

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 3/12/2018 (ENSO La Nina 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 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 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	1.01	Normal	0.95	Normal	0.86	Normal
Multi Seasonal (Mar-Oct)	N/A	N/A	2.12	Normal	2.33	Normal	2.11	Normal

*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.

**Sub-sampling is a weighted average of ENSO conditions based on the ENSO forecast used.

[Tributary Hydrologic Conditions Graph:](#)

-3224 cfs 14-day running average for Lake Okeechobee Net Inflow through 3/11/2018. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Dry.

-1.24 for Palmer Index on 3/10/2018.

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

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

[LORS2008 Classification Tables:](#)

Lake Okeechobee Stage on 3/11/2018

Lake Okeechobee Stage: **14.50 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	16.59	
	Intermediate sub-band	15.67	
	Low sub-band	13.50	← 14.50
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.80	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCA's

Release Guidance Flow Chart Outcome: Up to maximum practicable releases to the WCAs if desirable or with minimum everglades impacts, otherwise no releases.

Part D of LORS2008: Discharge to Tidewater

Release Guidance Flow Chart Outcome: S-79 Up to 450 cfs & 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](#)
- [Environmental Conditions for Systems Operations](#)

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[Back to U.S. Army Corps of Engineers LORSS Homepage](#)

LORS2008 Implementation on 3/12/2018 (ENSO La Nina Condition):

Status for week ending 3/12/2018:

District wide, Raindar rainfall was 0.48 inches for the week. Lake stage on 3/12/2018 was 14.50 ft, NGVD, down 0.18 ft from last week.

The updated February 2018 SFWMM Dynamic Position Analysis [percentile graph](#) for Lake Okeechobee show that the current lake stage is in the Low Operational Sub-Band. The 2008 LORS Tributary Hydrologic Condition (THC) tributary is classified as **Normal**. The PDSI indicates Normal condition and the LONIN is Dry. The THC classification is based on the wetter of the two [indices](#) .

