Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 1/15/2024 (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 (Jan-Jun)	N/A	N/A	0.80	Normal	1.53	Wet	1.82	Wet
Multi Seasonal (Jan-Oct)	N/A	N/A	3.01	Wet	3.84	Wet	5.09	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:

2123 cfs 14-day running average for Lake Okeechobee Net Inflow through 1/15/2024. According to the classification in Tributary Hydrologic Conditions table, this condition is Near Normal.

1.13 for Palmer Drought Index on 1/13/2024. 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 1/15/2024:

Lake Okeechobee Stage: **16.05 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.83	
	Intermediate sub-band	16.14	
	Low sub-band	13.86	← 16.05 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		12.08	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

Up to Maximum Practicable to the WCAs if desirable or with minimum Everglades impact; otherwise no Releases to WCAs.

Part D of LORS2008: Discharge to Tide

Up to 3000 cfs at S-79 and up to 1170 cfs at S-80.

LORS2008 Implementation on 1/15/2024 (ENSO Condition- El Niño):

Status for week ending 1/15/2024*:

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	1.13 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.53 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	3.84 ft	L
	ENSO Forecast	Wet	
WCAs	WCA 1: Site 1-8C	Above Line 1 (17.39 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.93 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (10.71 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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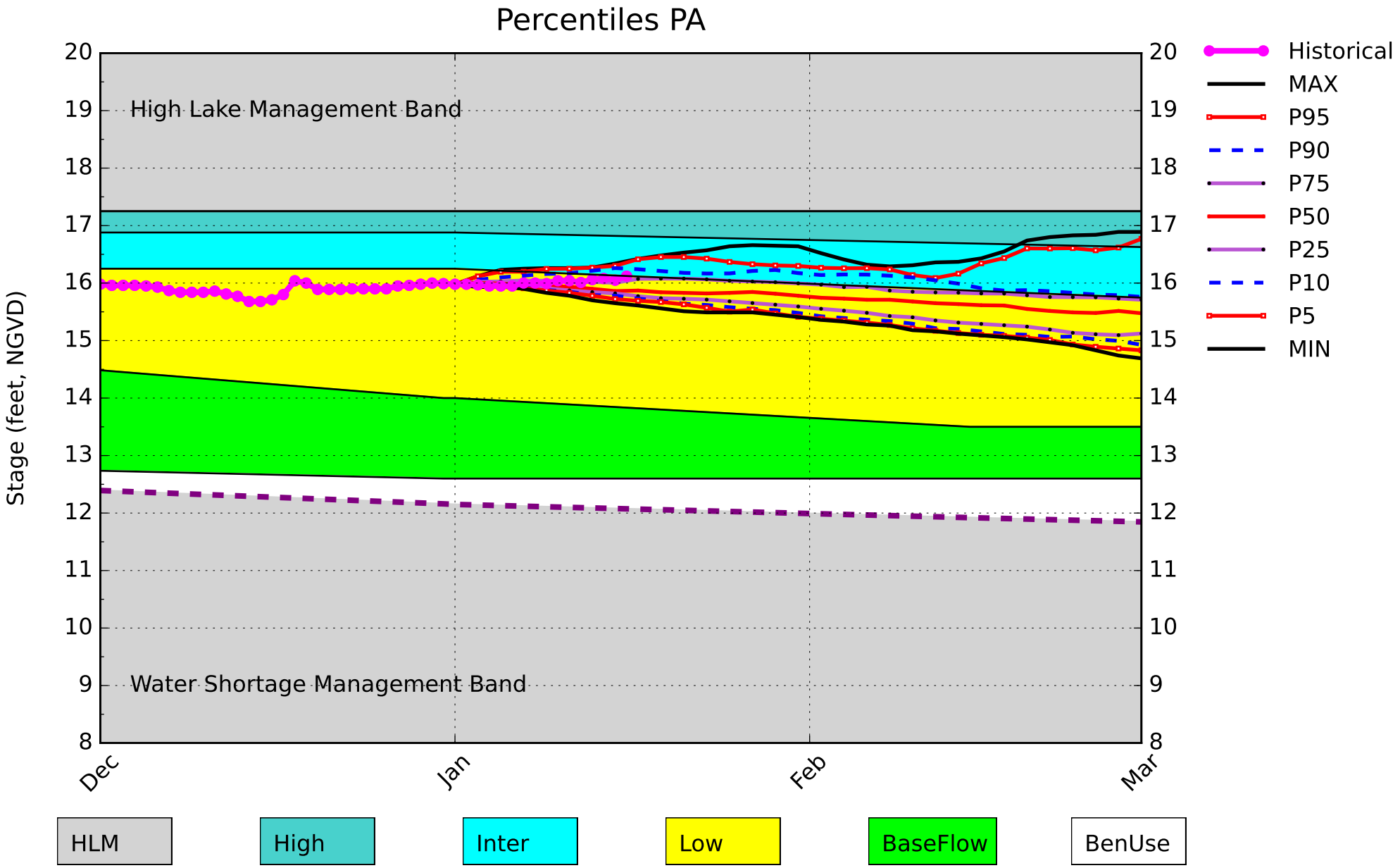
*- S80 flow data for January 10 – January 14, 2024, and S308 flow data for January 12 – January 14, 2024, is not available from USACE Daily Reports and was assumed to be 0. S77 flow data for January 12 – January 14, 2024, was substituted with alternative data sources from USGS.

