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

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 La Niña years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Niña 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 La Niña ENSO Years**		Sub-sampling of AMO Warm + La Niña ENSO Years***	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Dec-May)	N/A	N/A	0.06	Dry	-0.12	Dry	-0.37	Dry
Multi Seasonal (Dec-Oct)	N/A	N/A	2.42	Normal	2.63	Wet	2.13	Normal

*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:

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

1.13 for Palmer Drought Index on 12/10/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 12/12/2022:

Lake Okeechobee Stage: **16.41 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	← 16.41 ft
	Low sub-band	14.32	
Base Flow sub-band		12.69	
Beneficial Use sub-band		12.31	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

Maximum practicable to WCAs if “All downstream WCAs < max. of upper schedule + 0.25 ft”. Currently, all WCAs have the potential to receive regulatory releases from Lake Okeechobee.

Part D of LORS2008: Discharge to Tide

Up to 4000 cfs at S-77 and up to 1800 cfs at S-80.

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

Status for week ending 12/12/2022*:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Intermediate Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	1.13 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	-0.12 ft	H
	ENSO Forecast	Extremely Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.63 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T, 1-9)	Above Line 1 (17.30 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.95 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.42 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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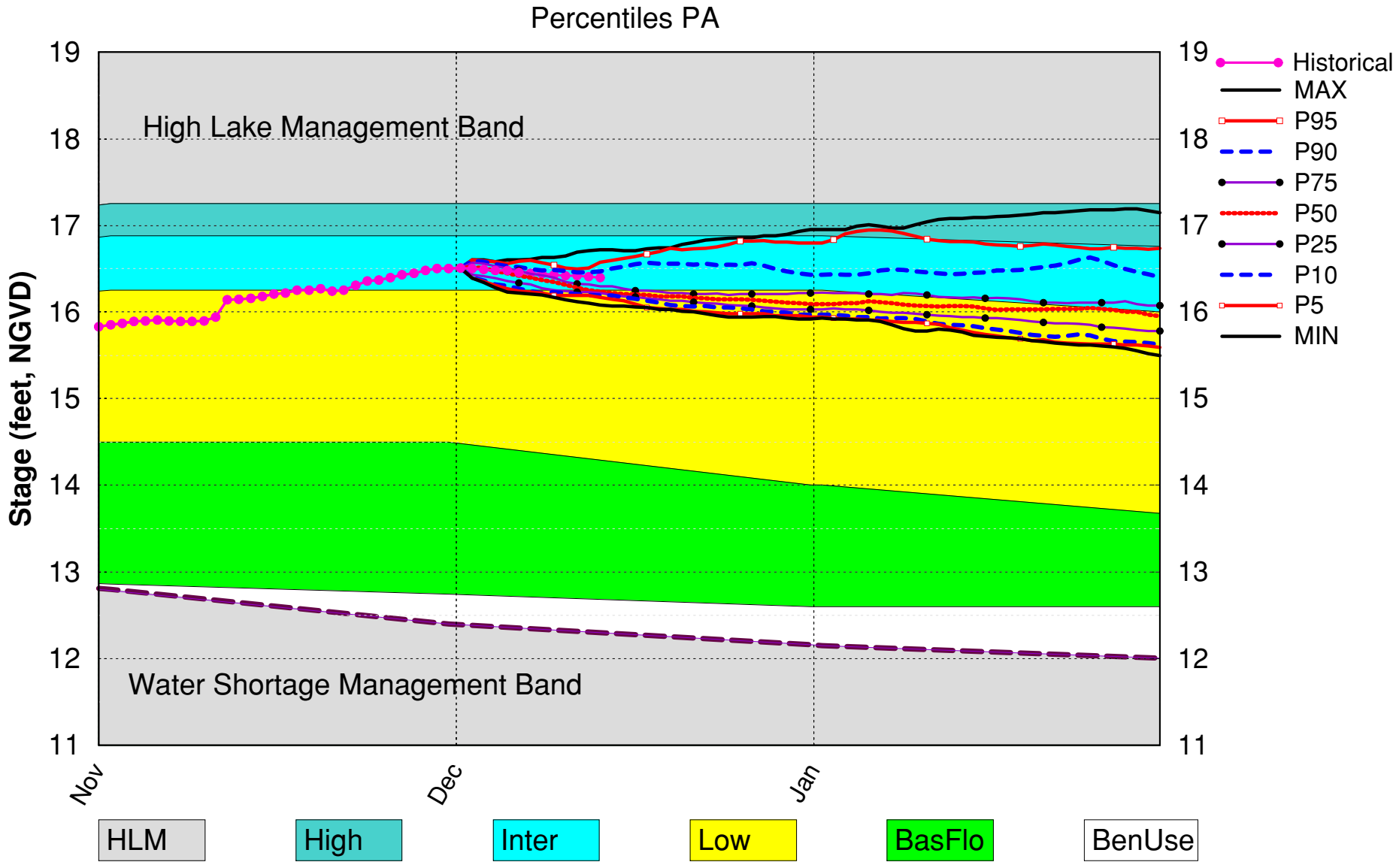
*- S80 flow data is missing on Dec 11, 2022 and was assumed to be zero