Water Supply Risk Evaluation

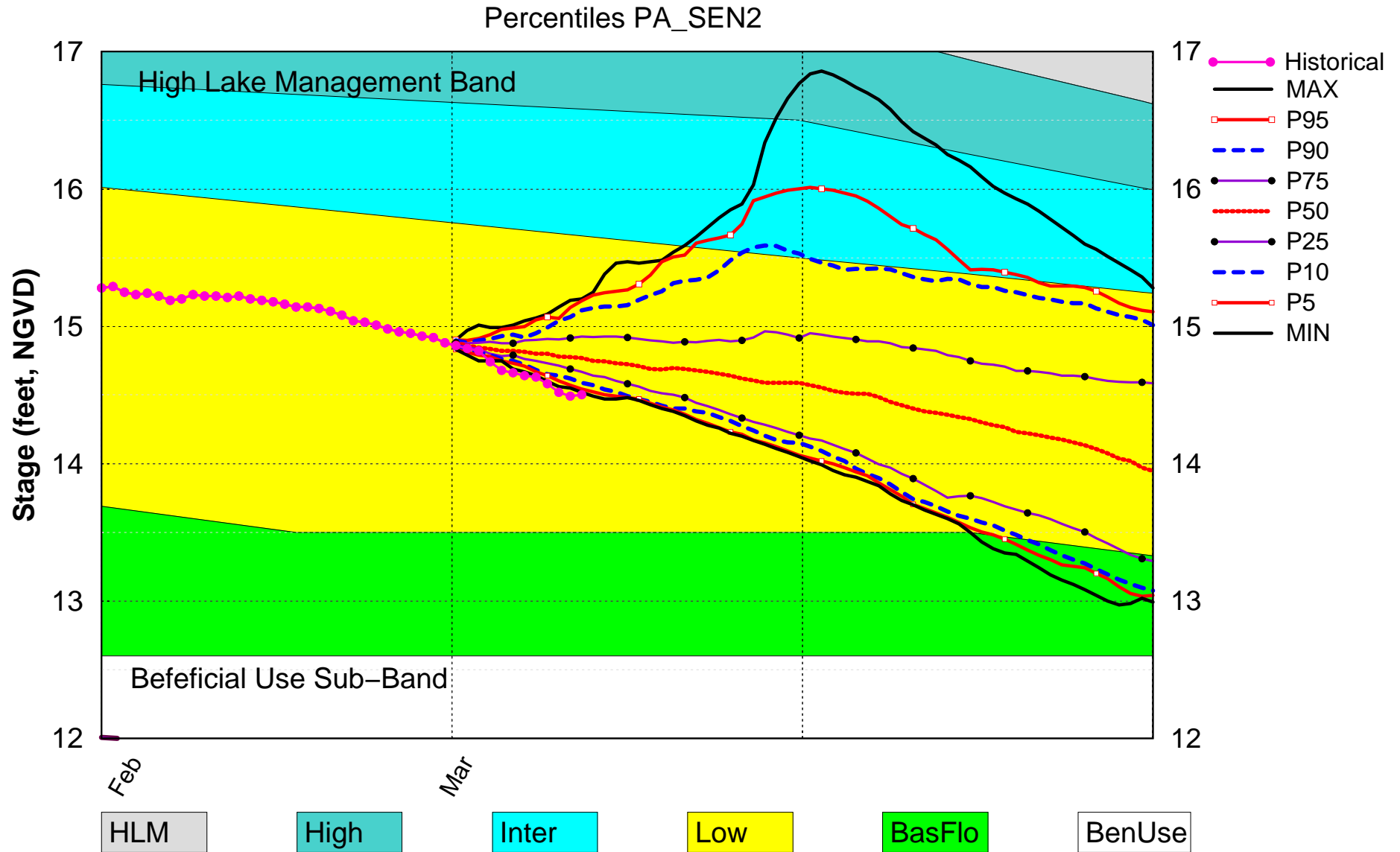
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub Band	M
	Palmer Index for LOK Tributary Conditions	-1.24 (Dry)	M
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	0.95 ft (Dry)	M
	ENSO La Nina Years		
	LOK Multi-Seasonal Net Inflow Outlook	2.33 ft (Normal)	M
	ENSO La Nina Years		
WCAs	WCA 1: Site 1-7, Site 1-8T, & Site 1-9 Average	Above Line 1 (16.39 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (11.60 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.49 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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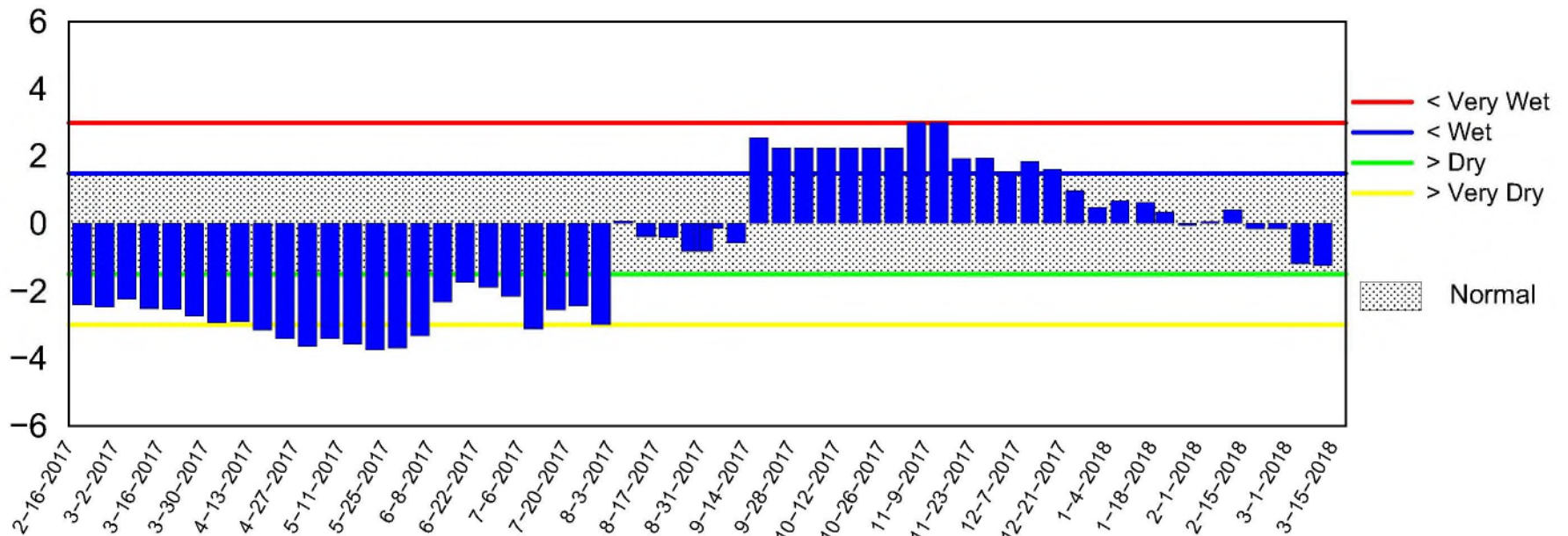
Lake Okeechobee SFWMM Mar 2018 Position Analysis



