

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 3/13/2017 (ENSO Neutral 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 Neutral years³ and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with Neutral 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 Neutral ENSO Years ³		Sub-sampling of AMO Warm + Neutral ENSO Years ⁴	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Mar-Aug)	N/A	N/A	1.02	Normal	1.08	Normal	1.41	Normal
Multi Seasonal (Mar-Oct)	N/A	N/A	2.13	Normal	2.41	Normal	3.48	Wet

*Croley's Method Not Produced For This Report

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:](#)

-2704 cfs 14-day running average for Lake Okeechobee Net Inflow through 3/12/2017. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Dry.

-2.51 for Palmer Index on 3/11/2017.

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 3/13/2017

Lake Okeechobee Stage: **13.08 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		17.25	
Operational Band	High sub-band	16.58	
	Intermediate sub-band	15.66	
	Low sub-band	13.50	
Base Flow sub-band		12.60	← 13.08
Beneficial Use sub-band		11.80	
Water Shortage Management Band			

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

Release Guidance Flow Chart Outcome: No releases to the WCAs.

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

Release Guidance Flow Chart Outcome: S-79 up to 450 cfs and S-80 up to 200 cfs

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 3/13/2017 (ENSO Neutral Condition):

Status for week ending 3/13/2017:

District wide, Raindar rainfall was 0.19 inches for the week. Lake stage on 3/13/2017 was 13.08 ft, down 0.20 ft from last week.

The updated March 2017 SFWMM Dynamic Position Analysis [percentile graph](#) for Lake Okeechobee show that the current lake stage is in the Base Flow Operational Sub-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

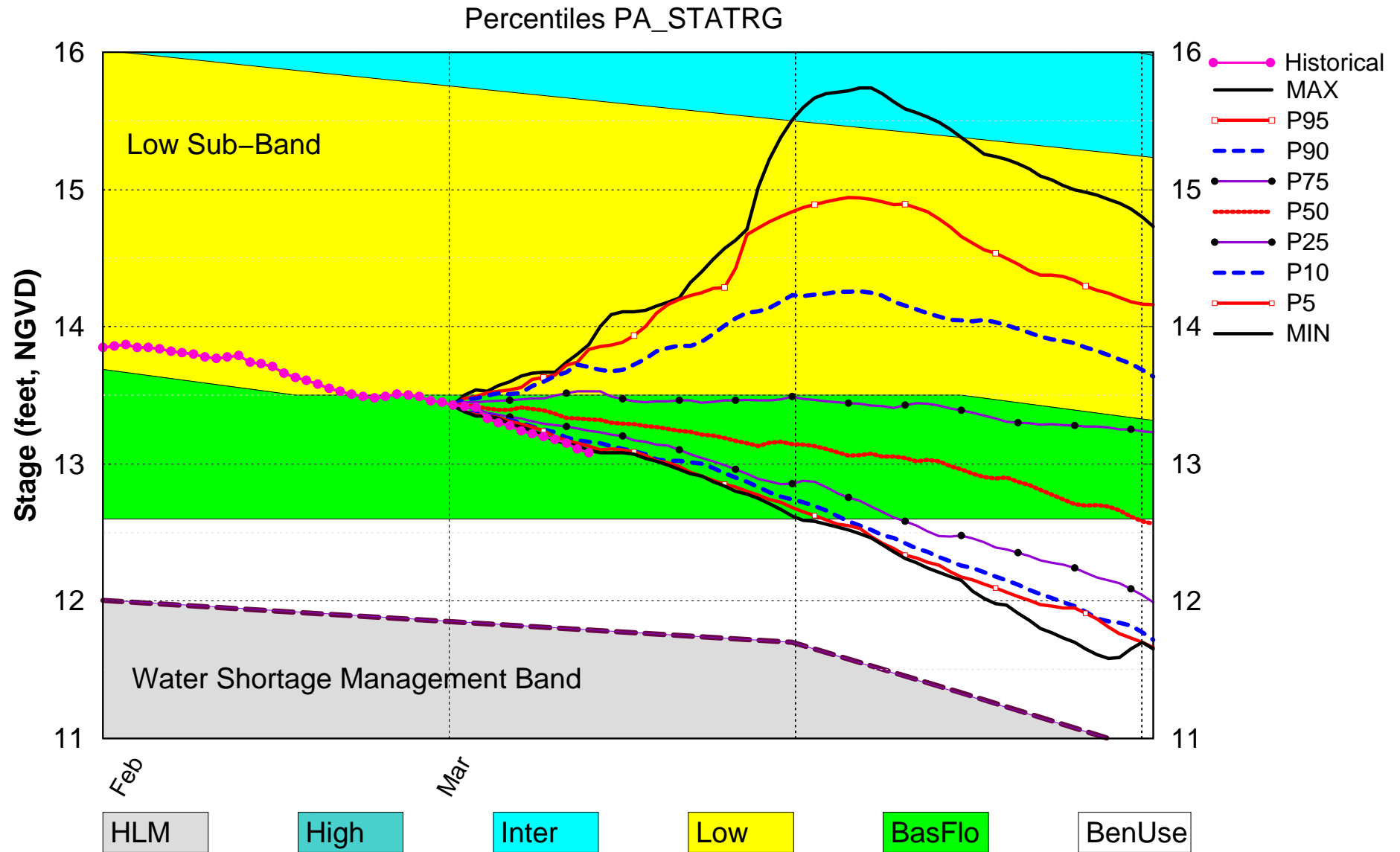
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Beneficial Use Sub-Band	H
	Palmer Index for LOK Tributary Conditions	-2.51 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook ENSO La Nina Years	1.08 ft (Dry)	M
	LOK Multi-Seasonal Net Inflow Outlook ENSO La Nina Years	2.41 ft (Normal)	M
WCAs	WCA 1: Site 1-7, Site 1-8T, & Site 1-9 Average	Above Line 1 (16.24 ft)	L
	WCA 2A: Site 2-17 HW	Above Line1 (11.54 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.27 ft)	L
LEC	Service Area 1	Year-Round Irrigation Rule in effect	L
	Service Area 2	Year-Round Irrigation Rule in effect	L
	Service Area 3	Year-Round Irrigation Rule in effect	L

Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

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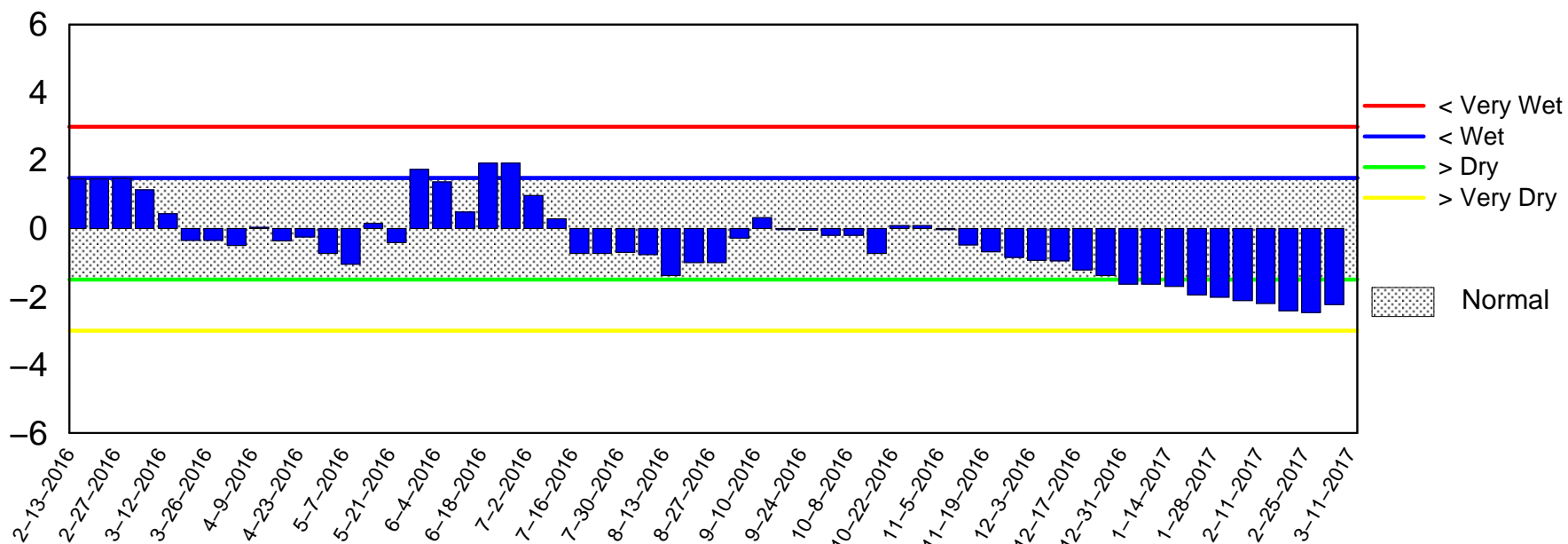
Lake Okeechobee SFWMM Mar 2017 Dynamic Position Analysis



