Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 03/13/2023 (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 (Mar-Aug)	N/A	N/A	1.01	Normal	1.16	Normal	0.91	Normal
Multi Seasonal (Mar-Oct)	N/A	N/A	2.13	Normal	2.55	Wet	2.16	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:

-2570 cfs 14-day running average for Lake Okeechobee Net Inflow through 03/12/2023.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-1.58 for Palmer Drought Index on 03/11/2023.
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 03/13/2023:

Lake Okeechobee Stage: **15.13 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.58	
	Intermediate sub-band	15.66	
	Low sub-band	13.50	← 15.13 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.80	
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 03/13/2023 (ENSO Condition- La Niña Watch):

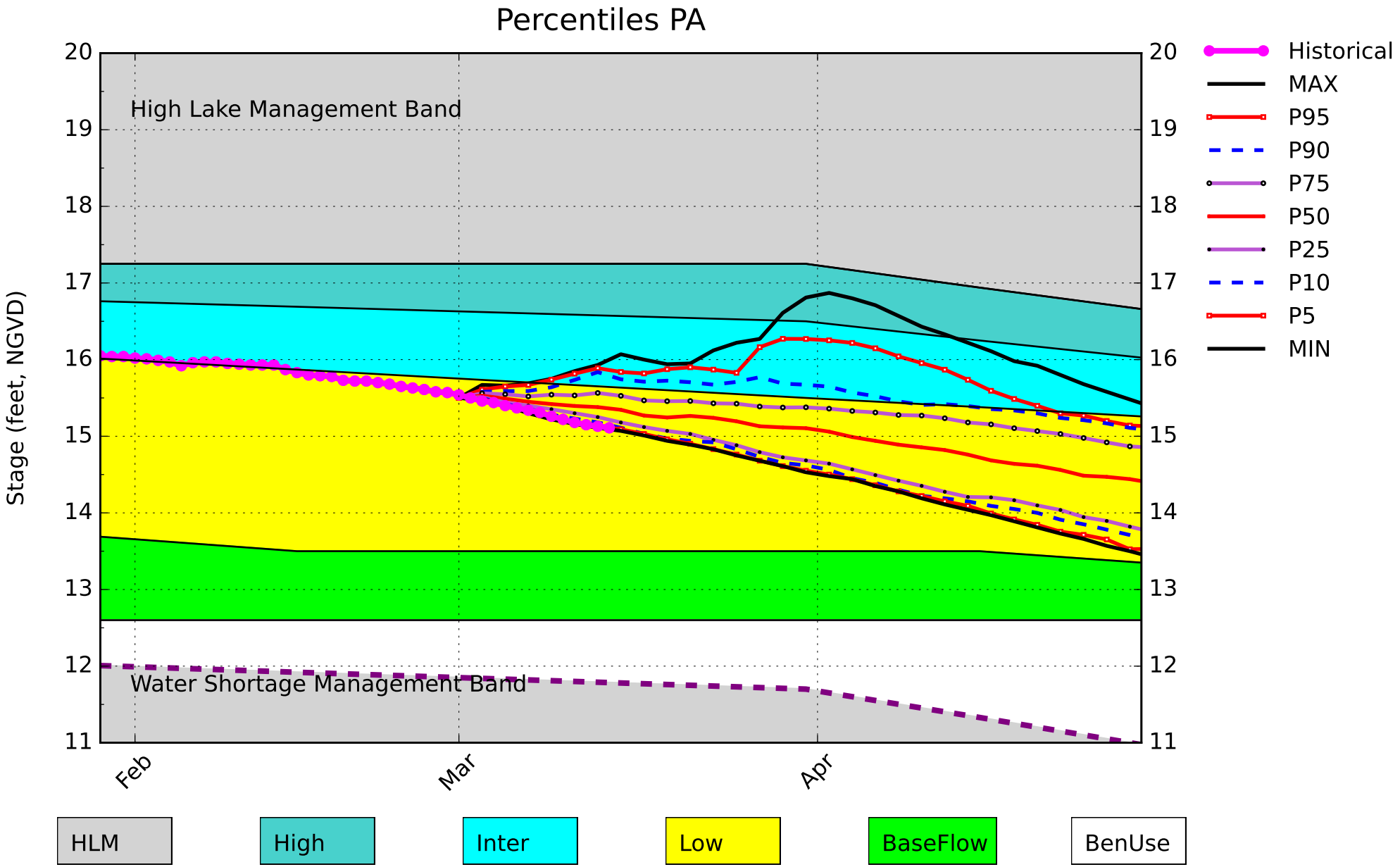
Status for week ending 03/13/2023:

