Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 2/12/2024 (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 (Feb-Jul)	N/A	N/A	0.95	Normal	1.62	Wet	1.95	Wet
Multi Seasonal (Feb-Oct)	N/A	N/A	2.70	Wet	3.30	Wet	4.67	Very 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:

2174 cfs 14-day running average for Lake Okeechobee Net Inflow through 2/12/2024. According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

0.63 for Palmer Drought Index on 2/10/2024. 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 2/12/2024:

Lake Okeechobee Stage: **16.37 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.71	
	Intermediate sub-band	15.91	← 16.37 ft
	Low sub-band	13.54	
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.94	
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 2/12/2024 (ENSO Condition- El Niño):

Status for week ending 2/12/2024*:

Water Supply Risk Evaluation

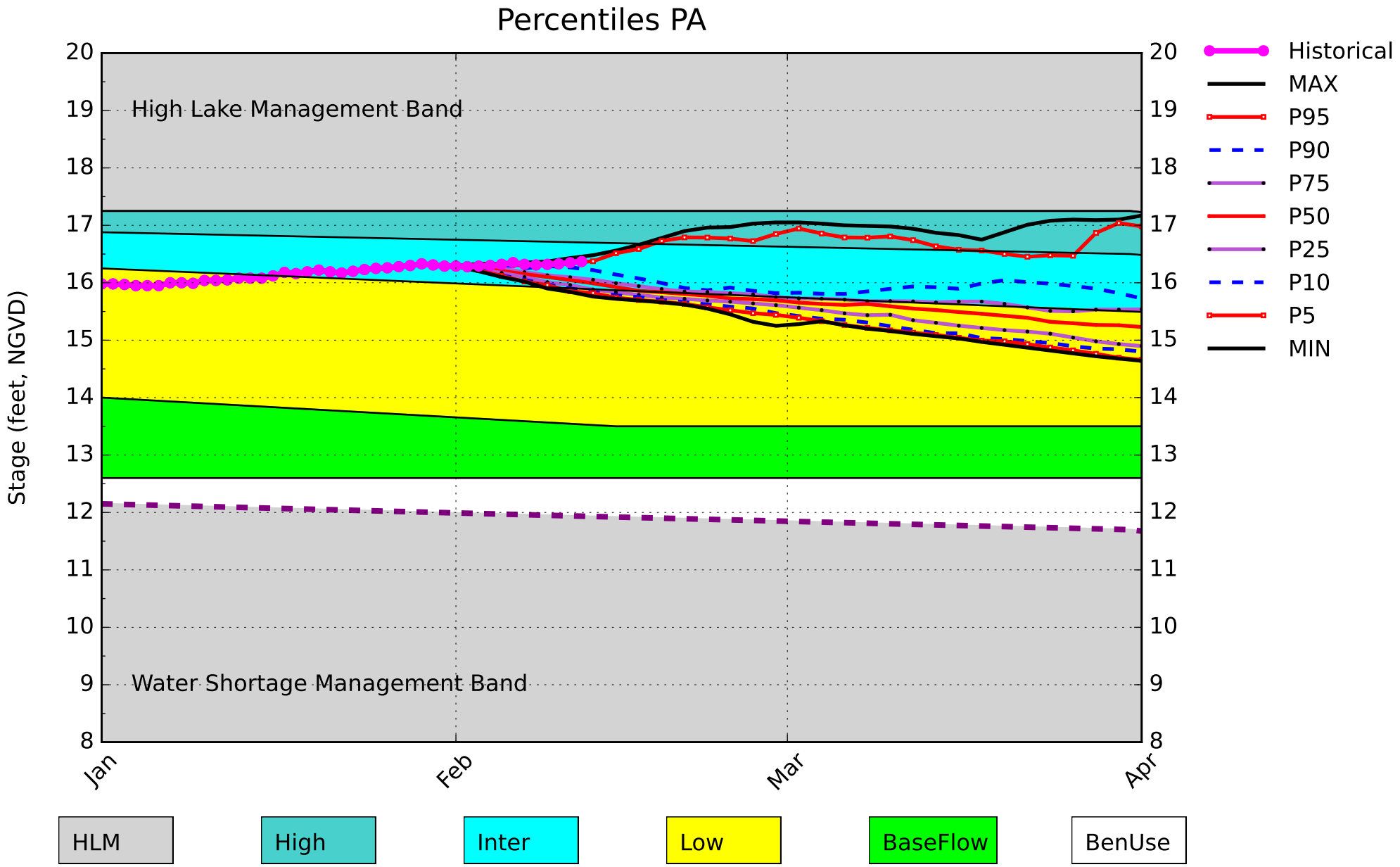
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	0.63 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.62 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	3.30 ft	L
	ENSO Forecast	Wet	
WCAs	WCA 1: Site 1-8C	Above Line 1 (16.84 ft)	L
	WCA 2A: Site S11B	Above Line 1 (12.09 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.43 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.

