

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 11/20/2023 (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	1.15	Normal	1.71	Wet	1.86	Wet
Multi Seasonal (Nov-Oct)	N/A	N/A	3.56	Wet	4.47	Very Wet	5.80	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:

3080 cfs 14-day running average for Lake Okeechobee Net Inflow through 11/20/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Wet.

0.21 for Palmer Drought Index on 11/18/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 11/20/2023:

Lake Okeechobee Stage: **16.11 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	← 16.11 ft
Base Flow sub-band		12.78	
Beneficial Use sub-band		12.55	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades impact; otherwise no Releases to WCAs.

Part D of LORS2008: Discharge to Tide

Up to 3000 cfs at S-79 and up to 1170 cfs at S-80.

LORS2008 Implementation on 11/20/2023 (ENSO Condition- El Niño):

Status for week ending 11/20/2023*:

Water Supply Risk Evaluation

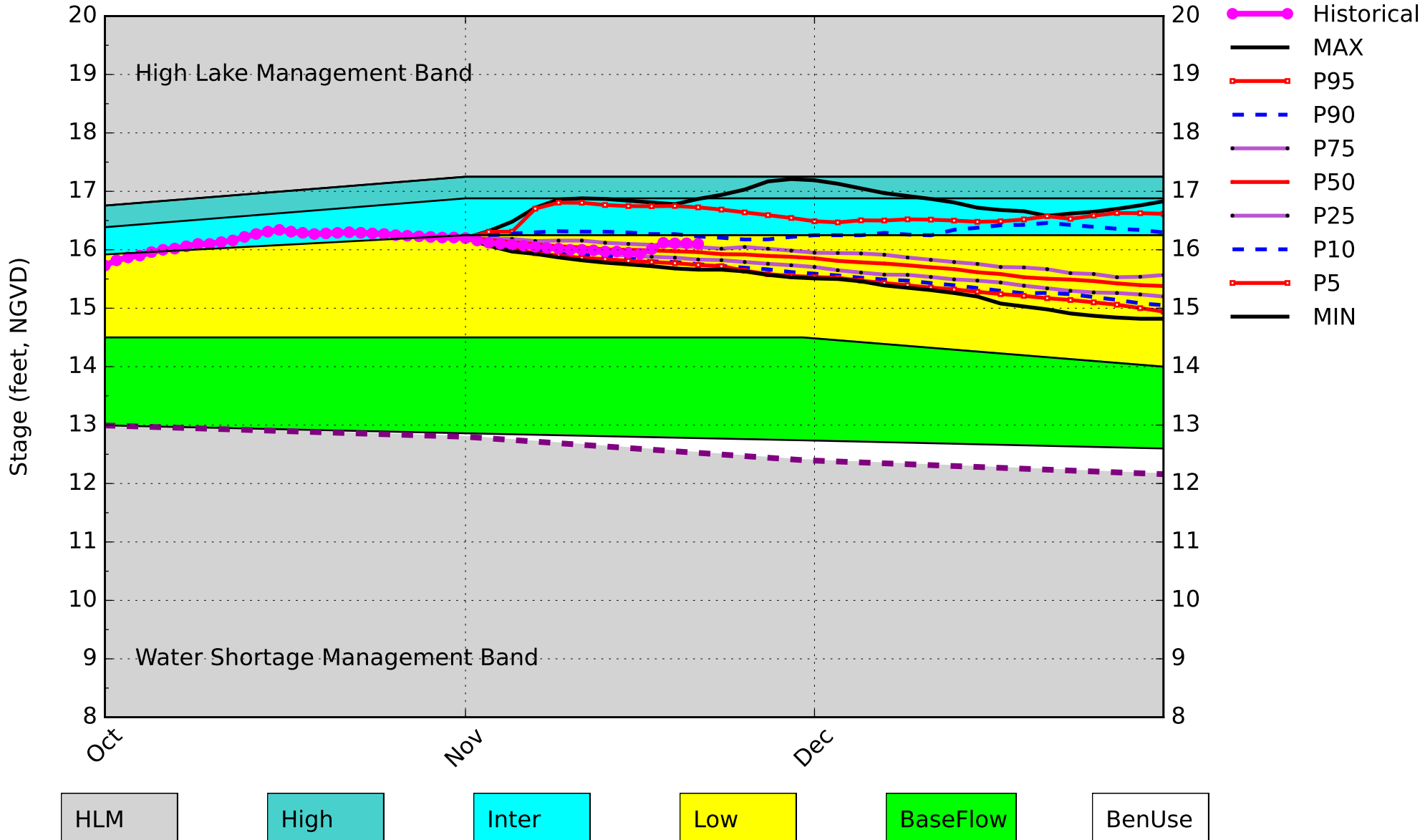
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	0.21 (Normal to extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.71 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	4.47 ft	L
	ENSO Forecast	Wet	
WCAs	WCA 1: Site 1-8C	Above Line 1 (17.48ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.40 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (11.11 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.

