Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 09/11/2023 (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)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Sep-Feb)	N/A	N/A	1.91	Wet	2.21	Very Wet	3.28	Very Wet
Multi Seasonal (Sep-Apr)	N/A	N/A	1.92	Normal	2.74	Wet	3.61	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:

1751 cfs 14-day running average for Lake Okeechobee Net Inflow through 09/10/2023.
According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

-2.64 for Palmer Drought Index on 09/09/2023.
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 09/11/2023:

Lake Okeechobee Stage: **15.41 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.48	
Operational Band	High sub-band	16.10	
	Intermediate sub-band	15.71	
	Low sub-band	13.95	← 15.41 ft
Base Flow sub-band		12.72	
Beneficial Use sub-band		12.59	
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 09/11/2023 (ENSO Condition- El Niño):

Status for week ending 09/11/2023*:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	-2.64 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Equal Chances	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	2.21 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.74 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T, and 1-9)	Above Line 1 (16.78 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.60 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.87 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.

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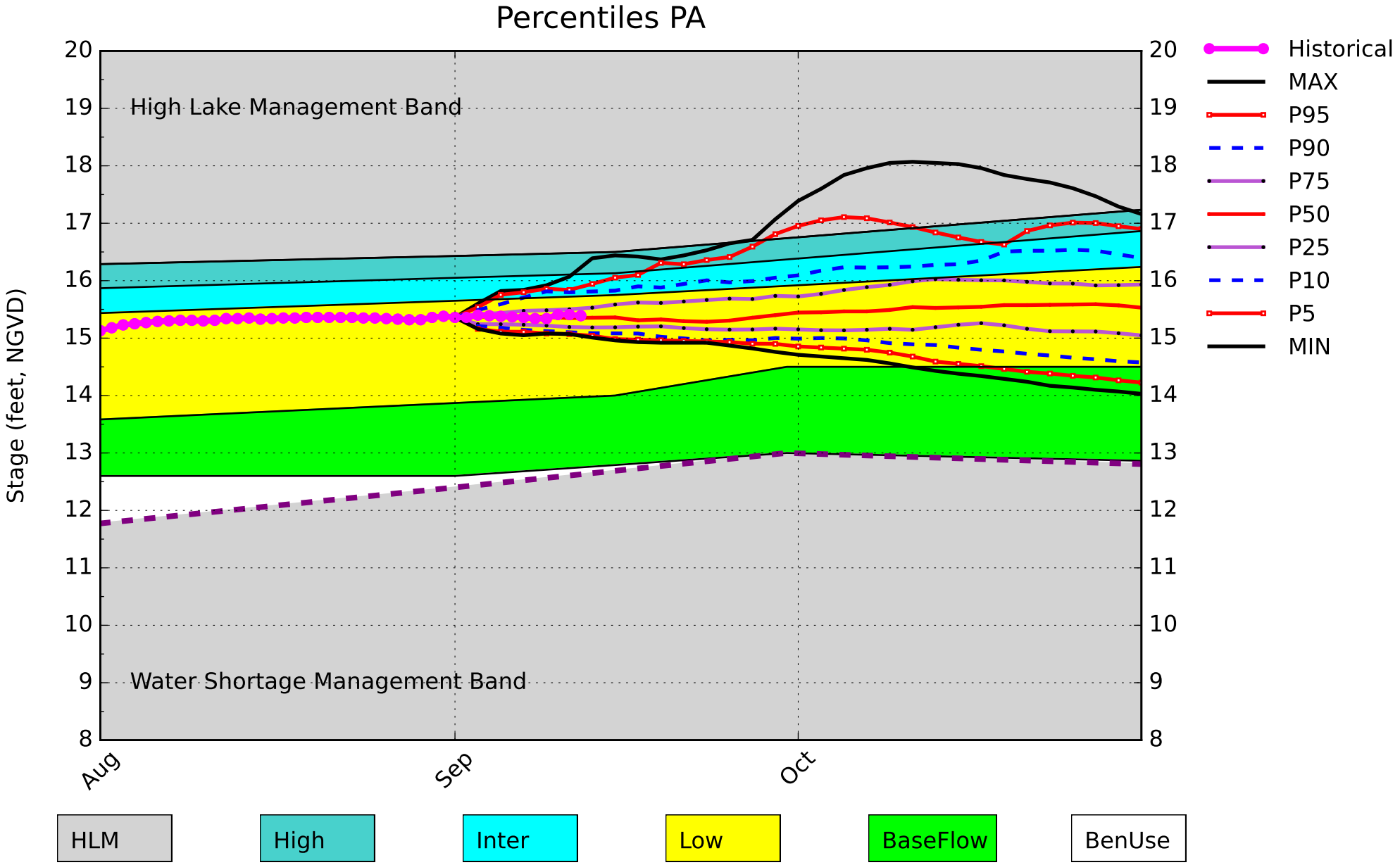
*- S308 flow data for September 7 & 8 and L-8 flow data from September 8-10 is not available from USACE Daily Reports and was assumed to be 0.

