

# Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 04/24/2023 (ENSO Condition: Neutral)

## 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 Neutral years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with Neutral 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 Neutral ENSO Years**		Sub-sampling of AMO Warm + Neutral ENSO Years***	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (May-Oct)	N/A	N/A	1.81	Wet	2.11	Very Wet	2.85	Very Wet
Multi Seasonal (May-Apr)	N/A	N/A	2.37	Normal	2.69	Wet	3.65	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:**

**776 cfs** 14-day running average for Lake Okeechobee Net Inflow through 04/23/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Near normal.

**-2.35** for Palmer Drought Index on 04/22/2023.

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

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

## **LORS2008 Classification Tables:**

### **Lake Okeechobee Stage on 04/24/2023:**

Lake Okeechobee Stage: **14.27 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.80	
Operational Band	High sub-band	16.14	
	Intermediate sub-band	15.31	
	Low sub-band	13.41	← 14.27 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.12	
Water Shortage Management Band			

**Part C of LORS2008: Discharge to WCAs**

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 04/24/2023 (ENSO Condition- Neutral Watch):**

Status for week ending 04/24/2023:

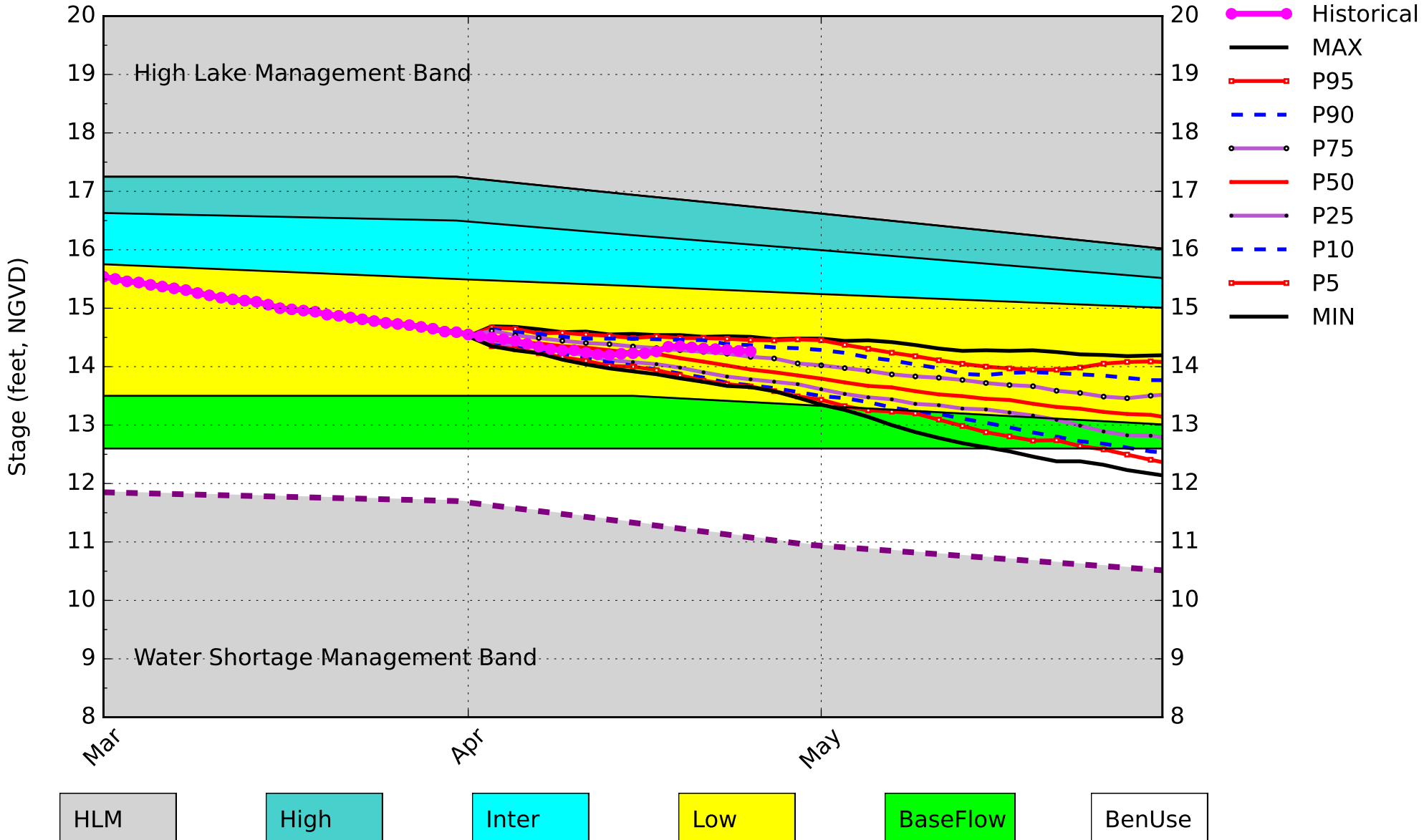
**Water Supply Risk Evaluation**

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	-2.35 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	2.11 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.69 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-8C)	Above Line 1 (16.30 ft)	L
	WCA 2A: Site S-11B	Above Line 1 (12.10 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.21 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.

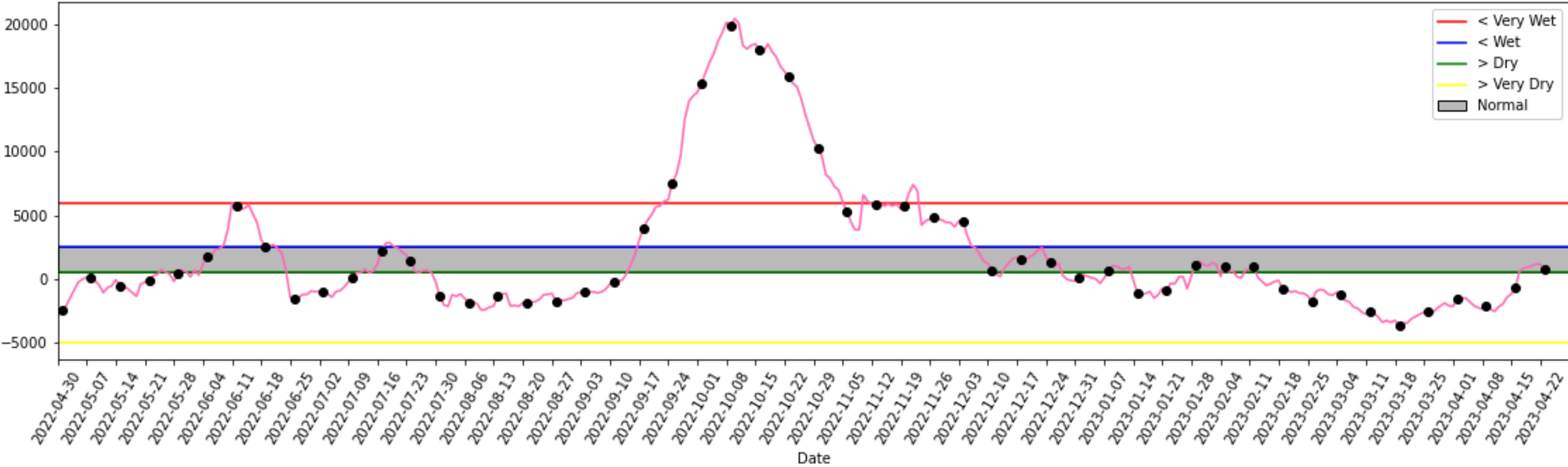
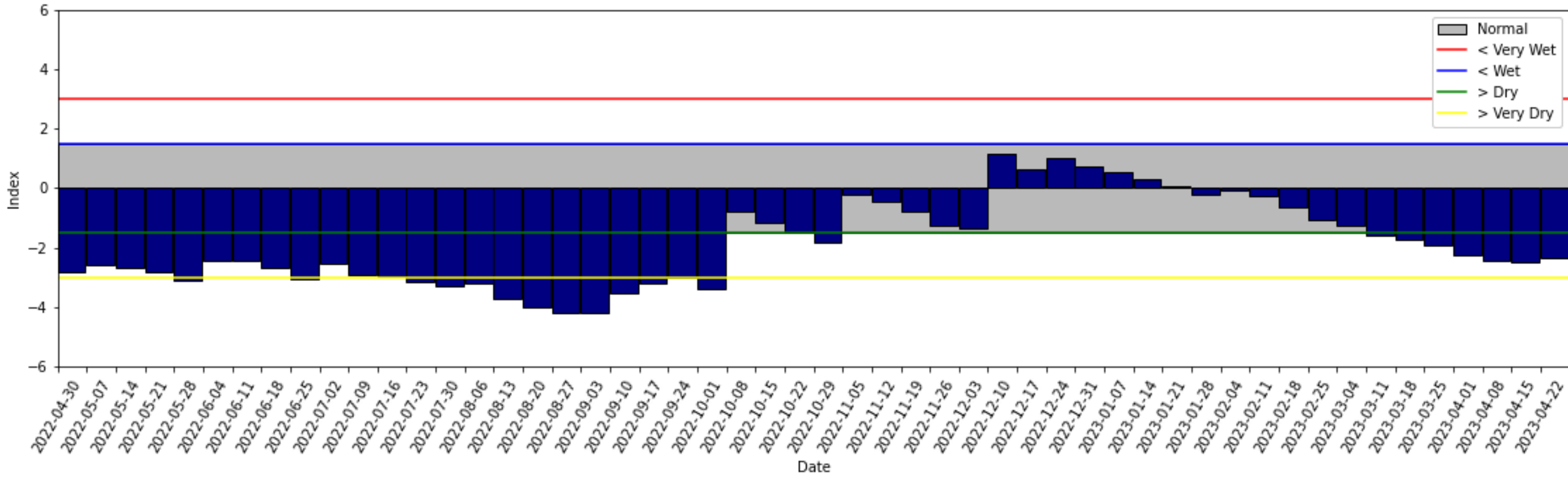
# Lake Okeechobee SFWMM April 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of April 23 2023



