

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 09/25/2023 (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 (Sep-Feb)	N/A	N/A	1.71	Wet	1.98	Wet	2.92	Very Wet
Multi Seasonal (Sep-Apr)	N/A	N/A	1.83	Normal	2.49	Normal	3.25	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:

1828 cfs 14-day running average for Lake Okeechobee Net Inflow through 09/24/2023. According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

-2.94 for Palmer Drought Index on 09/23/2023.

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 09/25/2023:

Lake Okeechobee Stage: **15.47 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.64	
Operational Band	High sub-band	16.27	
	Intermediate sub-band	15.85	
	Low sub-band	14.30	← 15.47 ft
Base Flow sub-band		12.91	
Beneficial Use sub-band		12.88	
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 450 cfs at S-79 and up to 200 cfs at S-80.

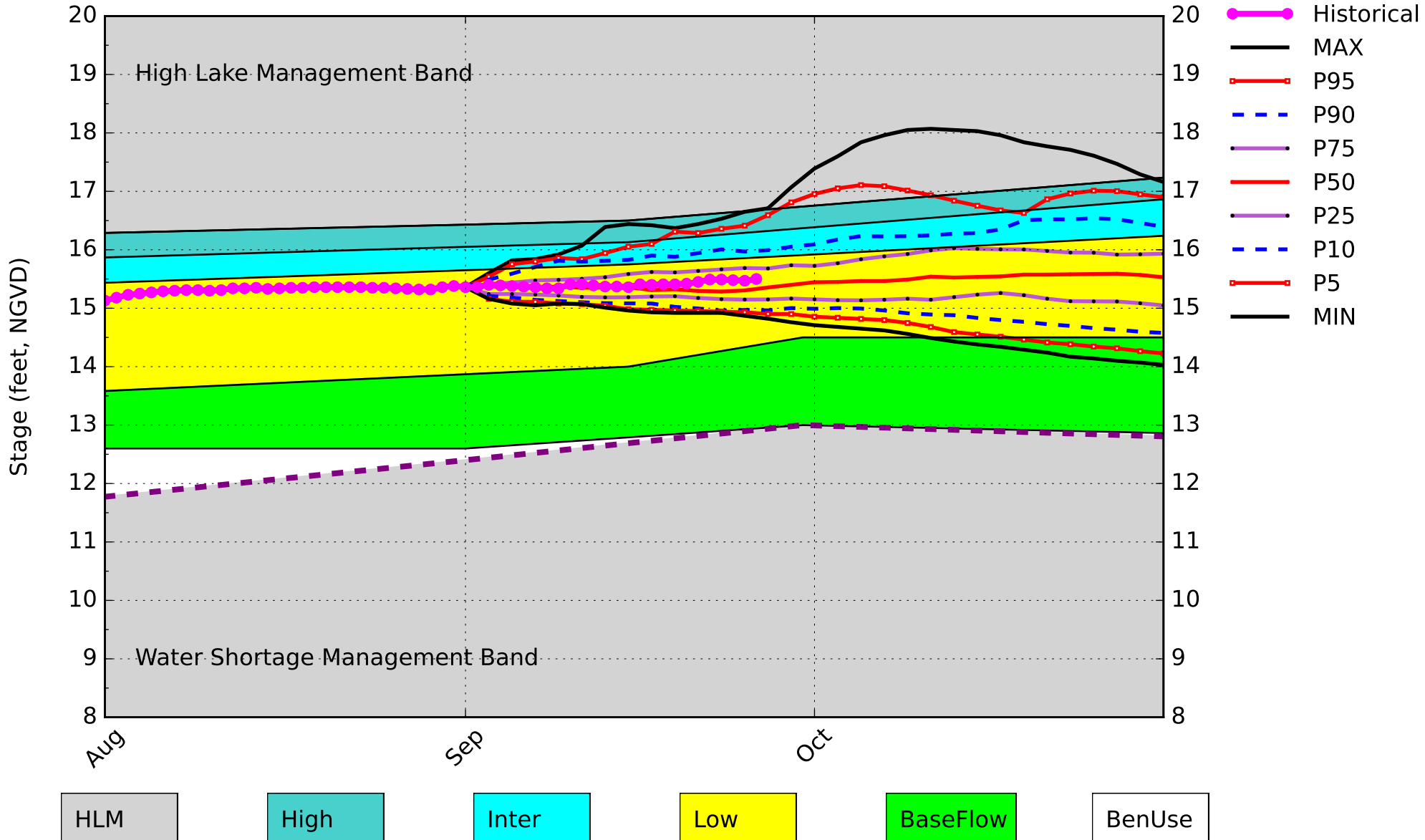
LORS2008 Implementation on 09/25/2023 (ENSO Condition- El Niño):**Status for week ending 09/25/2023:****Water Supply Risk Evaluation**

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	-2.94 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Equal Chances	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.98 ft	L
	ENSO Forecast	Normal to Extremely Wet	L
	LOK Multi-Seasonal Net Inflow Outlook	2.49 ft	M
		ENSO Forecast	Normal
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T, and 1-9)	Above Line 1 (17.06 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.47 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (11.16 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.

