Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 03/27/2023 (ENSO Condition: Neutral)

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 Neutral years and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with Neutral 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 Neutral ENSO Years**		Sub-sampling of AMO Warm + Neutral ENSO Years***	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Mar-Aug)	N/A	N/A	0.76	Normal	0.98	Normal	1.22	Normal
Multi Seasonal (Mar-Oct)	N/A	N/A	2.05	Normal	2.38	Normal	3.30	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:

-2551 cfs 14-day running average for Lake Okeechobee Net Inflow through 03/26/2023.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-1.93 for Palmer Drought Index on 03/25/2023.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 03/27/2023:

Lake Okeechobee Stage: **14.71 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.53	
	Intermediate sub-band	15.54	
	Low sub-band	13.50	← 14.71 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.73	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

No releases to WCAs.

Part D of LORS2008: Discharge to Tide

Up to 450 cfs at S-79 and up to 200 cfs at S-80.

Lake Okeechobee Releases to the Caloosahatchee Estuary for LORS 2008 Baseflow & for Environmental Water Supply

Guidance for Lake Okeechobee Releases to the Caloosahatchee Estuary indicates no S77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise.

LORS2008 Implementation on 03/27/2023 (ENSO Condition- Neutral Watch):

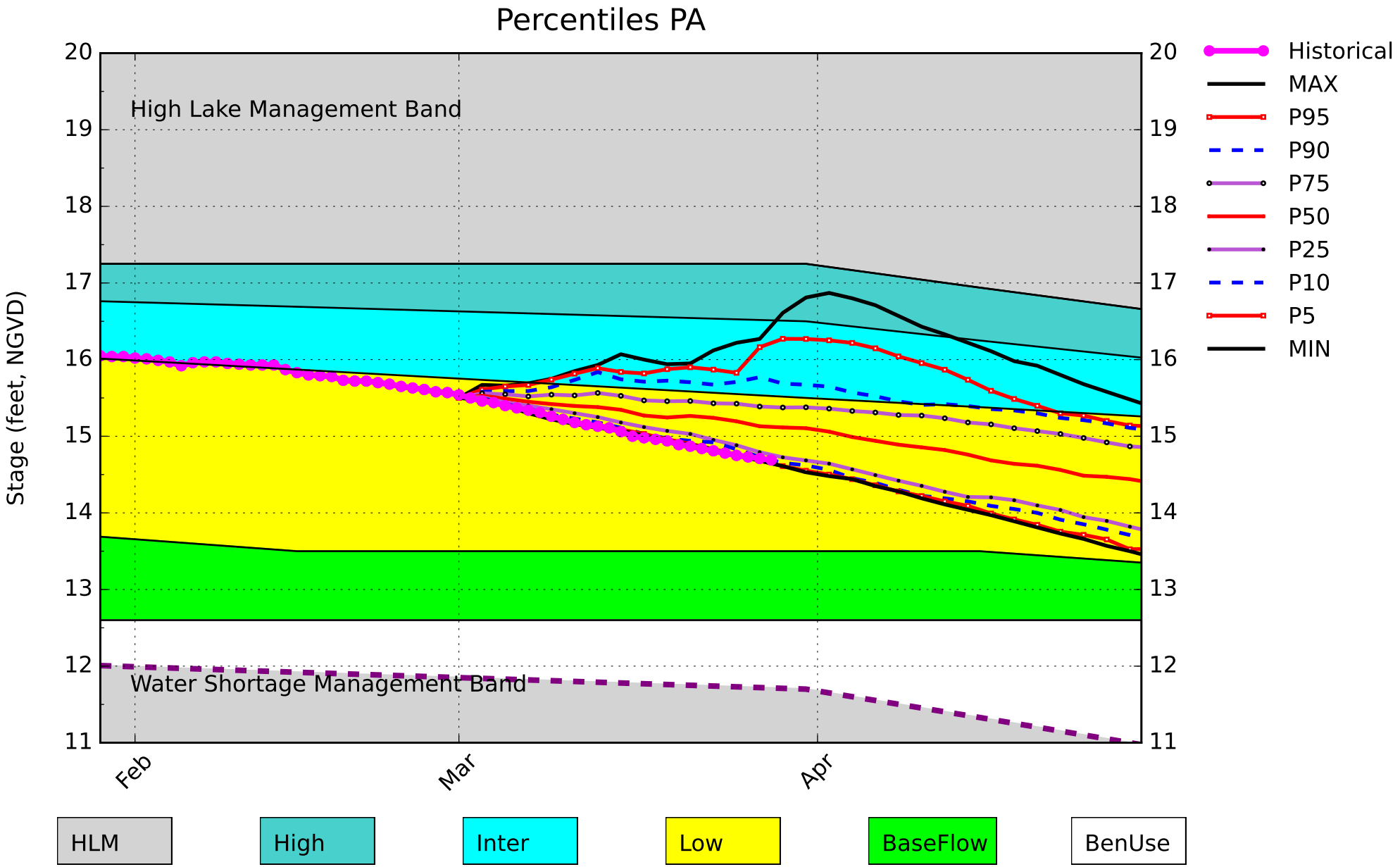
Status for week ending 03/27/2023:

