

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 11/6/2023 (ENSO Condition: El Niño)

Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using methods described in the LORS2008 Water Control Plan: Croley's method, the SFWMD empirical method, a sub-sampling of El Niño years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with El Niño ENSO years. 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*		SFWMD Empirical Method		Sub-sampling of El Niño ENSO Years**		Sub-sampling of AMO Warm + El Niño ENSO Years***	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Nov-Apr)	N/A	N/A	1.02	Normal	1.57	Wet	1.78	Wet
Multi Seasonal (Nov-Oct)	N/A	N/A	3.46	Wet	4.33	Very Wet	5.72	Very 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.

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

***Sub-sampling based on combination of ENSO and AMO conditions. For this predominant ENSO categorization is used instead of weights.

Tributary Hydrologic Conditions:

-1166 cfs 14-day running average for Lake Okeechobee Net Inflow through 11/6/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-1.97 for Palmer Drought Index on 11/4/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 11/6/2023:

Lake Okeechobee Stage: **16.07 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.88	
	Intermediate sub-band	16.25	
	Low sub-band	14.50	← 16.07 ft
Base Flow sub-band		12.85	
Beneficial Use sub-band		12.73	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

No Releases to WCAs

Part D of LORS2008: Discharge to Tide

Up to 450 cfs at S-79 and up to 200 cfs at S-80.

Lake Okeechobee Releases to the Caloosahatchee Estuary for LORS 2008 Baseflow & for Environmental Water Supply

Guidance for Lake Okeechobee Releases to the Caloosahatchee Estuary indicates no S77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise.

LORS2008 Implementation on 11/6/2023 (ENSO Condition- El Niño):

Status for week ending 11/6/2023*:

Water Supply Risk Evaluation

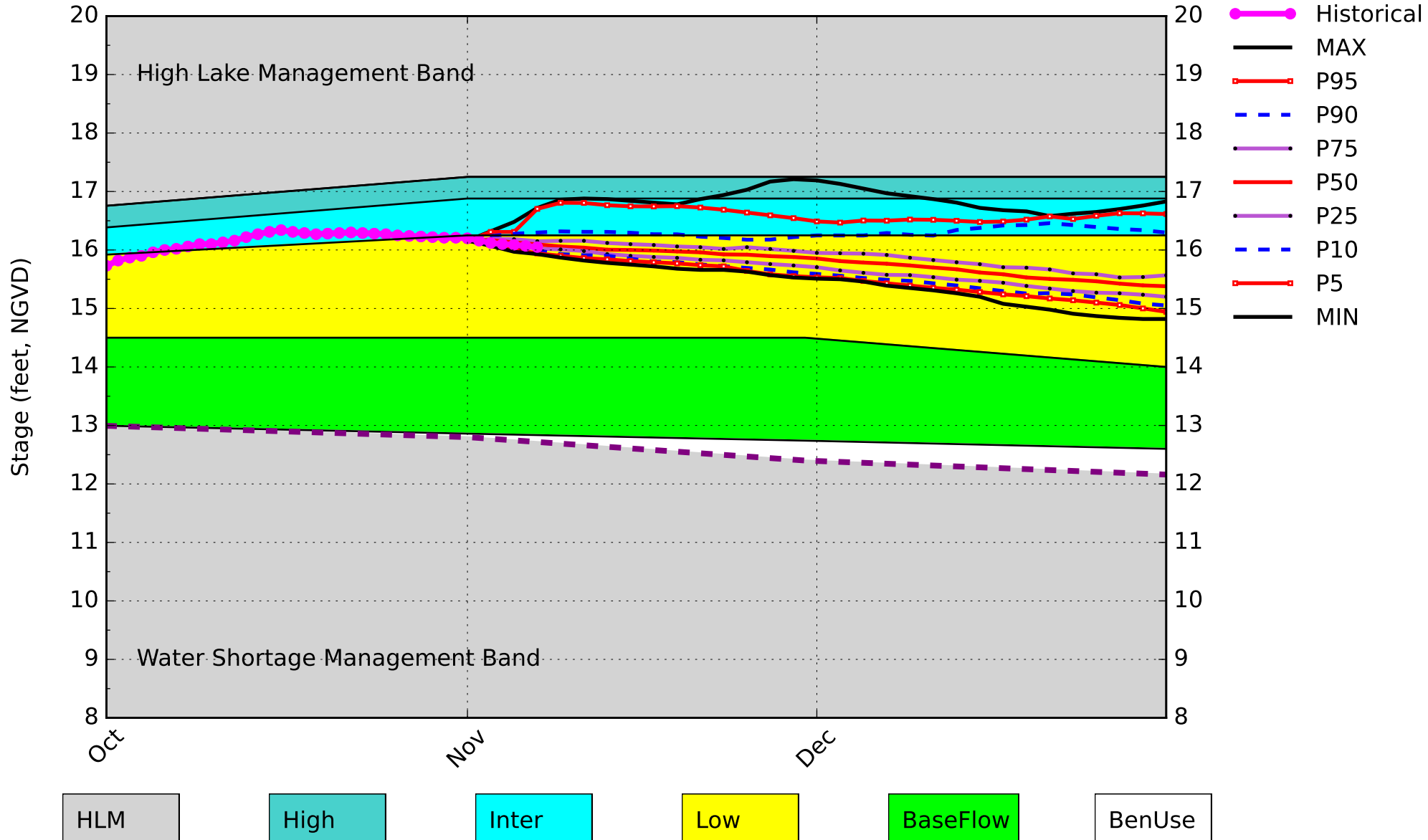
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	-1.97 (Dry)	M
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.57 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	4.33 ft	L
	ENSO Forecast	Wet	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T, and 1-9)	Above Line 1 (17.05 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.14 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.80 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.