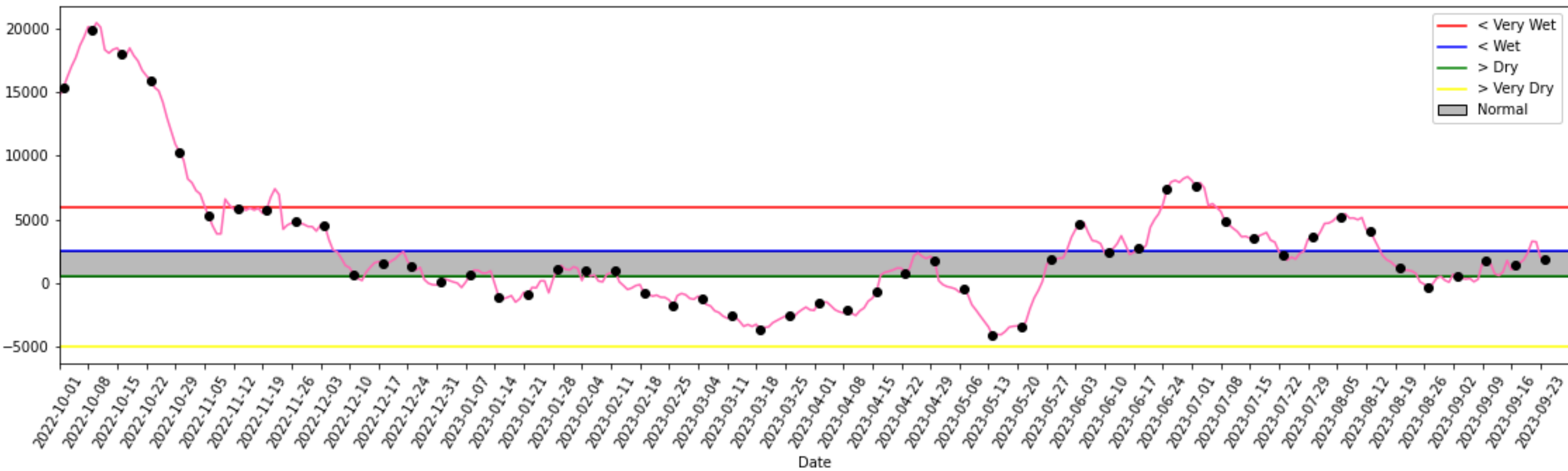
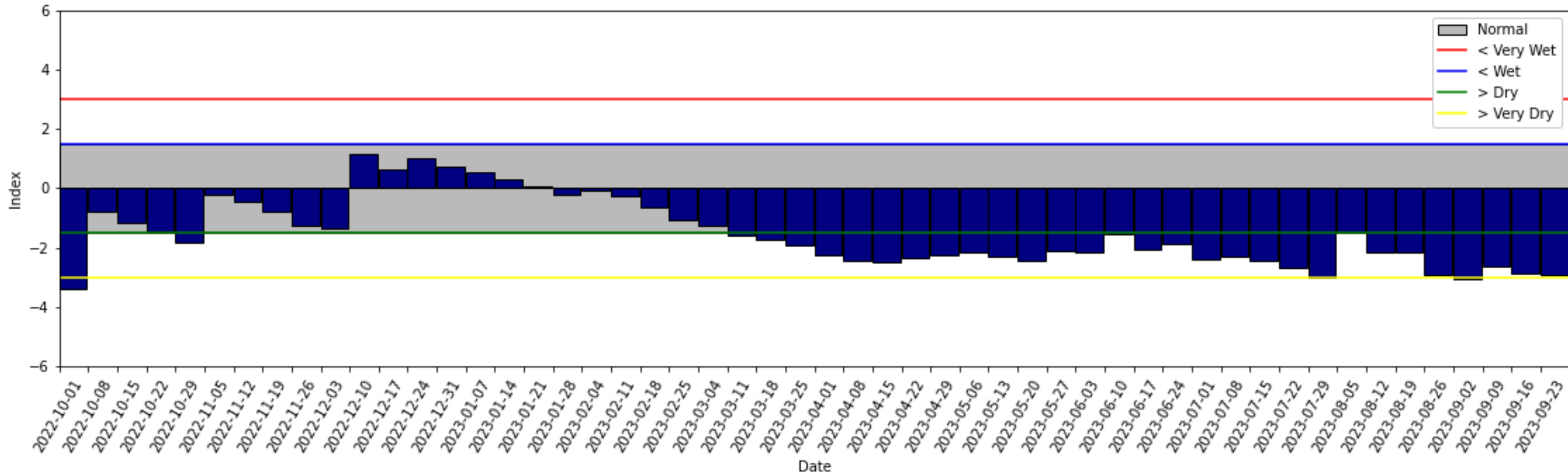
Lake Okeechobee SFWMM September 2023 Position Analysis