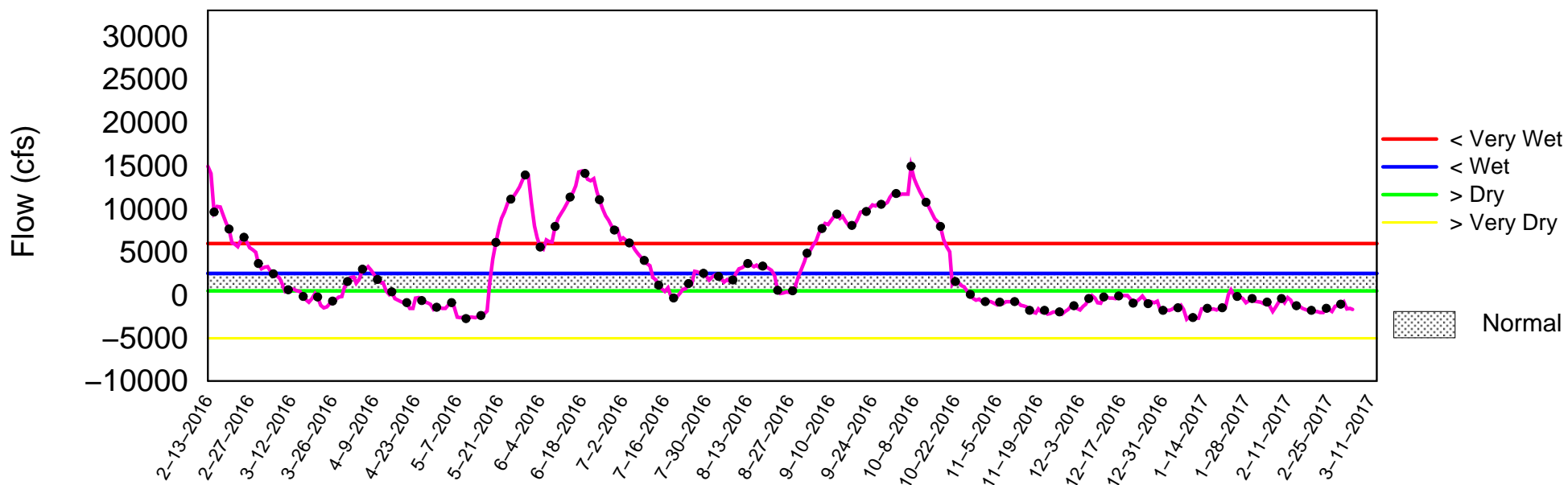
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of March 6 2017

