

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 12/11/2023 (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 (Dec-May)	N/A	N/A	0.79	Normal	1.41	Normal	1.58	Wet
Multi Seasonal (Dec-Oct)	N/A	N/A	3.25	Wet	4.16	Wet	5.43	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:

-870 cfs 14-day running average for Lake Okeechobee Net Inflow through 12/11/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-0.88 for Palmer Drought Index on 12/9/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 12/11/2023:

Lake Okeechobee Stage: **15.89 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	14.34	← 15.89 ft
Base Flow sub-band		12.69	
Beneficial Use sub-band		12.32	
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 12/11/2023 (ENSO Condition- El Niño):

Status for week ending 12/11/2023:

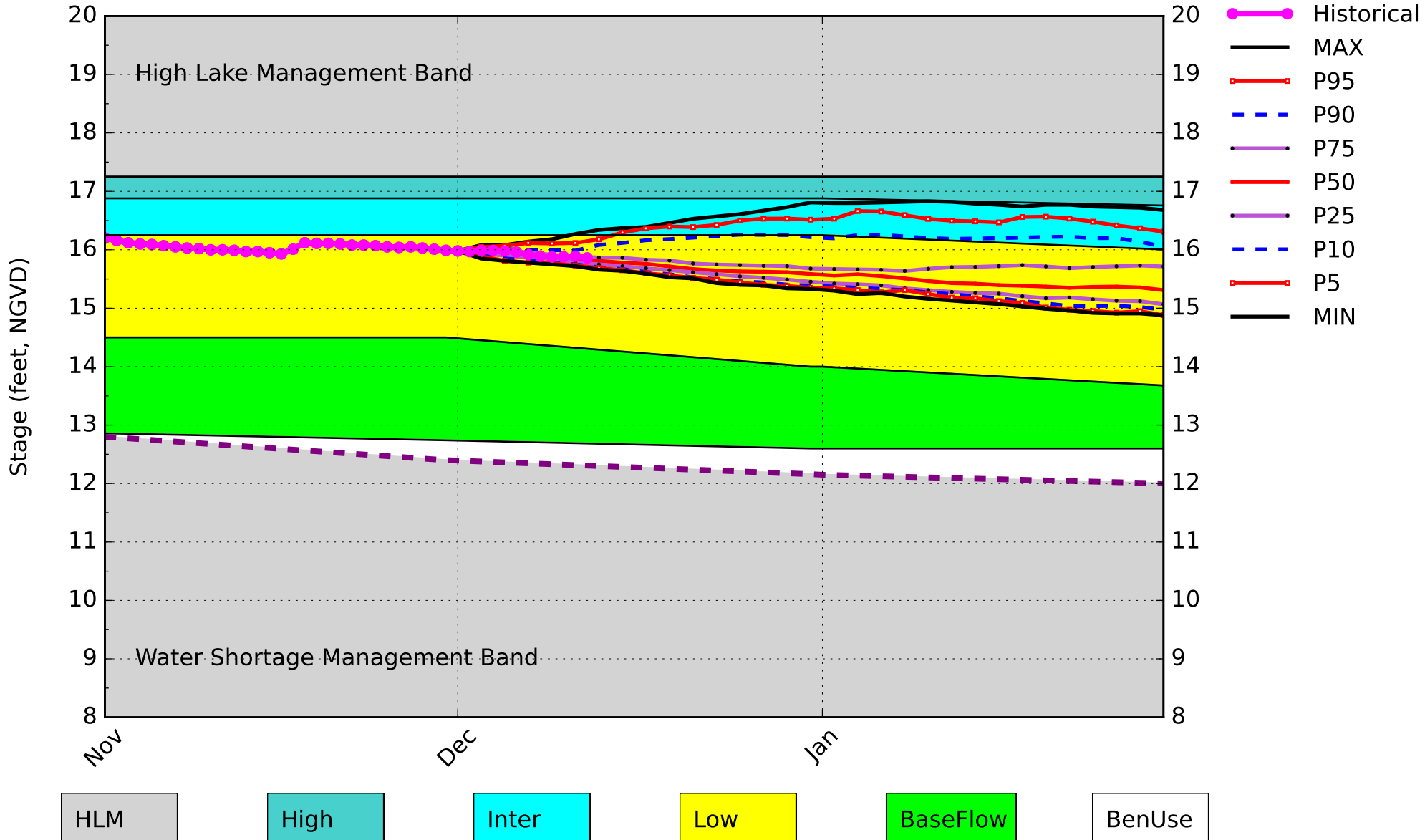
Water Supply Risk Evaluation

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	-0.88 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.41 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	4.16 ft	L
	ENSO Forecast	Wet	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T, and 1-9)	Above Line 1 (17.22 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.10 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.72 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.