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	-1.93 (Dry)	M
	CPC Precipitation Outlook	1 month: Equal Chances	L
		3 months: Equal Chances	L
	LOK Seasonal Net Inflow Outlook	0.98 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.38 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-8C)	Above Line 1 (16.05 ft)	L
	WCA 2A: Site S11B	Above Line 1 (11.81 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (8.93 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.

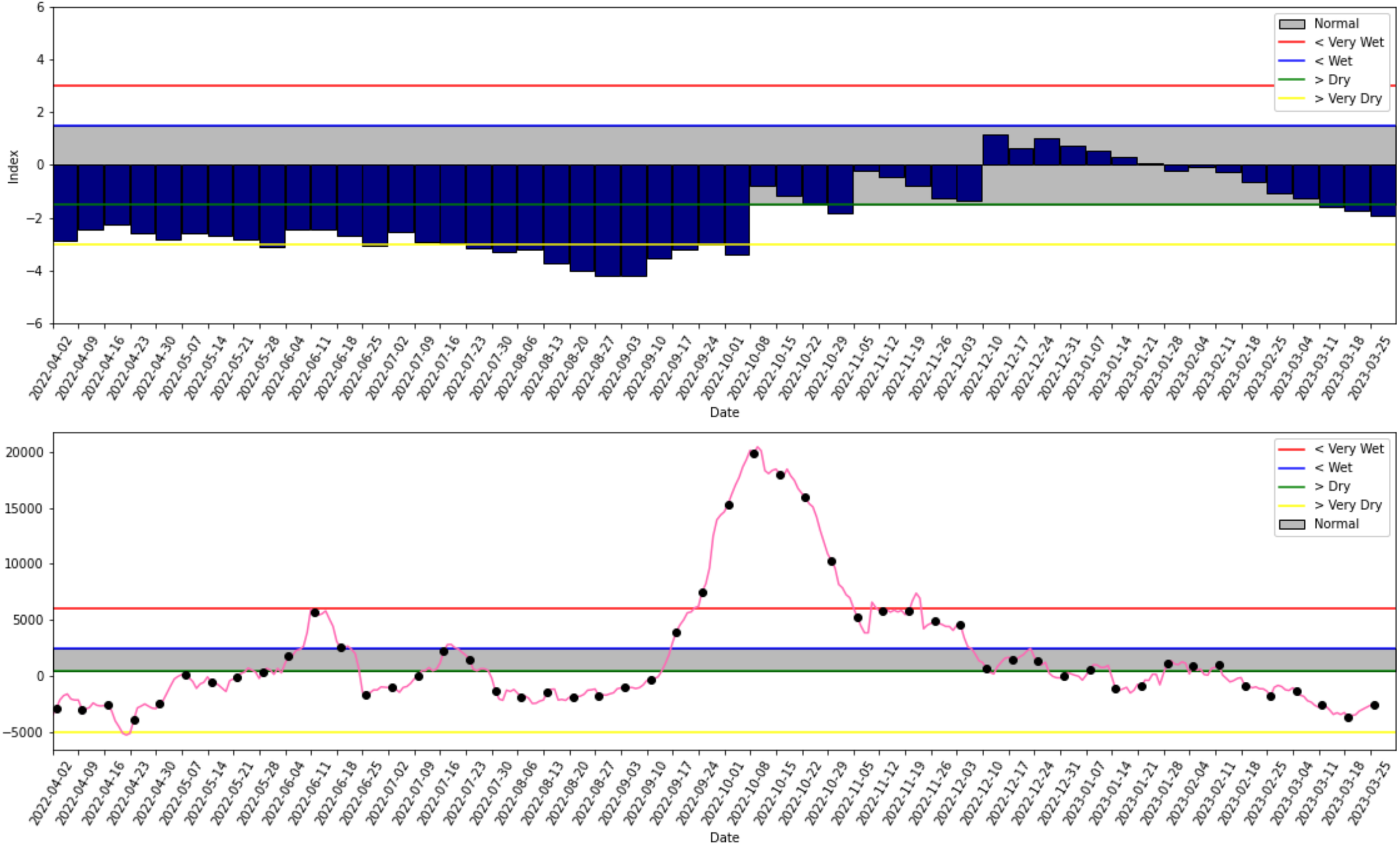
Lake Okeechobee SFWMM March 2023 Position Analysis



