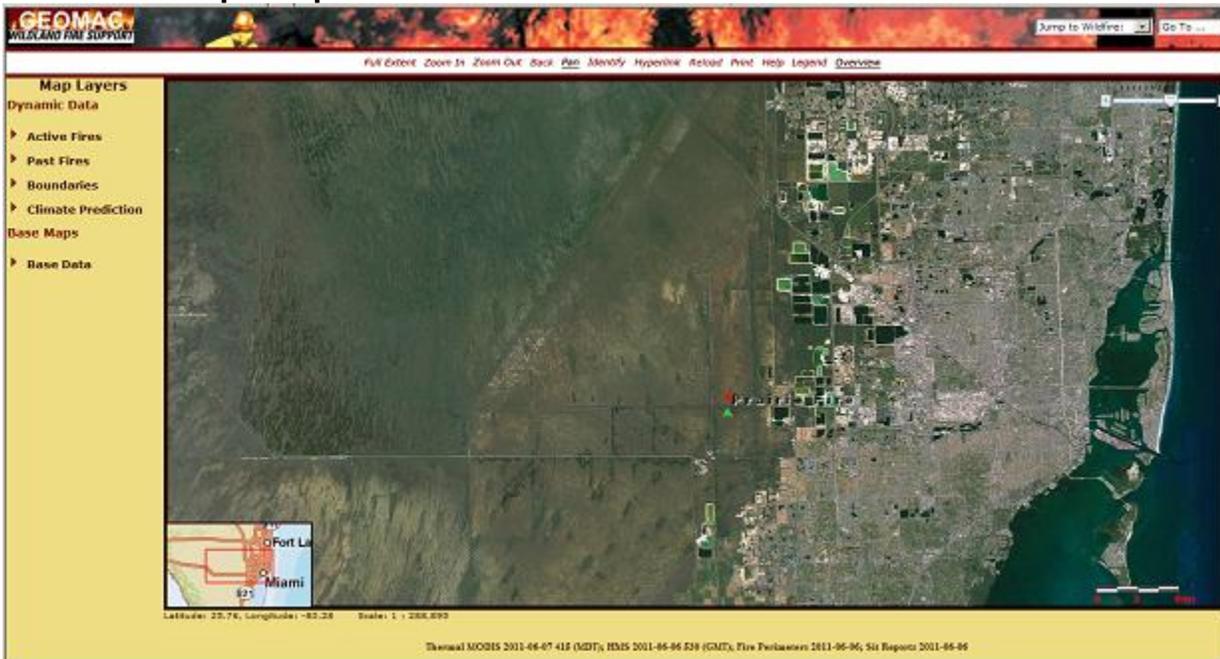


Muck Fire
Area Index (MFAI)



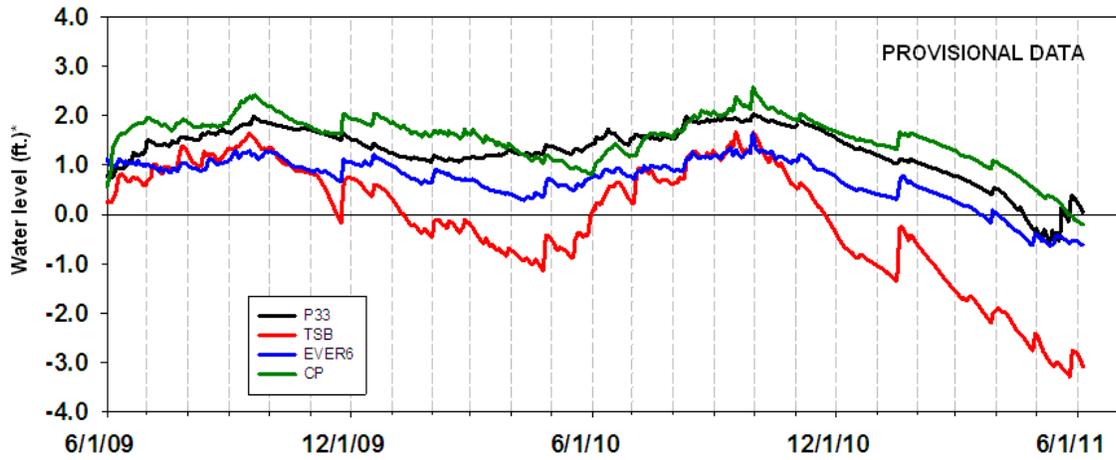
South Florida Water Depth Assessment Tool (SFWDAT)

Prairie Fire map and photo



ENP Water Levels:

Water Levels at ENP Wetland Monitoring Stations

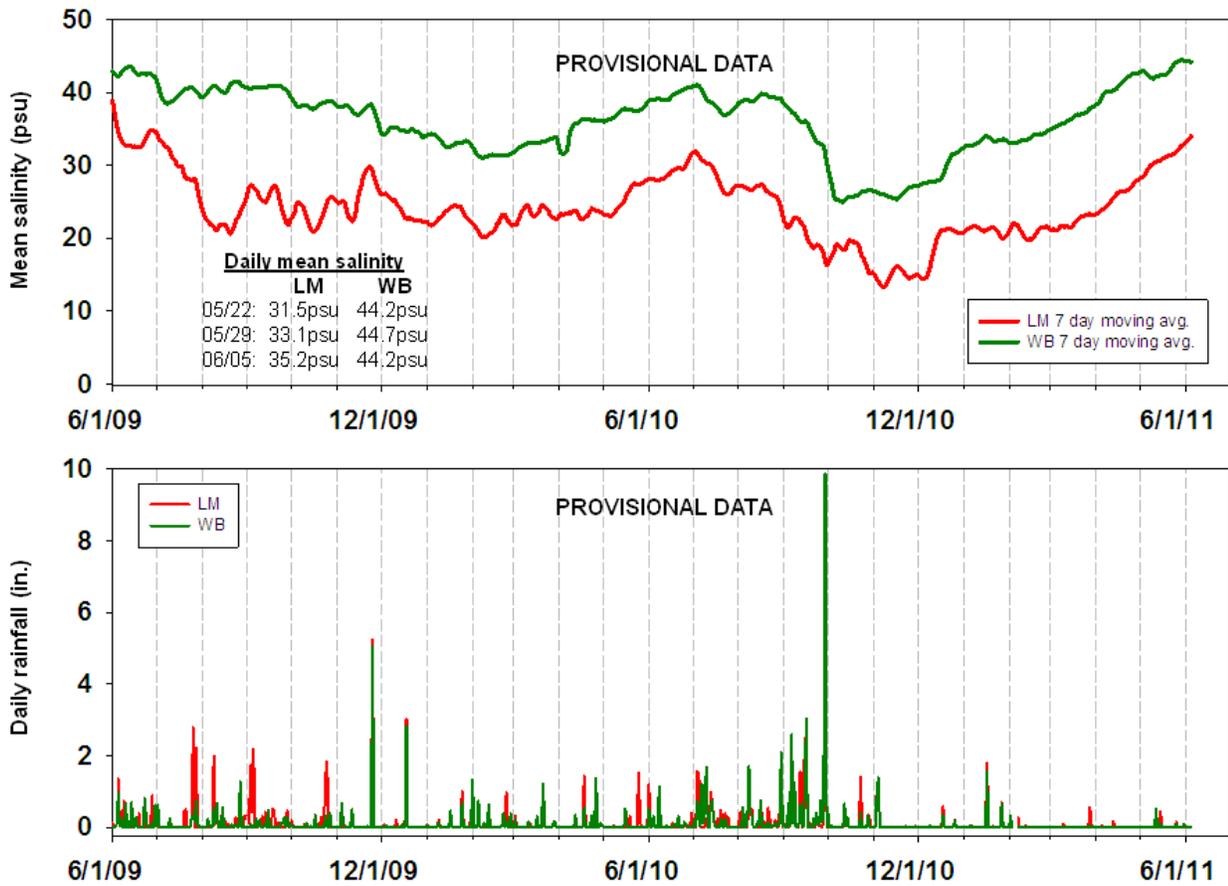


DAILY MEAN WATER LEVEL (ft)				
Date	P33	TSB	EVER6	CP
5/22	+0.02	-3.15	-0.50	+0.12
5/29	+0.35	-2.77	-0.53	-0.08
6/05	+0.04	-3.08	-0.61	-0.21

*note: calculated using ground surface elevation values (NAVD29) from ENP

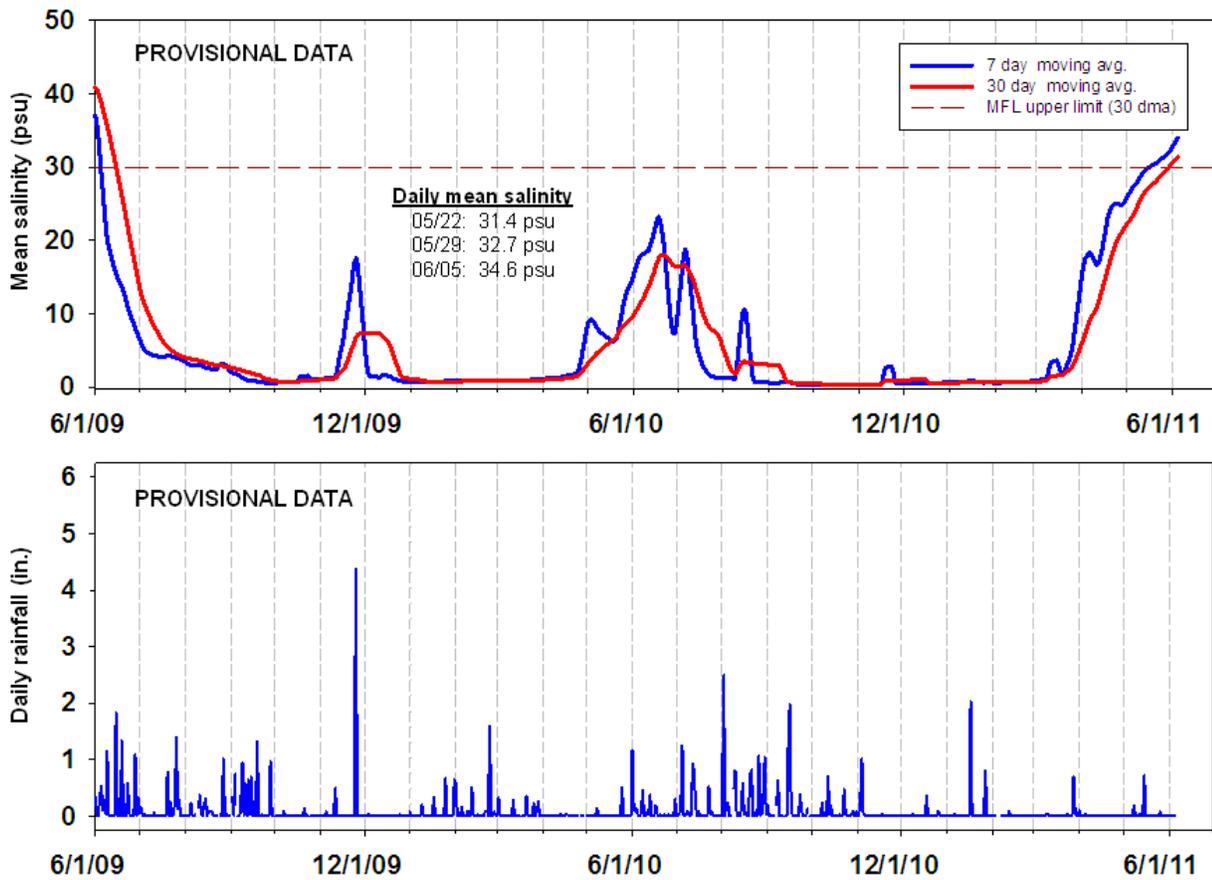
ENP LM/WB Salinity:

