

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 5/8/2017 (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 (May-Oct)	N/A	N/A	2.35	Very Wet	2.68	Very Wet	3.55	Very Wet
Multi Seasonal (May-Apr)	N/A	N/A	2.80	Wet	3.78	Wet	4.19	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:](#)

-653 cfs 14-day running average for Lake Okeechobee Net Inflow through 5/8/2017. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Dry.

-3.41 for Palmer Index on 5/7/2017. According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Very Dry.

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

[LORS2008 Classification Tables:](#)

Lake Okeechobee Stage on 5/8/2017

Lake Okeechobee Stage: **11.64 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		16.49	
Operational Band	High sub-band	15.89	
	Intermediate sub-band	15.20	
	Low sub-band	13.26	
Base Flow sub-band		12.60	
Beneficial Use sub-band		10.85	← 11.64
Water Shortage Management Band			

LORS2008 Implementation on 5/8/2017 (ENSO Neutral Condition):

Status for week ending 5/8/2017:

District wide, Raindar rainfall was 1.57 inches for the week. Lake stage on 5/8/2017 was 11.64 ft, up 0.03 ft from last week.

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

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

Water Supply Risk Evaluation

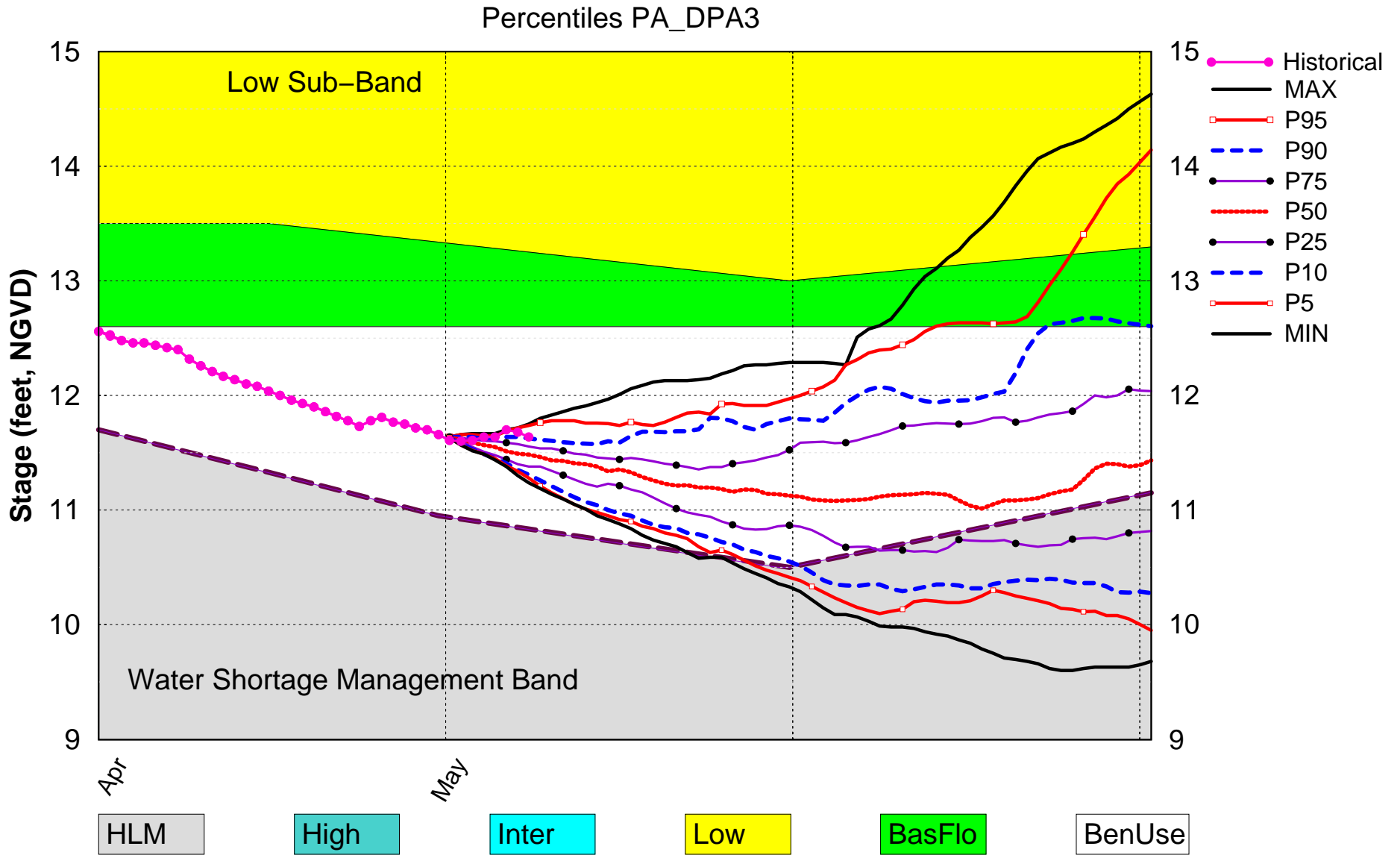
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Beneficial Use Sub-Band	H
	Palmer Index for LOK Tributary Conditions	-3.41 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	2.68 ft (Normal)	L
	ENSO La Nina Years		
	LOK Multi-Seasonal Net Inflow Outlook	3.78 ft (Wet)	L
ENSO La Nina Years			
WCAs	WCA 1: Site 1-7, Site 1-8T, & Site 1-9 Average	Above Line 1 (16.14 ft)	L
	WCA 2A: Site 2-17 HW	Above Line 1 (11.72 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (8.80 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.

