Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 3/18/2024 (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 (Mar-Aug)	N/A	N/A	1.29	Normal	1.46	Normal	2.13	Very Wet
Multi Seasonal (Mar-Oct)	N/A	N/A	2.40	Normal	2.67	Wet	4.19	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:

493 cfs 14-day running average for Lake Okeechobee Net Inflow through 3/18/2024. According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-0.41 for Palmer Drought Index on 3/16/2024.According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 3/18/2024:

Lake Okeechobee Stage: **15.75 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.56	
	Intermediate sub-band	15.62	← 15.75 ft
	Low sub-band	13.50	
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.77	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

Maximum Practicable to WCAs.

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 3/18/2024 (ENSO Condition- El Niño):

Status for week ending 3/18/2024*:

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	-0.41 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.46 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.67 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: Site 1-8C	Above Line 1 (16.71 ft)	L
	WCA 2A: Site S11B	Above Line 1 (11.77 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.21 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.

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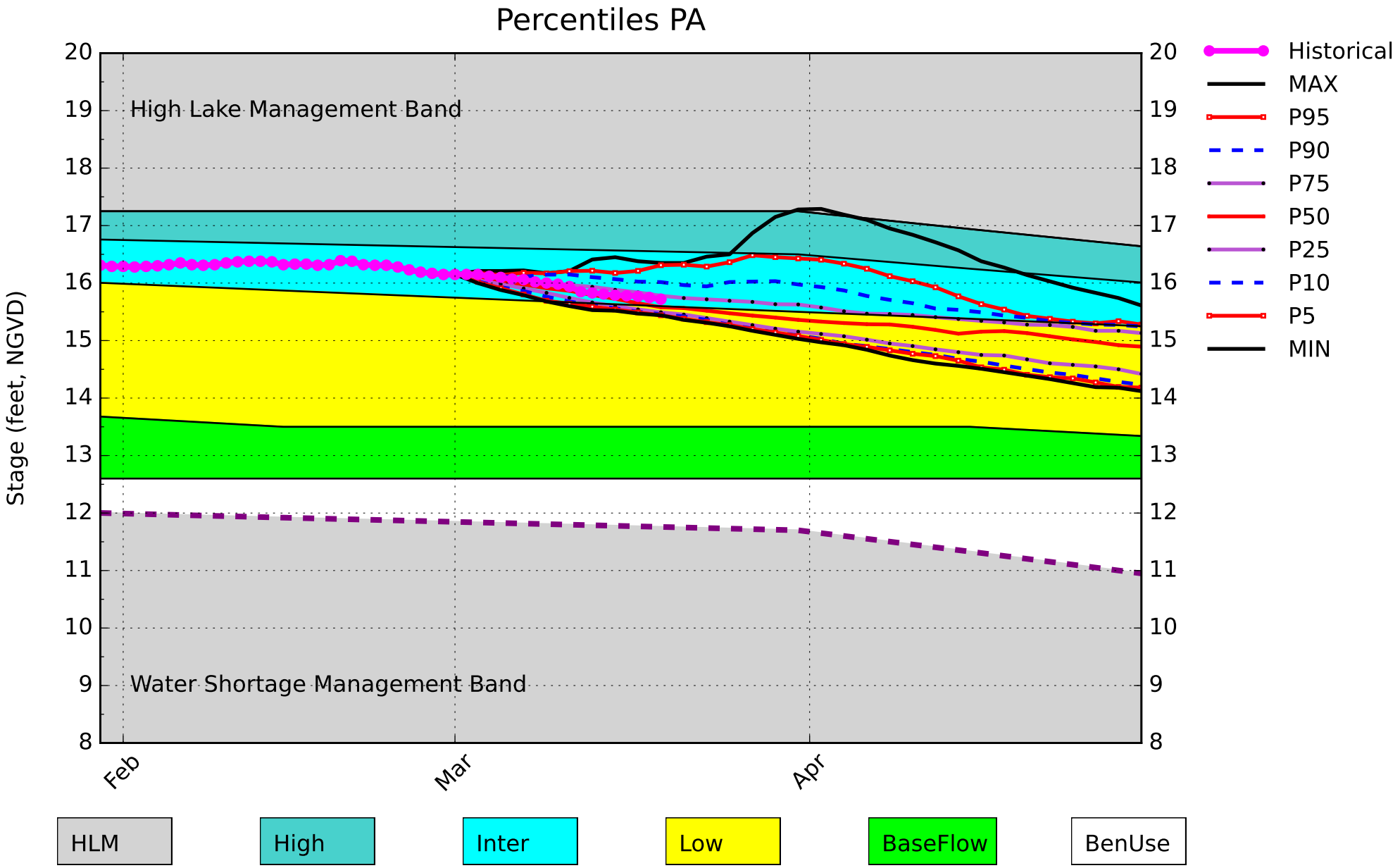
*- S80 flow data for 3/17/2024, is not available from USACE Daily Reports and was assumed to be 0.

