Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 3/4/2024 (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	1.32	Normal	1.66	Wet	2.18	Very Wet
Multi Seasonal (Mar-Oct)	N/A	N/A	2.43	Normal	2.90	Wet	4.25	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:

3823 cfs 14-day running average for Lake Okeechobee Net Inflow through 3/4/2024. According to the classification in Tributary Hydrologic Conditions table, this condition is Wet.

0.96 for Palmer Drought Index on 2/24/2024 (Using 2/24/2024 value in place of 3/2/2024 due to it being unrealistic). According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 3/4/2024:

Lake Okeechobee Stage: **16.12 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.62	
	Intermediate sub-band	15.73	← 16.12 ft
	Low sub-band	13.50	
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.84	
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 3/4/2024 (ENSO Condition- El Niño):

Status for week ending 3/4/2024*:

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	0.96 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.66 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.90 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: Site 1-8C	Above Line 1 (16.90 ft)	L
	WCA 2A: Site S11B	Above Line 1 (12.06 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.34 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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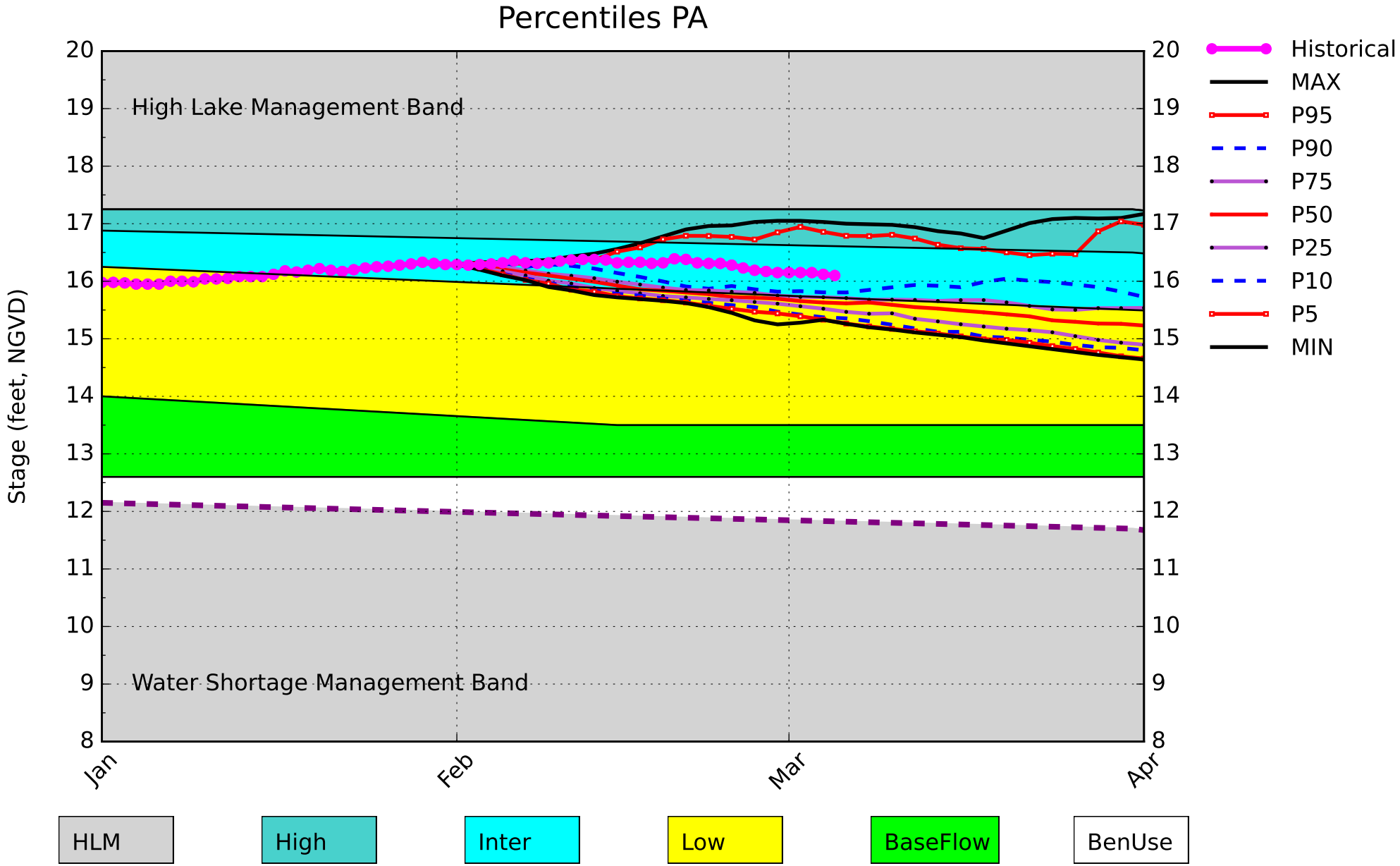
*- S80 flow data for 3/1/2024, is not available from USACE Daily Reports and was assumed to be 0. Using PDI value from 2/24/2024 due to unrealistic values from NOAA.