*- L8 @ Canal Point flow data for 10/30-11/2 is not available from USACE Daily Reports and was assumed to be 0.

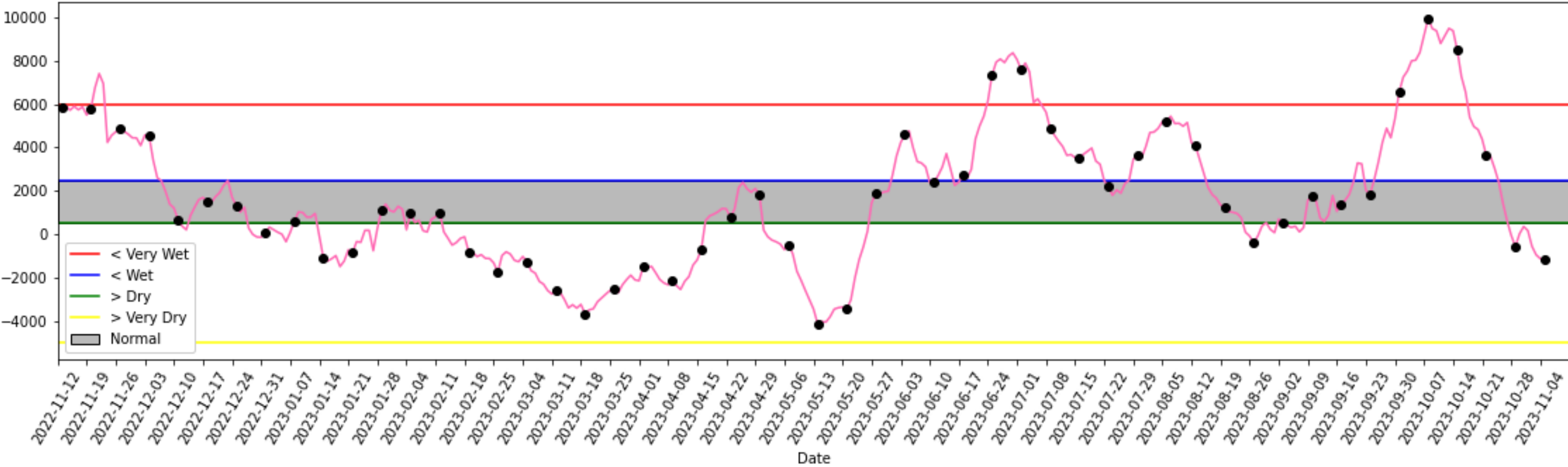
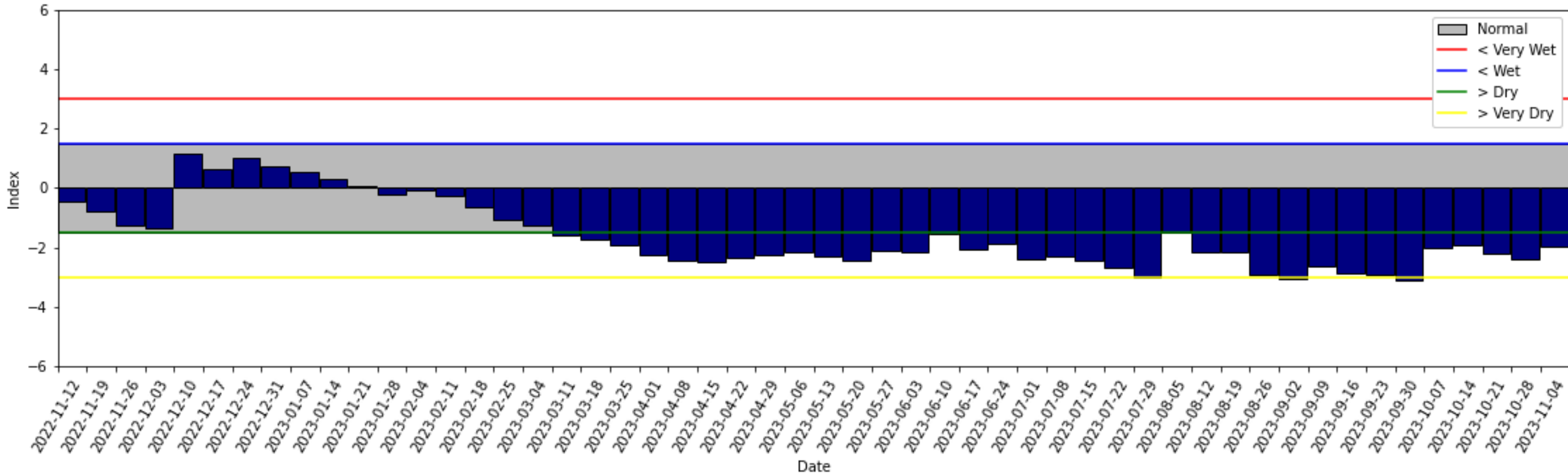
Lake Okeechobee SFWMM November 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of November 05 2023