*- S80 flow data for 11/14-11/17 is not available from USACE Daily Reports and was assumed to be 0.

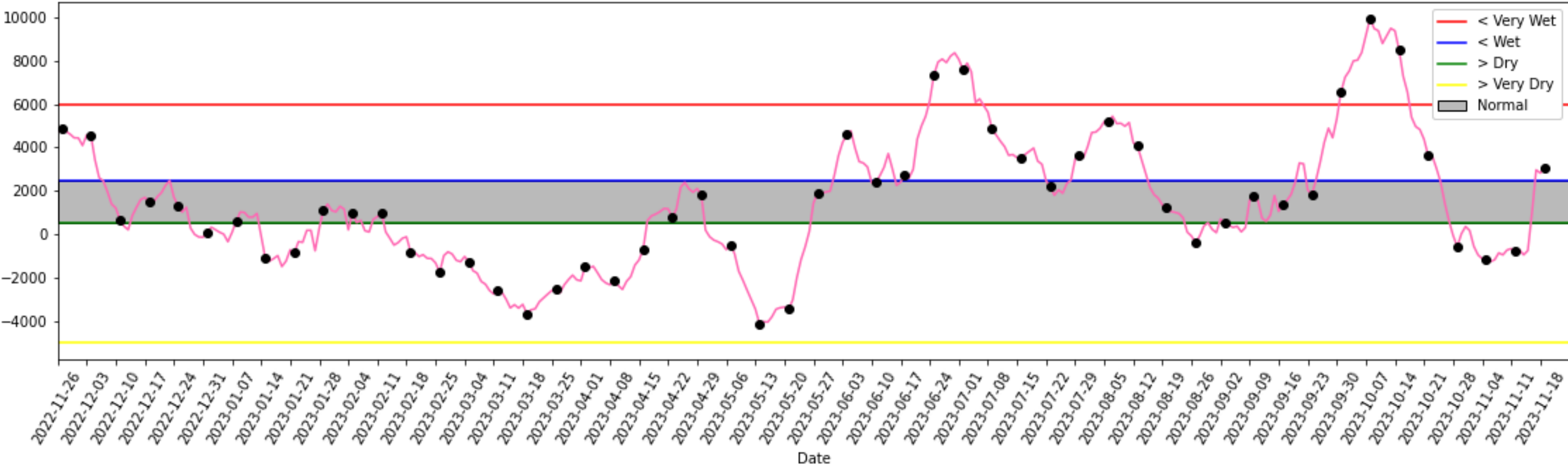
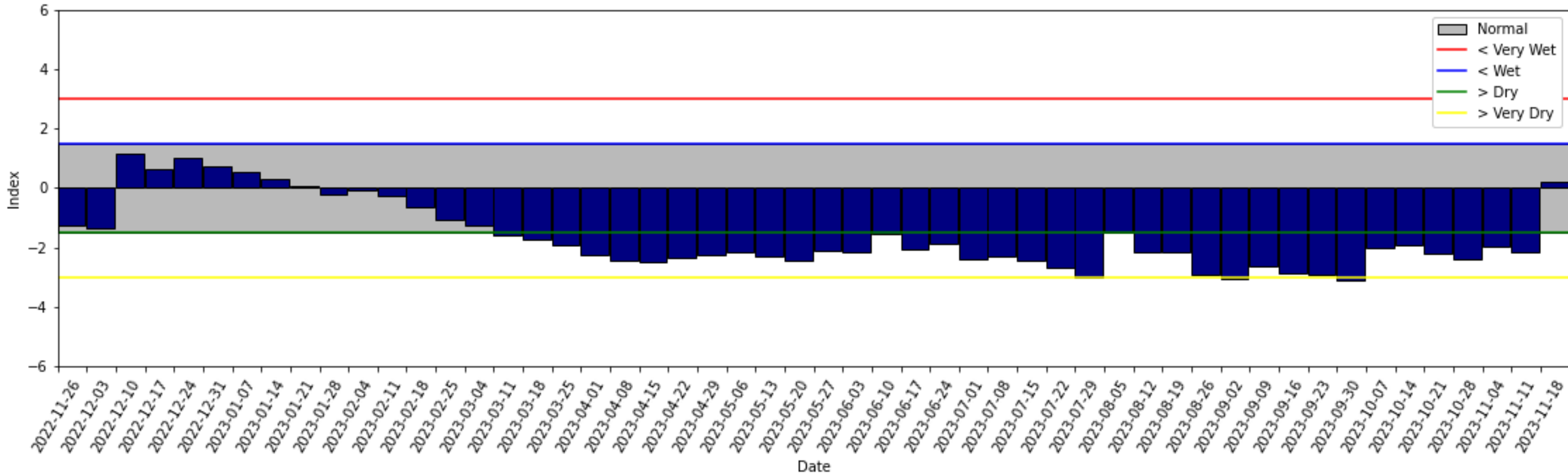
Lake Okeechobee SFWMM November 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of November 19 2023