(See assumptions on the Position Analysis Results website)

03/28/23 07:41:12

Tributary Basin Condition Indicators as of March 26 2023



2008 LORS

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

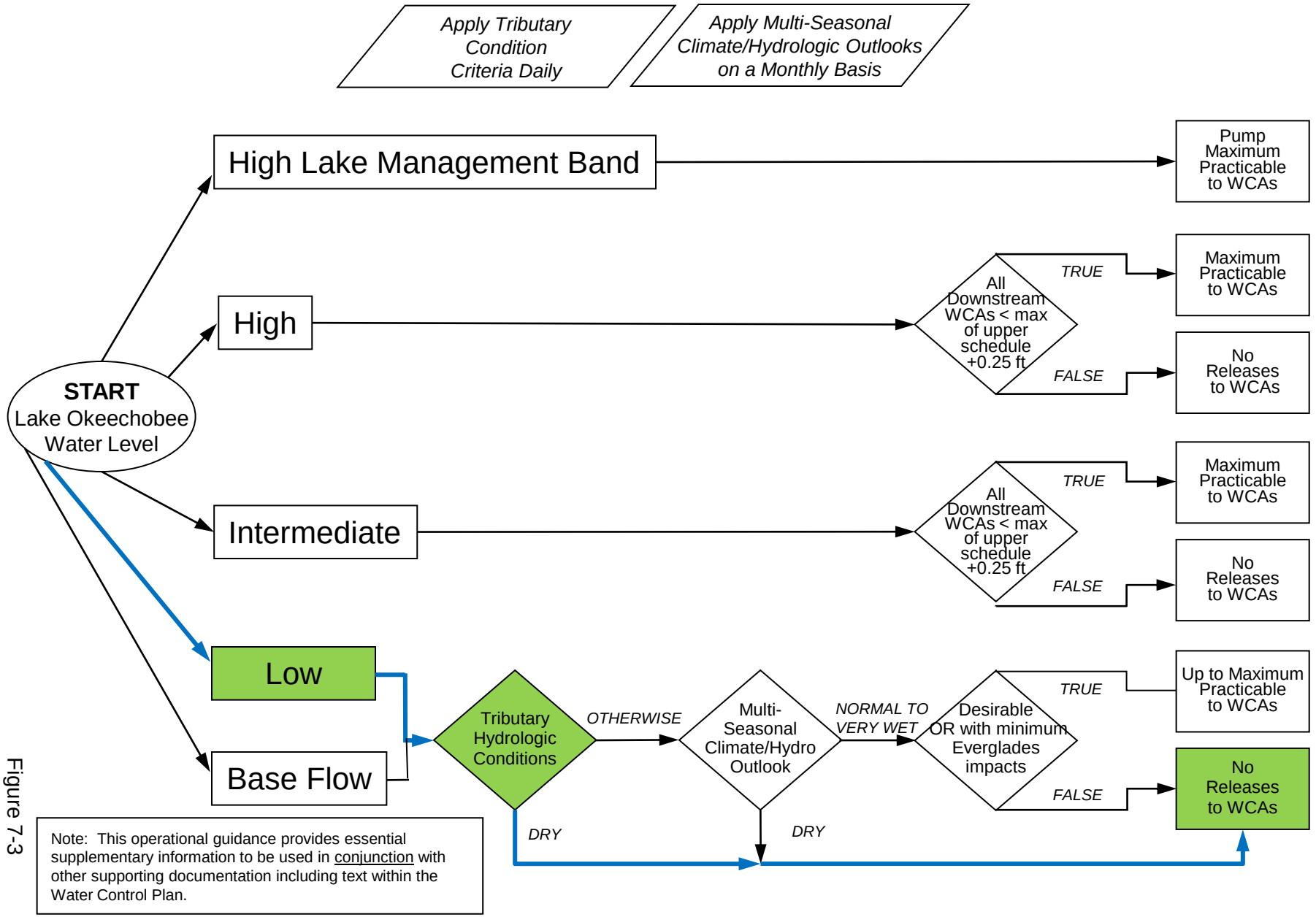


Figure 7-3

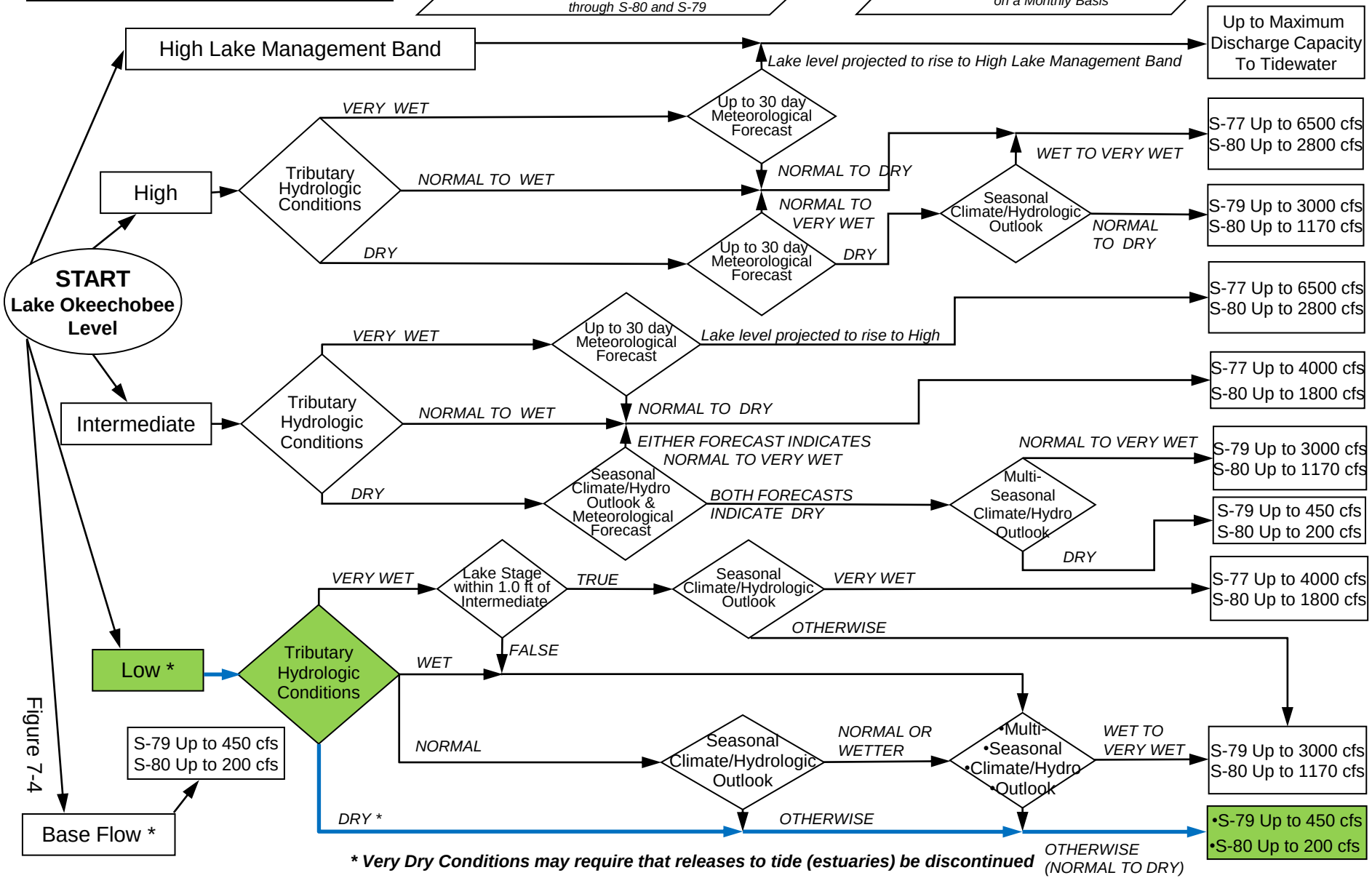
2008 LORS

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

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

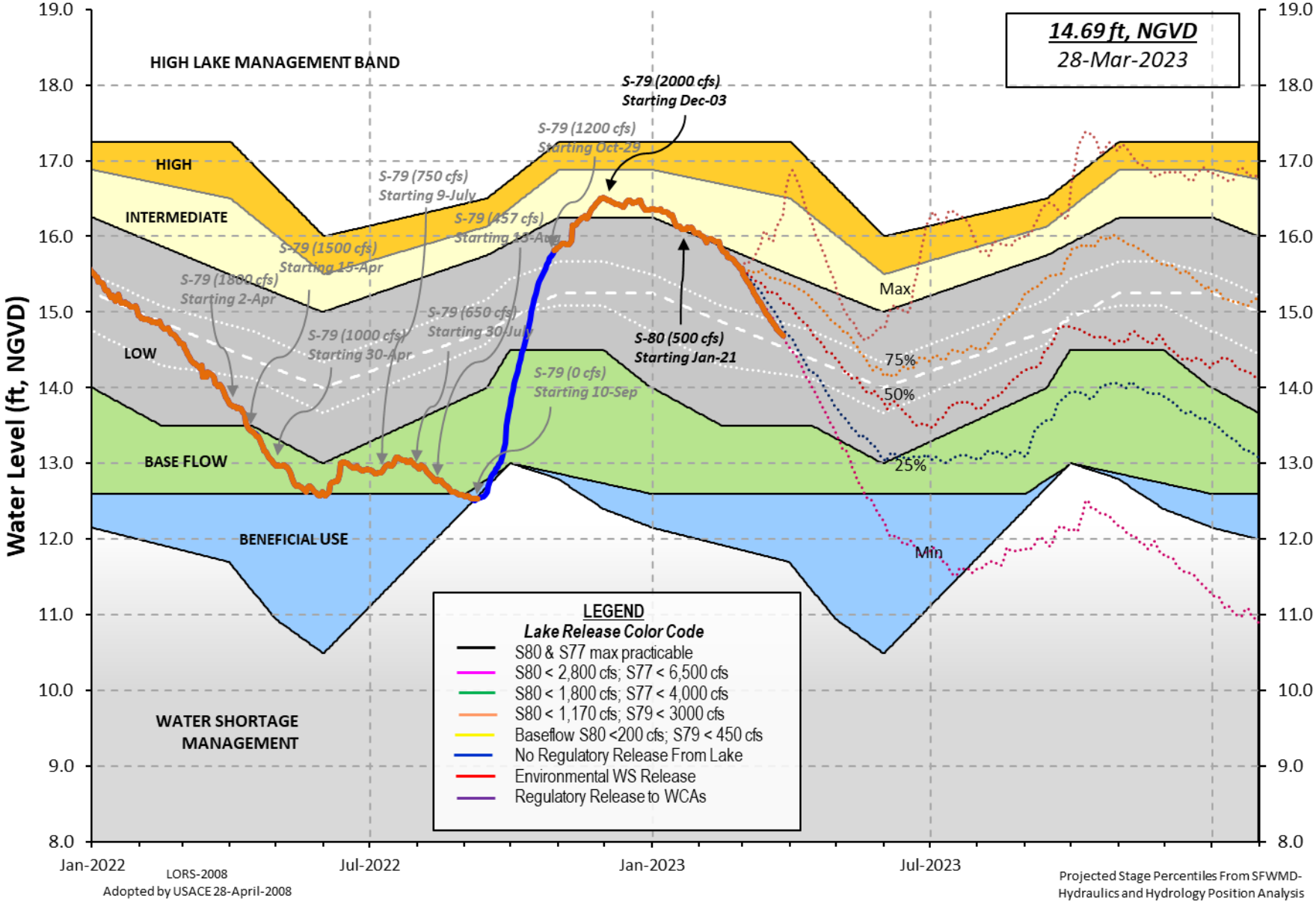
Apply Meteorological Forecasts on a Weekly Basis; apply Seasonal and Multi-Seasonal Climate/Hydrologic Outlooks on a Monthly Basis



**** Very Dry Conditions may require that releases to tide (estuaries) be discontinued***

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 26 MAR 2023

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)	
*Okeechobee Lake Elevation	14.71	13.98	14.60	(Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.73
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.08
Difference from Average LORS2008 1.63

26MAR (1965-2007) Period of Record Average 14.34
Difference from POR Average 0.37

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 8.65'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 6.85'
Bridge Clearance = 49.52'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
14.76	14.74	14.66	14.72	14.62	14.78	14.44	14.68

*Combination Okeechobee Avg-Daily Lake Average = 14.71 (*See Note)