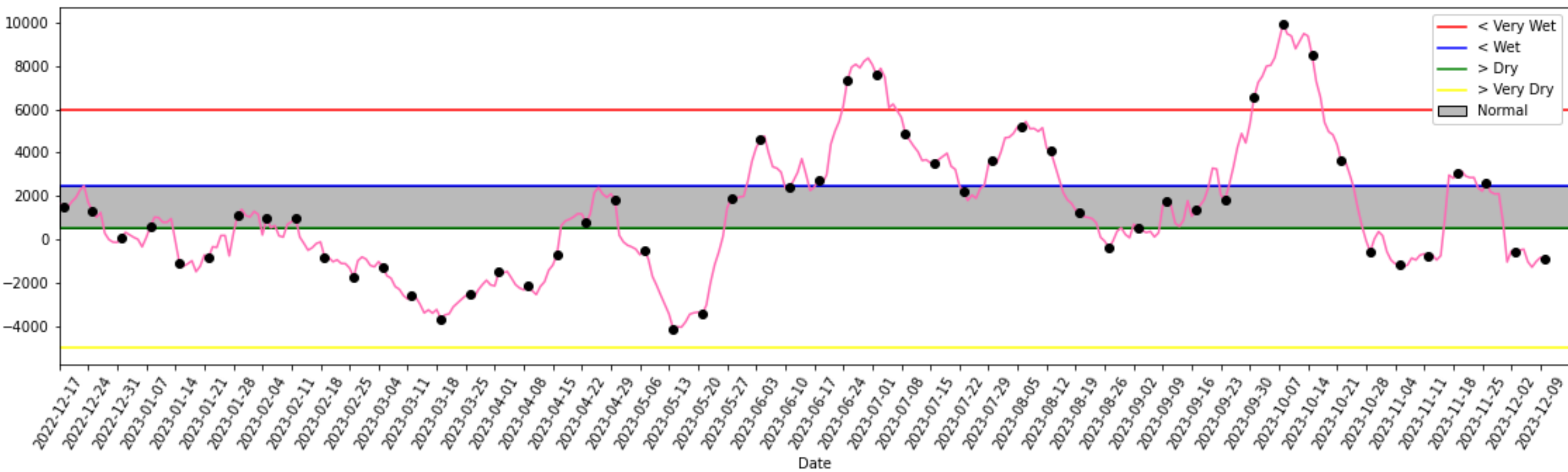
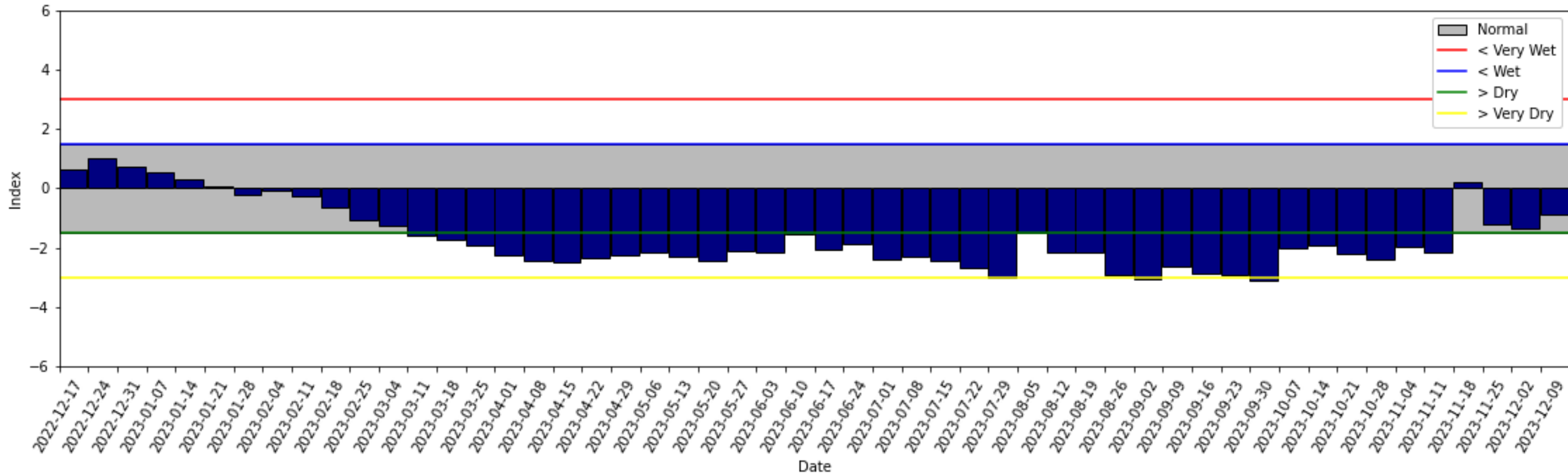
Lake Okeechobee SFWMM Decenter 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of December 10 2023