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	-1.58 (Dry)	M
	CPC Precipitation Outlook	1 month: Equal Chances	L
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	1.16 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.55 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-8C)	Above Line 1 (16.33 ft)	L
	WCA 2A: Site S11B	Above Line 1 (11.89 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.11 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.

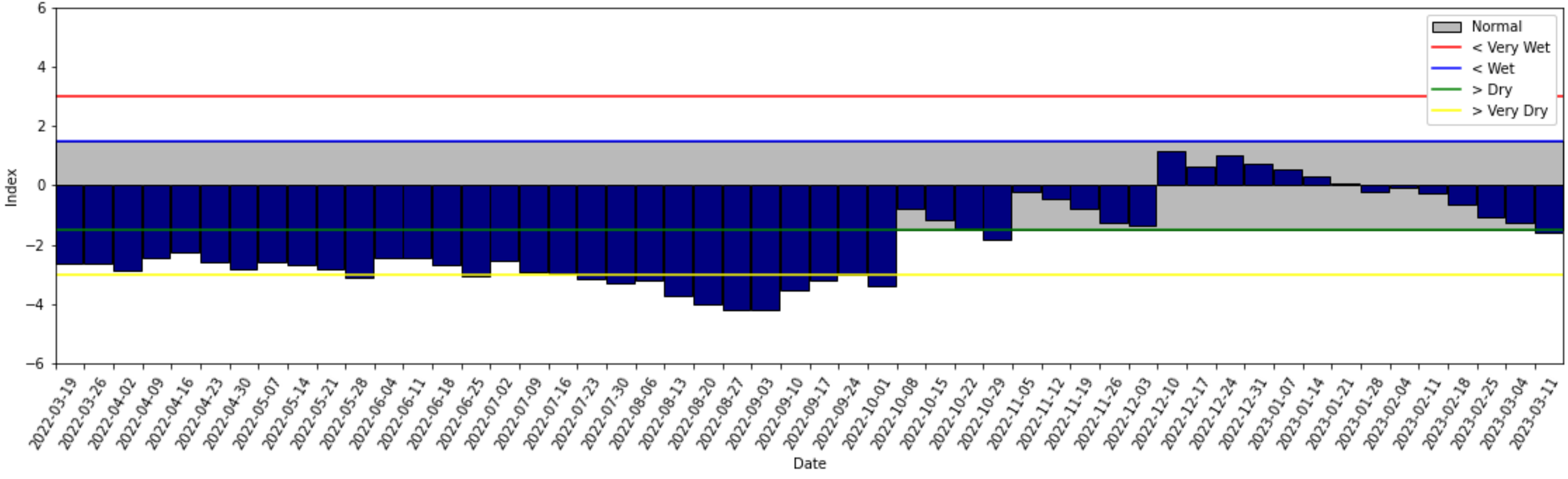
Lake Okeechobee SFWMM March 2023 Position Analysis



(See assumptions on the Position Analysis Results website)