[Back to Lake Okeechobee Operations Main Page](#)

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

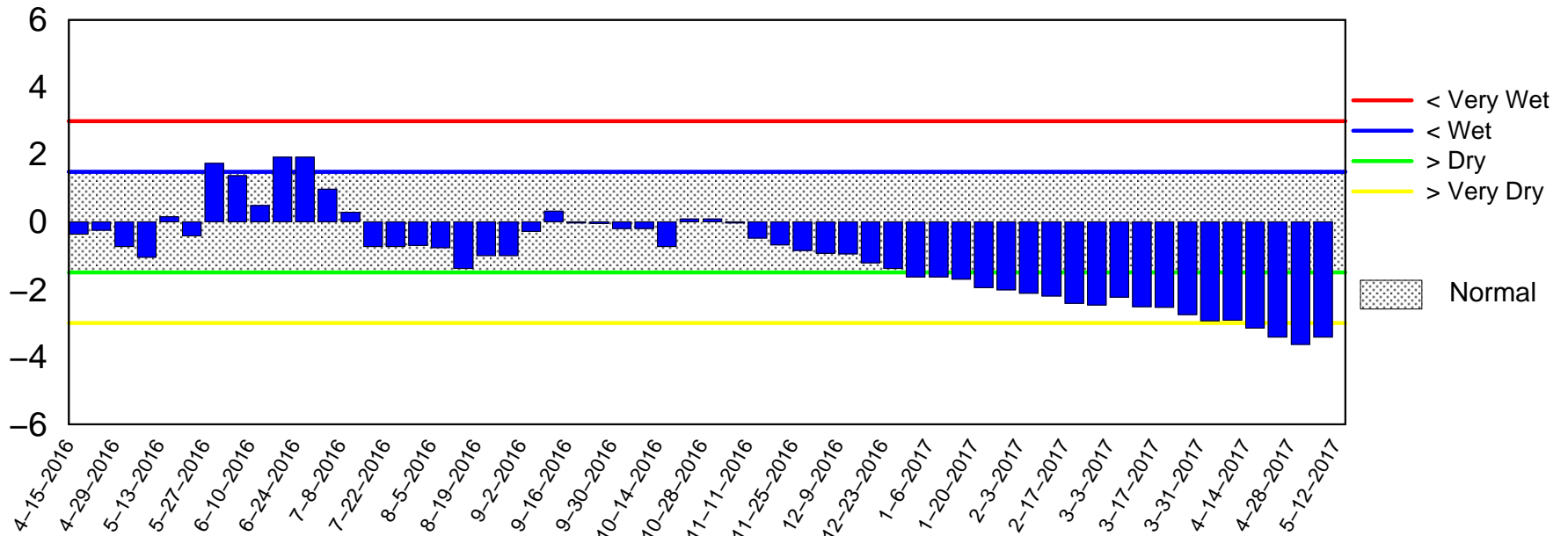
Lake Okeechobee SFWMM May 2017 Dynamic Position Analysis