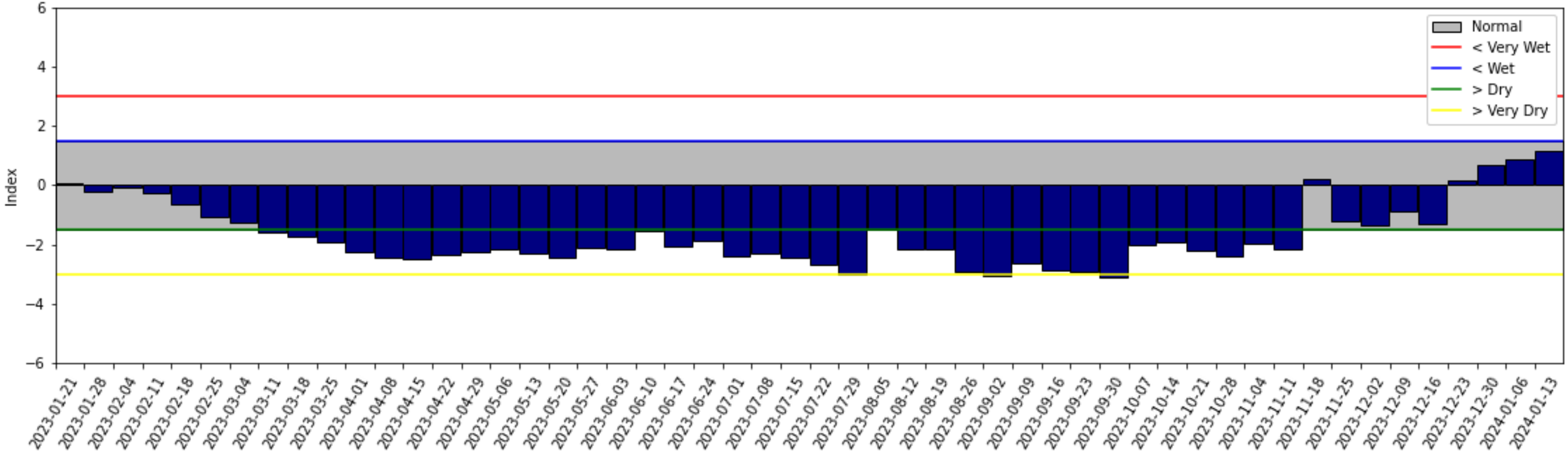
Lake Okeechobee SFWMM January 2024 Position Analysis