---

*- S80 flow data for February 2nd – February 5th , February 8th & 9th, 2024, is not available from USACE Daily Reports and was assumed to be 0. S77 flow data for February 8th – February 11th is not available from USACE Daily Reports and was substituted with structure flow.

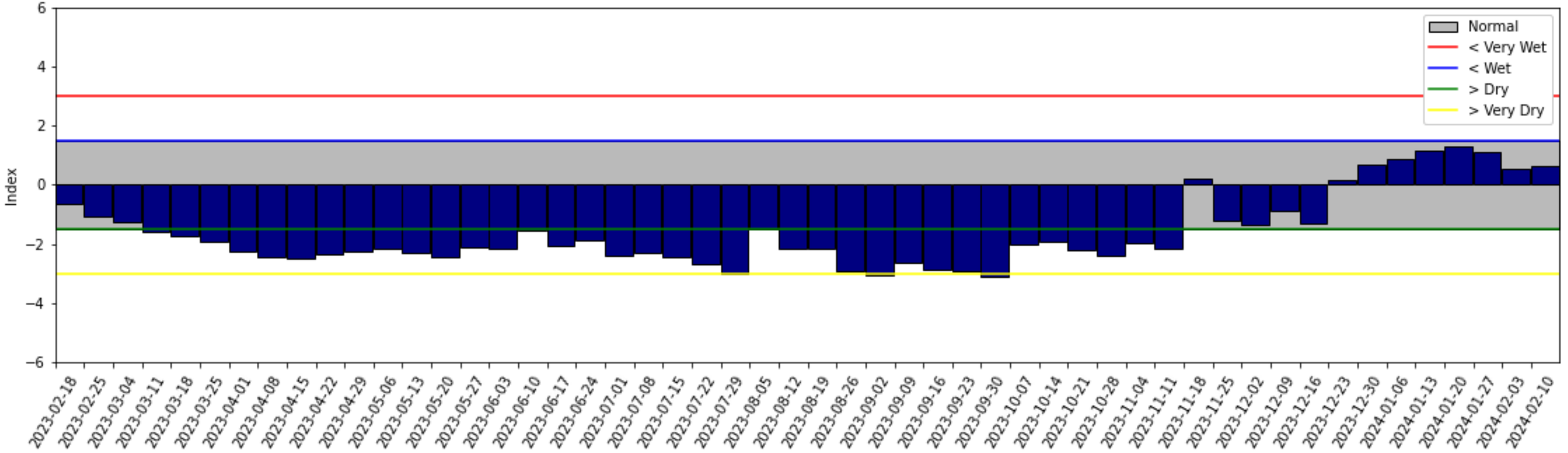
Lake Okeechobee SFWMM February 2024 Position Analysis



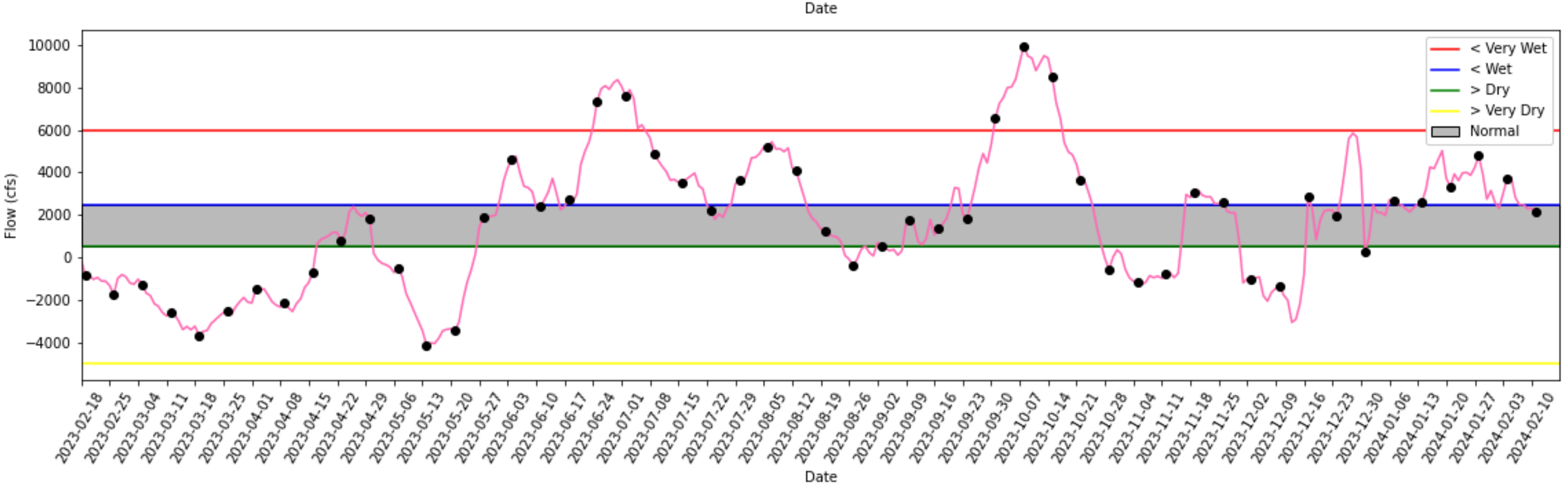
(See assumptions on the Position Analysis Results website)