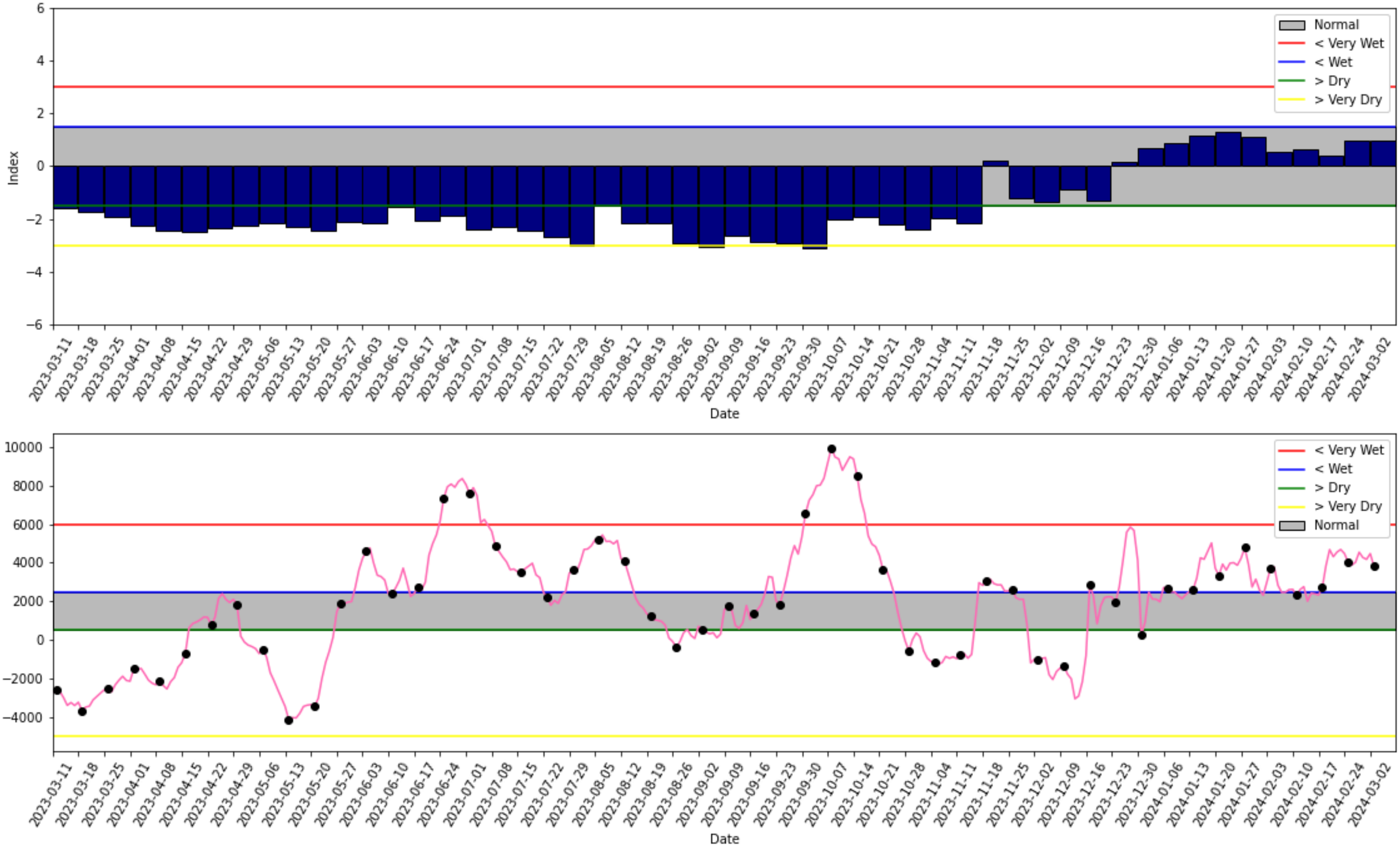
Lake Okeechobee SFWMM February 2024 Position Analysis



(See assumptions on the Position Analysis Results website)