03/14/23 08:55:57

Tributary Basin Condition Indicators as of March 12 2023



2008 LORS

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

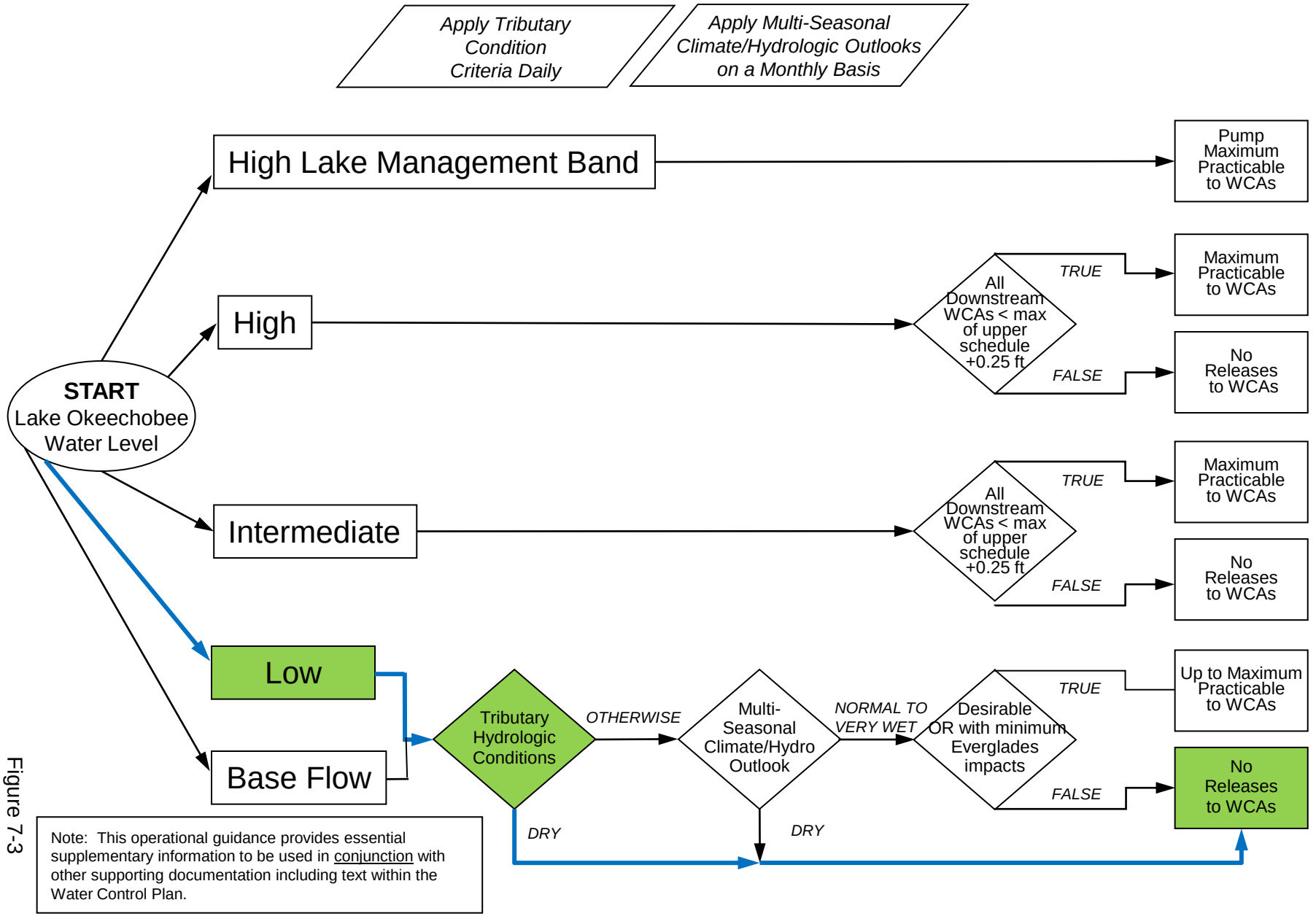


Figure 7-3

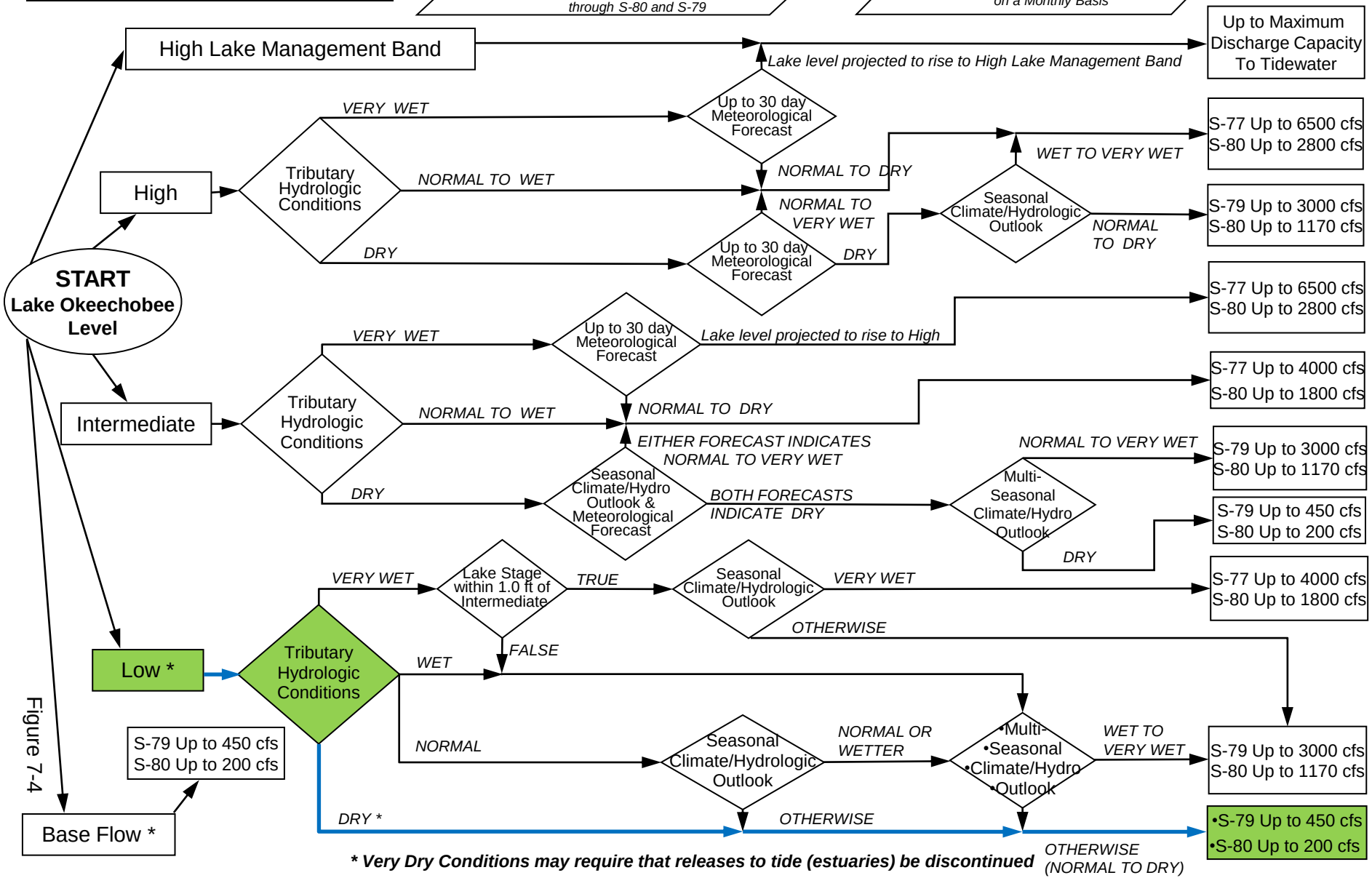
2008 LORS

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

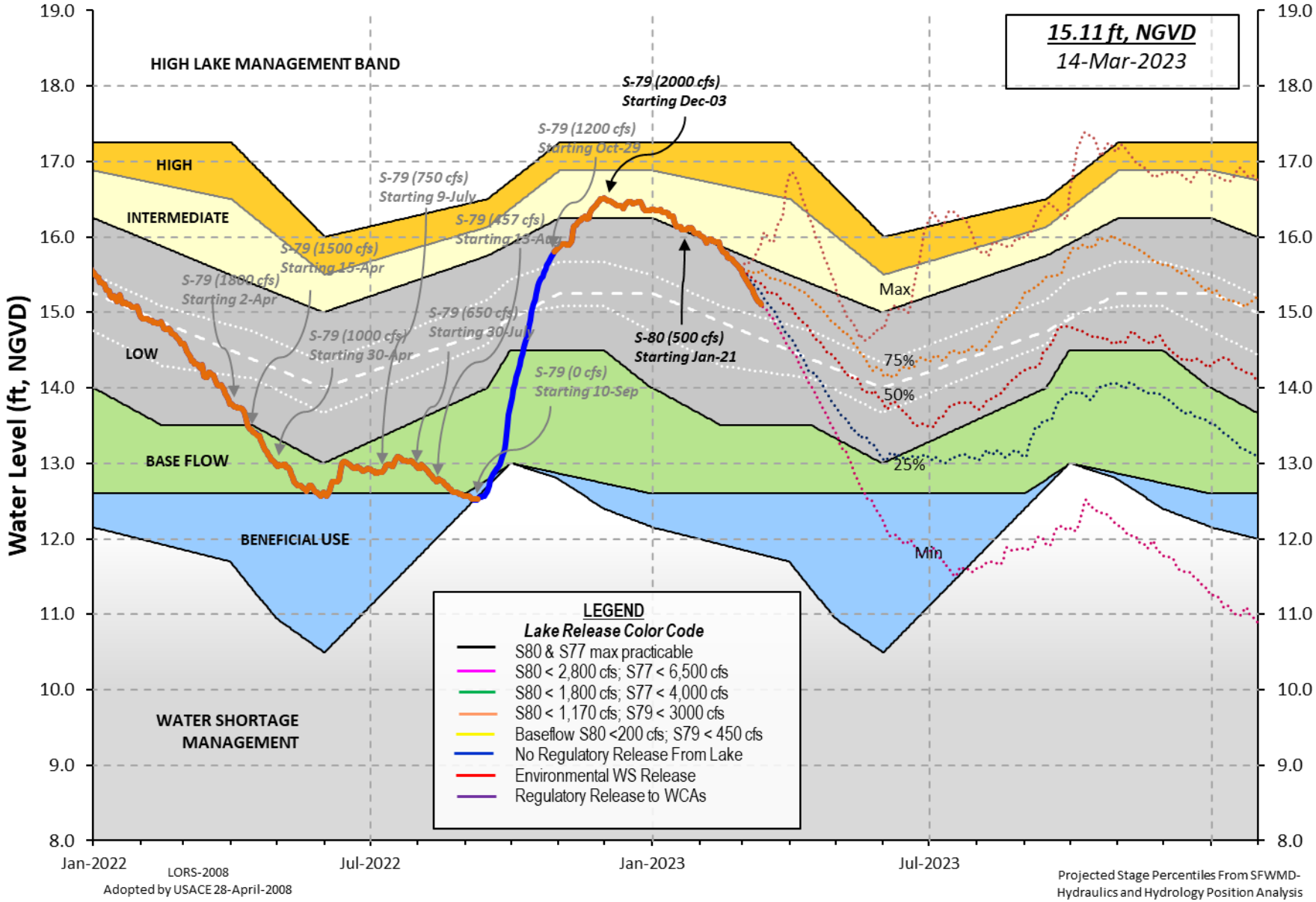
Apply Meteorological Forecasts on a Weekly Basis; apply Seasonal and Multi-Seasonal Climate/Hydrologic Outlooks on a Monthly Basis



**** 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 12 MAR 2023

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.13	14.30	15.06 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.80
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.24
Difference from Average LORS2008 1.89

