

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 01/23/2023 (ENSO Condition: La Niña)

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 La Niña years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Niña 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 La Niña ENSO Years**		Sub-sampling of AMO Warm + La Niña ENSO Years***	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Jan-Jun)	N/A	N/A	0.11	Dry	0.17	Dry	0.16	Dry
Multi Seasonal (Jan-Oct)	N/A	N/A	2.29	Normal	2.55	Wet	2.11	Normal

*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:

-843 cfs 14-day running average for Lake Okeechobee Net Inflow through 01/23/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

0.08 for Palmer Drought Index on 01/21/2022.

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

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 01/23/2023:

Lake Okeechobee Stage: **16.09 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.79	
	Intermediate sub-band	16.07	← 16.09 ft
	Low sub-band	13.77	
Base Flow sub-band		12.60	
Beneficial Use sub-band		12.04	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

Maximum practicable to WCAs if “All downstream WCAs < max. of upper schedule + 0.25 ft”. Currently, all WCAs have the potential to receive regulatory releases from Lake Okeechobee.

Part D of LORS2008: Discharge to Tide

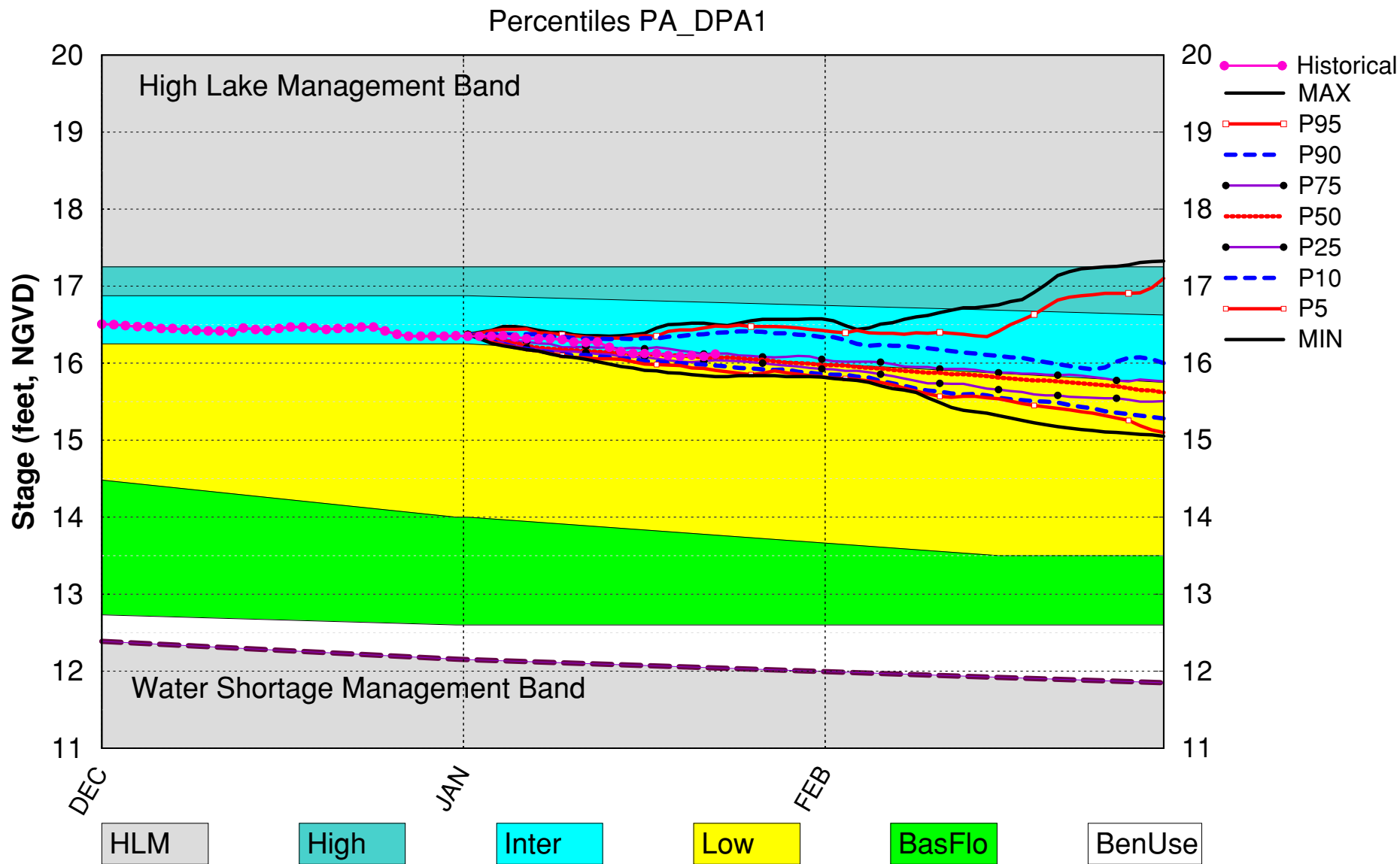
Up to 4000 cfs at S-77 and up to 1800 cfs at S-80.