Percentiles PA



(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of September 24 2023



2008 LORS

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

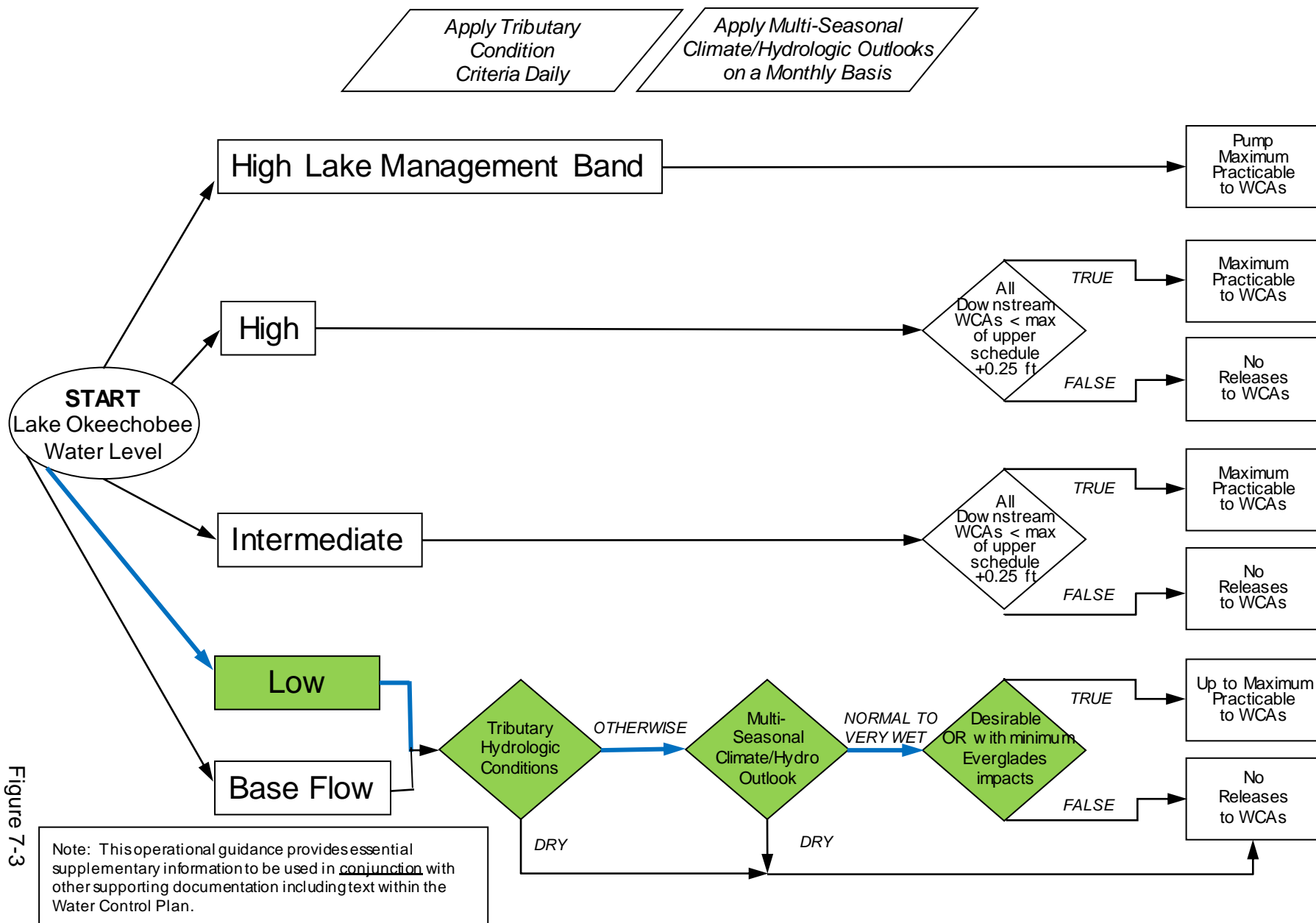


Figure 7-3

