

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 6/25/2018 (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 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 ENSO Years ³		Sub-sampling of AMO Warm + ENSO Years ⁴	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Jun-Nov)	N/A	N/A	2.55	Very Wet	2.83	Very Wet	2.22	Very Wet
Multi Seasonal (Jun-Apr)	N/A	N/A	3.08	Wet	3.51	Wet	1.86	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:](#)

4100 cfs 14-day running average for Lake Okeechobee Net Inflow through 6/24/2018. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Wet.

1.39 for Palmer Index on 6/23/2018.

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

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

[LORS2008 Classification Tables:](#)

Lake Okeechobee Stage on 6/25/2018

Lake Okeechobee Stage: **14.05 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		16.11	
Operational Band	High sub-band	15.64	
	Intermediate sub-band	15.17	
	Low sub-band	13.22	← 14.05
Base Flow sub-band		12.60	
Beneficial Use sub-band		10.98	
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 3000 cfs & S-80 Up to 1170 cfs.

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LORS2008 Implementation on 6/25/2018 (ENSO Neutral Condition):

Status for week ending 6/25/2018:

District wide, Raindar rainfall was 1.58 inches for the week. Lake stage on 6/25/2018 was 14.05 ft, NGVD, down 0.05 ft from last week.

The updated June 2018 SFWMM Dynamic Position Analysis [percentile graph](#) for Lake Okeechobee show that the current lake stage is in the Low Flow Sub-Band.

The 2008 LORS Tributary Hydrologic Condition (THC) is classified as **Wet**. The PDSI indicates normal conditions and the LONIN is wet. The THC classification is based on the wetter of the two [indices](#) .

