

# Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 09/12/2022 (ENSO Condition: La Niña)

## Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using 4 methods: Croley's method<sup>1</sup>, the SFWMD empirical method<sup>2</sup>, a sub-sampling of La Niña years<sup>3</sup> and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Niña ENSO years<sup>4</sup>. 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 <sup>1*</sup>		SFWMD Empirical Method <sup>2</sup>		Sub-sampling of La Niña ENSO Years <sup>3</sup>		Sub-sampling of AMO Warm + La Niña ENSO Years <sup>4</sup>	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Sep-Feb)	N/A	N/A	1.33	Normal	0.94	Normal	0.93	Normal
Multi Seasonal (Sep-Apr)	N/A	N/A	1.52	Normal	0.84	Dry	0.68	Dry

\*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 ENSO forecast used.

## ***Tributary Hydrologic Conditions Graph:***

**-244 cfs** 14-day running average for Lake Okeechobee Net Inflow through 09/12/2022. According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

**-3.52** for Palmer Drought Index on 09/10/2022. According to the classification in Tributary Hydrologic Conditions table, this condition is Very Dry.

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

## **LORS2008 Classification Tables:**

### **Lake Okeechobee Stage on 09/12/2022:**

Lake Okeechobee Stage: **12.55 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.48	
Operational Band	High sub-band	16.11	
	Intermediate sub-band	15.72	
	Low sub-band	13.96	
Base Flow sub-band		12.73	
Beneficial Use sub-band		12.61	
Water Shortage Management Band			← 12.55 ft

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

No releases to WCAs.

**Part D of LORS2008: Discharge to Tide**

No releases to estuaries.

**Lake Okeechobee Releases to the Caloosahatchee Estuary  
for 2008 LORS Baseflow & for Environmental Water Supply**

Guidance for Lake Okeechobee Releases to the Caloosahatchee Estuary indicates no S77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise.