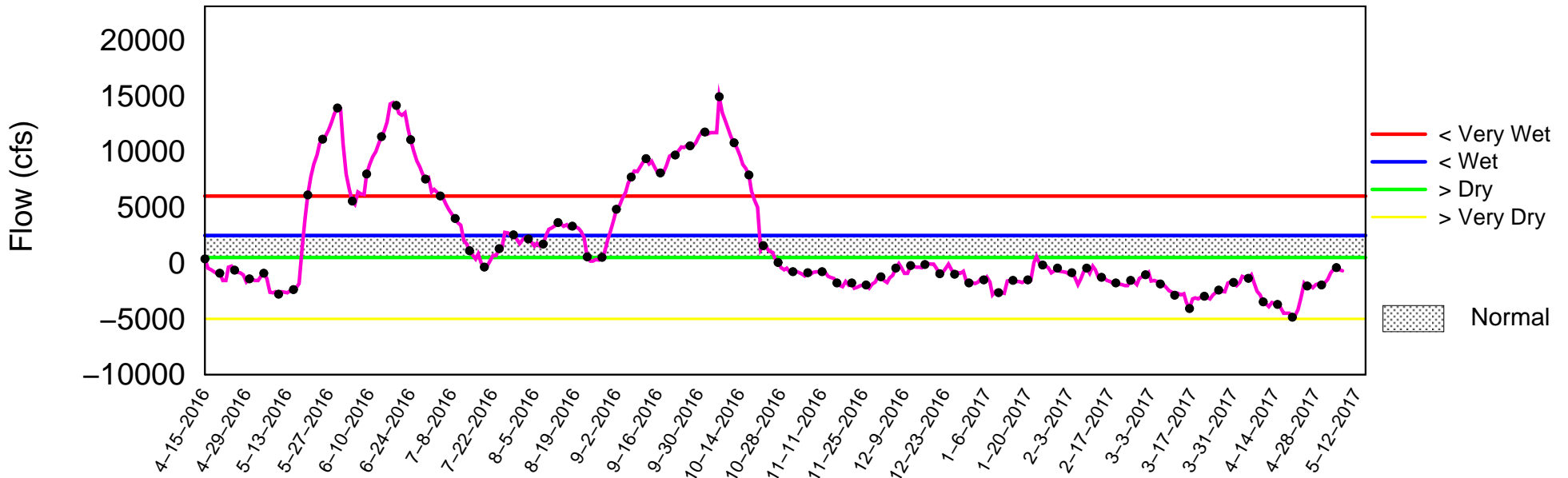
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of May 8 2017