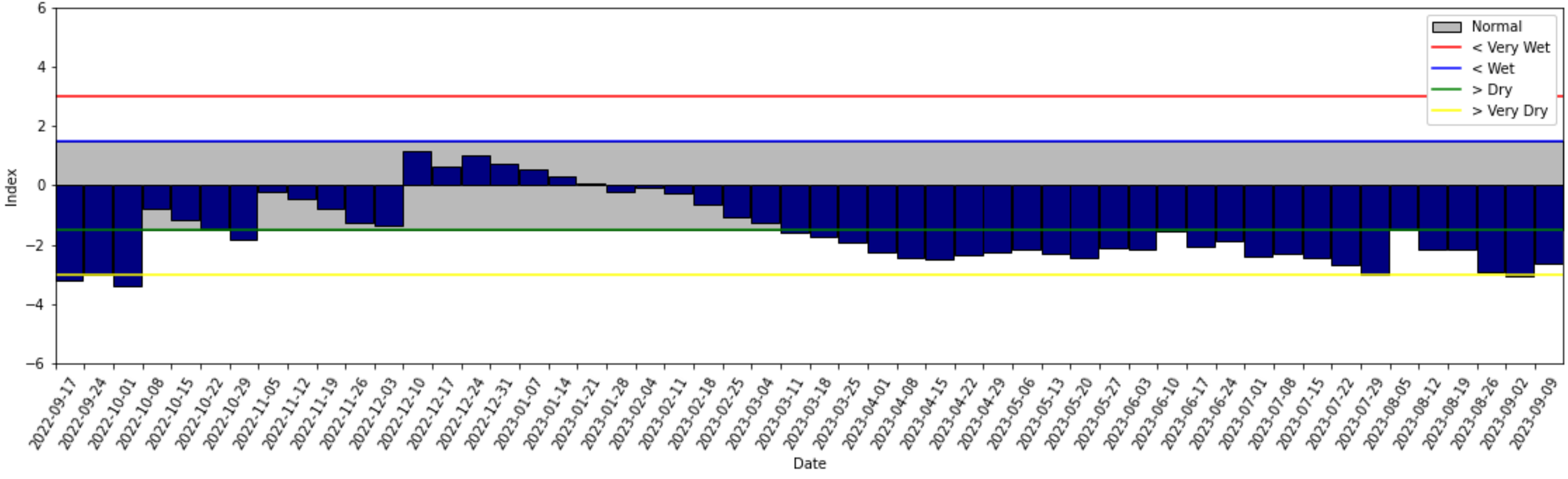
Lake Okeechobee SFWMM September 2023 Position Analysis