Water Supply Risk Evaluation

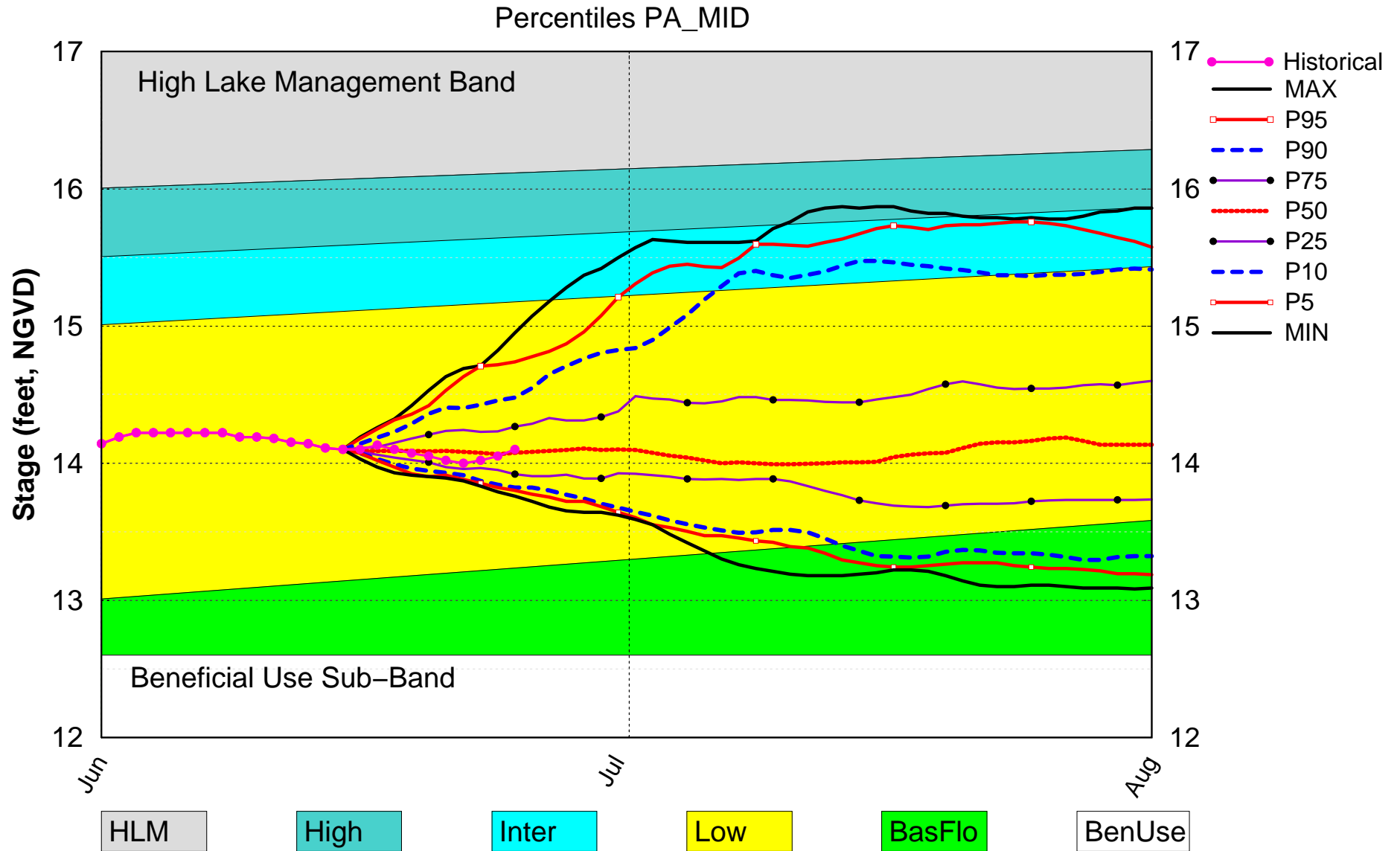
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Flow Sub Band	L
	Palmer Index for LOK Tributary Conditions	1.39 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	2.83 ft	L
	ENSO Years	(Normal to Extremely Wet)	
	LOK Multi-Seasonal Net Inflow Outlook	3.51 ft (Wet)	L
ENSO Conditions			
WCAs	WCA 1: Station Average (Site 1-7, Site 1-8T, Site 1-9)	Above Line 1 (16.35 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.95 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.89 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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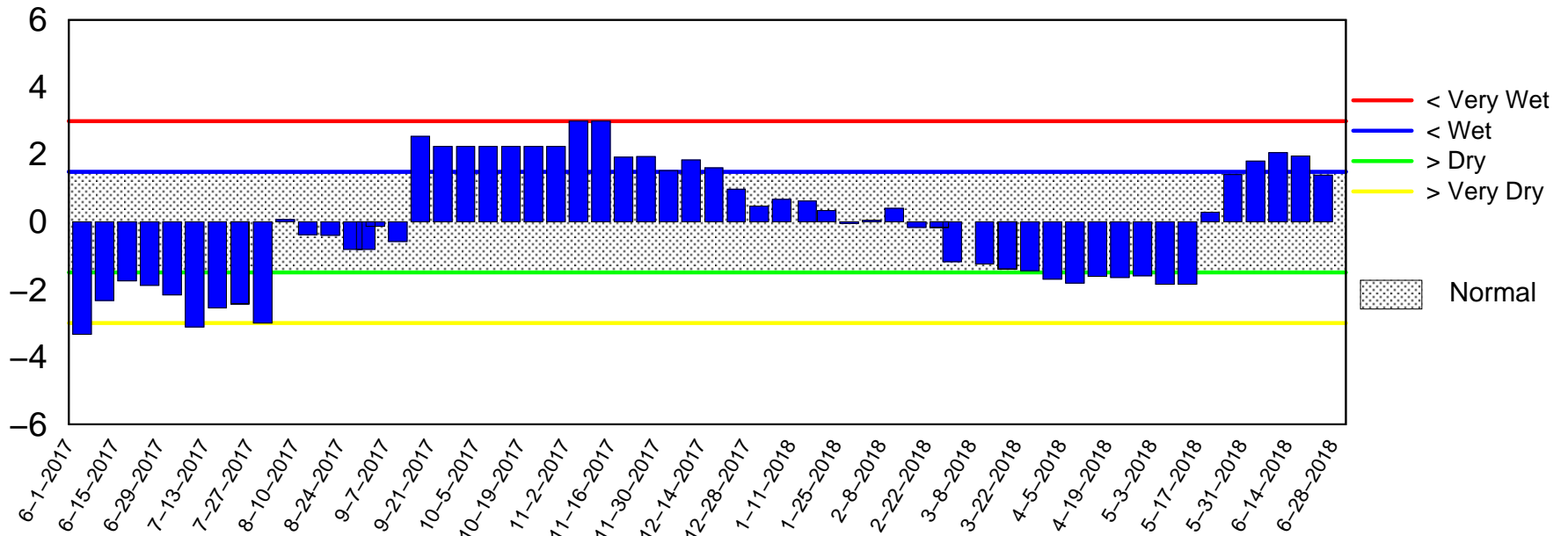
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Lake Okeechobee SFWMM June Mid-Month 2018 Position Analysis