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

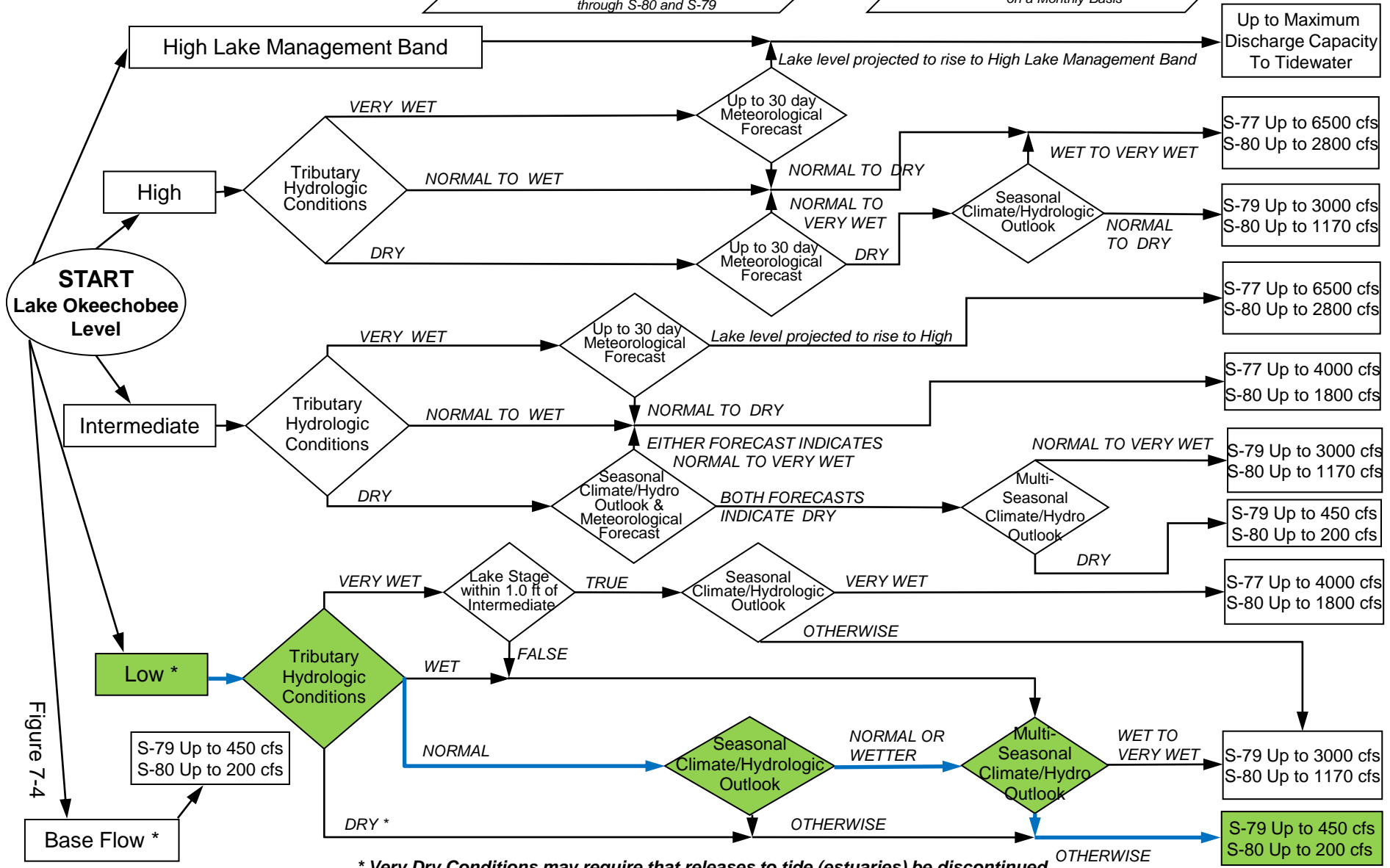
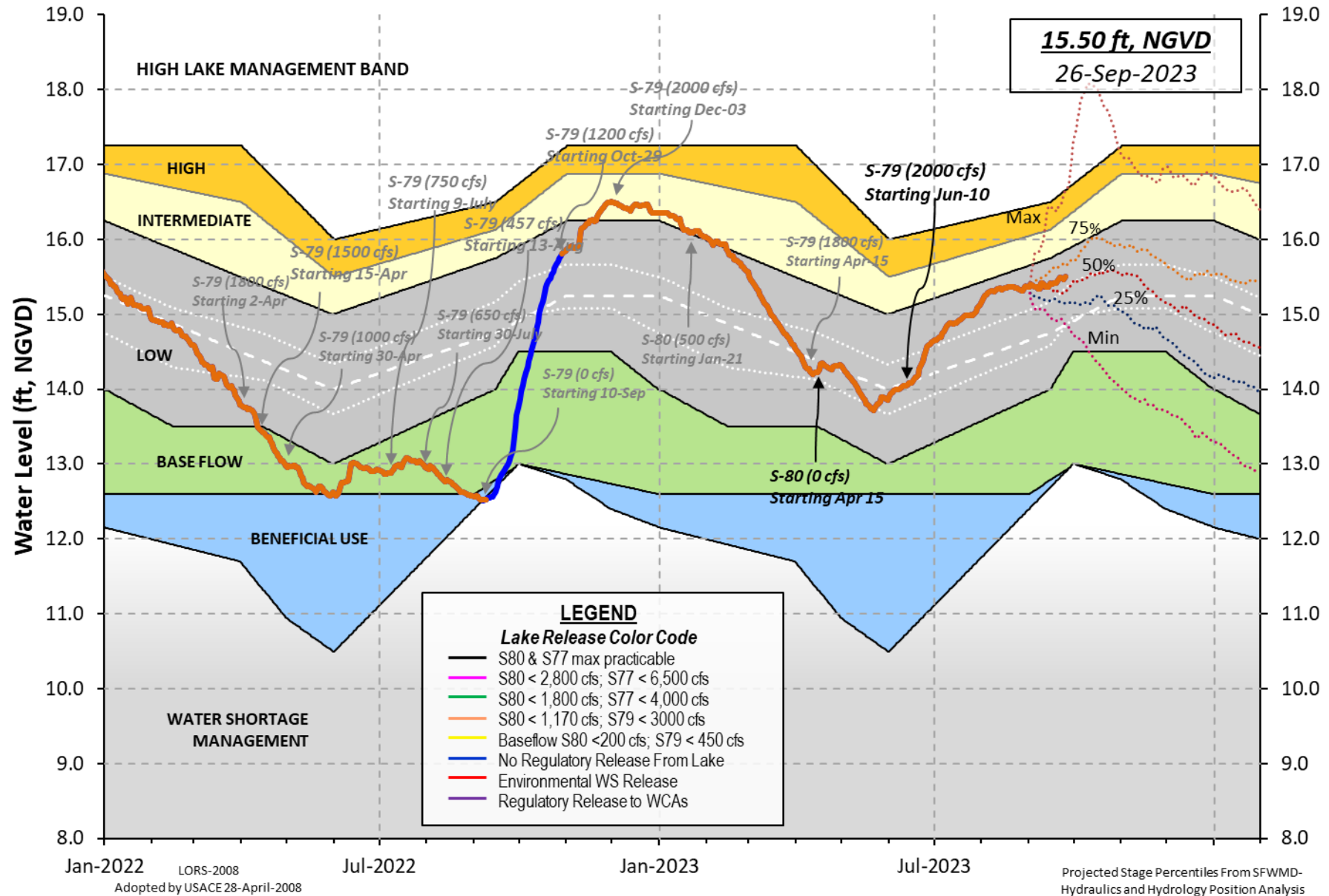