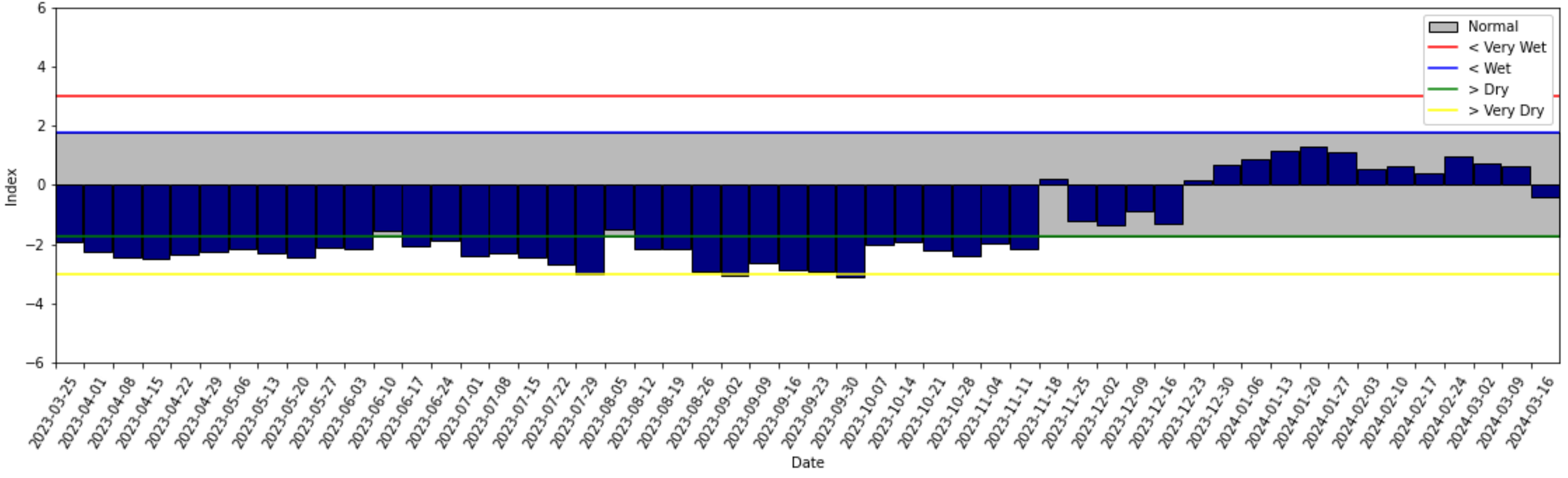
Lake Okeechobee SFWMM March 2024 Position Analysis