Palmer Index



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



Mon Mar 06 16:14:42 EST 2017

2008 LORS

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

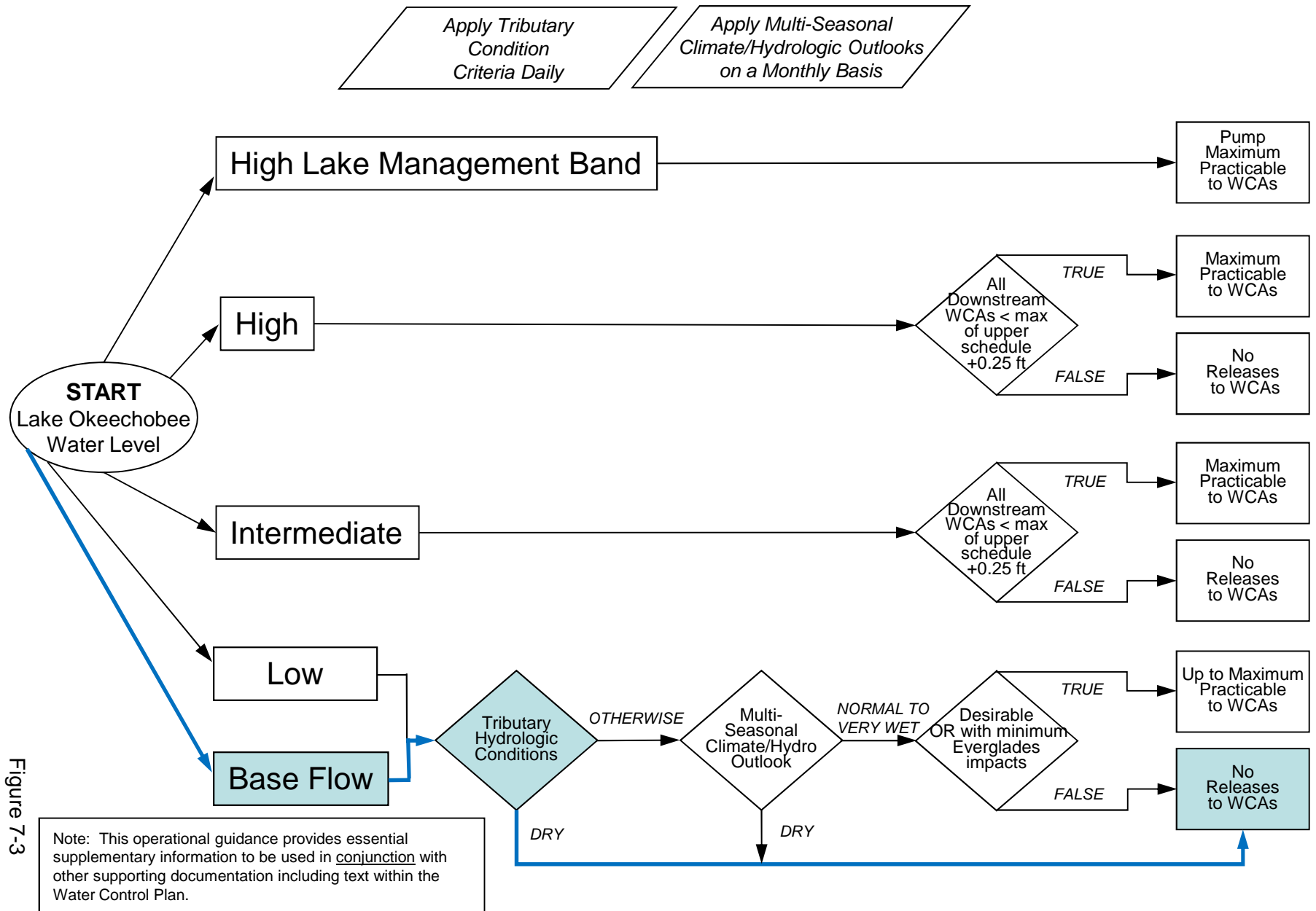


Figure 7-3

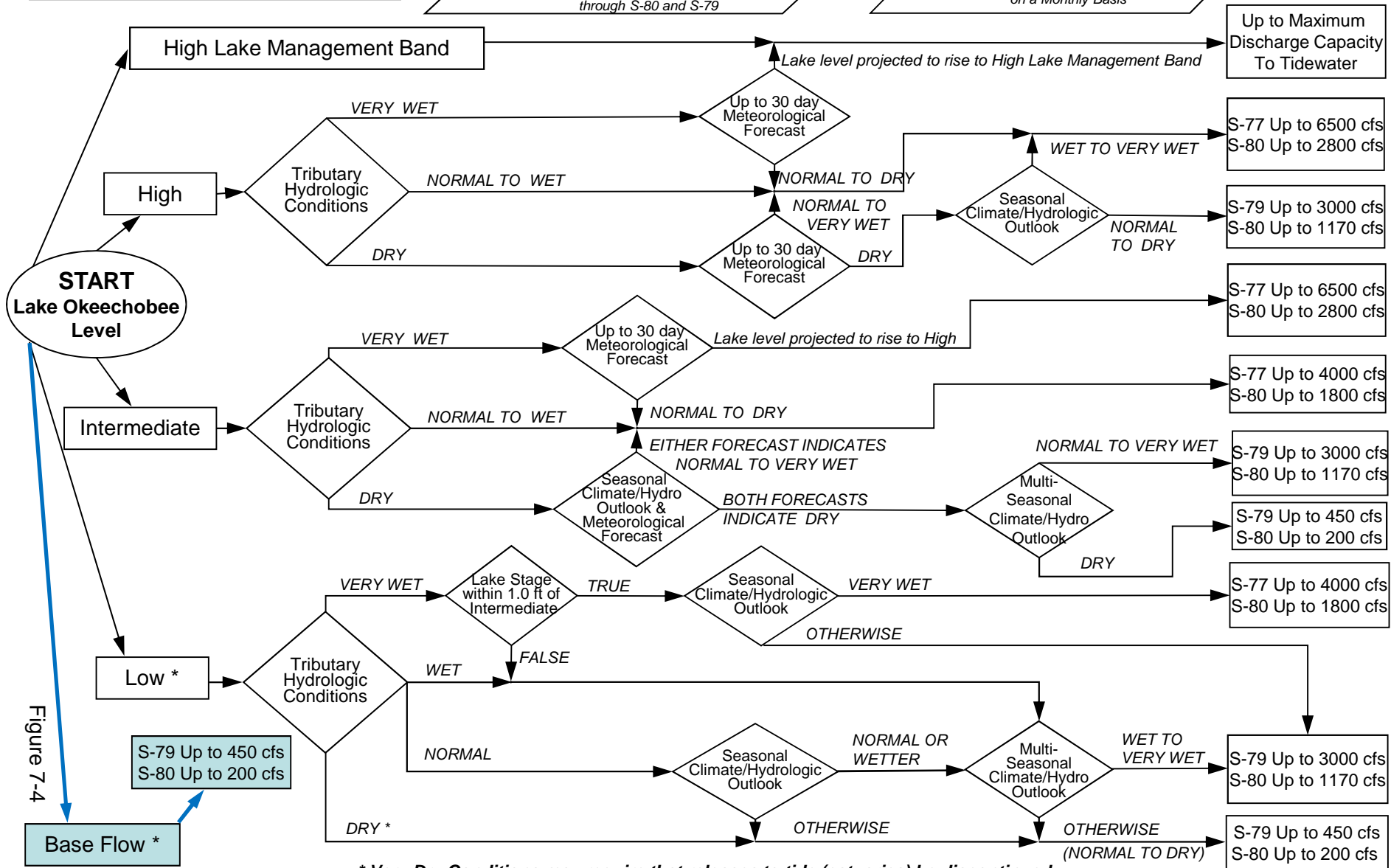
2008 LORS

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.