# 2008 LORS

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

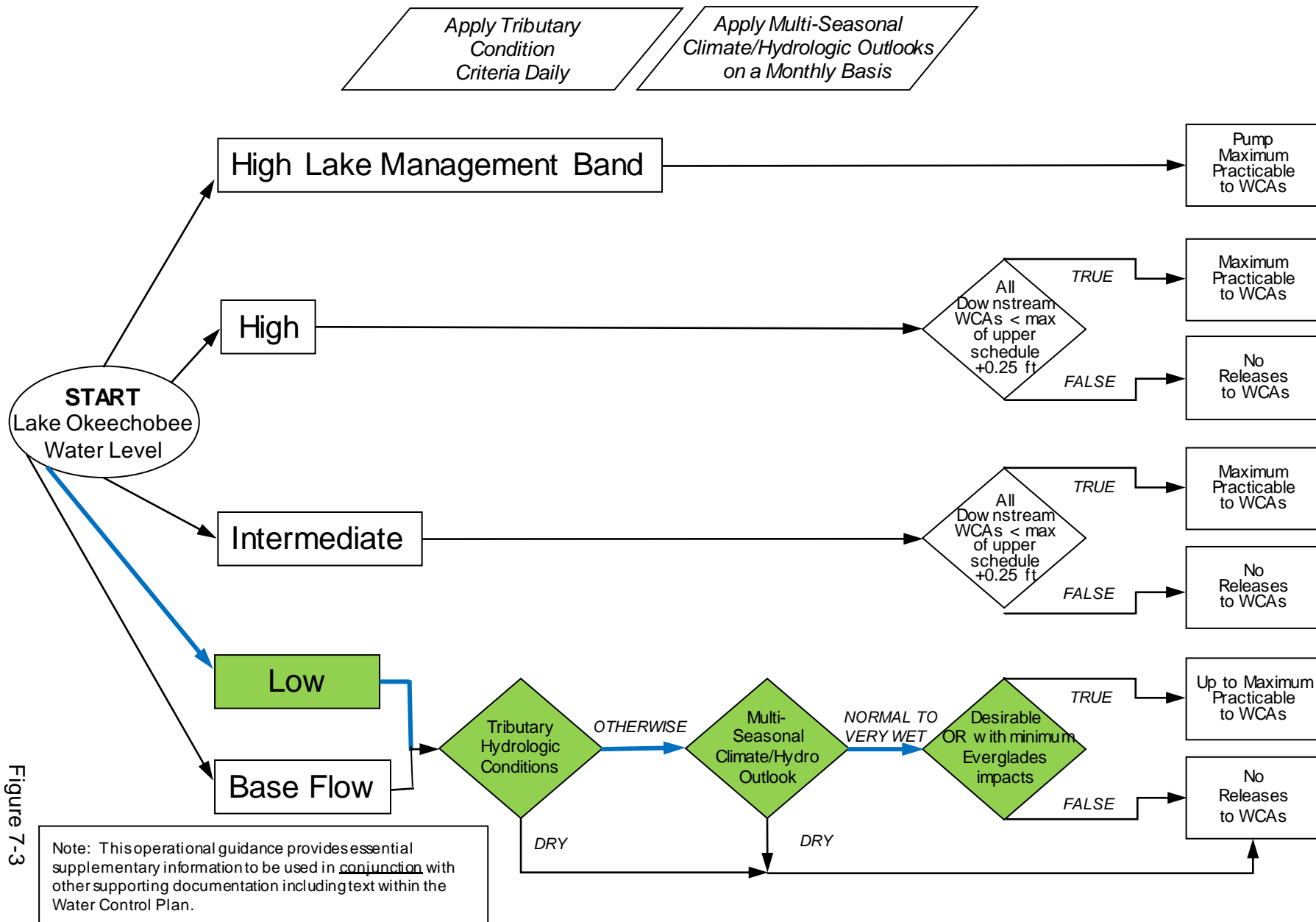


Figure 7-3

