

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 8/7/2017 (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 (Aug-Jan)	N/A	N/A	1.95	Wet	2.49	Very Wet	3.74	Very Wet
Multi Seasonal (Aug-Apr)	N/A	N/A	2.14	Normal	2.75	Wet	3.82	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:](#)

5271 cfs 14-day running average for Lake Okeechobee Net Inflow through 8/6/2017. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Wet.

0.08 for Palmer Index on 8/5/2017.

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 8/5/2017

Lake Okeechobee Stage: **13.09 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		16.31	
Operational Band	High sub-band	15.89	
	Intermediate sub-band	15.47	
	Low sub-band	13.63	
Base Flow sub-band		12.60	← 13.09
Beneficial Use sub-band		11.87	
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](#)
- [Environmental Conditions for Systems Operations](#)

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LORS2008 Implementation on 8/7/2017 (ENSO Neutral Condition):

Status for week ending 8/7/2017:

District wide, Raindar rainfall was 1.00 inches for the week. Lake stage on 8/7/2017 was 13.09 ft, up 0.36 ft from last week.

The updated August 1 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 **Wet**. The PDSI indicates normal condition and the LONIN is Wet. The classification is based on the wetter of the two.

Water Supply Risk Evaluation

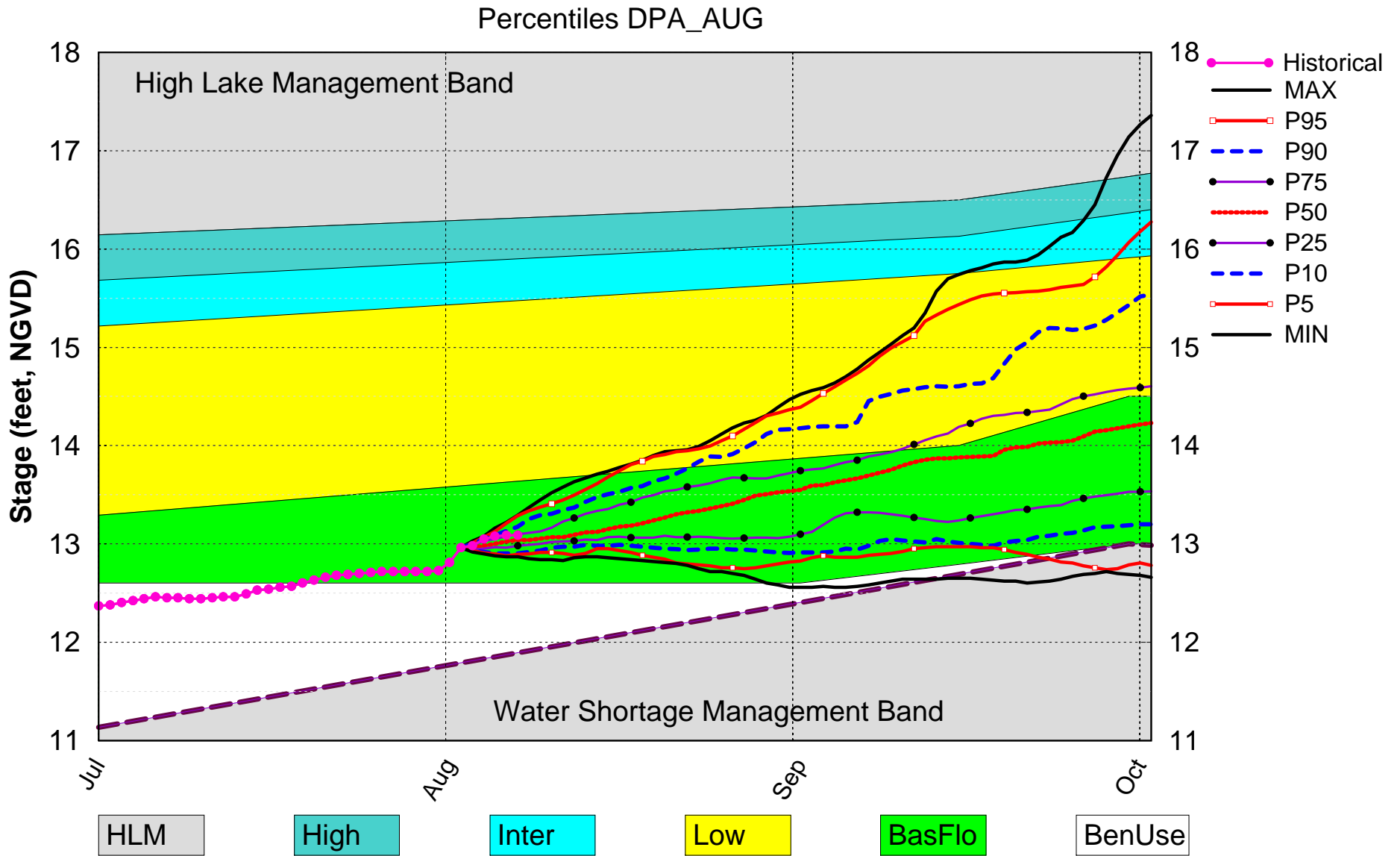
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Base Flow Sub Band	M
	Palmer Index for LOK Tributary Conditions	0.08 (Normal)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook ENSO La Nina Years	2.49 ft (Normal)	L
	LOK Multi-Seasonal Net Inflow Outlook ENSO La Nina Years	2.75 ft (Normal)	M
WCAs	WCA 1: Site 1-7, Site 1-8T, & Site 1-9 Average	Above Line 1 (16.56 ft)	L
	WCA 2A: Site 2-17 HW	Above Line 1 (13.57 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (11.15 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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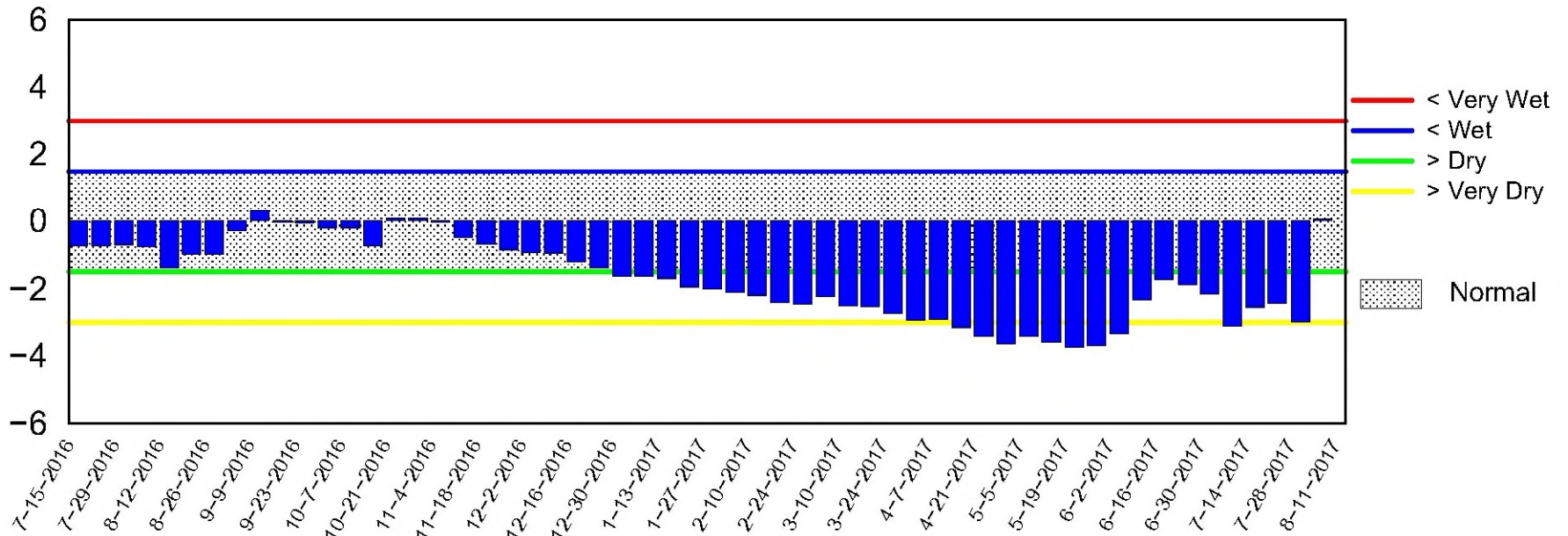
Lake Okeechobee SFWMM Aug 2017 Dynamic Position Analysis