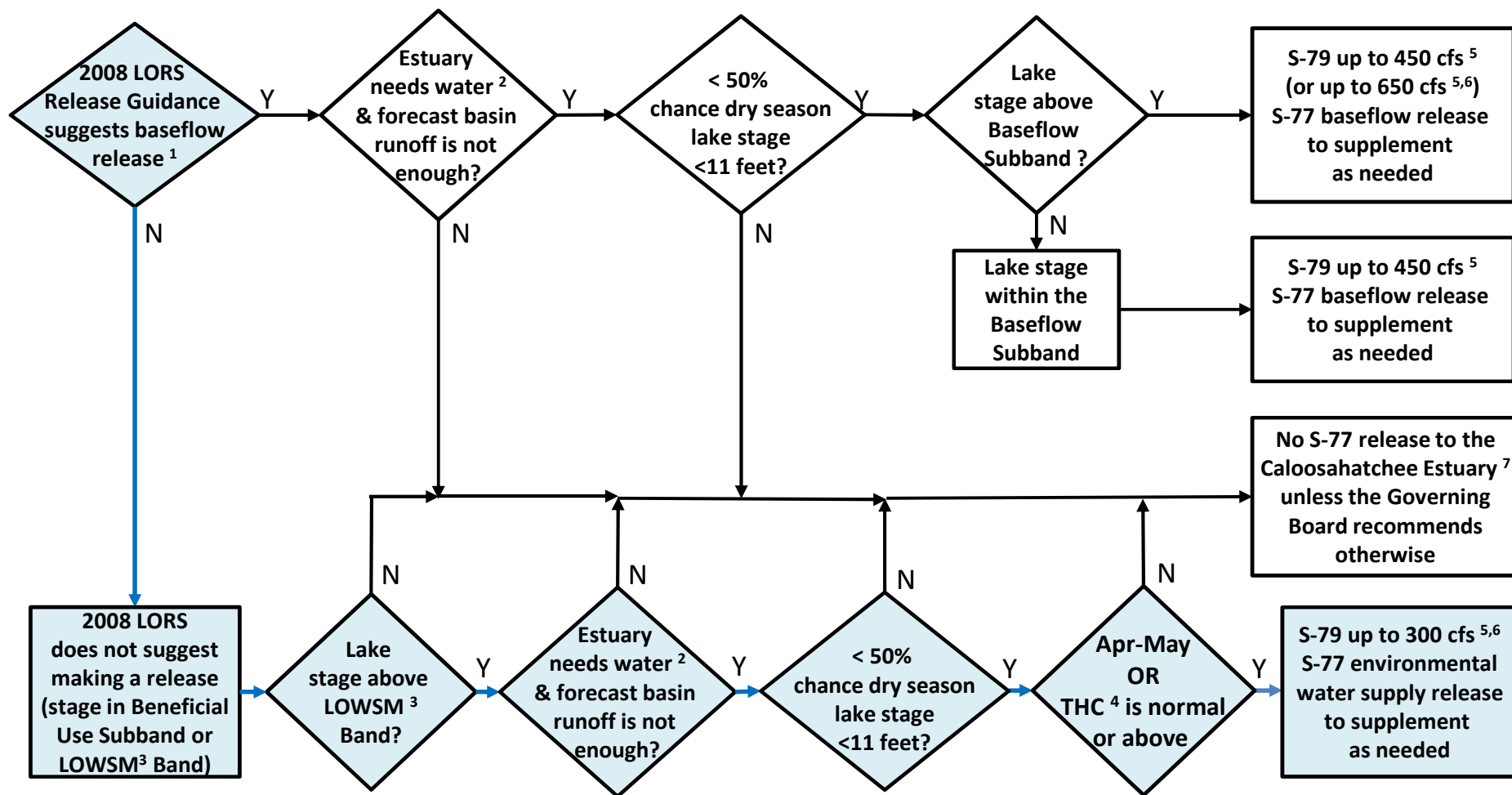
Palmer Index



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



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.

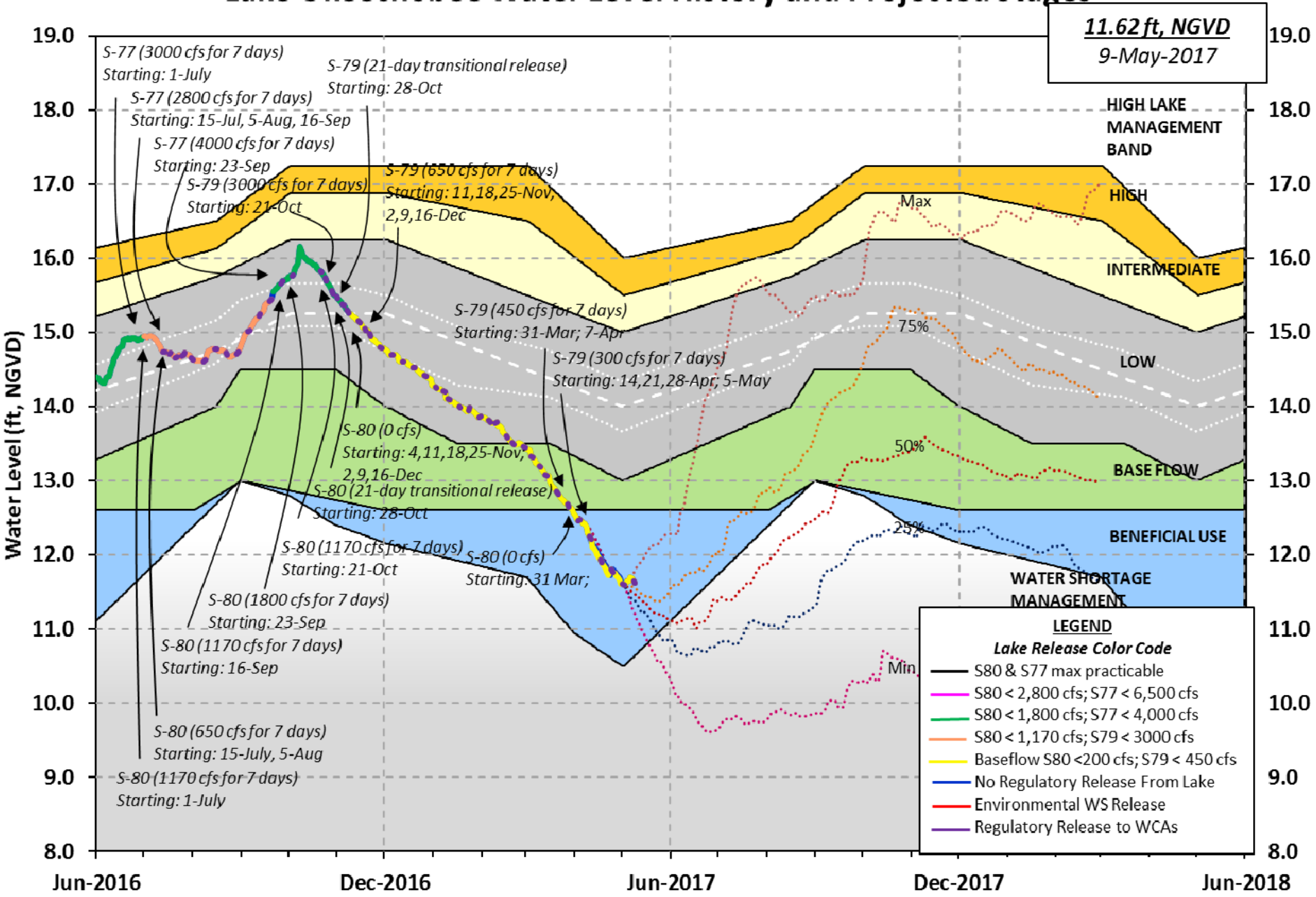
⁴Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