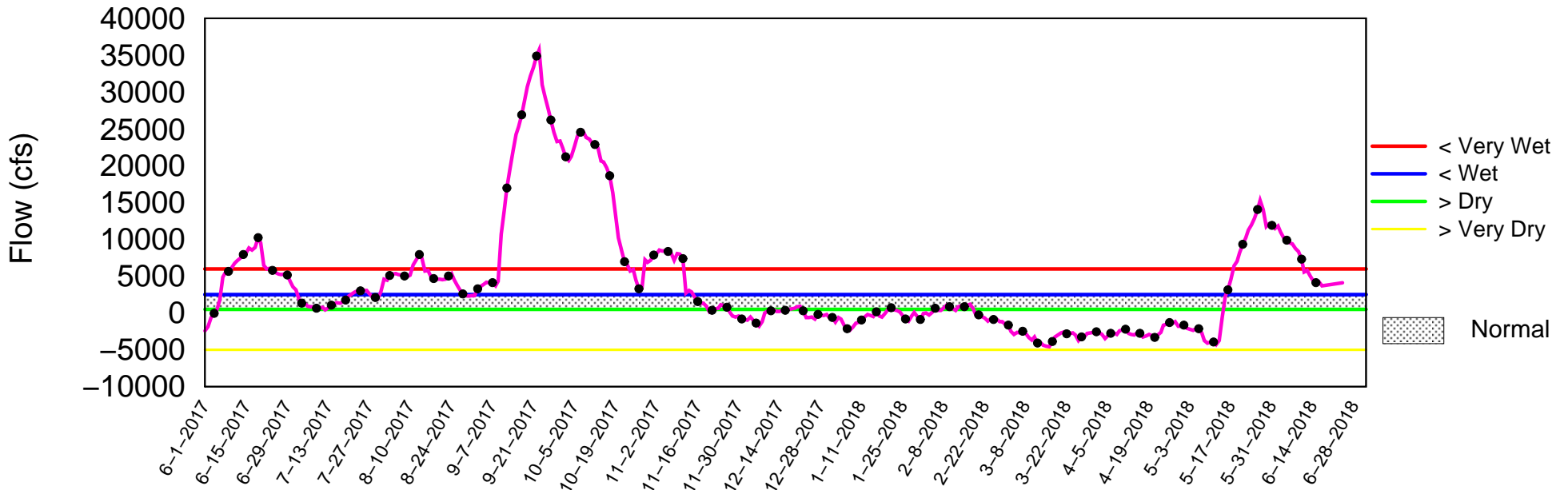


Tributary Basin Condition Indicators as of June 25 2018

Palmer Index



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



Tue Jun 26 10:16:30 2018

2008 LORS