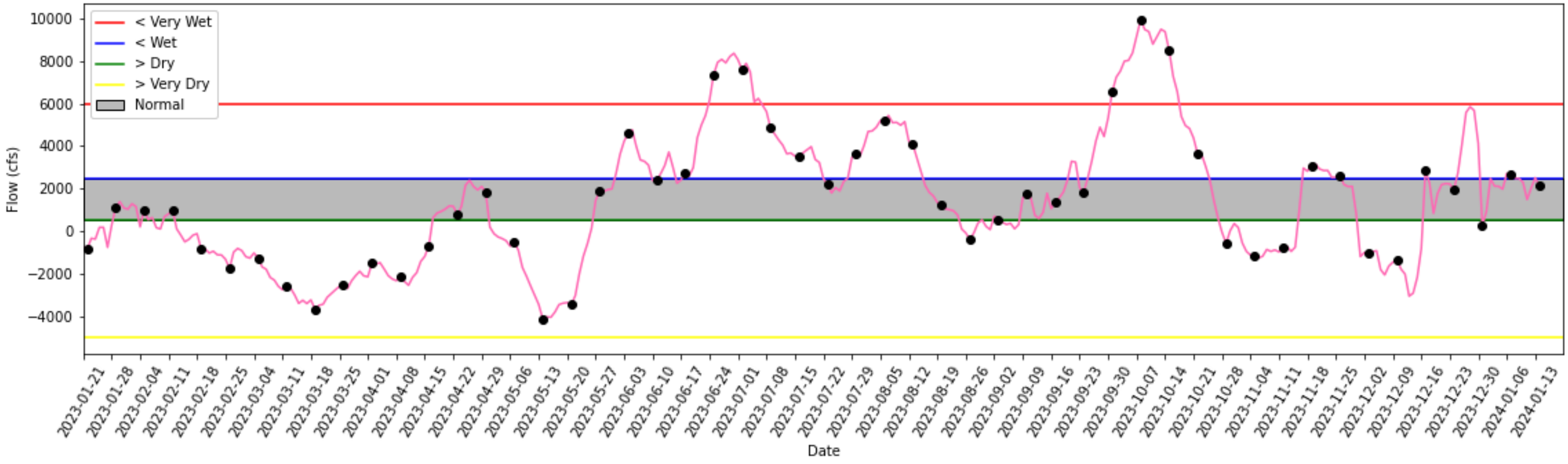
(See assumptions on the Position Analysis Results website)