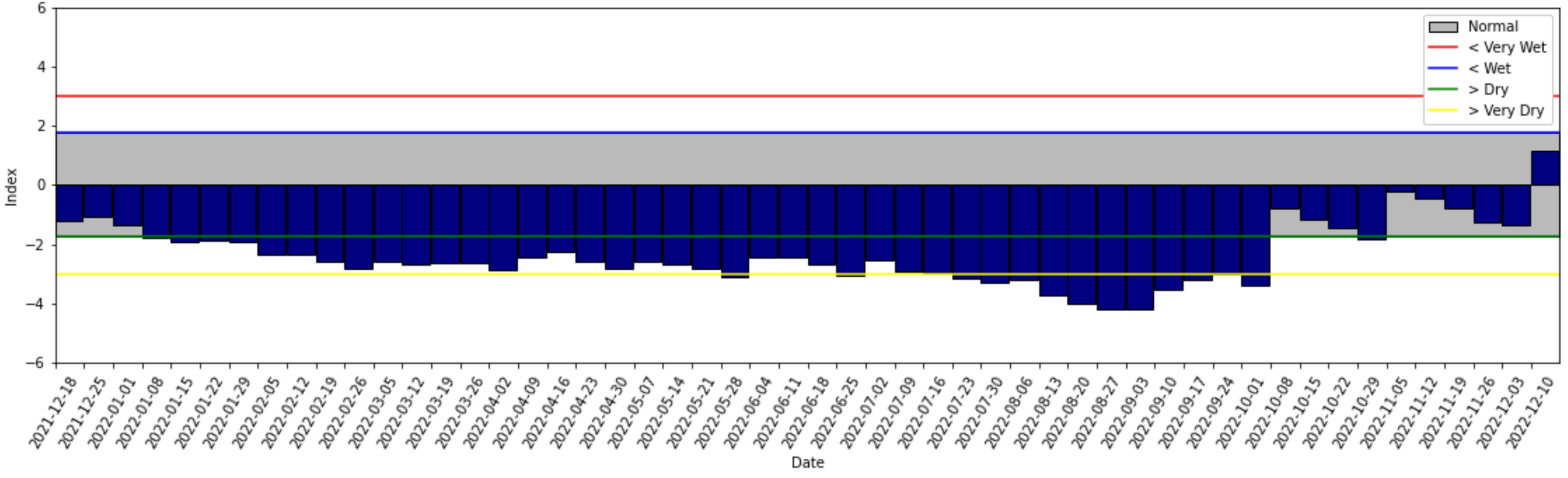
Lake Okeechobee SFWMM December 2022 Position Analysis