Salinity and Rainfall in Little Madeira Bay (station LM) and Whipray Basin (station WB)

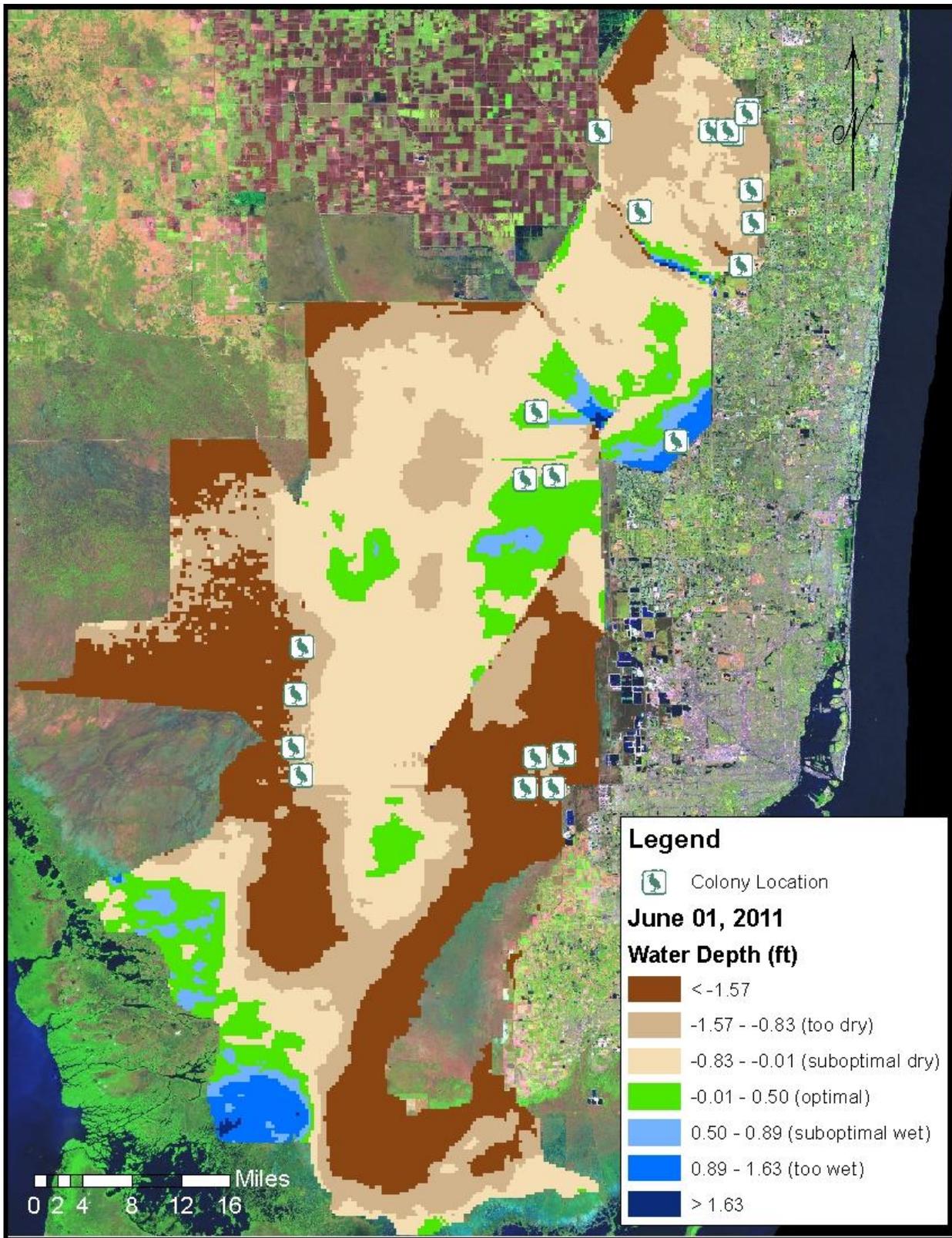


ENP MFL/TR Salinity:

Salinity, Florida Bay MFL Tracking, and Rainfall in Taylor River Ponds (station TR)



Foraging Wading Bird Flocks and Depths:

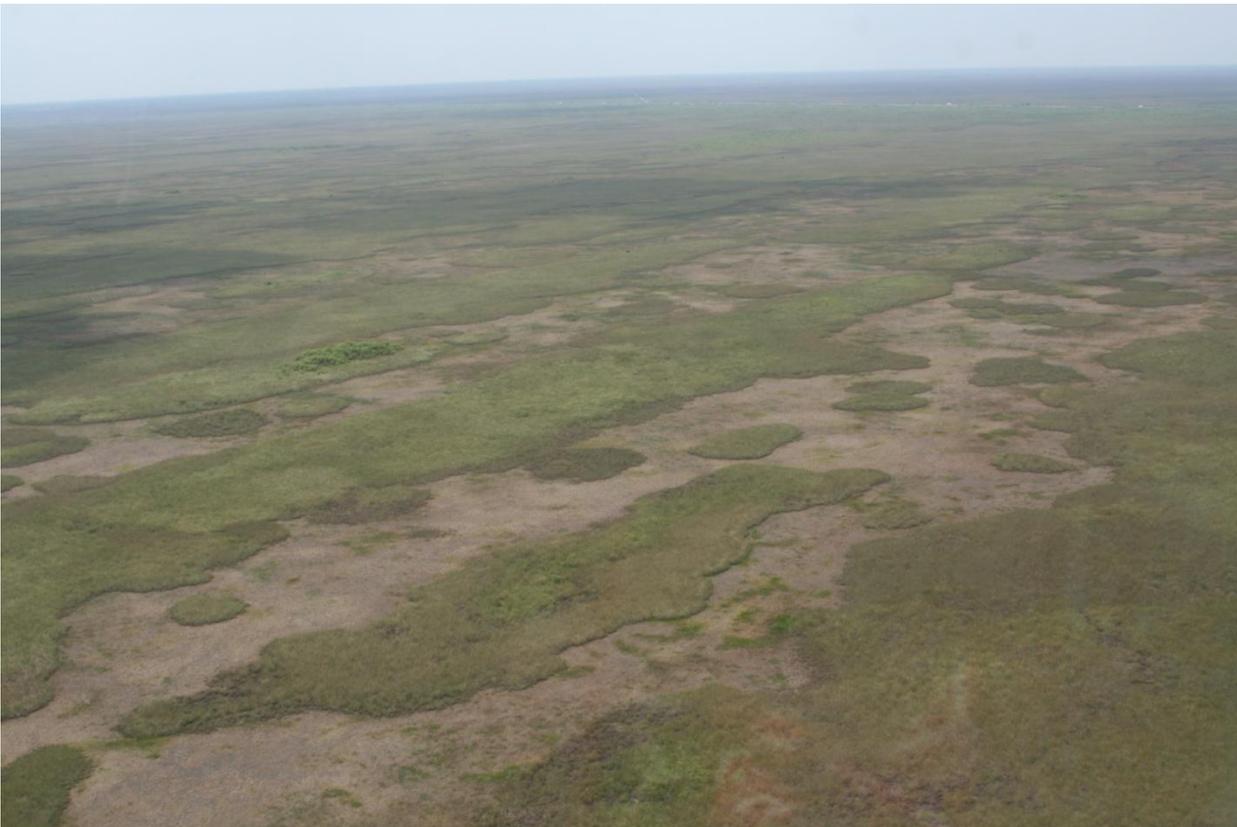


Photos of Dry Conditions in WCAs:

Central WCA1



Central WCA3A



Southernmost WCA3A



WCA3A north of L67



STATUS OF MINIMUM FLOWS AND LEVELS

The SFWMD has established many Minimum Flows and Levels throughout the South Florida ecosystem. The table below, updated every two weeks, provides the status of a portion of the MFLs across the regions. MFLs within the Everglades, Lake Okeechobee, and the Caloosahatchee River that are part of or served by the C&SF Project were not achieved immediately upon adoption of the MFL rule. This is largely because of the lack of adequate regional storage, including U.S. Army Corps of Engineer's regulation schedule effects, or ineffective water drainage and distribution infrastructure. This means meeting the MFL is dependent upon implementation of a recovery strategy, which is specific to each water body and can include future construction of storage and distribution infrastructure and associated operational changes.

The categories shown on the table are defined as follows:

Status (May 31, 2011)

Provides a present status of the MFL exceedance criteria using the best available information. There are three status designations that are shaded accordingly.

Compliant (Green): None of the MFL criteria are exceeded

Near Exceedance (Yellow): one of the mfl criteria are exceeded; e.g. duration but not depth, concentration but not duration

Exceedance (Red): the mfl criteria are presently exceeded

30-day Outlook

Provides a forecasted outlook of MFL exceedances for the next 30 days based on simple trend projections (e.g. graph trend extension over the next 30 days). There are three status designations that are shaded accordingly.

Compliant (Green): None of the MFL criteria would likely be exceeded within the next 30 days

Near Exceedance (Yellow): one of the mfl criteria are likely to be exceeded within the next 30 days; e.g. duration but not depth, concentration but not duration

Exceedance (Red): the mfl criteria are likely to be exceeded within the next 30 days.

Seasonal Outlook

Provides a forecasted outlook of MFL exceedances and violations relative to the present water year. There are four status designations that are shaded accordingly.

Compliance Probable (Green): No exceedance is likely due to the current trend and position relative to historical long-term trends

Exceedance Probable (Yellow): *A exceedance is likely due to the current trend and position relative to historical long-term trends, but the last exceedance date is beyond the return frequency date window (aligns with date of last exceedance column).*

Violation Probable (Orange): A violation is likely based on the current trend and position relative to historical long-term trends, and the last exceedance date is within the return frequency date window (aligns with date of last exceedance column).