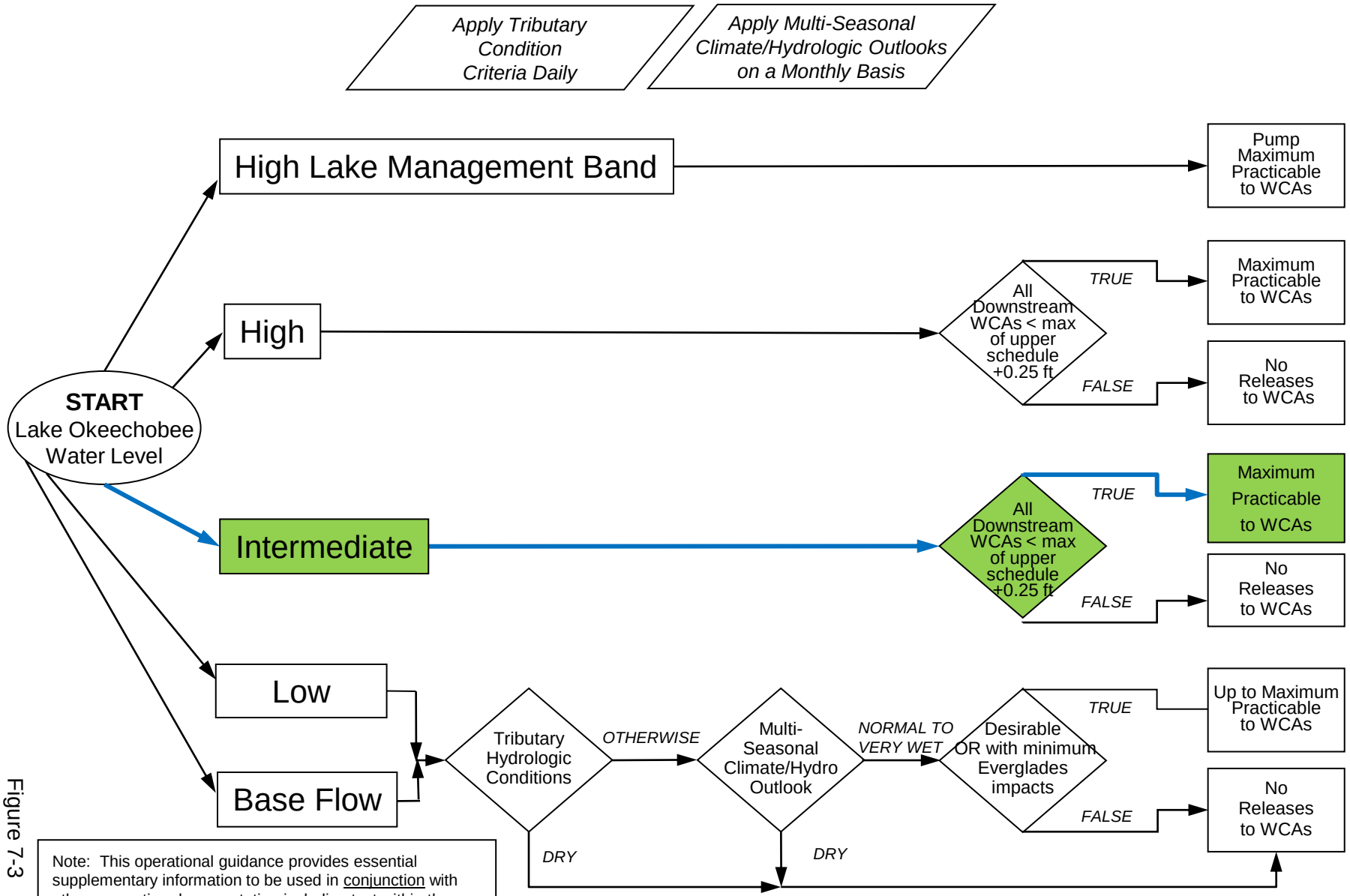
03/05/24 08:10:10

Tributary Basin Condition Indicators as of March 03 2024



2008 LORS

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