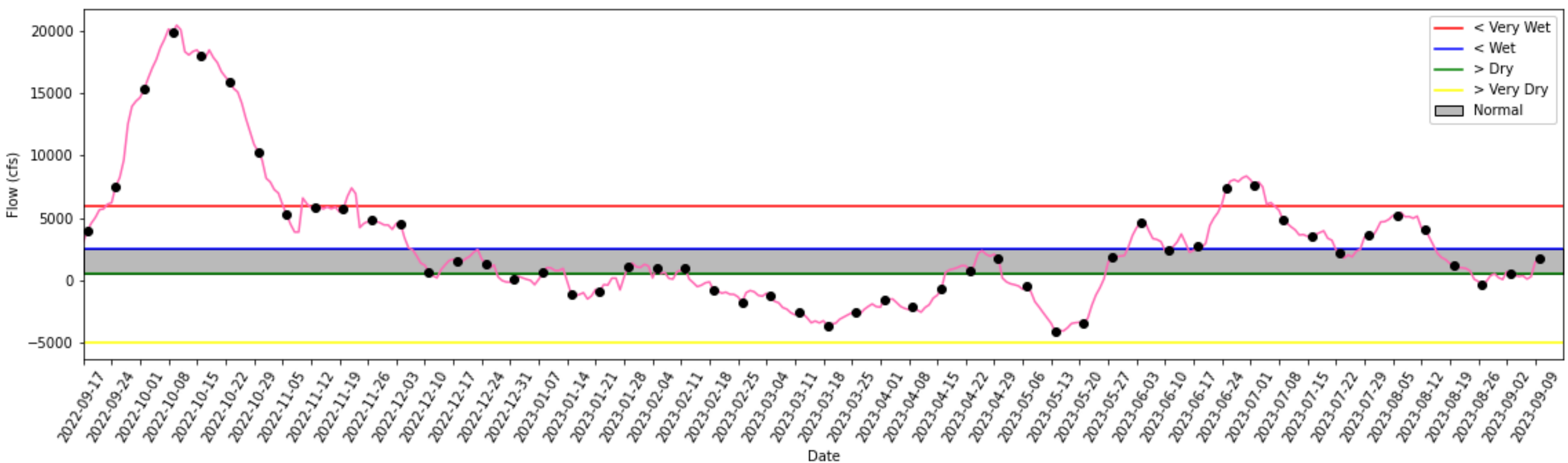


(See assumptions on the Position Analysis Results website)

