

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 10/9/2017 (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 (Oct-Mar)	N/A	N/A	1.75	Wet	1.65	Wet	3.01	Very Wet
Multi Seasonal (Oct-Apr)	N/A	N/A	1.70	Normal	1.54	Normal	2.95	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:](#)

24710 cfs 14-day running average for Lake Okeechobee Net Inflow through 10/8/2017. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Very Wet.

2.24 for Palmer Index on 10/7/2017.

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

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

[LORS2008 Classification Tables:](#)

Lake Okeechobee Stage on 10/9/2017

Lake Okeechobee Stage: **17.16 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		16.87	← 17.16
Operational Band	High sub-band	16.50	
	Intermediate sub-band	15.99	
	Low sub-band	14.50	
Base Flow sub-band		12.97	
Beneficial Use sub-band		12.95	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCA's

Release Guidance Flow Chart Outcome: Up to maximum practicable 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: Up to maximum discharge capacity to tidewater.

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 10/9/2017 (ENSO Neutral Condition):

Status for week ending 10/9/2017:

District wide, Raindar rainfall was 2.26 inches for the week. Lake stage on 10/9/2017 was 17.16 ft, up 0.69 ft from last week.

The updated October 2017 SFWMM Dynamic Position Analysis [percentile graph](#) for Lake Okeechobee show that the current lake stage is in the High Lake Management Operational Sub-Band.

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

Water Supply Risk Evaluation

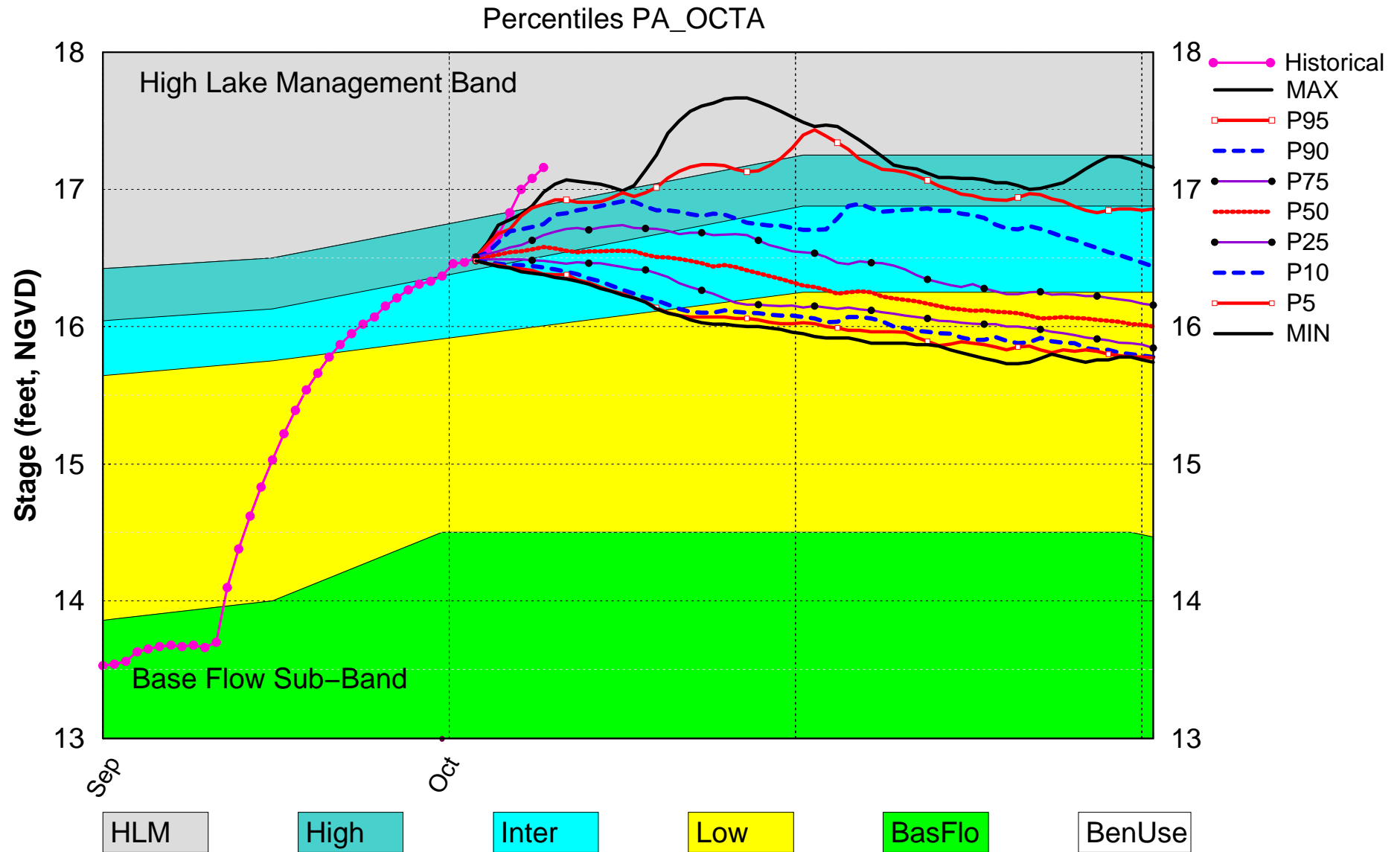
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	High Sub Band	L
	Palmer Index for LOK Tributary Conditions	2.24 (Normal)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	1.65 ft (Normal)	L
	ENSO La Nina Years		L
	LOK Multi-Seasonal Net Inflow Outlook	1.54 ft (Normal)	M
	ENSO La Nina Years		
WCAs	WCA 1: Site 1-7, Site 1-8T, & Site 1-9 Average	Above Line 1 (17.42 ft)	L
	WCA 2A: Site 2-17 HW	Above Line 1 (14.04 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (12.56 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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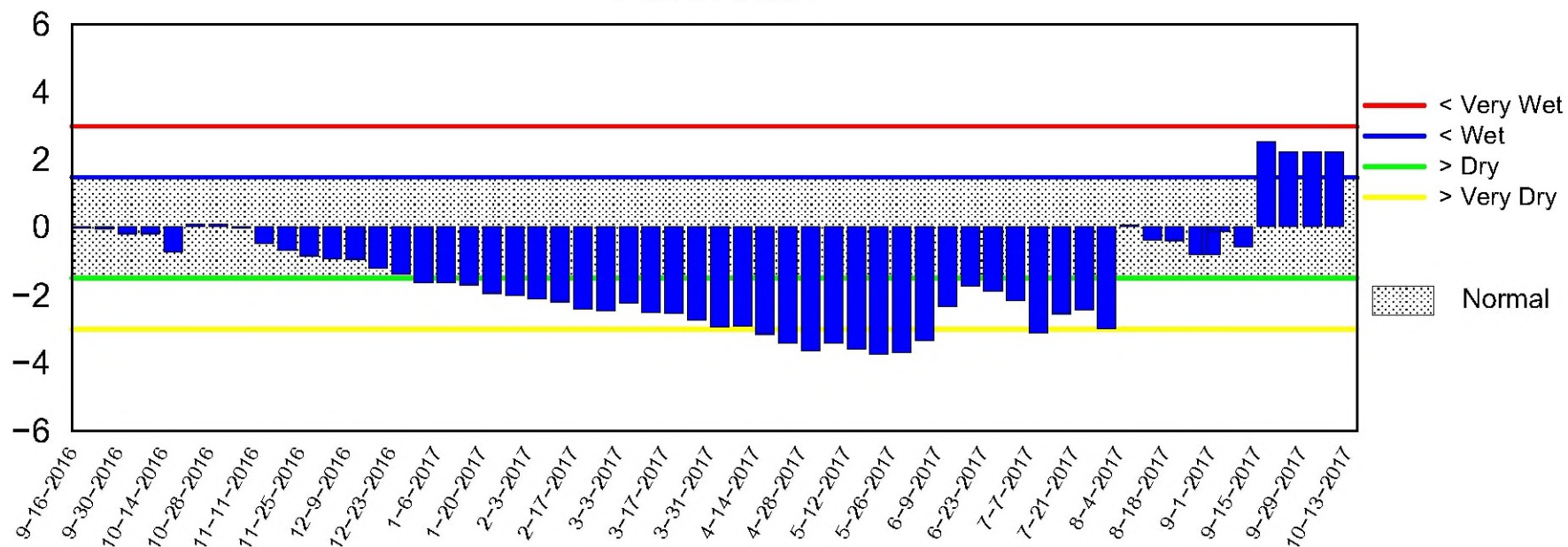
Lake Okeechobee SFWMM Oct 2017 Dynamic Position Analysis