2008 LORS

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

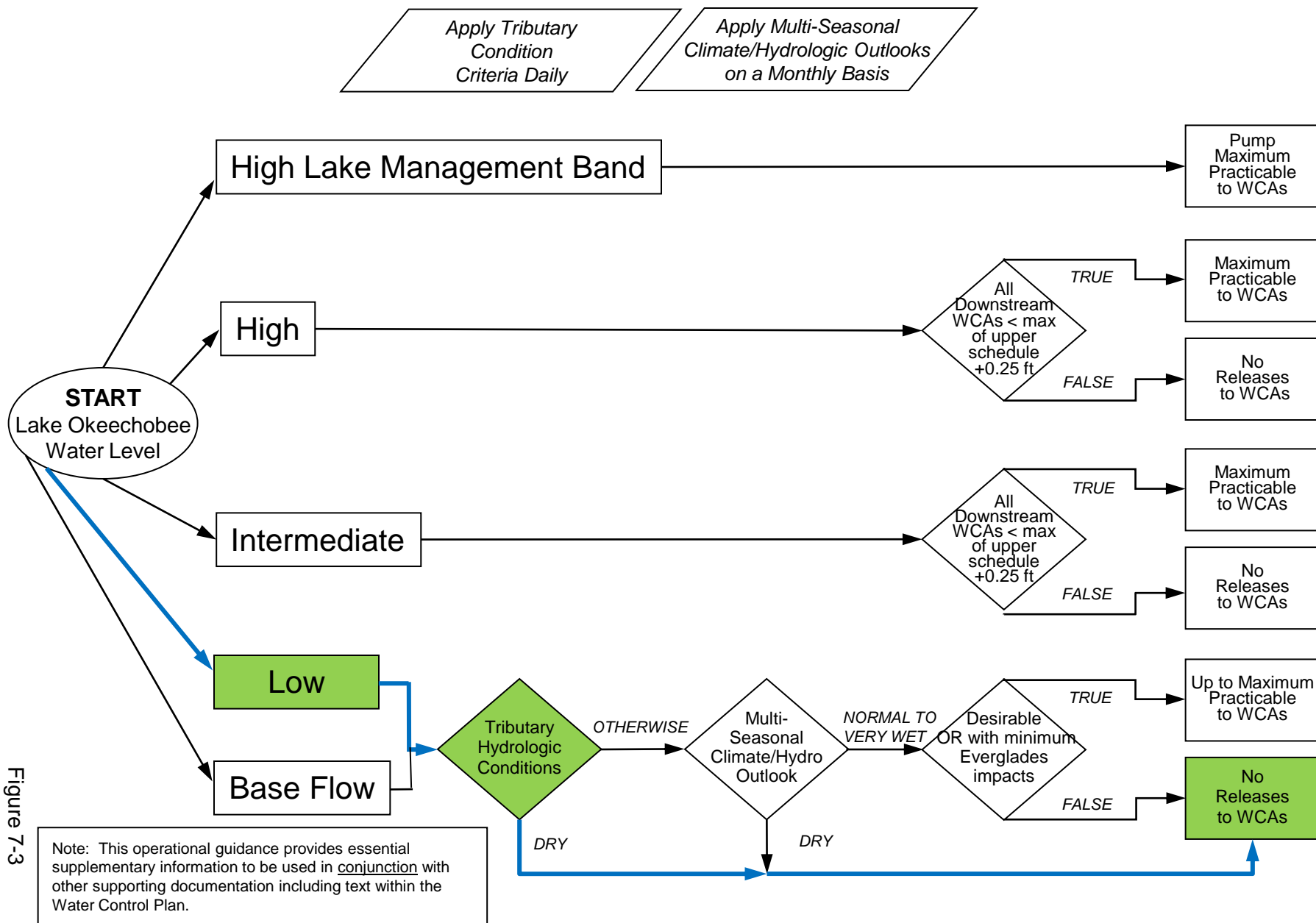


Figure 7-3