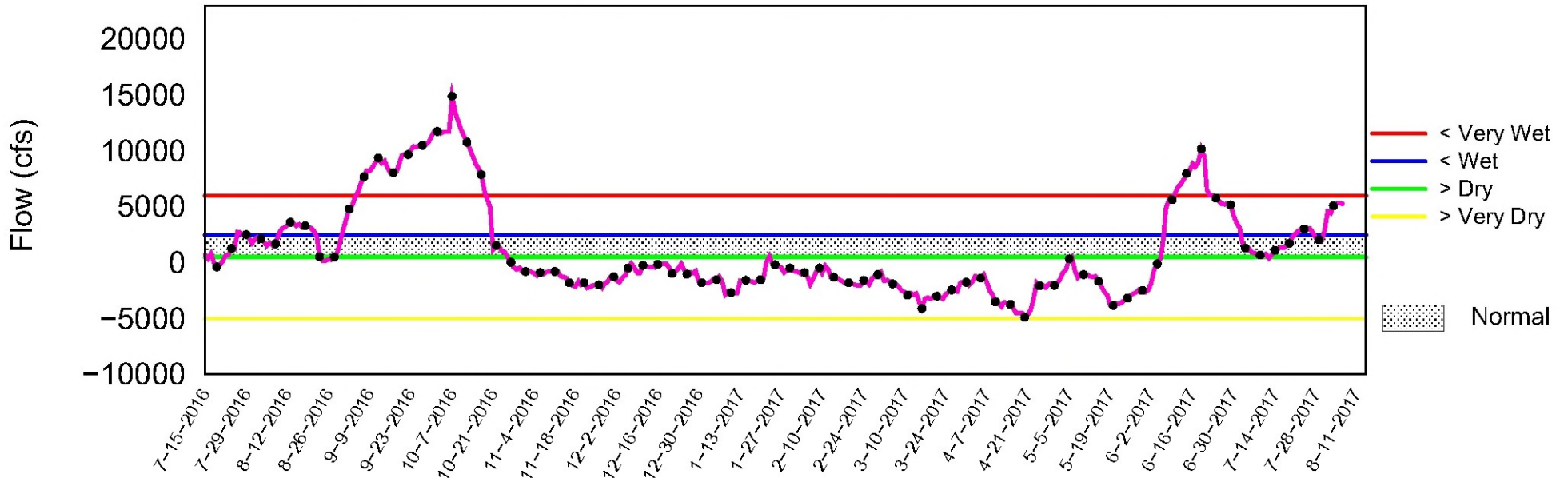
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of August 7 2017