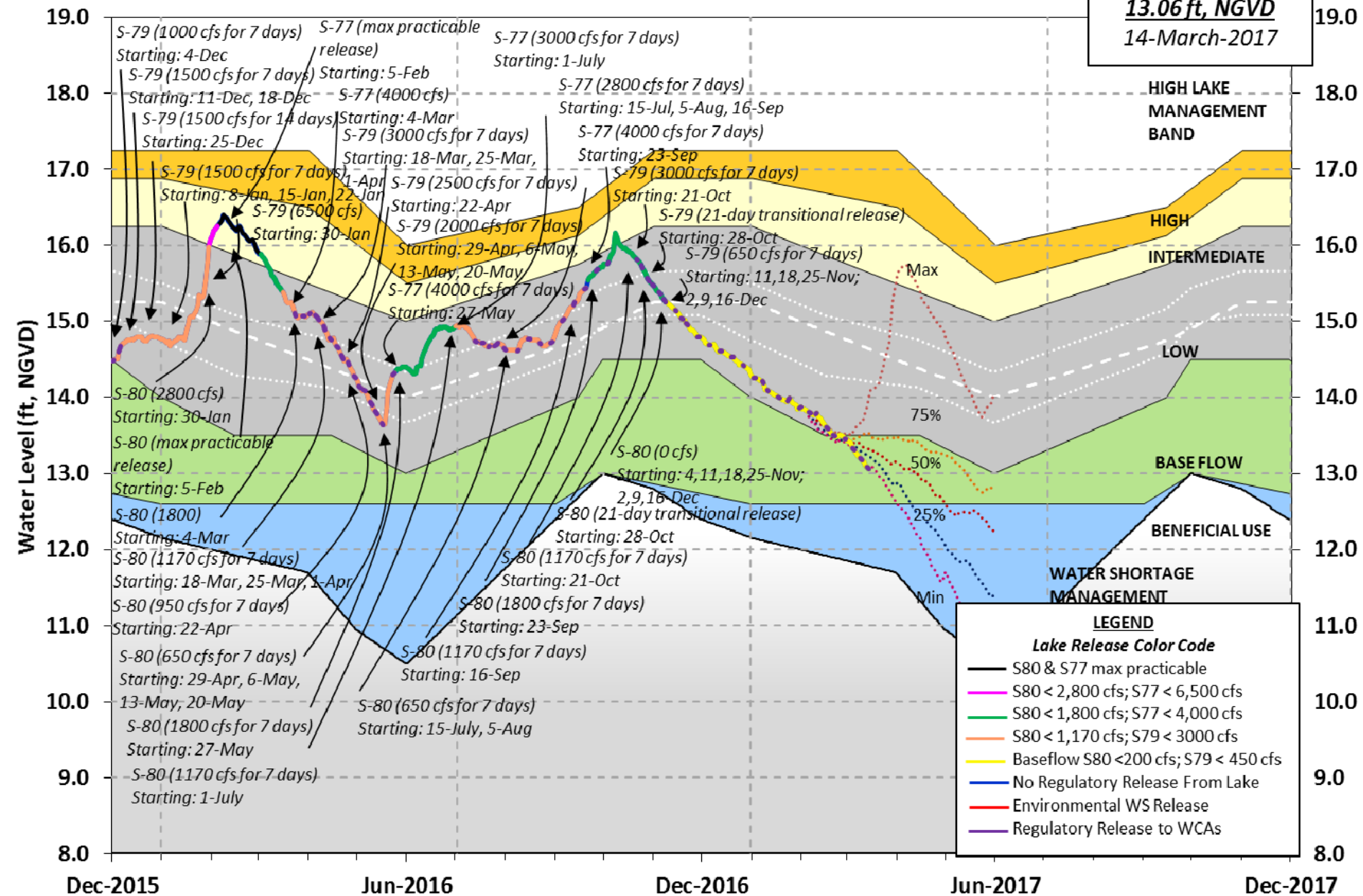
When conducting Base Flow releases, flows can be distributed East and West up to 650 cfs as needed to minimize impacts or provide benefits through S-80 and S-79

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



Lake Okeechobee Water Level History and Projected Stages

13.06 ft, NGVD
14-March-2017



U. S. Army Corps of Engineers, Jacksonville District
 Lake Okeechobee and Vicinity Report
 ** Preliminary Data - Subject to Revision **