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

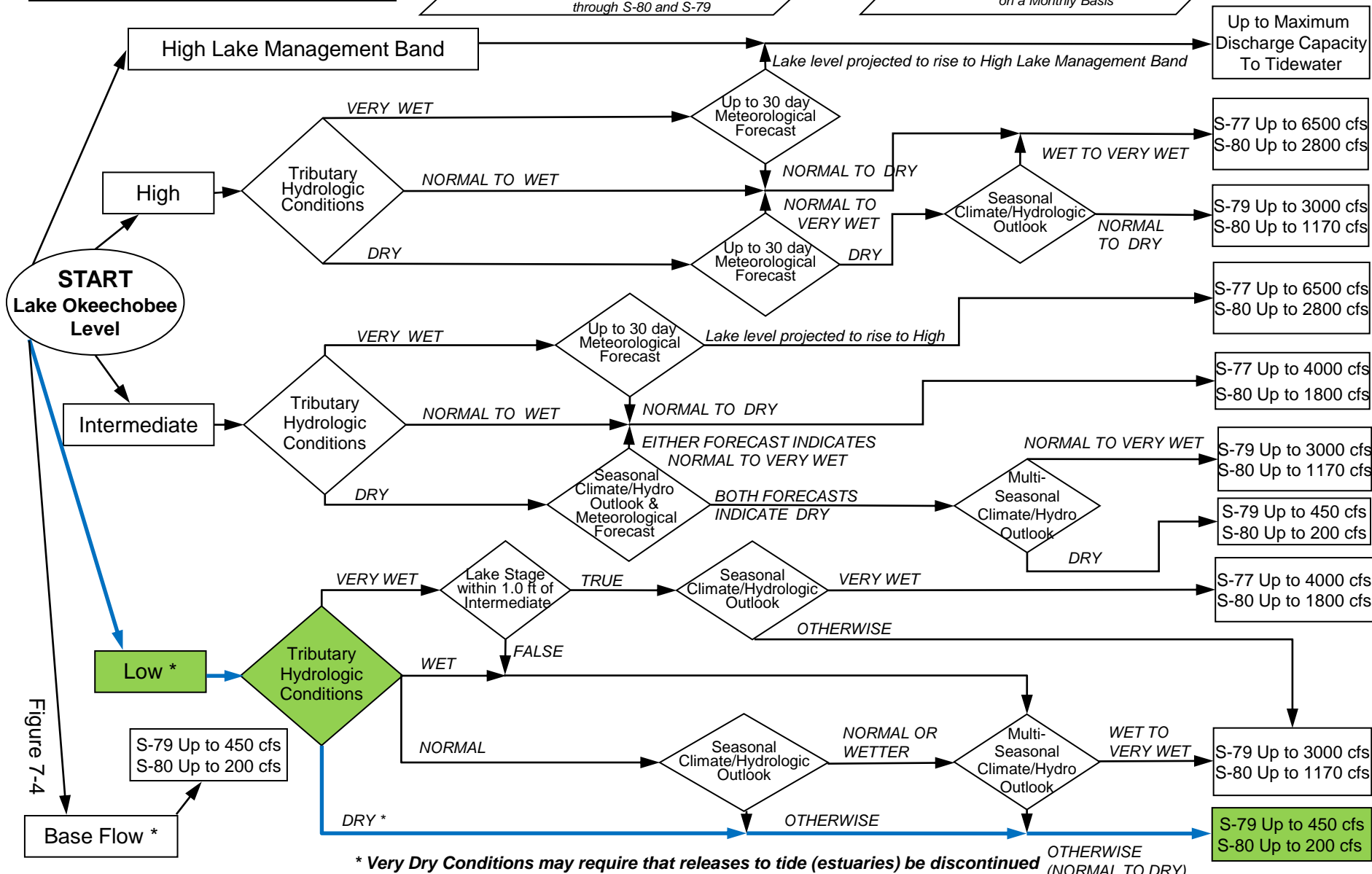
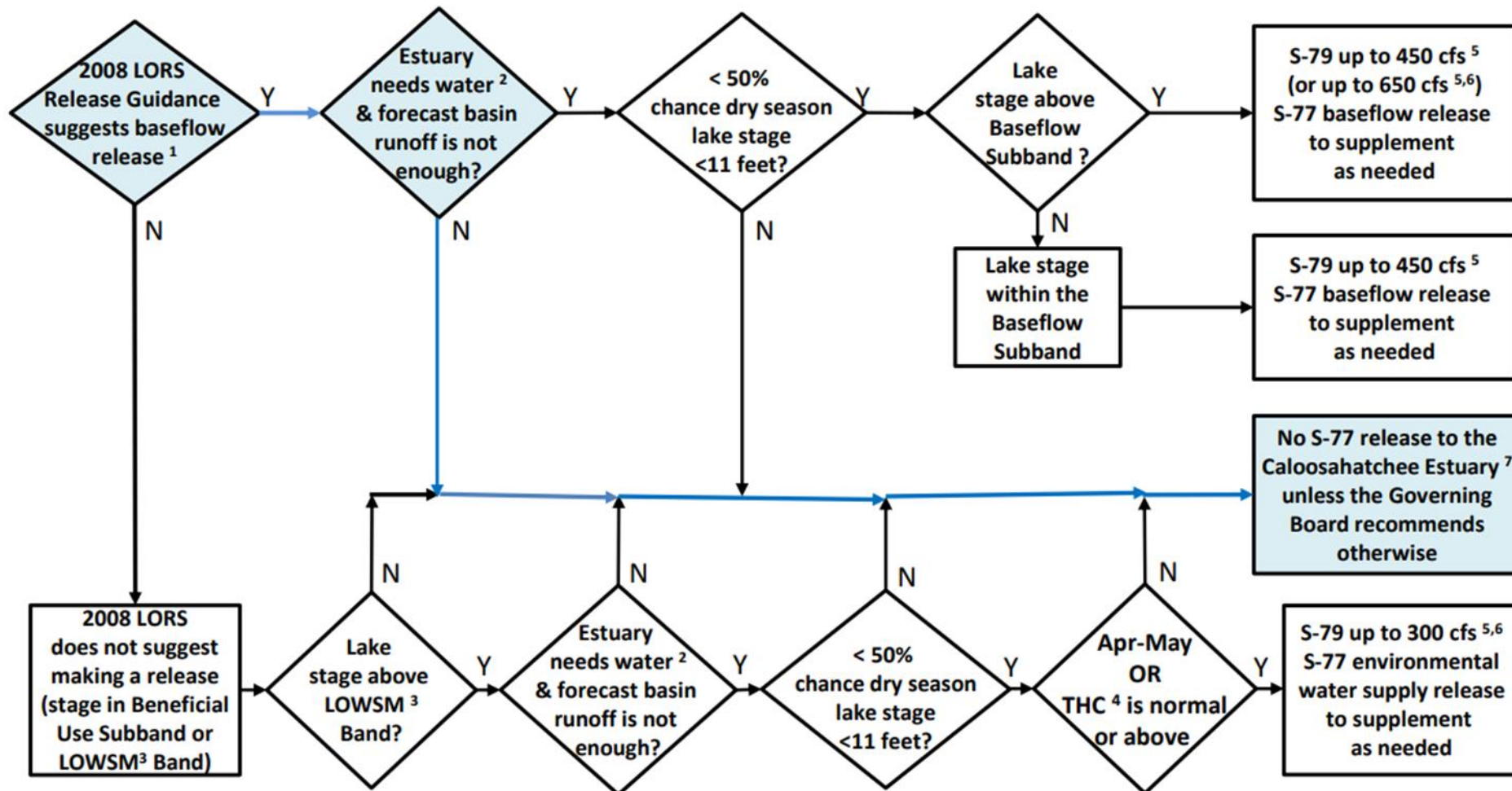