**LORS2008 Implementation on 09/12/2022 (ENSO Condition- La Niña Watch)\*:**

**Status for week ending 09/12/2022:**

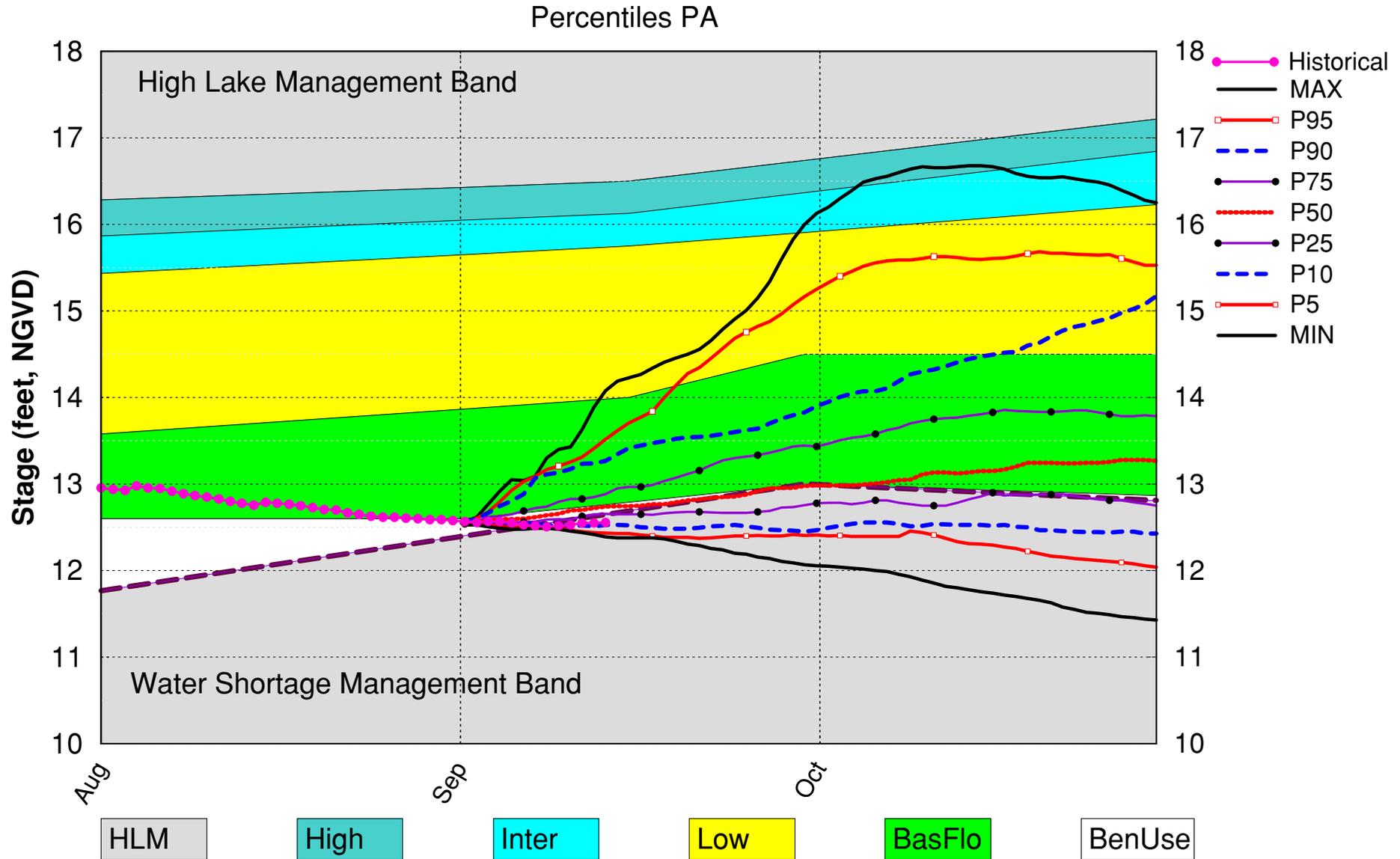
**Water Supply Risk Evaluation**

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Water Shortage Management Band	H
	Palmer Drought Index for LOK Tributary Conditions	-3.52 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	0.94 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	0.84 ft	H
ENSO Forecast	Dry		
WCAs	WCA 1: Site 1-8C	Above Line 1 (16.36 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.24 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.49 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.

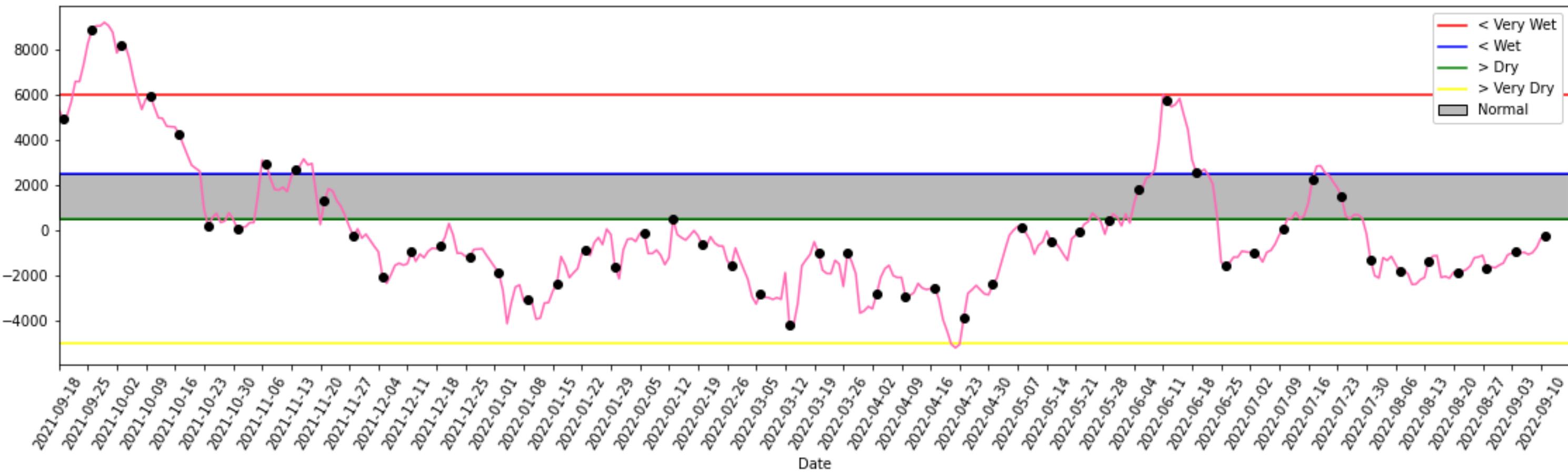
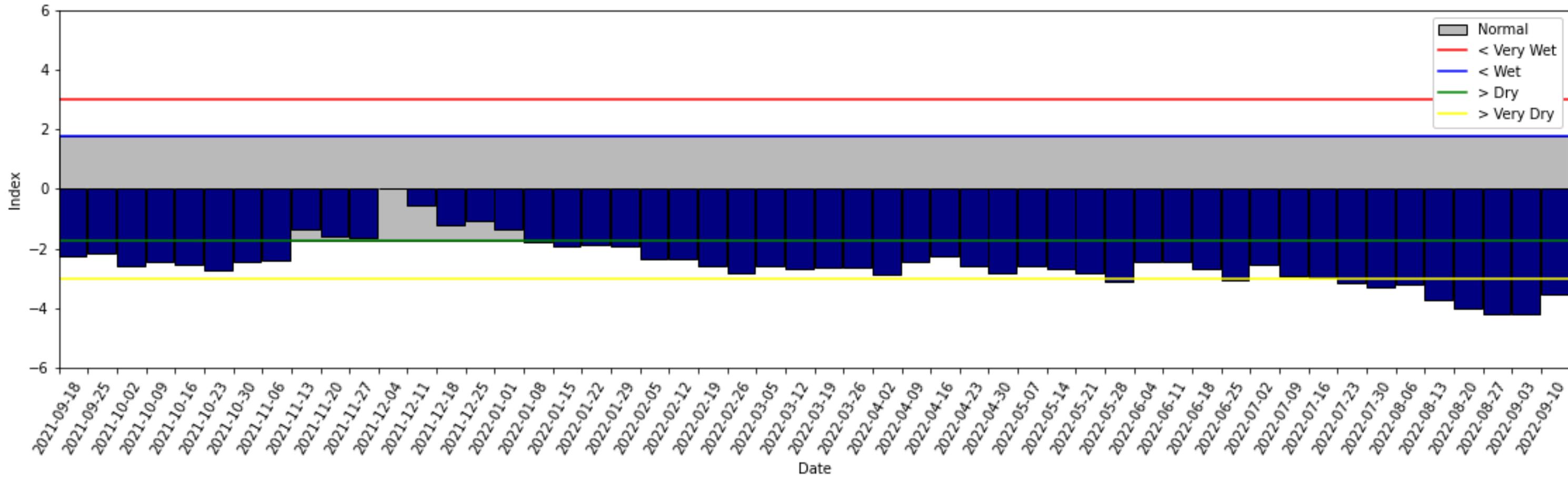
\*- some flow data at S80 is missing from Sep 4, 2022 and was assumed to be zero