2008 LORS

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

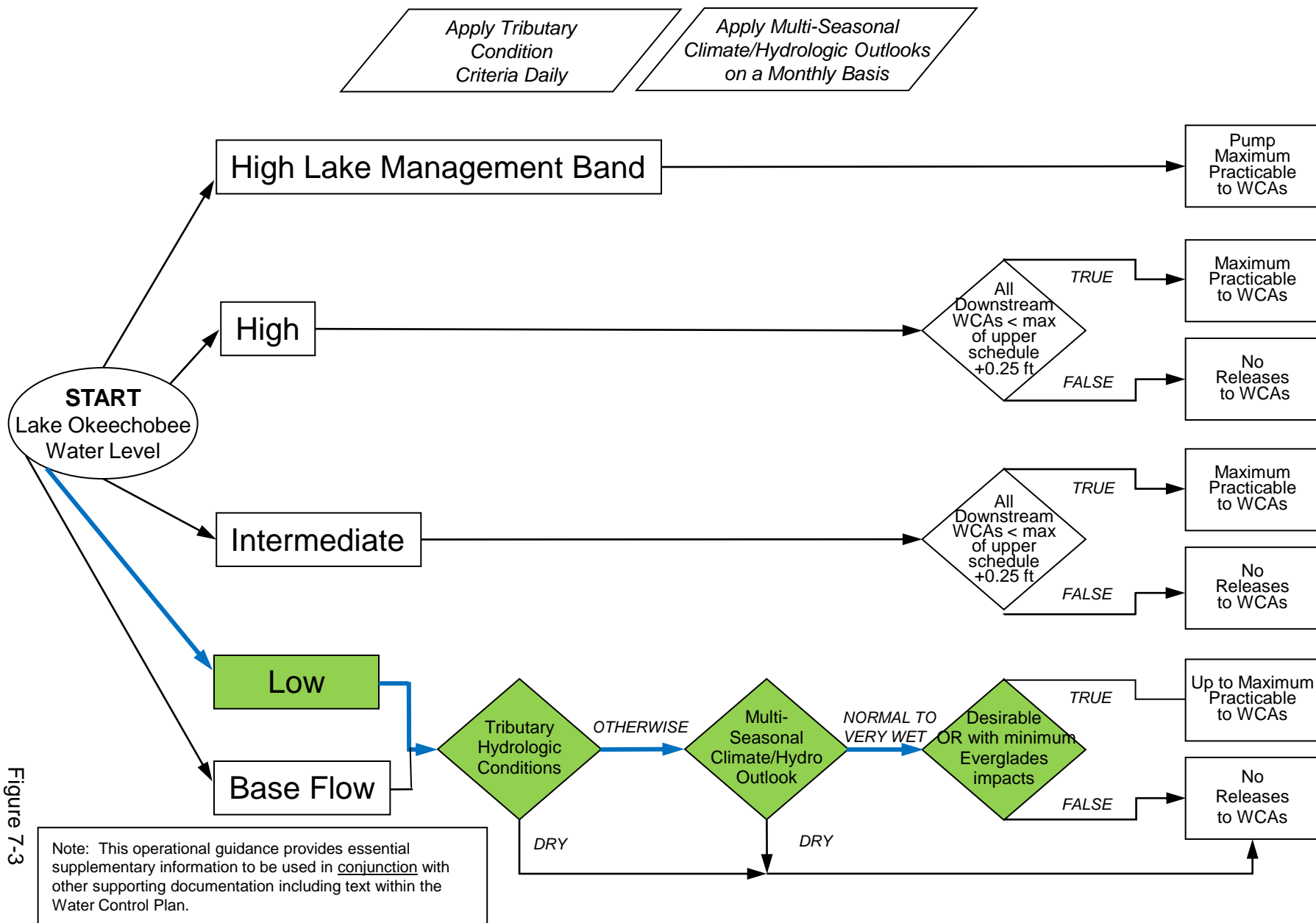