02/13/24 07:56:05

Tributary Basin Condition Indicators as of February 11 2024



Date



Date

2008 LORS

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

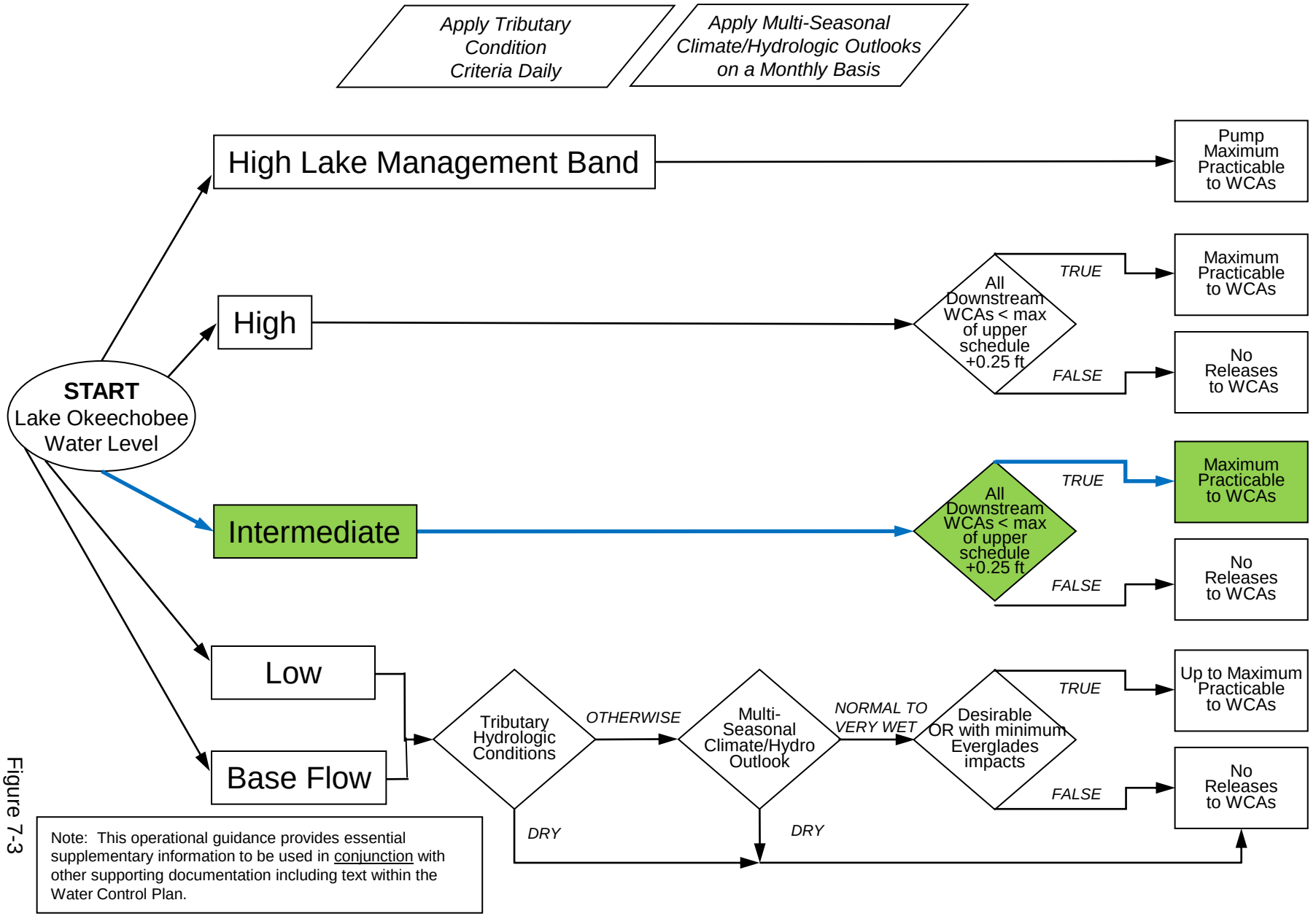


Figure 7-3

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)