# Lake Okeechobee SFWMM September 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of September 11 2022



# 2008 LORS

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

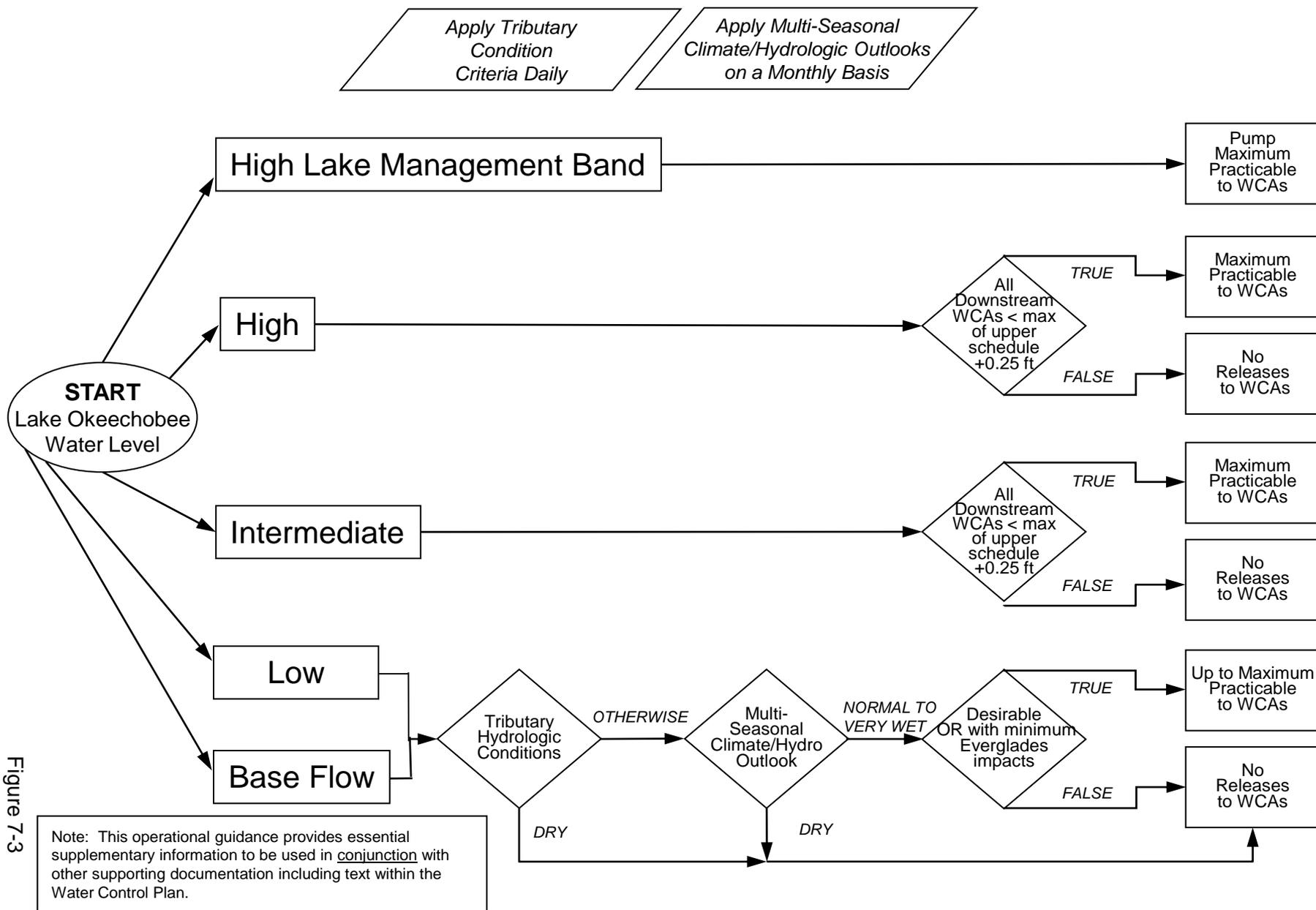


Figure 7-3

# 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

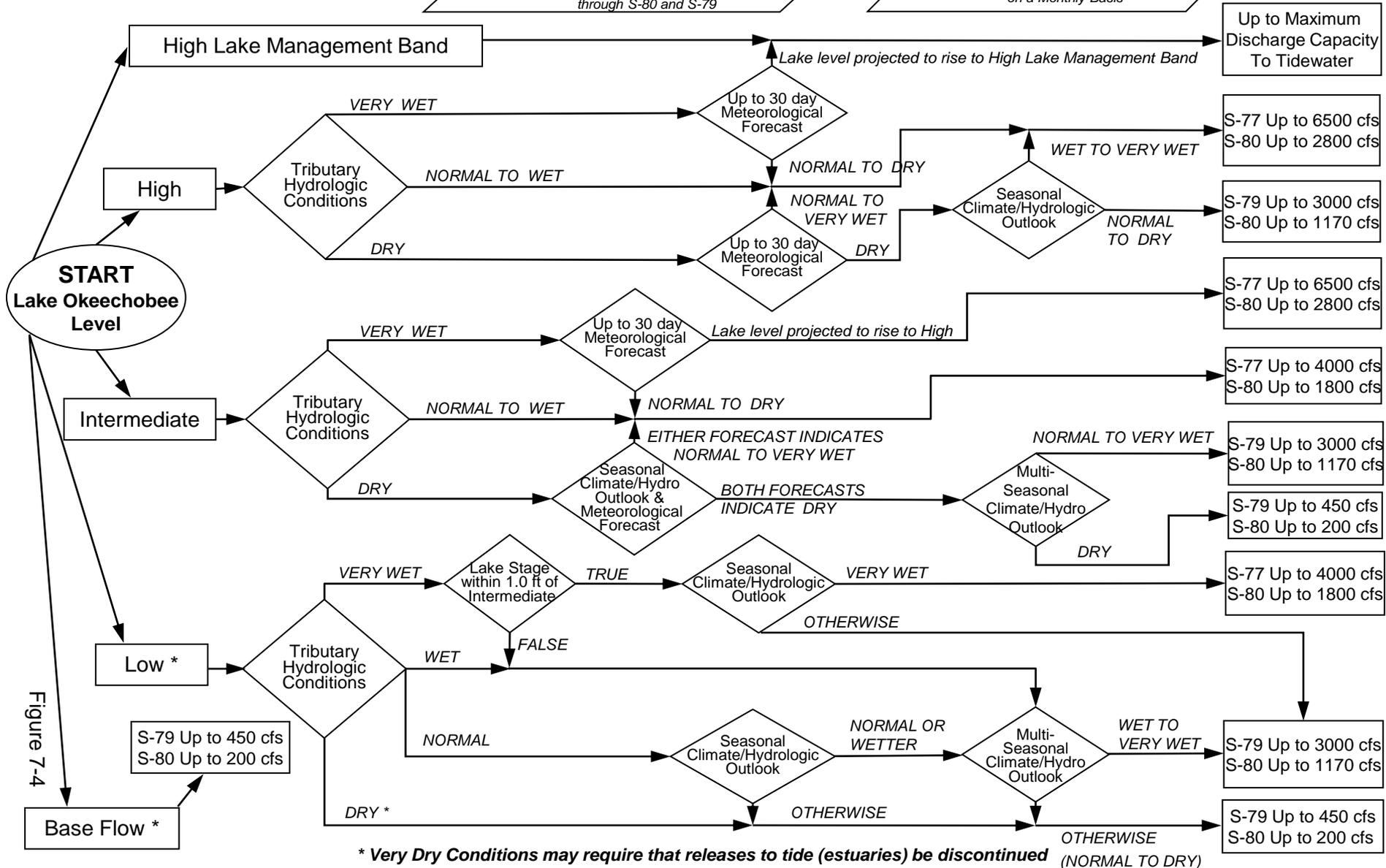
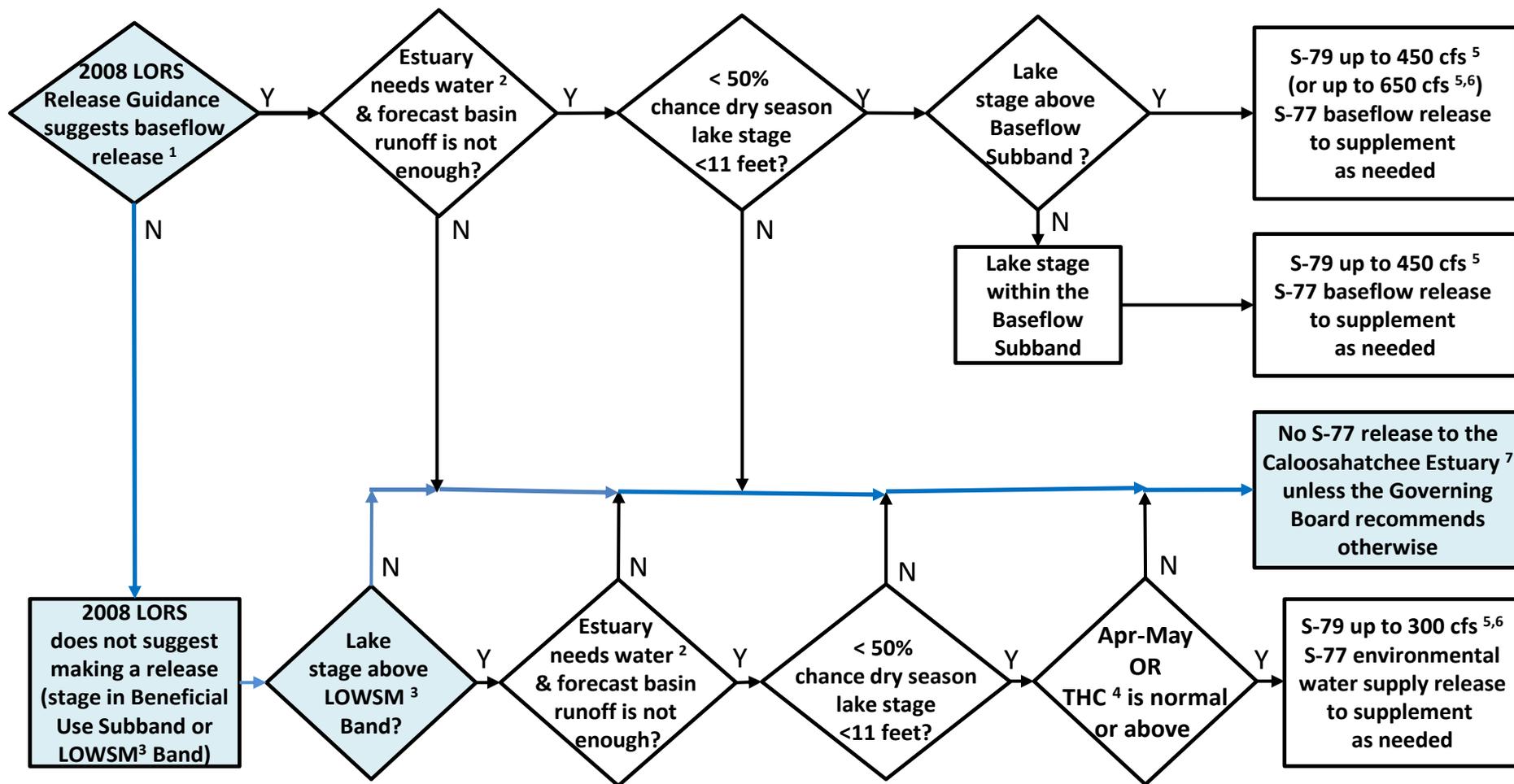