Figure 7-3

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

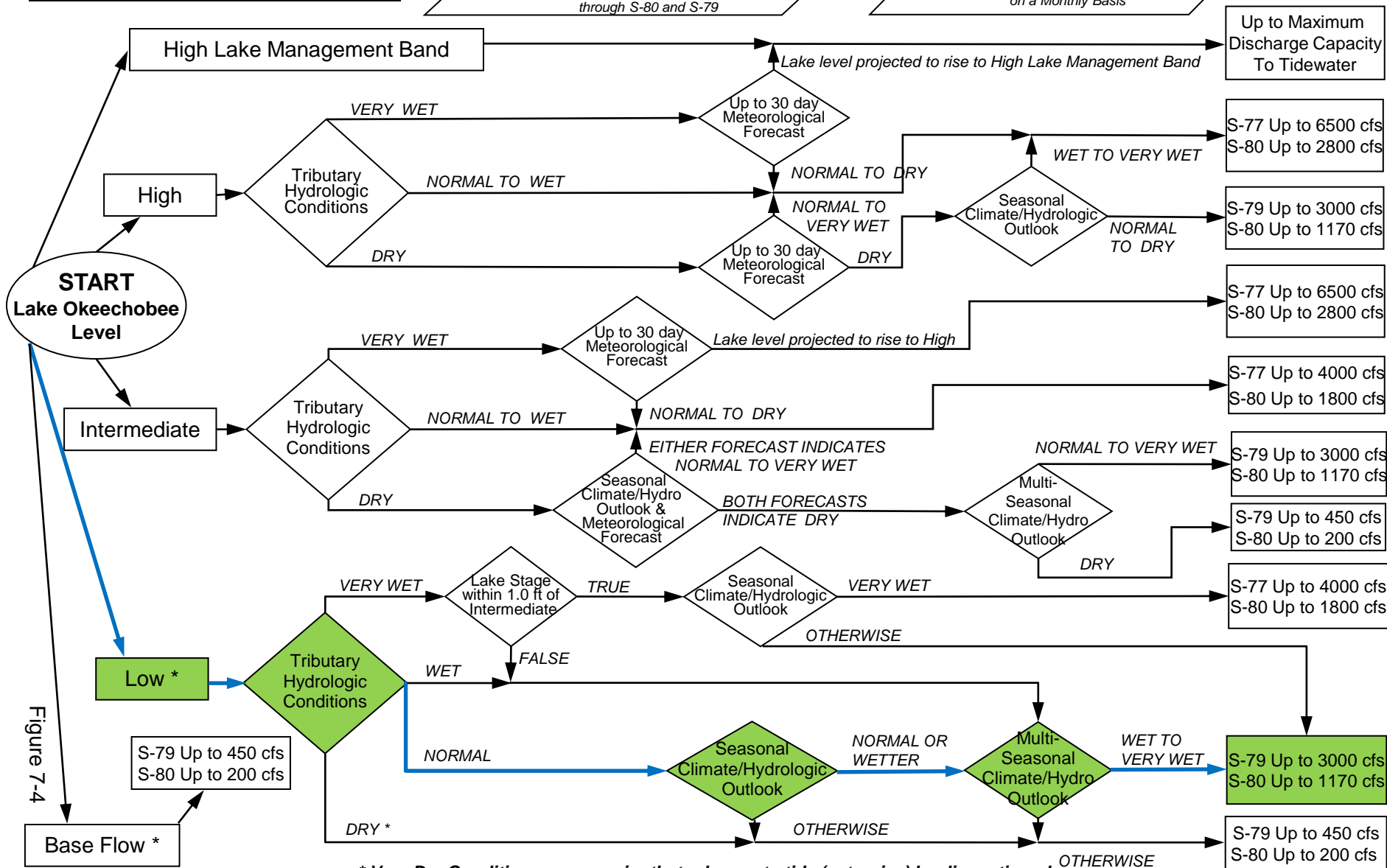
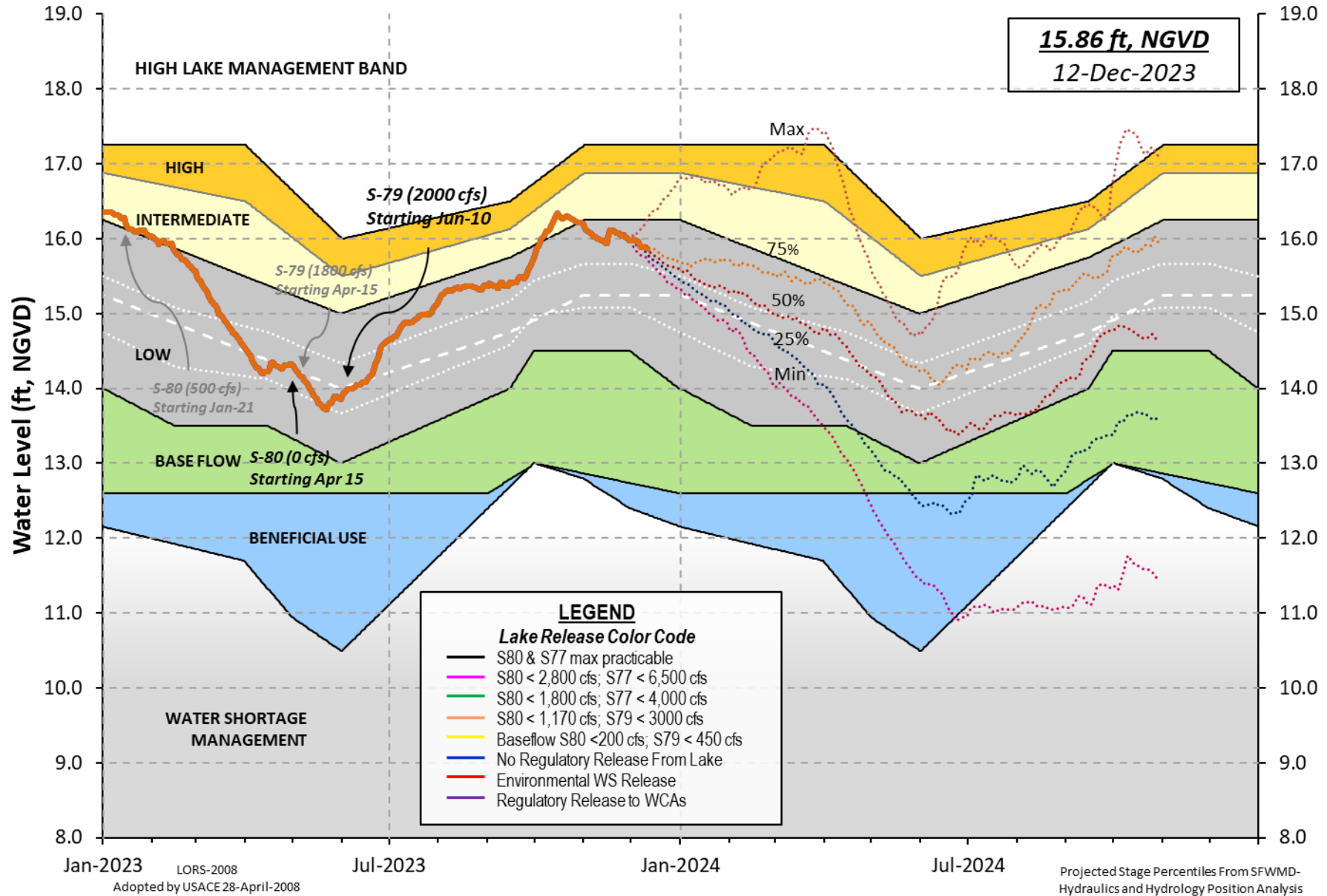