Violation (Red): A violation is presently occurring or has occurred within the present water year

Date of Last Exceedance

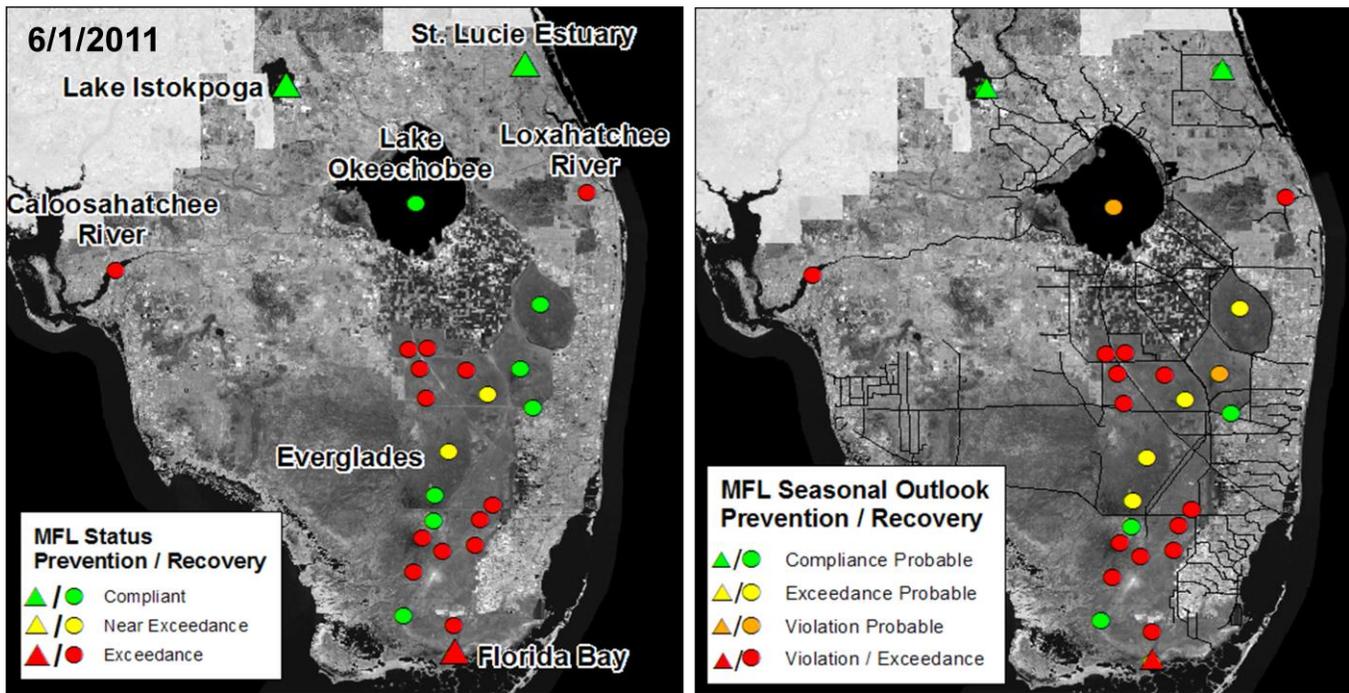
Provides the last exceedance date if there has been an exceedance since inception of the MFL or if the MFL is presently in exceedance. The shading denotes the proximity of the exceedance date with respect to the return frequency of the MFL violation criteria such that:

Green: either there are no exceedances since inception or the last exceedance date is beyond the return frequency window for a violation with the present date; should an exceedance occur there would not be a violation.

Yellow: the last exceedance date is within the return frequency window for a violation with the present date; should an exceedance occur there would be a violation

Red: Presently in exceedance

Minimum Flows and Levels map



Minimum Flows and Levels Table:

MFL Prevention Water Bodies	Status (6/1/2011)	30-day Outlook	Seasonal Outlook	Date of Last Exceedance
Lake Istokpoga	Compliant	Compliant	Compliance Probable	None
St. Lucie Estuary	Compliant	Compliant	Compliance Probable	None
Florida Bay	Exceedance	Exceedance	Exceedance	Present Exceedance
MFL Recovery Water Bodies	Status (6/1/2011)	30-day Outlook	Seasonal Outlook	Date of Last Exceedance
Lake Okeechobee	Compliant	Compliant	Violation Probable	8/3/2008
Northwest Fork of the Loxahatchee River	Exceedance	Exceedance	Violation	Present Exceedance
Caloosahatchee River	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: WCA-1 (1-7)	Compliant	Near Exceedance	Exceedance Probable	None
Everglades: WCA-2A (2A-17)	Compliant	Near Exceedance	Violation Probable	5/18/2009
Everglades: WCA-2B (SITE_99)	Compliant	Compliant	Compliance Probable	7/1/2007
Everglades: WCA-3A North (3A-NE)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: WCA-3A North (3A-NW)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: WCA-3A North (3A-2)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: WCA-3A North (3A-3)	Near Exceedance	Exceedance	Exceedance Probable	6/1/2007
Everglades: WCA-3A Central (3A-4)	Near Exceedance	Exceedance	Exceedance Probable	None
Everglades: WCA-3A South (3A-28)	Compliant	Near Exceedance	Exceedance Probable	None
Everglades: WCA-3B (3BS1W1)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: Rotenberger WMA (Rotts)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: Holeyland WMA (HoleyG)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: NE Shark Slough (NESRS-2)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: Central Shark Slough (NP-33)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: Central Shark Slough (NP-36)	Exceedance	Exceedance	Exceedance	Present Exceedance
Everglades: Marl wetlands east of Shark Slough (NP-38)	Compliant	Compliant	Compliance Probable	None
Everglades: Marl wetlands west of Shark Slough (NP-201)	Compliant	Compliant	Compliance Probable	5/29/2009
Everglades: Marl wetlands west of Shark Slough (G-620)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: Rockland marl marsh (G-1502)	Exceedance	Exceedance	Violation	Present Exceedance
Everglades: Taylor Slough (NP-67)	Exceedance	Exceedance	Violation	Present Exceedance

MEMORANDUM

TO: Susan Sylvester, Director, Operations Control and Hydro Data Management Department

THROUGH: Dean Powell, Deputy Director, Intergovernmental Programs Department

FROM: SFWMD Staff Water Supply Advisory Team

DATE: June 7, 2011

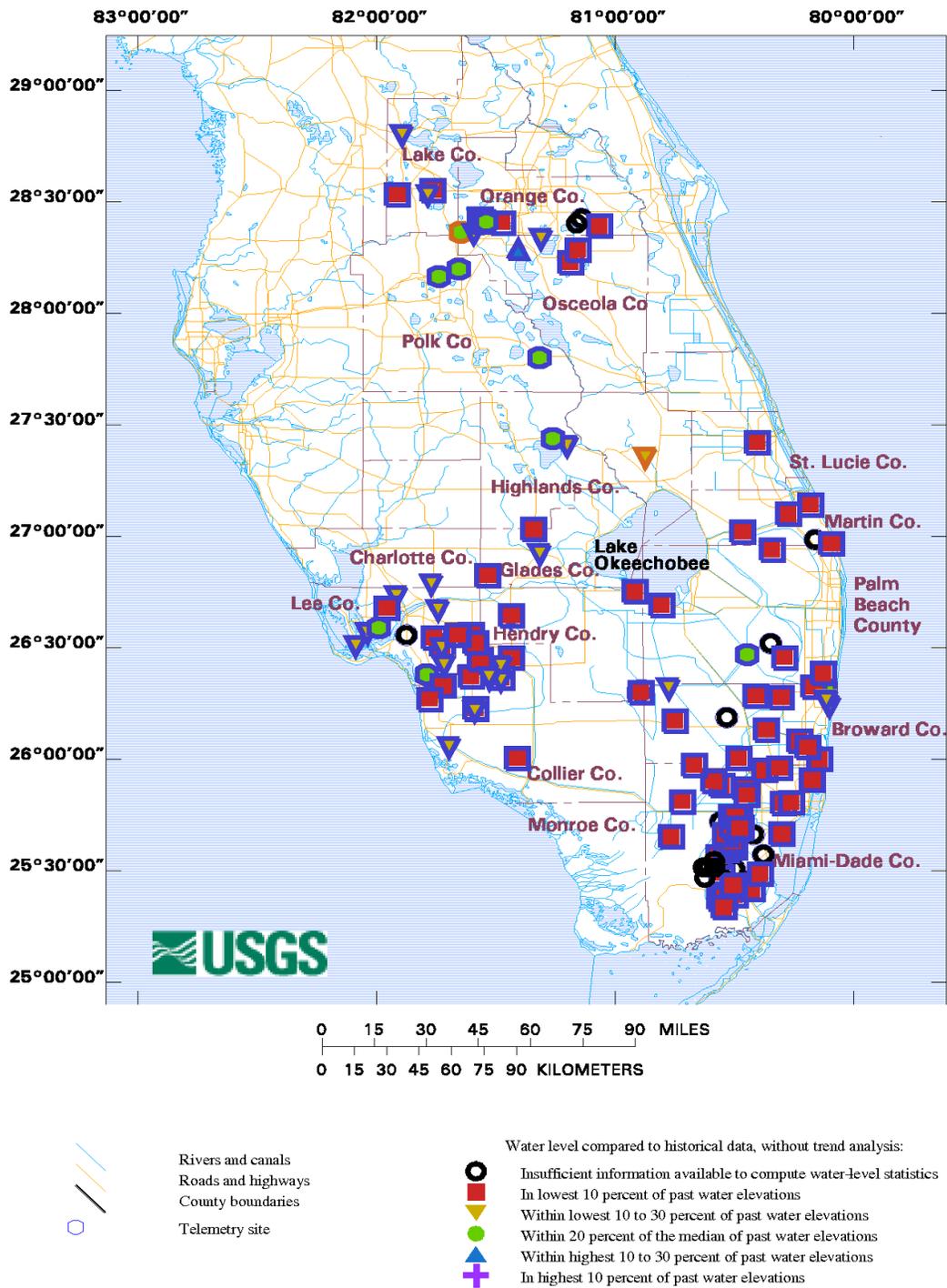
SUBJECT: Water Supply Report

District-wide Conditions

Groundwater levels decreased in most areas across the District over the last week. United States Geological Survey (USGS) real-time wells in the Kissimmee Basin have the highest water levels in the District, with about half of the stations at their median water levels and the rest between the lowest 10th and the lowest 30th percentile. Stages in the Upper East Coast (UEC) canals C-23, C-24 and C-25 are at 15.82, 15.84, and 14.74 ft NGVD, respectively, decreasing significantly from the previous week. Groundwater levels in the UEC remain in the lowest 10th percentile for their periods of record. Biscayne aquifer water levels decrease over the week in wells in the Lower East Coast (LEC). LEC groundwater elevations are well below average (about three-quarters in the lowest 10th percentile and the rest mostly in the lowest 10th to 30th percentile) for this time of year. Groundwater level changes were varied in the Lower West Coast (LWC). About two-thirds of the LWC Surficial aquifer wells are in the lowest 10th to 30th percentile. The Lower Tamiami and Sandstone aquifer showed small decline this week, with about half of the USGS Lower Tamiami aquifer wells now in the lowest 10th to 30th percentile and the rest distributed both higher and lower statistically. About one-quarter of Sandstone aquifer wells remain in the lowest 10th percentile for this time of year, with the rest in the lowest 10th to 30th percentile. The Mid-Hawthorn aquifer wells showed the largest decline this week with most wells remaining at the lowest 10th to the lowest 30th percentile levels.

Figure 1 is a USGS map showing current conditions developed from a 7-day running average of daily recorded water levels compared to the statistical distribution of daily water levels for the period of record for selected sites in southern Florida.

PROVISIONAL DRAFT -- Subject to Revision



**Water levels at selected sites in South Florida,
Based on PROVISIONAL DATA, as of June 6, 2011.**

**Figure 1. Current Water-level Conditions in South Florida (source: USGS,
http://www.sflorida.er.usgs.gov/ddn_data/index.html)**

Water Supply Technical Input to LORS2008

The Palmer Index for Lake Okeechobee (LOK) Tributary Conditions is -2.69, in the “extremely dry” classification this week, remaining in the “high” risk category. The LOK Stage for the next two months is projected to be in the Water Shortage Management Band; therefore the risk category to water supply remains “high.” The LOK Seasonal Net Inflow Forecast is projected as “normal to extremely wet” with “low” risk to water supply. The LOK Multi-Seasonal Net Inflow Forecast is projected as “normal” and is in the “medium” risk category (yellow) due to lake stage predictions. The Climate Prediction Center’s Precipitation Outlook is projected as “normal” for both 1 month and 3 months, and is in the “low” risk category. Stages in Water Conservation Areas 1, 2A, and 3A remained below line 2, in the “high” risk category. LEC Service Areas 1, 2, and 3 remained in the “high” risk category because of regionally low groundwater levels. **Figure 2** summarizes the water supply risk indicators.