Figure 7-4

# Flowchart to Guide Recommendations for Lake Okeechobee Releases to the Caloosahatchee Estuary for 2008 LORS Baseflow & for Environmental Water Supply (revised 9-Aug-2012)



<sup>1</sup>The 2008 LORS Release Guidance (Part D) can suggest baseflow releases in the Intermediate, Low, or Baseflow Subbands.

<sup>2</sup>Estuary “needs” water when the 30-day moving average salinity at I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.

<sup>3</sup>LOWSM = Lake Okeechobee Water Shortage Management.

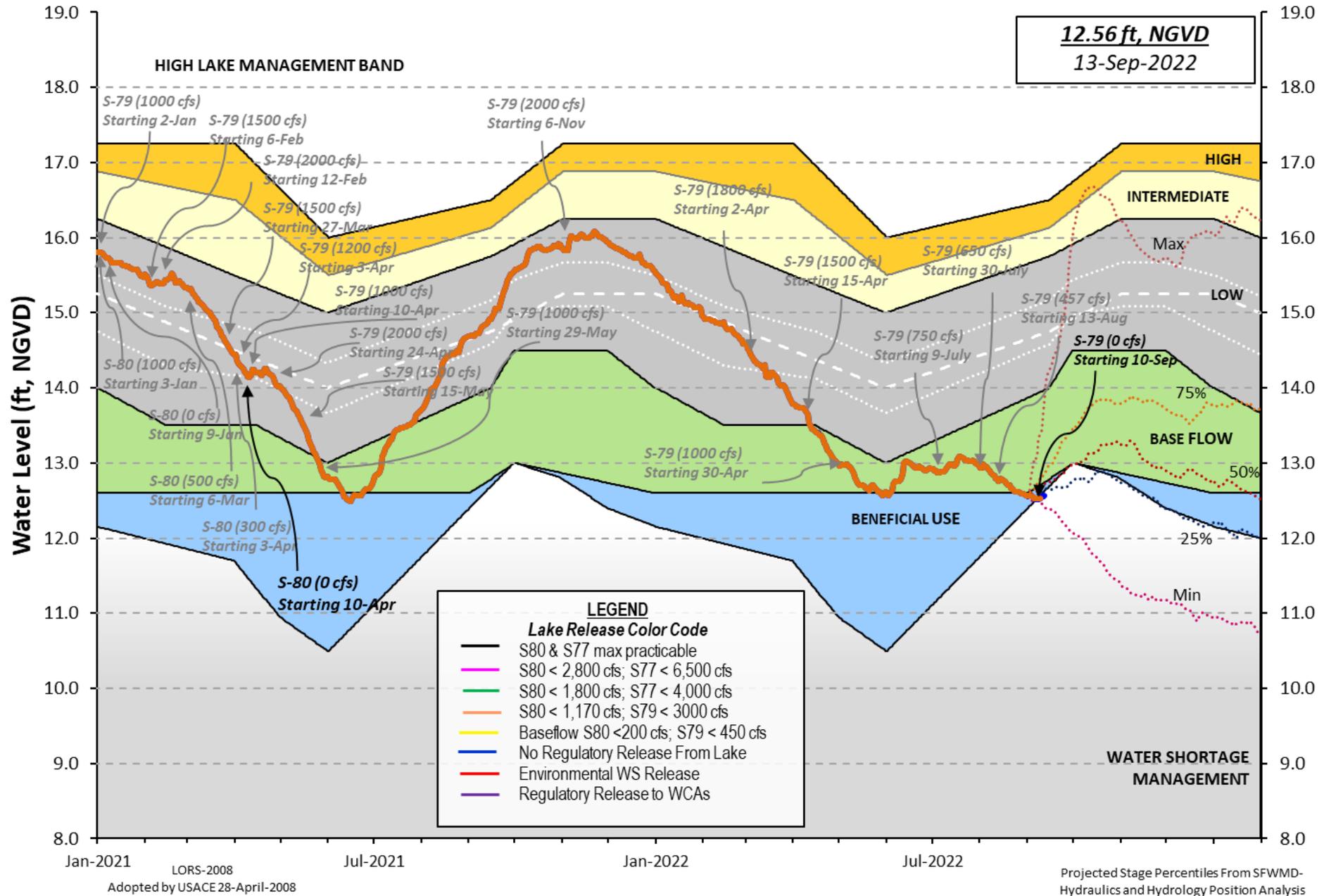
<sup>4</sup>Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