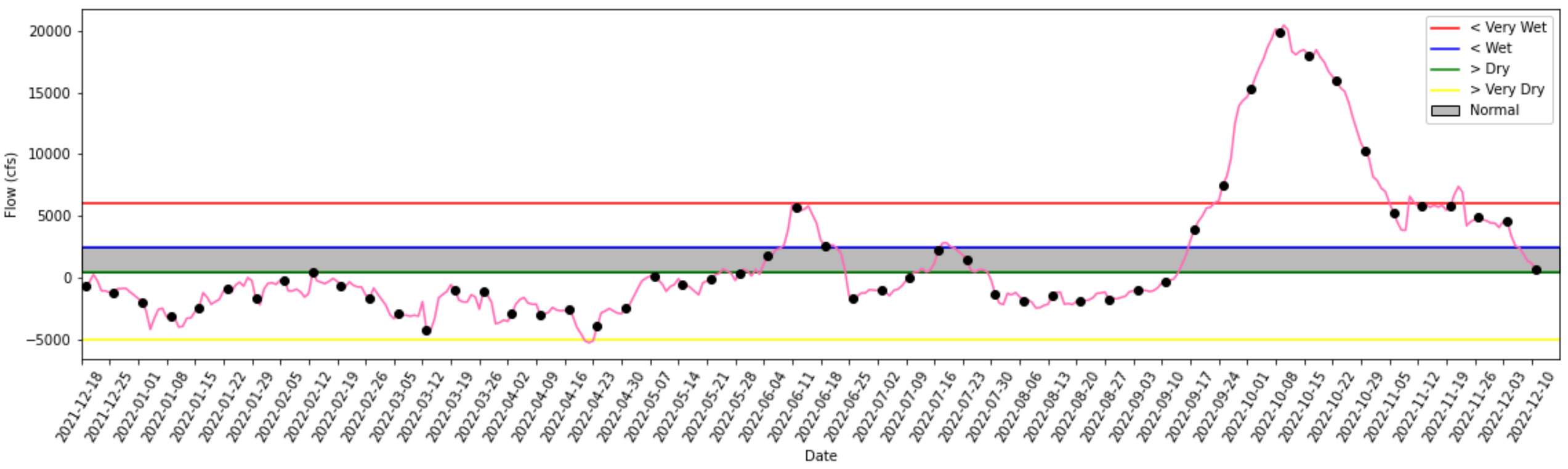


(See assumptions on the Position Analysis Results website)