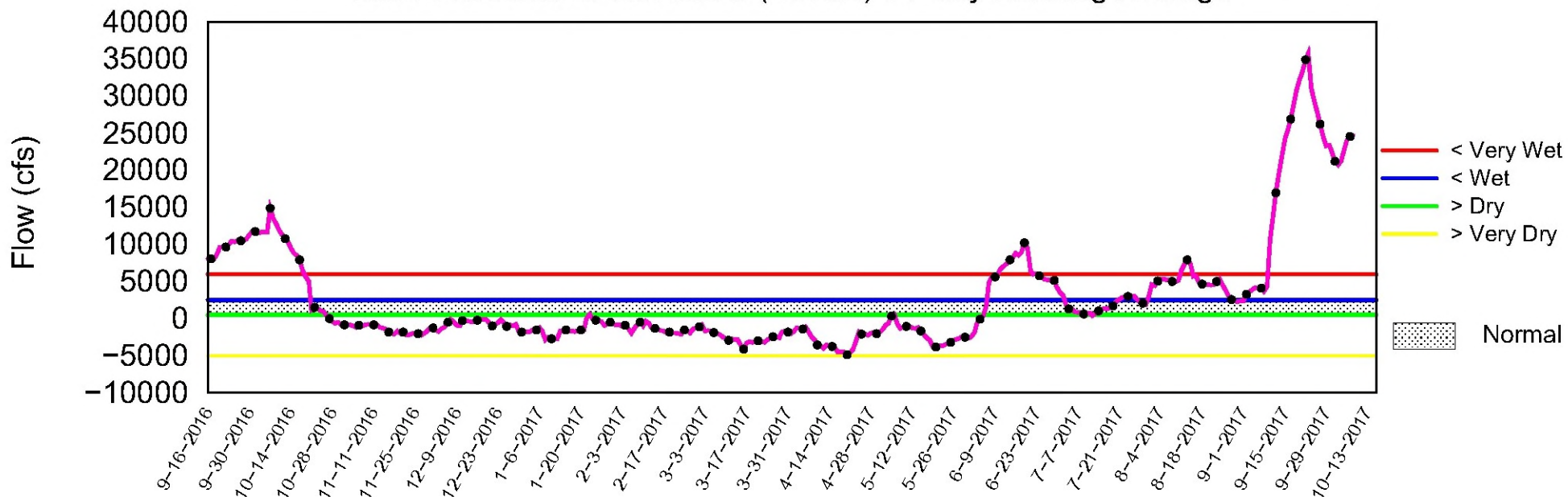
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of October 9 2017