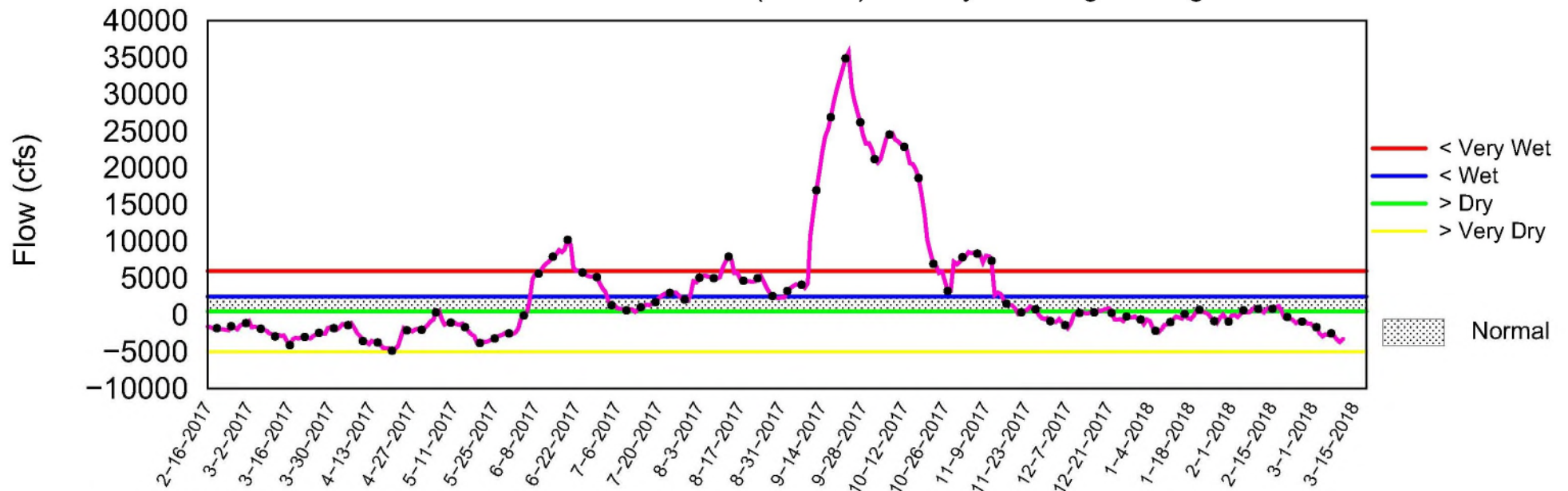
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of March 12 2018