Tue Dec 13 08:08:01 2022

Tributary Basin Condition Indicators as of December 11 2022





2008 LORS

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

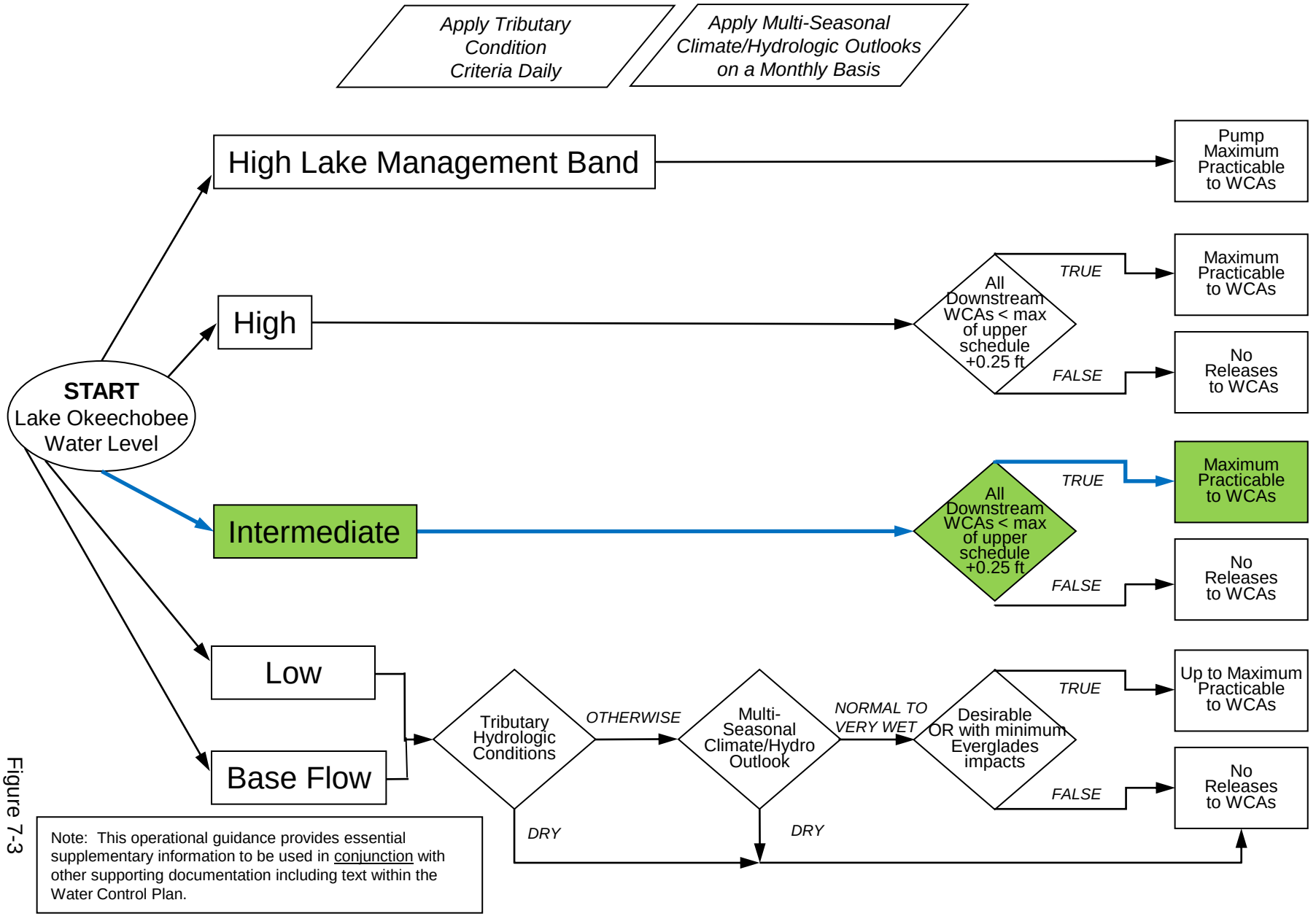


Figure 7-3

Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

2008 LORS

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

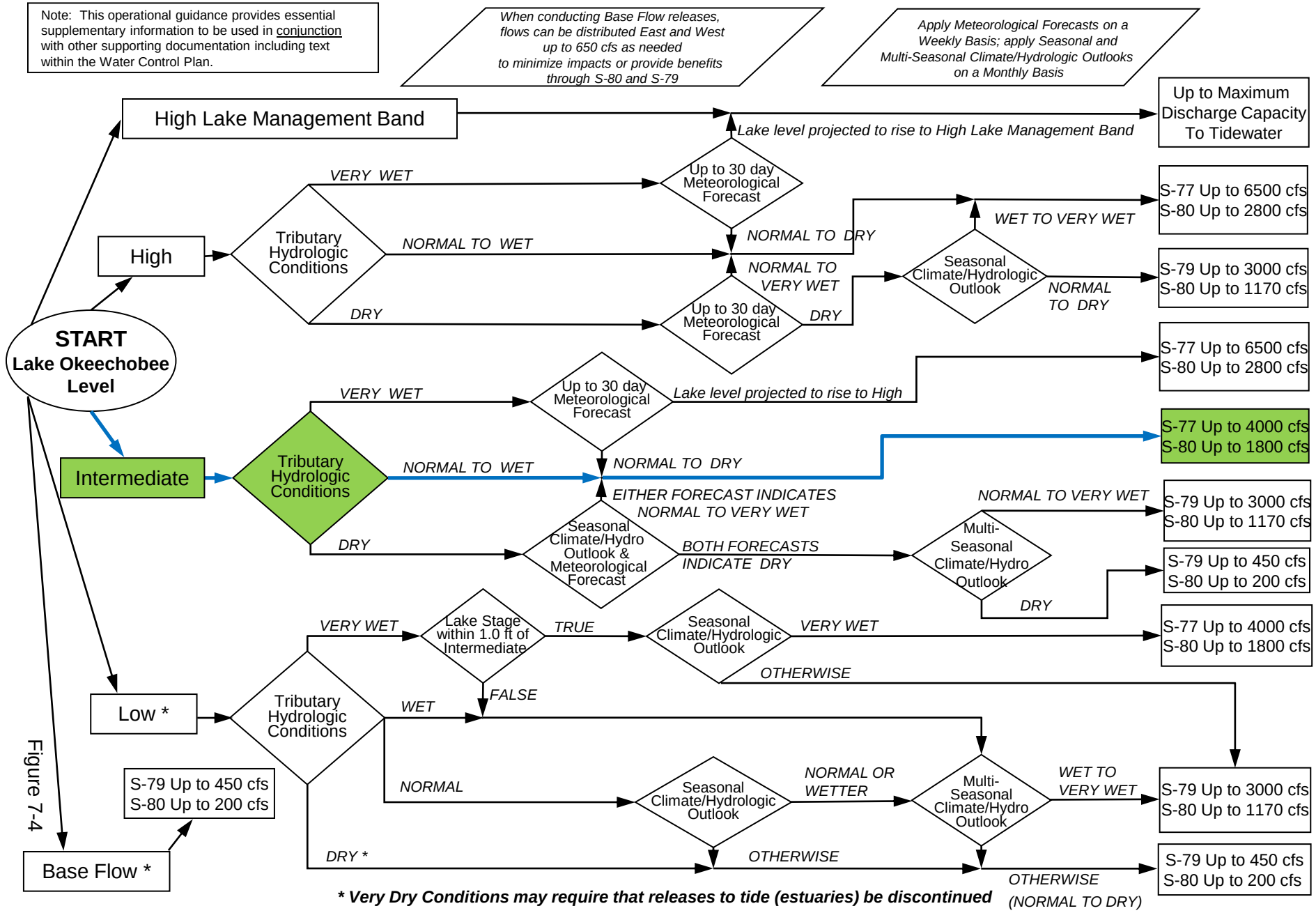
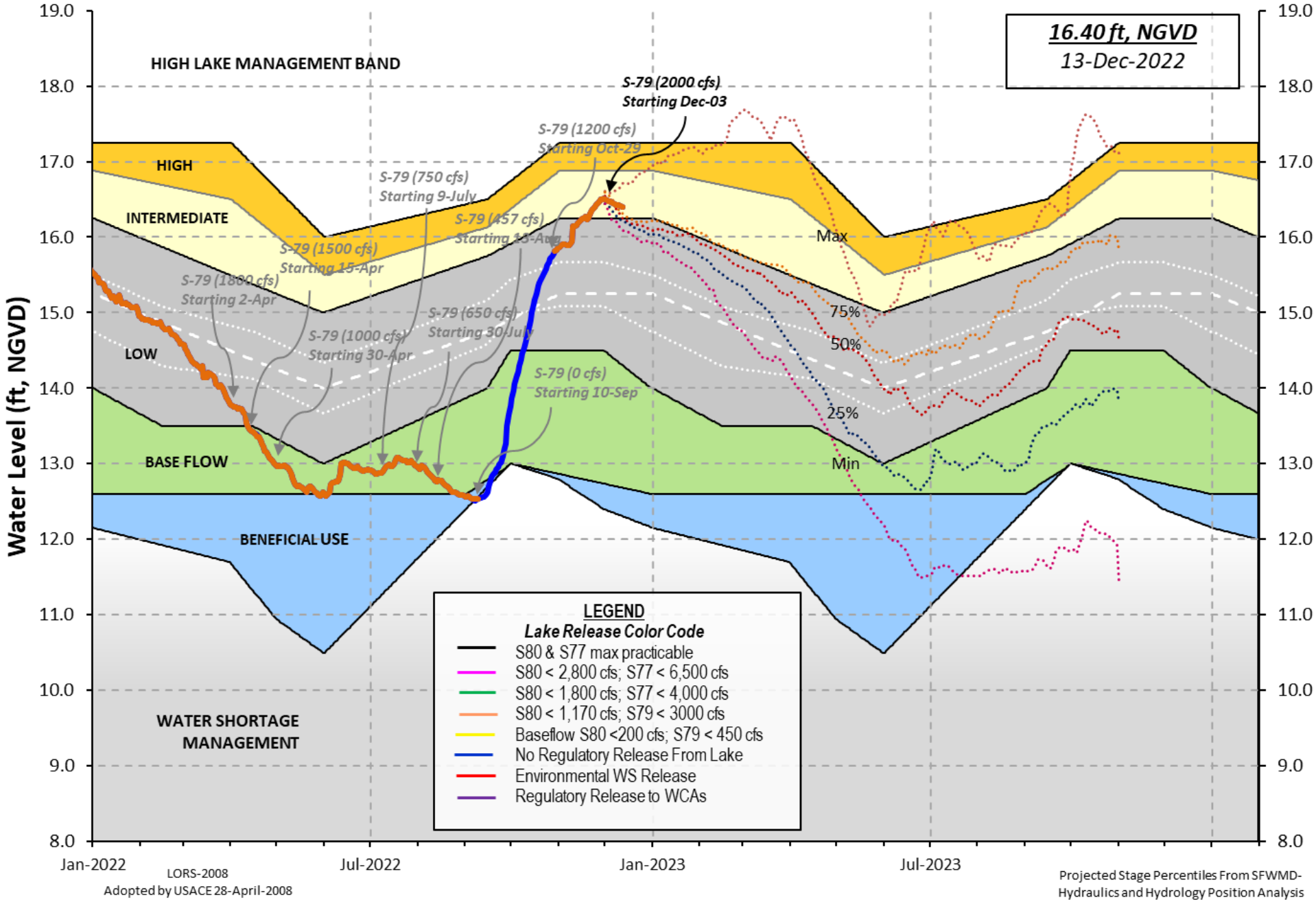


Figure 7-4

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 11 DEC 2022

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)	
*Okeechobee Lake Elevation	16.41	15.81	15.99	(Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.31
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.67
Difference from Average LORS2008 2.74

11DEC (1965-2007) Period of Record Average 14.74
Difference from POR Average 1.66

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 10.35'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 8.55'
Bridge Clearance = 49.30'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.45	16.47	16.49	16.42	16.49	16.59	16.06	16.34