Figure 7-4

Lake Okeechobee Water Level History and Projected Stages



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

Data Ending 2400 hours 10 DEC 2023

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	15.89	16.42	15.82 (Official Elv)
Bottom of High Lake Mngmt=	17.25	Top of Water Short Mngmt=	12.32
Currently in Operational Management Band			
Simulated Average LORS2008 [1965-2000]	13.68		
Difference from Average LORS2008	2.21		
10DEC (1965-2007) Period of Record Average	14.75		
Difference from POR Average	1.14		

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.83'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 8.03'
 Bridge Clearance = 49.38'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.90	15.87	15.80	-NR-	16.10	15.91	15.88	15.81

*Combination Okeechobee Avg-Daily Lake Average = 15.89
 (*See Note)

Okeechobee Inflows (cfs):

S65E	788	S65EX1	0	Fisheating Cr	14
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:	802				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	985
S127 Culverts	0	S351	76	S308	-NR-
S129 Culverts	0	S352	52		
S131 Culverts	0	L8 Canal Pt	101		
Total Outflows:	No Report Due To Missing S77 or S308 Discharge Data				

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

Okeechobee Pan Evaporation (inches):

S77	0.18	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 2168 cfs or 4300 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	15.92	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	18.45	15.91	0	0.0	0.0	0.0					
S135 Pumps:	13.54	15.90	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.02	15.74	788	0.4	0.5	0.5	0.4	0.4	0.4		
S65EX1:	21.02	15.74	0								
S127 Pumps:	13.53	15.82	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.02	15.77	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	13.03	-NR-	0	0	0						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		28.65	14								
nr Lakeport											
S282	15.72	15.63		0.0	0.0	0.1					
South Shore											
S4 Pumps:	12.08	-NR-	0	0	0	0					(cfs)
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	15.58		3								
S3 Pumps:	10.43	15.63	0	0	0	0					(cfs)
S354:	15.63	10.43	0	0.0	0.0						
S2 Pumps:	10.52	15.61	0	0	0	0	0				(cfs)
S351:	15.61	10.52	76	0.1	0.0	0.1					
S352:	15.98	10.24	52	0.1	0.1						
S271:	16.08	14.42		0.0	0.0	0.0	0.9				
L8 Canal PT		14.14	101								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.52	15.61	76	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.24	15.98	52	-NR-	-NR-	-NR-	-NR-				
S354:	10.43	15.63	0	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	13.15	12.85		2.0	2.5						
S47D:	12.89	11.23	39	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	15.12	11.08	980	0.0	2.5	2.5	0.0				
Flow Due to Lockages+:											
			5								

S78:

Spillway and Sector Flow:
 11.07 3.06 972 1.5 0.0 2.5 0.0
 Flow Due to Lockages+: 11

S79:
 Spillway and Sector Flow:
 3.13 2.69 1540 0.0 0.0 2.0 2.0 2.0 2.0 2.0 0.0
 Flow Due to Lockages+: 5
 Percent of flow from S77 64%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:
 Spillway and Sector Preferred Flow:
 15.88 14.12 0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: -NR-

S153: 18.89 13.95 0 0.0 0.0

S80:
 Spillway and Sector Flow:
 14.12 0.73 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 17
 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:	0.03	0.03	0.03	300	4
S78:	1.80	1.80	1.80	283	7
S79:	-0.48	-0.48	-1.12	257	2
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	138	8
S80:	0.04	0.08	0.08	196	3
Okeechobee Average (Sites S78, S79 and S80 not included)	0.02	0.00	0.00		

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations 10 DEC 2023 15.89 Difference from 10DEC23
 10DEC23 -1 Day = 09 DEC 2023 15.88 -0.01

10DEC23	-2 Days =	08 DEC 2023	15.88	-0.01
10DEC23	-3 Days =	07 DEC 2023	15.89	0.00
10DEC23	-4 Days =	06 DEC 2023	15.92	0.03
10DEC23	-5 Days =	05 DEC 2023	15.96	0.07
10DEC23	-6 Days =	04 DEC 2023	15.98	0.09
10DEC23	-7 Days =	03 DEC 2023	15.99	0.10
10DEC23	-30 Days =	10 NOV 2023	16.00	0.11
10DEC23	-1 Year =	10 DEC 2022	16.42	0.53
10DEC23	-2 Year =	10 DEC 2021	15.82	-0.07

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
10DEC23	Today =	10 DEC 2023	-862 MON	3277
10DEC23	-1 Day =	09 DEC 2023	-830 SUN	1361
10DEC23	-2 Days =	08 DEC 2023	-1014 SAT	-86
10DEC23	-3 Days =	07 DEC 2023	-1272 FRI	-4534
10DEC23	-4 Days =	06 DEC 2023	-1022 THU	-6544
10DEC23	-5 Days =	05 DEC 2023	-446 WED	-1971
10DEC23	-6 Days =	04 DEC 2023	-492 TUE	16
10DEC23	-7 Days =	03 DEC 2023	-537 MON	1790
10DEC23	-8 Days =	02 DEC 2023	-531 SUN	5460
10DEC23	-9 Days =	01 DEC 2023	-1030 SAT	-822
10DEC23	-10 Days =	30 NOV 2023	827 FRI	-547
10DEC23	-11 Days =	29 NOV 2023	2115 THU	-3044
10DEC23	-12 Days =	28 NOV 2023	2106 WED	-3378
10DEC23	-13 Days =	27 NOV 2023	2197 TUE	-3044