01/16/24 07:52:25

Tributary Basin Condition Indicators as of January 14 2024



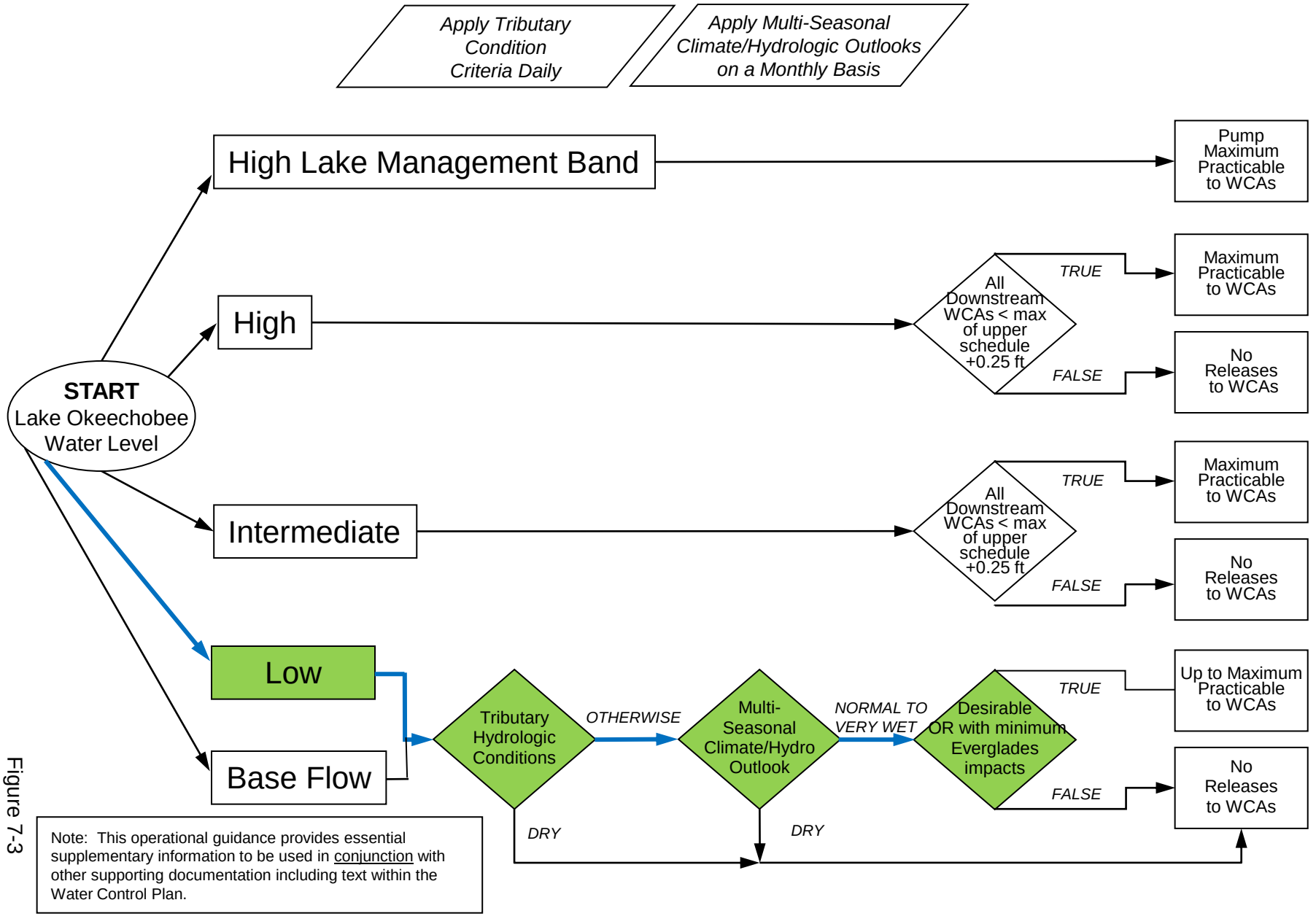
Date



Date

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)