*Combination Okeechobee Avg-Daily Lake Average = 16.41 (*See Note)

Okeechobee Inflows (cfs):

S65E	1609	S65EX1	0	Fisheating Cr	95
S154	0	S191	0	S135 Pumps	0
S84	199	S133 Pumps	0	S2 Pumps	0
S84X	51	S127 Pumps	0	S3 Pumps	0
S71	71	S129 Pumps	0	S4 Pumps	0
S72	124	S131 Pumps	0	C5	0
Total Inflows:	2150				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	126	S77	626
S127 Culverts	0	S351	522	S308	4
S129 Culverts	0	S352	372		
S131 Culverts	0	L8 Canal Pt	34		
Total Outflows:	1683				

****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	0.18	S308	0.11

Average Pan Evap x 0.75 Pan Coefficient = 0.11" = 0.01'

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 -2269 cfs or -4500 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:	13.66	16.35	0	0	0	0	0	0	(cfs)		
S193:											
S191:	19.53	16.35	0	0.0	0.0	0.0					
S135 Pumps:	13.40	16.30	0	0	0	0	0	(cfs)			
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.91	16.21	1609	1.2	0.8	0.7	0.6	0.9	0.7		
S65EX1:	20.91	16.21	0								
S127 Pumps:	13.71	16.29	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.11	16.39	0	0	0	0	(cfs)				
S129 Culvert:			0	0.0							
S131 Pumps:	13.20	16.34	0	0	0	(cfs)					
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.58	95								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.96	-NR-	0	0	0	0	(cfs)				
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	16.49		1								
S3 Pumps:	10.68	16.57	0	0	0	0	(cfs)				
S354:	16.57	10.68	126	0.1	0.3						
S2 Pumps:	10.85	16.58	0	0	0	0	0	(cfs)			
S351:	16.58	10.85	522	0.4	0.4	0.5					
S352:	16.57	10.86	372	0.2	0.2						
C10A:	-NR-	-NR-		-NR-	-NR-	-NR-	-NR-	-NR-			
L8 Canal PT		13.48	34								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.85	16.58	522	-NR--NR--NR--NR--NR--NR-							
S352:	10.86	16.57	372	-NR--NR--NR--NR-							
S354:	10.68	16.57	126	-NR--NR--NR--NR-							
Caloosahatchee River (S77, S78, S79)											
S47B:	14.37	12.16		1.0	1.0						
S47D:	12.18	11.33	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	16.33	11.20	618	0.5	3.0	0.5	0.0				
Flow Due to Lockages+:			8								
S78:											

```
    Spillway and Sector Flow:
              11.21      2.85     821    2.0  0.0  0.0  1.5
    Flow Due to Lockages+:          13

  S79:
    Spillway and Sector Flow:
               3.02      1.33    1323    0.0  0.0  0.0  2.0  2.0  2.0  0.0  0.0
    Flow Due to Lockages+:           6
    Percent of flow from S77        47%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              16.19     14.20       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           4

  S153:        18.90     14.29      26    0.0  0.0
  S80:
    Spillway and Sector Flow:
              14.57      2.14       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	54	6
S78:	-NR-	0.00	0.00	341	2
S79:	-NR-	0.00	0.00	3	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:	-NR-	0.00	0.00	6	4
S80:	-NR-	0.00	0.00	12	3
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  11 DEC 2022          16.41 Difference from 11DEC22
   11DEC22  -1 Day  =       10 DEC 2022          16.42             0.01
```

11DEC22	-2 Days =	09 DEC 2022	16.42	0.01
11DEC22	-3 Days =	08 DEC 2022	16.43	0.02
11DEC22	-4 Days =	07 DEC 2022	16.44	0.03
11DEC22	-5 Days =	06 DEC 2022	16.45	0.04
11DEC22	-6 Days =	05 DEC 2022	16.46	0.05
11DEC22	-7 Days =	04 DEC 2022	16.48	0.07
11DEC22	-30 Days =	11 NOV 2022	16.15	-0.26
11DEC22	-1 Year =	11 DEC 2021	15.81	-0.60
11DEC22	-2 Year =	11 DEC 2020	15.99	-0.42