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

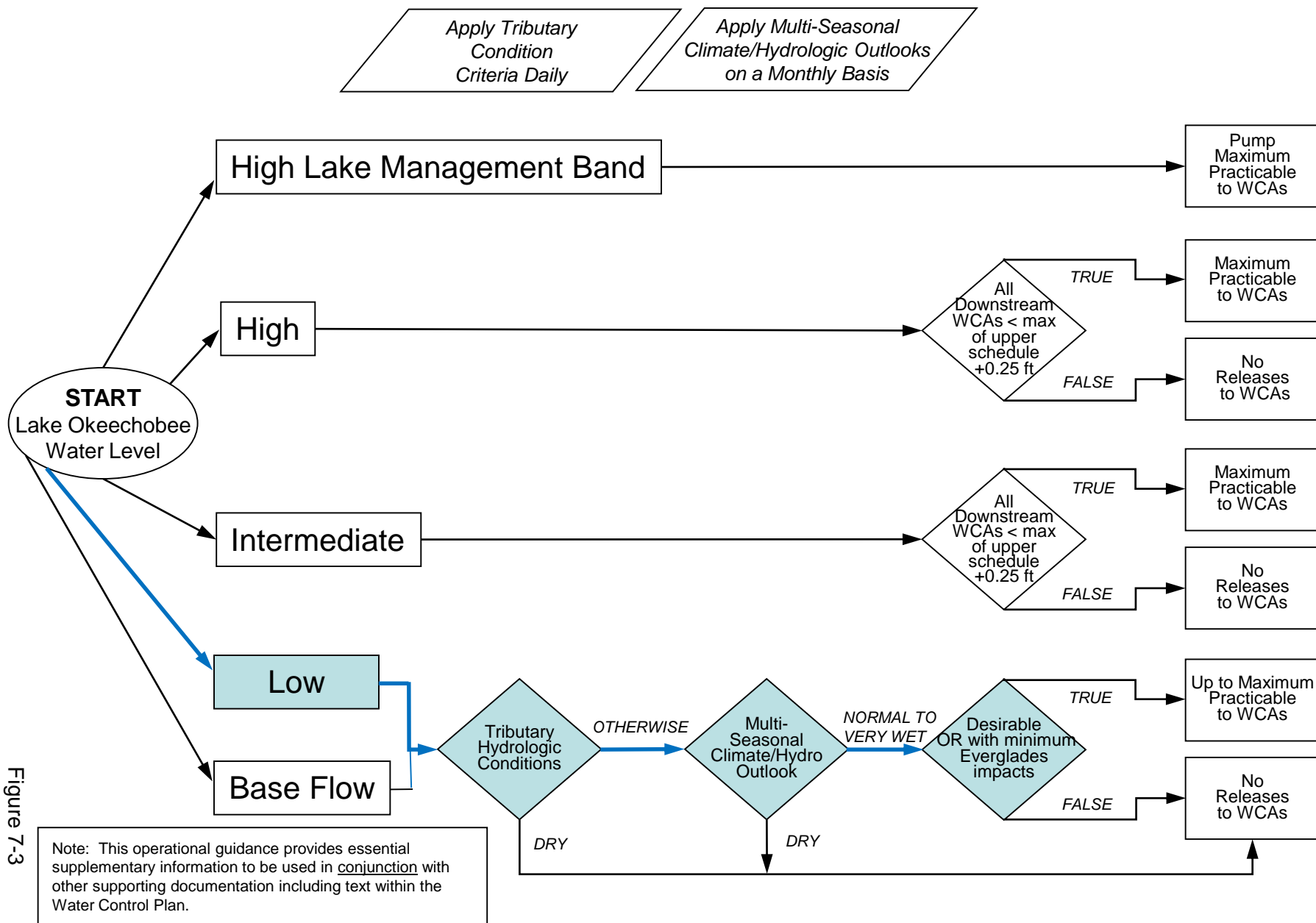


Figure 7-3

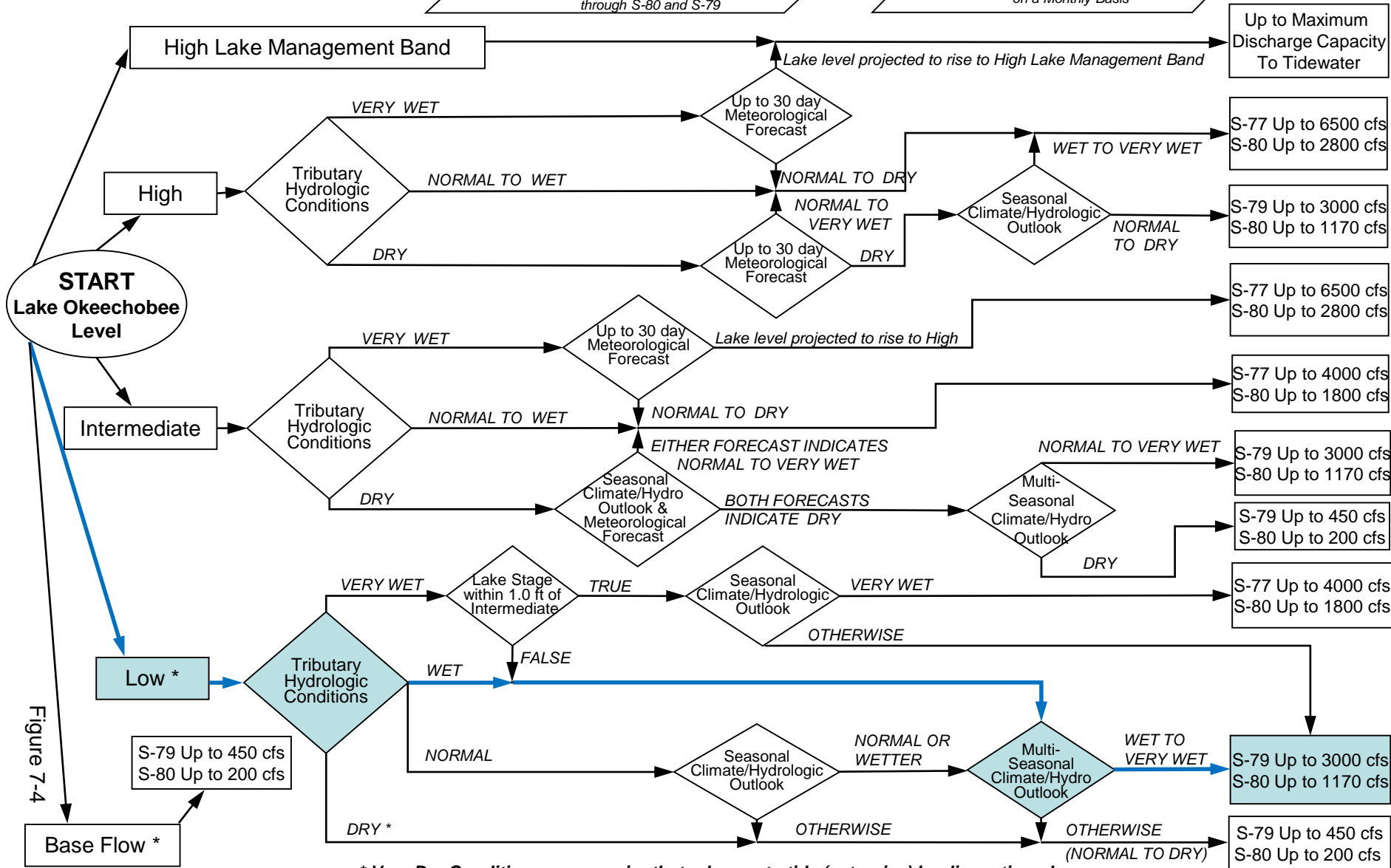
2008 LORS

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

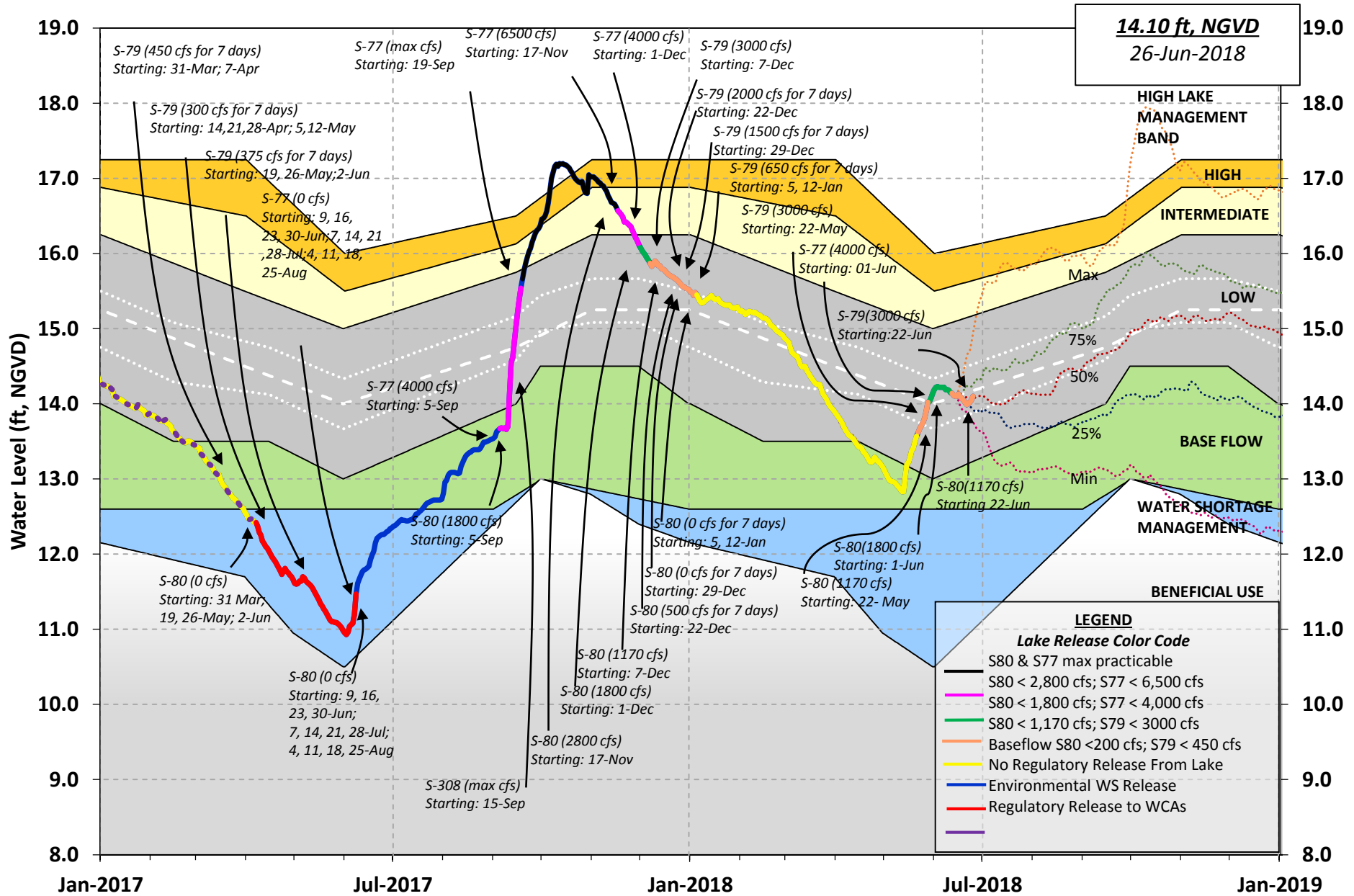
Apply Meteorological Forecasts on a Weekly Basis; apply Seasonal and Multi-Seasonal Climate/Hydrologic Outlooks on a Monthly Basis



* Very Dry Conditions may require that releases to tide (estuaries) be discontinued