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

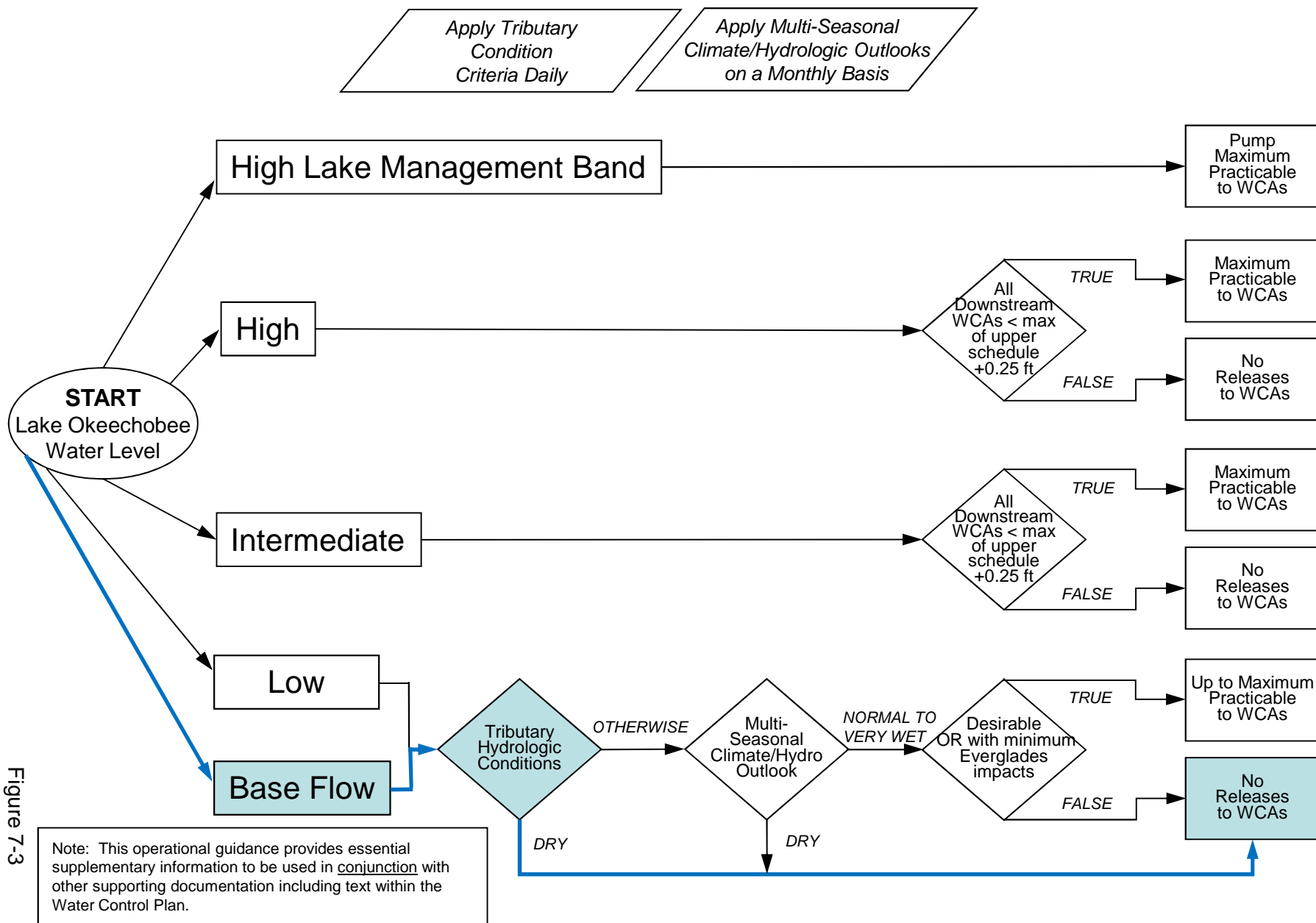
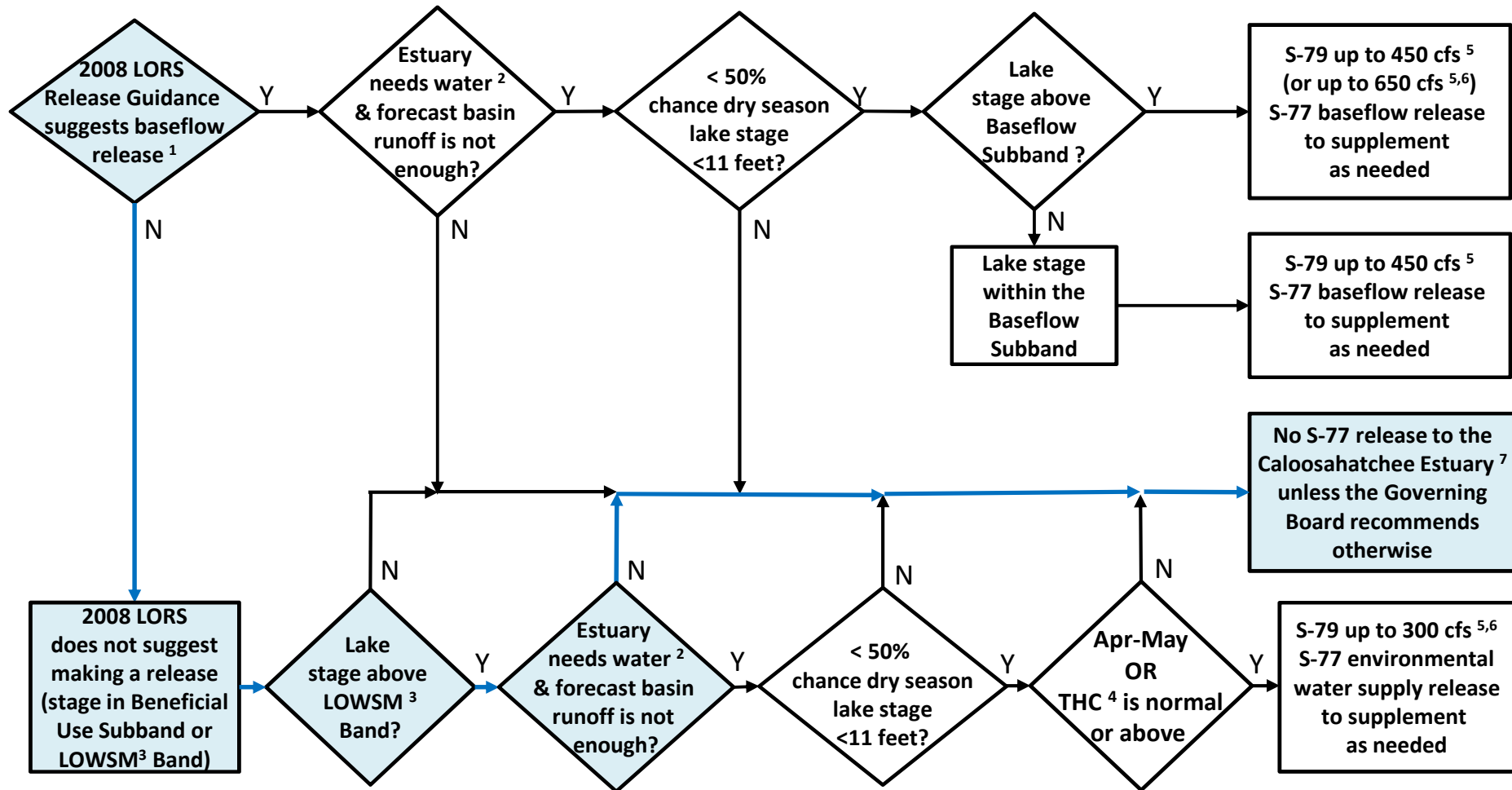


Figure 7-3

Flowchart to Guide Recommendations for Lake Okeechobee Releases to the Caloosahatchee Estuary for 2008 LORS Baseflow & for Environmental Water Supply (revised 9-Aug-2012)



¹The 2008 LORS Release Guidance (Part D) can suggest baseflow releases in the Intermediate, Low, or Baseflow Subbands.

²Estuary “needs” water when the 30-day moving average salinity at I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.

³LOWSM = Lake Okeechobee Water Shortage Management.