LORS2008 Implementation on 01/23/2023 (ENSO Condition- La Niña Watch):**Status for week ending 01/23/2023:****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	0.08 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	0.17 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.55 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-8C)	Above Line 1 (17.11 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.09 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.84 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

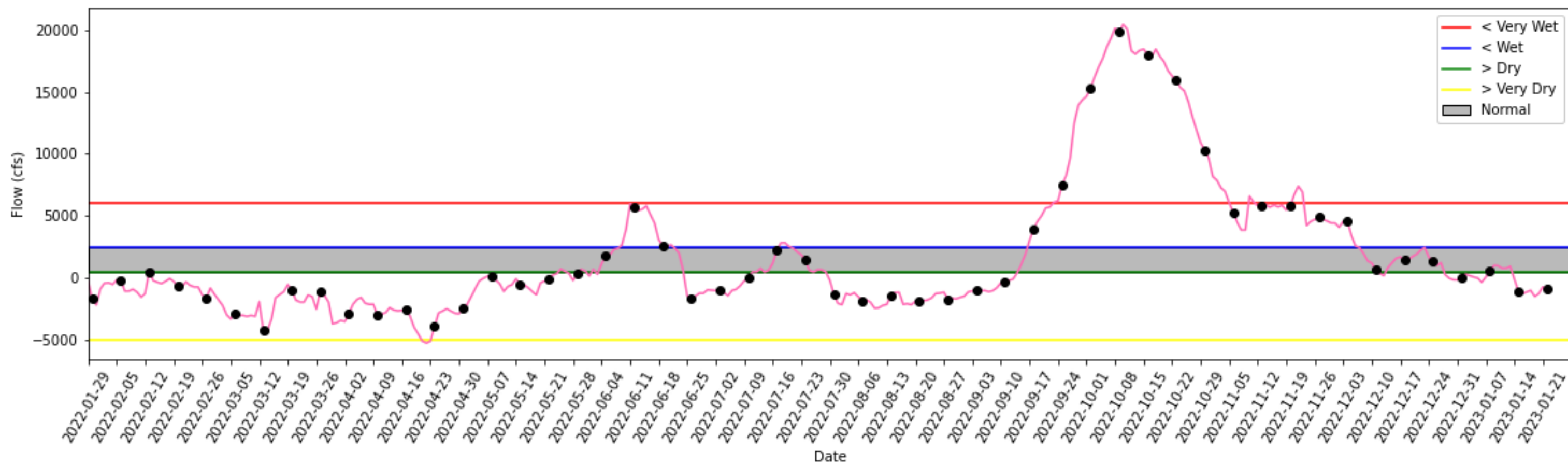
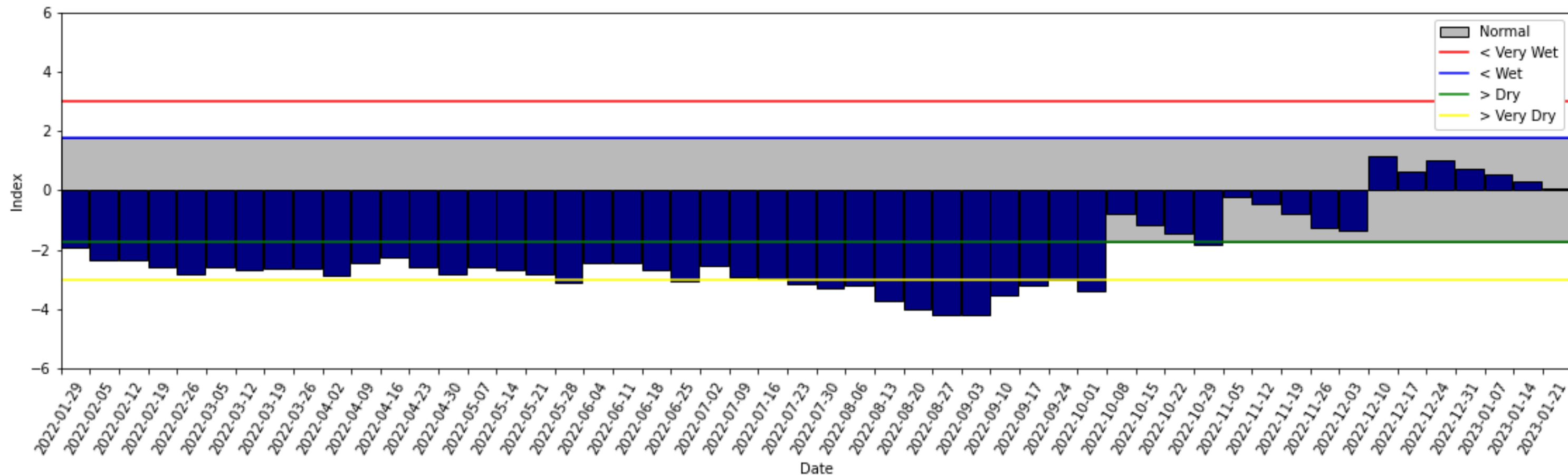
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