2008 LORS

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

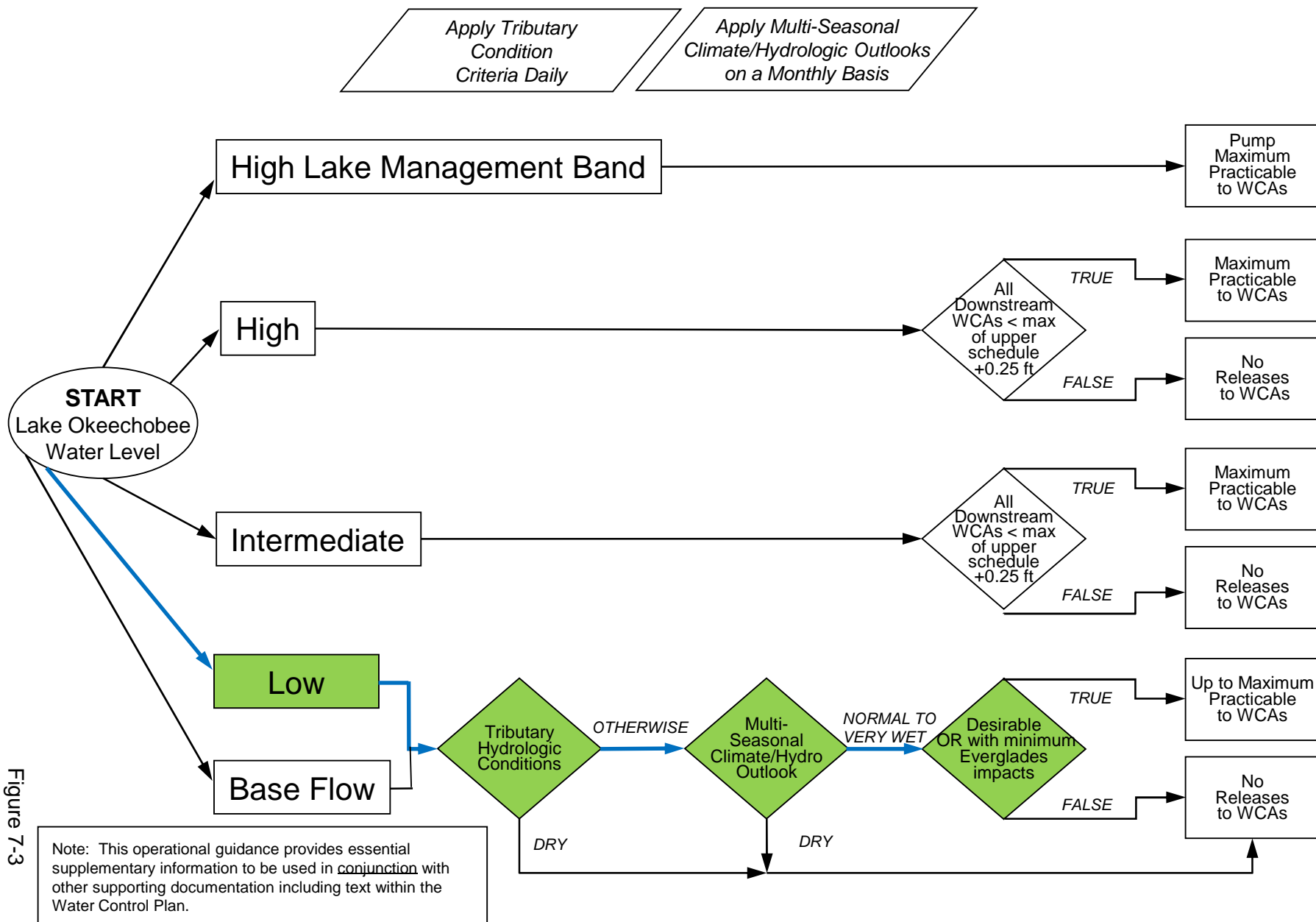