Figure 7-4

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

Lake Okeechobee Water Level History and Projected Stages



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

Data Ending 2400 hours 24 SEP 2023

Okeechobee Lake Regulation Elevation Last Year 2YRS Ago
 (ft-NGVD) (ft-NGVD) (ft-NGVD)
 *Okeechobee Lake Elevation 15.47 13.04 15.31 (Official Elv)
 Bottom of High Lake Mngmt= 16.64 Top of Water Short Mngmt= 12.88
 Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.66
 Difference from Average LORS2008 1.81

24SEP (1965-2007) Period of Record Average 14.72
 Difference from POR Average 0.75

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ♦ 9.41'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ♦ 7.61'
 Bridge Clearance = 49.48'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.48	15.51	15.48	15.44	15.49	15.55	15.45	15.36

*Combination Okeechobee Avg-Daily Lake Average = 15.47
 (*See Note)

Okeechobee Inflows (cfs):

S65E	1073	S65EX1	0	Fisheating Cr	388
S154	20	S191	240	S135 Pumps	0
S84	845	S133 Pumps	0	S2 Pumps	0
S84X	260	S127 Pumps	0	S3 Pumps	0
S71	286	S129 Pumps	0	S4 Pumps	0
S72	156	S131 Pumps	0	C5	0
Total Inflows:	3267				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	-NR-
S127 Culverts	0	S351	10	S308	0
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	92		
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	0.18
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:	13.48	15.37	0	0	0	0	0	0	0	0	(cfs)
S193:											
S191:	18.75	15.36	240	0.5	0.5	0.5					
S135 Pumps:	13.45	15.33	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.02	14.98	1073	0.4	0.4	1.0	0.3	0.6	0.4		
S65EX1:	21.02	14.98	0								
S127 Pumps:	13.50	15.39	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.06	15.54	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	12.97	-NR-	0	0	0						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.24	388								
nr Lakeport											
S282	15.53	15.50		0.0	0.0	0.1					
South Shore											
S4 Pumps:	11.68	-NR-	0	-NR-	-NR-	-NR-					(cfs)
S169:	15.58	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	15.43		-66								
S3 Pumps:	10.26	15.52	0	0	0	0					(cfs)
S354:	15.52	10.26	0	0.0	0.0						
S2 Pumps:	10.38	15.57	0	0	0	0	0				(cfs)
S351:	15.57	10.38	10	0.1	0.1	0.1					
S352:	15.57	10.33	0	0.0	0.0						
S271:	15.71	14.37		-NR-	0.0	0.0	0.0				
L8 Canal PT		14.06	92								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.38	15.57	10	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.33	15.57	0	-NR-	-NR-	-NR-	-NR-				
S354:	10.26	15.52	0	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	12.72	12.38		1.0	1.5						
S47D:	12.40	11.18	0	0.0							
S77:											
Spillway and Sector Preferred Flow:	15.42	11.04	261	0.0	0.0	0.5	0.0				
Flow Due to Lockages+:			-NR-								

S78:

Spillway and Sector Flow:
 11.03 2.67 1699 2.0 2.5 0.0 0.0
 Flow Due to Lockages+: 7

S79:

Spillway and Sector Flow:
 2.90 1.90 2880 0.0 2.0 2.5 2.5 2.5 2.0 2.0 0.0
 Flow Due to Lockages+: 4
 Percent of flow from S77 9%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:
 15.49 14.02 0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 0

S153: 18.97 13.81 0 0.0 0.0

S80:

Spillway and Sector Flow:
 14.05 1.22 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:	-NR-	0.00	0.00	151	4
S78:	-NR-	0.00	0.00	248	8
S79:	-NR-	0.00	0.00	72	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:	-NR-	0.00	0.00	100	5
S80:	-NR-	0.00	0.00	184	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 24 SEP 2023 15.47 Difference from 24SEP23
 24SEP23 -1 Day = 23 SEP 2023 15.48 0.01

24SEP23	-2 Days =	22 SEP 2023	15.49	0.02
24SEP23	-3 Days =	21 SEP 2023	15.49	0.02
24SEP23	-4 Days =	20 SEP 2023	15.45	-0.02
24SEP23	-5 Days =	19 SEP 2023	15.42	-0.05
24SEP23	-6 Days =	18 SEP 2023	15.41	-0.06
24SEP23	-7 Days =	17 SEP 2023	15.41	-0.06
24SEP23	-30 Days =	25 AUG 2023	15.34	-0.13
24SEP23	-1 Year =	24 SEP 2022	13.04	-2.43
24SEP23	-2 Year =	24 SEP 2021	15.31	-0.16

