

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 10/23/2023 (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 (Oct-Mar)	N/A	N/A	1.74	Wet	2.17	Very Wet	2.51	Very Wet
Multi Seasonal**** (Nov-Oct)	N/A	N/A	3.51	Wet	4.40	Very Wet	5.79	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.

**** LORS 2008 Water Control Plan calls for the forcing of a 12-month window to evaluate the multi-seasonal Lake Okeechobee Net Inflow Outlook which has been done this week as we are in a transitional period of seasons with above normal rainfall forecasted.

Tributary Hydrologic Conditions:

3632 cfs 14-day running average for Lake Okeechobee Net Inflow through 10/23/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Wet.

-2.19 for Palmer Drought Index on 10/21/2023.

According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 10/23/2023:

Lake Okeechobee Stage: **16.29 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.09	
Operational Band	High sub-band	16.72	
	Intermediate sub-band	16.14	← 16.29 ft
	Low sub-band	14.50	
Base Flow sub-band		12.91	
Beneficial Use sub-band		12.86	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

No Releases to WCAs

Part D of LORS2008: Discharge to Tide

Up to 4000 cfs at S-77 and up to 1800 cfs at S-80.

LORS2008 Implementation on 10/23/2023 (ENSO Condition- El Niño):

Status for week ending 10/23/2023*:

Water Supply Risk Evaluation

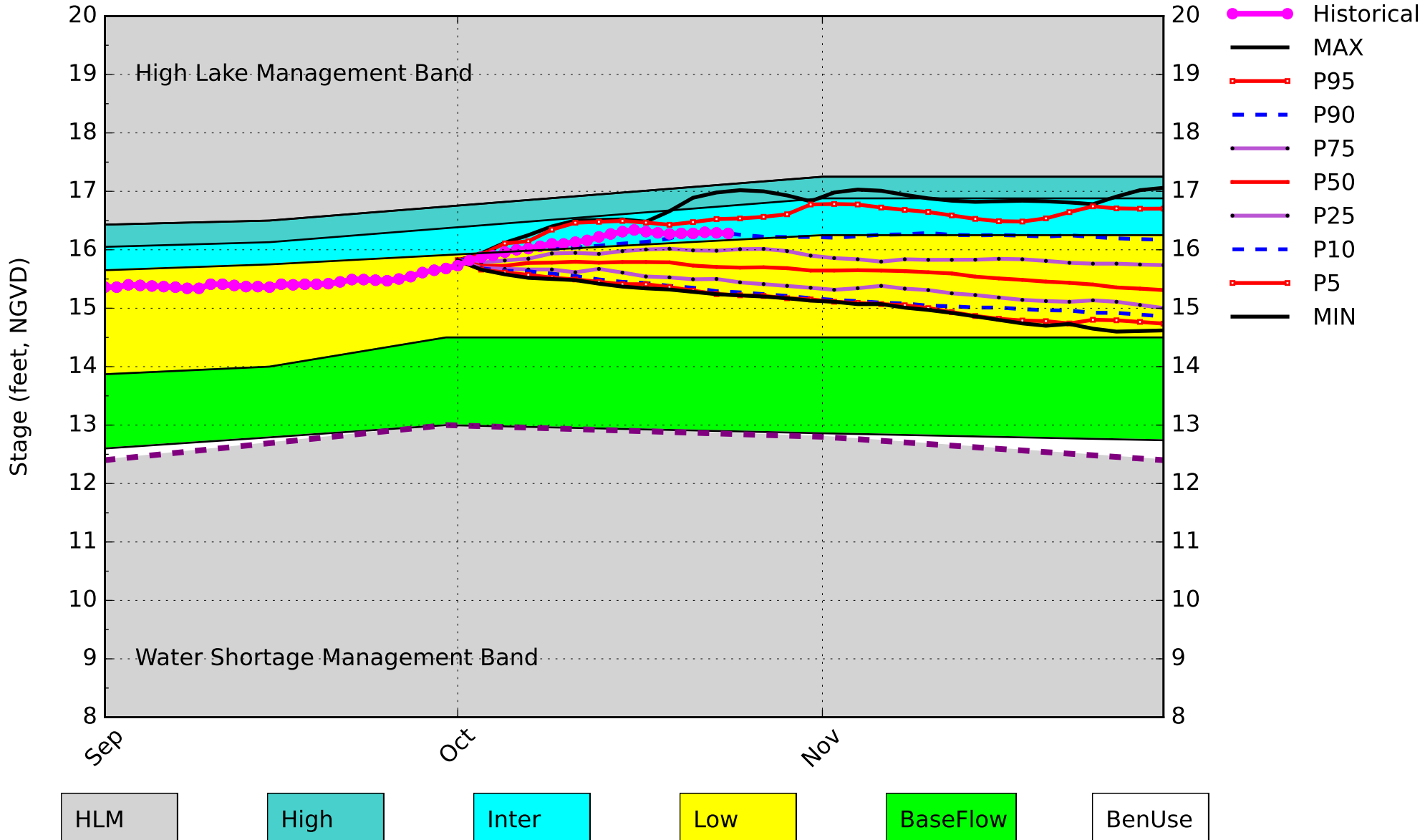
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Intermediate Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	-2.19 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	2.17 ft	L
	ENSO Forecast	Normal to Extremely Wet	L
	LOK Multi-Seasonal Net Inflow Outlook	2.26 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T, and 1-9)	Above Line 1 (17.25 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.51 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (11.22 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 Pt flow data for 10/11 & 10/12 is not available from USACE Daily Reports and was substituted with alternative data sources from USGS. Water Supply Risk Evaluation LOK Multi-Seasonal Net Inflow Outlook is based on 7-month window. LORS2008 release guidance is using a 12-month window for evaluation.