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

Figure 7-3

2008 LORS

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

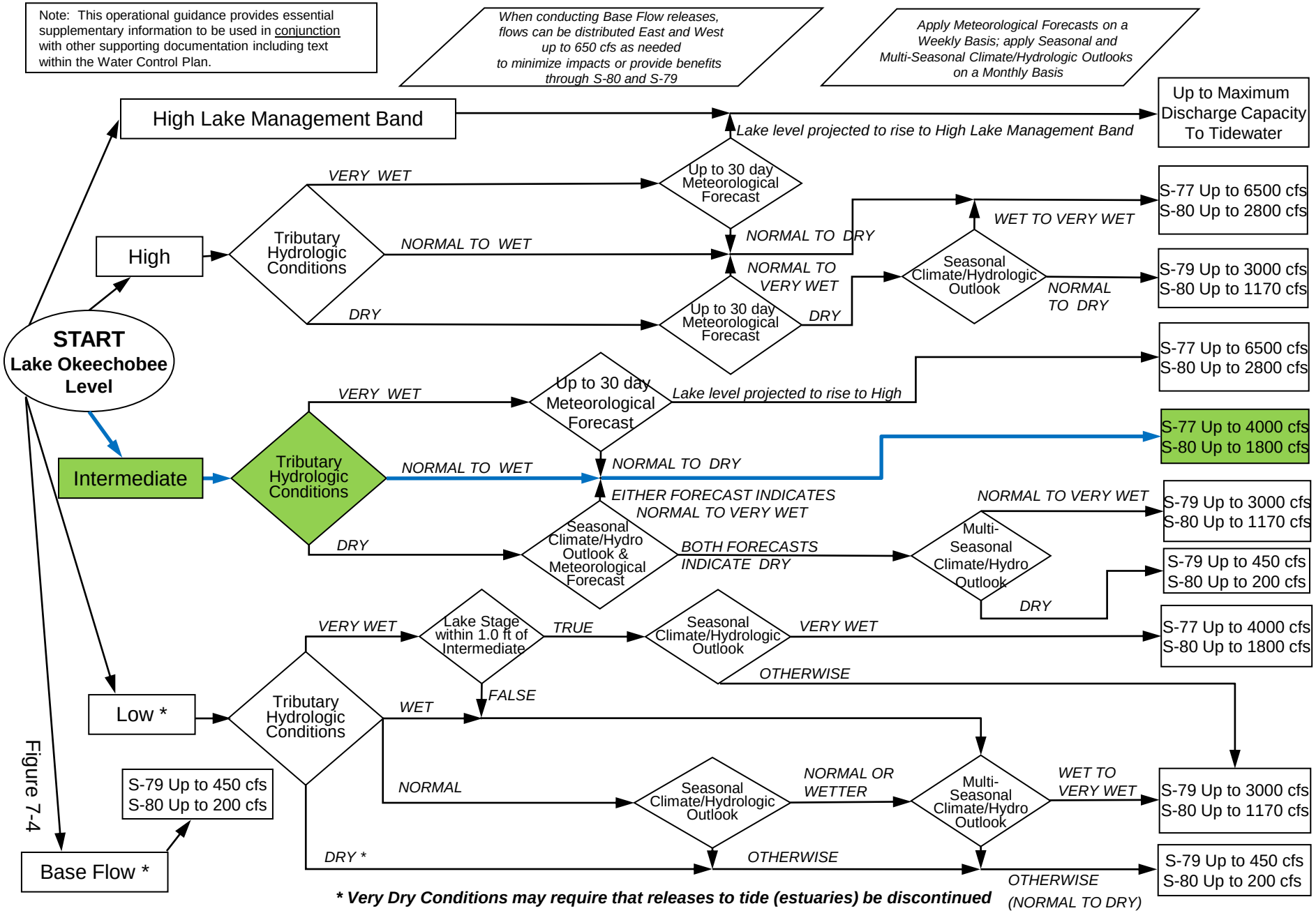
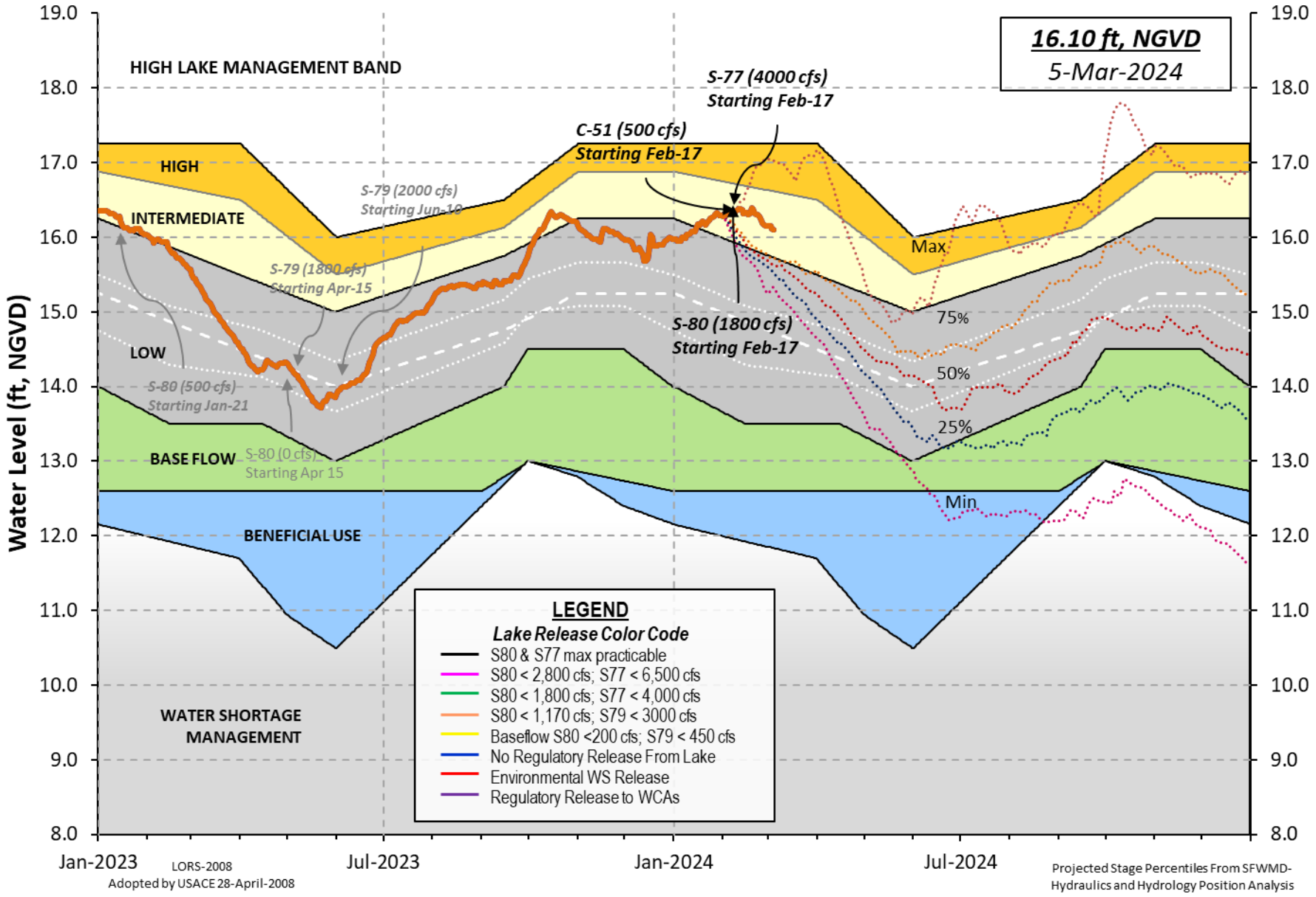