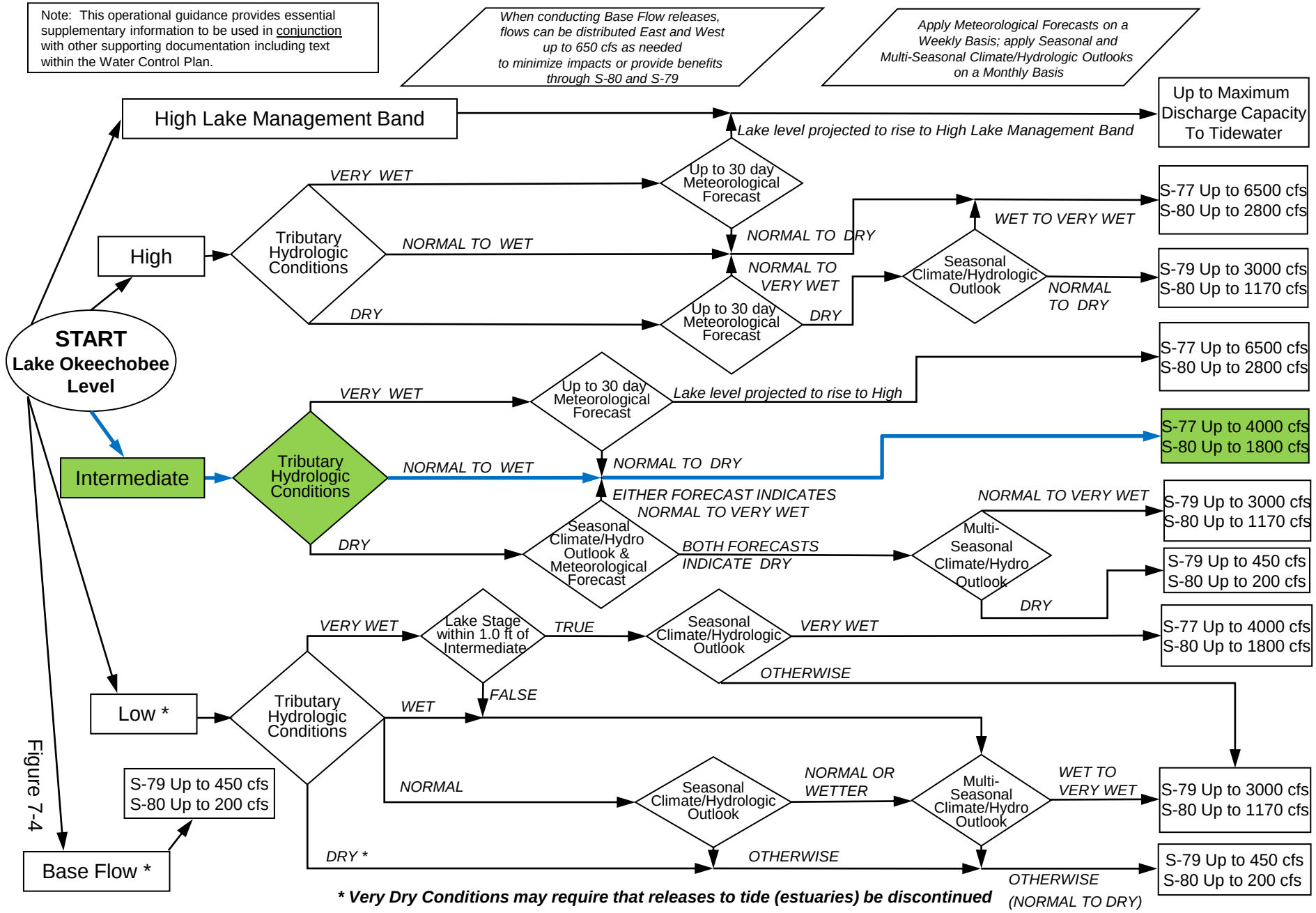
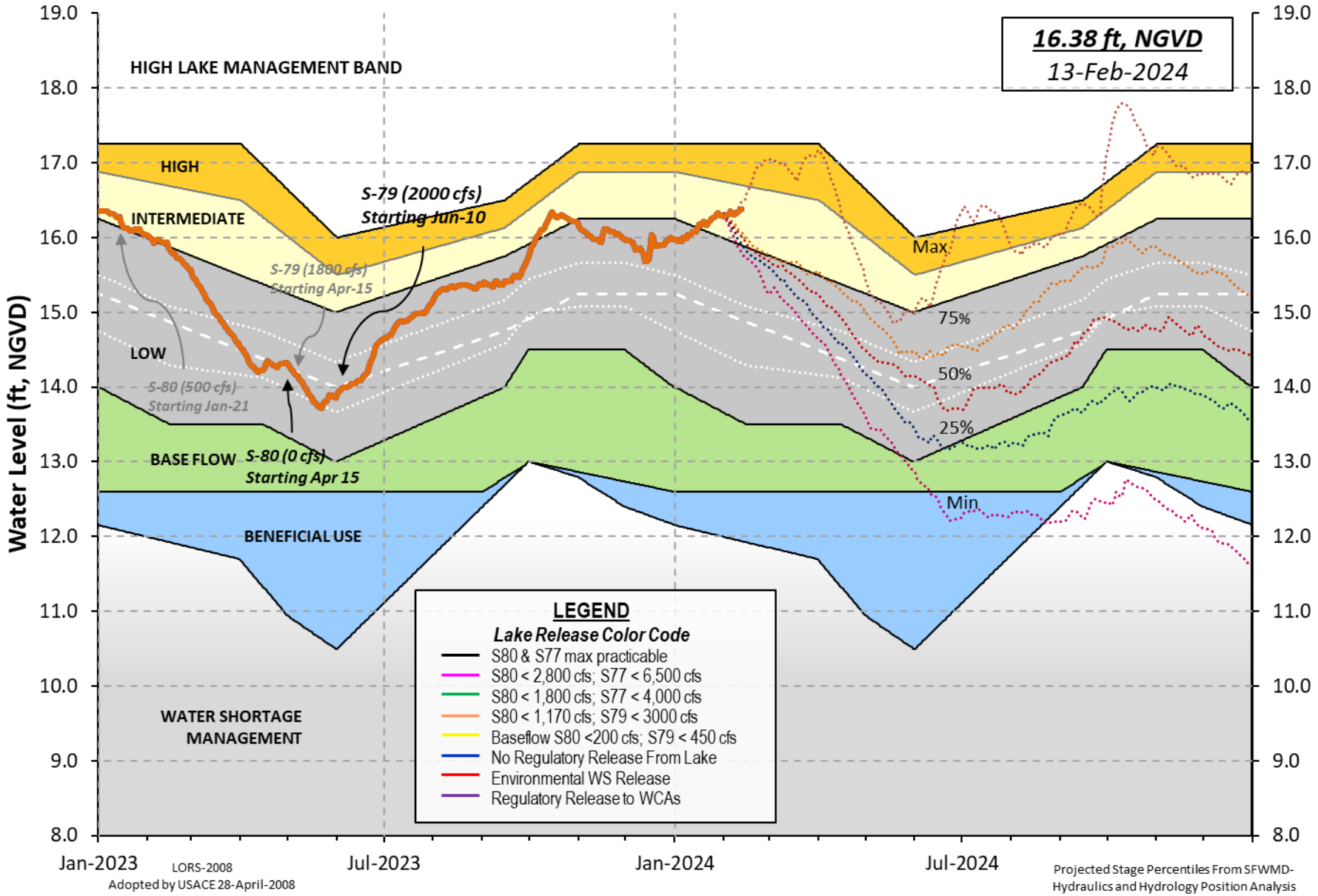