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



Jun-2016

Dec-2016

Jun-2017

Dec-2017

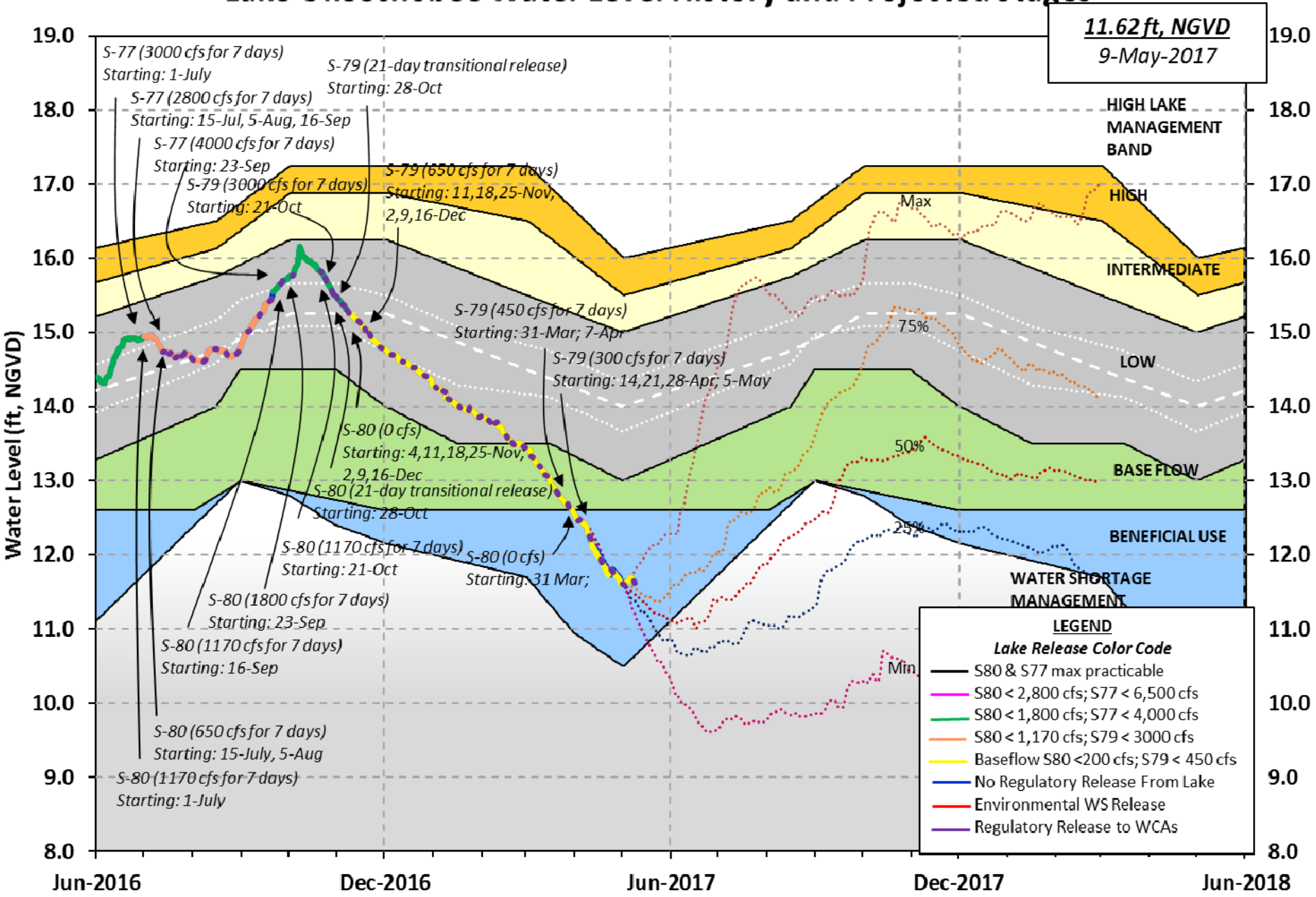
Jun-2018

LORS-2008

Adopted by USACE 28-April-2008

Projected Stage Percentiles From
SFWMD-HESM Position Analysis

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 07 MAY 2017

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	11.64	13.98	13.70 (Official Elv)
Bottom of High Lake Mngmt=	16.51	Top of Water Short Mngmt=	10.85
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000] 12.24
 Difference from Average LORS2008 -0.60