# 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

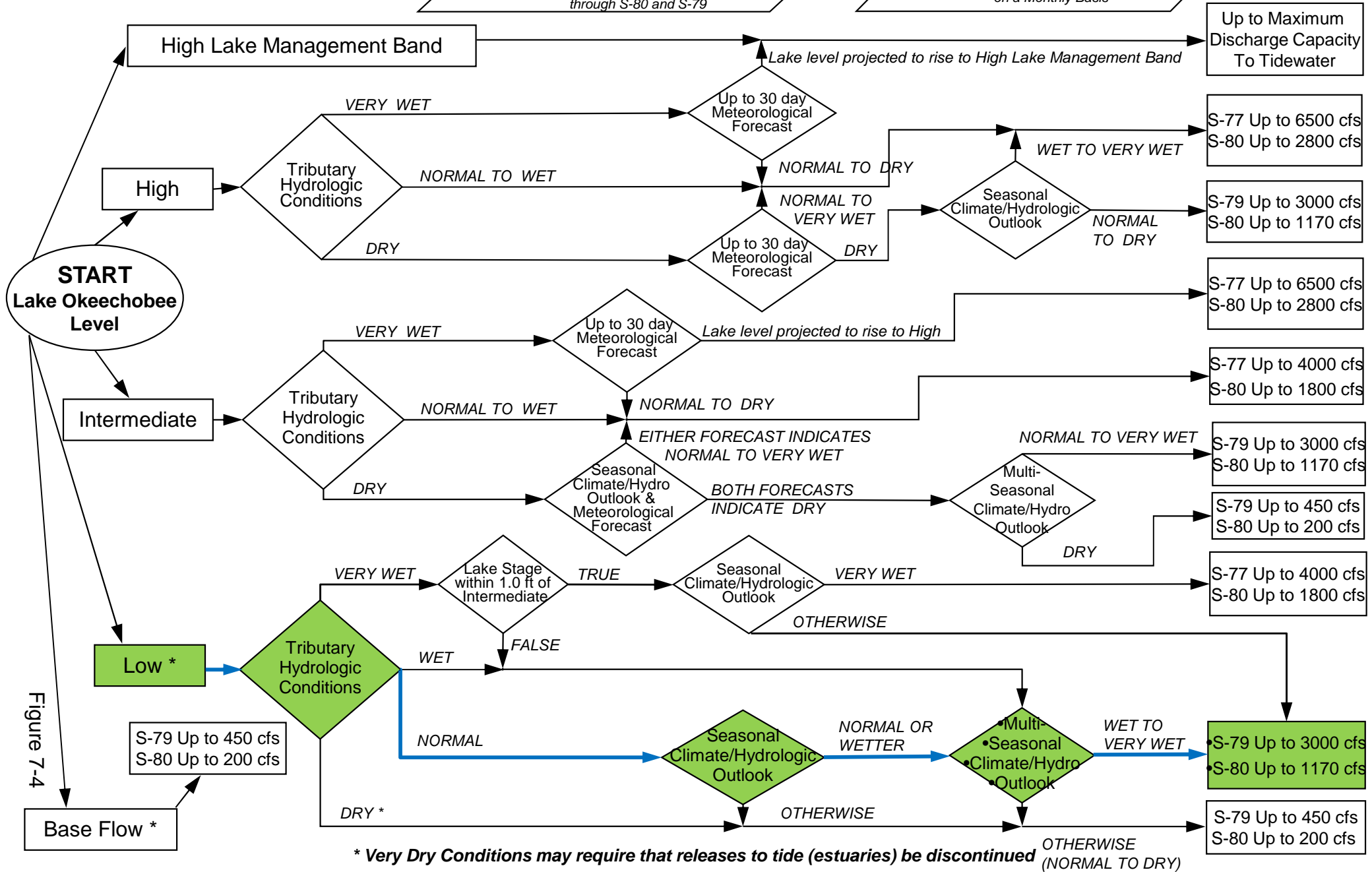
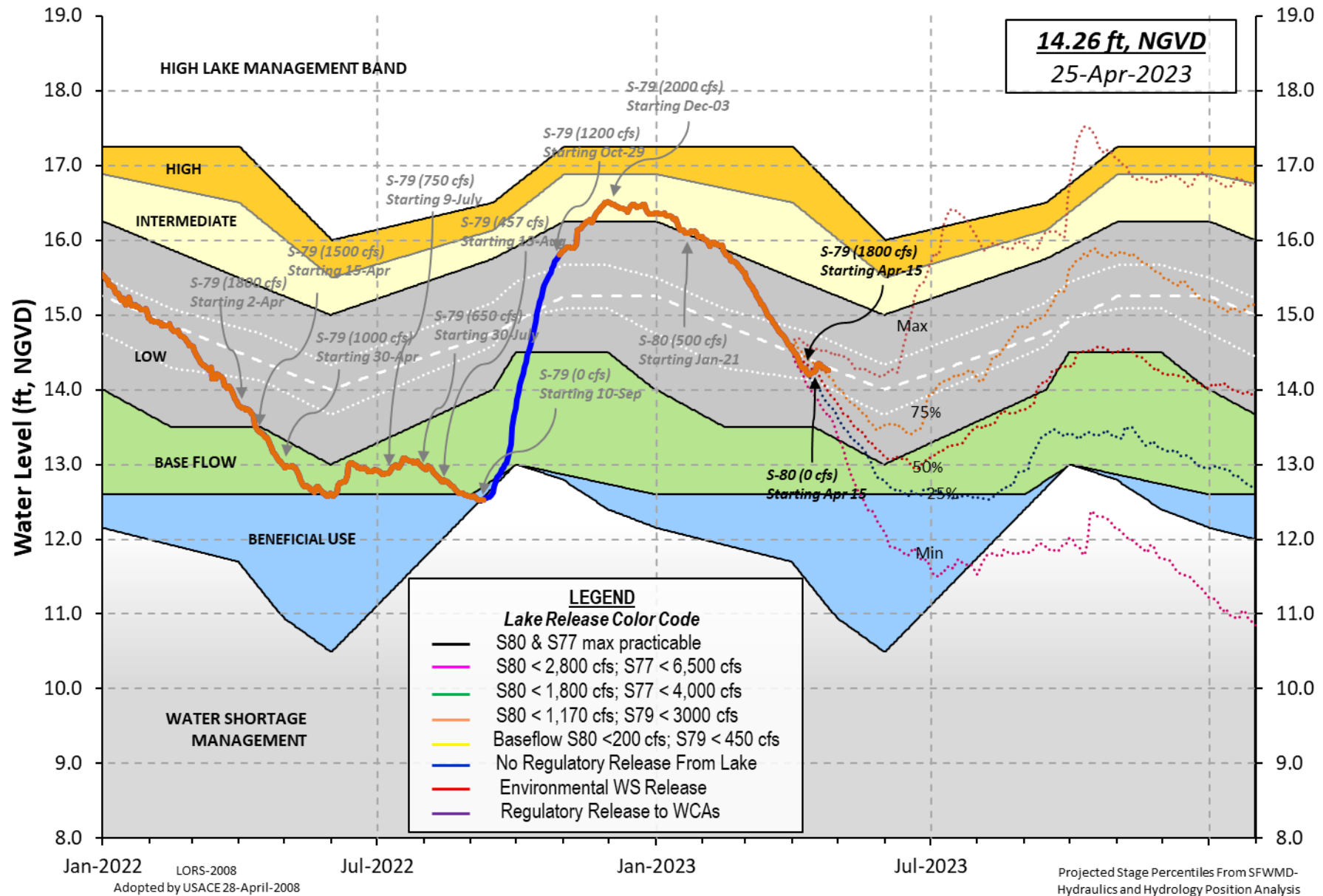


Figure 7-4

\* Very Dry Conditions may require that releases to tide (estuaries) be discontinued (NORMAL TO DRY)