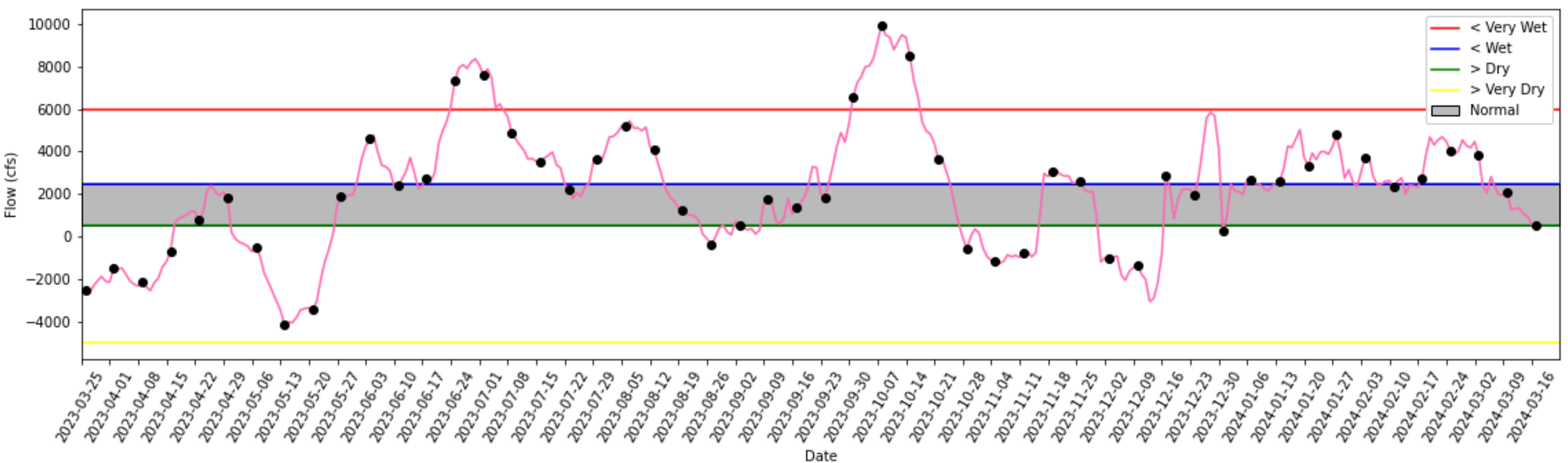


(See assumptions on the Position Analysis Results website)