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
24SEP23	Today =	24 SEP 2023	2175 MON	-1896
24SEP23	-1 Day =	23 SEP 2023	2398 SUN	-1557
24SEP23	-2 Days =	22 SEP 2023	3697 SAT	0
24SEP23	-3 Days =	21 SEP 2023	3741 FRI	8744
24SEP23	-4 Days =	20 SEP 2023	2791 THU	6519
24SEP23	-5 Days =	19 SEP 2023	2184 WED	2535
24SEP23	-6 Days =	18 SEP 2023	1889 TUE	1086
24SEP23	-7 Days =	17 SEP 2023	1686 MON	2392
24SEP23	-8 Days =	16 SEP 2023	1344 SUN	-1302
24SEP23	-9 Days =	15 SEP 2023	2120 SAT	12628
24SEP23	-10 Days =	14 SEP 2023	1155 FRI	-332
24SEP23	-11 Days =	13 SEP 2023	847 THU	2218
24SEP23	-12 Days =	12 SEP 2023	1010 WED	-NR-
24SEP23	-13 Days =	11 SEP 2023	1557 TUE	-2764

S65E

		Average Flow over previous 14 days		Avg-Daily Flow
24SEP23	Today=	24 SEP 2023	759 MON	1205
24SEP23	-1 Day =	23 SEP 2023	721 SUN	1110
24SEP23	-2 Days =	22 SEP 2023	683 SAT	1063
24SEP23	-3 Days =	21 SEP 2023	661 FRI	1180
24SEP23	-4 Days =	20 SEP 2023	620 THU	646
24SEP23	-5 Days =	19 SEP 2023	605 WED	622
24SEP23	-6 Days =	18 SEP 2023	598 TUE	717
24SEP23	-7 Days =	17 SEP 2023	588 MON	697
24SEP23	-8 Days =	16 SEP 2023	590 SUN	644
24SEP23	-9 Days =	15 SEP 2023	610 SAT	576
24SEP23	-10 Days =	14 SEP 2023	635 FRI	477
24SEP23	-11 Days =	13 SEP 2023	635 THU	519
24SEP23	-12 Days =	12 SEP 2023	632 WED	559
24SEP23	-13 Days =	11 SEP 2023	618 TUE	613

S65EX1

		Average Flow over previous 14 days		Avg-Daily Flow
24SEP23	Today=	24 SEP 2023	0 MON	0
24SEP23	-1 Day =	23 SEP 2023	0 SUN	0
24SEP23	-2 Days =	22 SEP 2023	0 SAT	0
24SEP23	-3 Days =	21 SEP 2023	0 FRI	0
24SEP23	-4 Days =	20 SEP 2023	0 THU	0
24SEP23	-5 Days =	19 SEP 2023	0 WED	0
24SEP23	-6 Days =	18 SEP 2023	0 TUE	0
24SEP23	-7 Days =	17 SEP 2023	0 MON	0
24SEP23	-8 Days =	16 SEP 2023	0 SUN	0
24SEP23	-9 Days =	15 SEP 2023	0 SAT	0
24SEP23	-10 Days =	14 SEP 2023	0 FRI	0
24SEP23	-11 Days =	13 SEP 2023	0 THU	0
24SEP23	-12 Days =	12 SEP 2023	0 WED	0
24SEP23	-13 Days =	11 SEP 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)
24 SEP 2023	-NR-	1155	3384	5751
23 SEP 2023	527	1016	3206	6399
22 SEP 2023	2	345	2914	6935
21 SEP 2023	-NR-	186	2588	4701
20 SEP 2023	883	31	2454	7386
19 SEP 2023	717	1181	3414	6676
18 SEP 2023	-NR-	2126	2332	3812
17 SEP 2023	451	748	2422	3844
16 SEP 2023	1666	2555	2660	4658
15 SEP 2023	3549	3649	4156	6164
14 SEP 2023	3635	4146	3796	3537
13 SEP 2023	3665	3967	3860	4427
12 SEP 2023	3378	3439	3548	4628
11 SEP 2023	3121	3401	2820	4616

	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)
24 SEP 2023	-131	20	0	0	183
23 SEP 2023	-241	0	0	0	184
22 SEP 2023	-256	0	0	0	185
21 SEP 2023	-246	0	0	0	192
20 SEP 2023	-289	0	0	0	203
19 SEP 2023	-259	0	0	0	193
18 SEP 2023	-300	0	0	0	174
17 SEP 2023	-187	0	0	0	178
16 SEP 2023	-219	0	0	0	181
15 SEP 2023	-217	0	0	0	184
14 SEP 2023	11	0	0	0	182
13 SEP 2023	14	0	0	0	177
12 SEP 2023	37	0	0	0	-NR-
11 SEP 2023	-25	0	0	0	-NR-