# Lake Okeechobee Water Level History and Projected Stages





is equal to -NR-  
 Lake Okeechobee (Change in Storage) Flow is -4235 cfs or -8400 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											
<b>North East Shore</b>											
S133 Pumps:	13.52	14.08	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	19.12	14.08	0	0.0	0.0	0.0					
S135 Pumps:	13.55	14.04	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
<b>North West Shore</b>											
S65E:	21.04	14.02	222	0.4	-0.0	0.0	0.0	0.2	0.0		
S65EX1:	21.04	14.02	0								
S127 Pumps:	13.19	14.14	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.12	14.28	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	12.83	-NR-	0	0	0						(cfs)
S131 Culvert:			0								
<b>Fisheating Creek</b>											
nr Palmdale		27.46	0								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
<b>South Shore</b>											
S4 Pumps:	11.76	14.51	0	0	0	0					(cfs)
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	14.44		12								
S3 Pumps:	11.11	14.38	0	0	0	0					(cfs)
S354:	14.38	11.11	0	0.0	0.0						
S2 Pumps:	10.89	14.39	0	0	0	0	0				(cfs)
S351:	14.39	10.89	0	0.0	0.0	0.0					
S352:	14.33	9.90	0	0.0	0.0						
C10A:	-NR-	-NR-		-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
L8 Canal PT		14.14	119								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.89	14.39	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	9.90	14.33	0	-NR-	-NR-	-NR-	-NR-				
S354:	11.11	14.38	0	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	14.29	12.26		0.8	0.8						
S47D:	12.27	10.92	0	0.0							
S77:											
Spillway and Sector Preferred Flow:	14.26	10.85	1065	0.0	2.5	2.5	0.5				
Flow Due to Lockages+:			3								

S78:

Spillway and Sector Flow:  
 10.80 3.11 1456 1.0 0.0 2.5 1.5  
 Flow Due to Lockages+: 11

S79:

Spillway and Sector Flow:  
 3.29 1.25 2136 0.0 0.0 2.0 2.0 2.0 2.0 1.0 0.0  
 Flow Due to Lockages+: 8  
 Percent of flow from S77 50%  
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:  
 14.03 14.09 0 0.0 0.0 0.0 0.0  
 Flow Due to Lockages+: 0

S153: 18.62 13.90 43 0.0 0.0

S80:

Spillway and Sector Flow:  
 14.13 1.36 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
 Flow Due to Lockages+: 23  
 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:	-NR-	0.00	0.00	348	2
S78:	-NR-	0.00	0.00	328	1
S79:	-NR-	0.00	0.00	7	3
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	67	10
S80:	-NR-	0.00	0.00	76	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 23 APR 2023 14.27 Difference from 23APR23  
 23APR23 -1 Day = 22 APR 2023 14.29 0.02

23APR23	-2 Days =	21 APR 2023	14.30	0.03
23APR23	-3 Days =	20 APR 2023	14.31	0.04
23APR23	-4 Days =	19 APR 2023	14.33	0.06
23APR23	-5 Days =	18 APR 2023	14.35	0.08
23APR23	-6 Days =	17 APR 2023	14.34	0.07
23APR23	-7 Days =	16 APR 2023	14.26	-0.01
23APR23	-30 Days =	24 MAR 2023	14.75	0.48
23APR23	-1 Year =	23 APR 2022	13.15	-1.12
23APR23	-2 Year =	23 APR 2021	14.19	-0.08

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
23APR23	Today =	23 APR 2023	780 MON	-3056
23APR23	-1 Day =	22 APR 2023	1172 SUN	-1272
23APR23	-2 Days =	21 APR 2023	1187 SAT	-1691
23APR23	-3 Days =	20 APR 2023	1039 FRI	-4018
23APR23	-4 Days =	19 APR 2023	930 THU	-4235
23APR23	-5 Days =	18 APR 2023	846 WED	2118
23APR23	-6 Days =	17 APR 2023	625 TUE	17345
23APR23	-7 Days =	16 APR 2023	-685 MON	7310
23APR23	-8 Days =	15 APR 2023	-1182 SUN	686
23APR23	-9 Days =	14 APR 2023	-1420 SAT	2769
23APR23	-10 Days =	13 APR 2023	-1953 FRI	5302
23APR23	-11 Days =	12 APR 2023	-2167 THU	-355
23APR23	-12 Days =	11 APR 2023	-2541 WED	-4175
23APR23	-13 Days =	10 APR 2023	-2363 TUE	-5811