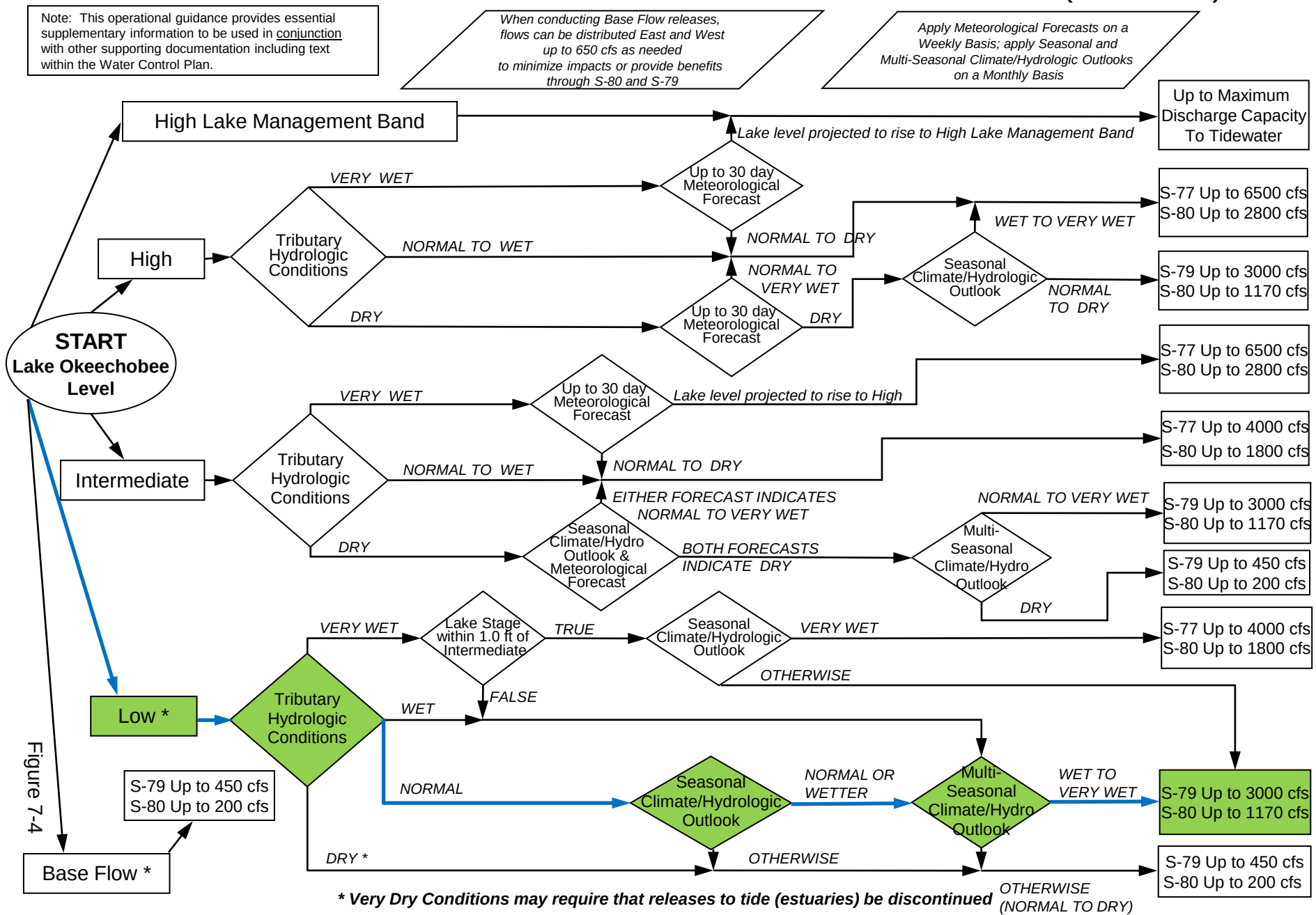
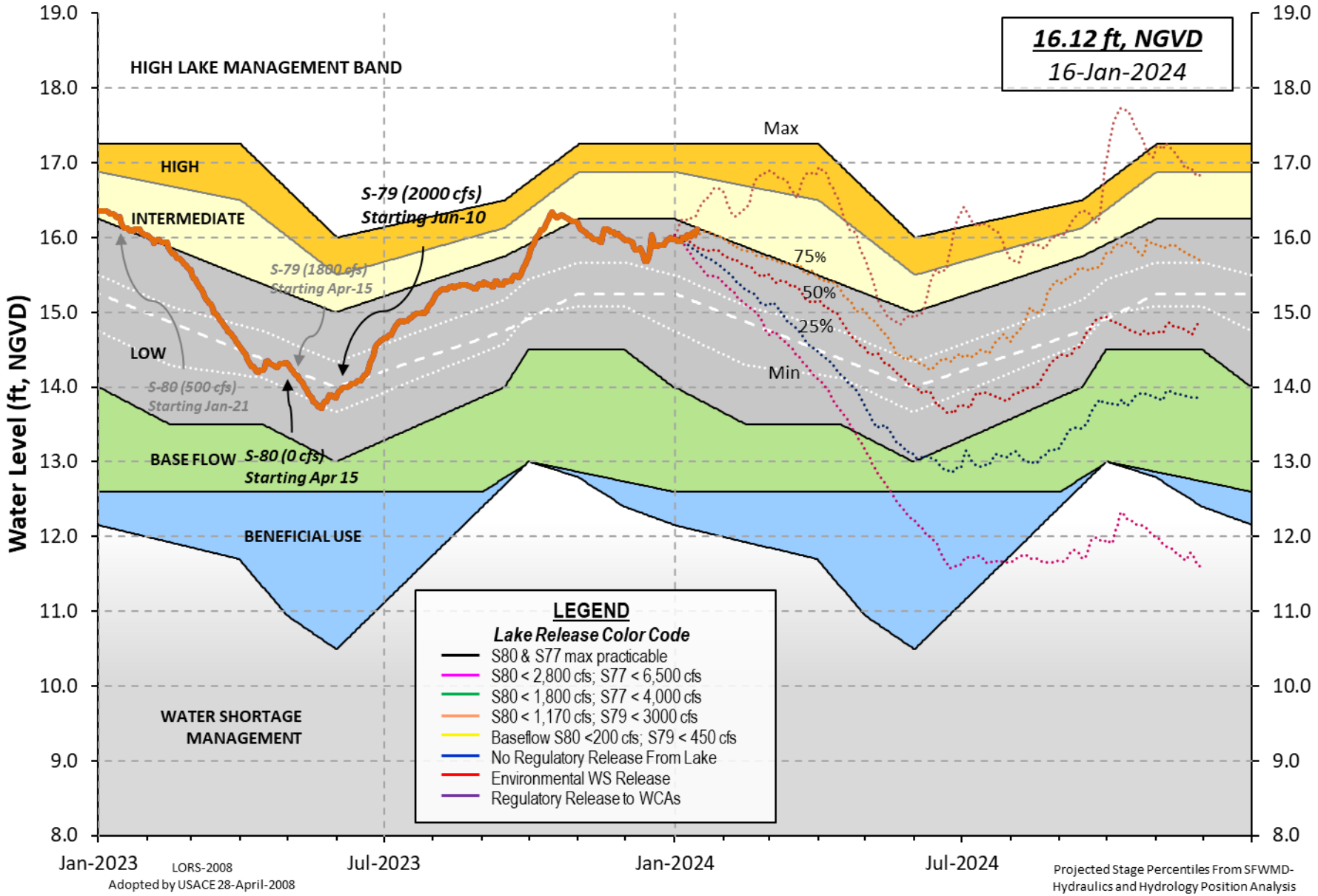