	S-308	Below S-308	S-80
	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)
24 SEP 2023	1	-NR-	-NR-
23 SEP 2023	728	-NR-	-NR-
22 SEP 2023	0	-NR-	14
21 SEP 2023	3	-NR-	14
20 SEP 2023	6	-NR-	18
19 SEP 2023	-NR-	-NR-	25
18 SEP 2023	-NR-	-NR-	-NR-
17 SEP 2023	4	-NR-	18
16 SEP 2023	4	-NR-	15
15 SEP 2023	2	-NR-	19
14 SEP 2023	1	-NR-	22
13 SEP 2023	658	-NR-	33
12 SEP 2023	3	-NR-	26
11 SEP 2023	2	-NR-	34

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

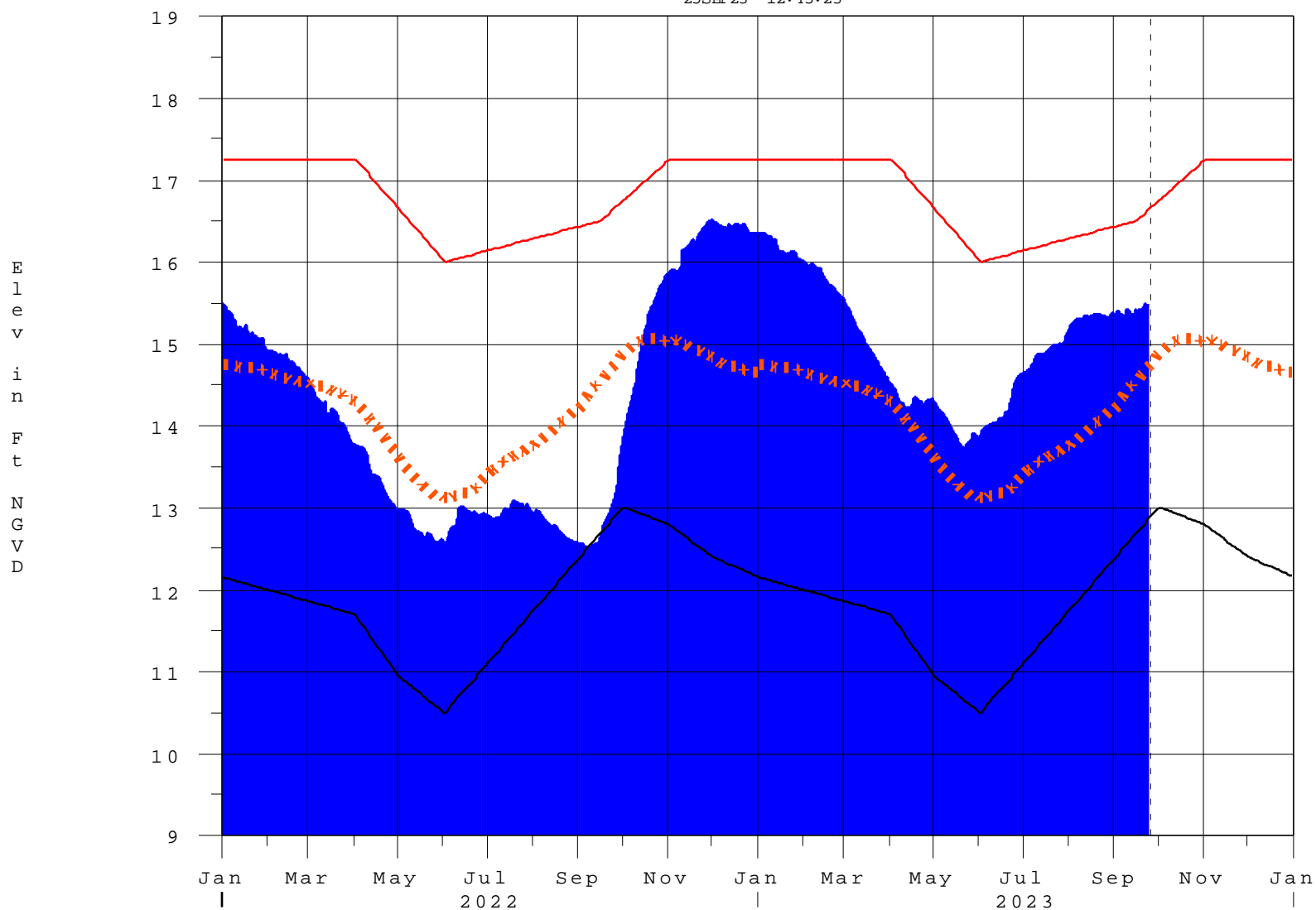
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

-
- * 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

Report Generated 25SEP2023 @ 12:39 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

25SEP23 12:45:23



- 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