Lake Okeechobee SFWMM January 2023 Position Analysis



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of January 22 2023



2008 LORS

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

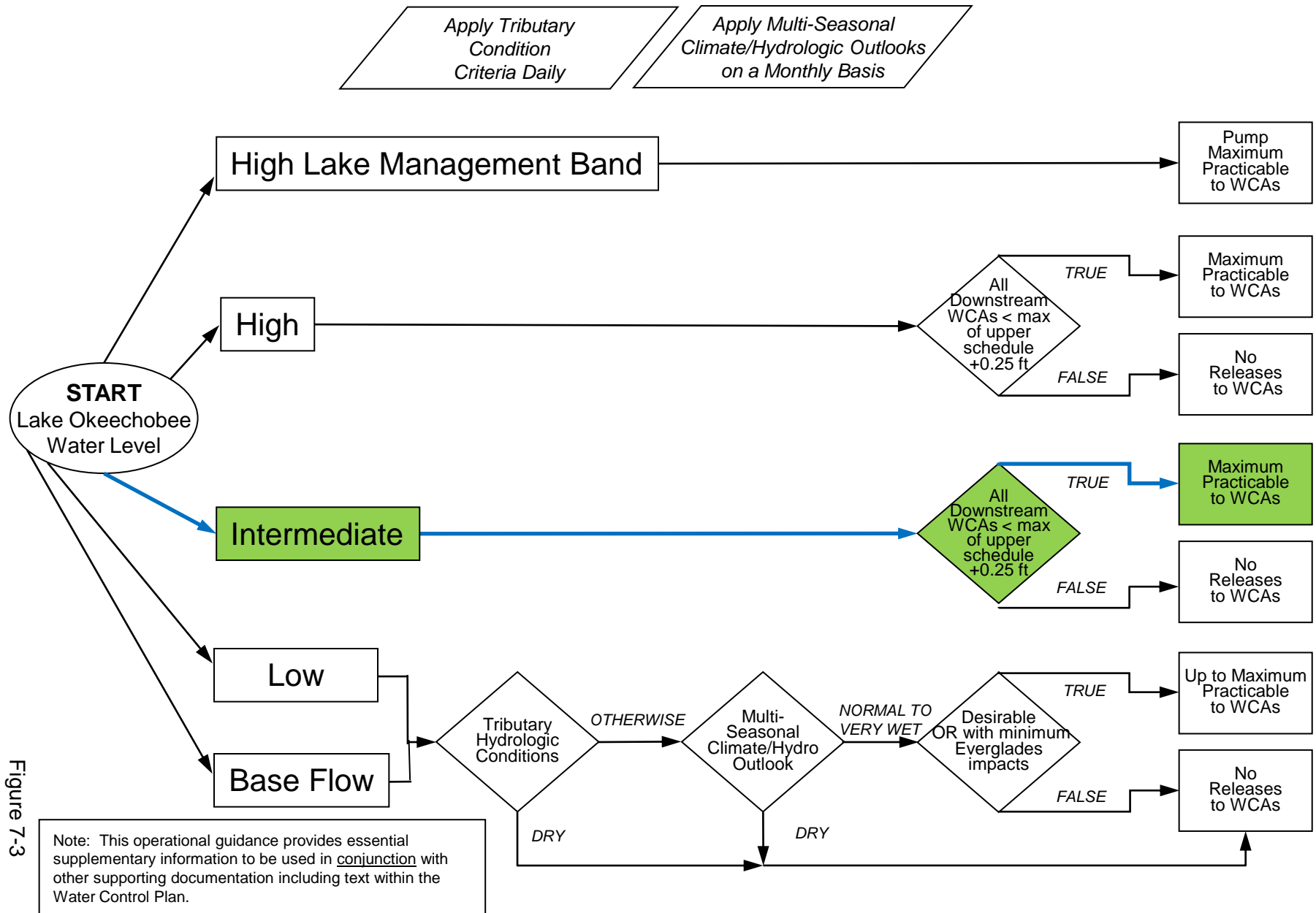


Figure 7-3

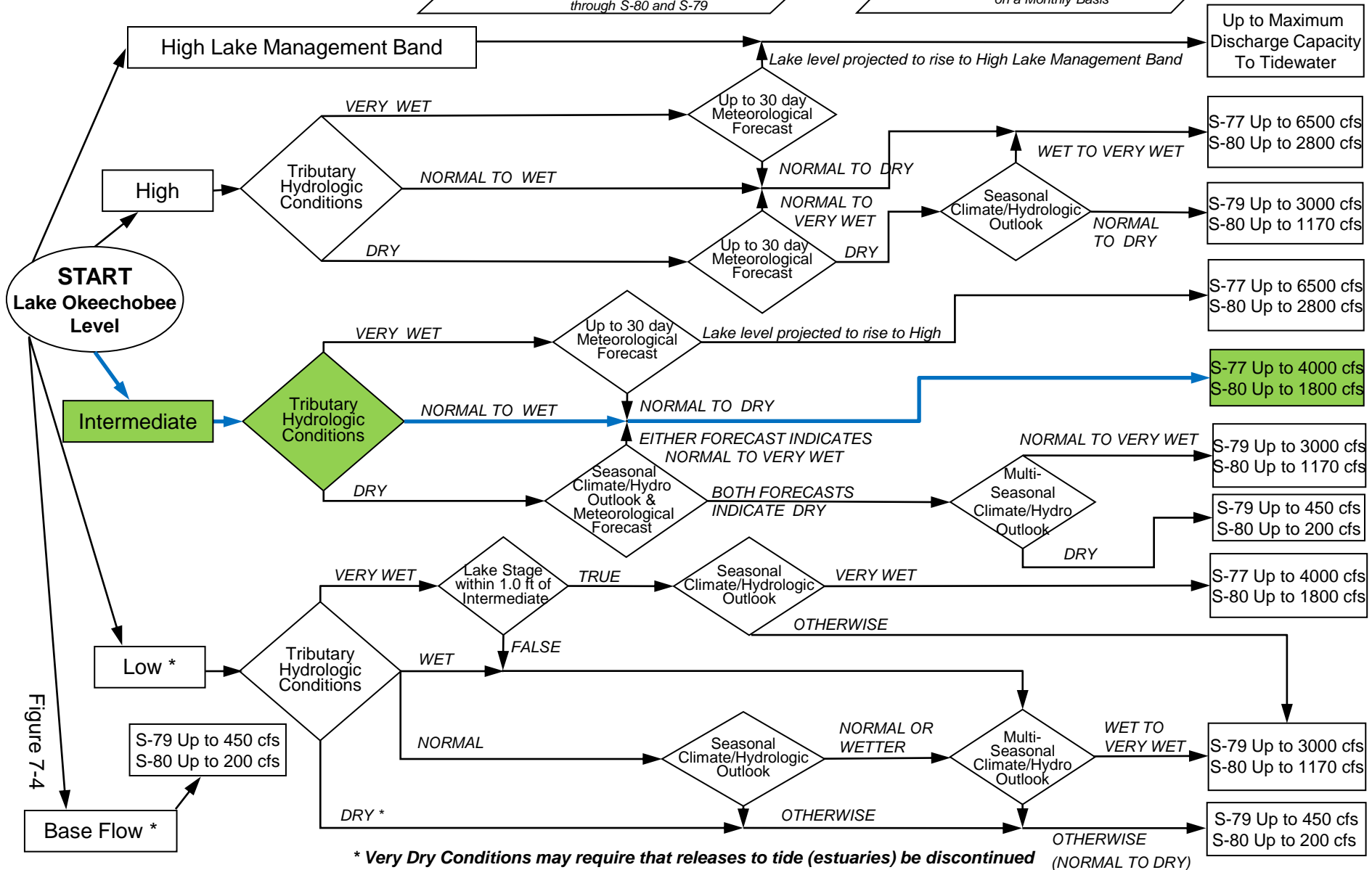
2008 LORS

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

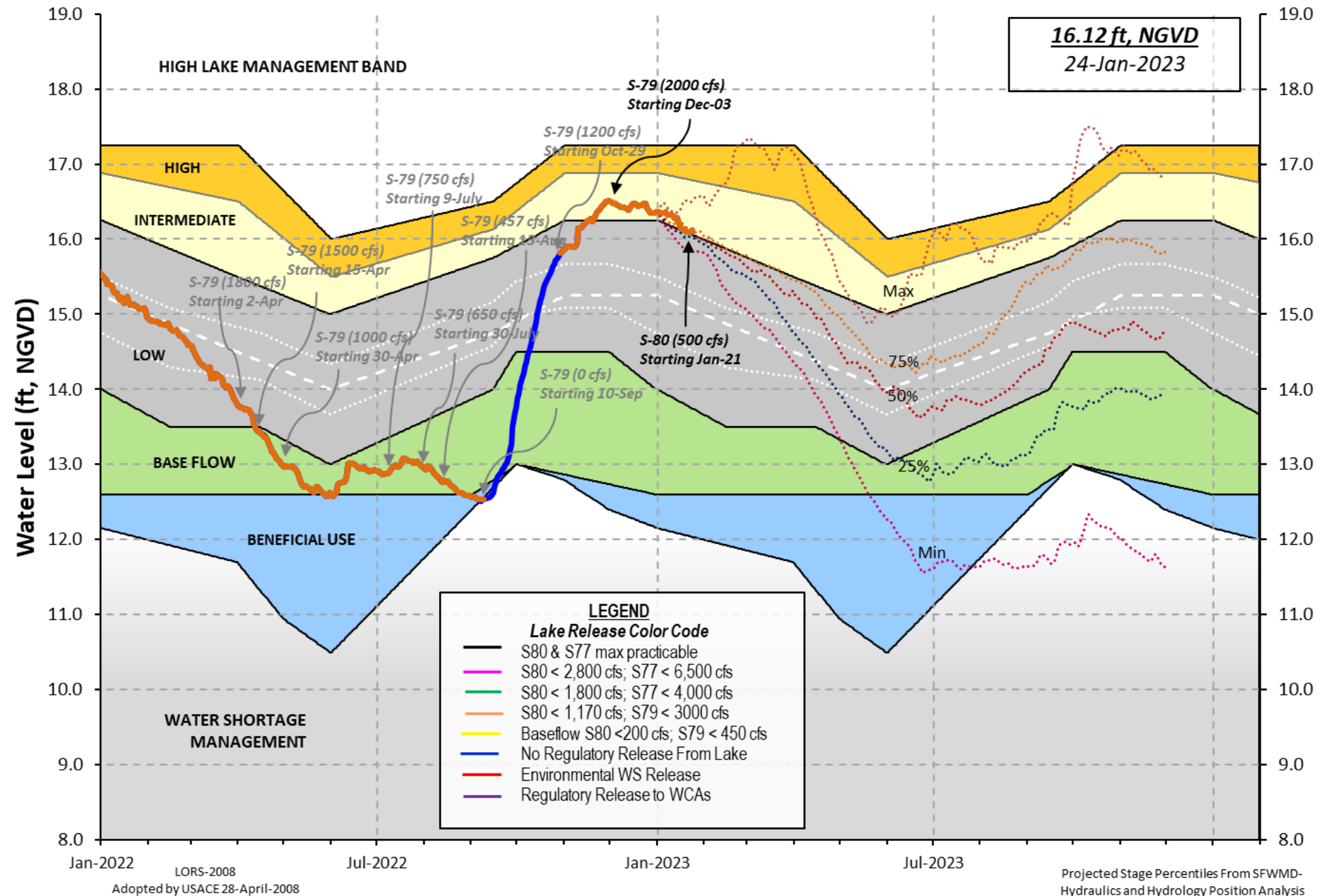
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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



U. S. Army Corps of Engineers, Jacksonville District
Lake Okeechobee and Vicinity Report
** Preliminary Data - Subject to Revision **

Data Ending 2400 hours 22 JAN 2023

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	16.09	15.11	15.60 (Official Elv)
Bottom of High Lake Mngmt=	17.25	Top of Water Short Mngmt=	12.04
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.55
Difference from Average LORS2008	2.54

22JAN (1965-2007) Period of Record Average	14.70
Difference from POR Average	1.39

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ♦ 10.03'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ♦ 8.23'
Bridge Clearance = 50.02'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.20	16.11	16.06	16.13	16.02	16.20	15.94	16.12

*Combination Okeechobee Avg-Daily Lake Average = 16.09
(*See Note)

Okeechobee Inflows (cfs):

S65E	1358	S65EX1	0	Fisheating Cr	19
S154	0	S191	0	S135 Pumps	0
S84	18	S133 Pumps	0	S2 Pumps	0
S84X	1	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	0
Total Inflows: 1396					

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	99	S77	-NR-
S127 Culverts	0	S351	535	S308	353
S129 Culverts	0	S352	10		
S131 Culverts	0	L8 Canal Pt	222		
Total Outflows: No Report Due To Missing S77 or S308 Discharge Data					