Figure 7-4

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 03 MAR 2024

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)	
*Okeechobee Lake Elevation	16.12	15.44	14.45	(Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.84
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.29
Difference from Average LORS2008 2.83

03MAR (1965-2007) Period of Record Average 14.51
Difference from POR Average 1.61

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 10.06'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 8.26'
Bridge Clearance = 48.42'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.15	16.17	16.09	16.05	16.05	16.19	16.14	16.06

*Combination Okeechobee Avg-Daily Lake Average = 16.12
(*See Note)

Okeechobee Inflows (cfs):

S65E	1609	S65EX1	0	Fisheating Cr	77
S154	0	S191	0	S135 Pumps	0
S84	104	S133 Pumps	0	S2 Pumps	0
S84X	1	S127 Pumps	0	S3 Pumps	0
S71	141	S129 Pumps	0	S4 Pumps	0
S72	74	S131 Pumps	0	C5	0

Total Inflows: 2006

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	744	S77	5016
S127 Culverts	0	S351	0	S308	2605
S129 Culverts	0	S352	57		
S131 Culverts	0	L8 Canal Pt	99		

Total Outflows: 8521

****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	0.10	S308	0.16

Average Pan Evap x 0.75 Pan Coefficient = 0.10" = 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  -6806 cfs or -13500 AC-FT
_____________________________________________________________________________
_____________________________________________________________________________


             Headwater Tailwater         ----------- Gate Positions ------------
             Elevation Elevation  Disch   #1   #2   #3   #4   #5   #6   #7   #8
             (ft-msl)  (ft-msl)   (cfs)  (ft) (ft) (ft) (ft) (ft) (ft) (ft) (ft)
                              (I) see note at bottom
North East Shore
  S133 Pumps:  13.53     16.07       0      0    0    0    0    0  (cfs)
  S193:       ______
  S191:        18.88     16.09       0    0.0  0.0  0.0
  S135 Pumps:  13.46     15.98       0      0    0    0    0       (cfs)
  S135 Culverts:                     0    0.0  0.0

North West Shore
  S65E:        21.01     16.20    1609    1.3  0.6  0.7  0.7  0.8  0.8
  S65EX1:      21.01     16.20       0
  S127 Pumps:  13.52     16.05       0      0    0    0    0    0  (cfs)
  S127 Culvert:                      0    0.0

  S129 Pumps:  13.04     16.15       0      0    0    0            (cfs)
  S129 Culvert:                      0    0.0

  S131 Pumps:  13.03      -NR-       0      0    0                 (cfs)
  S131 Culvert:                      0