Palmer Index



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



Mon Oct 09 11:07:31 EDT 2017

2008 LORS

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

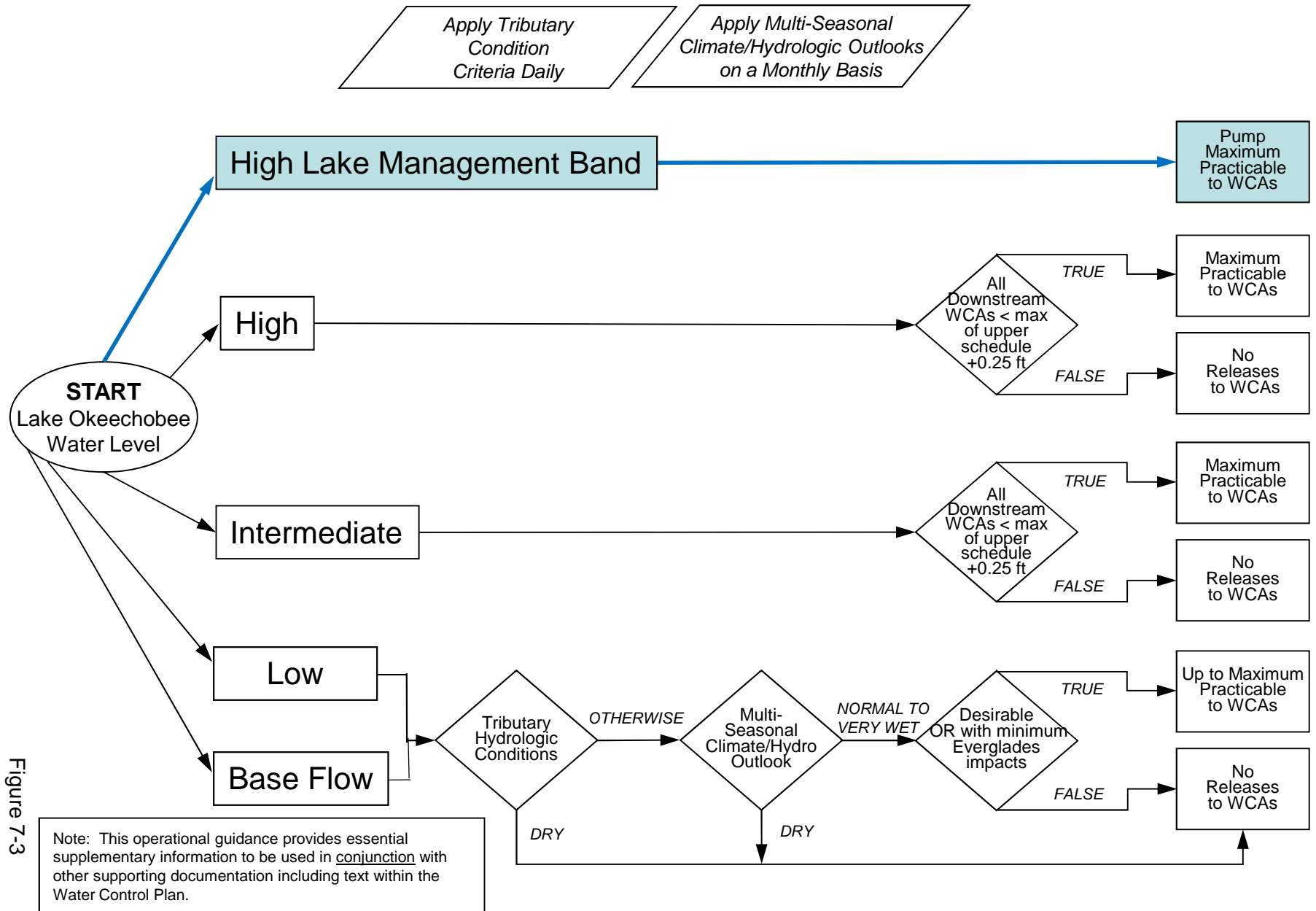


Figure 7-3