Data Ending 2400 hours 12 MAR 2017

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	13.08	15.47	14.65 (Official Elv)
Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.80			
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.24
Difference from Average LORS2008	-0.16

12MAR (1965-2007) Period of Record Average	14.47
Difference from POR Average	-1.39

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 7.02'

++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 5.22'

Bridge Clearance = 50.79'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
12.91	13.18	13.07	13.07	13.14	13.27	-NR-	12.96

*Combination Okeechobee Avg-Daily Lake Average = 13.08
 (*See Note)

Okeechobee Inflows (cfs):

S65E	0	S65EX1	819	Fisheating Cr	0
S154	0	S191	0	S135 Pumps	0
S84	0	S133 Pumps	0	S2 Pumps	0
S84X	0	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	-146
Total Inflows:		673			

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	591	S77	1317
S127 Culverts	0	S351	855	S77Below	1344
S129 Culverts	0	S352	204	S308	-NR-
S131 Culverts	0	L8 Canal Pt	171	S308Below	369
Total Outflows: No Report Due To Missing S77 or S308 Discharge Data					

S4 Pumps: 10.98 13.28 0 0 0 0 (cfs)

S169:	13.32	10.98	0	0.0	0.0	0.0		
S310:	13.24		54					
S3 Pumps:	11.19	13.18	0	0	0	0		(cfs)
S354:	13.18	11.19	591	1.3	1.6			
S2 Pumps:	11.20	13.15	0	0	0	0	0	(cfs)
S351:	13.15	11.20	855	1.4	1.2	1.0		
S352:	13.26	11.04	204	0.3	0.5			
C10A:	-NR-	13.12		0.0	8.0	8.0	8.0	8.0
L8 Canal PT		13.01	171					

S351 and S352 Temporary Pumps/S354 Spillway

S351:	11.20	13.15	855	-NR--NR--NR--NR--NR--NR-
S352:	11.04	13.26	204	-NR--NR--NR--NR-
S354:	11.19	13.18	591	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)

S47B:	13.82	10.85		0.0	0.0
S47D:	10.93	10.92	-7	6.1	

S77:

Spillway and Sector Flow:

13.19	11.04	1313	2.5	0.0	2.5	2.5
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Flow Due to Lockages+: 4

S77 Below USGS Flow Gage 1344

S78:

Spillway and Sector Flow:

10.79	2.95	859	0.0	0.0	2.5	0.0
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Flow Due to Lockages+: 15

S79:

Spillway and Sector Flow:

3.08	0.32	990	0.0	0.0	0.5	1.0	1.0	1.0	0.0
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0.0

Flow Due to Lockages+: 12

Percent of flow from S77 133%

Chloride (ppm) 57

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:

13.06	12.71	0	0.0	4.0	4.0	4.0
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Flow Due to Lockages+: -NR-

S308 Below USGS Flow Gage 369

S153:	18.59	12.68	0	0.0	0.0
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S80:

Spillway and Sector Flow:

12.90	1.36	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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Flow Due to Lockages+: 28

Percent of flow from S308 NA %

Steele Point Top Salinity (mg/ml) *****

Steele Point Bottom Salinity (mg/ml) ****

Speedy Point Top Salinity (mg/ml) ****

Speedy Point Bottom Salinity (mg/ml) ****

+ 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.

----- Wind ---					

Daily Precipitation Totals	1-Day	3-Day	7-Day	Direction	
Speed	(inches)	(inches)	(inches)	(Degø)	
(mph)					
S133 Pump Station:	-NR-	0.00	0.00		
S193:	-NR-	0.00	0.00	-NR-	-NR-
Okeechobee Field Station:	-NR-	0.00	0.00		
S135 Pump Station:	-NR-	0.00	0.00		
S127 Pump Station:	-NR-	0.00	0.00		
S129 Pump Station:	-NR-	0.00	0.00		
S131 Pump Station:	-NR-	0.00	0.00		
S77:	0.02	0.02	0.02	64	2
S78:	0.00	0.00	0.00	25	2
S79:	0.00	0.00	0.00	157	3
S4 Pump Station:	-NR-	0.00	0.00		
Clewiston Field Station:	-NR-	0.00	0.00		
S3 Pump Station:	-NR-	0.00	0.00		
S2 Pump Station:	-NR-	0.00	0.00		
S308:	0.00	0.00	0.01	270	0
S80:	0.00	0.00	0.00	72	1
Okeechobee Average	0.01	0.00	0.00		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations	12 MAR 2017	13.08	Difference from
12MAR17			
12MAR17 -1 Day =	11 MAR 2017	13.11	0.03
12MAR17 -2 Days =	10 MAR 2017	13.15	0.07
12MAR17 -3 Days =	09 MAR 2017	13.18	0.10
12MAR17 -4 Days =	08 MAR 2017	13.20	0.12
12MAR17 -5 Days =	07 MAR 2017	13.22	0.14
12MAR17 -6 Days =	06 MAR 2017	13.24	0.16
12MAR17 -7 Days =	05 MAR 2017	13.28	0.20
12MAR17 -30 Days =	10 FEB 2017	13.74	0.66
12MAR17 -1 Year =	12 MAR 2016	15.47	2.39
12MAR17 -2 Year =	12 MAR 2015	14.65	1.57