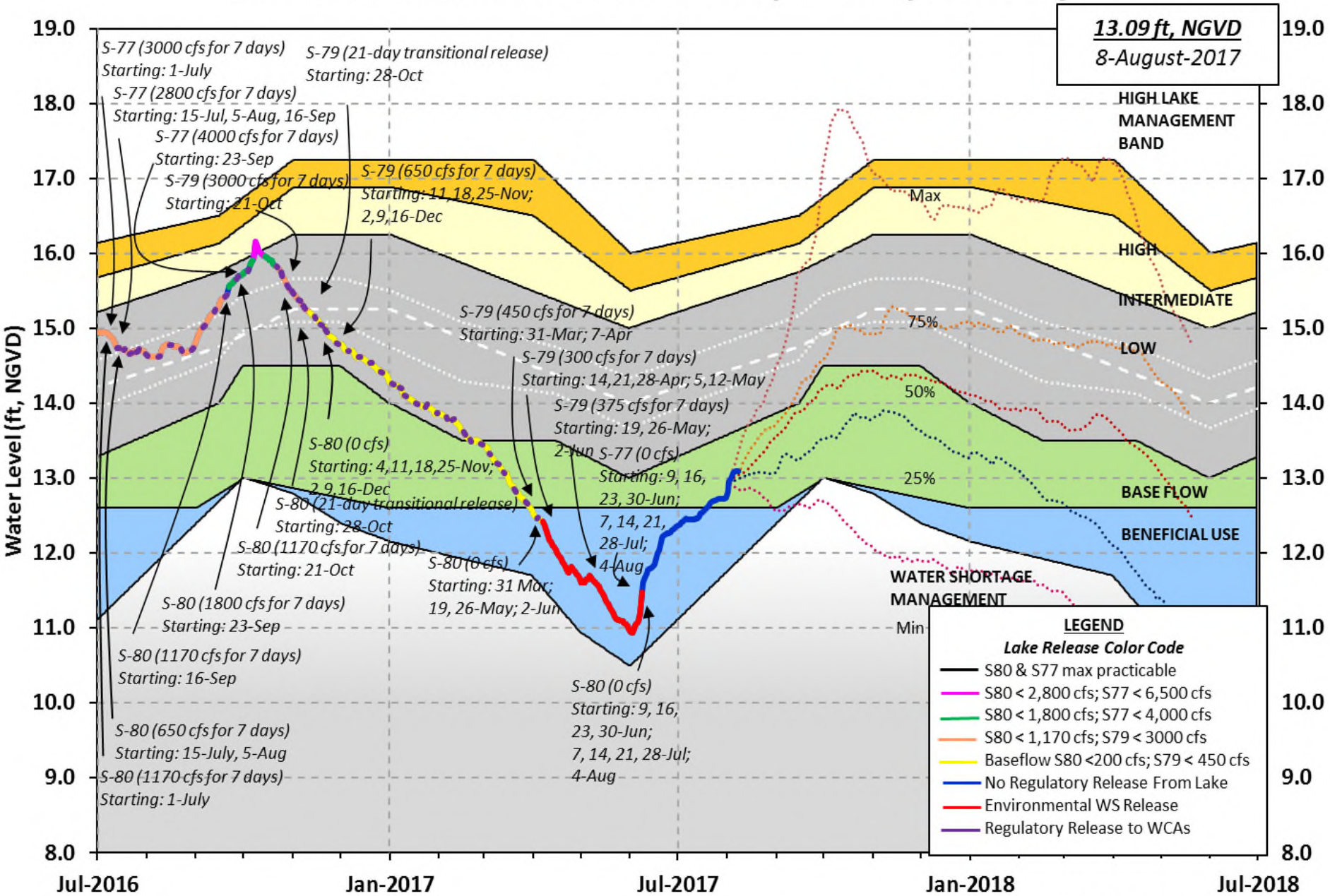
⁴Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

⁵Can release less than the “up to” limit if lower release is sufficient to reach or sustain desired estuary salinity; cfs = cubic feet per second.

⁶After reviewing conditions in 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 their next regularly scheduled meeting as part of the State of the Water Resources agenda item

Lake Okeechobee Water Level History and Projected Stages



****S77 structure flow is being used to compute Total Outflow.
 ****S308 below flow meter is being used to compute Total Outflow.