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

Okeechobee Pan Evaporation (inches):

S77	-NR-	S308	-NR-
Average Pan Evap x 0.75 Pan Coefficient = -NR-" = -NR-'			

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 -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:	13.56	16.06	0	0	0	0	0	0	0	0	(cfs)	
S193:												
S191:	19.26	16.07	0	0.0	0.0	0.0						
S135 Pumps:	13.46	15.99	0	0	0	0	0				(cfs)	
S135 Culverts:			0	0.0	0.0							
North West Shore												
S65E:	20.99	15.89	1358	0.6	1.1	0.5	1.1	0.4	0.4			
S65EX1:	20.99	15.89	0									
S127 Pumps:	13.57	16.04	0	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0								
S129 Pumps:	13.01	16.08	0	0	0	0				(cfs)		
S129 Culvert:			0	0.0								
S131 Pumps:	13.01	16.08	0	0	0					(cfs)		
S131 Culvert:			0									
Fisheating Creek												
nr Palmdale		28.82	19									
nr Lakeport												
C5:		-NR-	0	-NR-	-NR-	-NR-	-NR-					
South Shore												
S4 Pumps:	12.23	-NR-	0	0	0	0				(cfs)		
S169:		-NR-	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	16.01		2									
S3 Pumps:	10.67	16.08	0	0	0	0				(cfs)		
S354:	16.08	10.67	99	0.2	0.4							
S2 Pumps:	10.63	16.13	0	0	0	0	0			(cfs)		
S351:	16.13	10.63	535	0.8	0.8	0.6						
S352:	16.18	10.55	10	0.0	0.0							
C10A:	-NR-	-NR-		-NR-	-NR-	-NR-	-NR-	-NR-	-NR-			
L8 Canal PT		13.95	222									

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.63	16.13	535	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-			
S352:	10.55	16.18	10	-NR-	-NR-	-NR-	-NR-					
S354:	10.67	16.08	99	-NR-	-NR-	-NR-	-NR-					

Caloosahatchee River (S77, S78, S79)

S47B:	14.37	11.95		0.7	1.2							
S47D:	11.97	11.34	0	0.0								
S77:												
Spillway and Sector Preferred Flow:												
	15.86	11.21	691	0.5	0.5	0.5	0.5					
Flow Due to Lockages+:			-NR-									

S78:

Spillway and Sector Flow:
11.23 3.02 911 1.0 0.0 0.0 2.0
Flow Due to Lockages+: -NR-

S79:

Spillway and Sector Flow:
3.21 1.64 1229 0.0 0.0 1.0 1.5 1.5 1.5 0.0 0.0
Flow Due to Lockages+: 8
Percent of flow from S77 56%
Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:
15.91 13.48 348 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 5

S153: 18.92 13.15 0 0.0 0.0

S80:

Spillway and Sector Flow:
13.43 1.30 522 0.0 0.0 0.8 0.8 0.8 0.0 0.0
Flow Due to Lockages+: 15
Percent of flow from S308 67%

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:	-NR-	0.00	0.00	202	6
S78:	-NR-	0.00	0.00	220	2
S79:	-NR-	0.00	0.00	1	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:	-NR-	0.00	0.00	172	6
S80:	-NR-	0.00	0.00	218	2
Okeechobee Average (Sites S78, S79 and S80 not included)	-NR-	0.00	0.00		

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations	22 JAN 2023	16.09	Difference from 22JAN23
22JAN23 -1 Day =	21 JAN 2023	16.10	0.01

22JAN23	-2 Days =	20 JAN 2023	16.09	0.00
22JAN23	-3 Days =	19 JAN 2023	16.10	0.01
22JAN23	-4 Days =	18 JAN 2023	16.13	0.04
22JAN23	-5 Days =	17 JAN 2023	16.13	0.04
22JAN23	-6 Days =	16 JAN 2023	16.13	0.04
22JAN23	-7 Days =	15 JAN 2023	16.15	0.06
22JAN23	-30 Days =	23 DEC 2022	16.47	0.38
22JAN23	-1 Year =	22 JAN 2022	15.11	-0.98
22JAN23	-2 Year =	22 JAN 2021	15.60	-0.49