07MAY (1965-2007) Period of Record Average 13.46
 Difference from POR Average -1.82

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷
 5.58'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷
 3.78'
 Bridge Clearance = 50.09'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
11.48	11.59	11.72	11.64	11.64	11.86	11.63	11.55

*Combination Okeechobee Avg-Daily Lake Average = 11.64
 (*See Note)

Okeechobee Inflows (cfs):

S65E	0	S65EX1	203	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	0
Total Inflows:	203				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	573
S127 Culverts	0	S351	0	S308	-8
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-88		
Total Outflows:	478				

S169:	11.52	11.61	-118	5.0	5.0	5.0			
S310:	11.42		-190						
S3 Pumps:	9.54	11.48	0	0	0	0			(cfs)
S354:	11.48	9.54	0	0.0	0.0				
S2 Pumps:	9.63	11.59	0	0	0	0	0		(cfs)
S351:	11.59	9.63	0	0.0	0.0	0.0			
S352:	11.87	9.40	0	0.0	0.0				
C10A:	-NR-	11.87		0.0	8.0	8.0	8.0	8.0	
L8 Canal PT		11.66	-88						

S351 and S352 Temporary Pumps/S354 Spillway

S351:	9.63	11.59	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-
S352:	9.40	11.87	0	-NR-	-NR-	-NR-	-NR-		
S354:	9.54	11.48	0	-NR-	-NR-	-NR-	-NR-		

Caloosahatchee River (S77, S78, S79)

S47B:	14.22	10.93		0.0	0.0				
S47D:	11.02	11.01	69	6.2					

S77:

Spillway and Sector Flow:									
	11.58	11.06	572.00	0.0	2.5	2.5	0.0		
Flow Due to Lockages+:			1						

S77 Below USGS Flow Gage 489

S78:

Spillway and Sector Flow:									
	10.91	2.84	255	0.0	0.0	0.0	0.0		
Flow Due to Lockages+:			12						

S79:

Spillway and Sector Flow:									
	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-

NR-

Flow Due to Lockages+:	-NR-
Percent of flow from S77	-NR-%
Chloride (ppm)	-N

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:									
	11.71	13.41	0.00	0.0	0.0	0.0	0.0		
Flow Due to Lockages+:			-8						

S308 Below USGS Flow Gage 19

S153:	18.60	13.18	0	0.0	0.0				
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S80:

Spillway and Sector Flow:									
	13.48	0.75	0	0.0	0.0	0.0	0.0	0.0	0.0
Flow Due to Lockages+:			30						
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.

Daily Precipitation Totals Speed (mph)	1-Day (inches)	3-Day (inches)	7-Day (inches)	Direction (Degø)	Wind ---
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	0.64	1.69	257	0
S78:	0.00	0.05	0.43	294	4
S79:	-NR-	0.00	0.23	-NR-	-NR-
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	0.39	0.96	208	15
S80:	0.00	0.01	0.01	205	1
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.08	0.20		
Oke Nexrad Basin Avg	0.00	0.42	2.38		

Okeechobee Lake Elevations	07 MAY 2017	11.64	Difference from
07MAY17			
07MAY17 -1 Day =	06 MAY 2017	11.68	0.04
07MAY17 -2 Days =	05 MAY 2017	11.70	0.06
07MAY17 -3 Days =	04 MAY 2017	11.64	0.00
07MAY17 -4 Days =	03 MAY 2017	11.64	0.00
07MAY17 -5 Days =	02 MAY 2017	11.61	-0.03
07MAY17 -6 Days =	01 MAY 2017	11.60	-0.04
07MAY17 -7 Days =	30 APR 2017	11.61	-0.03
07MAY17 -30 Days =	07 APR 2017	12.32	0.68
07MAY17 -1 Year =	07 MAY 2016	13.98	2.34
07MAY17 -2 Year =	07 MAY 2015	13.70	2.06