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
11DEC22	Today =	11 DEC 2022	680	MON	-597
11DEC22	-1 Day =	10 DEC 2022	1211	SUN	2067
11DEC22	-2 Days =	09 DEC 2022	1390	SAT	-1193
11DEC22	-3 Days =	08 DEC 2022	1963	FRI	-147
11DEC22	-4 Days =	07 DEC 2022	2461	THU	226
11DEC22	-5 Days =	06 DEC 2022	2609	WED	-162
11DEC22	-6 Days =	05 DEC 2022	3432	TUE	-2352
11DEC22	-7 Days =	04 DEC 2022	4574	MON	2350
11DEC22	-8 Days =	03 DEC 2022	4570	SUN	-78
11DEC22	-9 Days =	02 DEC 2022	4092	SAT	-314
11DEC22	-10 Days =	01 DEC 2022	4440	FRI	-70
11DEC22	-11 Days =	30 NOV 2022	4447	THU	4453
11DEC22	-12 Days =	29 NOV 2022	4616	WED	512
11DEC22	-13 Days =	28 NOV 2022	4743	TUE	4829

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
11DEC22	Today=	11 DEC 2022	2260	MON	1751
11DEC22	-1 Day =	10 DEC 2022	2381	SUN	1737
11DEC22	-2 Days =	09 DEC 2022	2519	SAT	1782
11DEC22	-3 Days =	08 DEC 2022	2645	FRI	1747
11DEC22	-4 Days =	07 DEC 2022	2764	THU	1944
11DEC22	-5 Days =	06 DEC 2022	2850	WED	2062
11DEC22	-6 Days =	05 DEC 2022	2926	TUE	2167
11DEC22	-7 Days =	04 DEC 2022	3001	MON	2212
11DEC22	-8 Days =	03 DEC 2022	3041	SUN	2238
11DEC22	-9 Days =	02 DEC 2022	3078	SAT	2372
11DEC22	-10 Days =	01 DEC 2022	3121	FRI	2720
11DEC22	-11 Days =	30 NOV 2022	3149	THU	2804
11DEC22	-12 Days =	29 NOV 2022	3175	WED	2953
11DEC22	-13 Days =	28 NOV 2022	3187	TUE	3155

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
11DEC22	Today=	11 DEC 2022	14	MON	0
11DEC22	-1 Day =	10 DEC 2022	26	SUN	0
11DEC22	-2 Days =	09 DEC 2022	38	SAT	0
11DEC22	-3 Days =	08 DEC 2022	50	FRI	0
11DEC22	-4 Days =	07 DEC 2022	62	THU	0
11DEC22	-5 Days =	06 DEC 2022	73	WED	0
11DEC22	-6 Days =	05 DEC 2022	85	TUE	0
11DEC22	-7 Days =	04 DEC 2022	97	MON	0
11DEC22	-8 Days =	03 DEC 2022	109	SUN	0
11DEC22	-9 Days =	02 DEC 2022	121	SAT	0
11DEC22	-10 Days =	01 DEC 2022	133	FRI	0
11DEC22	-11 Days =	30 NOV 2022	145	THU	0
11DEC22	-12 Days =	29 NOV 2022	157	WED	40
11DEC22	-13 Days =	28 NOV 2022	166	TUE	162

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 DEC 2022	1312	1559	1706	2656
10 DEC 2022	990	1382	656	1592
09 DEC 2022	757	1227	1508	1701
08 DEC 2022	2347	2717	1825	2865
07 DEC 2022	2893	3271	2551	3491
06 DEC 2022	2717	2808	2556	3648
05 DEC 2022	3498	3807	3146	4680
04 DEC 2022	3464	3852	3640	5630
03 DEC 2022	3901	4556	3361	4724
02 DEC 2022	3683	4374	3113	4503
01 DEC 2022	4144	4571	3276	5622
30 NOV 2022	4338	4248	3507	3816
29 NOV 2022	1024	1016	1148	2949
28 NOV 2022	589	770	361	2014

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 DEC 2022	3	1036	737	249	67
10 DEC 2022	7	1525	759	832	13
09 DEC 2022	9	594	407	238	96
08 DEC 2022	7	737	605	331	201
07 DEC 2022	7	892	493	459	224
06 DEC 2022	15	610	303	492	17
05 DEC 2022	11	291	248	106	211
04 DEC 2022	1	238	218	421	338
03 DEC 2022	8	0	47	34	369
02 DEC 2022	9	0	46	33	136
01 DEC 2022	3	0	46	154	6
30 NOV 2022	15	0	45	0	-6
29 NOV 2022	5	0	46	0	8
28 NOV 2022	-3	0	46	0	-19