09/12/23 08:13:04

Tributary Basin Condition Indicators as of September 10 2023





2008 LORS

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

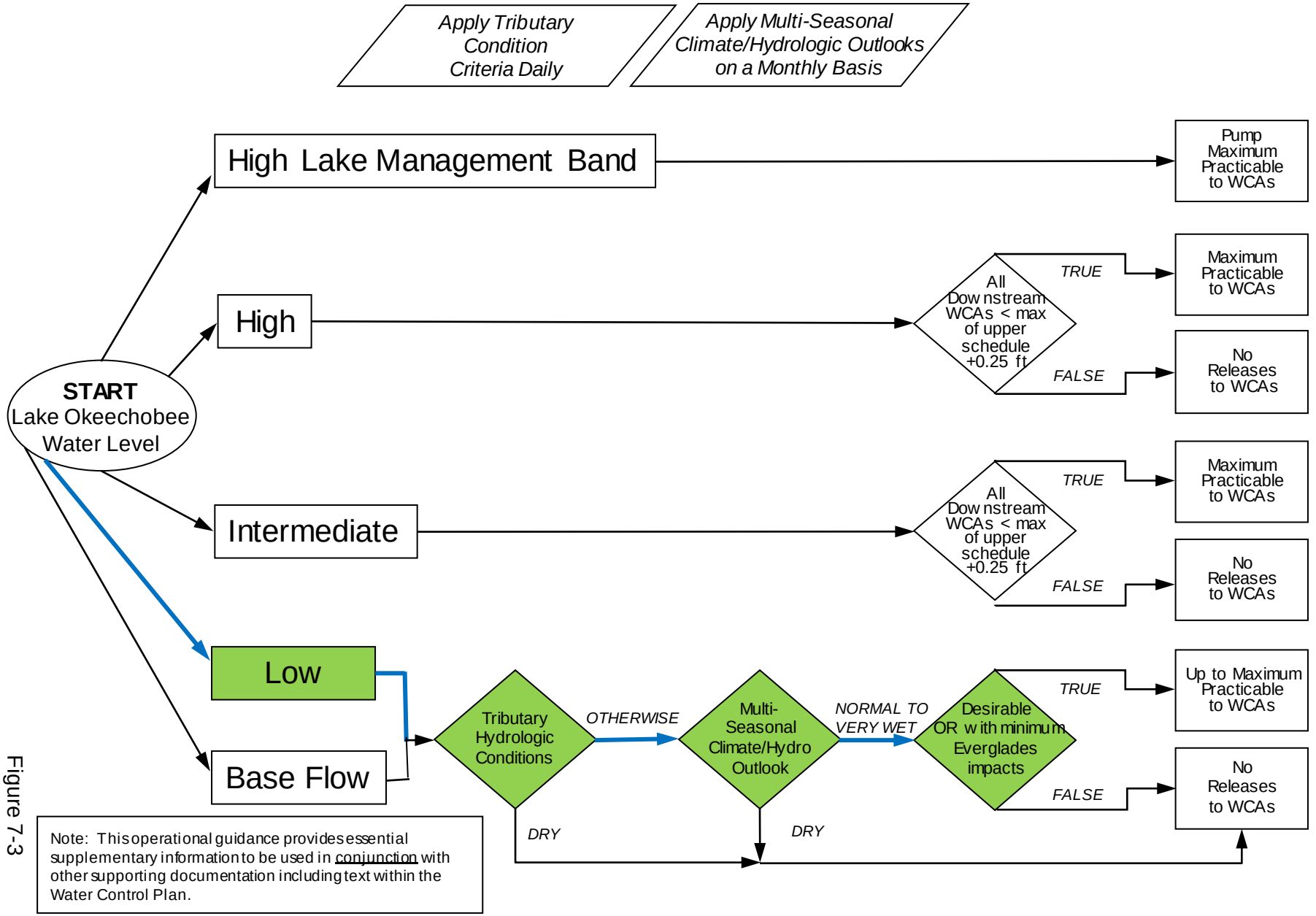


Figure 7-3

2008 LORS

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

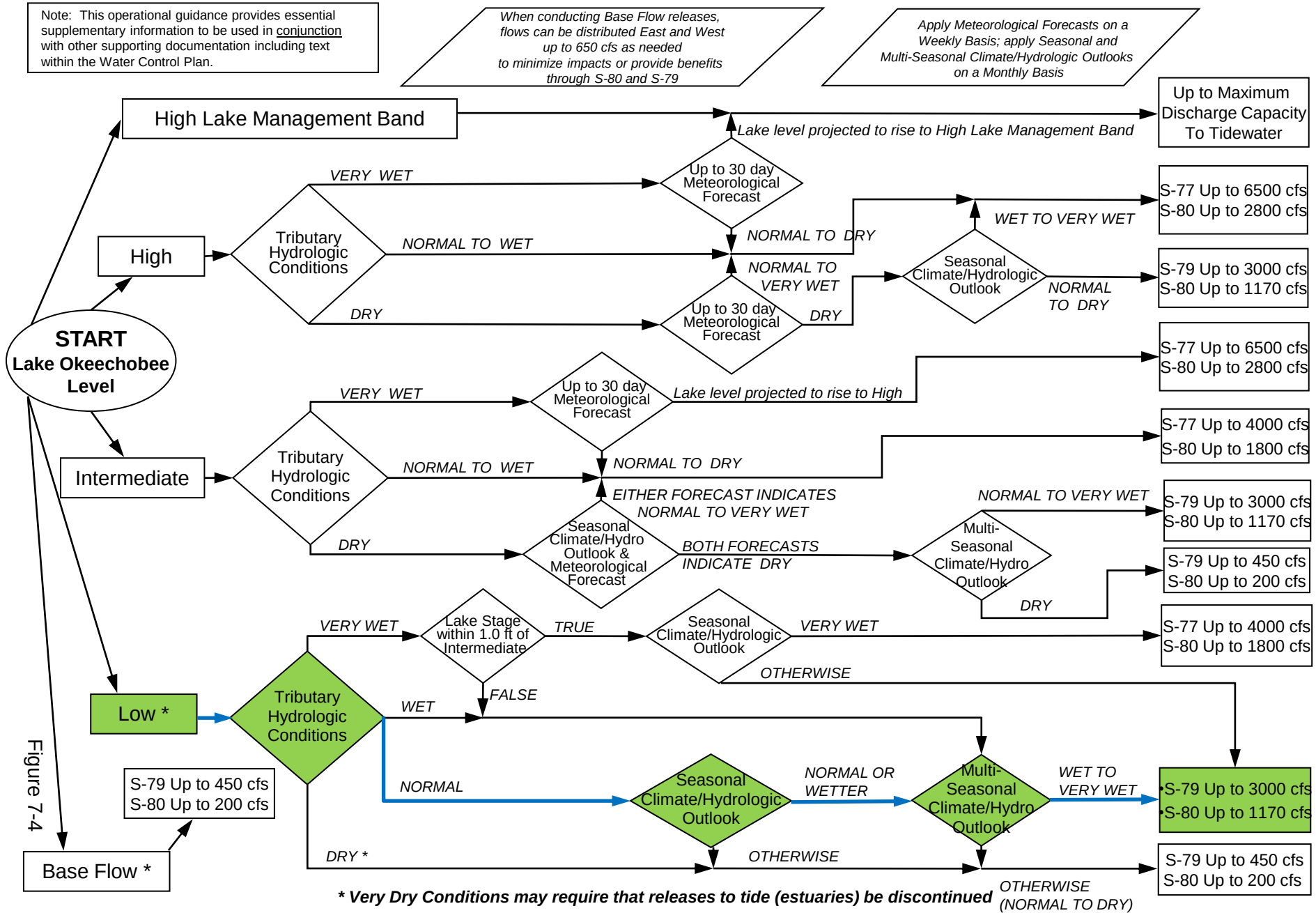
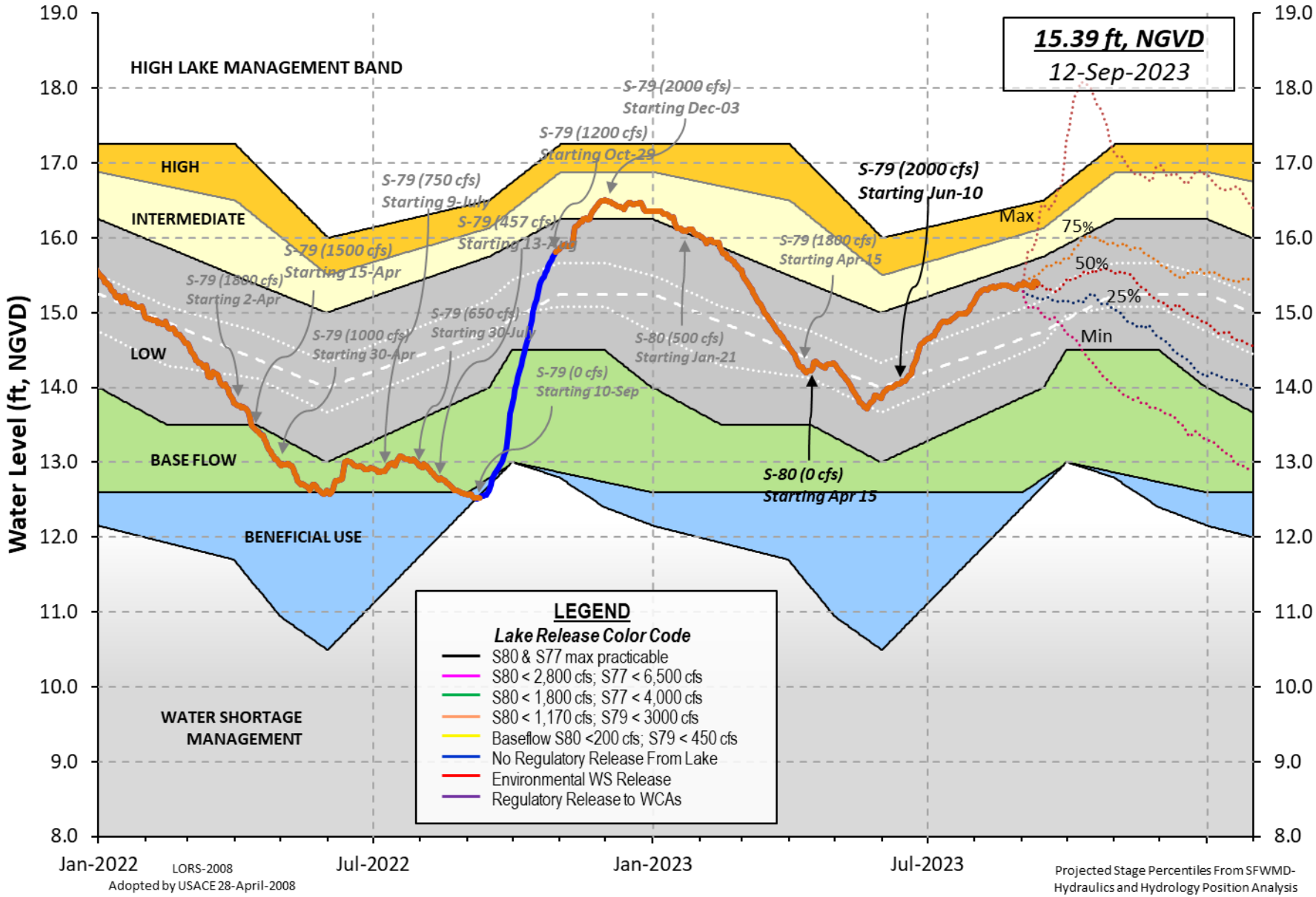


Figure 7-4

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 SEP 2023

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.41	12.55	14.82 (Official Elv)

Bottom of High Lake Mngmt= 16.48 Top of Water Short Mngmt= 12.59
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.41
Difference from Average LORS2008 1.99

10SEP (1965-2007) Period of Record Average 14.47
Difference from POR Average 0.94