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

Lake Okeechobee Net Inflow (LONIN)					
Average Flow over the previous 14 days					Avg-Daily Flow
12MAR17	Today =	12 MAR 2017	-2838	MON	-2905
12MAR17	-1 Day =	11 MAR 2017	-2990	SUN	-4849
12MAR17	-2 Days =	10 MAR 2017	-2687	SAT	-2739
12MAR17	-3 Days =	09 MAR 2017	-2570	FRI	-NR-
12MAR17	-4 Days =	08 MAR 2017	-2070	THU	-1006
12MAR17	-5 Days =	07 MAR 2017	-1826	WED	-791
12MAR17	-6 Days =	06 MAR 2017	-1816	TUE	-4832
12MAR17	-7 Days =	05 MAR 2017	-1594	MON	-1043
12MAR17	-8 Days =	04 MAR 2017	-1648	SUN	-3503
12MAR17	-9 Days =	03 MAR 2017	-1550	SAT	-14768
12MAR17	-10 Days =	02 MAR 2017	-747	FRI	15
12MAR17	-11 Days =	01 MAR 2017	-1007	THU	380
12MAR17	-12 Days =	28 FEB 2017	-1132	WED	-1294
12MAR17	-13 Days =	27 FEB 2017	-1284	TUE	440

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
12MAR17	Today=	12 MAR 2017	1	MON	0
12MAR17	-1 Day =	11 MAR 2017	1	SUN	0
12MAR17	-2 Days =	10 MAR 2017	1	SAT	0
12MAR17	-3 Days =	09 MAR 2017	1	FRI	8
12MAR17	-4 Days =	08 MAR 2017	0	THU	0
12MAR17	-5 Days =	07 MAR 2017	0	WED	0
12MAR17	-6 Days =	06 MAR 2017	0	TUE	0
12MAR17	-7 Days =	05 MAR 2017	0	MON	0
12MAR17	-8 Days =	04 MAR 2017	0	SUN	0
12MAR17	-9 Days =	03 MAR 2017	0	SAT	0
12MAR17	-10 Days =	02 MAR 2017	0	FRI	0
12MAR17	-11 Days =	01 MAR 2017	0	THU	0
12MAR17	-12 Days =	28 FEB 2017	0	WED	0
12MAR17	-13 Days =	27 FEB 2017	0	TUE	0

Lake Okeechobee Outlets Last 14 Days

DATE	S-77	Below S-77	S-78	S-79
	Discharge	Discharge	Discharge	Discharge
	(ALL DAY) (AC-FT)	(ALL-DAY) (AC-FT)	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)
12 MAR 2017	2611	2665	1733	1987
11 MAR 2017	2208	2559	1519	2203
10 MAR 2017	1783	1783	1109	1627
09 MAR 2017	1485	1293	716	711
08 MAR 2017	1294	1075	700	718
07 MAR 2017	1928	1823	1106	1373
06 MAR 2017	2548	2606	2084	2043
05 MAR 2017	2711	3014	2018	1576
04 MAR 2017	2617	2660	1746	2392
03 MAR 2017	1282	952	1321	1849
02 MAR 2017	766	690	377	571

01 MAR 2017	1562	1289	506	661
28 FEB 2017	1791	1704	921	1098
27 FEB 2017	1817	1994	1586	2013

	S-310	S-351	S-352	S-354	L8 Canal Pt
	Discharge	Discharge	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL DAY)	(ALL DAY)	(ALL DAY)	(ALL DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)
12 MAR 2017	107	1695	405	1001	338
11 MAR 2017	118	1967	785	1190	168
10 MAR 2017	96	1971	1158	1602	209
09 MAR 2017	60	1963	1158	1575	250
08 MAR 2017	45	1688	1255	1475	267
07 MAR 2017	31	1596	1001	1444	382
06 MAR 2017	32	1695	486	1103	379
05 MAR 2017	44	1638	397	480	320
04 MAR 2017	-4	1434	333	492	327
03 MAR 2017	24	1404	270	1297	255
02 MAR 2017	58	1428	210	1224	336
01 MAR 2017	75	1531	153	1503	378
28 FEB 2017	75	1364	373	1602	396
27 FEB 2017	39	980	89	1245	332