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	
22JAN23	Today =	22 JAN 2023	-1179 MON	-363	
22JAN23	-1 Day =	21 JAN 2023	-1043 SUN	4512	
22JAN23	-2 Days =	20 JAN 2023	-1602 SAT	543	
22JAN23	-3 Days =	19 JAN 2023	-1873 FRI	-3710	
22JAN23	-4 Days =	18 JAN 2023	-1330 THU	3210	
22JAN23	-5 Days =	17 JAN 2023	-1482 WED	-NR-	
22JAN23	-6 Days =	16 JAN 2023	-1232 TUE	-1371	
22JAN23	-7 Days =	15 JAN 2023	-1092 MON	-11581	
22JAN23	-8 Days =	14 JAN 2023	-80 SUN	-13385	
22JAN23	-9 Days =	13 JAN 2023	958 SAT	5236	
22JAN23	-10 Days =	12 JAN 2023	792 FRI	1228	
22JAN23	-11 Days =	11 JAN 2023	789 THU	-2696	
22JAN23	-12 Days =	10 JAN 2023	1002 WED	928	
22JAN23	-13 Days =	09 JAN 2023	1027 TUE	2121	

S65E					
Average Flow over previous 14 days				Avg-Daily Flow	
22JAN23	Today=	22 JAN 2023	1538 MON	1492	
22JAN23	-1 Day =	21 JAN 2023	1543 SUN	1472	
22JAN23	-2 Days =	20 JAN 2023	1551 SAT	1479	
22JAN23	-3 Days =	19 JAN 2023	1558 FRI	1438	
22JAN23	-4 Days =	18 JAN 2023	1570 THU	1442	
22JAN23	-5 Days =	17 JAN 2023	1582 WED	1483	
22JAN23	-6 Days =	16 JAN 2023	1592 TUE	1483	
22JAN23	-7 Days =	15 JAN 2023	1602 MON	1545	
22JAN23	-8 Days =	14 JAN 2023	1608 SUN	1602	
22JAN23	-9 Days =	13 JAN 2023	1610 SAT	1498	
22JAN23	-10 Days =	12 JAN 2023	1627 FRI	1823	
22JAN23	-11 Days =	11 JAN 2023	1616 THU	1280	
22JAN23	-12 Days =	10 JAN 2023	1638 WED	1802	
22JAN23	-13 Days =	09 JAN 2023	1621 TUE	1691	

S65EX1					
Average Flow over previous 14 days				Avg-Daily Flow	
22JAN23	Today=	22 JAN 2023	0 MON	0	
22JAN23	-1 Day =	21 JAN 2023	0 SUN	0	
22JAN23	-2 Days =	20 JAN 2023	0 SAT	0	
22JAN23	-3 Days =	19 JAN 2023	0 FRI	0	
22JAN23	-4 Days =	18 JAN 2023	0 THU	0	
22JAN23	-5 Days =	17 JAN 2023	0 WED	0	
22JAN23	-6 Days =	16 JAN 2023	0 TUE	0	
22JAN23	-7 Days =	15 JAN 2023	0 MON	0	
22JAN23	-8 Days =	14 JAN 2023	0 SUN	0	
22JAN23	-9 Days =	13 JAN 2023	0 SAT	0	
22JAN23	-10 Days =	12 JAN 2023	0 FRI	0	
22JAN23	-11 Days =	11 JAN 2023	0 THU	0	
22JAN23	-12 Days =	10 JAN 2023	0 WED	0	
22JAN23	-13 Days =	09 JAN 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)
22 JAN 2023	-NR-	2199	-NR-	2469
21 JAN 2023	1658	2325	-NR-	2574
20 JAN 2023	1853	2560	-NR-	2885
19 JAN 2023	3095	3967	2770	4174
18 JAN 2023	3382	3724	3577	5504
17 JAN 2023	4536	5082	3505	5262
16 JAN 2023	4077	4148	3567	3836
15 JAN 2023	1957	2564	2333	2515
14 JAN 2023	2537	2999	1745	3136
13 JAN 2023	3480	3674	2894	4470
12 JAN 2023	4276	4651	4011	5105
11 JAN 2023	4599	4741	4417	5070
10 JAN 2023	3261	3347	3113	4103
09 JAN 2023	13431	2537	2313	3116

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)
22 JAN 2023	5	1061	19	196	440
21 JAN 2023	-2	1684	541	130	459
20 JAN 2023	16	1942	1014	395	361
19 JAN 2023	12	1503	909	248	364
18 JAN 2023	15	1523	702	528	331
17 JAN 2023	15	1237	387	543	269
16 JAN 2023	9	1290	475	441	102
15 JAN 2023	22	1326	354	419	-9
14 JAN 2023	20	1458	566	104	280
13 JAN 2023	16	1446	203	367	403
12 JAN 2023	15	1456	763	121	270
11 JAN 2023	8	1760	929	580	307
10 JAN 2023	11	2080	548	275	273
09 JAN 2023	13	1390	0	260	17