12MAR (1965-2007) Period of Record Average 14.47
Difference from POR Average 0.66

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.07'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.27'
Bridge Clearance = 49.69'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.19	15.11	15.09	15.15	15.01	15.25	14.93	15.09

*Combination Okeechobee Avg-Daily Lake Average = 15.13 (*See Note)

Okeechobee Inflows (cfs):

S65E	667	S65EX1	0	Fisheating Cr	0
S154	0	S191	30	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: 697

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	262	S77	1375

```
  S127 Culverts     0      S351            737      S308            329
  S129 Culverts     0      S352            373
  S131 Culverts     0      L8 Canal Pt     429
Total Outflows:   3507

****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            0.27      S308           0.17
  Average Pan Evap x 0.75 Pan Coefficient =  0.16" =  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  -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:	13.74	15.21	0	0	0	0	0	0	(cfs)		
S193:											
S191:	19.59	15.19	30	0.0	0.0	0.0					
S135 Pumps:	13.47	15.15	0	0	0	0	0		(cfs)		
S135 Culverts:			0	2.6	0.0						
North West Shore											
S65E:	20.98	14.89	667	-0.0	0.5	0.0	0.6	0.4	0.0		
S65EX1:	20.98	14.89	0								
S127 Pumps:	13.26	15.07	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.12	15.03	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		27.80	0								

```
    nr Lakeport          ______
  C5:          ______     -NR-        0     -NR- -NR- -NR-