Figure 7-3

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

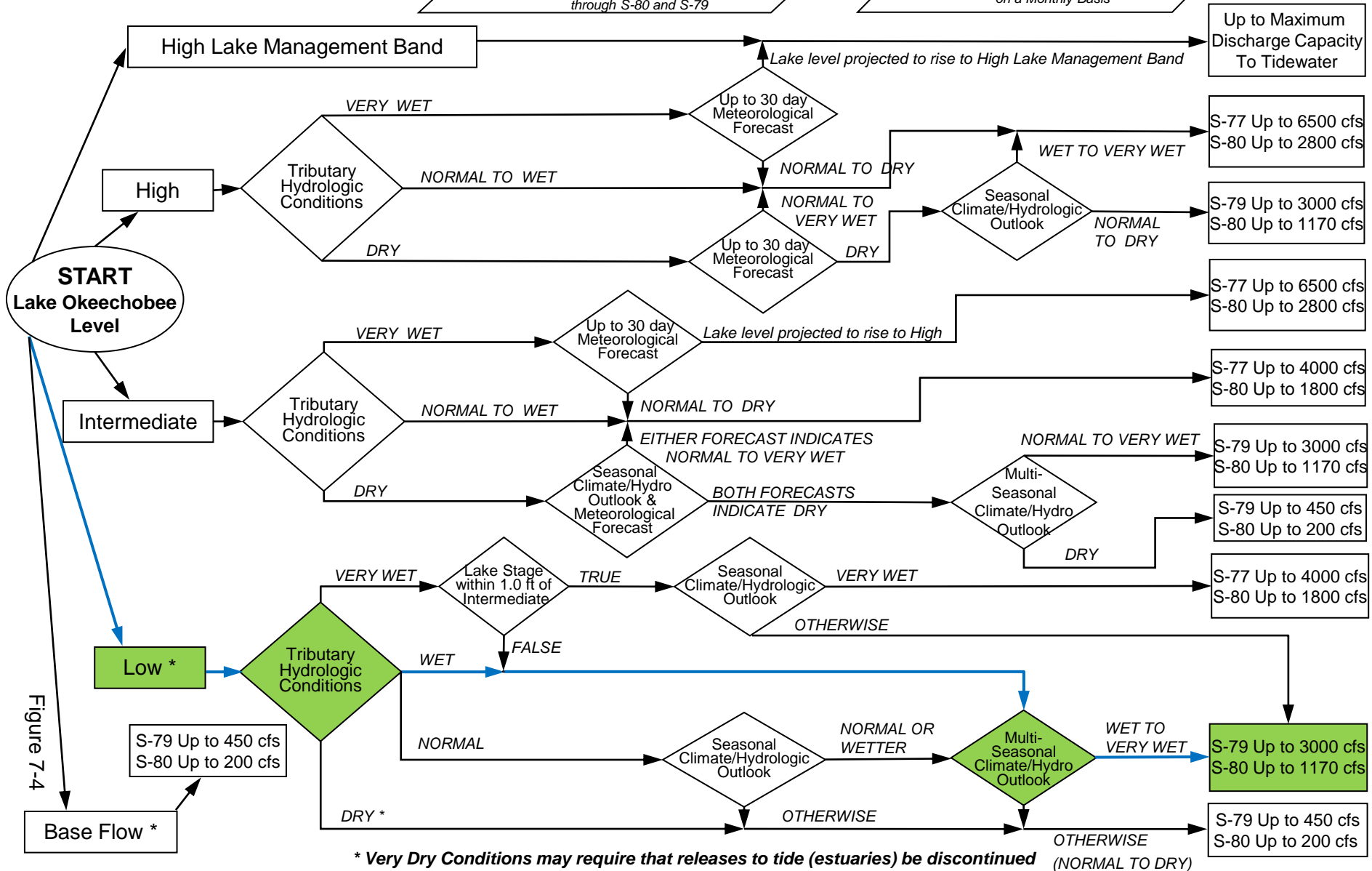
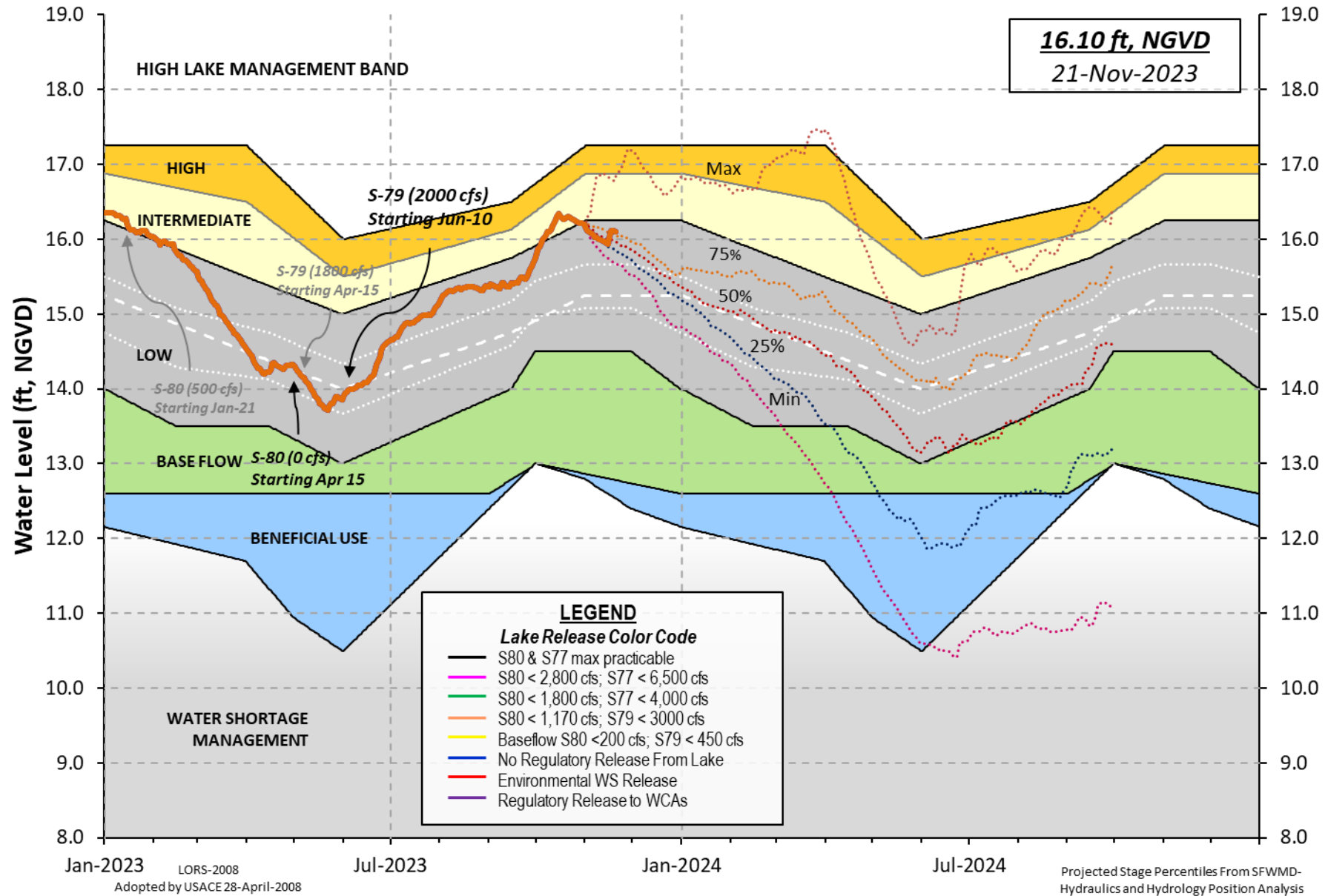