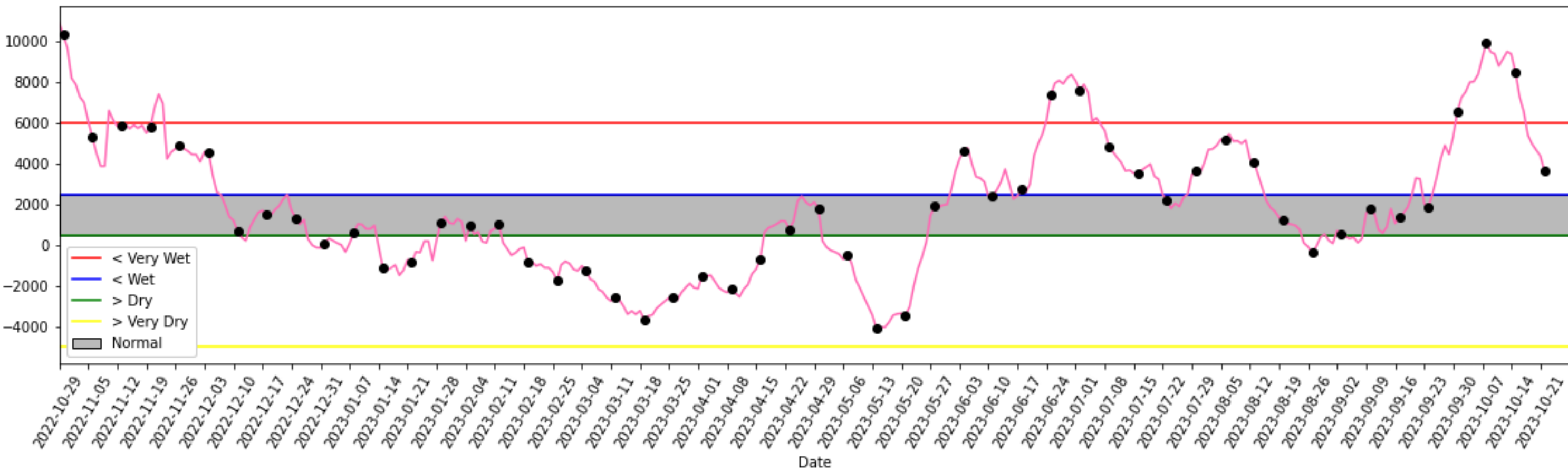
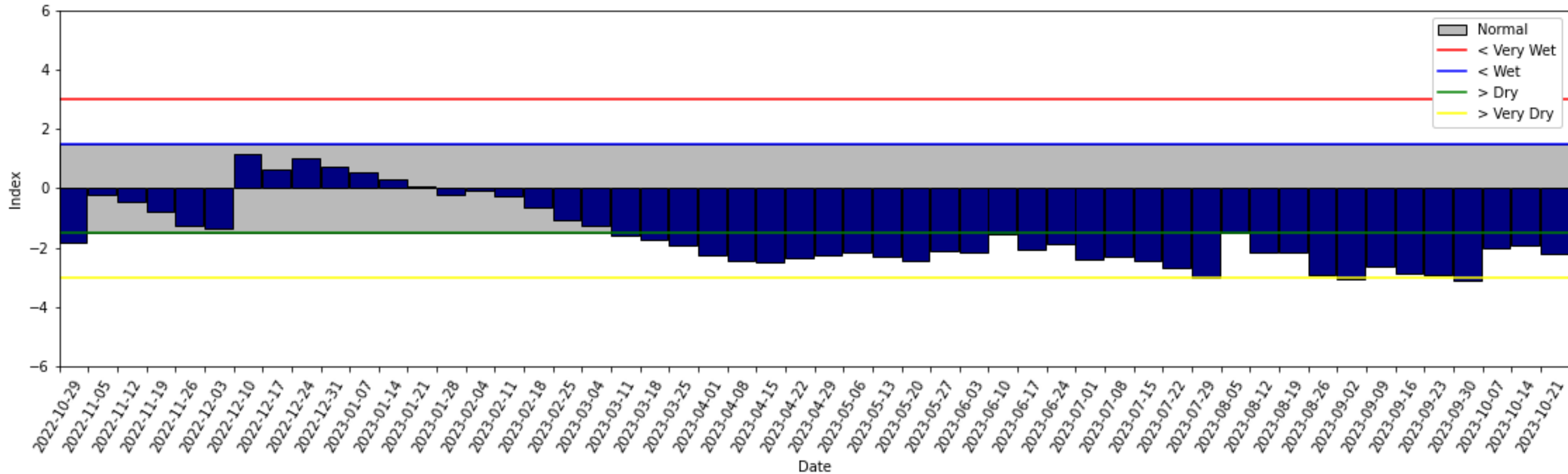
Lake Okeechobee SFWMM October 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of October 22 2023