S65E

		Average Flow over previous 14 days		Avg-Daily Flow
10DEC23	Today=	10 DEC 2023	915 MON	894
10DEC23	-1 Day =	09 DEC 2023	918 SUN	951
10DEC23	-2 Days =	08 DEC 2023	921 SAT	820
10DEC23	-3 Days =	07 DEC 2023	935 FRI	835
10DEC23	-4 Days =	06 DEC 2023	949 THU	928
10DEC23	-5 Days =	05 DEC 2023	962 WED	936
10DEC23	-6 Days =	04 DEC 2023	935 TUE	960
10DEC23	-7 Days =	03 DEC 2023	866 MON	950
10DEC23	-8 Days =	02 DEC 2023	798 SUN	878
10DEC23	-9 Days =	01 DEC 2023	736 SAT	889
10DEC23	-10 Days =	30 NOV 2023	672 FRI	928
10DEC23	-11 Days =	29 NOV 2023	606 THU	951
10DEC23	-12 Days =	28 NOV 2023	538 WED	962
10DEC23	-13 Days =	27 NOV 2023	469 TUE	926

S65EX1

		Average Flow over previous 14 days		Avg-Daily Flow
10DEC23	Today=	10 DEC 2023	0 MON	0
10DEC23	-1 Day =	09 DEC 2023	0 SUN	0
10DEC23	-2 Days =	08 DEC 2023	0 SAT	0
10DEC23	-3 Days =	07 DEC 2023	0 FRI	0
10DEC23	-4 Days =	06 DEC 2023	0 THU	0
10DEC23	-5 Days =	05 DEC 2023	0 WED	0
10DEC23	-6 Days =	04 DEC 2023	39 TUE	0
10DEC23	-7 Days =	03 DEC 2023	135 MON	0
10DEC23	-8 Days =	02 DEC 2023	226 SUN	0
10DEC23	-9 Days =	01 DEC 2023	323 SAT	0
10DEC23	-10 Days =	30 NOV 2023	431 FRI	0
10DEC23	-11 Days =	29 NOV 2023	539 THU	0
10DEC23	-12 Days =	28 NOV 2023	646 WED	0
10DEC23	-13 Days =	27 NOV 2023	755 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)
10 DEC 2023	1701	1944	2000	3024
09 DEC 2023	1722	2131	1836	3837
08 DEC 2023	2834	3307	2810	2625
07 DEC 2023	2480	2932	2577	3131
06 DEC 2023	3097	3269	2990	4579
05 DEC 2023	4151	4315	3909	5641
04 DEC 2023	3308	3601	3135	5042
03 DEC 2023	1989	2450	2520	3562
02 DEC 2023	1447	1815	1555	2485
01 DEC 2023	2224	2359	1646	2690
30 NOV 2023	2744	2873	2535	3100
29 NOV 2023	1703	2105	2012	2791
28 NOV 2023	3834	2119	1124	1094
27 NOV 2023	2426	2917	2896	4873

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)
10 DEC 2023	7	152	103	0	200
09 DEC 2023	10	439	128	0	230
08 DEC 2023	11	536	285	0	234
07 DEC 2023	15	641	333	0	231
06 DEC 2023	15	572	243	136	231
05 DEC 2023	18	339	37	0	224
04 DEC 2023	16	417	221	86	223
03 DEC 2023	19	547	422	131	217
02 DEC 2023	10	239	164	11	220
01 DEC 2023	12	0	0	0	218
30 NOV 2023	16	0	127	0	227
29 NOV 2023	18	0	314	0	223
28 NOV 2023	19	0	180	0	224
27 NOV 2023	13	0	44	0	213