Figure 7-4

Lake Okeechobee Water Level History and Projected Stages



is equal to -NR-
 Lake Okeechobee (Change in Storage) Flow is 0 cfs or 0 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:	13.58	16.00	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	18.79	16.00	0	0.0	0.0	0.0					
S135 Pumps:	13.66	15.97	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.13	15.78	0	-0.0	-0.0	0.0	0.0	0.0	0.0	-0.0	
S65EX1:	21.13	15.78	1274								
S127 Pumps:	13.55	16.01	0	0	0	0	0	0	0		(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.07	16.06	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	1.33	13.24	0	0	0						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.00	66								
nr Lakeport											
S282	16.02	15.97		0.0	0.0	0.1					
South Shore											
S4 Pumps:	11.71	-NR-	0	0	0	0					(cfs)
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	16.04		9								
S3 Pumps:	10.45	16.12	0	0	0	0					(cfs)
S354:	16.12	10.45	0	0.0	0.0						
S2 Pumps:	10.79	16.17	0	0	0	0	0				(cfs)
S351:	16.17	10.79	0	0.0	0.0	0.0					
S352:	16.19	10.63	45	0.1	0.1						
S271:	16.37	15.42		-NR-	-NR-	0.0	0.0				
L8 Canal PT		15.12	111								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.79	16.17	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.63	16.19	45	-NR-	-NR-	-NR-	-NR-				
S354:	10.45	16.12	0	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	13.33	12.13		0.0	0.5						
S47D:	12.21	11.26	0	0.0							
S77:											
Spillway and Sector Preferred Flow:	15.94	11.11	1319	0.0	2.5	2.5	0.0				
Flow Due to Lockages+:			7								

S78:

Spillway and Sector Flow:
 11.13 2.84 1379 0.0 2.5 2.5 0.0
 Flow Due to Lockages+: 18

S79:
 Spillway and Sector Flow:
 2.94 1.98 2148 0.0 2.0 2.0 2.5 2.5 2.0 0.0 0.0
 Flow Due to Lockages+: 6
 Percent of flow from S77 61%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:
 Spillway and Sector Preferred Flow:
 16.16 14.04 515 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 3

S153: 19.06 13.78 8 0.5 0.0

S80:
 Spillway and Sector Flow:
 14.12 1.61 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) ****
 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:	0.00	0.00	2.09	305	4
S78:	0.00	0.00	1.57	306	2
S79:	0.00	0.00	1.54	302	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	77	1
S80:	0.00	0.01	1.99	339	1
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.00	0.16		

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations 19 NOV 2023 16.11 Difference from 19NOV23
 19NOV23 -1 Day = 18 NOV 2023 16.11 0.00

19NOV23	-2 Days =	17 NOV 2023	16.12	0.01
19NOV23	-3 Days =	16 NOV 2023	16.01	-0.10
19NOV23	-4 Days =	15 NOV 2023	15.93	-0.18
19NOV23	-5 Days =	14 NOV 2023	15.95	-0.16
19NOV23	-6 Days =	13 NOV 2023	15.97	-0.14
19NOV23	-7 Days =	12 NOV 2023	15.97	-0.14
19NOV23	-30 Days =	20 OCT 2023	16.29	0.18
19NOV23	-1 Year =	19 NOV 2022	16.24	0.13
19NOV23	-2 Year =	19 NOV 2021	16.02	-0.09

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
19NOV23	Today =	19 NOV 2023	3084 MON	1880
19NOV23	-1 Day =	18 NOV 2023	2822 SUN	-1529
19NOV23	-2 Days =	17 NOV 2023	2967 SAT	25171
19NOV23	-3 Days =	16 NOV 2023	990 FRI	17487
19NOV23	-4 Days =	15 NOV 2023	-278 THU	-3175
19NOV23	-5 Days =	14 NOV 2023	-37 WED	-2099
19NOV23	-6 Days =	13 NOV 2023	150 TUE	2591
19NOV23	-7 Days =	12 NOV 2023	-94 MON	-1386
19NOV23	-8 Days =	11 NOV 2023	30 SUN	749
19NOV23	-9 Days =	10 NOV 2023	-58 SAT	3044
19NOV23	-10 Days =	09 NOV 2023	-370 FRI	-1074
19NOV23	-11 Days =	08 NOV 2023	-244 THU	2508
19NOV23	-12 Days =	07 NOV 2023	-688 WED	566
19NOV23	-13 Days =	06 NOV 2023	-803 TUE	-1559