LORS2008 Implementation on 06/06/2011 (ENSO La Niña Condition):

Water Supply Department Technical Input

Water Supply Outlook:

District wide, Raindar rainfall 0.01” for the week ending 06/06/2011. Lake stage on 06/06/2011 is 9.89 ft, down 0.25 ft from last week. The updated June 2011 SFWMM Position Analysis [percentile graph](#) and [tracking chart](#) for Lake Okeechobee show that the lake stage is in the Water Shortage Management Band.

The LORS2008 tributary [indices](#) are classified as **Dry**. The PDSI indicates dry condition and the LONIN is dry. The classification is based on the wetter of the two.

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Water Shortage Management Band	H
	Palmer Index for LOK Tributary Conditions	-2.69	H
		(Extremely Dry)	
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	
	LOK Seasonal Net Inflow Forecast	2.42 ft (Normal to Extremely Wet)	L
AMO warm/ENSO La Niña			
LOK Multi-Seasonal Net Inflow Forecast	1.89 ft (Normal)	M	
AMO warm/ENSO La Niña			
WCAs	WCA 1: Site 1-8C	Below Line 2 (13.53 ft)	H
	WCA 2A: Site S11B HW	Below Line 2 (9.67 ft)	H
	WCA-3A: S333 HW	Below Line 2 (6.58 ft)	H
LEC	Service Area 1	Modified Phase II restrictions in effect	H
	Service Area 2	Modified Phase II restrictions in effect	H
	Service Area 3	Modified Phase II restrictions in effect	H

Figure 2. Water Supply Risk Indicators

MEMORANDUM

TO: Tommy Strowd, Executive Director
Deena Reppen, Deputy Executive Director

FROM: Susan Sylvester, Director, Operations and Hydro Data Management Dept.
Linda Lindstrom, Director, Restoration Sciences Dept.
Dean Powell, Deputy Director, Water Supply Management Dept.

DATE: June 8, 2011

SUBJECT: Operational Position Statement for the Week of Jun 7 – Jun 13, 2011

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance. The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and have evaluated the overall status of the water management system. Detailed reports are available at the SFWMD's [Operational Planning](#) internet page.

Weather and Climate

Rainfall during the past week totaled 0.04 inches district wide. Rainfall during the past 30 days totaled 1.81 inches (39% of average). Water supply releases continue due to lack of sufficient rainfall. The SFWMD precipitation outlook for the next ten days is near-average with low confidence. Tropical moisture is expected to move over the southern portion of the peninsula Thursday. The CPC precipitation outlook for May and for the May-June-July period shows equal chances of normal, above-normal, and below-normal rainfall.

Lake Okeechobee Stage and Regulation Schedule

The June 7, 2011 Lake Okeechobee stage reported by the USACE was 9.86 feet NGVD. The lake stage decreased about 0.28 feet during the past week; the stage is about 0.9 feet lower than it was a month ago and about 4.7 feet lower than a year ago. The current stage is about 3.3 feet lower than the historical average for this date.

The Lake Okeechobee stage fell into the Water Shortage Band of the 2008-LORS on Friday, March 18th. Due to late March rainfall, the stage rose above the Water Shortage Band on April 4th. The stage fell back into the Water Shortage band on April 29th. The current stage is 0.74 feet below the top of the Water Shortage Band. Phase 3 water shortage restrictions (45% cutbacks) remain in effect. The USACE's Water Control Plan for Lake Okeechobee and the EAA defers to the SFWMD's Water Shortage Plan for operations in the Water Shortage Band. "Operations in this band are governed by the SFWMD's Lake Okeechobee Water Shortage Management (LOWSM) Plan. The goal of this band is to manage existing water supplies contained within Lake Okeechobee in accordance with SFWMD rules and guidance." (p7-24, sec 7-08.a.).

Water Supply Risk Indicators

The risk status for the Lake Okeechobee Area remained the same as last week. Two of the five LOSA water supply risk indicators are in the “high risk” category: the 2-month projection of Lake O stage, and the Palmer Index, which changed from -2.42 to -2.69. The Lake O Multi-Seasonal Net Inflow Forecast risk indicator is in the “medium risk” category. The CPC precipitation outlook, and the Lake Okeechobee Seasonal Net Inflow Forecast both remain in the “low risk” category.

For the WCAs the risk status is the same as last week: All WCAs are in the “high” risk category. For the Lower East Coast areas, all of the water supply risk indicators remain in the “high risk” category. Water use restrictions are in effect (refer to chronology below).

Water Shortage History

On November 10, 2010, the District Governing Board issued a “Water Shortage Warning” for the Lake Okeechobee, Lake Istokpoga and the Indian Prairie Water Use Basins. The Water Shortage Warning calls for voluntary water conservation among all users and will provide for increased communication and outreach to water users, local governments and elected officials on the potential for water shortage conditions to intensify during the upcoming dry season.

On December 9, 2010, the District Governing Board delegated authority to the Executive Director to issue a Water Shortage Order implementing water restrictions in the Lake Okeechobee Service Area (LOSA) when the Lake stage recedes into the Water Shortage Management (WSM) Band of the 2008 LORS. Considering the La Niña analog years of the 1-February Position Analysis stage forecast and the current recession rate, the stage could fall into the WSM Band in late February 2011, potentially leading to 3 or more months of water shortage in the LOSA.

On March 10, 2011, the District Governing Board approved a “Water Shortage Warning” for all the residents and businesses throughout the District’s 16-county region to voluntarily reduce water use. Under a separate water shortage order, specific permitted water users in the L-8 Basin of Palm Beach County are required to reduce withdrawals by 15 percent. The SFWMD intends to issue water restriction orders for the Lake Okeechobee Service Area when the Lake stage falls into the Water Shortage Management Band.

On March 21, 2011, the SFWMD issued water shortage orders and declared water use restrictions for the entire district. Of relevance to Lake Okeechobee is a 15-percent cutback for all agricultural, nursery and diversion and impoundment surface water users within the Lake Okeechobee Service Area (LOSA).

On Thursday, May 12, 2011, the District Governing Board declared a Modified Phase III Extreme Water Shortage in the Lake Okeechobee Service Area (LOSA), and 45 percent cutbacks on surface water users were implemented on May 23, 2011, after the Lake stage fell below elevation 10.5 ft, NGVD.

Installation of temporary pumps at S-352 was completed by May 27th. Temporary pump installation at S-351 is expected to be completed by June 8th. The gravity discharge capacity of the gated spillway at S-352 and S-351 is insufficient to meet the water shortage allocations for the permitted users served by the West Palm Beach, Hillsboro and North New River Canals. The decision whether to proceed with pump installation at S-354 will depend on the timing of gravity discharge capability as well as the start of the wet season rainfall.

Further information is available at www.sfwmd.gov.

Groundwater Levels

Groundwater levels decreased in most areas across the District over the last week. United States Geological Survey (USGS) real-time wells in the Kissimmee Basin have the highest water levels in the District, with about half of the stations at their median water levels and the rest between the lowest 10th and the lowest 30th percentile. Stages in the Upper East Coast (UEC) canals C-23, C-24 and C-25 are at 15.82, 15.84, and 14.74 ft NGVD, respectively, decreasing significantly from the previous week. Groundwater levels in the UEC remain in the lowest 10th percentile for their periods of record. Biscayne aquifer water levels decreased over the week in wells in the Lower East Coast (LEC). LEC groundwater elevations are well below average (about three-quarters in the lowest 10th percentile and the rest mostly in the lowest 10th to 30th percentile) for this time of year.

Groundwater level changes were varied in the Lower West Coast (LWC). About two-thirds of the LWC Surficial aquifer wells are in the lowest 10th to 30th percentile. The Lower Tamiami and Sandstone aquifer showed small decline this week, with about half of the USGS Lower Tamiami aquifer wells now in the lowest 10th to 30th percentile and the rest distributed both higher and lower statistically. About one-quarter of Sandstone aquifer wells remain in the lowest 10th percentile for this time of year, with the rest in the lowest 10th to 30th percentile. The Mid-Hawthorn aquifer wells showed the largest decline this week with most wells remaining at the lowest 10th to the lowest 30th percentile levels.

Everglades WCAs and STAs

Water levels in the WCAs and STAs continue to recede due to high evapotranspiration typical during this time of year. All WCA stages remain well-below desirable levels as well as below their respective regulation schedules. The WCA-1 stage is below its environmental floor elevation (14.0 ft, NGVD). WCA-2A stage is below its floor elevation (10.5 ft, NGVD) and WCA-3A stage is also below its floor (7.5 ft, NGVD). Limited water supply releases from the WCAs are being made, and supplemented with Lake Okeechobee releases as required. Environmental water deliveries from Lake Okeechobee to the STAs are expected to be little to none for the remainder of the dry season. No environmental deliveries from Lake Okeechobee to the WCAs or to Everglades National Park are anticipated. There are currently no environmental water deliveries from WCA-3A to ENP per the Shark Slough Rainfall Plan since the target flows continue to be zero.

St. Lucie Estuary

Salinity continues to rise and is above the desirable range, however conditions in the SLE are environmentally acceptable. It is recommended that the estuary should not receive inflows from the Lake. To conserve water supplies, if C-44 basin runoff occurs, it is recommended that the USACE adjust their operations, as necessary, to direct C-44 basin runoff westward to Lake Okeechobee, and not eastward through S-80 to tide.

Caloosahatchee Estuary

The Adaptive Protocols for Lake Okeechobee Operations is being used to make the flow recommendation for the Caloosahatchee Estuary. This week the Adaptive Protocol release guidance suggests no releases from Lake Okeechobee at S-77.