Okeechobee Inflows (cfs):

S65E	525	S65EX1	0	Fisheating Cr	0
S154	0	S191	0	S135 Pumps	0
S84	0	S133 Pumps	0	S2 Pumps	0
S84X	0	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	0

Total Inflows: 525

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	447	S77	1441
S127 Culverts	0	S351	996	S308	373
S129 Culverts	0	S352	323		
S131 Culverts	0	L8 Canal Pt	365		

Total Outflows: 3946

****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	0.26	S308	0.26

Average Pan Evap x 0.75 Pan Coefficient = 0.19" = 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 -4235 cfs or -8400 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:	13.50	14.71	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.63	14.70	0	0.0	0.0	0.0					
S135 Pumps:	13.16	14.60	0	0	0	0	0	(cfs)			
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.09	14.42	525	-0.0	0.5	0.1	0.2	0.3	0.4		
S65EX1:	21.09	14.42	0								
S127 Pumps:	13.02	14.68	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.98	14.73	0	0	0	0	(cfs)				
S129 Culvert:			0	0.0							
S131 Pumps:	12.85	13.15	0	0	0	(cfs)					
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		27.66	0								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.94	-NR-	0	0	0	0	(cfs)				
S169:	14.61	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	14.57		27								
S3 Pumps:	11.04	14.62	0	0	0	0	(cfs)				
S354:	14.62	11.04	447	0.6	0.7						
S2 Pumps:	11.05	14.62	0	0	0	0	0	(cfs)			
S351:	14.62	11.05	996	1.4	1.0	1.0					
S352:	14.77	11.00	323	0.0	0.8						
C10A:	-NR-	-NR-		-NR-	-NR-	-NR-	-NR-	-NR-			
L8 Canal PT		14.53	365								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	11.05	14.62	996	-NR--NR--NR--NR--NR--NR-
S352:	11.00	14.77	323	-NR--NR--NR--NR-
S354:	11.04	14.62	447	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)				
S47B:	13.49	12.48		1.5 2.0
S47D:	12.45	11.36	24	0.2
S77:				
Spillway and Sector Preferred Flow:				
	14.45	11.23	1434	0.0 3.0 3.0 0.0
Flow Due to Lockages+:			7	
S78:				

```
    Spillway and Sector Flow:
              11.26      2.95     804    1.0  0.0  0.0  1.0
    Flow Due to Lockages+:          14

  S79:
    Spillway and Sector Flow:
               3.13      1.62    1486    0.0  0.0  1.0  2.0  2.0  1.0  0.0  0.0
    Flow Due to Lockages+:           8
    Percent of flow from S77        97%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              14.43     13.98     372  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           1

  S153:        19.05     13.90       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
              14.07      0.18     312    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          25
    Percent of flow from S308      119%

  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	156	4
S78:	-NR-	0.00	0.00	166	2
S79:	-NR-	0.00	0.00	114	0
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	122	6
S80:	-NR-	0.00	0.00	212	1
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  26 MAR 2023          14.71 Difference from 26MAR23
   26MAR23  -1 Day  =       25 MAR 2023          14.73             0.02
```

26MAR23	-2 Days =	24 MAR 2023	14.75	0.04
26MAR23	-3 Days =	23 MAR 2023	14.78	0.07
26MAR23	-4 Days =	22 MAR 2023	14.81	0.10
26MAR23	-5 Days =	21 MAR 2023	14.84	0.13
26MAR23	-6 Days =	20 MAR 2023	14.87	0.16
26MAR23	-7 Days =	19 MAR 2023	14.89	0.18
26MAR23	-30 Days =	24 FEB 2023	15.63	0.92
26MAR23	-1 Year =	26 MAR 2022	13.98	-0.73
26MAR23	-2 Year =	26 MAR 2021	14.60	-0.11

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
26MAR23	Today =	26 MAR 2023	-2551	MON	-297
26MAR23	-1 Day =	25 MAR 2023	-2590	SUN	75
26MAR23	-2 Days =	24 MAR 2023	-2759	SAT	-1553
26MAR23	-3 Days =	23 MAR 2023	-2929	FRI	-1166
26MAR23	-4 Days =	22 MAR 2023	-3108	THU	-1291
26MAR23	-5 Days =	21 MAR 2023	-3431	WED	-1811
26MAR23	-6 Days =	20 MAR 2023	-3481	TUE	-452
26MAR23	-7 Days =	19 MAR 2023	-3658	MON	-8633
26MAR23	-8 Days =	18 MAR 2023	-3235	SUN	-2047
26MAR23	-9 Days =	17 MAR 2023	-3405	SAT	-1674
26MAR23	-10 Days =	16 MAR 2023	-3251	FRI	-552
26MAR23	-11 Days =	15 MAR 2023	-3394	THU	-8969
26MAR23	-12 Days =	14 MAR 2023	-3000	WED	-6768
26MAR23	-13 Days =	13 MAR 2023	-2681	TUE	-582