03/19/24 08:22:22

Tributary Basin Condition Indicators as of March 17 2024





2008 LORS

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

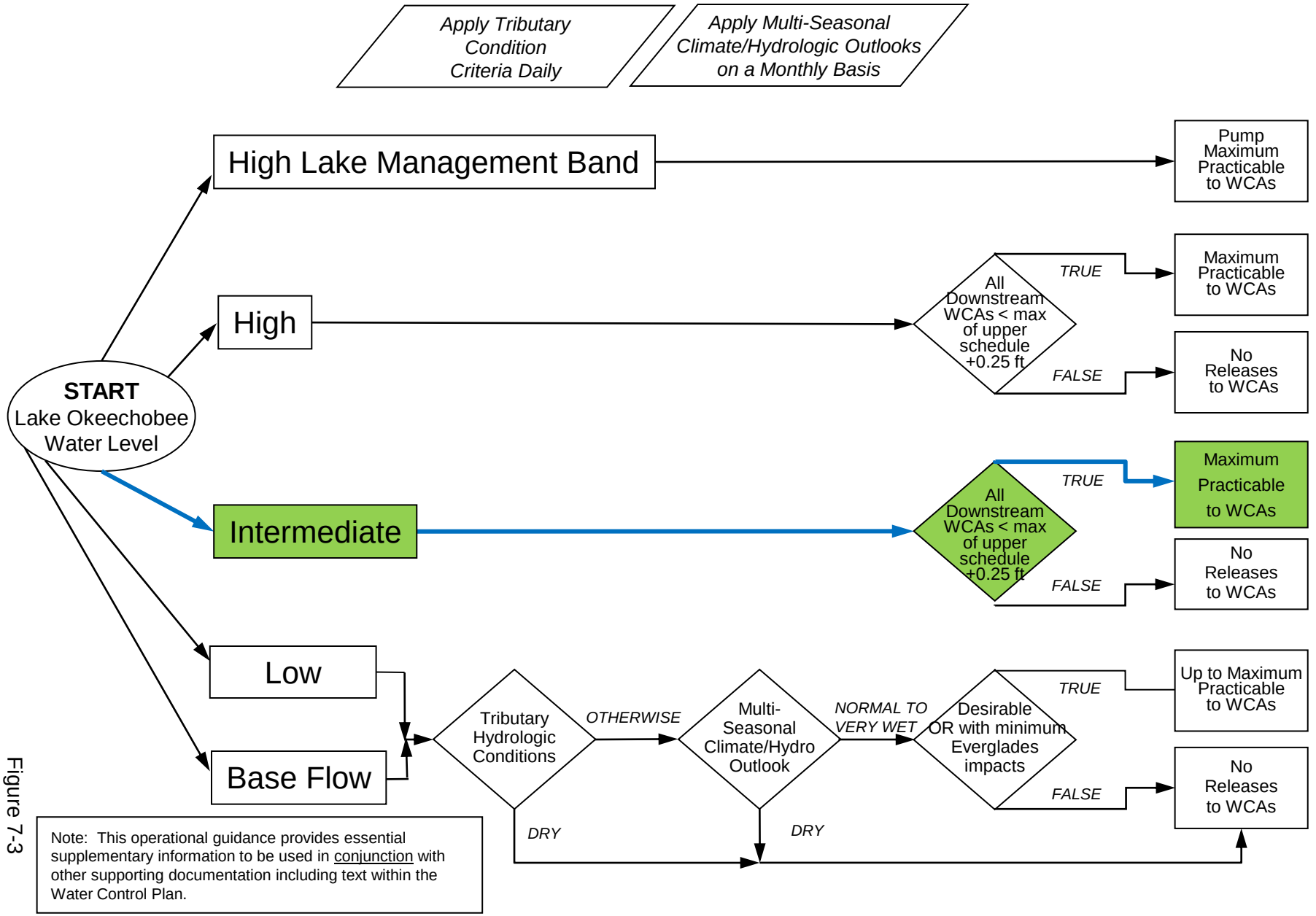