Figure 7-4

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.

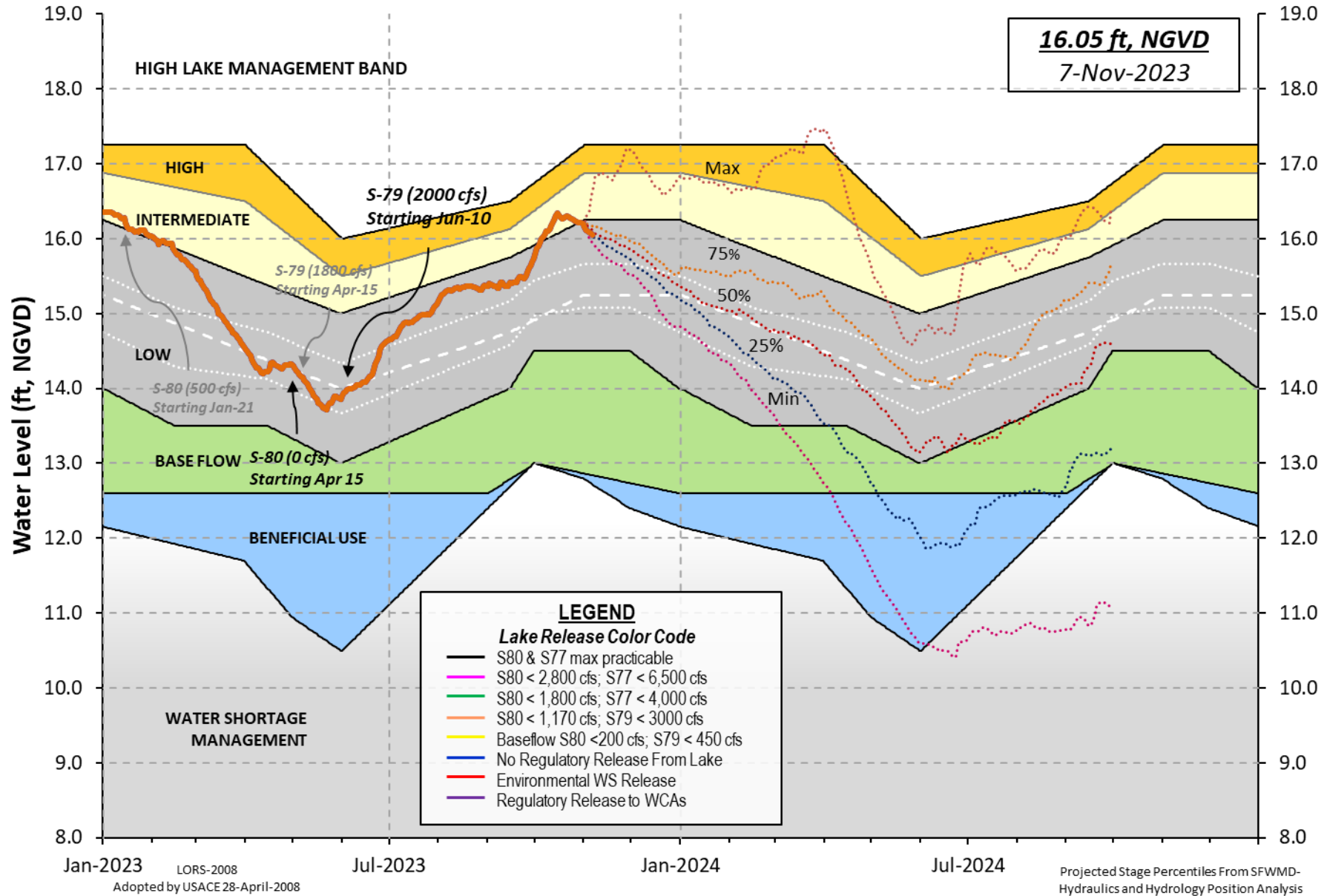
⁴Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