Figure 7-4

Lake Okeechobee Water Level History and Projected Stages



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 14 JAN 2024

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	16.05	16.21	15.19 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.08
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.56
Difference from Average LORS2008 2.49

14JAN (1965-2007) Period of Record Average 14.71
Difference from POR Average 1.34

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.99'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 8.19'
Bridge Clearance = -NR-'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.01	16.12	16.46	-NR-	-NR-	16.20	-NR-	15.85

*Combination Okeechobee Avg-Daily Lake Average = 16.05 (*See Note)

Okeechobee Inflows (cfs):

S65E	1156	S65EX1	0	Fisheating Cr	-NR-
S154	0	S191	124	S135 Pumps	0
S84	76	S133 Pumps	127	S2 Pumps	0
S84X	19	S127 Pumps	0	S3 Pumps	0
S71	230	S129 Pumps	40	S4 Pumps	0
S72	64	S131 Pumps	42	C5	0

Total Inflows: 1876

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	-NR-
S127 Culverts	0	S351	0	S308	-NR-
S129 Culverts	0	S352	25		
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 below flow meter is being used to compute Total Outflow.

Okeechobee Pan Evaporation (inches):

S77	-NR-	S308	0.01

Average Pan Evap x 0.75 Pan Coefficient = -NR-" = -NR-'