Figure 7-4

Lake Okeechobee Water Level History and Projected Stages



LORS-2008
Adopted by USACE 28-April-2008

Projected Stage Percentiles From SFWMD-Hydraulics and Hydrology Position Analysis

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

Data Ending 2400 hours 11 FEB 2024

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	16.38	15.93	14.85 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.94
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.43
Difference from Average LORS2008 2.95

11FEB (1965-2007) Period of Record Average 14.59
Difference from POR Average 1.79

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 = 10.32'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 = 8.52'
Bridge Clearance = 50.31'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.39	16.38	16.29	-NR-	-NR-	16.43	16.39	16.32

*Combination Okeechobee Avg-Daily Lake Average = 16.38 (*See Note)

Okeechobee Inflows (cfs):

S65E	2803	S65EX1	0	Fisheating Cr	-NR-
S154	0	S191	0	S135 Pumps	0
S84	75	S133 Pumps	0	S2 Pumps	0
S84X	20	S127 Pumps	0	S3 Pumps	0
S71	60	S129 Pumps	0	S4 Pumps	0
S72	224	S131 Pumps	0	C5	0

Total Inflows: 3182

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	235	S77	-NR-
S127 Culverts	0	S351	244	S308	7
S129 Culverts	0	S352	34		
S131 Culverts	0	L8 Canal Pt	-NR-		

Total Outflows: No Report Due To Missing S77 or S308 Discharge Data

****S77 below flow meter is being used to compute Total Outflow.
****S308 structure flow is being used to compute Total Outflow.