<sup>5</sup>Can release less than the “up to” limit if lower release is sufficient to reach or sustain desired estuary salinity; cfs = cubic feet per second.

<sup>6</sup>After reviewing conditions in Water Conservation Areas (WCAs), Stormwater Treatment Areas (STAs), ENP, St. Lucie Estuary and Lake Okeechobee.

<sup>7</sup>Should this condition be reached, the Governing Board will be briefed at their next regularly scheduled meeting as part of the State of the Water Resources agenda item

# 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											
<b>North East Shore</b>											
S133 Pumps:	12.92	12.40	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	18.53	12.40	0	0.0	0.0	0.0					
S135 Pumps:	13.41	12.40	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
<b>North West Shore</b>											
S65E:	20.98	11.98	161	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
S65EX1:	20.98	11.98	0								
S127 Pumps:	12.54	12.37	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.18	12.93	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	13.07	12.49	0	0	0						(cfs)
S131 Culvert:			0								
<b>Fisheating Creek</b>											
nr Palmdale		32.57	514								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
<b>South Shore</b>											
S4 Pumps:	12.55	-NR-	0	-NR-	-NR-	-NR-					(cfs)
S169:	12.53	12.60	-NR-	-NR-	-NR-	-NR-					
S310:	12.46		-2								
S3 Pumps:	10.72	12.70	0	0	0	0					(cfs)
S354:	12.70	10.72	0	0.0	0.0						
S2 Pumps:	11.27	12.66	0	0	0	0	0				(cfs)
S351:	12.66	11.27	0	0.0	0.0	0.0					
S352:	12.68	11.57	0	0.0	0.0						
C10A:	-NR-	12.52		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		12.57	-NR-								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	11.27	12.66	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	11.57	12.68	0	-NR-	-NR-	-NR-	-NR-				
S354:	10.72	12.70	0	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	12.60	11.35		0.0	0.0						
S47D:	11.35	11.36	-10	5.0							
S77:											
Spillway and Sector Preferred Flow:	12.39	11.23	0	0.0	0.0	0.0	0.0				
Flow Due to Lockages+:			-NR-								

S78:

Spillway and Sector Flow:  
 11.24 3.23 496 1.0 0.0 0.0 1.0  
 Flow Due to Lockages+: 1

S79:

Spillway and Sector Flow:  
 3.35 1.49 2981 0.0 0.0 3.0 3.0 3.0 3.0 0.0 0.0  
 Flow Due to Lockages+: 3  
 Percent of flow from S77 0%  
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:  
 12.46 14.84 0 0.0 0.0 0.0 0.0  
 Flow Due to Lockages+: -NR-

S153: 18.62 14.46 43 0.0 0.5

S80:

Spillway and Sector Flow:  
 14.76 1.94 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
 Flow Due to Lockages+: -NR-  
 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	0.82	1.28	318	1
S78:	0.00	0.01	0.02	209	3
S79:	0.31	0.91	3.41	2	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	76	2
S80:	0.00	2.70	4.78	268	2
Okeechobee Average (Sites S78, S79 and S80 not included)	0.02	0.06	0.10		
-----					
Oke Nexrad Basin Avg	-NR-	0.00	0.00		
-----					

Okeechobee Lake Elevations 11 SEP 2022 12.55 Difference from 11SEP22  
 11SEP22 -1 Day = 10 SEP 2022 12.55 0.00

11SEP22	-2 Days =	09 SEP 2022	12.53	-0.02
11SEP22	-3 Days =	08 SEP 2022	12.52	-0.03
11SEP22	-4 Days =	07 SEP 2022	12.51	-0.04
11SEP22	-5 Days =	06 SEP 2022	12.52	-0.03
11SEP22	-6 Days =	05 SEP 2022	12.53	-0.02
11SEP22	-7 Days =	04 SEP 2022	12.55	0.00
11SEP22	-30 Days =	12 AUG 2022	12.78	0.23
11SEP22	-1 Year =	11 SEP 2021	14.85	2.30
11SEP22	-2 Year =	11 SEP 2020	14.79	2.24