South Shore
  S4 Pumps:    12.01      -NR-        0      0    0    0            (cfs)
  S169:        14.95      -NR-     -NR-   -NR- -NR- -NR-
  S310:        14.95                47
  S3 Pumps:    11.16     14.96        0      0    0    0            (cfs)
  S354:        14.96     11.16      262    0.2  0.5
  S2 Pumps:    10.83     15.03        0      0    0    0    0       (cfs)
  S351:        15.03     10.83      737    0.6  0.6  0.8
  S352:        15.27     11.05      373    0.0  1.0
  C10A:         -NR-      -NR-           -NR-  -NR-  -NR-  -NR-  -NR-
  L8 Canal PT            15.05      429

  ____________________________________________________________________
                  S351 and S352 Temporary Pumps/S354 Spillway

  S351:        10.83     15.03      737  -NR--NR--NR--NR--NR--NR-
  S352:        11.05     15.27      373  -NR--NR--NR--NR-
  S354:        11.16     14.96      262  -NR--NR--NR--NR-
  ____________________________________________________________________

Caloosahatchee River (S77, S78, S79)
  S47B:        13.18     12.65           2.5  2.5
  S47D:        12.65     11.29       37  0.0
  S77:
    Spillway and Sector Preferred Flow:
               14.81     11.23     1366  0.0  2.5  3.0  0.0
    Flow Due to Lockages+:             9

  S78:
    Spillway and Sector Flow:
               11.19      3.19     1148    1.0  0.0  2.5  0.5
    Flow Due to Lockages+:            21

  S79:
    Spillway and Sector Flow:
                3.36      2.00     1497    0.0  0.0  1.0  2.0  2.0  1.0  1.0  0.0
    Flow Due to Lockages+:             7
    Percent of flow from S77          91%
    Chloride             (ppm)        0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
               15.05     13.81      326  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:             3
```

```
  S153:        18.98     13.61       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
                13.92      1.25     231    0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           20
    Percent of flow from S308       141%

  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	224	3
S78:	-NR-	0.00	0.00	200	2
S79:	-NR-	0.00	0.00	161	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	253	15
S80:	-NR-	0.00	0.00	249	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	12 MAR 2023	15.13	Difference from 12MAR23
12MAR23 -1 Day =	11 MAR 2023	15.15	0.02
12MAR23 -2 Days =	10 MAR 2023	15.18	0.05

12MAR23 -3 Days =	09 MAR 2023	15.22	0.09
12MAR23 -4 Days =	08 MAR 2023	15.26	0.13
12MAR23 -5 Days =	07 MAR 2023	15.31	0.18
12MAR23 -6 Days =	06 MAR 2023	15.34	0.21
12MAR23 -7 Days =	05 MAR 2023	15.37	0.24
12MAR23 -30 Days =	10 FEB 2023	15.93	0.80
12MAR23 -1 Year =	12 MAR 2022	14.30	-0.83
12MAR23 -2 Year =	12 MAR 2021	15.06	-0.07

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
12MAR23 Today =	12 MAR 2023	-2570	MON	-842
12MAR23 -1 Day =	11 MAR 2023	-2751	SUN	-2280
12MAR23 -2 Days =	10 MAR 2023	-2591	SAT	-3937
12MAR23 -3 Days =	09 MAR 2023	-2300	FRI	-3675
12MAR23 -4 Days =	08 MAR 2023	-2175	THU	-5820
12MAR23 -5 Days =	07 MAR 2023	-1791	WED	-2504
12MAR23 -6 Days =	06 MAR 2023	-1676	TUE	-2929
12MAR23 -7 Days =	05 MAR 2023	-1261	MON	-2665
12MAR23 -8 Days =	04 MAR 2023	-1027	SUN	-4424
12MAR23 -9 Days =	03 MAR 2023	-1266	SAT	471
12MAR23 -10 Days =	02 MAR 2023	-1200	FRI	-2553
12MAR23 -11 Days =	01 MAR 2023	-914	THU	-3447
12MAR23 -12 Days =	28 FEB 2023	-810	WED	-2300
12MAR23 -13 Days =	27 FEB 2023	-982	TUE	929