Palmer Index



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



Mon Mar 12 15:37:36 2018

2008 LORS

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

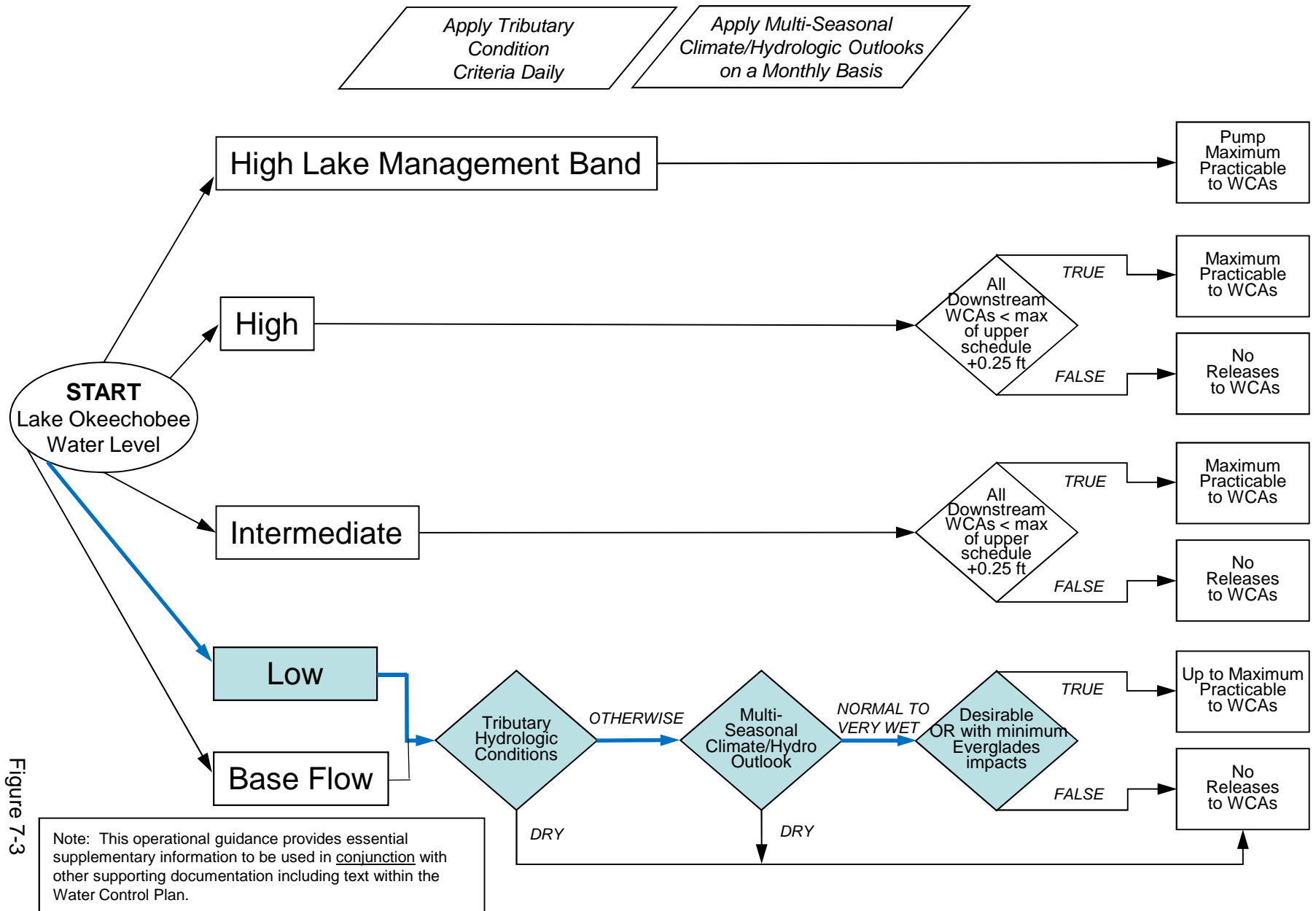


Figure 7-3