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
22 JAN 2023	692	-NR-	1095
21 JAN 2023	14	-NR-	45
20 JAN 2023	14	-NR-	45
19 JAN 2023	7	-NR-	45
18 JAN 2023	7	-NR-	33
17 JAN 2023	-NR-	-NR-	33
16 JAN 2023	-NR-	-NR-	33
15 JAN 2023	-NR-	-NR-	47
14 JAN 2023	-NR-	-NR-	23
13 JAN 2023	12	-NR-	19
12 JAN 2023	13	-NR-	37
11 JAN 2023	5	-NR-	29
10 JAN 2023	7	-NR-	34
09 JAN 2023	5	-NR-	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

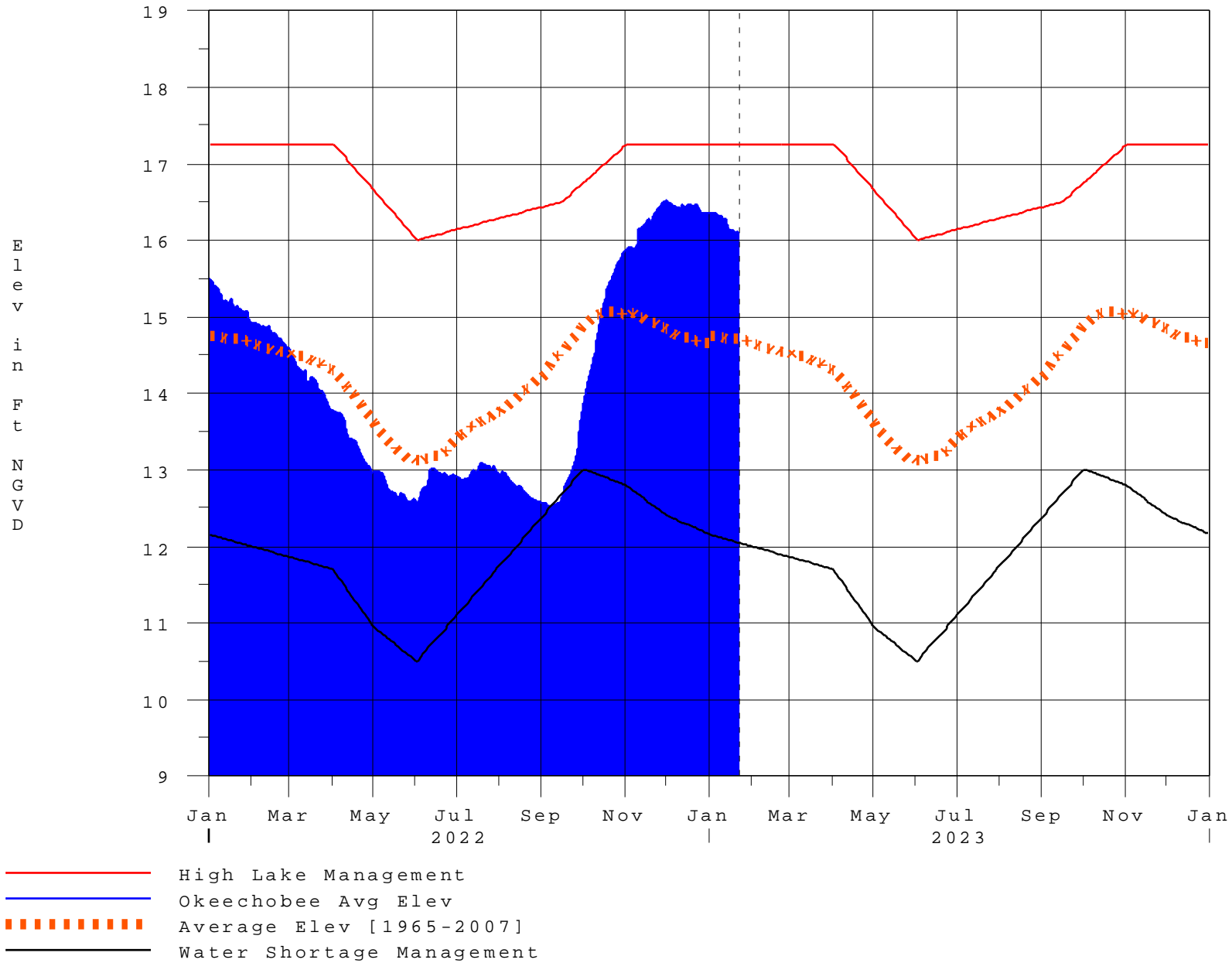
* On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average.
On 14 Mar 2001, due to the isolation of various gages within the standard 10 stations, the average of the interior 4 station gages was used as the Lake Okeechobee Elevation.
On 05 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

Lake Okeechobee

23JAN23 07:45:26



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**