The detailed information regarding the Adaptive Protocol release guidance follows:

Each Tuesday the Coastal Ecosystem Division reviews the salinity conditions in the Caloosahatchee estuary and the predicted salinity for 14 days into the future at I-75 is evaluated. The criterion for when the estuary needs water depends on the two week predicted salinity at I-75 Bridge being at least 5 psu. This week the 30-day moving average salinity at the

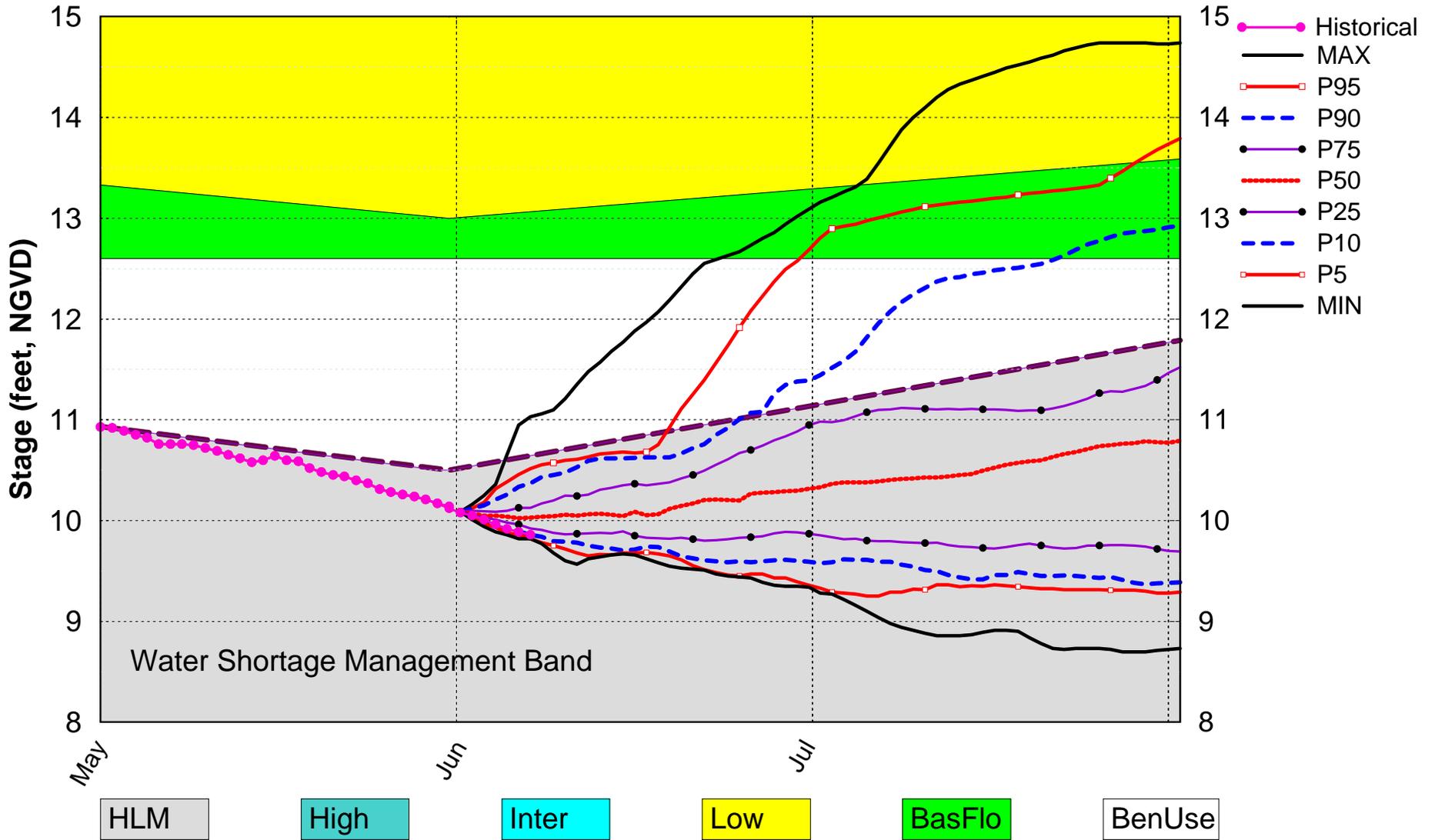
I-75 Bridge is forecast to exceed 5 psu during part of the next two weeks. Therefore according to the salinity criterion, the estuary needs additional flow.

The lower branch of the Adaptive Protocol release guidance flowchart applies since the stage is in or below the Beneficial Use Subband of the regulation schedule. With the current Lake stage falling within the Water Shortage Band, the guidance suggests no releases.

Therefore, in accordance with the SFWMD's [Final Adaptive Protocols for Lake Okeechobee Operations](#), the SFWMD recommends that the USACE make no Lake Okeechobee releases to the Caloosahatchee Estuary for the week beginning June 10th.

Lake Okeechobee SFWMM June 2011 Position Analysis

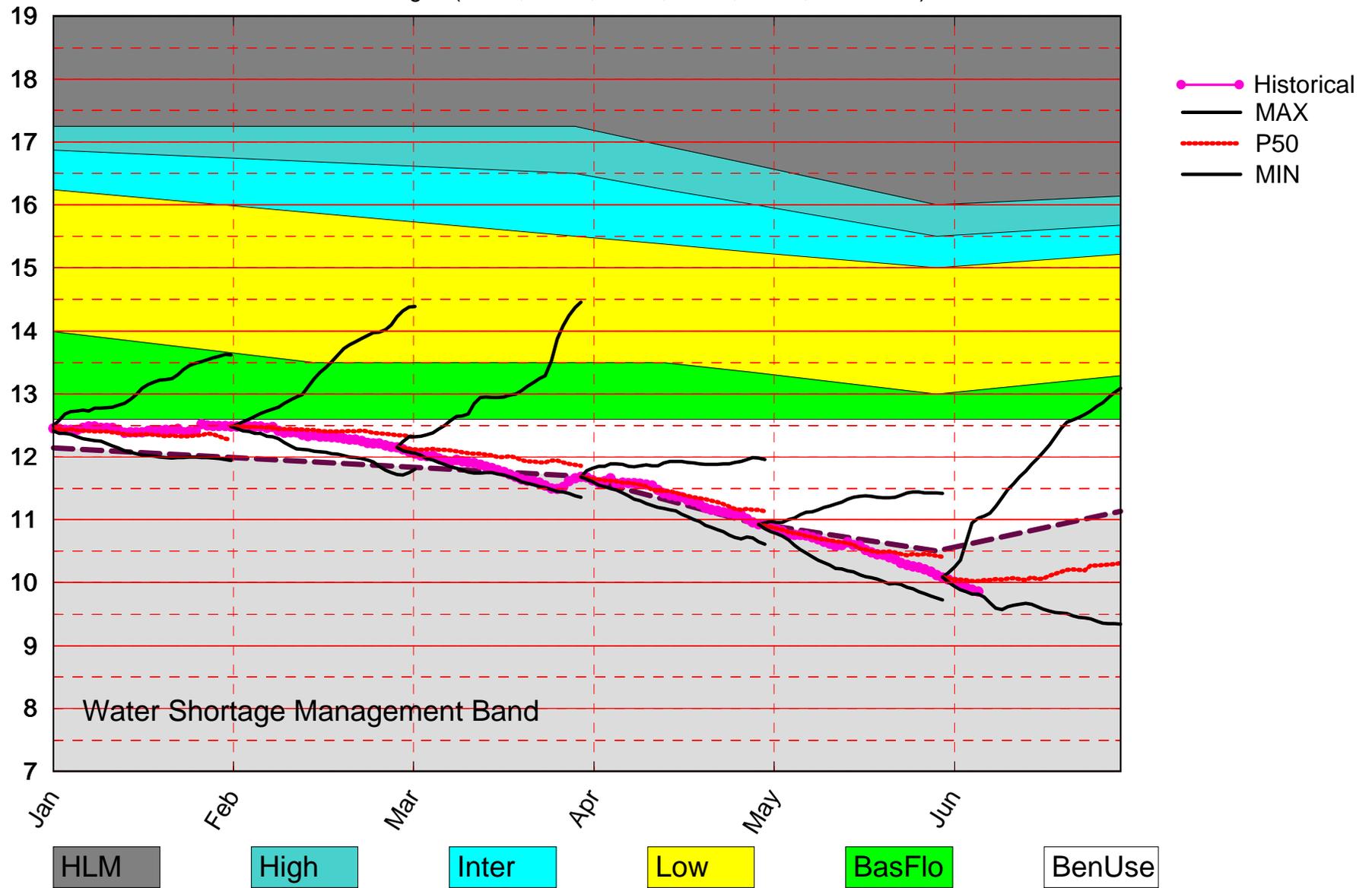
Percentiles PA_V2



(See assumptions on the Position Analysis Results website)

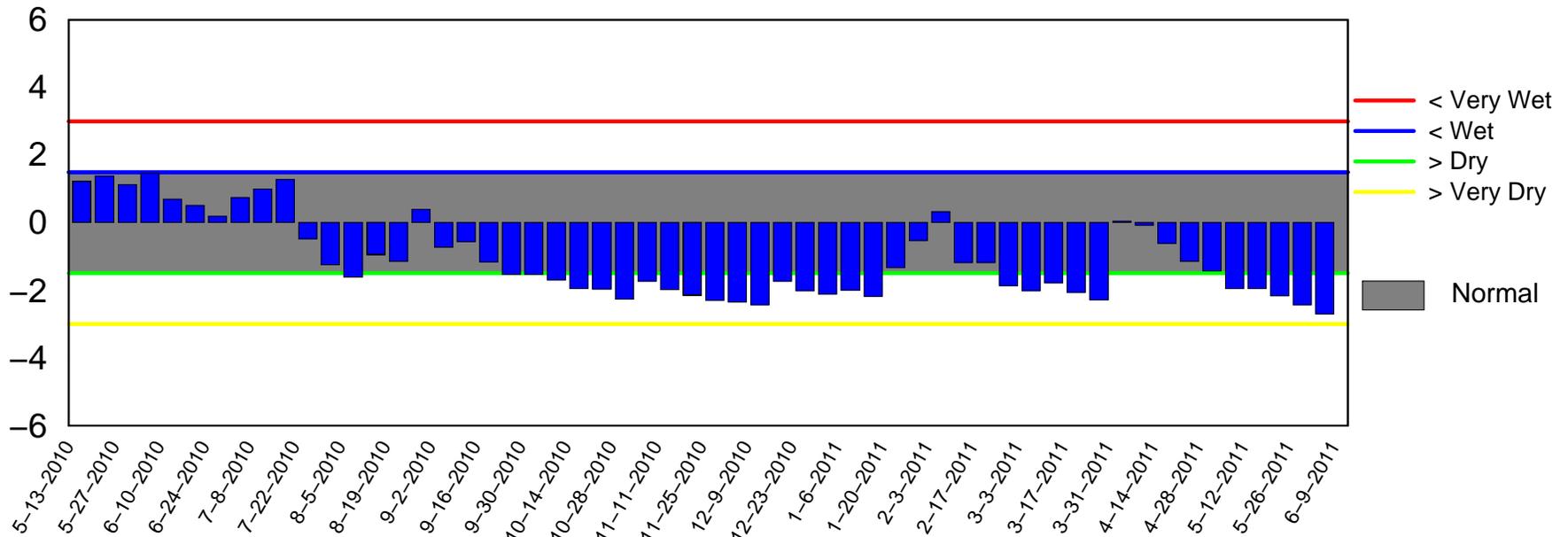
Lake Okeechobee Position Analysis Comparisons Jan 2011 – Jun 2011

Initialization Stages (12.45; 12.48; 12.15; 11.68; 10.93; 10.09 feet)