2008 LORS

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

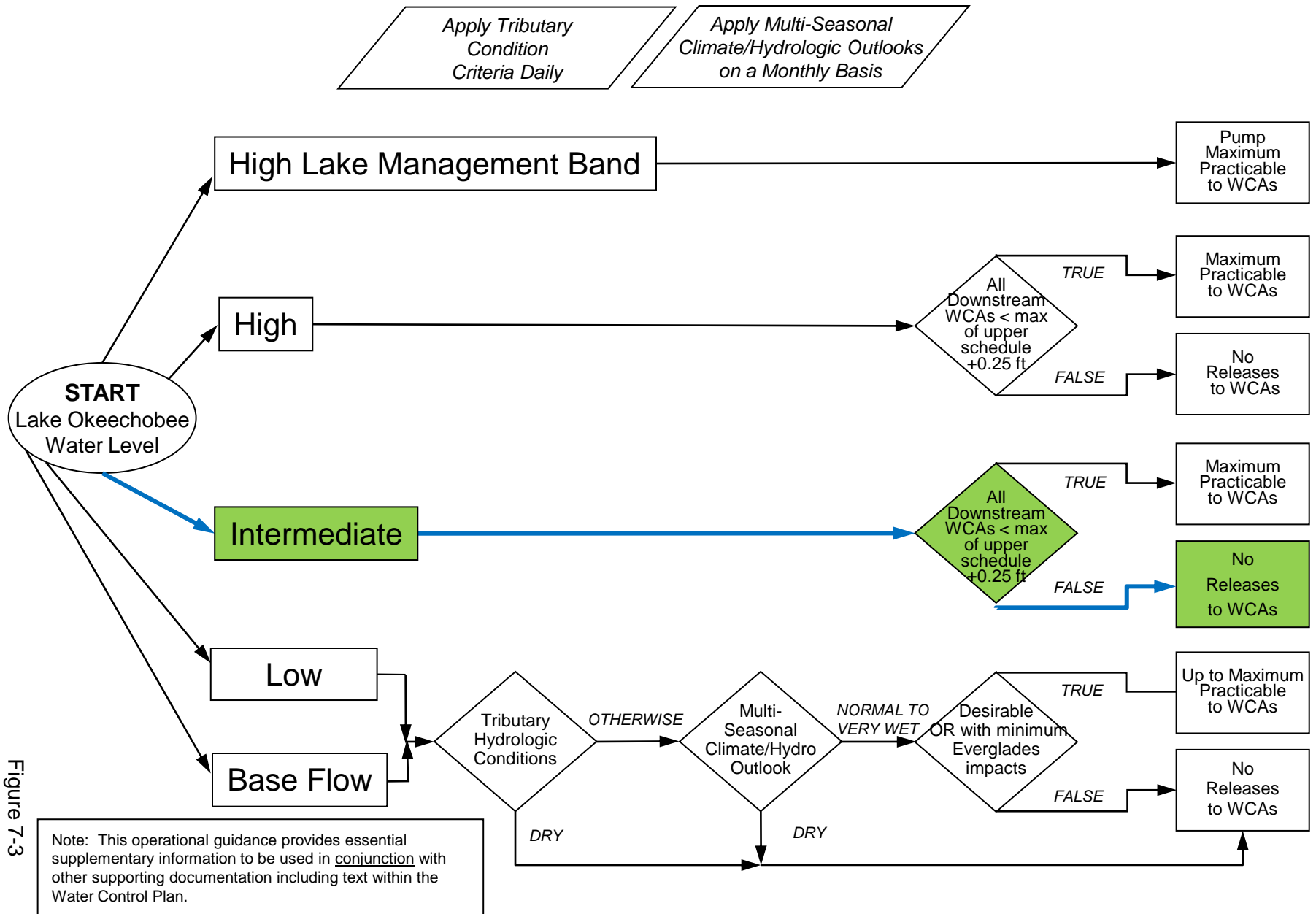


Figure 7-3