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.35'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.55'
Bridge Clearance = 49.27'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.48	15.42	15.39	15.33	15.35	15.50	15.44	15.37

*Combination Okeechobee Avg-Daily Lake Average = 15.41 (*See Note)

Okeechobee Inflows (cfs):

S65E	602	S65EX1	0	Fisheating Cr	382
S154	24	S191	0	S135 Pumps	0
S84	954	S133 Pumps	0	S2 Pumps	0
S84X	292	S127 Pumps	0	S3 Pumps	0
S71	240	S129 Pumps	0	S4 Pumps	0
S72	191	S131 Pumps	0	C5	0
Total Inflows:	2685				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	1005
S127 Culverts	0	S351	0	S308	2
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-NR-		
Total Outflows:	1007				

****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	0.30	S308	0.27

Average Pan Evap x 0.75 Pan Coefficient = 0.21" = 0.02'

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 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								
North East Shore											
S133 Pumps:	13.54	15.37	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.80	15.36	0	0.0	0.0	0.0					
S135 Pumps:	13.38	15.26	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.10	15.12	602	0.3	0.1	0.0	0.0	0.7	0.6		
S65EX1:	21.10	15.12	0								
S127 Pumps:	13.40	15.34	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.93	15.41	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.80	13.14	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.16	382								
nr Lakeport											
S282	15.32	15.32		0.0	0.0	0.1					
South Shore											
S4 Pumps:	11.43	-NR-	0	0	0	0			(cfs)		
S169:	15.40	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	15.30		-14								
S3 Pumps:	10.58	15.36	0	0	0	0			(cfs)		
S354:	15.36	10.58	0	0.0	0.0						
S2 Pumps:	10.09	15.44	0	0	0	0	0		(cfs)		
S351:	15.44	10.09	0	0.0	0.0	0.0					
S352:	15.46	10.71	0	0.0	0.0						
S271:	15.71	14.32		-NR-	0.0	0.0	0.0				
L8 Canal PT			-NR-								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.09	15.44	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.71	15.46	0	-NR-	-NR-	-NR-	-NR-				
S354:	10.58	15.36	0	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	12.83	11.96		0.5	1.0						
S47D:	12.06	11.00	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	15.14	10.85	1002	0.0	3.0	3.0	0.0				
Flow Due to Lockages+:			3								
S78:											

```
    Spillway and Sector Flow:
              10.89      2.96    1129    1.0  0.0  2.5  0.0
    Flow Due to Lockages+:          13

  S79:
    Spillway and Sector Flow:
               3.17      1.14    2007    0.0  0.0  2.0  2.0  2.0  2.0  1.0  0.0
    Flow Due to Lockages+:           7
    Percent of flow from S77        50%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              15.50     14.23       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           2

  S153:        18.78     13.99       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
              14.22      1.20       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           8
    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	107	1
S78:	-NR-	0.00	0.00	205	1
S79:	-NR-	0.00	0.00	101	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	103	4
S80:	-NR-	0.00	0.00	135	0
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  10 SEP 2023          15.41 Difference from 10SEP23
   10SEP23  -1 Day  =       09 SEP 2023          15.41             0.00
```

10SEP23 -2 Days =	08 SEP 2023	15.34	-0.07
10SEP23 -3 Days =	07 SEP 2023	15.34	-0.07
10SEP23 -4 Days =	06 SEP 2023	15.36	-0.05
10SEP23 -5 Days =	05 SEP 2023	15.37	-0.04
10SEP23 -6 Days =	04 SEP 2023	15.38	-0.03
10SEP23 -7 Days =	03 SEP 2023	15.39	-0.02
10SEP23 -30 Days =	11 AUG 2023	15.34	-0.07
10SEP23 -1 Year =	10 SEP 2022	12.55	-2.86
10SEP23 -2 Year =	10 SEP 2021	14.82	-0.59

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
10SEP23 Today =	10 SEP 2023	1126	MON	-NR-
10SEP23 -1 Day =	09 SEP 2023	867	SUN	-NR-
10SEP23 -2 Days =	08 SEP 2023	614	SAT	-NR-
10SEP23 -3 Days =	07 SEP 2023	402	FRI	-NR-
10SEP23 -4 Days =	06 SEP 2023	373	THU	-1375
10SEP23 -5 Days =	05 SEP 2023	316	WED	-1296
10SEP23 -6 Days =	04 SEP 2023	421	TUE	-1551
10SEP23 -7 Days =	03 SEP 2023	531	MON	-2052
10SEP23 -8 Days =	02 SEP 2023	704	SUN	8786
10SEP23 -9 Days =	01 SEP 2023	76	SAT	76
10SEP23 -10 Days =	31 AUG 2023	226	FRI	-4336
10SEP23 -11 Days =	30 AUG 2023	535	THU	4336
10SEP23 -12 Days =	29 AUG 2023	380	WED	8674
10SEP23 -13 Days =	28 AUG 2023	-74	TUE	0