S65E

		Average Flow over previous 14 days		Avg-Daily Flow
19NOV23	Today=	19 NOV 2023	0 MON	0
19NOV23	-1 Day =	18 NOV 2023	0 SUN	0
19NOV23	-2 Days =	17 NOV 2023	20 SAT	0
19NOV23	-3 Days =	16 NOV 2023	143 FRI	0
19NOV23	-4 Days =	15 NOV 2023	269 THU	0
19NOV23	-5 Days =	14 NOV 2023	398 WED	0
19NOV23	-6 Days =	13 NOV 2023	528 TUE	0
19NOV23	-7 Days =	12 NOV 2023	659 MON	0
19NOV23	-8 Days =	11 NOV 2023	797 SUN	0
19NOV23	-9 Days =	10 NOV 2023	940 SAT	0
19NOV23	-10 Days =	09 NOV 2023	1084 FRI	0
19NOV23	-11 Days =	08 NOV 2023	1229 THU	0
19NOV23	-12 Days =	07 NOV 2023	1371 WED	0
19NOV23	-13 Days =	06 NOV 2023	1541 TUE	0

S65EX1

		Average Flow over previous 14 days		Avg-Daily Flow
19NOV23	Today=	19 NOV 2023	1519 MON	1274
19NOV23	-1 Day =	18 NOV 2023	1545 SUN	1351
19NOV23	-2 Days =	17 NOV 2023	1539 SAT	1514
19NOV23	-3 Days =	16 NOV 2023	1430 FRI	1510
19NOV23	-4 Days =	15 NOV 2023	1323 THU	1506
19NOV23	-5 Days =	14 NOV 2023	1215 WED	1522
19NOV23	-6 Days =	13 NOV 2023	1106 TUE	1547
19NOV23	-7 Days =	12 NOV 2023	996 MON	1488
19NOV23	-8 Days =	11 NOV 2023	890 SUN	1579
19NOV23	-9 Days =	10 NOV 2023	777 SAT	1516
19NOV23	-10 Days =	09 NOV 2023	668 FRI	1487
19NOV23	-11 Days =	08 NOV 2023	562 THU	1642
19NOV23	-12 Days =	07 NOV 2023	445 WED	1658
19NOV23	-13 Days =	06 NOV 2023	326 TUE	1667

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)
19 NOV 2023	2422	2617	2826	4324
18 NOV 2023	965	1376	2022	3560
17 NOV 2023	16	775	2608	5056
16 NOV 2023	9	615	2670	5464
15 NOV 2023	749	2185	2841	4872
14 NOV 2023	3997	4335	3297	5034
13 NOV 2023	4546	4499	3246	5011
12 NOV 2023	2822	3036	2646	2966
11 NOV 2023	1943	2244	1793	2240
10 NOV 2023	1935	2016	1770	2599
09 NOV 2023	2364	2490	1960	3035
08 NOV 2023	3591	3919	2880	3870
07 NOV 2023	4550	4772	3877	4560
06 NOV 2023	3124	3197	2640	4023

	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)
19 NOV 2023	17	0	90	0	220
18 NOV 2023	28	0	91	0	223
17 NOV 2023	14	0	88	0	231
16 NOV 2023	4	0	86	0	247
15 NOV 2023	9	0	93	0	222
14 NOV 2023	14	0	83	0	214
13 NOV 2023	14	245	208	179	199
12 NOV 2023	15	1159	622	548	192
11 NOV 2023	11	2000	672	776	190
10 NOV 2023	6	2247	692	809	192
09 NOV 2023	15	2461	676	843	153
08 NOV 2023	9	2720	818	1539	151
07 NOV 2023	10	2413	1186	1584	166
06 NOV 2023	14	1481	550	497	182

	S-308	Below S-308	S-80
	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)
19 NOV 2023	942	-NR-	40
18 NOV 2023	17	-NR-	41
17 NOV 2023	301	-NR-	-NR-
16 NOV 2023	6	-NR-	-NR-
15 NOV 2023	4	-NR-	-NR-
14 NOV 2023	7	-NR-	-NR-
13 NOV 2023	11	-NR-	34
12 NOV 2023	394	-NR-	39
11 NOV 2023	22	-NR-	36
10 NOV 2023	7	-NR-	39
09 NOV 2023	14	-NR-	50
08 NOV 2023	432	-NR-	52
07 NOV 2023	10	-NR-	40
06 NOV 2023	10	-NR-	49