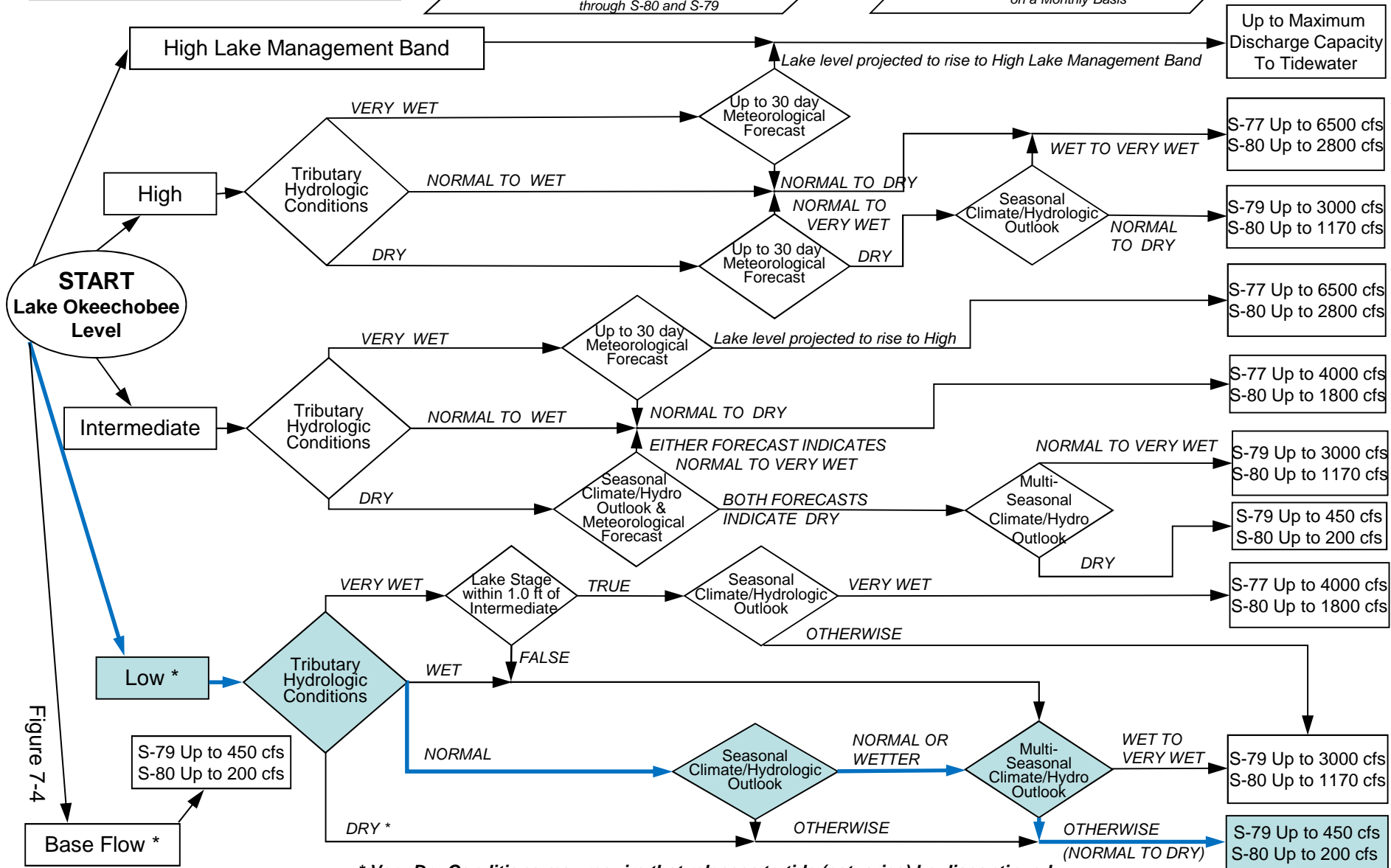
2008 LORS

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

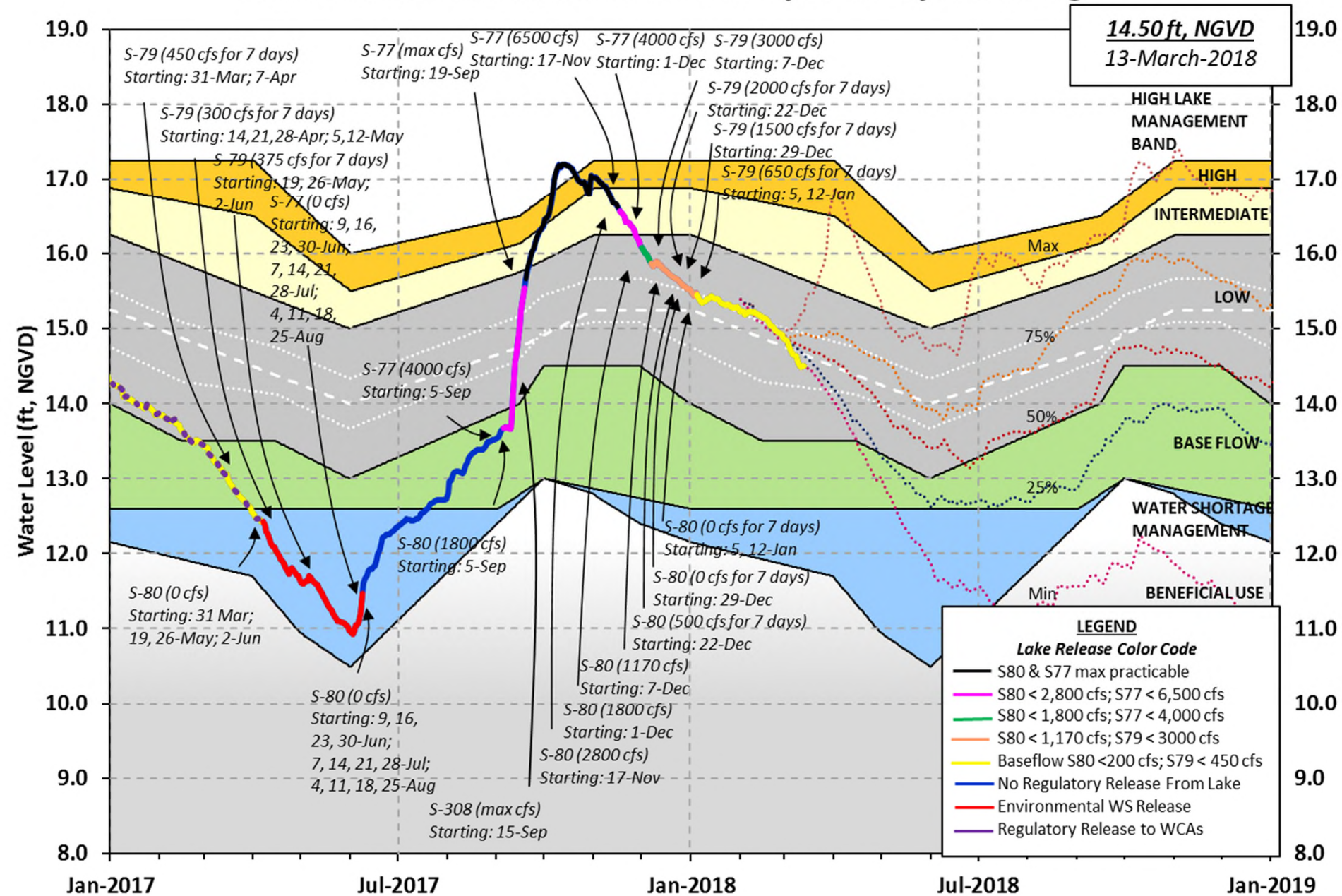
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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