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 Elevation (ft-msl)	Tailwater Elevation (ft-msl)	Disch (cfs) (I) see note at bottom	Gate Positions #1 (ft)	#2 (ft)	#3 (ft)	#4 (ft)	#5 (ft)	#6 (ft)	#7 (ft)	#8 (ft)	
North East Shore												
S133 Pumps:	13.32	16.12	127	0	6	18	47	55				(cfs)
S193:	_____											
S191:	18.88	16.09	124	0.0	0.0	0.0						
S135 Pumps:	13.47	15.98	0	0	0	0	0					(cfs)
S135 Culverts:			0	0.0	0.0							
North West Shore												
S65E:	20.93	16.06	1156	0.4	0.8	0.4	0.4	1.1	0.4			
S65EX1:	20.93	16.06	0									
S127 Pumps:	13.52	15.97	0	0	0	0	0	0				(cfs)
S127 Culvert:			0	0.0								
S129 Pumps:	12.82	16.06	40	12	30	0						(cfs)
S129 Culvert:			0	0.0								
S131 Pumps:	12.77	13.28	42	-NR-	0							(cfs)
S131 Culvert:			0									
Fisheating Creek												
nr Palmdale		_____	-NR-									
nr Lakeport		_____										
S282	_____	-NR-		-NR-	-NR-	-NR-						
South Shore												
S4 Pumps:	11.36	-NR-	0	0	0	0						(cfs)
S169:	_____	-NR-	-NR-	-NR-	-NR-	-NR-						
S310:	_____		-NR-									
S3 Pumps:	10.13	16.03	0	0	0	0						(cfs)
S354:	16.03	10.13	0	0.0	0.0							
S2 Pumps:	10.12	16.08	0	0	0	0	0					(cfs)
S351:	16.08	10.12	0	0.0	0.0	0.0						
S352:	16.22	10.18	25	0.1	0.0							
S271:	_____	-NR-		-NR-	-NR-	-NR-	-NR-					
L8 Canal PT		_____	-NR-									
S351 and S352 Temporary Pumps/S354 Spillway												
S351:	10.12	16.08	0	-NR--NR--NR--NR--NR--NR-								
S352:	10.18	16.22	25	-NR--NR--NR--NR-								
S354:	10.13	16.03	0	-NR--NR--NR--NR-								
Caloosahatchee River (S77, S78, S79)												
S47B:	13.43	11.95		0.5	0.5							
S47D:	12.14	11.22	0	0.0								
S77:												
Spillway and Sector Preferred Flow:												
	-NR-	-NR-	-NR-	0.0	0.5	0.5	0.0					
Flow Due to Lockages+:			-NR-									
S78:												

```
    Spillway and Sector Flow:
              11.07      3.07    -NR-    0.0  0.0  2.5  0.0
    Flow Due to Lockages+:        -NR-

  S79:
    Spillway and Sector Flow:
                -NR-      -NR-    -NR-    0.0  0.0  0.0  2.0  2.0  1.5  0.0  0.0
    Flow Due to Lockages+:        -NR-
    Percent of flow from S77      -NR-%
    Chloride            (ppm)     -N


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
                -NR-      -NR-    -NR-  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:        -NR-

  S153:        18.80     13.83      44    0.0  0.0
  S80:
    Spillway and Sector Flow:
                -NR-      -NR-    -NR-    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:        -NR-
    Percent of flow from S308     -NR-%

  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:	-NR-	0.00	0.42	-NR-	-NR-
S78:	0.44	0.88	0.89	-NR-	-NR-
S79:	-NR-	0.00	0.35	-NR-	-NR-
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	-NR-	-NR-
S80:	-NR-	0.00	0.26	-NR-	-NR-
Okeechobee Average (Sites S78, S79 and S80 not included)	-NR-	0.00	0.03		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
 Okeechobee Lake Elevations  14 JAN 2024          16.05 Difference from 14JAN24
    14JAN24  -1 Day  =       13 JAN 2024          16.08             0.03
```

14JAN24	-2 Days =	12 JAN 2024	16.06	0.01
14JAN24	-3 Days =	11 JAN 2024	16.01	-0.04
14JAN24	-4 Days =	10 JAN 2024	16.04	-0.01
14JAN24	-5 Days =	09 JAN 2024	16.04	-0.01
14JAN24	-6 Days =	08 JAN 2024	15.99	-0.06
14JAN24	-7 Days =	07 JAN 2024	16.00	-0.05
14JAN24	-30 Days =	15 DEC 2023	15.71	-0.34
14JAN24	-1 Year =	14 JAN 2023	16.21	0.16
14JAN24	-2 Year =	14 JAN 2022	15.19	-0.86

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
14JAN24	Today =	14 JAN 2024	1690	MON	-NR-
14JAN24	-1 Day =	13 JAN 2024	1472	SUN	-NR-
14JAN24	-2 Days =	12 JAN 2024	1234	SAT	-NR-
14JAN24	-3 Days =	11 JAN 2024	1495	FRI	-6061
14JAN24	-4 Days =	10 JAN 2024	2300	THU	675
14JAN24	-5 Days =	09 JAN 2024	2484	WED	12219
14JAN24	-6 Days =	08 JAN 2024	2483	TUE	-732
14JAN24	-7 Days =	07 JAN 2024	2671	MON	939
14JAN24	-8 Days =	06 JAN 2024	2715	SUN	11421
14JAN24	-9 Days =	05 JAN 2024	1982	SAT	844
14JAN24	-10 Days =	04 JAN 2024	2114	FRI	1222
14JAN24	-11 Days =	03 JAN 2024	2123	THU	-2870
14JAN24	-12 Days =	02 JAN 2024	2507	WED	-431
14JAN24	-13 Days =	01 JAN 2024	2752	TUE	1368