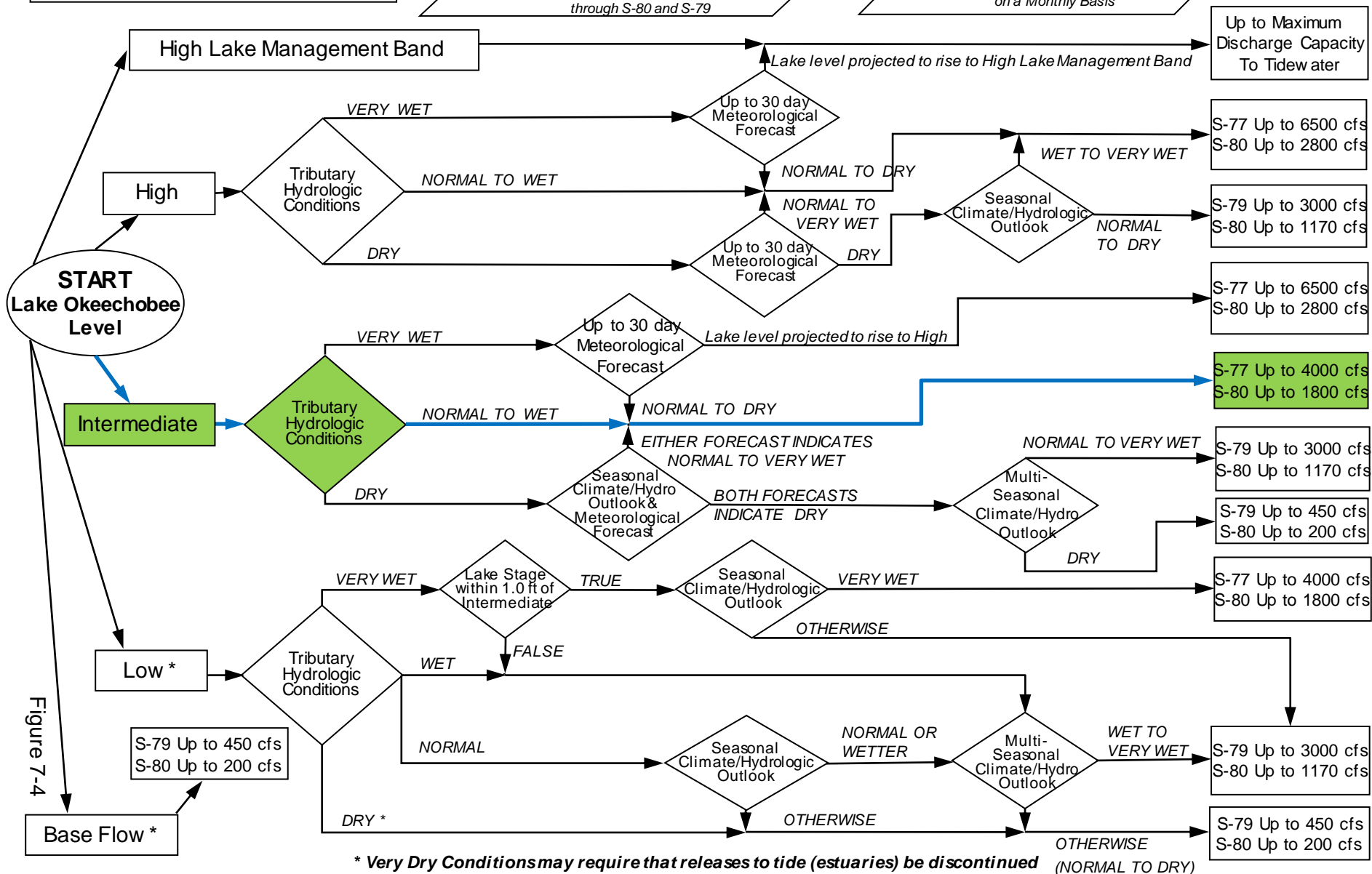
2008 LORS

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

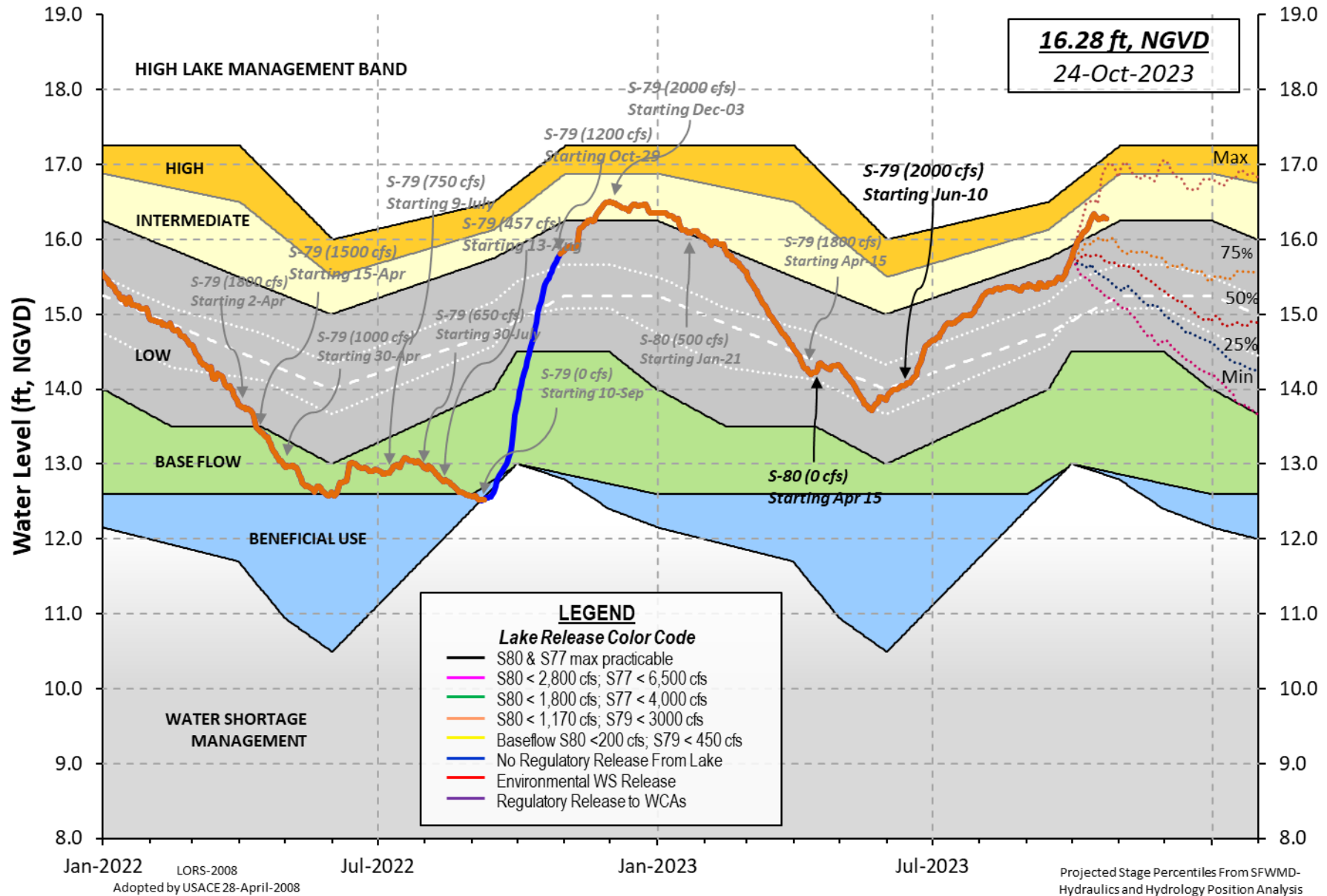
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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