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Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = -NR-

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Lake Okeechobee Net Inflow (LONIN)

Average Flow over the previous 14 days				Avg-Daily Flow
11SEP22	Today =	11 SEP 2022	-244 MON	25
11SEP22	-1 Day =	10 SEP 2022	-380 SUN	4014
11SEP22	-2 Days =	09 SEP 2022	-718 SAT	2064
11SEP22	-3 Days =	08 SEP 2022	-949 FRI	2364
11SEP22	-4 Days =	07 SEP 2022	-1250 THU	-1340
11SEP22	-5 Days =	06 SEP 2022	-1131 WED	-1220
11SEP22	-6 Days =	05 SEP 2022	-1162 TUE	-3356
11SEP22	-7 Days =	04 SEP 2022	-1078 MON	-3717
11SEP22	-8 Days =	03 SEP 2022	-1174 SUN	147
11SEP22	-9 Days =	02 SEP 2022	-1276 SAT	2176
11SEP22	-10 Days =	01 SEP 2022	-1736 FRI	-1826
11SEP22	-11 Days =	31 AUG 2022	-1852 THU	-1429
11SEP22	-12 Days =	30 AUG 2022	-2002 WED	-1687
11SEP22	-13 Days =	29 AUG 2022	-1959 TUE	368

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S65E

Average Flow over previous 14 days				Avg-Daily Flow
11SEP22	Today=	11 SEP 2022	562 MON	191
11SEP22	-1 Day =	10 SEP 2022	603 SUN	194
11SEP22	-2 Days =	09 SEP 2022	639 SAT	170
11SEP22	-3 Days =	08 SEP 2022	660 FRI	299
11SEP22	-4 Days =	07 SEP 2022	659 THU	338
11SEP22	-5 Days =	06 SEP 2022	653 WED	335
11SEP22	-6 Days =	05 SEP 2022	651 TUE	359
11SEP22	-7 Days =	04 SEP 2022	648 MON	463
11SEP22	-8 Days =	03 SEP 2022	629 SUN	712
11SEP22	-9 Days =	02 SEP 2022	584 SAT	911
11SEP22	-10 Days =	01 SEP 2022	533 FRI	993
11SEP22	-11 Days =	31 AUG 2022	462 THU	998
11SEP22	-12 Days =	30 AUG 2022	391 WED	822
11SEP22	-13 Days =	29 AUG 2022	332 TUE	1085

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S65EX1

Average Flow over previous 14 days				Avg-Daily Flow
11SEP22	Today=	11 SEP 2022	0 MON	0
11SEP22	-1 Day =	10 SEP 2022	0 SUN	0
11SEP22	-2 Days =	09 SEP 2022	0 SAT	0
11SEP22	-3 Days =	08 SEP 2022	0 FRI	0
11SEP22	-4 Days =	07 SEP 2022	0 THU	0
11SEP22	-5 Days =	06 SEP 2022	0 WED	0
11SEP22	-6 Days =	05 SEP 2022	0 TUE	0
11SEP22	-7 Days =	04 SEP 2022	0 MON	0
11SEP22	-8 Days =	03 SEP 2022	0 SUN	0
11SEP22	-9 Days =	02 SEP 2022	0 SAT	0
11SEP22	-10 Days =	01 SEP 2022	2 FRI	0
11SEP22	-11 Days =	31 AUG 2022	2 THU	0
11SEP22	-12 Days =	30 AUG 2022	2 WED	0
11SEP22	-13 Days =	29 AUG 2022	3 TUE	0

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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)
11 SEP 2022	-NR-	183	990	5912
10 SEP 2022	-NR-	85	656	6699
09 SEP 2022	-NR-	91	246	4028
08 SEP 2022	2	34	159	3262
07 SEP 2022	1	-207	633	2963
06 SEP 2022	0	-134	590	3926
05 SEP 2022	-NR-	-141	994	3780
04 SEP 2022	-NR-	-16	2127	6903
03 SEP 2022	-NR-	68	2404	7835
02 SEP 2022	-NR-	45	2015	5470
01 SEP 2022	-NR-	92	1789	6895
31 AUG 2022	-NR-	201	-NR-	5958
30 AUG 2022	-NR-	86	-NR-	8603
29 AUG 2022	1	150	1945	9330