  Fisheating Creek
    nr Palmdale          30.39      77
    nr Lakeport         ______
  S282         15.91     15.90              0.0  0.0  0.1

South Shore
  S4 Pumps:    11.77      -NR-       0      0    0    0            (cfs)
  S169:       ______      -NR-    -NR-   -NR- -NR- -NR-
  S310:       ______              -NR-
  S3 Pumps:    11.16     16.15       0      0    0    0            (cfs)
  S354:        16.15     11.16     744    0.8  1.0
  S2 Pumps:    10.43     16.28       0   -NR- -NR- -NR- -NR-       (cfs)
  S351:        16.28     10.43       0    0.0  0.0  0.0
  S352:        16.17     10.35      57    0.1  0.1
  S271:        16.46     14.18            0.0   0.0   0.0   0.0
  L8 Canal PT            13.88      99

  ____________________________________________________________________________
                   S351 and S352 Temporary Pumps/S354 Spillway

  S351:        10.43     16.28       0  -NR--NR--NR--NR--NR--NR-
  S352:        10.35     16.17      57  -NR--NR--NR--NR-
  S354:        11.16     16.15     744  -NR--NR--NR--NR-
  ____________________________________________________________________________

Caloosahatchee River (S77, S78, S79)
  S47B:        13.18     12.45            1.5  1.5
  S47D:        12.47     11.08       0    0.0
  S77:
    Spillway and Sector Preferred Flow:
               15.57     11.10    5008  4.5  4.5  4.5  4.5
    Flow Due to Lockages+:           8

  S78:
```

```
    Spillway and Sector Flow:
              10.74      3.69    5971    6.5  6.5  7.0  0.0
    Flow Due to Lockages+:          15

  S79:
    Spillway and Sector Flow:
               3.52      1.42    6893    0.0  4.0  4.0  4.0  4.0  4.0  4.0  0.0
    Flow Due to Lockages+:          13
    Percent of flow from S77        73%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              16.20     15.08    2602  4.0  4.0  4.0  3.0
    Flow Due to Lockages+:           3

  S153:       19.02     14.85       7    0.0  0.5
  S80:
    Spillway and Sector Flow:
              13.89      0.25    2516    0.0  1.5  1.0  1.5  1.0  1.0  0.0
    Flow Due to Lockages+:          23
    Percent of flow from S308      103%

  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
_____________________________________________________________________________
                                                              ----- Wind ----
Daily Precipitation Totals    1-Day       3-Day       7-Day    Direction Speed
                            (inches)    (inches)    (inches)   (Deg⁄)   (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:                        0.52        0.52        0.52      303       1
  S78:                        0.00        0.00        0.00      104       2
  S79:                        0.00        0.00        0.00      131       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:                       0.00        0.00        0.00      349       4
  S80:                        0.10        0.10        0.10     -NR-    -NR-
        Okeechobee Average    0.26        0.04        0.04
        (Sites S78, S79 and S80 not included)
  ----------------------------------------------------------------
  Oke Nexrad Basin Avg        -NR-        0.00        0.00
  ----------------------------------------------------------------