Okeechobee Pan Evaporation (inches):

S77 0.29 S308 0.12
 Average Pan Evap x 0.75 Pan Coefficient = 0.15" = 0.01'

Lake Average Precipitation using NEXRAD: = -NR-" = -NR-'

Evaporation - Precipitation: = -NR-" = -NR-'

Evaporation - Precipitation using Lake Area of 730 square miles
 is equal to -NR-

Lake Okeechobee (Change in Storage) Flow is 0 cfs or 0 AC-FT

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

	Headwater	Tailwater		----- Gate Positions -----						
---	Elevation	Elevation	Disch	#1	#2	#3	#4	#5	#6	#7
#8	(ft-msl)	(ft-msl)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
(ft)										
	(I) see note at bottom									
North East Shore										
S133 Pumps:	13.17	13.00	0	0	0	0	0	0	0	(cfs)
S193:										
S191:	18.96	12.96	160	0.0	0.0	0.4				
S135 Pumps:	13.46	12.92	0	0	0	0	0			(cfs)
S135 Culverts:			0	0.0	0.0					
North West Shore										
S65E:	21.11	12.95	0	0.0	0.0	0.0	0.0	0.0	0.0	
S65EX1:	21.11	12.95	2642							
S127 Pumps:	13.53	13.16	0	0	0	0	0	0	0	(cfs)
S127 Culvert:			0	0.0						
S129 Pumps:	12.84	13.40	54	0	12	44				(cfs)
S129 Culvert:			0	0.0						
S131 Pumps:	12.96	13.34	0	0	0					(cfs)
S131 Culvert:			0							
Fisheating Creek										
nr Palmdale		31.86	281							
nr Lakeport										
C5:		-NR-	0	-NR-	-NR-	-NR-				
South Shore										
S4 Pumps:	11.23	13.14	0	0	0	0				(cfs)

S169:	13.18	11.23	0	0.0	0.0	0.0		
S310:	13.15		-85					
S3 Pumps:	9.24	13.10	0	0	0	0		(cfs)
S354:	13.10	9.24	0	0.0	0.0			
S2 Pumps:	9.69	13.06	0	0	0	0	0	(cfs)
S351:	13.06	9.69	0	0.0	0.0	0.0		
S352:	13.19	9.21	0	0.0	0.0			
C10A:	-NR-	13.18		8.0	8.0	8.0	0.0	0.0
L8 Canal PT		13.02	116					

S351 and S352 Temporary Pumps/S354 Spillway

S351:	9.69	13.06	0	-NR--NR--NR--NR--NR--NR-
S352:	9.21	13.19	0	-NR--NR--NR--NR-
S354:	9.24	13.10	0	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)

S47B:	13.59	10.91		0.0	0.0
S47D:	10.86	10.86	67	6.5	

S77:

Spillway and Sector Flow:							
	13.21	10.94	0.00	0.0	0.0	0.0	0.0
Flow Due to Lockages+:			2				

S77 Below USGS Flow Gage 98

S78:

Spillway and Sector Flow:							
	10.74	3.37	746	1.0	0.0	0.0	1.5
Flow Due to Lockages+:			6				

S79:

Spillway and Sector Flow:										
	3.05	1.04	1847	1.0	1.0	1.0	2.0	2.0	2.0	1.0

1.0

Flow Due to Lockages+:	5
Percent of flow from S77	0%
Chloride (ppm)	58

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:							
	12.98	13.01	*****	2.0	2.0	2.0	2.0
Flow Due to Lockages+:			0				

S308 Below USGS Flow Gage -163

S153:	18.55	12.82	339	1.0	0.5
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S80:

Spillway and Sector Flow:										
	13.10	1.48	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow Due to Lockages+:			20							
Percent of flow from S308	NA	%								

Steele Point Top Salinity (mg/ml) -N

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.

Daily Precipitation Totals	1-Day	3-Day	7-Day	----- Wind ---	
Speed	(inches)	(inches)	(inches)	Direction	
(mph)				(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	0.00	2.21	133	1
S78:	0.41	0.41	4.05	17	2
S79:	0.27	0.72	1.66	203	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	0.65	80	1
S80:	0.00	0.00	0.01	0	0
Okeechobee Average	0.00	0.00	0.22		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations	06 AUG 2017	13.09	Difference from	
06AUG17				
06AUG17 -1 Day =	05 AUG 2017	13.09		0.00
06AUG17 -2 Days =	04 AUG 2017	13.08		-0.01
06AUG17 -3 Days =	03 AUG 2017	13.05		-0.04
06AUG17 -4 Days =	02 AUG 2017	12.98		-0.11
06AUG17 -5 Days =	01 AUG 2017	12.96		-0.13
06AUG17 -6 Days =	31 JUL 2017	12.81		-0.28
06AUG17 -7 Days =	30 JUL 2017	12.73		-0.36
06AUG17 -30 Days =	07 JUL 2017	12.45		-0.64
06AUG17 -1 Year =	06 AUG 2016	14.62		1.53
06AUG17 -2 Year =	06 AUG 2015	12.29		-0.80

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = 4.49

Lake Okeechobee Net Inflow (LONIN)