Okeechobee Pan Evaporation (inches):

S77	0.25	S308	0.10

Average Pan Evap x 0.75 Pan Coefficient = 0.13" = 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 4538 cfs or 9000 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:	13.55	16.37	0	0	0	0	0	0	(cfs)		
S193:	------										
S191:	18.99	16.34	0	0.0	0.0	0.0					
S135 Pumps:	13.24	16.20	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.95	16.26	2803	1.1	1.1	1.1	1.8	1.7	1.1		
S65EX1:	20.95	16.26	0								
S127 Pumps:	13.48	16.32	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.96	16.33	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.94	13.28	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.62	-NR-								
nr Lakeport		------									
S282	16.27	16.11		0.0	0.0	0.1					
South Shore											
S4 Pumps:	11.40	-NR-	0	0	0	0			(cfs)		
S169:	------	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	------		-NR-								
S3 Pumps:	10.58	16.38	0	0	0	0			(cfs)		
S354:	16.38	10.58	235	0.0	0.0						
S2 Pumps:	10.26	16.38	0	0	0	0	0		(cfs)		
S351:	16.38	10.26	244	0.2	0.4	0.2					
S352:	16.41	10.15	34	0.0	0.1						
S271:	16.62	12.83		0.0	0.0	0.0	0.0				
L8 Canal PT		------	-NR-								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.26	16.38	244	-NR--NR--NR--NR--NR--NR-							
S352:	10.15	16.41	34	-NR--NR--NR--NR-							
S354:	10.58	16.38	235	-NR--NR--NR--NR-							
Caloosahatchee River (S77, S78, S79)											
S47B:	13.05	12.17		1.0	1.5						
S47D:	12.23	10.94	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	16.16	10.79	-NR-	0.5	2.5	0.5	0.5				
Flow Due to Lockages+:			4								
S78:											

```
    Spillway and Sector Flow:
              10.82      3.14     994    0.5  0.0  2.5  0.0
    Flow Due to Lockages+:          13

  S79:
    Spillway and Sector Flow:
               3.29      1.12    1702    0.0  0.0  1.0  2.0  2.0  2.0  0.0  0.0
    Flow Due to Lockages+:           7
    Percent of flow from S77      -NR-%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              16.39     13.19       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           7

  S153:        18.99     12.99       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
              13.24      1.63       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          18
    Percent of flow from S308   NA  %

  Steele Point Top Salinity    (mg/ml)   -N
  Steele Point Bottom Salinity (mg/ml)   -N

  Speedy Point Top Salinity    (mg/ml)   -N
  Speedy Point Bottom Salinity (mg/ml)   -N

 + 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	0.30	159	3
S78:	0.00	0.00	0.00	116	2
S79:	0.00	0.00	-0.32	107	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:	0.00	0.00	0.00	161	4
S80:	0.00	0.00	0.09	-NR-	-NR-
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.00	0.02		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
 Okeechobee Lake Elevations  11 FEB 2024          16.38 Difference from 11FEB24
    11FEB24  -1 Day  =       10 FEB 2024          16.36            -0.02
```

11FEB24 -2 Days =	09 FEB 2024	16.33	-0.05
11FEB24 -3 Days =	08 FEB 2024	16.32	-0.06
11FEB24 -4 Days =	07 FEB 2024	16.31	-0.07
11FEB24 -5 Days =	06 FEB 2024	16.32	-0.06
11FEB24 -6 Days =	05 FEB 2024	16.35	-0.03
11FEB24 -7 Days =	04 FEB 2024	16.32	-0.06
11FEB24 -30 Days =	12 JAN 2024	16.05	-0.33
11FEB24 -1 Year =	11 FEB 2023	15.93	-0.45
11FEB24 -2 Year =	11 FEB 2022	14.85	-1.53