Figure 7-3

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

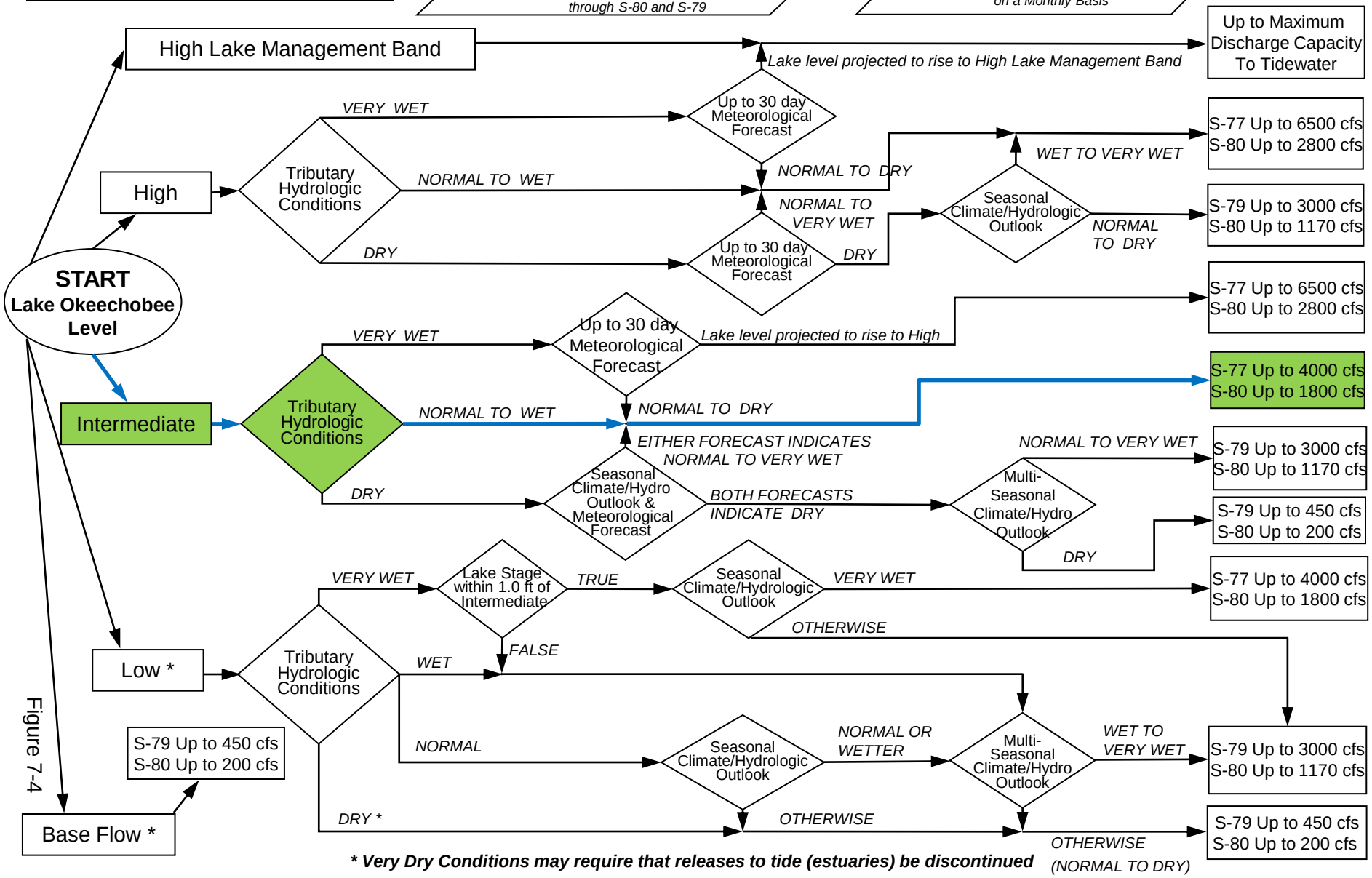
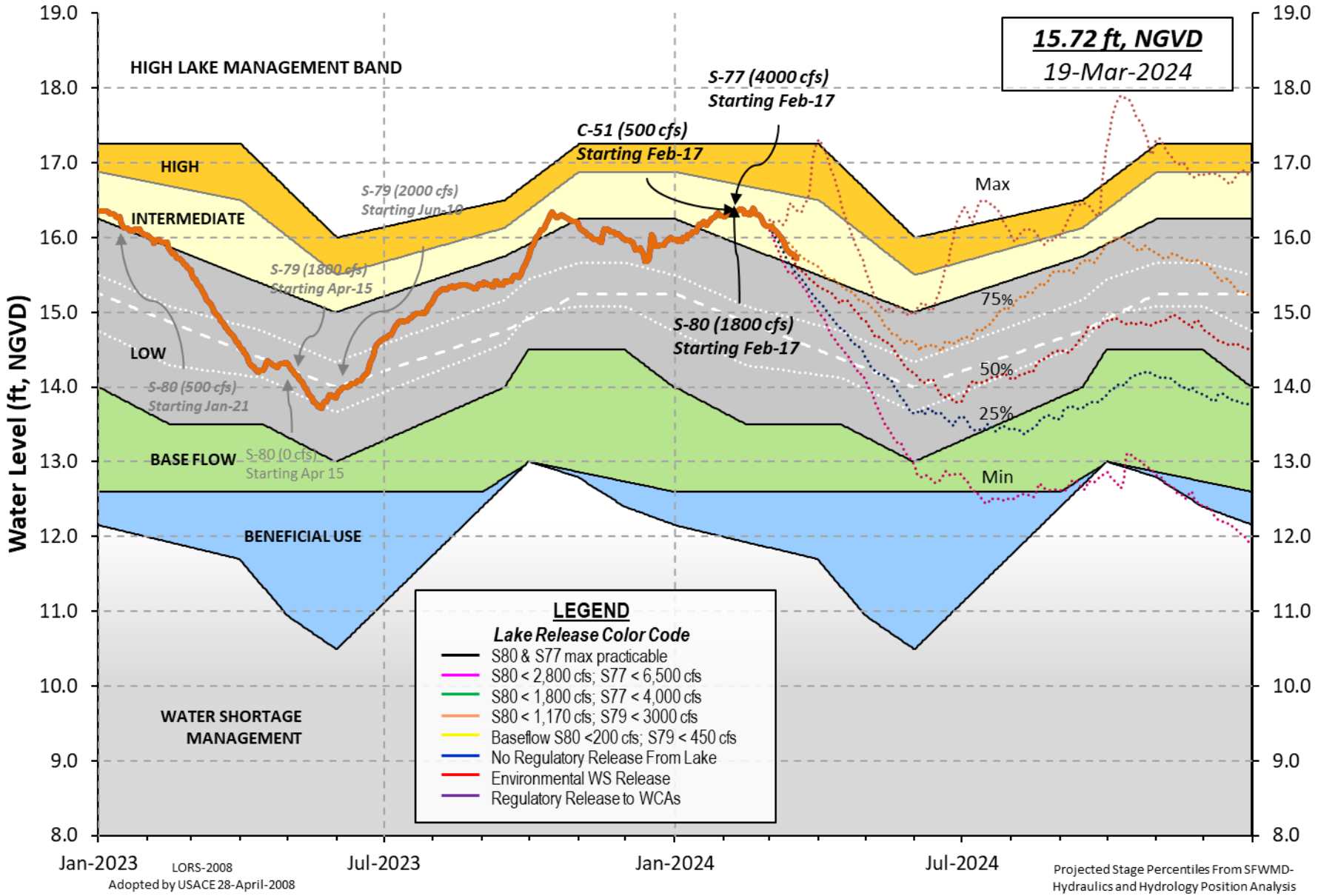