_____________________________________________________________________________
Okeechobee Lake Elevations  03 MAR 2024          16.12 Difference from 03MAR24
   03MAR24  -1 Day  =       02 MAR 2024          16.15             0.03
```

03MAR24	-2 Days =	01 MAR 2024	16.15	0.03
03MAR24	-3 Days =	29 FEB 2024	16.15	0.03
03MAR24	-4 Days =	28 FEB 2024	16.15	0.03
03MAR24	-5 Days =	27 FEB 2024	16.17	0.05
03MAR24	-6 Days =	26 FEB 2024	16.19	0.07
03MAR24	-7 Days =	25 FEB 2024	16.23	0.11
03MAR24	-30 Days =	02 FEB 2024	16.29	0.17
03MAR24	-1 Year =	03 MAR 2023	15.44	-0.68
03MAR24	-2 Year =	03 MAR 2022	14.45	-1.67

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
03MAR24	Today =	03 MAR 2024	3823	MON	1747
03MAR24	-1 Day =	02 MAR 2024	4469	SUN	6116
03MAR24	-2 Days =	01 MAR 2024	4173	SAT	1192
03MAR24	-3 Days =	29 FEB 2024	4267	FRI	1226
03MAR24	-4 Days =	28 FEB 2024	4541	THU	-1500
03MAR24	-5 Days =	27 FEB 2024	4018	WED	1817
03MAR24	-6 Days =	26 FEB 2024	3877	TUE	-384
03MAR24	-7 Days =	25 FEB 2024	4197	MON	-2270
03MAR24	-8 Days =	24 FEB 2024	4800	SUN	3022
03MAR24	-9 Days =	23 FEB 2024	5006	SAT	9631
03MAR24	-10 Days =	22 FEB 2024	4550	FRI	6832
03MAR24	-11 Days =	21 FEB 2024	4310	THU	-4611
03MAR24	-12 Days =	20 FEB 2024	4677	WED	6403
03MAR24	-13 Days =	19 FEB 2024	3843	TUE	24307

S65E

			Average Flow over previous 14 days		Avg-Daily Flow
03MAR24	Today=	03 MAR 2024	3023	MON	1763
03MAR24	-1 Day =	02 MAR 2024	3148	SUN	1963
03MAR24	-2 Days =	01 MAR 2024	3243	SAT	2165
03MAR24	-3 Days =	29 FEB 2024	3311	FRI	2472
03MAR24	-4 Days =	28 FEB 2024	3350	THU	2621
03MAR24	-5 Days =	27 FEB 2024	3377	WED	2937
03MAR24	-6 Days =	26 FEB 2024	3375	TUE	3091
03MAR24	-7 Days =	25 FEB 2024	3370	MON	3208
03MAR24	-8 Days =	24 FEB 2024	3353	SUN	3289
03MAR24	-9 Days =	23 FEB 2024	3322	SAT	3600
03MAR24	-10 Days =	22 FEB 2024	3283	FRI	3723
03MAR24	-11 Days =	21 FEB 2024	3236	THU	3859
03MAR24	-12 Days =	20 FEB 2024	3184	WED	3790
03MAR24	-13 Days =	19 FEB 2024	3144	TUE	3844

S65EX1

			Average Flow over previous 14 days		Avg-Daily Flow
03MAR24	Today=	03 MAR 2024	0	MON	0
03MAR24	-1 Day =	02 MAR 2024	0	SUN	0
03MAR24	-2 Days =	01 MAR 2024	0	SAT	0
03MAR24	-3 Days =	29 FEB 2024	0	FRI	0
03MAR24	-4 Days =	28 FEB 2024	0	THU	0
03MAR24	-5 Days =	27 FEB 2024	0	WED	0