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
11FEB24 Today =	11 FEB 2024	1173	MON	-NR-
11FEB24 -1 Day =	10 FEB 2024	1810	SUN	-NR-
11FEB24 -2 Days =	09 FEB 2024	2131	SAT	-NR-
11FEB24 -3 Days =	08 FEB 2024	2386	FRI	-NR-
11FEB24 -4 Days =	07 FEB 2024	2456	THU	847
11FEB24 -5 Days =	06 FEB 2024	2816	WED	-5276
11FEB24 -6 Days =	05 FEB 2024	3733	TUE	8288
11FEB24 -7 Days =	04 FEB 2024	3629	MON	5530
11FEB24 -8 Days =	03 FEB 2024	2912	SUN	2849
11FEB24 -9 Days =	02 FEB 2024	2224	SAT	2976
11FEB24 -10 Days =	01 FEB 2024	2500	FRI	-726
11FEB24 -11 Days =	31 JAN 2024	3057	THU	1752
11FEB24 -12 Days =	30 JAN 2024	2653	WED	-2296
11FEB24 -13 Days =	29 JAN 2024	3839	TUE	-2210

S65E

	Average Flow over previous 14 days			Avg-Daily Flow
11FEB24 Today=	11 FEB 2024	3209	MON	2985
11FEB24 -1 Day =	10 FEB 2024	3218	SUN	2855
11FEB24 -2 Days =	09 FEB 2024	3217	SAT	3059
11FEB24 -3 Days =	08 FEB 2024	3184	FRI	3069
11FEB24 -4 Days =	07 FEB 2024	3137	THU	3133
11FEB24 -5 Days =	06 FEB 2024	3065	WED	3229
11FEB24 -6 Days =	05 FEB 2024	2962	TUE	3237
11FEB24 -7 Days =	04 FEB 2024	2857	MON	3273
11FEB24 -8 Days =	03 FEB 2024	2733	SUN	3278
11FEB24 -9 Days =	02 FEB 2024	2611	SAT	3368
11FEB24 -10 Days =	01 FEB 2024	2480	FRI	3448
11FEB24 -11 Days =	31 JAN 2024	2341	THU	3466
11FEB24 -12 Days =	30 JAN 2024	2202	WED	3376
11FEB24 -13 Days =	29 JAN 2024	2067	TUE	3152

S65EX1

	Average Flow over previous 14 days			Avg-Daily Flow
11FEB24 Today=	11 FEB 2024	0	MON	0
11FEB24 -1 Day =	10 FEB 2024	0	SUN	0
11FEB24 -2 Days =	09 FEB 2024	0	SAT	0
11FEB24 -3 Days =	08 FEB 2024	0	FRI	0
11FEB24 -4 Days =	07 FEB 2024	0	THU	0
11FEB24 -5 Days =	06 FEB 2024	0	WED	0
11FEB24 -6 Days =	05 FEB 2024	0	TUE	0
11FEB24 -7 Days =	04 FEB 2024	0	MON	0
11FEB24 -8 Days =	03 FEB 2024	0	SUN	0
11FEB24 -9 Days =	02 FEB 2024	0	SAT	0
11FEB24 -10 Days =	01 FEB 2024	0	FRI	0
11FEB24 -11 Days =	31 JAN 2024	0	THU	0
11FEB24 -12 Days =	30 JAN 2024	0	WED	0
11FEB24 -13 Days =	29 JAN 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)
11 FEB 2024	2243	-NR-	1997	3398
10 FEB 2024	2047	-NR-	1809	3373
09 FEB 2024	916	-NR-	-NR-	2418
08 FEB 2024	1257	-NR-	1406	3703
07 FEB 2024	2683	3286	3202	4175
06 FEB 2024	2451	2979	3122	5918
05 FEB 2024	4366	2884	3158	5220
04 FEB 2024	1164	1917	1984	3376
03 FEB 2024	555	1014	1185	2917
02 FEB 2024	704	1168	1212	2437
01 FEB 2024	2498	2787	1791	3233
31 JAN 2024	2878	3211	2570	4052
30 JAN 2024	3921	4087	3341	5073
29 JAN 2024	3677	3775	3304	5125

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 FEB 2024	-NR-	484	68	466	-NR-
10 FEB 2024	-NR-	114	68	529	-NR-
09 FEB 2024	-NR-	549	68	404	136
08 FEB 2024	-NR-	480	146	475	108
07 FEB 2024	4	1350	557	986	-2
06 FEB 2024	12	0	56	0	50
05 FEB 2024	9	0	54	0	196
04 FEB 2024	7	0	51	0	197
03 FEB 2024	4	0	49	89	178
02 FEB 2024	0	0	49	185	176
01 FEB 2024	2	0	49	224	179
31 JAN 2024	8	0	49	214	185
30 JAN 2024	4	0	49	310	189
29 JAN 2024	15	791	49	0	192