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



is equal to -NR-
 Lake Okeechobee (Change in Storage) Flow is -4538 cfs or -9000 AC-FT

	Headwater Elevation (ft-msl)	Tailwater Elevation (ft-msl)	Disch (cfs)	----- Gate Positions -----							
				#1 (ft)	#2 (ft)	#3 (ft)	#4 (ft)	#5 (ft)	#6 (ft)	#7 (ft)	#8 (ft)
(I) see note at bottom											
North East Shore											
S133 Pumps:	13.57	15.91	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	18.80	15.90	0	0.0	0.0	0.0					
S135 Pumps:	13.22	15.85	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.08	15.66	0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	
S65EX1:	21.08	15.66	1640								
S127 Pumps:	13.43	15.89	0	0	0	0	0	0	0	0	(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	12.99	16.02	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	13.01	13.23	0	0	0						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.23	77								
nr Lakeport											
S282	16.02	16.00		0.0	0.0	0.1					
South Shore											
S4 Pumps:	12.07	-NR-	0	0	0	0					(cfs)
S169:	15.54	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	16.16		4								
S3 Pumps:	10.31	16.35	0	0	0	0					(cfs)
S354:	16.35	10.31	209	0.2	0.4						
S2 Pumps:	10.25	16.34	0	0	0	0	0				(cfs)
S351:	16.34	10.25	854	0.7	0.7	0.8					
S352:	16.22	10.11	237	0.1	0.4						
S271:	16.32	14.35		0.0	-NR-	-NR-	0.0				
L8 Canal PT		14.07	91								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.25	16.34	854	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.11	16.22	237	-NR-	-NR-	-NR-	-NR-	-NR-			
S354:	10.31	16.35	209	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	13.31	12.40		1.0	1.5						
S47D:	12.45	11.01	0	0.0							
S77:											
Spillway and Sector Preferred Flow:	15.95	10.86	1194	0.0	3.5	0.5	0.0				
Flow Due to Lockages+:			8								

S78:

Spillway and Sector Flow:
 10.90 2.81 1023 0.5 0.0 2.5 0.0
 Flow Due to Lockages+: 14

S79:
 Spillway and Sector Flow:
 3.00 2.33 1430 0.0 0.0 1.5 2.0 2.0 1.0 0.0 0.0
 Flow Due to Lockages+: 8
 Percent of flow from S77 83%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:
 Spillway and Sector Preferred Flow:
 16.09 13.92 167 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 2

S153: 19.05 13.73 0 0.0 0.0

S80:
 Spillway and Sector Flow:
 13.96 2.01 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 16
 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.

++ Preferred flow is determined from either the spillway discharge or the below flow meter daily

Daily Precipitation Totals	1-Day (inches)	3-Day (inches)	7-Day (inches)	----- Wind -----	
				Direction (Deg)	Speed (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:	1.25	1.25	1.25	18	4
S78:	0.29	0.29	0.29	12	1
S79:	-0.64	-0.64	-1.28	258	1
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	355	3
S80:	4.58	4.67	4.67	323	5
Okeechobee Average (Sites S78, S79 and S80 not included)	0.62	0.10	0.10		

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations 05 NOV 2023 16.07 Difference from 05NOV23
 05NOV23 -1 Day = 04 NOV 2023 16.09 0.02