Figure 7-4

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 24 JUN 2018

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	14.05	12.26	14.92 (Official Elv)
Bottom of High Lake Mngmt=	16.11	Top of Water Short Mngmt=	10.98
Currently in Operational Management Band			
Simulated Average LORS2008 [1965-2000]		12.13	
Difference from Average LORS2008		1.92	
24JUN (1965-2007) Period of Record Average		13.27	
Difference from POR Average		0.78	

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 7.99'

++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 6.19'

Bridge Clearance = 48.78'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
14.07	14.11	14.04	13.98	14.04	14.16	13.99	13.99

*Combination Okeechobee Avg-Daily Lake Average = 14.05
 (*See Note)

Okeechobee Inflows (cfs):

S65E	0	S65EX1	2224	Fisheating Cr	786
S154	105	S191	565	S135 Pumps	0
S84	827	S133 Pumps	181	S2 Pumps	0
S84X	757	S127 Pumps	0	S3 Pumps	0
S71	1082	S129 Pumps	0	S4 Pumps	0
S72	154	S131 Pumps	0	C5	0
Total Inflows:	6682				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	596	S77	839
S127 Culverts	0	S351	873	S308	-1
S129 Culverts	0	S352	375		
S131 Culverts	0	L8 Canal Pt	2		
Total Outflows:	2684				

S3 Pumps:	10.22	14.21	0	0	0	0			(cfs)
S354:	14.21	10.22	596	0.1	0.3				
S2 Pumps:	10.40	14.15	0	0	0	0	0		(cfs)
S351:	14.15	10.40	873	0.5	0.2	0.6			
S352:	14.25	9.68	375	0.7	0.7				
C10A:	-NR-	13.46		8.0	8.0	8.0	0.0	0.0	
L8 Canal PT		13.30	2						

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.40	14.15	873	-NR--NR--NR--NR--NR--NR-
S352:	9.68	14.25	375	-NR--NR--NR--NR-
S354:	10.22	14.21	596	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)

S47B:	13.34	11.38		0.0	0.0
S47D:	11.37	11.38	-5	6.5	

S77:

Spillway and Sector Flow:								
	14.01	11.27	836.00	0.0	2.5	0.0	0.0	
Flow Due to Lockages+:			3					

S77 Below USGS Flow Gage 1032

S78:

Spillway and Sector Flow:							
	11.17	2.72	1738	0.0	2.5	2.5	0.0
Flow Due to Lockages+:			6				

S79:

Spillway and Sector Flow:										
	2.85	0.53	3470	1.0	2.0	2.0	2.0	2.0	2.0	1.0

1.0

Flow Due to Lockages+:	7
Percent of flow from S77	24%
Chloride (ppm)	50

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:								
	13.97	14.72	0.00	0.0	0.0	0.0	0.0	
Flow Due to Lockages+:			-1					

S308 Below USGS Flow Gage -58

S153:	18.95	14.54	202	1.0	1.0
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S80:

Spillway and Sector Flow:										
	14.67	0.78	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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) 6712
 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.

Daily Precipitation Totals Speed (mph)	1-Day (inches)	3-Day (inches)	7-Day (inches)	----- Wind --- Direction (Degø)	
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	0.63	0.94	49	2
S78:	0.00	0.01	0.06	100	1
S79:	0.66	1.37	1.39	270	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:	0.00	0.02	0.02	105	2
S80:	0.00	0.00	0.00	320	2
Okeechobee Average	0.00	0.05	0.07		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	0.49	0.97	1.46		

Okeechobee Lake Elevations 24JUN18	24 JUN 2018	14.05 Difference from
24JUN18 -1 Day =	23 JUN 2018	14.02 -0.03
24JUN18 -2 Days =	22 JUN 2018	14.00 -0.05
24JUN18 -3 Days =	21 JUN 2018	13.99 -0.06
24JUN18 -4 Days =	20 JUN 2018	14.02 -0.03
24JUN18 -5 Days =	19 JUN 2018	14.05 0.00
24JUN18 -6 Days =	18 JUN 2018	14.07 0.02
24JUN18 -7 Days =	17 JUN 2018	14.10 0.05
24JUN18 -30 Days =	25 MAY 2018	13.75 -0.30
24JUN18 -1 Year =	24 JUN 2017	12.26 -1.79
24JUN18 -2 Year =	24 JUN 2016	14.92 0.87

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = 4.79

Lake Okeechobee Net Inflow (LONIN)