S65E

	Average Flow over previous 14 days			Avg-Daily Flow
12MAR23 Today=	12 MAR 2023	958	MON	750
12MAR23 -1 Day =	11 MAR 2023	1001	SUN	717
12MAR23 -2 Days =	10 MAR 2023	1047	SAT	730
12MAR23 -3 Days =	09 MAR 2023	1094	FRI	733
12MAR23 -4 Days =	08 MAR 2023	1142	THU	776
12MAR23 -5 Days =	07 MAR 2023	1189	WED	673
12MAR23 -6 Days =	06 MAR 2023	1252	TUE	874
12MAR23 -7 Days =	05 MAR 2023	1292	MON	974
12MAR23 -8 Days =	04 MAR 2023	1321	SUN	1072
12MAR23 -9 Days =	03 MAR 2023	1347	SAT	1017
12MAR23 -10 Days =	02 MAR 2023	1386	FRI	1199
12MAR23 -11 Days =	01 MAR 2023	1402	THU	1335
12MAR23 -12 Days =	28 FEB 2023	1409	WED	1231
12MAR23 -13 Days =	27 FEB 2023	1424	TUE	1328

S65EX1

	Average Flow over previous 14 days	Avg-Daily Flow

12MAR23	Today=	12 MAR 2023	0	MON	0
12MAR23	-1 Day =	11 MAR 2023	0	SUN	0
12MAR23	-2 Days =	10 MAR 2023	0	SAT	0
12MAR23	-3 Days =	09 MAR 2023	0	FRI	0
12MAR23	-4 Days =	08 MAR 2023	0	THU	0
12MAR23	-5 Days =	07 MAR 2023	0	WED	0
12MAR23	-6 Days =	06 MAR 2023	0	TUE	0
12MAR23	-7 Days =	05 MAR 2023	0	MON	0
12MAR23	-8 Days =	04 MAR 2023	0	SUN	0
12MAR23	-9 Days =	03 MAR 2023	0	SAT	0
12MAR23	-10 Days =	02 MAR 2023	0	FRI	0
12MAR23	-11 Days =	01 MAR 2023	0	THU	0
12MAR23	-12 Days =	28 FEB 2023	0	WED	0
12MAR23	-13 Days =	27 FEB 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)
12 MAR 2023	2725	2899	2330	2969
11 MAR 2023	2932	3023	2094	2956
10 MAR 2023	3844	4093	2609	3087
09 MAR 2023	4736	5089	3987	4649
08 MAR 2023	4493	4758	3936	5246
07 MAR 2023	-NR-	4082	3637	4347
06 MAR 2023	2467	3550	2922	3540
05 MAR 2023	2479	3049	2142	3362
04 MAR 2023	2735	3275	2089	3107
03 MAR 2023	3659	4079	2929	4087
02 MAR 2023	5480	5879	4950	5433
01 MAR 2023	4922	5239	4936	5480
28 FEB 2023	3809	3639	2641	3778
27 FEB 2023	2137	2320	2222	2762

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)
12 MAR 2023	93	1462	740	520	851
11 MAR 2023	111	2086	1155	768	850
10 MAR 2023	60	2030	1515	652	766
09 MAR 2023	142	1627	1465	683	645
08 MAR 2023	160	1792	1497	729	711
07 MAR 2023	121	1720	1484	785	903
06 MAR 2023	282	1517	1093	1111	921
05 MAR 2023	29	1667	811	925	852
04 MAR 2023	308	1949	1291	621	912

03 MAR 2023	6	2064	1551	502	894
02 MAR 2023	8	2755	1597	546	888
01 MAR 2023	0	2464	1156	911	931
28 FEB 2023	33	1988	795	887	873
27 FEB 2023	-0	1351	523	559	851

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
12 MAR 2023	674	-NR-	508
11 MAR 2023	530	-NR-	426
10 MAR 2023	549	-NR-	468
09 MAR 2023	763	-NR-	36
08 MAR 2023	721	-NR-	39
07 MAR 2023	7	-NR-	49
06 MAR 2023	-NR-	-NR-	40
05 MAR 2023	-NR-	-NR-	647
04 MAR 2023	-NR-	-NR-	768
03 MAR 2023	850	-NR-	877
02 MAR 2023	870	-NR-	365
01 MAR 2023	10	-NR-	58
28 FEB 2023	10	-NR-	55
27 FEB 2023	729	-NR-	574