05NOV23	-2 Days =	03 NOV 2023	16.10	0.03
05NOV23	-3 Days =	02 NOV 2023	16.12	0.05
05NOV23	-4 Days =	01 NOV 2023	16.16	0.09
05NOV23	-5 Days =	31 OCT 2023	16.20	0.13
05NOV23	-6 Days =	30 OCT 2023	16.21	0.14
05NOV23	-7 Days =	29 OCT 2023	16.21	0.14
05NOV23	-30 Days =	06 OCT 2023	16.02	-0.05
05NOV23	-1 Year =	05 NOV 2022	15.90	-0.17
05NOV23	-2 Year =	05 NOV 2021	15.92	-0.15

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
05NOV23	Today =	05 NOV 2023	-672 MON	-1787
05NOV23	-1 Day =	04 NOV 2023	-614 SUN	498
05NOV23	-2 Days =	03 NOV 2023	-365 SAT	-2496
05NOV23	-3 Days =	02 NOV 2023	183 FRI	-NR-
05NOV23	-4 Days =	01 NOV 2023	462 THU	-NR-
05NOV23	-5 Days =	31 OCT 2023	147 WED	-NR-
05NOV23	-6 Days =	30 OCT 2023	-132 TUE	-NR-
05NOV23	-7 Days =	29 OCT 2023	-566 MON	-152
05NOV23	-8 Days =	28 OCT 2023	-45 SUN	-123
05NOV23	-9 Days =	27 OCT 2023	632 SAT	-84
05NOV23	-10 Days =	26 OCT 2023	1448 FRI	184
05NOV23	-11 Days =	25 OCT 2023	1546 THU	-1926
05NOV23	-12 Days =	24 OCT 2023	1835 WED	-585
05NOV23	-13 Days =	23 OCT 2023	2494 TUE	-245

S65E

		Average Flow over previous 14 days		Avg-Daily Flow
05NOV23	Today=	05 NOV 2023	1725 MON	0
05NOV23	-1 Day =	04 NOV 2023	1902 SUN	336
05NOV23	-2 Days =	03 NOV 2023	2086 SAT	1726
05NOV23	-3 Days =	02 NOV 2023	2178 FRI	1771
05NOV23	-4 Days =	01 NOV 2023	2280 THU	1803
05NOV23	-5 Days =	31 OCT 2023	2403 WED	1817
05NOV23	-6 Days =	30 OCT 2023	2536 TUE	1835
05NOV23	-7 Days =	29 OCT 2023	2700 MON	1930
05NOV23	-8 Days =	28 OCT 2023	2870 SUN	1997
05NOV23	-9 Days =	27 OCT 2023	3064 SAT	2017
05NOV23	-10 Days =	26 OCT 2023	3276 FRI	2037
05NOV23	-11 Days =	25 OCT 2023	3485 THU	1982
05NOV23	-12 Days =	24 OCT 2023	3696 WED	2389
05NOV23	-13 Days =	23 OCT 2023	3880 TUE	2504

S65EX1

		Average Flow over previous 14 days		Avg-Daily Flow
05NOV23	Today=	05 NOV 2023	207 MON	1640
05NOV23	-1 Day =	04 NOV 2023	90 SUN	1264
05NOV23	-2 Days =	03 NOV 2023	0 SAT	0
05NOV23	-3 Days =	02 NOV 2023	0 FRI	0
05NOV23	-4 Days =	01 NOV 2023	0 THU	0
05NOV23	-5 Days =	31 OCT 2023	0 WED	0
05NOV23	-6 Days =	30 OCT 2023	0 TUE	0
05NOV23	-7 Days =	29 OCT 2023	0 MON	0
05NOV23	-8 Days =	28 OCT 2023	0 SUN	0
05NOV23	-9 Days =	27 OCT 2023	0 SAT	0
05NOV23	-10 Days =	26 OCT 2023	0 FRI	0
05NOV23	-11 Days =	25 OCT 2023	0 THU	0
05NOV23	-12 Days =	24 OCT 2023	0 WED	0
05NOV23	-13 Days =	23 OCT 2023	0 TUE	0

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)
05 NOV 2023	2292	2368	2054	2853
04 NOV 2023	2275	2336	2061	2847
03 NOV 2023	2244	1279	1790	2148
02 NOV 2023	1699	1544	1078	1321
01 NOV 2023	3429	3478	2622	4413
31 OCT 2023	4361	3698	3601	4912
30 OCT 2023	2898	3128	2606	4133
29 OCT 2023	2904	3136	2443	4269
28 OCT 2023	2496	2560	1973	3476
27 OCT 2023	1842	1893	2041	3075
26 OCT 2023	2826	2951	2057	3121
25 OCT 2023	3340	3515	2618	4070
24 OCT 2023	4425	2176	4054	5041
23 OCT 2023	3763	3297	3539	5111

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)
05 NOV 2023	8	1693	469	414	179
04 NOV 2023	11	1702	589	425	186
03 NOV 2023	15	1636	506	429	198
02 NOV 2023	14	1816	460	437	-NR-
01 NOV 2023	2	2095	584	88	-NR-
31 OCT 2023	18	1918	707	515	-NR-
30 OCT 2023	12	770	70	153	-NR-
29 OCT 2023	25	904	4	153	211
28 OCT 2023	16	1112	427	154	209
27 OCT 2023	21	864	1498	77	206
26 OCT 2023	-NR-	566	1348	0	206
25 OCT 2023	-NR-	428	970	81	185
24 OCT 2023	-NR-	263	901	0	193
23 OCT 2023	-NR-	213	503	0	210