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
07MAY17	Today =	07 MAY 2017	-432	MON	-6486
07MAY17	-1 Day =	06 MAY 2017	799	SUN	-3265
07MAY17	-2 Days =	05 MAY 2017	613	SAT	10805
07MAY17	-3 Days =	04 MAY 2017	-413	FRI	322
07MAY17	-4 Days =	03 MAY 2017	-694	THU	5430
07MAY17	-5 Days =	02 MAY 2017	-1306	WED	3216
07MAY17	-6 Days =	01 MAY 2017	-1614	TUE	871
07MAY17	-7 Days =	30 APR 2017	-1763	MON	-5812
07MAY17	-8 Days =	29 APR 2017	-1611	SUN	-3825
07MAY17	-9 Days =	28 APR 2017	-1655	SAT	-1036
07MAY17	-10 Days =	27 APR 2017	-1945	FRI	-3974
07MAY17	-11 Days =	26 APR 2017	-1711	THU	-2558
07MAY17	-12 Days =	25 APR 2017	-1822	WED	-5711
07MAY17	-13 Days =	24 APR 2017	-1520	TUE	5980

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
07MAY17	Today=	07 MAY 2017	0	MON	0
07MAY17	-1 Day =	06 MAY 2017	0	SUN	0
07MAY17	-2 Days =	05 MAY 2017	0	SAT	0
07MAY17	-3 Days =	04 MAY 2017	0	FRI	0
07MAY17	-4 Days =	03 MAY 2017	0	THU	0
07MAY17	-5 Days =	02 MAY 2017	0	WED	0
07MAY17	-6 Days =	01 MAY 2017	0	TUE	0
07MAY17	-7 Days =	30 APR 2017	0	MON	0
07MAY17	-8 Days =	29 APR 2017	0	SUN	0
07MAY17	-9 Days =	28 APR 2017	0	SAT	0
07MAY17	-10 Days =	27 APR 2017	0	FRI	0
07MAY17	-11 Days =	26 APR 2017	0	THU	0
07MAY17	-12 Days =	25 APR 2017	0	WED	0
07MAY17	-13 Days =	24 APR 2017	8	TUE	0

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
07MAY17	Today=	07 MAY 2017	243	MON	203
07MAY17	-1 Day =	06 MAY 2017	248	SUN	222
07MAY17	-2 Days =	05 MAY 2017	250	SAT	265
07MAY17	-3 Days =	04 MAY 2017	248	FRI	271
07MAY17	-4 Days =	03 MAY 2017	248	THU	306
07MAY17	-5 Days =	02 MAY 2017	245	WED	328
07MAY17	-6 Days =	01 MAY 2017	241	TUE	224
07MAY17	-7 Days =	30 APR 2017	246	MON	214
07MAY17	-8 Days =	29 APR 2017	247	SUN	214
07MAY17	-9 Days =	28 APR 2017	253	SAT	214
07MAY17	-10 Days =	27 APR 2017	261	FRI	216
07MAY17	-11 Days =	26 APR 2017	265	THU	217
07MAY17	-12 Days =	25 APR 2017	269	WED	233

 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)
07 MAY 2017	1130	970	504	-NR-
06 MAY 2017	537	352	1328	-NR-
05 MAY 2017	417	234	368	7
04 MAY 2017	640	520	373	564
03 MAY 2017	243	-179	390	2557
02 MAY 2017	1059	920	369	415
01 MAY 2017	1292	1040	559	644
30 APR 2017	2263	2214	1338	1335
29 APR 2017	2482	2665	1676	1448
28 APR 2017	1132	1263	515	276
27 APR 2017	456	603	35	13
26 APR 2017	370	98	42	108
25 APR 2017	677	536	137	1188
24 APR 2017	624	844	663	1852

	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)
07 MAY 2017	-377	0	0	0	-174
06 MAY 2017	-534	0	0	0	-347
05 MAY 2017	-578	0	0	0	-355
04 MAY 2017	-766	0	0	0	-330
03 MAY 2017	-564	0	0	0	-289
02 MAY 2017	84	581	32	775	4
01 MAY 2017	270	1715	145	1333	-118
30 APR 2017	309	1999	178	845	-243
29 APR 2017	212	1927	18	1350	-218
28 APR 2017	210	1529	0	1868	-203
27 APR 2017	195	242	0	1801	-171
26 APR 2017	160	50	0	1624	-34
25 APR 2017	73	99	436	1479	69
24 APR 2017	20	0	0	494	-260