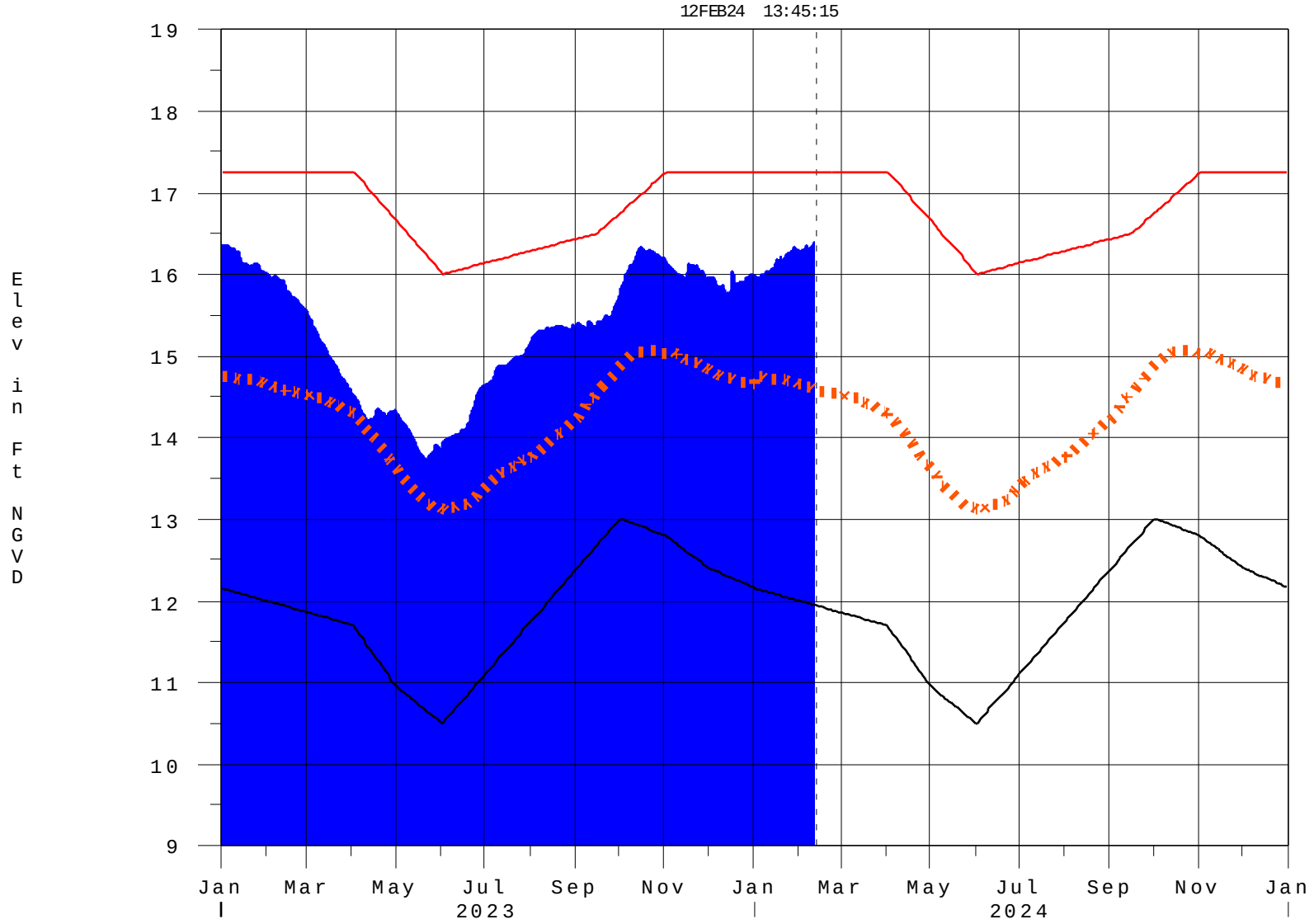
DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
11 FEB 2024	14	-NR-	36
10 FEB 2024	11	-NR-	51
09 FEB 2024	13	-NR-	-NR-
08 FEB 2024	10	-NR-	-NR-
07 FEB 2024	6	-NR-	20
06 FEB 2024	5	-NR-	21
05 FEB 2024	8	-NR-	-NR-
04 FEB 2024	6	-NR-	-NR-
03 FEB 2024	14	-NR-	-NR-
02 FEB 2024	7	-NR-	-NR-
01 FEB 2024	11	-NR-	32
31 JAN 2024	13	-NR-	45
30 JAN 2024	13	-NR-	42
29 JAN 2024	7	-NR-	23

*** 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 12FEB2024 @ 13:38  ** 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**

Under Construction