S65E

Average Flow over previous 14 days				Avg-Daily Flow
23APR23	Today=	23 APR 2023	321 MON	256
23APR23	-1 Day =	22 APR 2023	329 SUN	241
23APR23	-2 Days =	21 APR 2023	336 SAT	292
23APR23	-3 Days =	20 APR 2023	340 FRI	284
23APR23	-4 Days =	19 APR 2023	344 THU	354
23APR23	-5 Days =	18 APR 2023	345 WED	375
23APR23	-6 Days =	17 APR 2023	350 TUE	408
23APR23	-7 Days =	16 APR 2023	358 MON	302
23APR23	-8 Days =	15 APR 2023	376 SUN	388
23APR23	-9 Days =	14 APR 2023	391 SAT	386
23APR23	-10 Days =	13 APR 2023	400 FRI	392
23APR23	-11 Days =	12 APR 2023	423 THU	351
23APR23	-12 Days =	11 APR 2023	455 WED	309
23APR23	-13 Days =	10 APR 2023	476 TUE	150

S65EX1

Average Flow over previous 14 days				Avg-Daily Flow
23APR23	Today=	23 APR 2023	3 MON	0
23APR23	-1 Day =	22 APR 2023	3 SUN	0
23APR23	-2 Days =	21 APR 2023	3 SAT	0
23APR23	-3 Days =	20 APR 2023	3 FRI	0
23APR23	-4 Days =	19 APR 2023	3 THU	0
23APR23	-5 Days =	18 APR 2023	3 WED	47
23APR23	-6 Days =	17 APR 2023	0 TUE	0
23APR23	-7 Days =	16 APR 2023	0 MON	0
23APR23	-8 Days =	15 APR 2023	0 SUN	0
23APR23	-9 Days =	14 APR 2023	0 SAT	0
23APR23	-10 Days =	13 APR 2023	0 FRI	0
23APR23	-11 Days =	12 APR 2023	0 THU	0
23APR23	-12 Days =	11 APR 2023	0 WED	0
23APR23	-13 Days =	10 APR 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)
23 APR 2023	2148	2572	2927	4261
22 APR 2023	1431	2015	2279	2721
21 APR 2023	718	1071	1722	2322
20 APR 2023	337	1604	2732	3141
19 APR 2023	9	1467	3587	4100
18 APR 2023	-NR-	540	3458	5663
17 APR 2023	705	1101	3447	4902
16 APR 2023	1798	2256	3175	3848
15 APR 2023	1183	1604	2314	3043
14 APR 2023	897	1266	1618	3196
13 APR 2023	915	1745	1906	2700
12 APR 2023	2265	2876	3164	3779
11 APR 2023	3908	4648	3684	5298
10 APR 2023	4522	4989	4333	5954

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)
23 APR 2023	24	0	0	0	237
22 APR 2023	-25	0	0	0	291
21 APR 2023	-165	0	0	0	177
20 APR 2023	-268	0	0	0	92
19 APR 2023	-363	0	0	0	-73
18 APR 2023	-387	0	0	0	-37
17 APR 2023	-214	0	0	0	78
16 APR 2023	-8	0	0	0	229
15 APR 2023	-16	0	0	0	176
14 APR 2023	-58	0	0	0	158
13 APR 2023	-63	0	0	0	148
12 APR 2023	-157	0	0	0	145
11 APR 2023	-210	0	0	0	140
10 APR 2023	58	0	0	0	300

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
23 APR 2023	1	-NR-	45
22 APR 2023	2	-NR-	333
21 APR 2023	-1	-NR-	638
20 APR 2023	-2	-NR-	34
19 APR 2023	-0	-NR-	529
18 APR 2023	-2	-NR-	1268
17 APR 2023	-1	-NR-	964
16 APR 2023	0	-NR-	485
15 APR 2023	-1	-NR-	524
14 APR 2023	-197	-NR-	712
13 APR 2023	440	-NR-	1045
12 APR 2023	32	-NR-	733
11 APR 2023	-179	-NR-	438
10 APR 2023	-753	-NR-	1044