		Average Flow over the previous 14 days				Avg-Daily Flow
24JUN18	Today =	24 JUN 2018	3960	MON		9035
24JUN18	-1 Day =	23 JUN 2018	3558	SUN		9541
24JUN18	-2 Days =	22 JUN 2018	3277	SAT		8762
24JUN18	-3 Days =	21 JUN 2018	2584	FRI		1208
24JUN18	-4 Days =	20 JUN 2018	2877	THU		1413
24JUN18	-5 Days =	19 JUN 2018	3166	WED		2786
24JUN18	-6 Days =	18 JUN 2018	3308	TUE		-217
24JUN18	-7 Days =	17 JUN 2018	3694	MON		-1048
24JUN18	-8 Days =	16 JUN 2018	4131	SUN		12141
24JUN18	-9 Days =	15 JUN 2018	4065	SAT		6414
24JUN18	-10 Days =	14 JUN 2018	4547	FRI		3829
24JUN18	-11 Days =	13 JUN 2018	5195	THU		-899
24JUN18	-12 Days =	12 JUN 2018	6016	WED		3487
24JUN18	-13 Days =	11 JUN 2018	5918	TUE		-1016

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		S65E				Avg-Daily Flow
		Average Flow over previous 14 days				
24JUN18	Today=	24 JUN 2018	0	MON		0
24JUN18	-1 Day =	23 JUN 2018	0	SUN		0
24JUN18	-2 Days =	22 JUN 2018	0	SAT		0
24JUN18	-3 Days =	21 JUN 2018	0	FRI		0
24JUN18	-4 Days =	20 JUN 2018	0	THU		0
24JUN18	-5 Days =	19 JUN 2018	0	WED		0
24JUN18	-6 Days =	18 JUN 2018	0	TUE		0
24JUN18	-7 Days =	17 JUN 2018	2	MON		0
24JUN18	-8 Days =	16 JUN 2018	5	SUN		0
24JUN18	-9 Days =	15 JUN 2018	8	SAT		0
24JUN18	-10 Days =	14 JUN 2018	11	FRI		0
24JUN18	-11 Days =	13 JUN 2018	14	THU		0
24JUN18	-12 Days =	12 JUN 2018	17	WED		0
24JUN18	-13 Days =	11 JUN 2018	20	TUE		0

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		S65EX1				Avg-Daily Flow
		Average Flow over previous 14 days				
24JUN18	Today=	24 JUN 2018	2303	MON		2224
24JUN18	-1 Day =	23 JUN 2018	2297	SUN		2398
24JUN18	-2 Days =	22 JUN 2018	2276	SAT		2493
24JUN18	-3 Days =	21 JUN 2018	2256	FRI		2372
24JUN18	-4 Days =	20 JUN 2018	2230	THU		2469
24JUN18	-5 Days =	19 JUN 2018	2202	WED		2241
24JUN18	-6 Days =	18 JUN 2018	2190	TUE		2244
24JUN18	-7 Days =	17 JUN 2018	2181	MON		2234
24JUN18	-8 Days =	16 JUN 2018	2167	SUN		2072
24JUN18	-9 Days =	15 JUN 2018	2178	SAT		2405
24JUN18	-10 Days =	14 JUN 2018	2156	FRI		2488
24JUN18	-11 Days =	13 JUN 2018	2128	THU		2201
24JUN18	-12 Days =	12 JUN 2018	2122	WED		2310
24JUN18	-13 Days =	11 JUN 2018	2093	TUE		2096

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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)
24 JUN 2018		1616	2046	3455	6906
23 JUN 2018		4202	4441	4215	7547
22 JUN 2018		6420	6647	5782	8658
21 JUN 2018		8249	8322	8468	11357
20 JUN 2018		8490	8751	9069	11945
19 JUN 2018		8312	8919	9892	12746
18 JUN 2018		8094	9145	10002	13610
17 JUN 2018		7895	8903	9617	13878
16 JUN 2018		8034	9030	9131	13184
15 JUN 2018		8336	8726	9172	12767
14 JUN 2018		8328	8938	9656	13340
13 JUN 2018		8256	8934	9740	13623
12 JUN 2018		8402	8911	9740	14468
11 JUN 2018		8505	8907	9868	14447

		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)
24 JUN 2018		-125	1732	642	682	5
23 JUN 2018		-146	2202	730	1686	-4
22 JUN 2018		-129	632	773	1206	51
21 JUN 2018		61	146	750	1412	82
20 JUN 2018		-20	119	478	1795	73
19 JUN 2018		-25	0	0	1844	63
18 JUN 2018		27	0	0	997	-89
17 JUN 2018		-187	0	0	131	-271
16 JUN 2018		-163	0	0	399	-260
15 JUN 2018		4	0	0	1321	-236
14 JUN 2018		34	0	0	567	-245
13 JUN 2018		5	0	0	0	-335
12 JUN 2018		21	0	0	0	-380
11 JUN 2018		9	0	0	0	-497