Lake Okeechobee Water Level History and Projected Stages



is equal to -NR-
 Lake Okeechobee (Change in Storage) Flow is -2269 cfs or -4500 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:	13.50	16.21	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	18.86	16.20	0	0.0	0.0	0.0					
S135 Pumps:	13.40	16.17	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.08	16.05	2326	1.0	1.0	1.5	1.7	1.0	1.0		
S65EX1:	21.08	16.05	0								
S127 Pumps:	13.38	16.20	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.05	16.28	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	12.98	13.25	0	0	0						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.51	638								
nr Lakeport											
S282	16.24	16.20		0.0	0.0	0.1					
South Shore											
S4 Pumps:	10.79	-NR-	0	0	0	0					(cfs)
S169:	15.17	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	16.28		0								
S3 Pumps:	10.32	16.34	0	0	0	0					(cfs)
S354:	16.34	10.32	0	0.0	0.0						
S2 Pumps:	9.93	16.38	0	0	0	0	0				(cfs)
S351:	16.38	9.93	0	0.0	0.0	0.0					
S352:	16.41	10.40	0	0.0	0.0						
S271:	16.53	15.22	0	0.0	-NR-	1.2	0.0				
L8 Canal PT		14.90	107								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	9.93	16.38	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.40	16.41	0	-NR-	-NR-	-NR-	-NR-				
S354:	10.32	16.34	0	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	13.27	12.20		0.5	0.5						
S47D:	12.15	10.73	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	16.13	10.61	1056	0.0	2.5	2.5	0.0				
Flow Due to Lockages+:											
			5								

S78:

Spillway and Sector Flow:
 10.61 2.73 1227 2.0 3.0 0.0 0.0
 Flow Due to Lockages+: 9

S79:
 Spillway and Sector Flow:
 2.88 2.19 2130 0.0 2.0 2.0 2.0 2.0 2.0 2.0 0.0
 Flow Due to Lockages+: 6
 Percent of flow from S77 50%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:
 Spillway and Sector Preferred Flow:
 16.33 14.15 0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 3

S153: 18.67 13.93 57 0.0 0.0

S80:
 Spillway and Sector Flow:
 14.17 1.08 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 0
 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	329	2
S78:	0.29	0.29	0.29	264	3
S79:	3.09	3.09	3.09	170	0
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	54	2
S80:	4.46	4.46	4.51	340	1
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 22 OCT 2023 16.29 Difference from 22OCT23
 22OCT23 -1 Day = 21 OCT 2023 16.30 0.01

22OCT23	-2 Days =	20 OCT 2023	16.28	-0.01
22OCT23	-3 Days =	19 OCT 2023	16.28	-0.01
22OCT23	-4 Days =	18 OCT 2023	16.27	-0.02
22OCT23	-5 Days =	17 OCT 2023	16.29	0.00
22OCT23	-6 Days =	16 OCT 2023	16.31	0.02
22OCT23	-7 Days =	15 OCT 2023	16.34	0.05
22OCT23	-30 Days =	22 SEP 2023	15.49	-0.80
22OCT23	-1 Year =	22 OCT 2022	15.53	-0.76
22OCT23	-2 Year =	22 OCT 2021	15.84	-0.45

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
22OCT23	Today =	22 OCT 2023	2533 MON	-1213
22OCT23	-1 Day =	21 OCT 2023	3402 SUN	5257
22OCT23	-2 Days =	20 OCT 2023	3733 SAT	712
22OCT23	-3 Days =	19 OCT 2023	4081 FRI	3259
22OCT23	-4 Days =	18 OCT 2023	4579 THU	-3319
22OCT23	-5 Days =	17 OCT 2023	5942 WED	-3485
22OCT23	-6 Days =	16 OCT 2023	6774 TUE	-6206
22OCT23	-7 Days =	15 OCT 2023	8195 MON	7140
22OCT23	-8 Days =	14 OCT 2023	9226 SUN	9359
22OCT23	-9 Days =	13 OCT 2023	9352 SAT	11344
22OCT23	-10 Days =	12 OCT 2023	8952 FRI	-NR-
22OCT23	-11 Days =	11 OCT 2023	8930 THU	-NR-
22OCT23	-12 Days =	10 OCT 2023	9376 WED	7321
22OCT23	-13 Days =	09 OCT 2023	9476 TUE	231