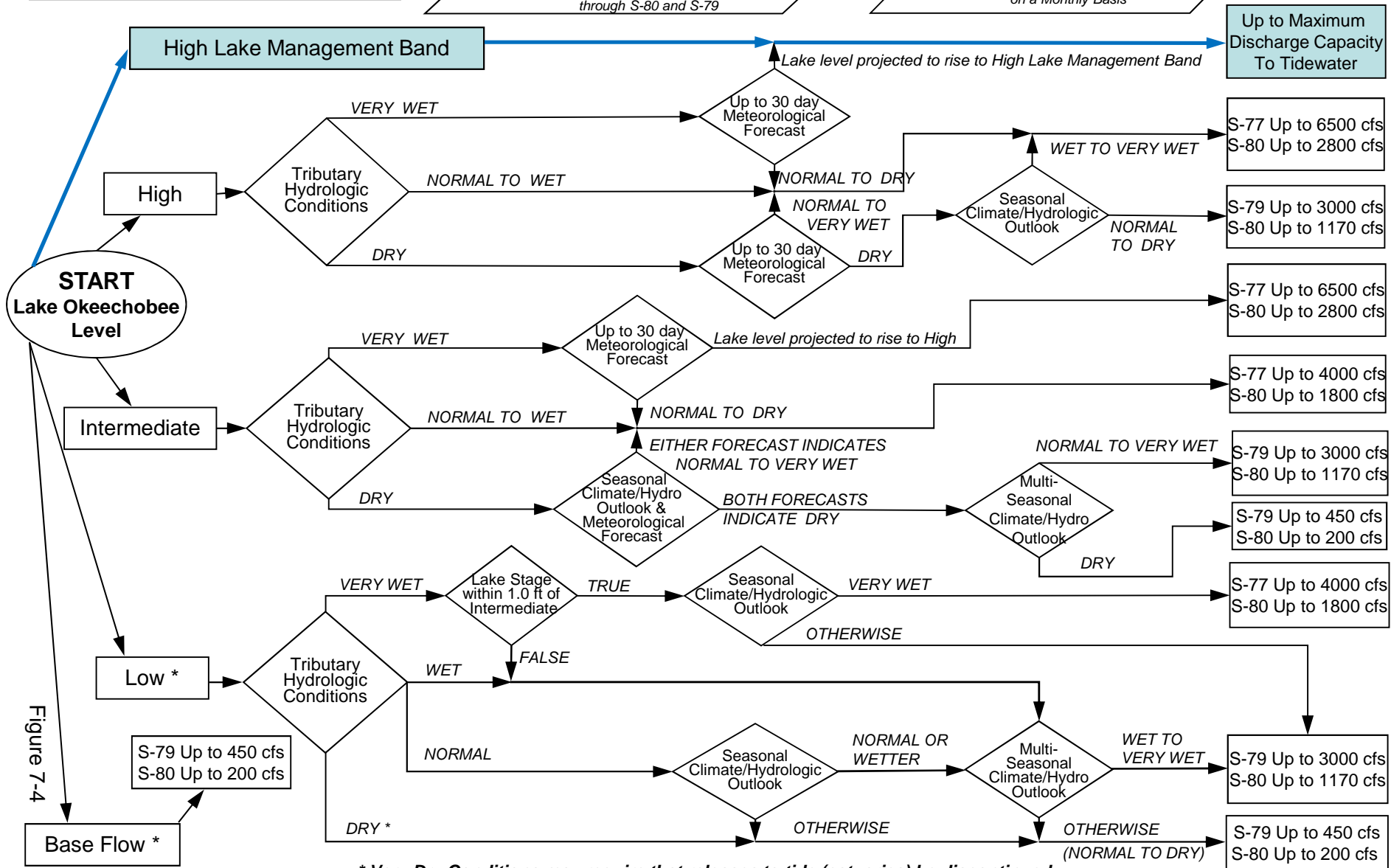
2008 LORS

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

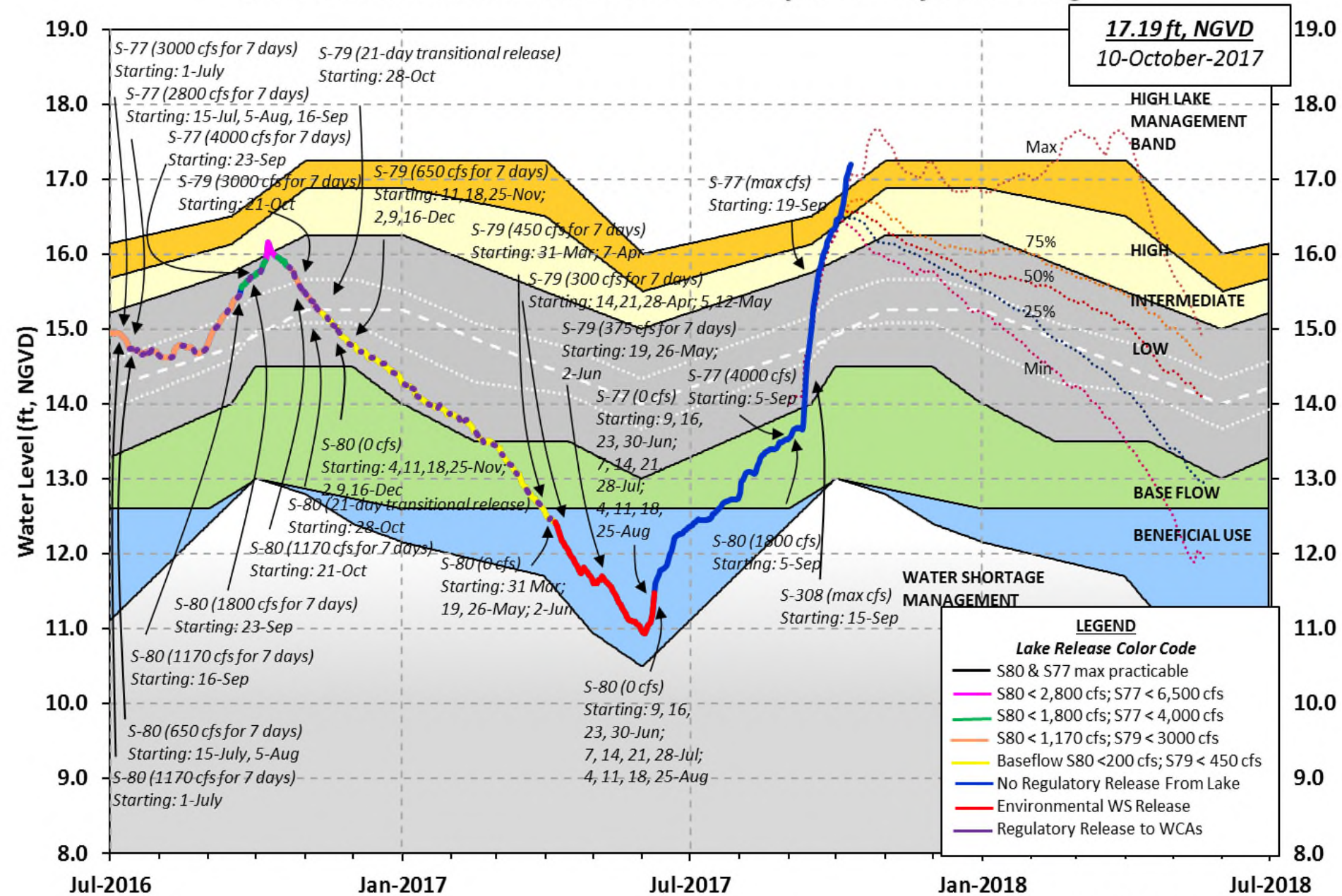
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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