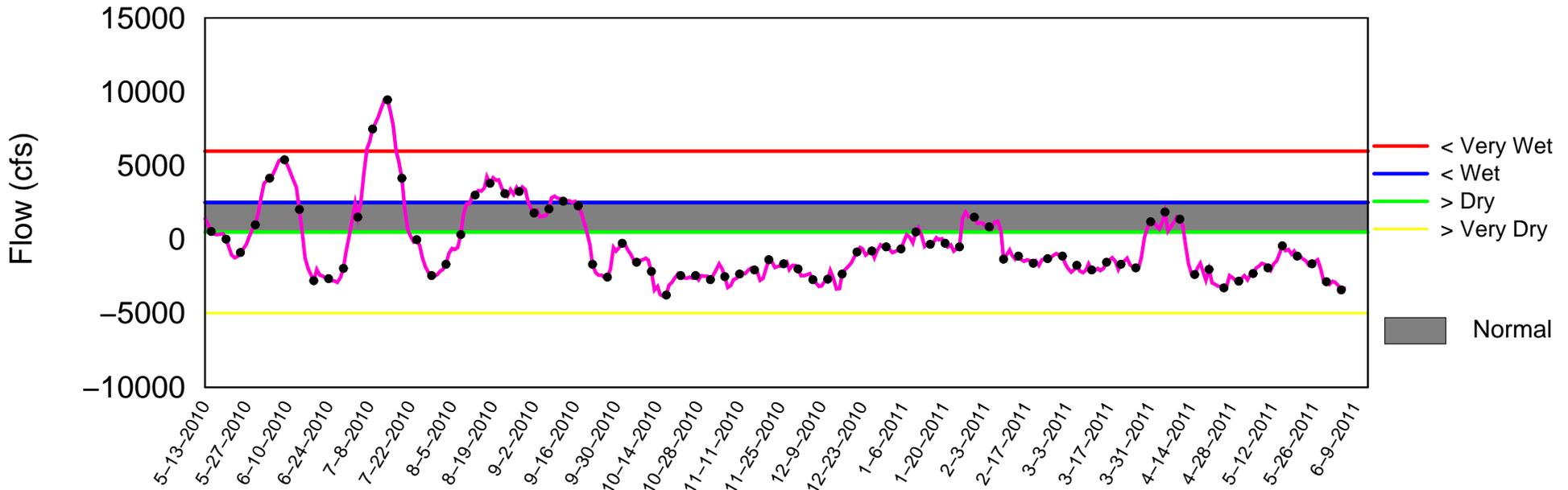


Tributary Basin Condition Indicators as of June 6 2011

Palmer Index



Lake Okeechobee Net Inflow (LONIN) 14-day Running Average

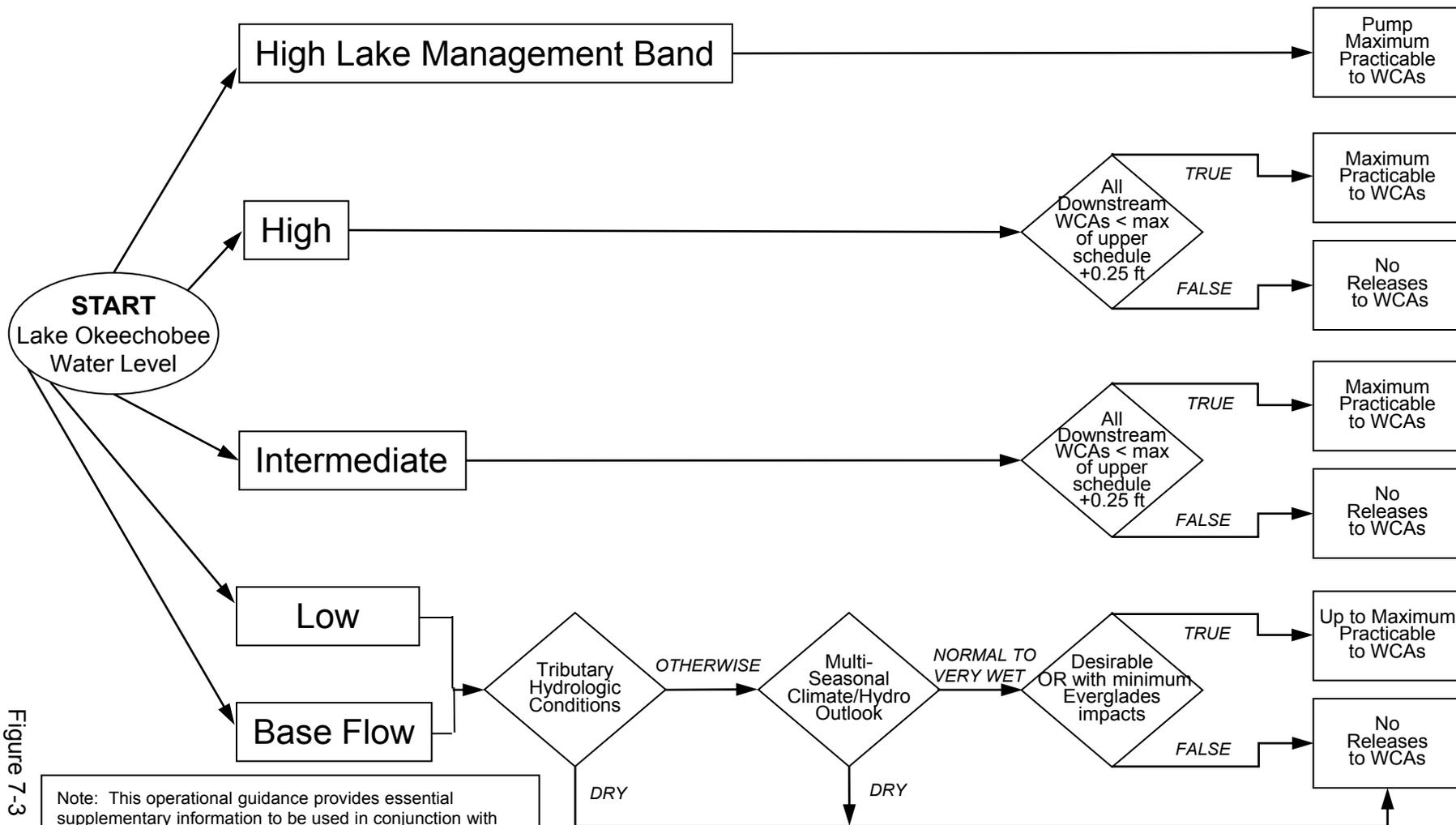


2008 LORS

Part C: Establish Allowable Lake Okeechobee Releases to the Water Conservation Areas

*Apply Multi-Seasonal
Climate/Hydrologic Outlooks
on a Monthly Basis*

*Apply Tributary
Condition
Criteria Daily*



Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

Figure 7-3

2008 LORS

Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)

Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

When conducting Base Flow releases, flows can be distributed East and West up to 650 cfs as needed to minimize impacts or provide benefits through S-80 and S-79

Apply Meteorological Forecasts on a Weekly Basis; apply Seasonal and Multi-Seasonal Climate/Hydrologic Outlooks on a Monthly Basis

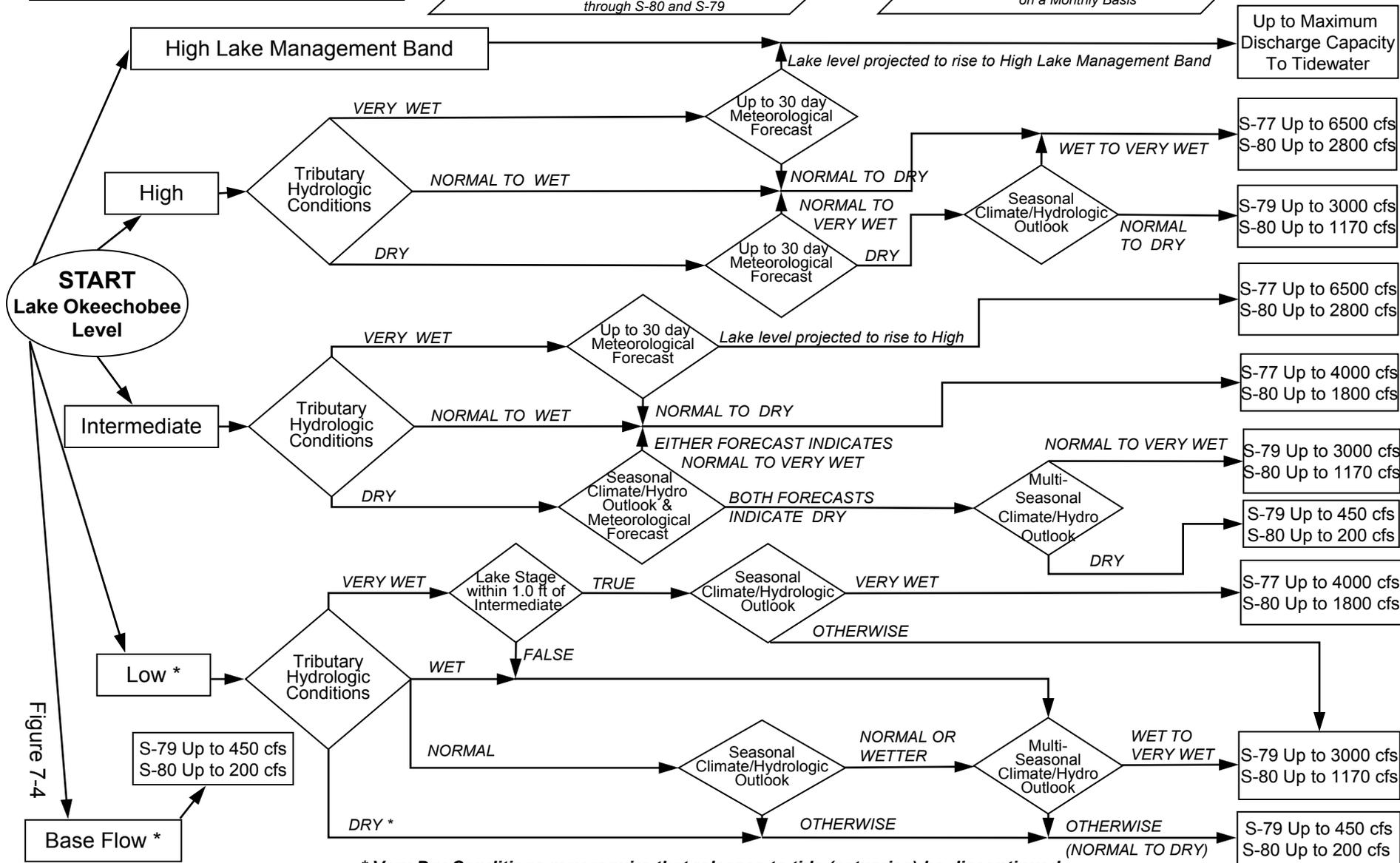
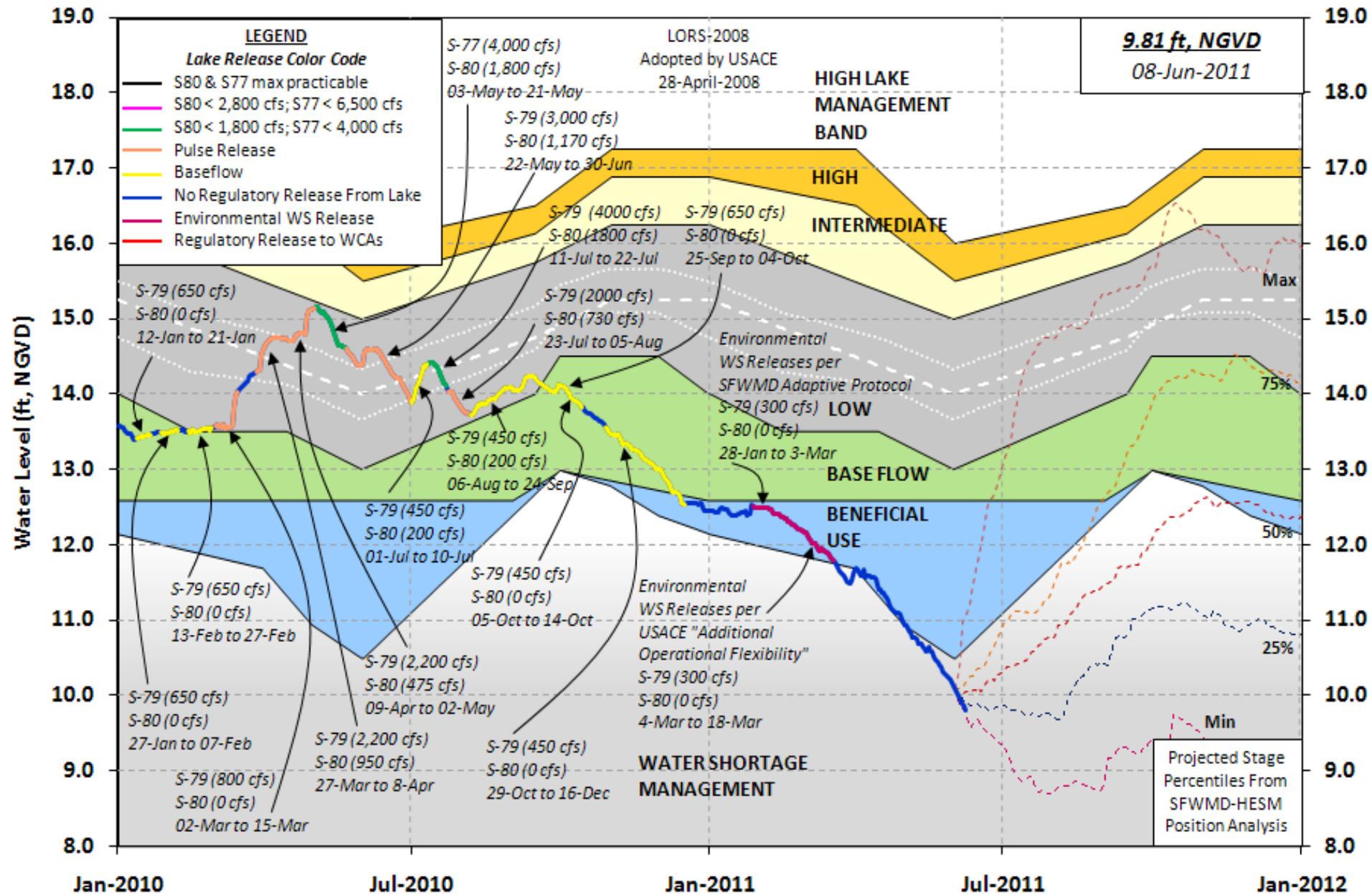