\*\*\* 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

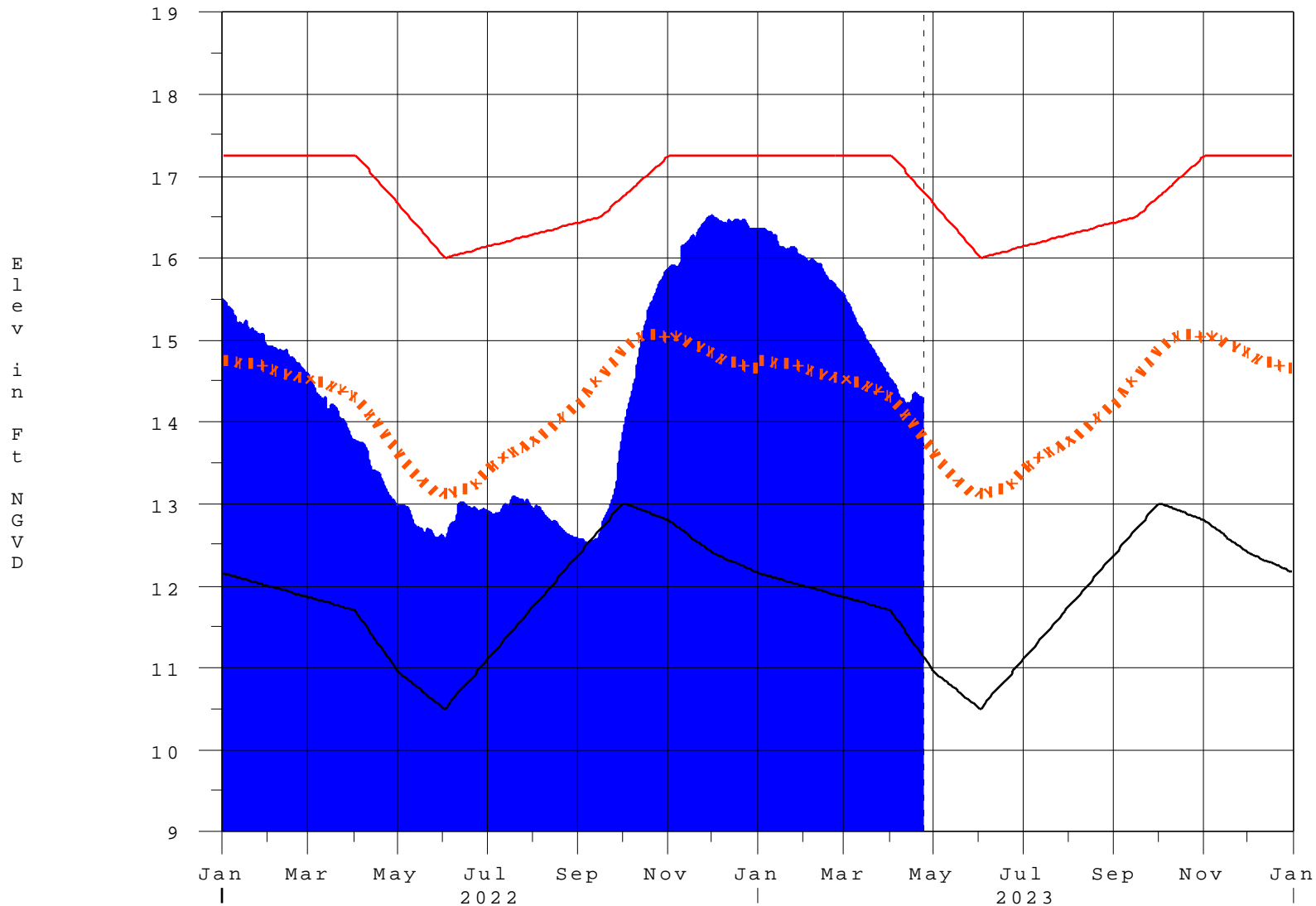
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- \* On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average.
  - On 14 Mar 2001, due to the isolation of various gages within the standard 10 stations, the average of the interior 4 station 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](http://www.sfwmd.gov)

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Report Generated 24APR2023 @ 08:45 \*\* Preliminary Data - Subject to Revision \*\*

# Lake Okeechobee

24APR23 09:00:24



- High Lake Management
- Okeechobee Avg Elev
- Average Elev [1965-2007]
- Water Shortage Management



# Classification Tables

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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 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\***

<b>Lake Net Inflow Prediction</b> <b>[million acre-feet]</b>	<b>Equivalent Depth**</b> <b>[feet]</b>	<b>Lake Okeechobee Net Inflow Seasonal Outlook</b>
> 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\*

<b>Lake Net Inflow Prediction</b> <b>[million acre-feet]</b>	<b>Equivalent Depth**</b> <b>[feet]</b>	<b>Lake Okeechobee</b> <b>Net Inflow</b> <b>Multi-Seasonal Outlook</b>
> 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\***

<b>6-15 Day Precipitation Outlook Categories</b>	<b>WSE Decision Tree Categories</b>
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