S65E

			Average Flow over previous 14 days		Avg-Daily Flow
26MAR23	Today=	26 MAR 2023	634	MON	609
26MAR23	-1 Day =	25 MAR 2023	644	SUN	608
26MAR23	-2 Days =	24 MAR 2023	652	SAT	602
26MAR23	-3 Days =	23 MAR 2023	661	FRI	606
26MAR23	-4 Days =	22 MAR 2023	670	THU	630
26MAR23	-5 Days =	21 MAR 2023	680	WED	612
26MAR23	-6 Days =	20 MAR 2023	684	TUE	598
26MAR23	-7 Days =	19 MAR 2023	704	MON	613
26MAR23	-8 Days =	18 MAR 2023	730	SUN	608
26MAR23	-9 Days =	17 MAR 2023	763	SAT	682
26MAR23	-10 Days =	16 MAR 2023	787	FRI	675
26MAR23	-11 Days =	15 MAR 2023	824	THU	742
26MAR23	-12 Days =	14 MAR 2023	867	WED	663
26MAR23	-13 Days =	13 MAR 2023	907	TUE	630

S65EX1

			Average Flow over previous 14 days		Avg-Daily Flow
26MAR23	Today=	26 MAR 2023	0	MON	0
26MAR23	-1 Day =	25 MAR 2023	0	SUN	0
26MAR23	-2 Days =	24 MAR 2023	0	SAT	0
26MAR23	-3 Days =	23 MAR 2023	0	FRI	0
26MAR23	-4 Days =	22 MAR 2023	0	THU	0
26MAR23	-5 Days =	21 MAR 2023	0	WED	0
26MAR23	-6 Days =	20 MAR 2023	0	TUE	0
26MAR23	-7 Days =	19 MAR 2023	0	MON	0
26MAR23	-8 Days =	18 MAR 2023	0	SUN	0
26MAR23	-9 Days =	17 MAR 2023	0	SAT	0
26MAR23	-10 Days =	16 MAR 2023	0	FRI	0
26MAR23	-11 Days =	15 MAR 2023	0	THU	0
26MAR23	-12 Days =	14 MAR 2023	0	WED	0
26MAR23	-13 Days =	13 MAR 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)
26 MAR 2023	2855	2896	1617	2954
25 MAR 2023	2798	3881	2985	3465
24 MAR 2023	3561	5162	3887	4411
23 MAR 2023	4626	4644	3659	4989
22 MAR 2023	4742	4542	3242	4303
21 MAR 2023	3941	3848	3139	3432
20 MAR 2023	2906	3038	2881	3476
19 MAR 2023	2530	2574	2271	3849
18 MAR 2023	2520	2643	1692	2921
17 MAR 2023	3456	3312	2761	3674
16 MAR 2023	4989	4859	3965	4612
15 MAR 2023	3800	3689	3684	4647
14 MAR 2023	3455	2926	2655	4212
13 MAR 2023	3016	2930	2639	3174

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)
26 MAR 2023	54	1976	641	887	724
25 MAR 2023	26	2263	963	958	727
24 MAR 2023	131	2477	1214	806	705
23 MAR 2023	115	2199	1166	1034	730
22 MAR 2023	128	2125	1033	897	729
21 MAR 2023	4	2346	1055	438	706
20 MAR 2023	184	1790	736	765	705
19 MAR 2023	195	0	0	0	709
18 MAR 2023	289	0	153	216	644
17 MAR 2023	134	126	134	12	504
16 MAR 2023	47	503	686	0	520
15 MAR 2023	152	1704	1396	423	276
14 MAR 2023	179	1989	1482	348	183
13 MAR 2023	174	1562	1185	363	815