		Average Flow over the previous 14 days			Avg-Daily Flow
06AUG17	Today =	06 AUG 2017	6201	MON	116
06AUG17	-1 Day =	05 AUG 2017	6364	SUN	2373
06AUG17	-2 Days =	04 AUG 2017	6326	SAT	6353
06AUG17	-3 Days =	03 AUG 2017	6116	FRI	14520
06AUG17	-4 Days =	02 AUG 2017	5385	THU	3933
06AUG17	-5 Days =	01 AUG 2017	5536	WED	29040
06AUG17	-6 Days =	31 JUL 2017	3608	TUE	15680
06AUG17	-7 Days =	30 JUL 2017	2465	MON	1990
06AUG17	-8 Days =	29 JUL 2017	2640	SUN	202
06AUG17	-9 Days =	28 JUL 2017	2837	SAT	202
06AUG17	-10 Days =	27 JUL 2017	3476	FRI	0
06AUG17	-11 Days =	26 JUL 2017	3967	THU	0
06AUG17	-12 Days =	25 JUL 2017	3967	WED	-NR-
06AUG17	-13 Days =	24 JUL 2017	3813	TUE	-NR-

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
06AUG17	Today=	06 AUG 2017	48	MON	0
06AUG17	-1 Day =	05 AUG 2017	48	SUN	0
06AUG17	-2 Days =	04 AUG 2017	48	SAT	254
06AUG17	-3 Days =	03 AUG 2017	30	FRI	414
06AUG17	-4 Days =	02 AUG 2017	0	THU	0
06AUG17	-5 Days =	01 AUG 2017	0	WED	0
06AUG17	-6 Days =	31 JUL 2017	0	TUE	0
06AUG17	-7 Days =	30 JUL 2017	0	MON	0
06AUG17	-8 Days =	29 JUL 2017	0	SUN	0
06AUG17	-9 Days =	28 JUL 2017	0	SAT	0
06AUG17	-10 Days =	27 JUL 2017	0	FRI	0
06AUG17	-11 Days =	26 JUL 2017	0	THU	0
06AUG17	-12 Days =	25 JUL 2017	0	WED	0
06AUG17	-13 Days =	24 JUL 2017	0	TUE	0

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
06AUG17	Today=	06 AUG 2017	1824	MON	2642
06AUG17	-1 Day =	05 AUG 2017	1722	SUN	2772
06AUG17	-2 Days =	04 AUG 2017	1610	SAT	2596
06AUG17	-3 Days =	03 AUG 2017	1509	FRI	2425
06AUG17	-4 Days =	02 AUG 2017	1425	THU	1995
06AUG17	-5 Days =	01 AUG 2017	1363	WED	1759
06AUG17	-6 Days =	31 JUL 2017	1317	TUE	1343
06AUG17	-7 Days =	30 JUL 2017	1298	MON	1252
06AUG17	-8 Days =	29 JUL 2017	1284	SUN	1250
06AUG17	-9 Days =	28 JUL 2017	1270	SAT	1254
06AUG17	-10 Days =	27 JUL 2017	1251	FRI	1264
06AUG17	-11 Days =	26 JUL 2017	1217	THU	1341
06AUG17	-12 Days =	25 JUL 2017	1171	WED	-NR-

Lake Okeechobee Outlets Last 14 Days

DATE	S-77 Discharge (ALL DAY) (AC-FT)	Below S-77 Discharge (ALL-DAY) (AC-FT)	S-78 Discharge (ALL DAY) (AC-FT)	S-79 Discharge (ALL DAY) (AC-FT)
06 AUG 2017	3	194	1491	3679
05 AUG 2017	8	383	1625	5866
04 AUG 2017	5	916	3020	6664
03 AUG 2017	2	934	3861	8805
02 AUG 2017	0	590	2566	6760
01 AUG 2017	3	234	2075	6746
31 JUL 2017	2	-26	1952	6679
30 JUL 2017	37	-90	549	1526
29 JUL 2017	244	300	319	1276
28 JUL 2017	434	696	398	1572
27 JUL 2017	4	-133	621	2251
26 JUL 2017	5	-174	649	2980
25 JUL 2017	4	-166	965	3891
24 JUL 2017	2	-70	1714	4621

DATE	S-310 Discharge (ALL DAY) (AC-FT)	S-351 Discharge (ALL DAY) (AC-FT)	S-352 Discharge (ALL DAY) (AC-FT)	S-354 Discharge (ALL DAY) (AC-FT)	L8 Canal Pt Discharge (ALL DAY) (AC-FT)
06 AUG 2017	-168	0	0	0	231
05 AUG 2017	-304	0	284	0	164
04 AUG 2017	-390	0	0	0	-176
03 AUG 2017	-425	0	0	0	-210
02 AUG 2017	-453	0	0	0	-415
01 AUG 2017	-590	0	0	0	-499
31 JUL 2017	-387	0	0	0	-164
30 JUL 2017	135	0	0	0	9
29 JUL 2017	4	0	0	0	152
28 JUL 2017	19	0	0	0	-14
27 JUL 2017	43	0	0	0	-241
26 JUL 2017	54	0	0	0	-346
25 JUL 2017	-42	0	0	0	-392
24 JUL 2017	-180	0	0	0	-415