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
10 DEC 2023	-NR-	-NR-	34
09 DEC 2023	7	-NR-	44
08 DEC 2023	8	-NR-	32
07 DEC 2023	7	-NR-	25
06 DEC 2023	6	-NR-	25
05 DEC 2023	15	-NR-	58
04 DEC 2023	7	-NR-	44
03 DEC 2023	9	-NR-	44
02 DEC 2023	17	-NR-	40
01 DEC 2023	306	-NR-	32
30 NOV 2023	226	-NR-	35
29 NOV 2023	372	-NR-	39
28 NOV 2023	7	-NR-	39
27 NOV 2023	4	-NR-	29

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

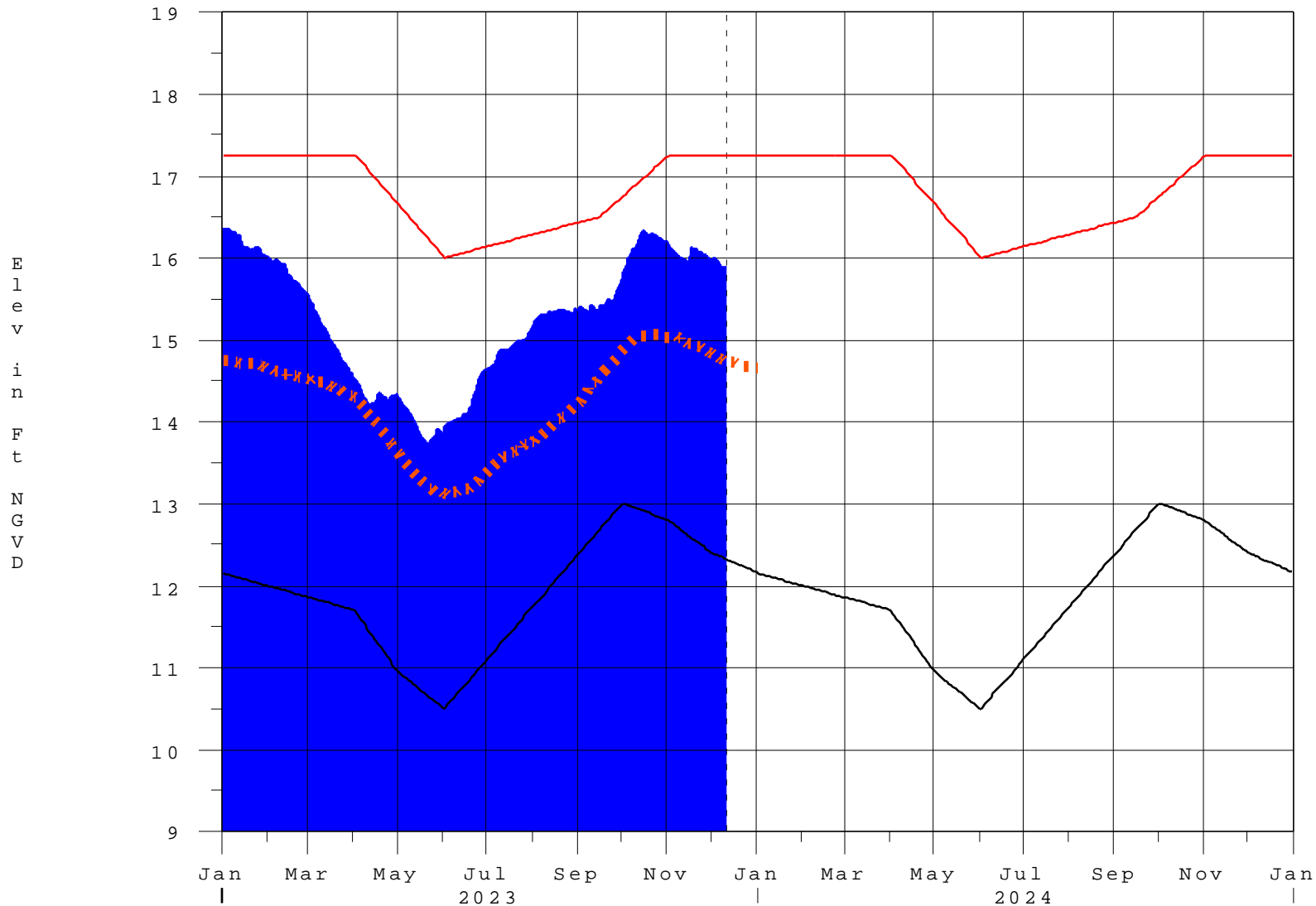
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

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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 11DEC2023 @ 13:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

11DEC23 13:17:16



- 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