S65E

	Average Flow over previous 14 days			Avg-Daily Flow
10SEP23 Today=	10 SEP 2023	618	MON	678
10SEP23 -1 Day =	09 SEP 2023	614	SUN	578
10SEP23 -2 Days =	08 SEP 2023	619	SAT	752
10SEP23 -3 Days =	07 SEP 2023	613	FRI	608
10SEP23 -4 Days =	06 SEP 2023	619	THU	434
10SEP23 -5 Days =	05 SEP 2023	648	WED	526
10SEP23 -6 Days =	04 SEP 2023	686	TUE	583
10SEP23 -7 Days =	03 SEP 2023	712	MON	721
10SEP23 -8 Days =	02 SEP 2023	743	SUN	923
10SEP23 -9 Days =	01 SEP 2023	774	SAT	927
10SEP23 -10 Days =	31 AUG 2023	810	FRI	478
10SEP23 -11 Days =	30 AUG 2023	848	THU	469
10SEP23 -12 Days =	29 AUG 2023	879	WED	366
10SEP23 -13 Days =	28 AUG 2023	961	TUE	607

S65EX1

	Average Flow over previous 14 days			Avg-Daily Flow
10SEP23 Today=	10 SEP 2023	0	MON	0
10SEP23 -1 Day =	09 SEP 2023	0	SUN	0
10SEP23 -2 Days =	08 SEP 2023	0	SAT	0
10SEP23 -3 Days =	07 SEP 2023	0	FRI	0
10SEP23 -4 Days =	06 SEP 2023	0	THU	0
10SEP23 -5 Days =	05 SEP 2023	0	WED	0
10SEP23 -6 Days =	04 SEP 2023	0	TUE	0
10SEP23 -7 Days =	03 SEP 2023	0	MON	0
10SEP23 -8 Days =	02 SEP 2023	0	SUN	0
10SEP23 -9 Days =	01 SEP 2023	0	SAT	0
10SEP23 -10 Days =	31 AUG 2023	0	FRI	0
10SEP23 -11 Days =	30 AUG 2023	0	THU	0
10SEP23 -12 Days =	29 AUG 2023	0	WED	0
10SEP23 -13 Days =	28 AUG 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)
10 SEP 2023	2058	2313	2267	4041
09 SEP 2023	293	1095	1851	2867
08 SEP 2023	1134	1277	912	2506
07 SEP 2023	1449	1541	1728	2982
06 SEP 2023	1528	1692	2018	3852
05 SEP 2023	1564	1699	1999	4280
04 SEP 2023	1253	1441	2394	5040
03 SEP 2023	244	786	2672	5440
02 SEP 2023	216	695	1643	3823
01 SEP 2023	171	201	601	1804
31 AUG 2023	5	152	583	3730
30 AUG 2023	1	259	548	501
29 AUG 2023	5	-84	597	1482
28 AUG 2023	5	113	606	2198

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 SEP 2023	-27	0	0	0	-NR-
09 SEP 2023	-113	0	0	0	-NR-
08 SEP 2023	-2	0	0	0	-NR-
07 SEP 2023	160	0	0	0	-3
06 SEP 2023	44	0	0	49	-9
05 SEP 2023	12	170	0	0	0
04 SEP 2023	11	0	0	0	3
03 SEP 2023	6	0	0	0	10
02 SEP 2023	15	0	0	0	9
01 SEP 2023	-79	0	0	0	0
31 AUG 2023	-136	0	0	0	-7
30 AUG 2023	82	0	0	0	-8
29 AUG 2023	10	0	0	0	5
28 AUG 2023	17	0	0	0	-3

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
10 SEP 2023	3	-NR-	15
09 SEP 2023	1	-NR-	38
08 SEP 2023	-NR-	-NR-	30
07 SEP 2023	-NR-	-NR-	11
06 SEP 2023	2	-NR-	19
05 SEP 2023	1	-NR-	30
04 SEP 2023	2	-NR-	29
03 SEP 2023	2	-NR-	7
02 SEP 2023	2	-NR-	26
01 SEP 2023	1	-NR-	31
31 AUG 2023	1	-NR-	16
30 AUG 2023	1	-NR-	8
29 AUG 2023	5	-NR-	33
28 AUG 2023	2	-NR-	7