	S-308	Below S-308	S-80
	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)
12 MAR 2017	-NR-	732	56
11 MAR 2017	1304	512	46
10 MAR 2017	-NR-	442	37
09 MAR 2017	-NR-	368	48
08 MAR 2017	2431	644	52
07 MAR 2017	2519	583	61
06 MAR 2017	1911	946	28
05 MAR 2017	920	481	34
04 MAR 2017	-NR-	404	35
03 MAR 2017	0	29	36
02 MAR 2017	1	242	57
01 MAR 2017	0	-17	53
28 FEB 2017	0	192	48
27 FEB 2017	0	332	33

*** NOTE: 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

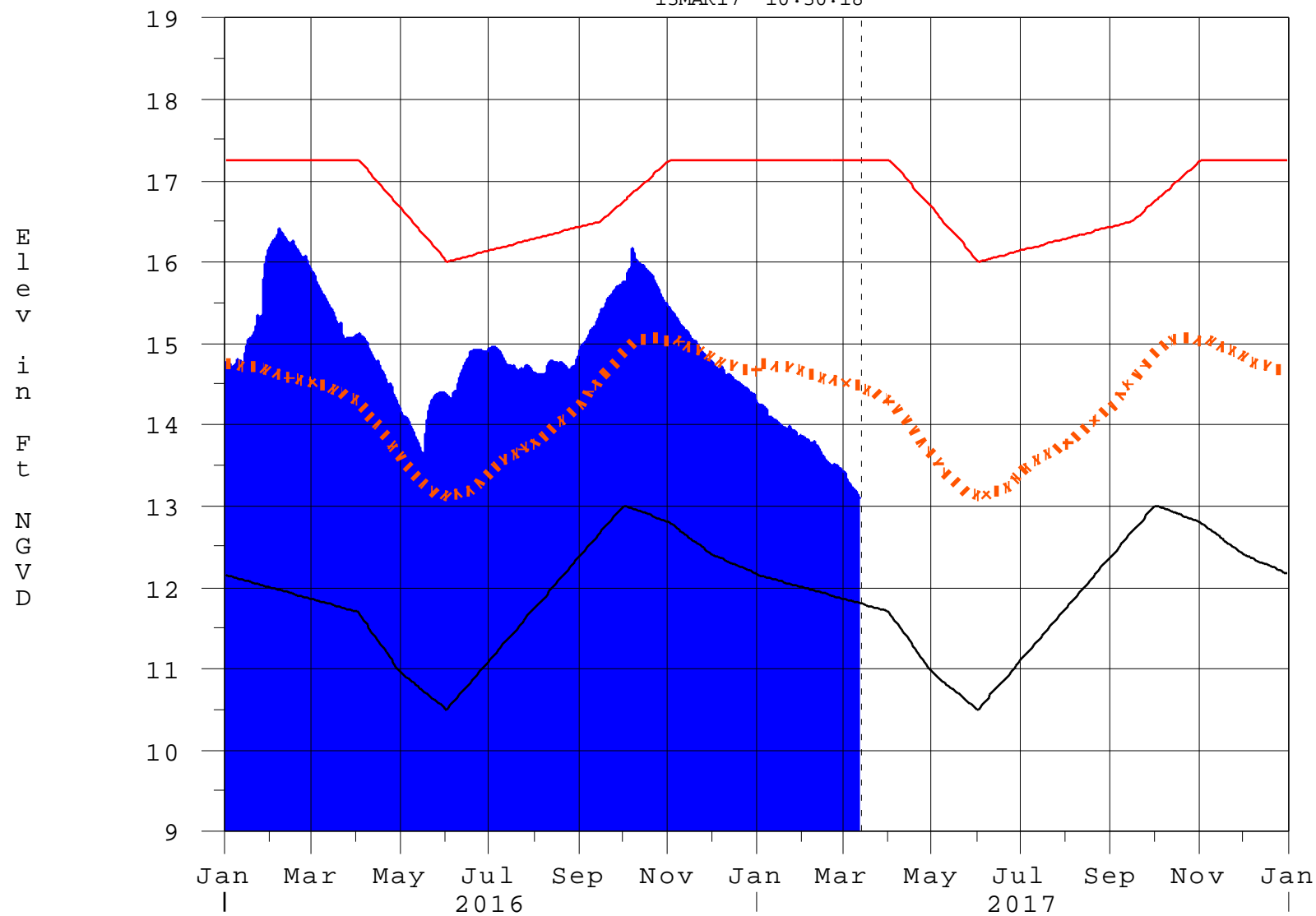
++ For more information see the Jacksonville District Navigation website at <http://www.saj.usace.army.mil/>

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

Report Generated 13MAR2017 @ 10:38 ** Preliminary Data - Subject to Revision
**

Lake Okeechobee

13MAR17 10:30:18



- High Lake Management
- Okeechobee Avg Elev
- Average Elev [1965-2007]
- Water Shortage Management

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

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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