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

Data Ending 2400 hours 11 MAR 2018

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	14.50	13.11	15.51 (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]	13.25
Difference from Average LORS2008	1.25

11MAR (1965-2007) Period of Record Average	14.48
Difference from POR Average	0.02

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 8.44'

++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 6.64'

Bridge Clearance = 49.06'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
14.52	14.53	14.49	14.45	14.47	14.61	14.47	14.44

*Combination Okeechobee Avg-Daily Lake Average = 14.50
(*See Note)

Okeechobee Inflows (cfs):

S65E	0	S65EX1	418	Fisheating Cr	4
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	0
Total Inflows:	423				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	964	S77	455
S127 Culverts	0	S351	641	S308	0
S129 Culverts	0	S352	517		
S131 Culverts	0	L8 Canal Pt	261		
Total Outflows:	2838				

S3 Pumps:	11.00	14.49	0	0	0	0		(cfs)
S354:	14.49	11.00	964	2.2	2.2			
S2 Pumps:	11.19	14.44	0	0	0	0	0	(cfs)
S351:	14.44	11.19	641	1.0	0.9	1.0		
S352:	14.61	11.19	517	0.7	0.9			
C10A:	-NR-	14.06		8.0	8.0	8.0	0.0	0.0
L8 Canal PT		13.90	261					

S351 and S352 Temporary Pumps/S354 Spillway

S351:	11.19	14.44	641	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-
S352:	11.19	14.61	517	-NR-	-NR-	-NR-	-NR-		
S354:	11.00	14.49	964	-NR-	-NR-	-NR-	-NR-		

Caloosahatchee River (S77, S78, S79)

S47B:	13.80	10.97		0.0	0.0		
S47D:		-NR-	-NR-	-NR-			
S77:							

Spillway and Sector Flow:

14.40	11.05	451.00	0.5	0.5	0.0	0.5
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Flow Due to Lockages+: 4

S77 Below USGS Flow Gage 589

S78:

Spillway and Sector Flow:

10.88	3.04	442	1.5	0.0	0.0	0.0
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Flow Due to Lockages+: 14

S79:

Spillway and Sector Flow:

3.23	2.57	1034	0.0	0.0	0.0	0.0	1.0	1.0	1.0
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0.0

Flow Due to Lockages+: 8
Percent of flow from S77 44%
Chloride (ppm) 57

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:

14.46	14.44	0.00	0.0	0.0	0.0	0.0
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Flow Due to Lockages+: 0

S308 Below USGS Flow Gage -90

S153:	18.69	14.21	0	0.0	0.0
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S80:

Spillway and Sector Flow:

14.58	0.36	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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Flow Due to Lockages+: 26
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:	0.00	0.36	0.43	202	5
S78:	0.01	0.16	0.18	84	1
S79:	0.04	0.18	0.20	267	0
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:	0.01	0.01	0.01	241	8
S80:	0.00	0.00	0.00	249	5
Okeechobee Average	0.00	0.03	0.03		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	0.02	0.34	0.36		

Okeechobee Lake Elevations	11 MAR 2018	14.50	Difference from
11MAR18			
11MAR18 -1 Day =	10 MAR 2018	14.49	-0.01
11MAR18 -2 Days =	09 MAR 2018	14.52	0.02
11MAR18 -3 Days =	08 MAR 2018	14.58	0.08
11MAR18 -4 Days =	07 MAR 2018	14.63	0.13
11MAR18 -5 Days =	06 MAR 2018	14.64	0.14
11MAR18 -6 Days =	05 MAR 2018	14.66	0.16
11MAR18 -7 Days =	04 MAR 2018	14.68	0.18
11MAR18 -30 Days =	09 FEB 2018	15.22	0.72
11MAR18 -1 Year =	11 MAR 2017	13.11	-1.39
11MAR18 -2 Year =	11 MAR 2016	15.51	1.01

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = 3.04

Lake Okeechobee Net Inflow (LONIN)

Average Flow over the previous 14 days					Avg-Daily Flow
11MAR18	Today =	11 MAR 2018	-2832	MON	5001
11MAR18	-1 Day =	10 MAR 2018	-3257	SUN	-2225
11MAR18	-2 Days =	09 MAR 2018	-2990	SAT	-7734
11MAR18	-3 Days =	08 MAR 2018	-2512	FRI	-6612
11MAR18	-4 Days =	07 MAR 2018	-2295	THU	1673
11MAR18	-5 Days =	06 MAR 2018	-2520	WED	-497
11MAR18	-6 Days =	05 MAR 2018	-2427	TUE	-539
11MAR18	-7 Days =	04 MAR 2018	-2786	MON	-8825
11MAR18	-8 Days =	03 MAR 2018	-2385	SUN	-12835
11MAR18	-9 Days =	02 MAR 2018	-1532	SAT	-678
11MAR18	-10 Days =	01 MAR 2018	-1383	FRI	-1341
11MAR18	-11 Days =	28 FEB 2018	-1081	THU	-702
11MAR18	-12 Days =	27 FEB 2018	-1092	WED	-5327
11MAR18	-13 Days =	26 FEB 2018	-771	TUE	993