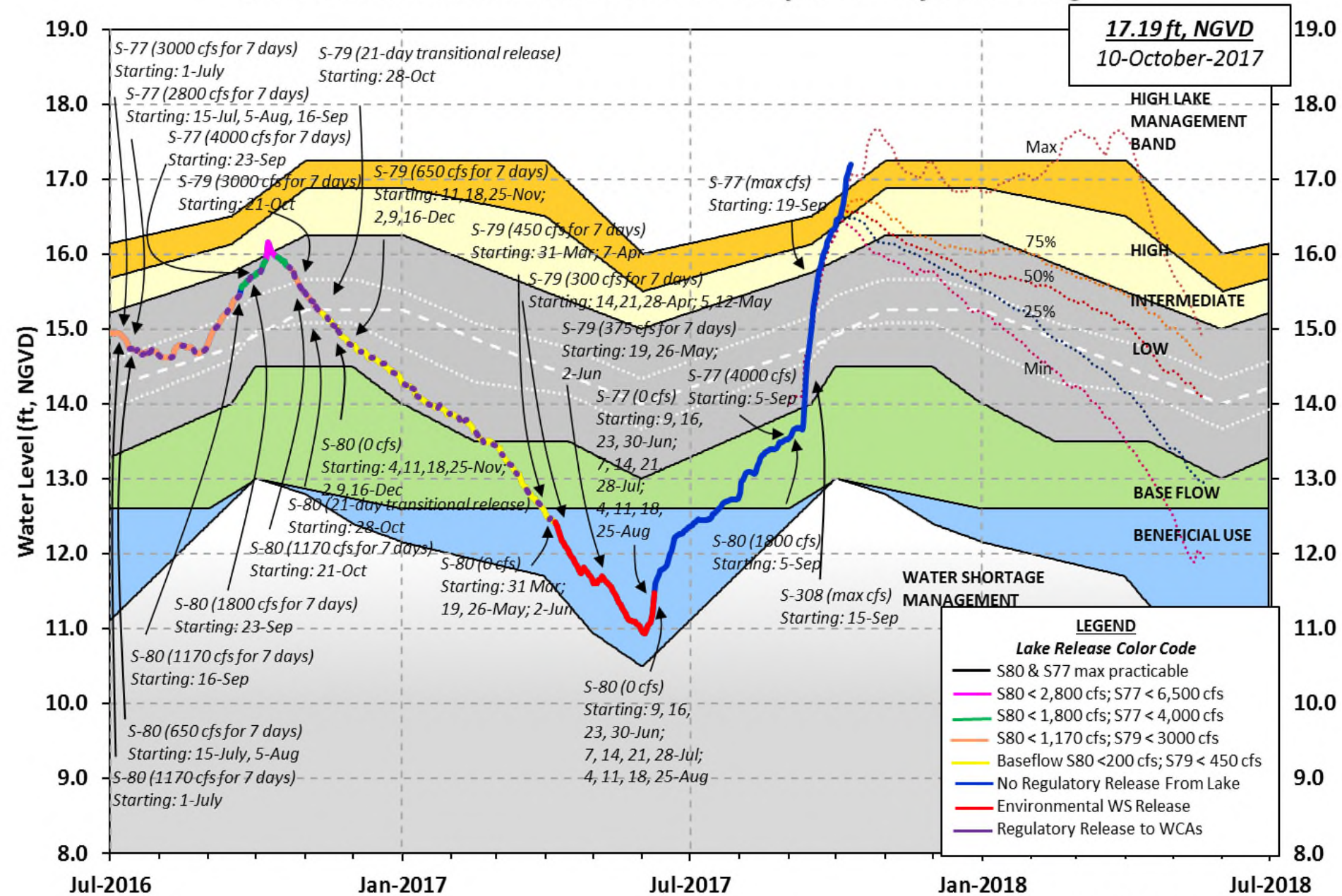


LORS-2008

Adopted by USACE 28-April-2008

Projected Stage Percentiles From
SFWMD-HESM Position Analysis

Lake Okeechobee Water Level History and Projected Stages



LORS-2008

Adopted by USACE 28-April-2008

Projected Stage Percentiles From
SFWMD-HESM Position Analysis

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

Data Ending 2400 hours 08 OCT 2017

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	17.16	16.10	14.75 (Official Elv)
Bottom of High Lake Mngmt= 16.87 Top of Water Short Mngmt= 12.95			
Currently in High Lake Management Band			
Simulated Average LORS2008 [1965-2000]		13.89	
Difference from Average LORS2008		3.27	
08OCT (1965-2007) Period of Record Average		15.00	
Difference from POR Average		2.16	

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 11.10'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 9.30'
 Bridge Clearance = 46.65'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
17.19	-NR-	17.17	17.13	17.14	17.28	17.10	17.10

*Combination Okeechobee Avg-Daily Lake Average = 17.16
 (*See Note)

Okeechobee Inflows (cfs):

S65E	5527	S65EX1	5556	Fisheating Cr	1434
S154	420	S191	1474	S135 Pumps	143
S84	1989	S133 Pumps	225	S2 Pumps	0
S84X	154	S127 Pumps	248	S3 Pumps	0
S71	228	S129 Pumps	95	S4 Pumps	0
S72	341	S131 Pumps	42	C5	0
Total Inflows: 17875					

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	6808
S127 Culverts	0	S351	0	S308	2272
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-384		
Total Outflows: 8696					

S3 Pumps:	9.68	17.15	0	0	0	0		(cfs)
S354:	17.15	9.68	0	0.0	0.0			
S2 Pumps:	9.80	17.22	0	0	0	0	0	(cfs)
S351:	17.22	9.80	0	0.0	0.0	0.0		
S352:	17.25	10.23	0	0.0	0.0			
C10A:	-NR-	-NR-		8.0	8.0	8.0	0.0	0.0
L8 Canal PT		17.38	-384					

S351 and S352 Temporary Pumps/S354 Spillway

S351:	9.80	17.22	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-
S352:	10.23	17.25	0	-NR-	-NR-	-NR-	-NR-		
S354:	9.68	17.15	0	-NR-	-NR-	-NR-	-NR-		

Caloosahatchee River (S77, S78, S79)

S47B:	13.30	11.36		1.0	1.0		
S47D:		-NR-	-NR-	-NR-			
S77:							

Spillway and Sector Flow:

16.82	11.67	*****	5.5	5.5	5.5	5.5
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Flow Due to Lockages+: 3

S77 Below USGS Flow Gage 6805

S78:

Spillway and Sector Flow:

10.67	4.10	8164	6.0	6.5	8.0	7.5
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Flow Due to Lockages+: 2

S79:

Spillway and Sector Flow:

2.98	2.87	14552	18.0	18.0	18.0	18.0	18.0	18.0	18.0
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18.0

Flow Due to Lockages+: 0
Percent of flow from S77 47%
Chloride (ppm) 55

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:

17.09	16.85	*****	8.0	8.0	8.0	8.0
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Flow Due to Lockages+: 0

S308 Below USGS Flow Gage 2271

S153:	18.64	16.56	478	1.5	1.5
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S80:

Spillway and Sector Flow:

12.72	2.89	4227	4.5	2.5	0.0	4.5	2.5	4.5	4.5
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Flow Due to Lockages+: 11
Percent of flow from S308 54%

Steele Point Top Salinity (mg/ml) 1197

Steele Point Bottom Salinity (mg/ml) 5537

Speedy Point Top Salinity (mg/ml) 533
 Speedy Point Bottom Salinity (mg/ml) 689

+ 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	0.07	2.13	144	2
S78:	0.00	0.00	1.79	138	2
S79:	0.00	0.18	2.50	211	2
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	0.00	121	4
S80:	0.00	0.00	0.00	157	1
Okeechobee Average	0.00	0.01	0.16		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	-NR-	0.55	2.45		