	S-308	Below S-308	S-80
	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)
07 MAY 2017	-15	37	60
06 MAY 2017	-8	-250	63
05 MAY 2017	-2	-309	35
04 MAY 2017	-2	-388	45
03 MAY 2017	-1	-444	59
02 MAY 2017	621	342	42
01 MAY 2017	625	583	48
30 APR 2017	598	735	37
29 APR 2017	550	660	53
28 APR 2017	624	583	50

27 APR 2017	622	338	37
26 APR 2017	1	269	39
25 APR 2017	542	-197	47
24 APR 2017	2058	-162	41

*** 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

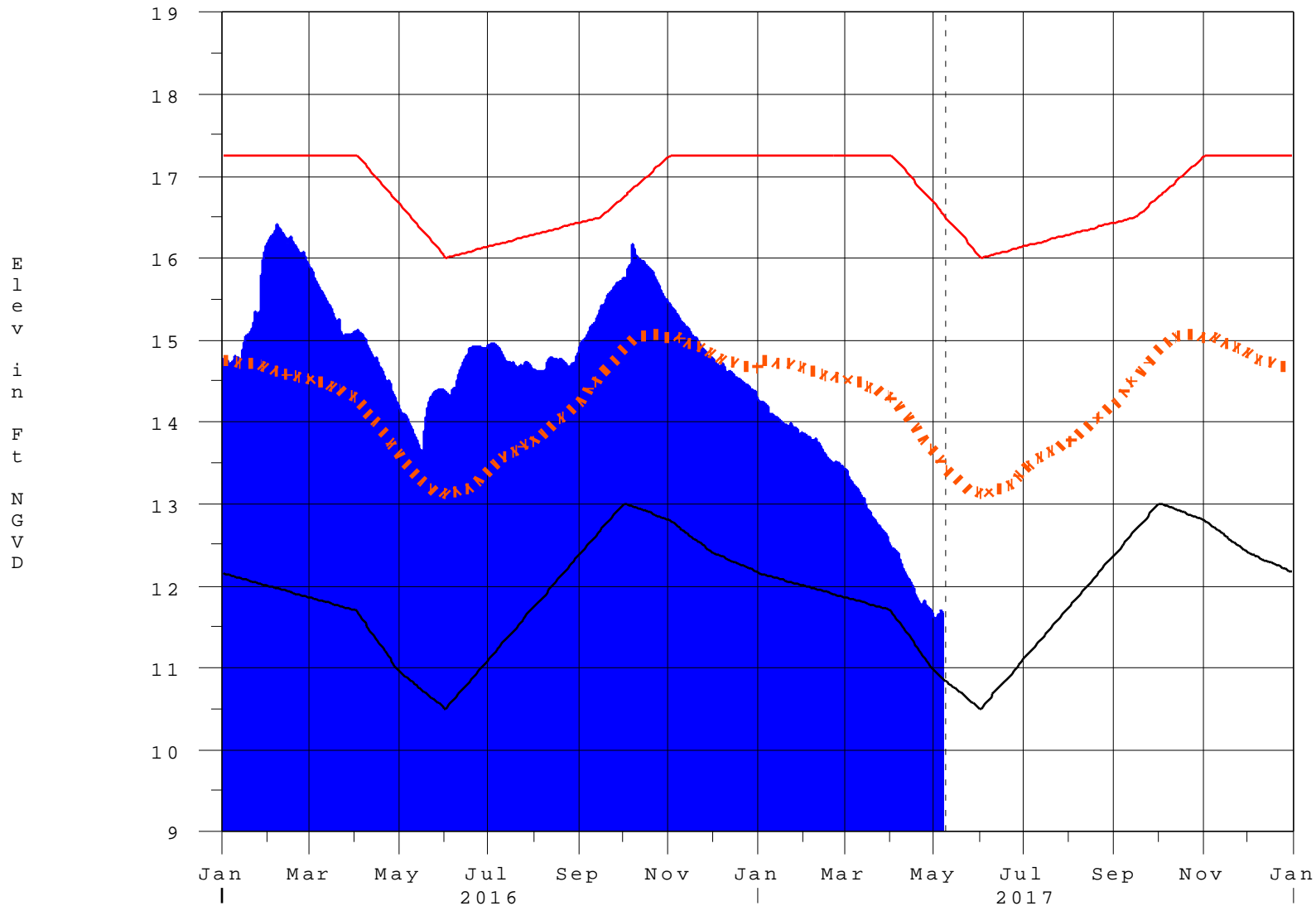
++ For more information see the Jacksonville District Navigation website at <http://www.saj.usace.army.mil/>

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

Report Generated 08MAY2017 @ 13:06 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

08MAY17 13:17:17



- 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