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
06 AUG 2017	-889	-323	39
05 AUG 2017	-1055	-457	18
04 AUG 2017	-1415	-547	36
03 AUG 2017	-1233	-NR-	32
02 AUG 2017	-1369	-NR-	21
01 AUG 2017	-1215	-NR-	18
31 JUL 2017	-875	-NR-	11
30 JUL 2017	-283	-NR-	1
29 JUL 2017	-NR-	-NR-	46
28 JUL 2017	-NR-	-NR-	39

27 JUL 2017	-NR-	-NR-	25
26 JUL 2017	-636	-335	50
25 JUL 2017	-510	-374	28
24 JUL 2017	-530	-458	31

*** 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

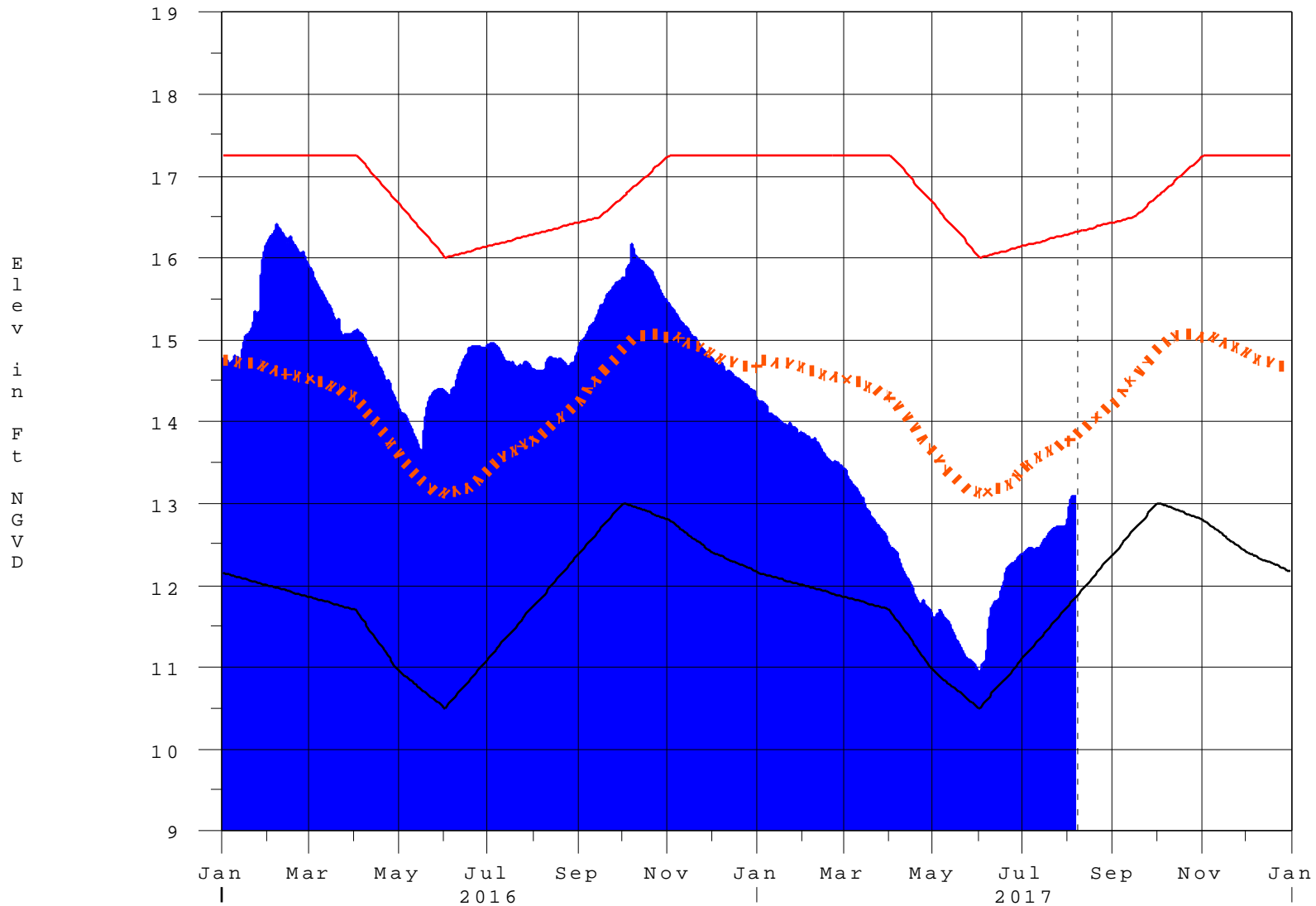
++ For more information see the Jacksonville District Navigation website at <http://www.saj.usace.army.mil/>

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

Report Generated 07AUG2017 @ 15:38 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

07AUG17 15:30:20



- 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