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
11 DEC 2022	8	-NR-	-NR-
10 DEC 2022	10	-NR-	34
09 DEC 2022	10	-NR-	50
08 DEC 2022	9	-NR-	31
07 DEC 2022	11	-NR-	53
06 DEC 2022	16	-NR-	42
05 DEC 2022	7	-NR-	41
04 DEC 2022	9	-NR-	45
03 DEC 2022	16	-NR-	54
02 DEC 2022	13	-NR-	56
01 DEC 2022	18	-NR-	51
30 NOV 2022	14	-NR-	245
29 NOV 2022	12	-NR-	556
28 NOV 2022	8	-NR-	632

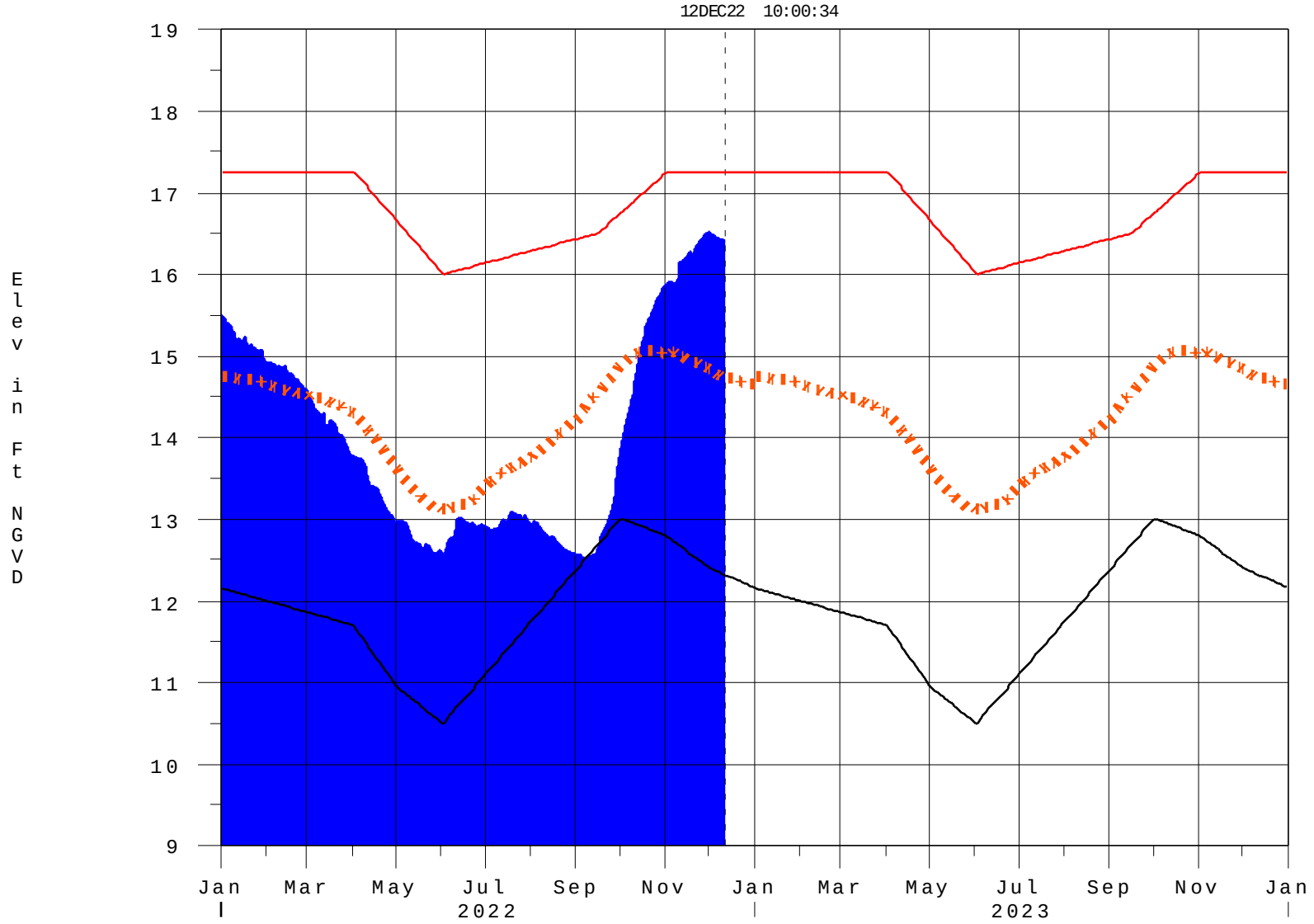
*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(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 12DEC2022 @ 09:52 ** Preliminary Data - Subject to Revision **

Lake Okeechobee



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**