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)
11 SEP 2022	-4	0	0	0	-NR-
10 SEP 2022	45	0	0	0	-NR-
09 SEP 2022	207	0	0	0	-NR-
08 SEP 2022	216	461	53	47	-NR-
07 SEP 2022	124	867	148	0	-NR-
06 SEP 2022	38	913	318	0	-NR-
05 SEP 2022	-12	726	199	0	-NR-
04 SEP 2022	-70	187	14	0	-NR-
03 SEP 2022	-232	74	0	0	-NR-
02 SEP 2022	-270	199	0	0	-NR-
01 SEP 2022	2	141	0	0	-NR-
31 AUG 2022	124	809	0	0	-NR-
30 AUG 2022	-200	300	0	0	-NR-
29 AUG 2022	-141	522	0	0	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
11 SEP 2022	-NR-	-NR-	-NR-
10 SEP 2022	-NR-	-NR-	-NR-
09 SEP 2022	-NR-	-NR-	-NR-
08 SEP 2022	-NR-	-NR-	30
07 SEP 2022	-NR-	-NR-	-NR-
06 SEP 2022	-NR-	-NR-	8
05 SEP 2022	-NR-	-NR-	19
04 SEP 2022	-NR-	-NR-	-NR-
03 SEP 2022	-NR-	-NR-	11
02 SEP 2022	-NR-	-NR-	31
01 SEP 2022	-NR-	-NR-	23
31 AUG 2022	-NR-	-NR-	23
30 AUG 2022	-NR-	-NR-	23
29 AUG 2022	-NR-	-NR-	15

\*\*\* 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/>

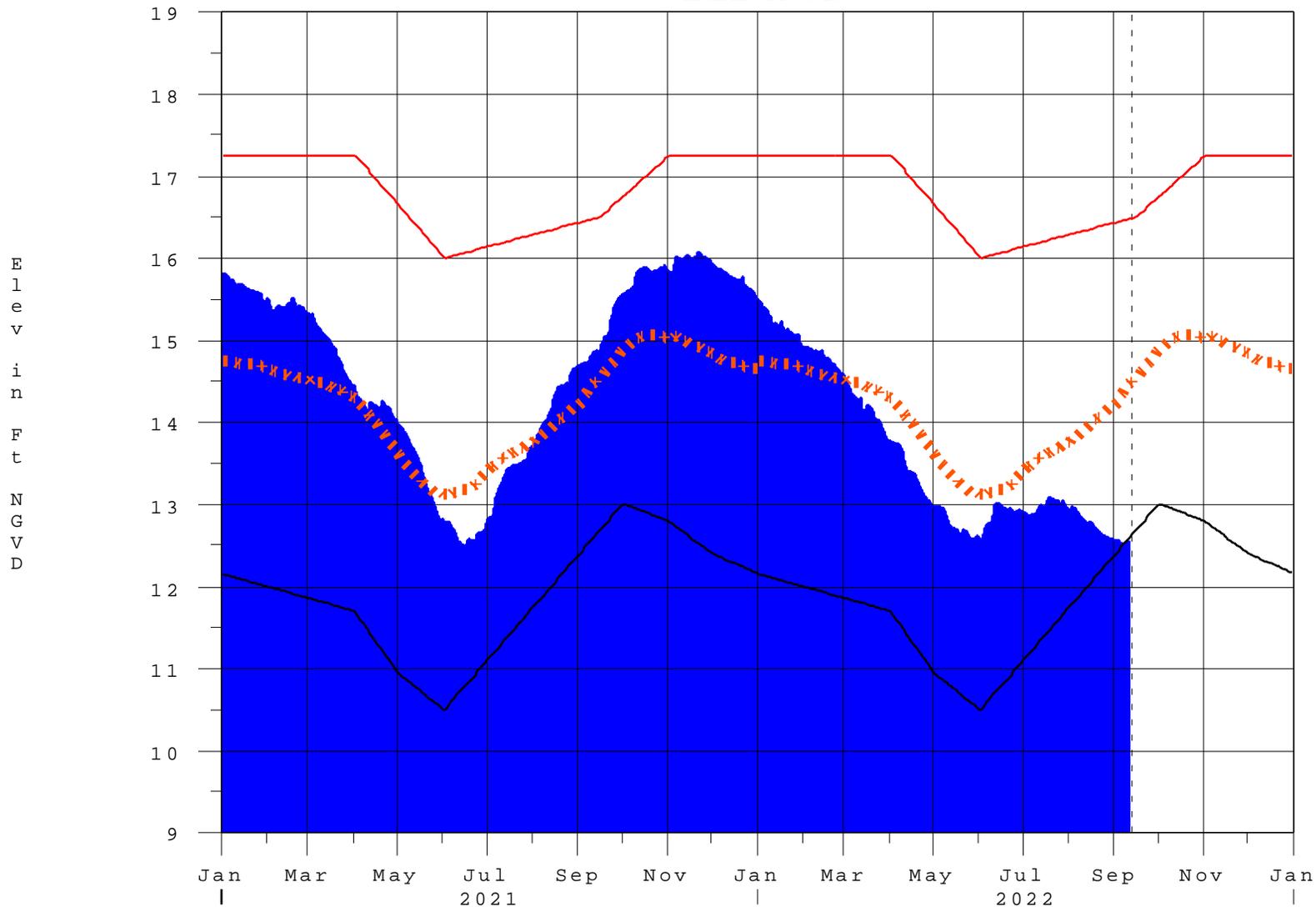
\$ For information regarding Lake Okeechobee Service Area water restrictions please refer to [www.sfwmd.gov](http://www.sfwmd.gov)

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Report Generated 12SEP2022 @ 13:39 \*\* Preliminary Data - Subject to Revision \*\*

# Lake Okeechobee

12SEP22 14:00:20



- 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 [million acre-feet]</b>	<b>Equivalent Depth** [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**