Figure 7-4

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 17 MAR 2024

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.75	14.96	14.20 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.77
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.17
Difference from Average LORS2008 2.58

17MAR (1965-2007) Period of Record Average 14.42
Difference from POR Average 1.33

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.69'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.89'
Bridge Clearance = 49.77'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.78	15.75	15.70	15.68	15.67	15.88	15.83	15.68

*Combination Okeechobee Avg-Daily Lake Average = 15.75 (*See Note)

Okeechobee Inflows (cfs):

S65E	985	S65EX1	0	Fisheating Cr	44
S154	0	S191	0	S135 Pumps	0
S84	2	S133 Pumps	0	S2 Pumps	0
S84X	0	S127 Pumps	0	S3 Pumps	0
S71	112	S129 Pumps	0	S4 Pumps	0
S72	167	S131 Pumps	0	C5	0

Total Inflows: 1310

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	770	S77	2731
S127 Culverts	0	S351	941	S308	7
S129 Culverts	0	S352	249		
S131 Culverts	0	L8 Canal Pt	108		

Total Outflows: 4806

****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 0.33 S308 0.33
Average Pan Evap x 0.75 Pan Coefficient = 0.25" = 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 -4336 cfs or -8600 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:	13.57	15.70	0	0	0	0	0	0				(cfs)
S193:												
S191:	18.83	15.72	0	0.0	0.0	0.0						
S135 Pumps:	13.26	15.65	0	0	0	0	0					(cfs)
S135 Culverts:			0	0.0	0.0							
North West Shore												
S65E:	20.83	15.45	985	0.4	0.1	0.7	0.5	0.5	0.8			
S65EX1:	20.83	15.45	0									
S127 Pumps:	13.59	15.65	0	0	0	0	0	0				(cfs)
S127 Culvert:			0	0.0								
S129 Pumps:	13.03	15.65	0	0	0	0						(cfs)
S129 Culvert:			0	0.0								
S131 Pumps:	13.04	-NR-	0	0	0							(cfs)
S131 Culvert:			0									
Fisheating Creek												
nr Palmdale		29.49	44									
nr Lakeport												
S282	15.50	15.51		0.0	0.0	0.1						
South Shore												
S4 Pumps:	11.89	-NR-	0	-NR-	-NR-	-NR-						(cfs)
S169:		-NR-	-NR-	-NR-	-NR-	-NR-						
S310:			-NR-									
S3 Pumps:	11.04	15.66	0	0	0	0						(cfs)
S354:	15.66	11.04	770	1.6	1.8							
S2 Pumps:	10.84	15.69	0	-NR-	-NR-	-NR-	-NR-					(cfs)
S351:	15.69	10.84	941	0.8	0.8	0.9						
S352:	15.92	11.13	249	0.1	0.6							
S271:	15.99	15.22		2.5	1.5	2.5	0.0					
L8 Canal PT		14.94	108									
S351 and S352 Temporary Pumps/S354 Spillway												
S351:	10.84	15.69	941	-NR--NR--NR--NR--NR--NR-								
S352:	11.13	15.92	249	-NR--NR--NR--NR-								
S354:	11.04	15.66	770	-NR--NR--NR--NR-								
Caloosahatchee River (S77, S78, S79)												
S47B:	13.33	12.41		1.0	1.0							
S47D:	12.37	10.88	0	0.0								
S77:												
Spillway and Sector Preferred Flow:												
	15.24	10.84	2721	3.5	4.0	3.5	3.5					
Flow Due to Lockages+:			10									
S78:												

```
     Spillway and Sector Flow:
               10.64      3.61    2997    4.5  5.0  5.0  0.0
     Flow Due to Lockages+:          15

   S79:
     Spillway and Sector Flow:
                3.62      1.96    3390    0.0  3.0  3.0  3.0  3.0  3.0  3.0  0.0
     Flow Due to Lockages+:          11
     Percent of flow from S77        80%
     Chloride            (ppm)      0


 St. Lucie Canal (S308, S80)
   S308:
     Spillway and Sector Preferred Flow:
               15.82     13.73       0  0.0  0.0  0.0  0.0
     Flow Due to Lockages+:           7

   S153:        19.06     13.60       0    0.0  0.0
   S80:
     Spillway and Sector Flow:
               13.83     -0.20       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:	0.00	0.00	0.00	230	3
S78:	0.00	0.00	0.00	286	1
S79:	0.00	0.00	-0.64	148	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	27	10
S80:	0.00	0.00	0.00	-NR-	-NR-
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.00	0.00		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
 Okeechobee Lake Elevations  17 MAR 2024          15.75 Difference from 17MAR24
    17MAR24  -1 Day  =       16 MAR 2024          15.77             0.02
```

17MAR24 -2 Days =	15 MAR 2024	15.78	0.03
17MAR24 -3 Days =	14 MAR 2024	15.79	0.04
17MAR24 -4 Days =	13 MAR 2024	15.81	0.06
17MAR24 -5 Days =	12 MAR 2024	15.83	0.08
17MAR24 -6 Days =	11 MAR 2024	15.85	0.10
17MAR24 -7 Days =	10 MAR 2024	15.94	0.19
17MAR24 -30 Days =	16 FEB 2024	16.33	0.58
17MAR24 -1 Year =	17 MAR 2023	14.96	-0.79
17MAR24 -2 Year =	17 MAR 2022	14.20	-1.55