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

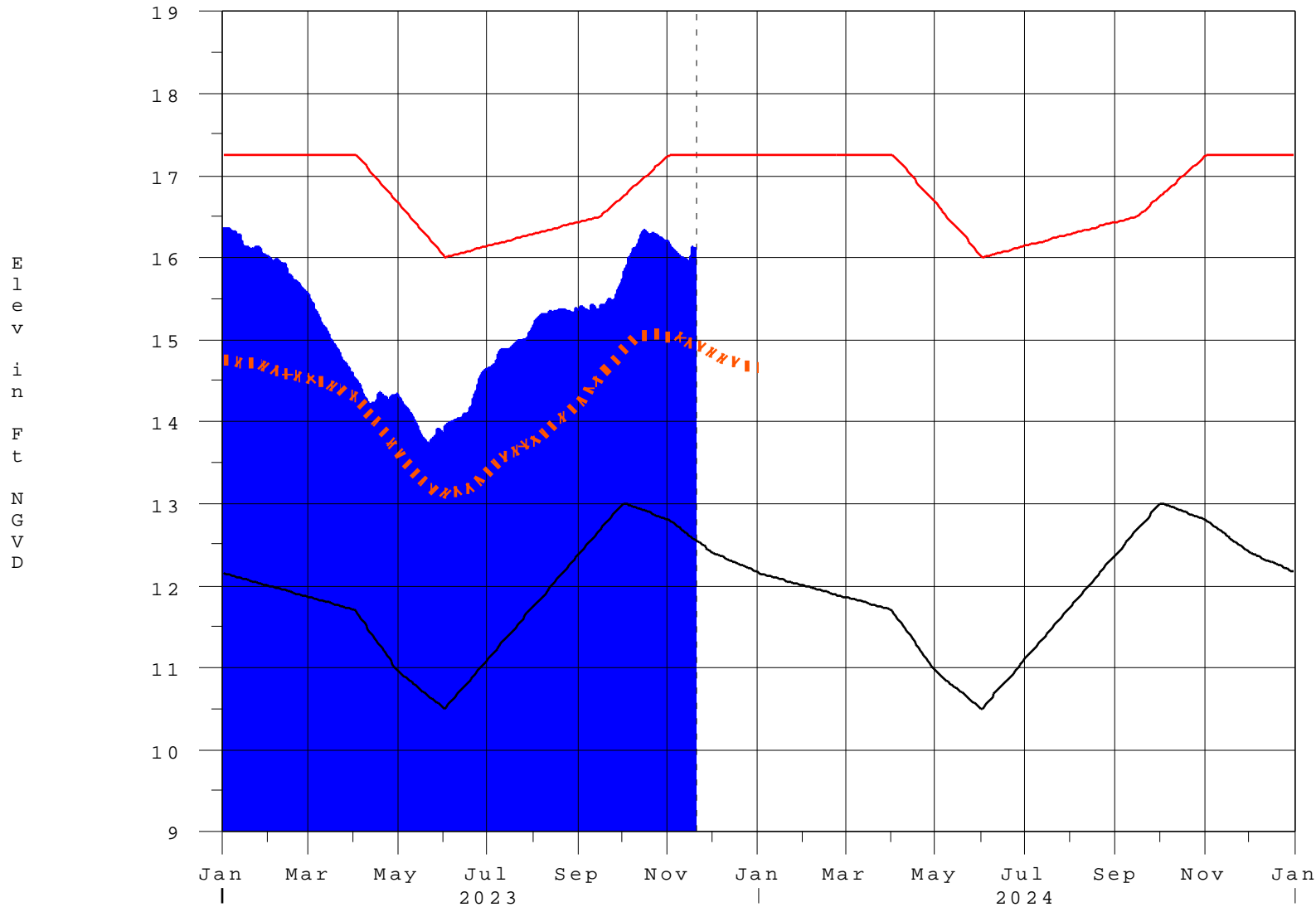
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

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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 20NOV2023 @ 10:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

20NOV23 10:17:15



- 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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[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
<p>> 2.0</p>	<p>> 4.3</p>	<p>Very Wet</p>
<p>1.18 to 2.0</p>	<p>2.51 to 4.3</p>	<p>Wet</p>
<p>0.5 to 1.17</p>	<p>1.1 to 2.5</p>	<p>Normal</p>
<p>< 0.5</p>	<p>< 1.1</p>	<p>Dry</p>

**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