03MAR24	-6 Days =	26 FEB 2024	0	TUE	0
03MAR24	-7 Days =	25 FEB 2024	0	MON	0
03MAR24	-8 Days =	24 FEB 2024	0	SUN	0
03MAR24	-9 Days =	23 FEB 2024	0	SAT	0
03MAR24	-10 Days =	22 FEB 2024	0	FRI	0
03MAR24	-11 Days =	21 FEB 2024	0	THU	0
03MAR24	-12 Days =	20 FEB 2024	0	WED	0
03MAR24	-13 Days =	19 FEB 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)
03 MAR 2024	9952	-NR-	11864	13711
02 MAR 2024	6849	-NR-	8552	8875
01 MAR 2024	259	-NR-	25	334
29 FEB 2024	525	-NR-	25	25
28 FEB 2024	2768	-NR-	2769	3826
27 FEB 2024	7759	-NR-	7343	9567
26 FEB 2024	7990	-NR-	8487	10102
25 FEB 2024	8808	-NR-	9656	11367
24 FEB 2024	9763	-NR-	10652	13464
23 FEB 2024	10314	-NR-	10544	12653
22 FEB 2024	10754	-NR-	11031	12248
21 FEB 2024	10562	-NR-	11672	14301
20 FEB 2024	10018	-NR-	12088	14652
19 FEB 2024	9608	-NR-	11992	14651

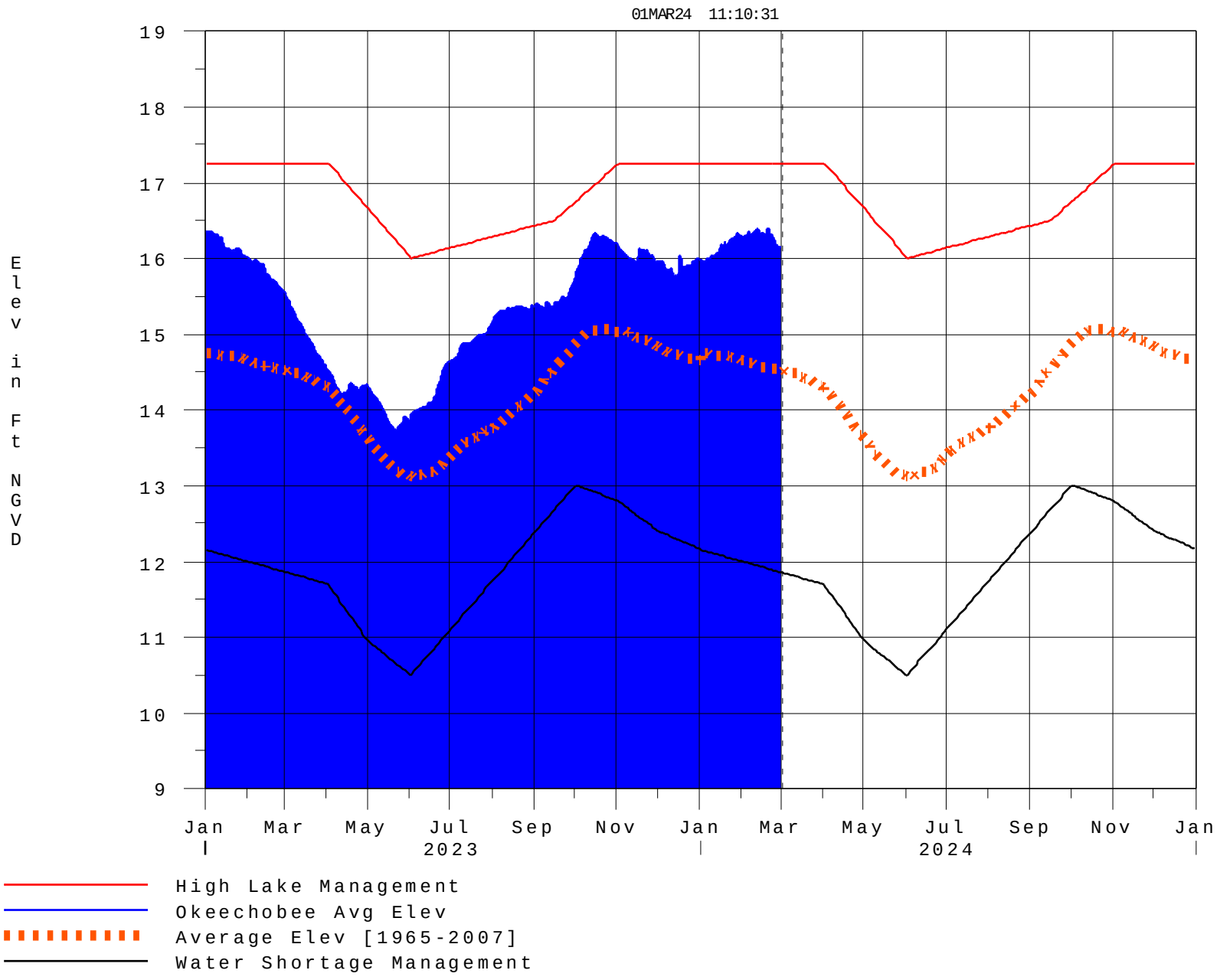
DATE	S-310 Discharge (ALL DAY) (AC-FT)	S-351 Discharge (ALL DAY) (AC-FT)	S-352 Discharge (ALL DAY) (AC-FT)	S-354 Discharge (ALL DAY) (AC-FT)	L8 Canal Pt Discharge (ALL DAY) (AC-FT)
03 MAR 2024	-NR-	0	113	1476	195
02 MAR 2024	-NR-	0	113	1353	201
01 MAR 2024	-NR-	0	112	1527	199
29 FEB 2024	-NR-	0	112	1341	201
28 FEB 2024	-NR-	0	111	2565	198
27 FEB 2024	-NR-	0	111	2565	202
26 FEB 2024	-NR-	0	112	2447	208
25 FEB 2024	-NR-	0	115	1616	211
24 FEB 2024	-NR-	0	117	1991	209
23 FEB 2024	-NR-	0	116	1043	212
22 FEB 2024	-NR-	0	115	0	209
21 FEB 2024	-NR-	0	120	0	264
20 FEB 2024	-NR-	0	120	0	287
19 FEB 2024	-NR-	0	120	0	199

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
03 MAR 2024	5185	-NR-	5036
02 MAR 2024	3492	-NR-	2865
01 MAR 2024	19	-NR-	-NR-
29 FEB 2024	11	-NR-	34
28 FEB 2024	7	-NR-	26
27 FEB 2024	1575	-NR-	1435
26 FEB 2024	6121	-NR-	5515
25 FEB 2024	6956	-NR-	7518
24 FEB 2024	7064	-NR-	7527
23 FEB 2024	7149	-NR-	7457
22 FEB 2024	6722	-NR-	7533
21 FEB 2024	6678	-NR-	6661
20 FEB 2024	6878	-NR-	7775
19 FEB 2024	7004	-NR-	7813

*** 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 04MAR2024 @ 14:15  ** Preliminary Data - Subject to Revision **
```


Lake Okeechobee
01MAR24 11:10:31
Elev in Ft NGVD
19
18
17
16
15
14
13
12
11
10
9
Jan
Mar
May
Jul
Sep
Nov
Jan
Mar
May
Jul
Sep
Nov
Jan
2023
2024
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