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S65E Average Flow over previous 14 days					Avg-Daily Flow
11MAR18	Today=	11 MAR 2018	0	MON	0
11MAR18	-1 Day =	10 MAR 2018	0	SUN	0
11MAR18	-2 Days =	09 MAR 2018	0	SAT	0
11MAR18	-3 Days =	08 MAR 2018	0	FRI	0
11MAR18	-4 Days =	07 MAR 2018	0	THU	0
11MAR18	-5 Days =	06 MAR 2018	0	WED	0
11MAR18	-6 Days =	05 MAR 2018	0	TUE	0
11MAR18	-7 Days =	04 MAR 2018	0	MON	0
11MAR18	-8 Days =	03 MAR 2018	0	SUN	0
11MAR18	-9 Days =	02 MAR 2018	0	SAT	0
11MAR18	-10 Days =	01 MAR 2018	0	FRI	0
11MAR18	-11 Days =	28 FEB 2018	0	THU	0
11MAR18	-12 Days =	27 FEB 2018	0	WED	0
11MAR18	-13 Days =	26 FEB 2018	0	TUE	0

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S65EX1 Average Flow over previous 14 days					Avg-Daily Flow
11MAR18	Today=	11 MAR 2018	589	MON	418
11MAR18	-1 Day =	10 MAR 2018	628	SUN	372
11MAR18	-2 Days =	09 MAR 2018	671	SAT	375
11MAR18	-3 Days =	08 MAR 2018	716	FRI	376
11MAR18	-4 Days =	07 MAR 2018	772	THU	501
11MAR18	-5 Days =	06 MAR 2018	821	WED	534
11MAR18	-6 Days =	05 MAR 2018	865	TUE	511
11MAR18	-7 Days =	04 MAR 2018	913	MON	566
11MAR18	-8 Days =	03 MAR 2018	959	SUN	652
11MAR18	-9 Days =	02 MAR 2018	993	SAT	703
11MAR18	-10 Days =	01 MAR 2018	1027	FRI	699
11MAR18	-11 Days =	28 FEB 2018	1051	THU	814
11MAR18	-12 Days =	27 FEB 2018	1062	WED	937
11MAR18	-13 Days =	26 FEB 2018	1062	TUE	791

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Lake Okeechobee Outlets Last 14 Days

		S-77	Below S-77	S-78	S-79
		Discharge	Discharge	Discharge	Discharge
		(ALL DAY)	(ALL-DAY)	(ALL DAY)	(ALL DAY)
DATE		(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)
11 MAR 2018		892	1167	897	2060
10 MAR 2018		1998	1378	1722	3381
09 MAR 2018		2637	2017	2635	1551
08 MAR 2018		859	671	336	94
07 MAR 2018		1033	859	-NR-	319
06 MAR 2018		1366	1326	-NR-	769
05 MAR 2018		2107	1881	868	1395
04 MAR 2018		2924	2708	2213	2303
03 MAR 2018		2956	2804	2199	3139
02 MAR 2018		2336	1792	2192	1638
01 MAR 2018		915	944	27	77
28 FEB 2018		1619	1399	402	421
27 FEB 2018		1768	1575	617	1024
26 FEB 2018		1163	*****	636	1345

		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)
11 MAR 2018		50	1270	902	857	518
10 MAR 2018		56	2256	1172	1063	525
09 MAR 2018		157	2375	1261	1069	534
08 MAR 2018		171	2698	1430	1077	588
07 MAR 2018		93	2757	1396	1035	560
06 MAR 2018		96	2379	1402	781	540
05 MAR 2018		-1	2203	1166	863	534
04 MAR 2018		77	2194	1031	654	551
03 MAR 2018		195	2359	1212	436	561
02 MAR 2018		133	2666	1214	311	566
01 MAR 2018		58	2423	1301	533	560
28 FEB 2018		96	2241	1128	642	542
27 FEB 2018		132	2005	1305	547	545
26 FEB 2018		*****	2119	1037	508	554