S65E

		Average Flow over previous 14 days		Avg-Daily Flow
22OCT23	Today=	22 OCT 2023	4039 MON	2501
22OCT23	-1 Day =	21 OCT 2023	4172 SUN	2916
22OCT23	-2 Days =	20 OCT 2023	4243 SAT	3007
22OCT23	-3 Days =	19 OCT 2023	4290 FRI	3212
22OCT23	-4 Days =	18 OCT 2023	4312 THU	3521
22OCT23	-5 Days =	17 OCT 2023	4300 WED	3700
22OCT23	-6 Days =	16 OCT 2023	4269 TUE	4132
22OCT23	-7 Days =	15 OCT 2023	4191 MON	4304
22OCT23	-8 Days =	14 OCT 2023	4100 SUN	4714
22OCT23	-9 Days =	13 OCT 2023	3930 SAT	4987
22OCT23	-10 Days =	12 OCT 2023	3720 FRI	4964
22OCT23	-11 Days =	11 OCT 2023	3520 THU	4936
22OCT23	-12 Days =	10 OCT 2023	3276 WED	4967
22OCT23	-13 Days =	09 OCT 2023	3011 TUE	4684

S65EX1

		Average Flow over previous 14 days		Avg-Daily Flow
22OCT23	Today=	22 OCT 2023	0 MON	0
22OCT23	-1 Day =	21 OCT 2023	0 SUN	0
22OCT23	-2 Days =	20 OCT 2023	0 SAT	0
22OCT23	-3 Days =	19 OCT 2023	0 FRI	0
22OCT23	-4 Days =	18 OCT 2023	0 THU	0
22OCT23	-5 Days =	17 OCT 2023	0 WED	0
22OCT23	-6 Days =	16 OCT 2023	0 TUE	0
22OCT23	-7 Days =	15 OCT 2023	0 MON	0
22OCT23	-8 Days =	14 OCT 2023	0 SUN	0
22OCT23	-9 Days =	13 OCT 2023	0 SAT	0
22OCT23	-10 Days =	12 OCT 2023	0 FRI	0
22OCT23	-11 Days =	11 OCT 2023	0 THU	0
22OCT23	-12 Days =	10 OCT 2023	0 WED	0
22OCT23	-13 Days =	09 OCT 2023	0 TUE	0

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)
22 OCT 2023	1870	2094	2482	4246
21 OCT 2023	994	1427	1618	2905
20 OCT 2023	1169	1412	1209	2583
19 OCT 2023	1857	1963	1493	3060
18 OCT 2023	2195	2416	2275	3640
17 OCT 2023	1965	2087	2263	4516
16 OCT 2023	1021	1191	2015	4391
15 OCT 2023	334	662	1717	4320
14 OCT 2023	248	564	1748	4193
13 OCT 2023	3	461	1729	5427
12 OCT 2023	5	839	1671	3563
11 OCT 2023	-NR-	266	1717	4735
10 OCT 2023	-NR-	1021	1811	4332
09 OCT 2023	-NR-	458	1884	3908

	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)
22 OCT 2023	0	0	0	0	213
21 OCT 2023	0	0	0	0	201
20 OCT 2023	0	0	0	0	201
19 OCT 2023	0	0	0	0	204
18 OCT 2023	0	0	0	0	216
17 OCT 2023	0	0	0	0	183
16 OCT 2023	-NR-	0	0	0	182
15 OCT 2023	-NR-	0	0	0	194
14 OCT 2023	9	0	0	0	202
13 OCT 2023	-NR-	0	0	0	199
12 OCT 2023	-NR-	0	0	0	-NR-
11 OCT 2023	9	0	0	0	-NR-
10 OCT 2023	7	0	0	0	209
09 OCT 2023	-3	0	0	0	215