		S-308	Below S-308	S-80
		Discharge	Discharge	Discharge
		(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE		(AC-FT)	(AC-FT)	(AC-FT)
24 JUN 2018		-2	-114	52
23 JUN 2018		471	461	730
22 JUN 2018		3529	2780	2740
21 JUN 2018		3959	3434	3598
20 JUN 2018		4093	3233	3596
19 JUN 2018		3446	3362	3581
18 JUN 2018		2945	3222	3607
17 JUN 2018		2830	2892	3631
16 JUN 2018		2641	2394	3677
15 JUN 2018		2696	2919	3624
14 JUN 2018		2870	3138	3599
13 JUN 2018		2824	3121	3607
12 JUN 2018		2855	3106	3646

11 JUN 2018 2400 2890 3617

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

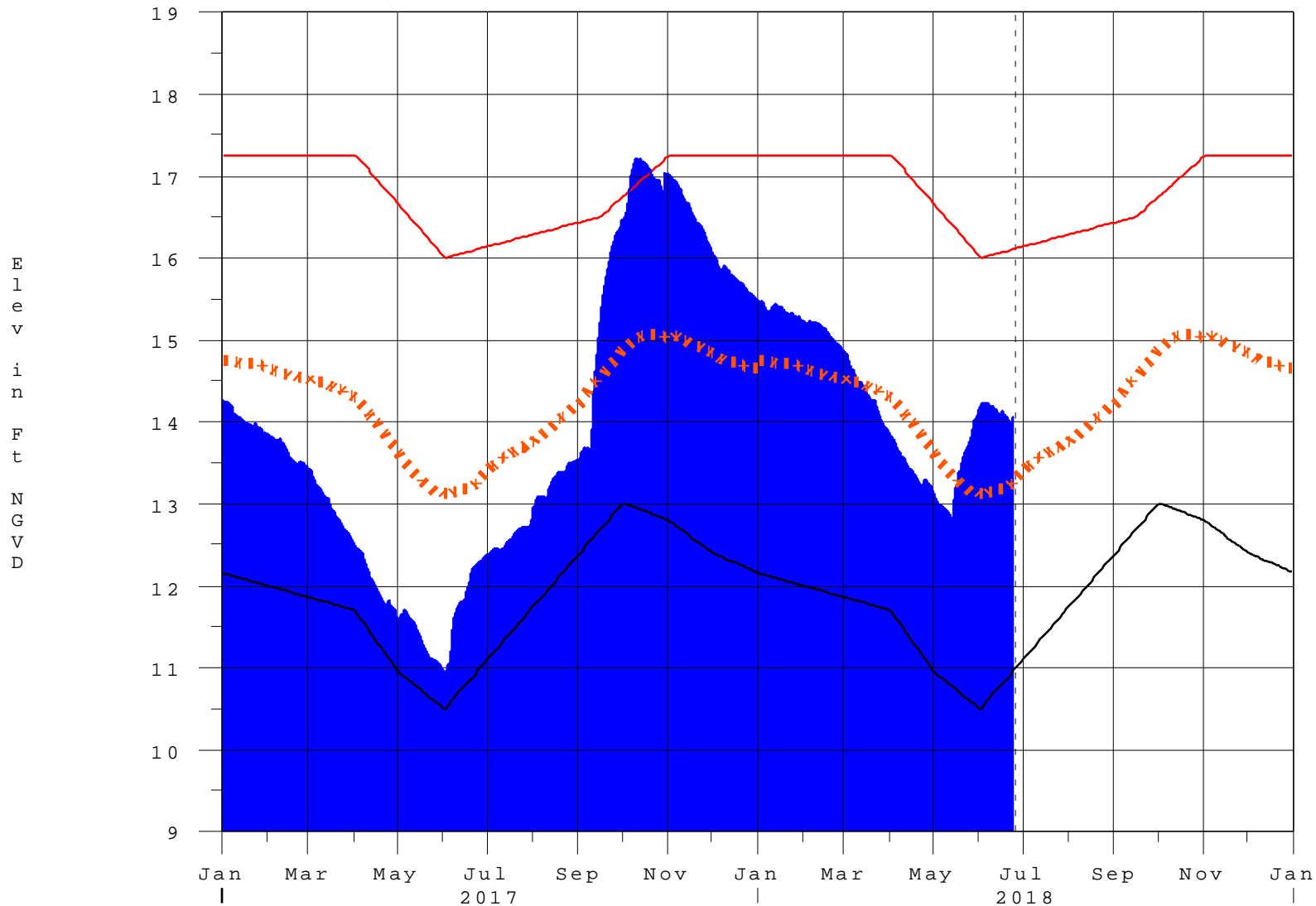
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(I) - Flows preceded by "I" signify an instantaneous
flow computed from the single value reported for the day

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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 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

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Report Generated 25JUN2018 @ 17:15 ** Preliminary Data - Subject to Revision
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Lake Okeechobee

25JUN18 17:17:20



- 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