		S-308	Below S-308	S-80
		Discharge	Discharge	Discharge
		(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE		(AC-FT)	(AC-FT)	(AC-FT)
11 MAR 2018		0	-179	51
10 MAR 2018		355	417	60
09 MAR 2018		675	666	63
08 MAR 2018		6	-15	52
07 MAR 2018		2	-288	38
06 MAR 2018		875	605	54
05 MAR 2018		4	55	35
04 MAR 2018		2	102	50
03 MAR 2018		743	570	64
02 MAR 2018		5	-134	69
01 MAR 2018		2	-296	50
28 FEB 2018		782	624	31
27 FEB 2018		6	128	58

26 FEB 2018 551 429 60

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

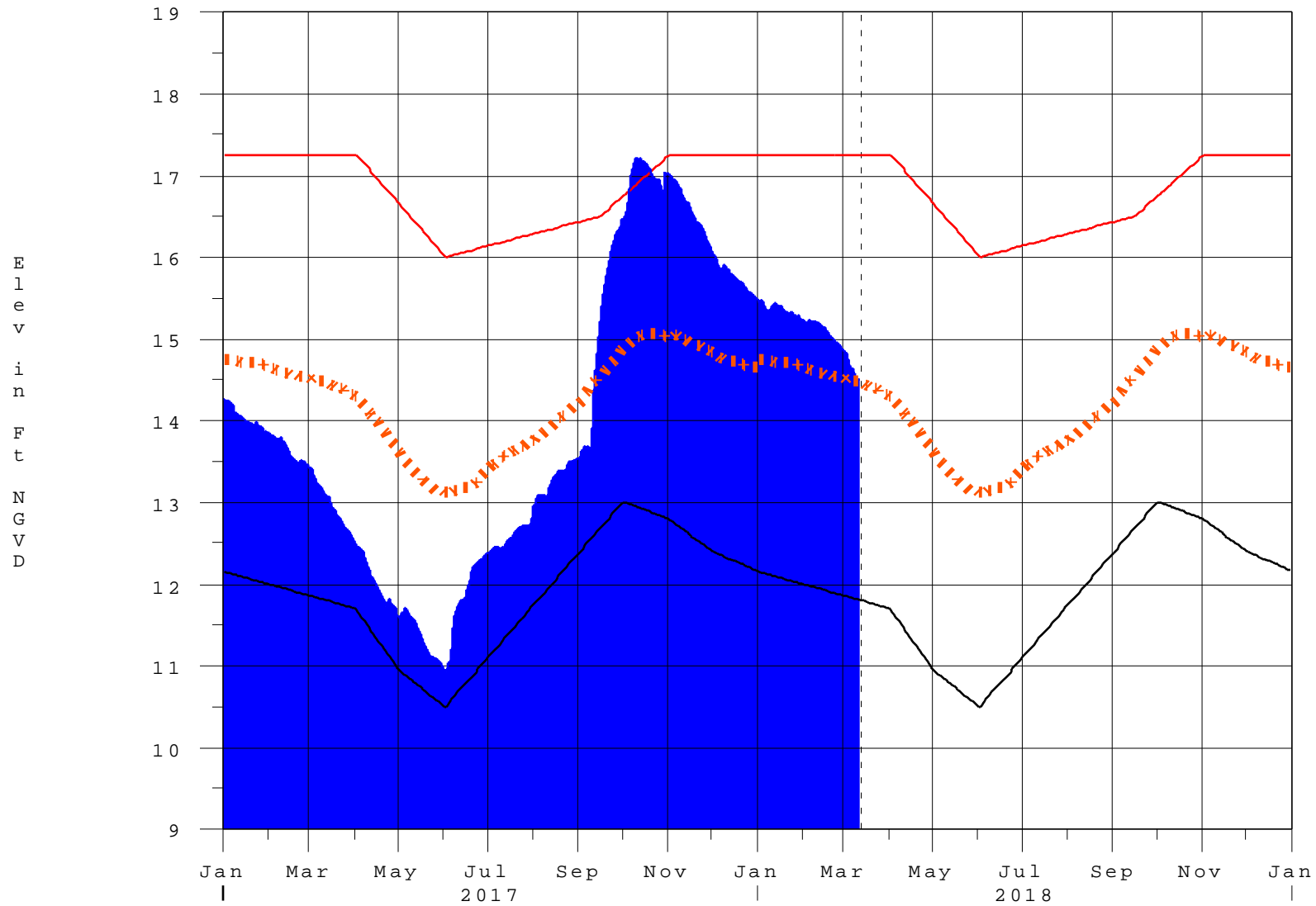
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(I) - Flows preceded by "I" signify an instantaneous
 flow computed from the single value reported for the day

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* 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 Okechobee 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

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Report Generated 12MAR2018 @ 14:15 ** Preliminary Data - Subject to Revision
**

Lake Okeechobee

12MAR18 14:17:24



- 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