Figure 7-4

Lake Okeechobee Water Level History and Projected Stages



U. S. Army Corps of Engineers, Jacksonville District
Lake Okeechobee and Vicinity Report

Data Ending 2400 hours 05 JUN 2011

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	9.89	14.58	11.52 (Official Elv)
Bottom of High Lake Mngmt=	16.02	Top of Water Short Mngmt=	10.58
Currently in Water Shortage Management Band			

Simulated Average LORS2008 [1965-2000] 11.97
Difference from Average LORS2008 -2.08

05JUN (1965-2007) Period of Record Average 13.13
Difference from POR Average -3.24

Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 3.83'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 2.03'
Bridge Clearance = 54.03'

4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values):

L001	L005	L006	LZ40	S4	S352	S308	S133
9.69	9.99	9.90	9.98	10.10	9.92	9.83	9.78

*Combination Okeechobee Avg-Daily Lake Average = 9.89
(*See Note)

Okeechobee Inflows (cfs):

S65E	121	S191	-NR-	Fisheating Cr	0
S154	-NR-	S133 Pumps	0	S135 Pumps	0
S84	-NR-	S127 Pumps	0	S2 Pumps	0
S71	-NR-	S129 Pumps	0	S3 Pumps	0
S72	-NR-	S131 Pumps	0	S4 Pumps	0
Total Inflows:	121				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	-NR-	S77	-1
S127 Culverts	0	S351	-NR-	S308	1498
S129 Culverts	0	S352	-NR-		
S131 Culverts		L8 Canal Pt	-9		
C5	-NR-				
Total Outflows:	1487				

Okeechobee Pan Evaporation (inches):

S77	0.38	S308	0.34
Average Pan Evap x 0.75 Pan Coefficient = 0.27" = 0.02'			

Lake Average Precipitation using NEXRAD: = 0.00" = 0.00'

Evaporation - Precipitation: = 0.27" = 0.02'

Evaporation - Precipitation using Lake Area of 730 square miles
is equal to 5300 cfs out of the lake.

Lake Okeechobee (Change in Storage) Flow is -4487 cfs or -8900 AC-FT

Note: Headwater, tailwater, and stage values below are instantaneous values unless otherwise specified.

	Headwater Elevation (ft-msl)	Tailwater Elevation (ft-msl)	Disch (cfs)	----- Gate Positions -----							
				#1 (ft)	#2 (ft)	#3 (ft)	#4 (ft)	#5 (ft)	#6 (ft)	#7 (ft)	#8 (ft)
(I) see note at bottom											
North East Shore											
S133 Pumps:	10.35	9.76	0	0	0	0	0	0	0		(cfs)
S193:											
S191:	17.02	10.03	-NR-	0.0	0.0	0.0					
S135 Pumps:	9.20	9.20	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.87	9.83	121	0.0	0.0	0.0	0.0	0.2	0.0		
S127 Pumps:	11.36	9.56	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	11.22	10.28	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	11.63	10.47	0	0	0						(cfs)
S131 Culvert:											
Fisheating Creek											
nr Palmdale		27.18	0								
nr Lakeport		10.82									
C5:		10.17	-NR-	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	10.22	10.16	0	0	0	0					(cfs)
S169:	10.21	10.36	-NR-	4.0	4.0	4.0					
S310:			-NR-								
S3 Pumps:	9.90	10.13	0	0	0	0					(cfs)
S354:	10.13	9.90	-NR-	7.0	7.0						
S2 Pumps:	9.85	10.01	0	0	0	0	0				(cfs)
S351:	10.01	9.85	-NR-	-NR-	-NR-	-NR-					
S352:	9.85	10.32	-NR-	0.0	0.0						
C10A:	-NR-	9.73		-NR-	-NR-	7.0	-NR-	-NR-			
L8 Canal PT		10.26	-9								

Temporary Pumps

S351:	9.85	10.01	-NR-								
S352:	10.32	9.85	-NR-								
S354:	9.90	10.13	-NR-								

Caloosahatchee River (S77, S78, S79)

S47B:	10.12	9.96		0.0	0.0						
S47D:	9.99	10.00	-NR-	2.0							
S77:											
Spillway and Sector Flow:											
	10.21	10.16	-1	3.0	3.0	3.0	3.0				
Flow Due to Lockages+:			0								

S77 Below USGS Flow Gage 355

S78:

Spillway and Sector Flow:								
	10.07	2.58	100	0.0	0.0	0.3	0.0	
Flow Due to Lockages+:			12					

S79:

Spillway and Sector Flow:											
	2.71	0.89	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow Due to Lockages+:			2								
Percent of flow from S77			-NR-%								
Chloride		(ppm)	-N								

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:							
	9.77	9.47	1497	0.0	2.5	2.5	0.0
Flow Due to Lockages+:			1				

S308 Below USGS Flow Gage -NR-

S153:	18.48	9.34	-NR-	0.0	0.0
-------	-------	------	------	-----	-----

S80:

Spillway and Sector Flow:										
	9.54	0.54	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow Due to Lockages+:			3							
Percent of flow from S308			-NR-%							

Steele Point Top Salinity (mg/ml) -N

Steele Point Bottom Salinity (mg/ml) -N

Speedy Point Top Salinity (mg/ml) -N

Speedy Point Bottom Salinity (mg/ml) -N

+ Flow Due to lockages is computed utilizing average daily headwater and tailwater along with total number of lockages for the day to calculate a volume which is then converted to an average discharge in cfs.

Daily Precipitation Totals	1-Day (inches)	3-Day (inches)	7-Day (inches)	----- Wind -----	
				Direction (Degø)	Speed (mph)
S133 Pump Station:	0.00	0.00	0.00		
S193:	-NR-	0.00	0.00	-NR-	-NR-
Okeechobee Field Station:	-NR-	0.00	0.00		
S135 Pump Station:	0.00	0.00	0.00		
S127 Pump Station:	0.00	0.00	0.00		
S129 Pump Station:	0.00	0.00	0.00		
S131 Pump Station:	0.00	0.00	0.00		
S77:	0.00	0.00	0.00	238	1
S78:	0.00	0.00	0.00	88	4
S79:	0.00	0.00	0.00	0	0
S4 Pump Station:	-NR-	0.00	0.00		
Clewiston Field Station:	0.00	0.00	0.01		
S3 Pump Station:	0.00	0.00	0.00		
S2 Pump Station:	0.00	0.00	0.00		
S308:	0.00	0.02	0.04	43	1
S80:	0.00	0.00	0.00	90	0
Okeechobee Average	0.00	0.00	0.00		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	0.00	0.00	0.00		

Okeechobee Lake Elevations	05 JUN 2011	9.89	Difference from 05JUN11
05JUN11 -1 Day =	04 JUN 2011	9.92	0.03
05JUN11 -2 Days =	03 JUN 2011	9.96	0.07
05JUN11 -3 Days =	02 JUN 2011	10.01	0.12
05JUN11 -4 Days =	01 JUN 2011	10.05	0.16
05JUN11 -5 Days =	31 MAY 2011	10.08	0.19
05JUN11 -6 Days =	30 MAY 2011	10.12	0.23
05JUN11 -7 Days =	29 MAY 2011	10.17	0.28
05JUN11 -30 Days =	06 MAY 2011	10.76	0.87
05JUN11 -1 Year =	05 JUN 2010	14.58	4.69
05JUN11 -2 Year =	05 JUN 2009	11.52	1.63

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = 5.05

Lake Okeechobee Net Inflow (LONIN)					
Average Flow over the previous 14 days					Avg-Daily Flow
05JUN11	Today =	05 JUN 2011	-NR-	MON	-NR-
05JUN11	-1 Day =	04 JUN 2011	-NR-	SUN	-NR-
05JUN11	-2 Days =	03 JUN 2011	-NR-	SAT	-NR-
05JUN11	-3 Days =	02 JUN 2011	-NR-	FRI	-NR-
05JUN11	-4 Days =	01 JUN 2011	-NR-	THU	-NR-
05JUN11	-5 Days =	31 MAY 2011	-3036	WED	-NR-
05JUN11	-6 Days =	30 MAY 2011	-2950	TUE	-NR-
05JUN11	-7 Days =	29 MAY 2011	-3232	MON	-4663
05JUN11	-8 Days =	28 MAY 2011	-2376	SUN	-3412
05JUN11	-9 Days =	27 MAY 2011	-1741	SAT	-648
05JUN11	-10 Days =	26 MAY 2011	-1850	FRI	-832
05JUN11	-11 Days =	25 MAY 2011	-1913	THU	-1911
05JUN11	-12 Days =	24 MAY 2011	-2007	WED	-6927
05JUN11	-13 Days =	23 MAY 2011	-1671	TUE	-2627