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
26 MAR 2023	718	-NR-	670
25 MAR 2023	794	-NR-	777
24 MAR 2023	773	-NR-	890
23 MAR 2023	603	-NR-	34
22 MAR 2023	815	-NR-	658
21 MAR 2023	812	-NR-	816
20 MAR 2023	815	-NR-	645
19 MAR 2023	814	-NR-	1000
18 MAR 2023	833	-NR-	1023
17 MAR 2023	848	-NR-	562
16 MAR 2023	560	-NR-	660
15 MAR 2023	462	-NR-	564
14 MAR 2023	710	-NR-	32
13 MAR 2023	827	-NR-	571

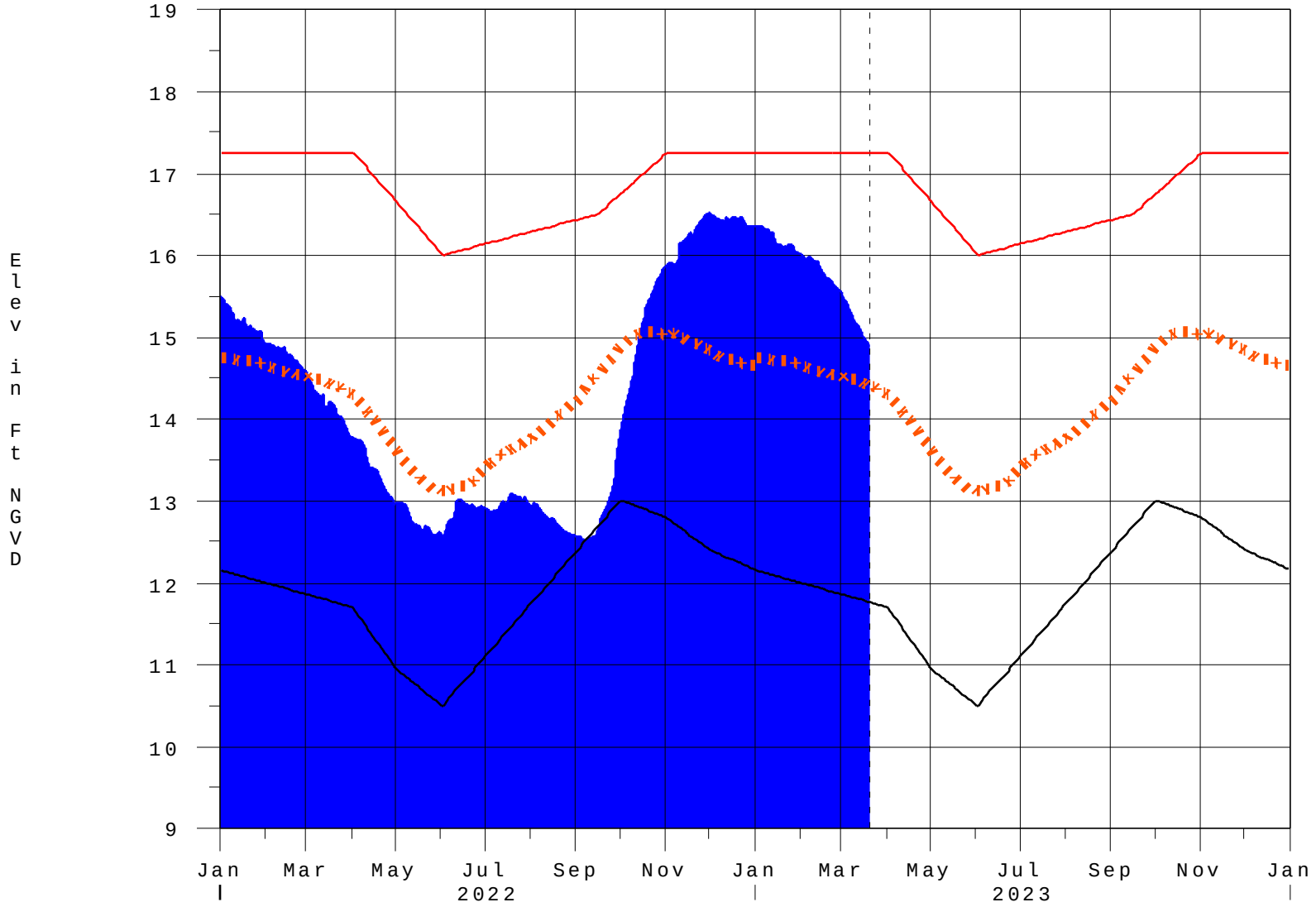
*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(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 27MAR2023 @ 08:45  ** Preliminary Data - Subject to Revision **
```

Lake Okeechobee

20MAR23 11:00:18



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