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
05 NOV 2023	382	-NR-	32
04 NOV 2023	244	-NR-	49
03 NOV 2023	11	-NR-	65
02 NOV 2023	7	-NR-	19
01 NOV 2023	6	-NR-	20
31 OCT 2023	11	-NR-	41
30 OCT 2023	9	-NR-	31
29 OCT 2023	12	-NR-	27
28 OCT 2023	5	-NR-	37
27 OCT 2023	5	-NR-	37
26 OCT 2023	13	-NR-	17
25 OCT 2023	5	-NR-	17
24 OCT 2023	5	-NR-	14
23 OCT 2023	11	-NR-	40

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

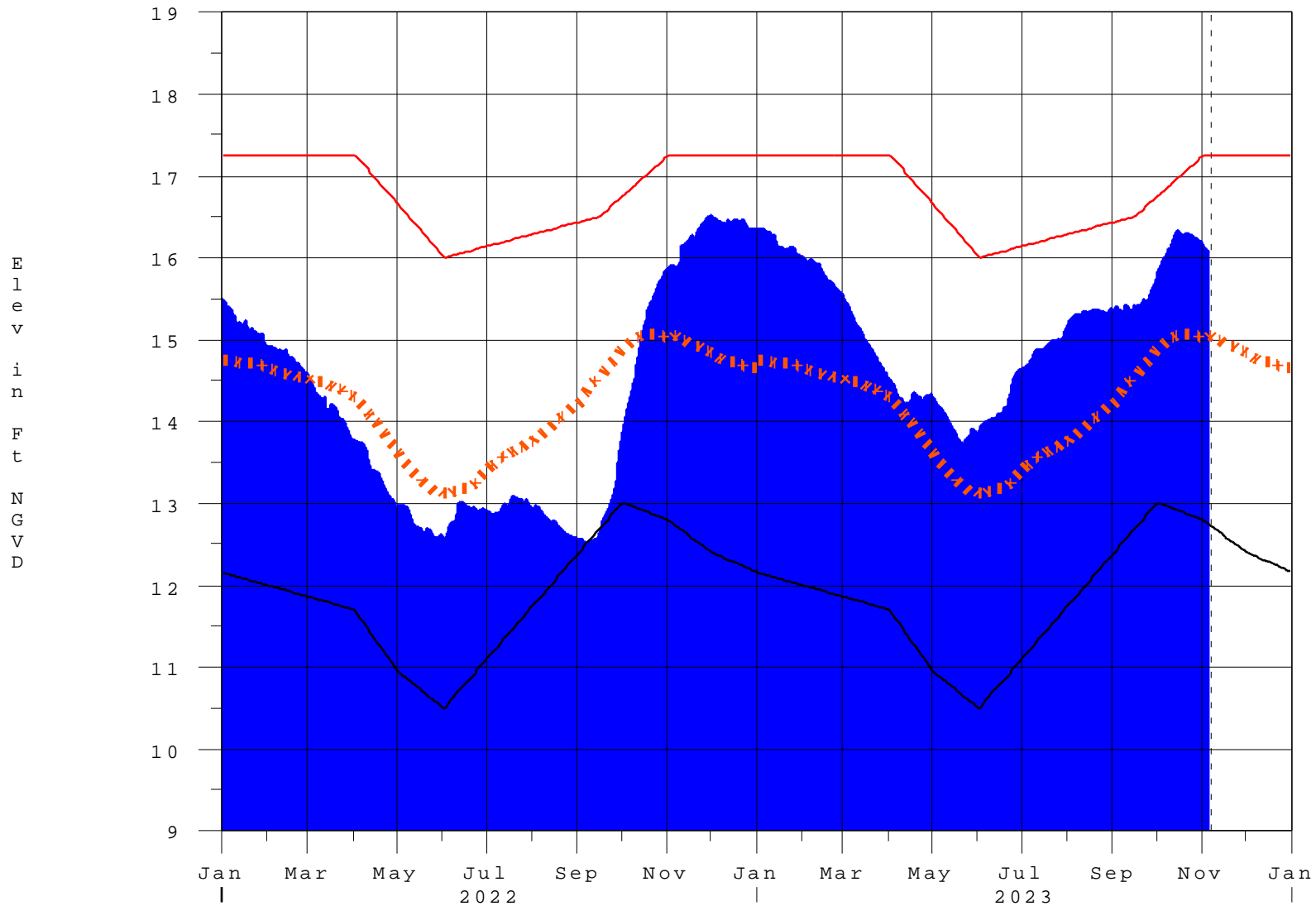
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

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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

Report Generated 06NOV2023 @ 13:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

06NOV23 13:17:20



- 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

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

[Back to U.S. Army Corps of Engineers Lake Okeechobee Operations Homepage](#)

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