Okeechobee Lake Elevations	08 OCT 2017	17.16	Difference from
08OCT17			
08OCT17 -1 Day =	07 OCT 2017	17.08	-0.08
08OCT17 -2 Days =	06 OCT 2017	17.00	-0.16
08OCT17 -3 Days =	05 OCT 2017	16.83	-0.33
08OCT17 -4 Days =	04 OCT 2017	16.67	-0.49
08OCT17 -5 Days =	03 OCT 2017	16.56	-0.60
08OCT17 -6 Days =	02 OCT 2017	16.50	-0.66
08OCT17 -7 Days =	01 OCT 2017	16.47	-0.69
08OCT17 -30 Days =	08 SEP 2017	13.66	-3.50
08OCT17 -1 Year =	08 OCT 2016	16.10	-1.06
08OCT17 -2 Year =	08 OCT 2015	14.75	-2.41

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = 3.77

Lake Okeechobee Net Inflow (LONIN)

Average Flow over the previous 14 days					Avg-Daily Flow
08OCT17	Today =	08 OCT 2017	24553	MON	27933
08OCT17	-1 Day =	07 OCT 2017	24384	SUN	27122
08OCT17	-2 Days =	06 OCT 2017	23779	SAT	45288
08OCT17	-3 Days =	05 OCT 2017	22094	FRI	42893
08OCT17	-4 Days =	04 OCT 2017	20660	THU	-NR-
08OCT17	-5 Days =	03 OCT 2017	20954	WED	20867
08OCT17	-6 Days =	02 OCT 2017	21563	TUE	15563
08OCT17	-7 Days =	01 OCT 2017	22514	MON	13126
08OCT17	-8 Days =	30 SEP 2017	24090	SUN	31156
08OCT17	-9 Days =	29 SEP 2017	24707	SAT	19200
08OCT17	-10 Days =	28 SEP 2017	26394	FRI	13720
08OCT17	-11 Days =	27 SEP 2017	28475	THU	17862
08OCT17	-12 Days =	26 SEP 2017	30386	WED	21873
08OCT17	-13 Days =	25 SEP 2017	32490	TUE	22581

S65E

Average Flow over previous 14 days					Avg-Daily Flow
08OCT17	Today=	08 OCT 2017	7103	MON	5573
08OCT17	-1 Day =	07 OCT 2017	7225	SUN	6387
08OCT17	-2 Days =	06 OCT 2017	7270	SAT	7487
08OCT17	-3 Days =	05 OCT 2017	7210	FRI	7388
08OCT17	-4 Days =	04 OCT 2017	7160	THU	7134
08OCT17	-5 Days =	03 OCT 2017	7150	WED	7177
08OCT17	-6 Days =	02 OCT 2017	7163	TUE	7194
08OCT17	-7 Days =	01 OCT 2017	7206	MON	7179
08OCT17	-8 Days =	30 SEP 2017	7277	SUN	7239
08OCT17	-9 Days =	29 SEP 2017	7349	SAT	7323
08OCT17	-10 Days =	28 SEP 2017	7414	FRI	7332
08OCT17	-11 Days =	27 SEP 2017	7397	THU	7368
08OCT17	-12 Days =	26 SEP 2017	7180	WED	7341
08OCT17	-13 Days =	25 SEP 2017	6850	TUE	7326

S65EX1

Average Flow over previous 14 days					Avg-Daily Flow
08OCT17	Today=	08 OCT 2017	5956	MON	5556
08OCT17	-1 Day =	07 OCT 2017	6034	SUN	5551
08OCT17	-2 Days =	06 OCT 2017	6119	SAT	5576
08OCT17	-3 Days =	05 OCT 2017	6199	FRI	5946
08OCT17	-4 Days =	04 OCT 2017	6253	THU	6312
08OCT17	-5 Days =	03 OCT 2017	6279	WED	5965
08OCT17	-6 Days =	02 OCT 2017	6333	TUE	5827
08OCT17	-7 Days =	01 OCT 2017	6402	MON	5648
08OCT17	-8 Days =	30 SEP 2017	6491	SUN	5970
08OCT17	-9 Days =	29 SEP 2017	6566	SAT	5824
08OCT17	-10 Days =	28 SEP 2017	6672	FRI	6056
08OCT17	-11 Days =	27 SEP 2017	6815	THU	6192
08OCT17	-12 Days =	26 SEP 2017	6955	WED	6322
08OCT17	-13 Days =	25 SEP 2017	7087	TUE	6639

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)
08 OCT 2017			12698	13495	16199	28570
07 OCT 2017			11967	12882	16240	28335
06 OCT 2017			11870	12998	16280	29107
05 OCT 2017			11754	13074	16552	27847
04 OCT 2017			13778	15605	16619	27784
03 OCT 2017			14157	14386	16016	24854
02 OCT 2017			13909	15122	15837	24884
01 OCT 2017			13486	14798	15934	25623
30 SEP 2017			13269	14649	15667	25931
29 SEP 2017			12532	13235	14008	21948
28 SEP 2017			10405	8988	10308	17752
27 SEP 2017			12995	10708	11029	18071
26 SEP 2017			12918	10504	11789	18595
25 SEP 2017			12188	10511	11699	18648

			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)
08 OCT 2017			18	0	0	0	-762
07 OCT 2017			21	0	0	0	-1098
06 OCT 2017			22	0	0	0	-1334
05 OCT 2017			21	0	0	0	-975
04 OCT 2017			36	0	0	0	-NR-
03 OCT 2017			33	0	0	0	-579
02 OCT 2017			10	0	0	0	-380
01 OCT 2017			1	0	0	0	-98
30 SEP 2017			6	0	0	0	-112
29 SEP 2017			16	0	0	0	29
28 SEP 2017			26	0	0	0	11
27 SEP 2017			11	0	0	0	-13
26 SEP 2017			18	0	0	0	44
25 SEP 2017			9	0	0	0	-40