	S-308	Below S-308	S-80
	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)
22 OCT 2023	6	-NR-	0
21 OCT 2023	8	-NR-	32
20 OCT 2023	11	-NR-	28
19 OCT 2023	9	-NR-	17
18 OCT 2023	6	-NR-	21
17 OCT 2023	0	-NR-	17
16 OCT 2023	4	-NR-	21
15 OCT 2023	9	-NR-	10
14 OCT 2023	9	-NR-	10
13 OCT 2023	6	-NR-	32
12 OCT 2023	2	-NR-	4
11 OCT 2023	7	-NR-	24
10 OCT 2023	5	-NR-	24
09 OCT 2023	4	-NR-	42

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

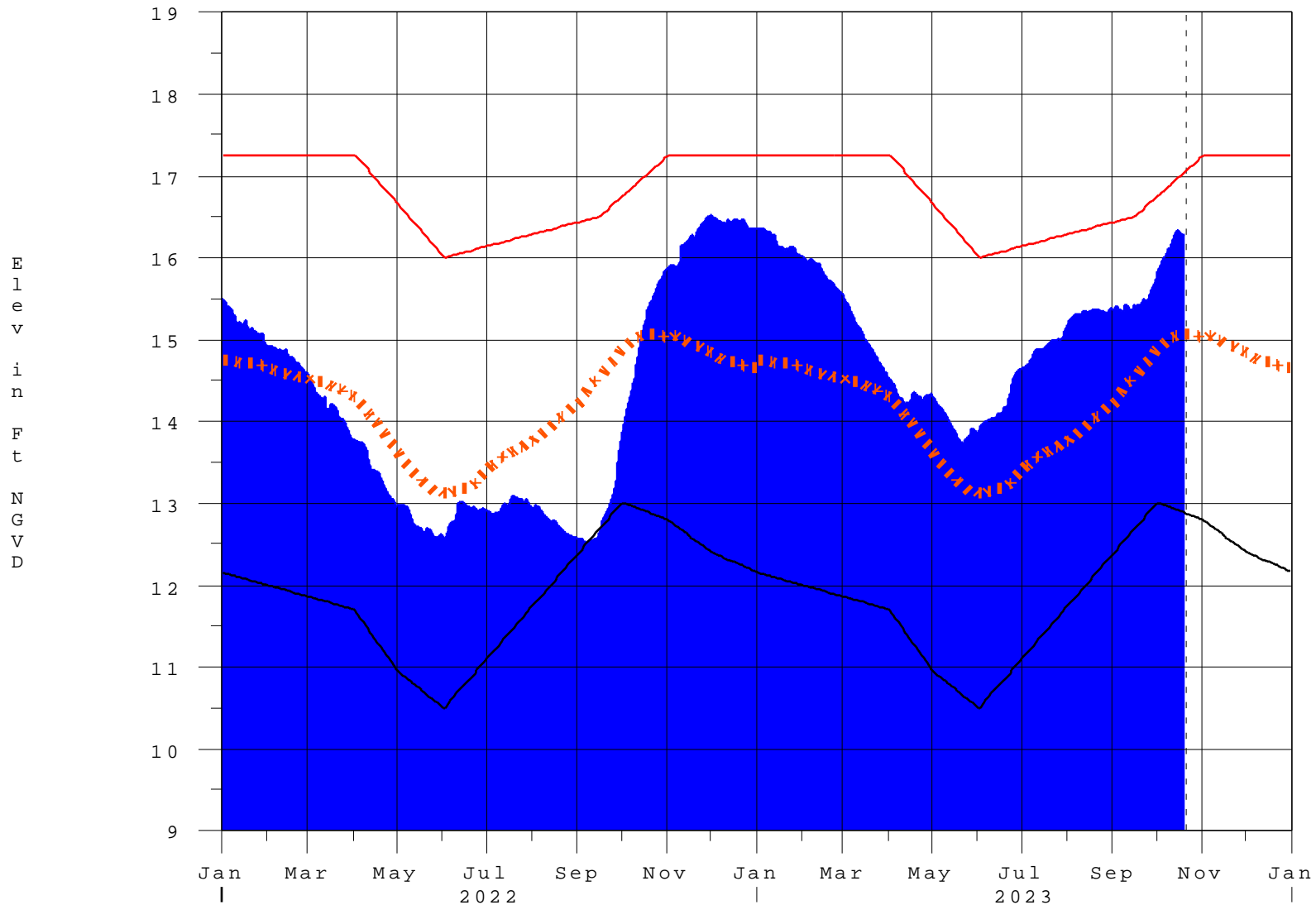
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

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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 23OCT2023 @ 13:38 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

20OCT23 13:00:21



- 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
> 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