*** 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

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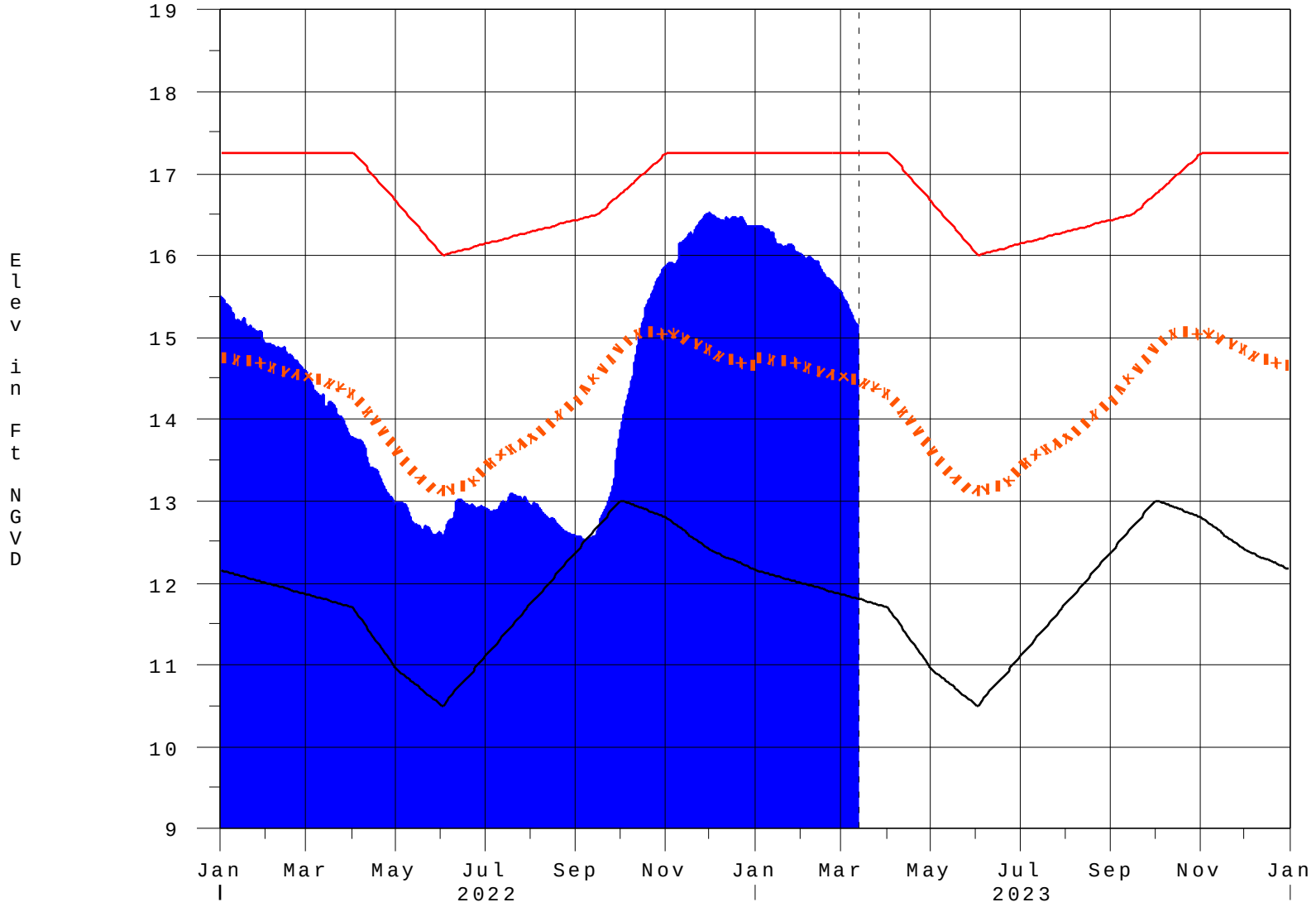
* On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average.
On 14 Mar 2001, due to the isolation of various gages within the standard 10 stations, the average of the interior 4 station gages was used as the Lake Okeechobee Elevation.
On 05 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 13MAR2023 @ 08:45 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

13MAR23 08:45:21



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