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
05JUN11	Today=	05 JUN 2011	264	MON	121
05JUN11	-1 Day =	04 JUN 2011	292	SUN	166
05JUN11	-2 Days =	03 JUN 2011	314	SAT	86
05JUN11	-3 Days =	02 JUN 2011	357	FRI	151
05JUN11	-4 Days =	01 JUN 2011	392	THU	124
05JUN11	-5 Days =	31 MAY 2011	436	WED	230
05JUN11	-6 Days =	30 MAY 2011	480	TUE	362
05JUN11	-7 Days =	29 MAY 2011	494	MON	311
05JUN11	-8 Days =	28 MAY 2011	533	SUN	300
05JUN11	-9 Days =	27 MAY 2011	563	SAT	238
05JUN11	-10 Days =	26 MAY 2011	600	FRI	270
05JUN11	-11 Days =	25 MAY 2011	638	THU	415
05JUN11	-12 Days =	24 MAY 2011	664	WED	474
05JUN11	-13 Days =	23 MAY 2011	694	TUE	448

Lake Okeechobee Outlets Last 14 Days

DATE	S-77 Discharge (0700-2100) (AC-FT)	S-77 Discharge (ALL DAY) (AC-FT)	S-78 Discharge (0700-2100) (AC-FT)	S-78 Discharge (ALL DAY) (AC-FT)	Below S308 Discharge (ALL DAY) (AC-FT)	S-308 Discharge (ALL DAY) (AC-FT)
05 JUN 2011	72	-2	118	222	-NR-	2970
04 JUN 2011	222	254	118	205	-NR-	1984
03 JUN 2011	260	278	117	-NR-	-NR-	2457
02 JUN 2011	673	1007	117	207	-NR-	846
01 JUN 2011	381	563	116	207	-NR-	-NR-
31 MAY 2011	519	619	117	215	9	0

30 MAY 2011	406	405	118	209	36	-0
29 MAY 2011	476	428	114	206	30	-0
28 MAY 2011	337	206	101	183	31	0
27 MAY 2011	175	32	88	190	240	1276
26 MAY 2011	403	286	89	186	388	1114
25 MAY 2011	462	595	115	143	306	1302
24 MAY 2011	404	658	0	13	328	1254
23 MAY 2011	242	151	0	-NR-	252	825

	S-79	S-310	S-351	S-352	S-354	L8 Canal Pt
	Discharge	Discharge	Discharge	Discharge	Discharge	Discharge
	(ALL DAY)					
DATE	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)
05 JUN 2011	4	-NR-	-NR-	-NR-	-NR-	-18
04 JUN 2011	4	-NR-	-NR-	-NR-	-NR-	-14
03 JUN 2011	3	-NR-	-NR-	-NR-	-NR-	-18
02 JUN 2011	4	-NR-	-NR-	-NR-	-NR-	40
01 JUN 2011	3	-NR-	-NR-	-NR-	-NR-	75
31 MAY 2011	4	-NR-	1723	873	1725	88
30 MAY 2011	5	-NR-	1275	873	1709	20
29 MAY 2011	-NR-	-NR-	1035	873	1515	-18
28 MAY 2011	-NR-	-NR-	549	873	1204	-10
27 MAY 2011	3	-NR-	1567	857	1372	11
26 MAY 2011	4	-NR-	1898	389	1057	6
25 MAY 2011	3	-NR-	2011	607	1341	54
24 MAY 2011	3	-NR-	2142	664	1245	96
23 MAY 2011	2	-NR-	1787	518	1352	56

	Below S-77
	Discharge
	(ALL DAY)
DATE	(AC-FT)
05 JUN 2011	704
04 JUN 2011	1028
03 JUN 2011	997
02 JUN 2011	1577
01 JUN 2011	1218
31 MAY 2011	1397
30 MAY 2011	1165
29 MAY 2011	1311
28 MAY 2011	882
27 MAY 2011	1014
26 MAY 2011	1348
25 MAY 2011	658
24 MAY 2011	1603
23 MAY 2011	1003

*** NOTE: 1) Discharge from (0700-2100) is computed using Spillway and Sector Gate Discharges from 0700 hrs to 2100 hrs.
 2) Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

* On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average. On 14 Mar 2001, due to the isolation of various gages within the standard 10 stations, the average of the interior 4 station gages was used as the Lake Okeechobee Elevation. On 05 November 2010, Lake Okeechobee Elevation was switched to a 9 gage mix of interior and edge gages to obtain a more reliable representation

of the lake level.

On 09 May 2011, Lake Okeechobee Elevation was switched to a 8 gage mix of interior and edge gages to obtain a more reliable representation of the lake level due to isolation of S135 from low lake levels.

Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations

++ For more information see the Jacksonville District Navigation website at

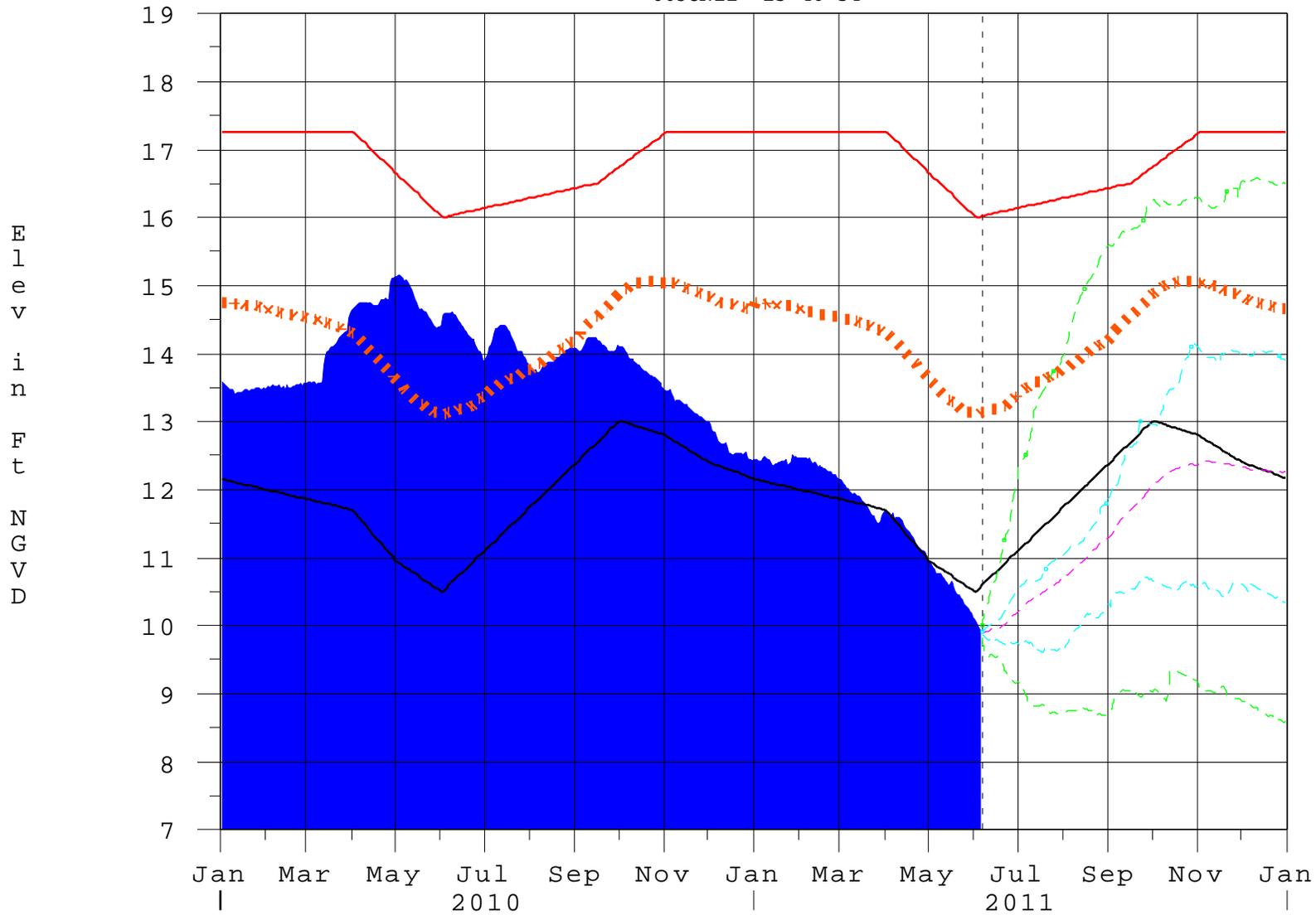
<http://www.saj.usace.army.mil/Divisions/Operations/Branches/HydroSurvey/hydro.php>

\$ For information regarding Lake Okeechobee Service Area water restrictions please refer to www.sfwmd.gov

Report Generated 06JUN2011 @ 16:17 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

06JUN11 15:46:34



- | | | | |
|--|-----------------------------|--|-----------------------------|
| | High Lake Management | | Min Prob(No Release[65-07]) |
| | Okeechobee Avg Elev | | Avg Prob(No Release[65-07]) |
| | Average Elev [1965-2007] | | 25% Prob(No Release[65-07]) |
| | Water Shortage Management | | 75% Prob(No Release[65-07]) |
| | Max Prob(No Release[65-07]) | | |

Classification Tables

Supplemental Tables used in conjunction with the LORS2008 Release

Guidance Flow Charts

- [Class Limits for Tributary Hydrologic Conditions](#)

Table K-2 in the Lake Okeechobee Water Control Plan

- [6-15 Day Precipitation Outlook Categories](#)

Table ?? in the Lake Okeechobee Water Control Plan

- [Classification of Lake Okeechobee Net Inflow for Seasonal Outlook](#)

Table K-3 in the Lake Okeechobee Water Control Plan

- [Classification of Lake Okeechobee Net Inflow for Multi-Seasonal Outlook](#)

Table K-4 in the Lake Okeechobee Water Control Plan

[Back to Lake Okeechobee Operations Main Page](#)

[Back to U.S. Army Corps of Engineers Lake Okeechobee Operations Homepage](#)

Tributary Hydrologic Classification*	Palmer Index Class Limits	2-wk Mean L.O. Net Inflow Class Limits
Very Wet	3.0 or greater	Greater \geq 6000 cfs
Wet	1.5 to 2.99	2500 - 5999 cfs
Near Normal	-1.49 to 1.49	500 - 2499 cfs
Dry	-2.99 to -1.5	-5000 – 500 cfs
Very Dry	-3.0 or less	Less than -5000 cfs

* use the wettest of the two indicators

Classification of Lake Okeechobee Net Inflow Seasonal Outlook*

Lake Net Inflow Prediction [million acre-feet]	Equivalent Depth** [feet]	Lake Okeechobee Net Inflow Seasonal Outlook
> 0.93	> 2.0	Very Wet
0.71 to 0.93	1.51 to 2.0	Wet
0.35 to 0.70	0.75 to 1.5	Normal
< 0.35	< 0.75	Dry

****Volume-depth conversion based on average lake surface area of 467,000 acres**

Classification of Lake Okeechobee Net Inflow Multi-Seasonal Outlook*

Lake Net Inflow Prediction [million acre-feet]	Equivalent Depth** [feet]	Lake Okeechobee Net Inflow Multi-Seasonal Outlook
> 2.0	> 4.3	Very Wet
1.18 to 2.0	2.51 to 4.3	Wet
0.5 to 1.17	1.1 to 2.5	Normal
< 0.5	< 1.1	Dry

****Volume-depth conversion based on average lake surface area of 467,000 acres**

6-15 Day Precipitation Outlook Categories*

6-15 Day Precipitation Outlook Categories	WSE Decision Tree Categories
Above Normal	Wet to Very Wet
Normal	Normal
Below Normal	Dry

*** Corresponds to Table 7-6 in the Lake Okeechobee Water Control Plan**

Under Construction