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
17MAR24 Today =	17 MAR 2024	493	MON	801
17MAR24 -1 Day =	16 MAR 2024	563	SUN	627
17MAR24 -2 Days =	15 MAR 2024	956	SAT	-289
17MAR24 -3 Days =	14 MAR 2024	1061	FRI	-2693
17MAR24 -4 Days =	13 MAR 2024	1341	THU	-1089
17MAR24 -5 Days =	12 MAR 2024	1312	WED	2675
17MAR24 -6 Days =	11 MAR 2024	1251	TUE	-11691
17MAR24 -7 Days =	10 MAR 2024	2058	MON	-1339
17MAR24 -8 Days =	09 MAR 2024	1992	SUN	3699
17MAR24 -9 Days =	08 MAR 2024	1943	SAT	4390
17MAR24 -10 Days =	07 MAR 2024	2318	FRI	-82
17MAR24 -11 Days =	06 MAR 2024	2812	THU	6007
17MAR24 -12 Days =	05 MAR 2024	2053	WED	1892
17MAR24 -13 Days =	04 MAR 2024	2375	TUE	3999

S65E

	Average Flow over previous 14 days			Avg-Daily Flow
17MAR24 Today=	17 MAR 2024	1302	MON	1103
17MAR24 -1 Day =	16 MAR 2024	1349	SUN	1112
17MAR24 -2 Days =	15 MAR 2024	1409	SAT	1122
17MAR24 -3 Days =	14 MAR 2024	1483	FRI	1162
17MAR24 -4 Days =	13 MAR 2024	1576	THU	1169
17MAR24 -5 Days =	12 MAR 2024	1679	WED	1197
17MAR24 -6 Days =	11 MAR 2024	1802	TUE	1270
17MAR24 -7 Days =	10 MAR 2024	1933	MON	1301
17MAR24 -8 Days =	09 MAR 2024	2069	SUN	1297
17MAR24 -9 Days =	08 MAR 2024	2211	SAT	1377
17MAR24 -10 Days =	07 MAR 2024	2370	FRI	1333
17MAR24 -11 Days =	06 MAR 2024	2541	THU	1494
17MAR24 -12 Days =	05 MAR 2024	2710	WED	1605
17MAR24 -13 Days =	04 MAR 2024	2866	TUE	1683

S65EX1

	Average Flow over previous 14 days			Avg-Daily Flow
17MAR24 Today=	17 MAR 2024	0	MON	0
17MAR24 -1 Day =	16 MAR 2024	0	SUN	0
17MAR24 -2 Days =	15 MAR 2024	0	SAT	0
17MAR24 -3 Days =	14 MAR 2024	0	FRI	0
17MAR24 -4 Days =	13 MAR 2024	0	THU	0
17MAR24 -5 Days =	12 MAR 2024	0	WED	0
17MAR24 -6 Days =	11 MAR 2024	0	TUE	0
17MAR24 -7 Days =	10 MAR 2024	0	MON	0
17MAR24 -8 Days =	09 MAR 2024	0	SUN	0
17MAR24 -9 Days =	08 MAR 2024	0	SAT	0
17MAR24 -10 Days =	07 MAR 2024	0	FRI	0
17MAR24 -11 Days =	06 MAR 2024	0	THU	0
17MAR24 -12 Days =	05 MAR 2024	0	WED	0
17MAR24 -13 Days =	04 MAR 2024	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)
17 MAR 2024	5532	-NR-	6028	6890
16 MAR 2024	191	-NR-	34	22
15 MAR 2024	237	-NR-	29	26
14 MAR 2024	16	-NR-	30	15
13 MAR 2024	3449	-NR-	2615	3961
12 MAR 2024	8783	-NR-	10009	10720
11 MAR 2024	9967	-NR-	11505	12592
10 MAR 2024	9935	-NR-	11410	13081
09 MAR 2024	10024	-NR-	11721	13425
08 MAR 2024	10078	-NR-	12126	13873
07 MAR 2024	9899	-NR-	12672	14259
06 MAR 2024	9574	-NR-	12471	15398
05 MAR 2024	9613	-NR-	12202	13645
04 MAR 2024	9941	-NR-	12002	14337

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)
17 MAR 2024	-NR-	1865	493	1527	215
16 MAR 2024	-NR-	2337	492	1657	215
15 MAR 2024	-NR-	482	540	1711	217
14 MAR 2024	-NR-	349	540	1501	213
13 MAR 2024	-NR-	0	696	588	209
12 MAR 2024	-NR-	117	837	605	193
11 MAR 2024	-NR-	1001	460	895	172
10 MAR 2024	-NR-	0	117	659	171
09 MAR 2024	-NR-	0	115	617	165
08 MAR 2024	-NR-	0	116	918	175
07 MAR 2024	-NR-	0	120	872	160
06 MAR 2024	-NR-	0	114	264	154
05 MAR 2024	-NR-	0	110	1180	148
04 MAR 2024	-NR-	0	111	1159	159