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

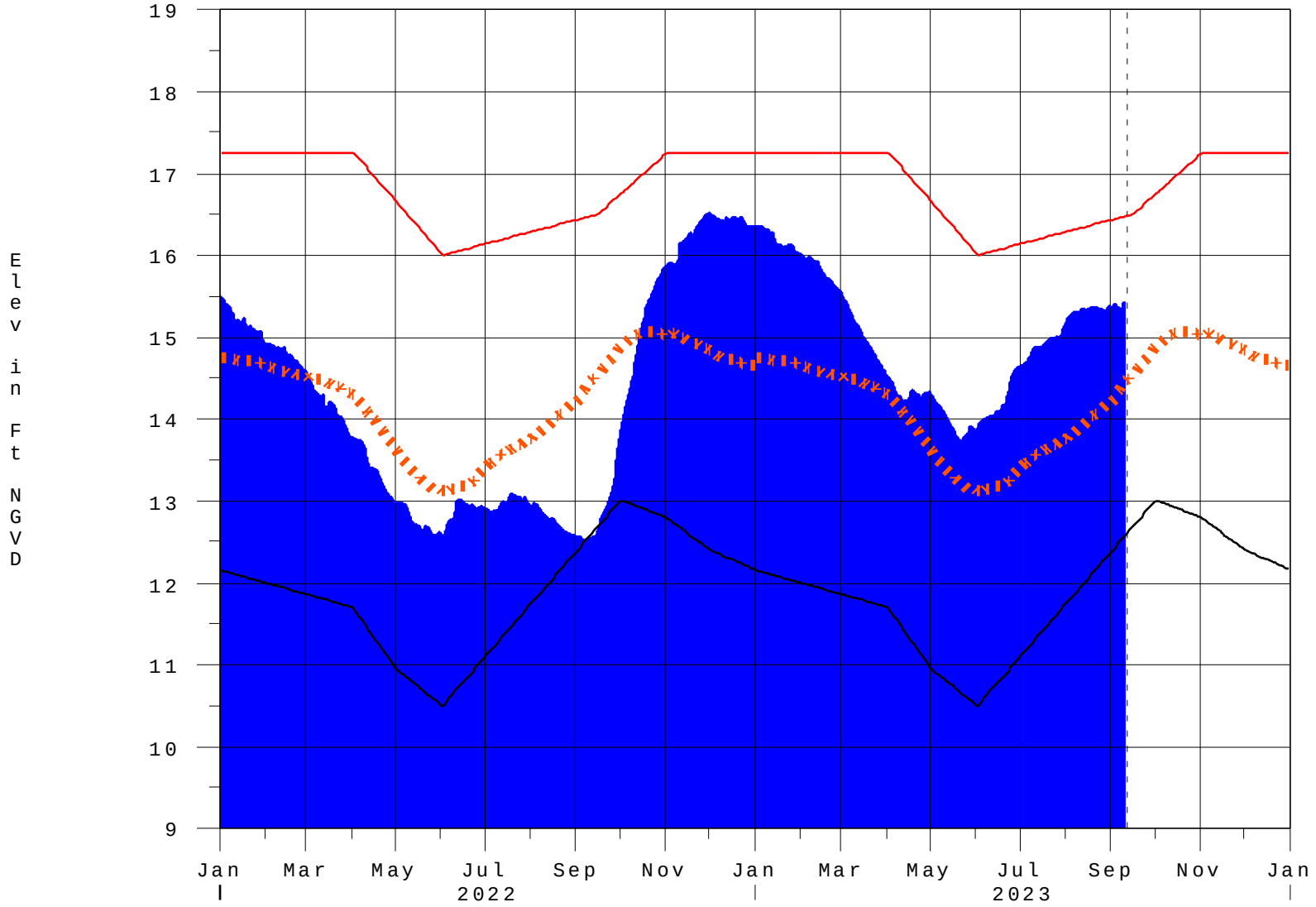
(I) - Flows preceeded by "I" signify an instantaneous
flow computed from the single value reported for the day

```
   * 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 Okechobee 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 11SEP2023 @ 14:38 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

11SEP23 14:30:20



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 >= 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**