			S-308	Below S-308	S-80
			Discharge	Discharge	Discharge
			(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE			(AC-FT)	(AC-FT)	(AC-FT)
08 OCT 2017			8739	4504	8678
07 OCT 2017			4268	3547	6857
06 OCT 2017			258	-229	6050
05 OCT 2017			-723	-795	3456
04 OCT 2017			446	44	3004
03 OCT 2017			-0	116	2381
02 OCT 2017			2028	1767	5600
01 OCT 2017			8787	6731	6677
30 SEP 2017			8835	6643	6649
29 SEP 2017			8779	6814	6684
28 SEP 2017			9126	7167	6541
27 SEP 2017			8871	6717	7229
26 SEP 2017			7815	5833	5626

25 SEP 2017 -NR- 5743 6147

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

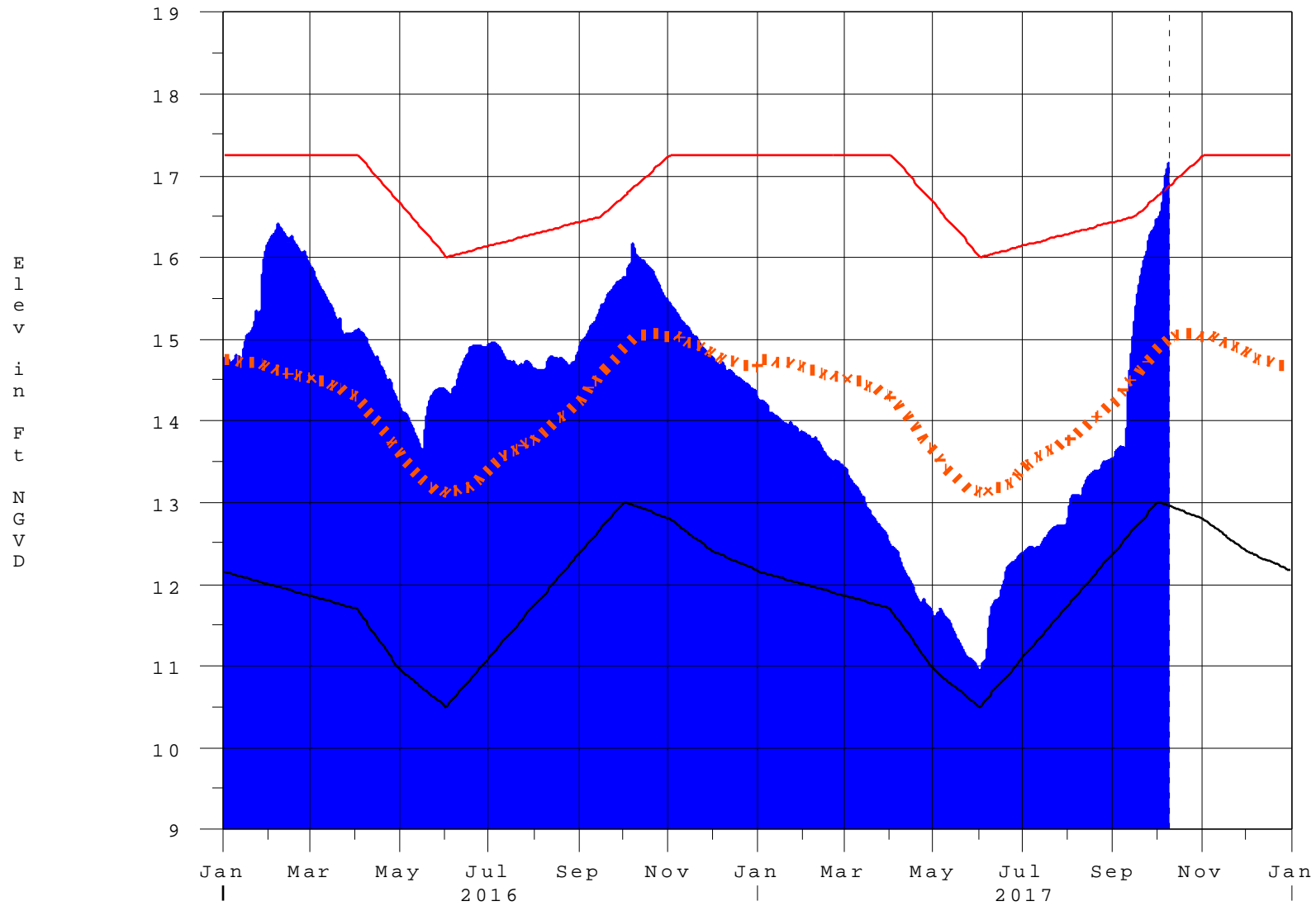
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(I) - Flows preceded by "I" signify an instantaneous
 flow computed from the single value reported for the day

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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

—
Report Generated 09OCT2017 @ 09:45 ** Preliminary Data - Subject to Revision
**

Lake Okeechobee

09OCT17 09:45:24



- 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