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
17 MAR 2024	14	-NR-	-NR-
16 MAR 2024	7	-NR-	38
15 MAR 2024	13	-NR-	46
14 MAR 2024	9	-NR-	42
13 MAR 2024	782	-NR-	562
12 MAR 2024	2720	-NR-	2087
11 MAR 2024	2763	-NR-	2336
10 MAR 2024	3485	-NR-	3453
09 MAR 2024	5063	-NR-	4709
08 MAR 2024	6303	-NR-	5690
07 MAR 2024	6715	-NR-	6939
06 MAR 2024	6517	-NR-	6135
05 MAR 2024	6361	-NR-	5740
04 MAR 2024	5749	-NR-	5215

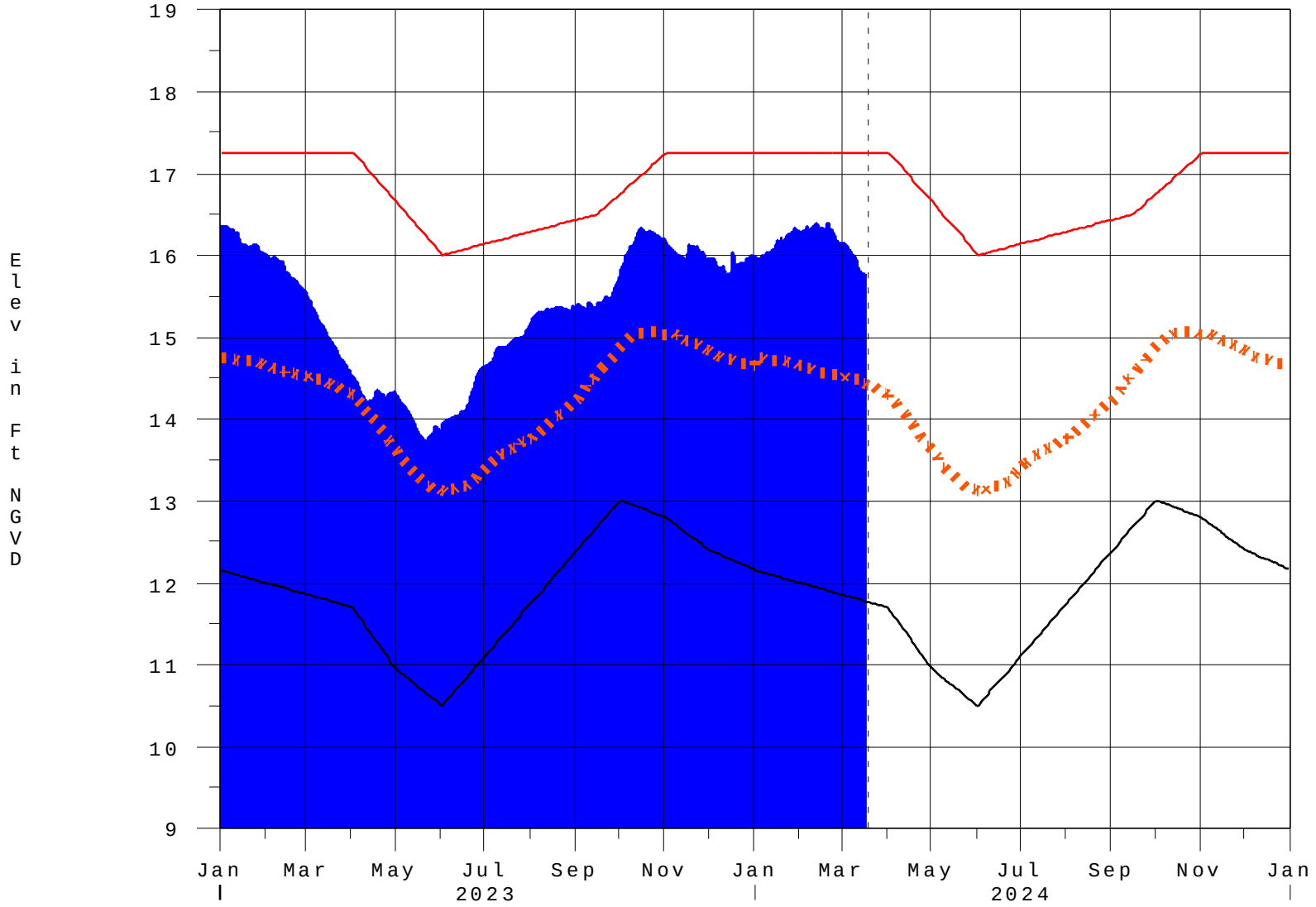
*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(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 18MAR2024 @ 16:15  ** Preliminary Data - Subject to Revision **
```

Lake Okeechobee

18MAR24 16:17:15



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**

Under Construction