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
14JAN24	Today=	14 JAN 2024	1065	MON	1290
14JAN24	-1 Day =	13 JAN 2024	1045	SUN	1308
14JAN24	-2 Days =	12 JAN 2024	1025	SAT	1242
14JAN24	-3 Days =	11 JAN 2024	1011	FRI	1124
14JAN24	-4 Days =	10 JAN 2024	1007	THU	1046
14JAN24	-5 Days =	09 JAN 2024	1003	WED	972
14JAN24	-6 Days =	08 JAN 2024	1014	TUE	988
14JAN24	-7 Days =	07 JAN 2024	1008	MON	988
14JAN24	-8 Days =	06 JAN 2024	1003	SUN	1004
14JAN24	-9 Days =	05 JAN 2024	994	SAT	968
14JAN24	-10 Days =	04 JAN 2024	987	FRI	989
14JAN24	-11 Days =	03 JAN 2024	978	THU	990
14JAN24	-12 Days =	02 JAN 2024	969	WED	1009
14JAN24	-13 Days =	01 JAN 2024	959	TUE	998

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
14JAN24	Today=	14 JAN 2024	0	MON	0
14JAN24	-1 Day =	13 JAN 2024	0	SUN	0
14JAN24	-2 Days =	12 JAN 2024	0	SAT	0
14JAN24	-3 Days =	11 JAN 2024	0	FRI	0
14JAN24	-4 Days =	10 JAN 2024	0	THU	0
14JAN24	-5 Days =	09 JAN 2024	0	WED	0
14JAN24	-6 Days =	08 JAN 2024	0	TUE	0
14JAN24	-7 Days =	07 JAN 2024	0	MON	0
14JAN24	-8 Days =	06 JAN 2024	0	SUN	0
14JAN24	-9 Days =	05 JAN 2024	0	SAT	0
14JAN24	-10 Days =	04 JAN 2024	0	FRI	0
14JAN24	-11 Days =	03 JAN 2024	0	THU	0
14JAN24	-12 Days =	02 JAN 2024	0	WED	0
14JAN24	-13 Days =	01 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)
14 JAN 2024	-NR-	-NR-	-NR-	-NR-
13 JAN 2024	-NR-	-NR-	-NR-	-NR-
12 JAN 2024	-NR-	-NR-	-NR-	-NR-
11 JAN 2024	824	1425	1942	3501
10 JAN 2024	817	1288	1767	4796
09 JAN 2024	1895	1884	2159	3756
08 JAN 2024	2263	2796	3221	5647
07 JAN 2024	1367	1811	2847	5656
06 JAN 2024	434	1102	1764	3978
05 JAN 2024	1146	1613	1634	2981
04 JAN 2024	2047	2377	2215	3447
03 JAN 2024	2580	2862	2977	4066
02 JAN 2024	-NR-	2838	3239	4813
01 JAN 2024	-NR-	2665	3159	5049

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)
14 JAN 2024	-NR-	0	50	0	-NR-
13 JAN 2024	-NR-	0	50	0	-NR-
12 JAN 2024	-NR-	0	51	0	-NR-
11 JAN 2024	2	0	52	0	206
10 JAN 2024	2	0	50	0	193
09 JAN 2024	14	0	48	0	204
08 JAN 2024	0	0	50	0	202
07 JAN 2024	13	0	51	0	205
06 JAN 2024	9	0	50	0	199
05 JAN 2024	-8	0	50	0	205
04 JAN 2024	0	0	47	0	201
03 JAN 2024	4	0	45	0	201
02 JAN 2024	3	0	47	0	190
01 JAN 2024	1	0	48	0	194

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
14 JAN 2024	-NR-	-NR-	-NR-
13 JAN 2024	-NR-	-NR-	-NR-
12 JAN 2024	-NR-	-NR-	-NR-
11 JAN 2024	5	-NR-	-NR-
10 JAN 2024	9	-NR-	-NR-
09 JAN 2024	3	-NR-	15
08 JAN 2024	6	-NR-	30
07 JAN 2024	12	-NR-	46
06 JAN 2024	5	-NR-	15
05 JAN 2024	10	-NR-	37
04 JAN 2024	7	-NR-	37
03 JAN 2024	9	-NR-	34
02 JAN 2024	531	-NR-	41
01 JAN 2024	7	-NR-	23

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

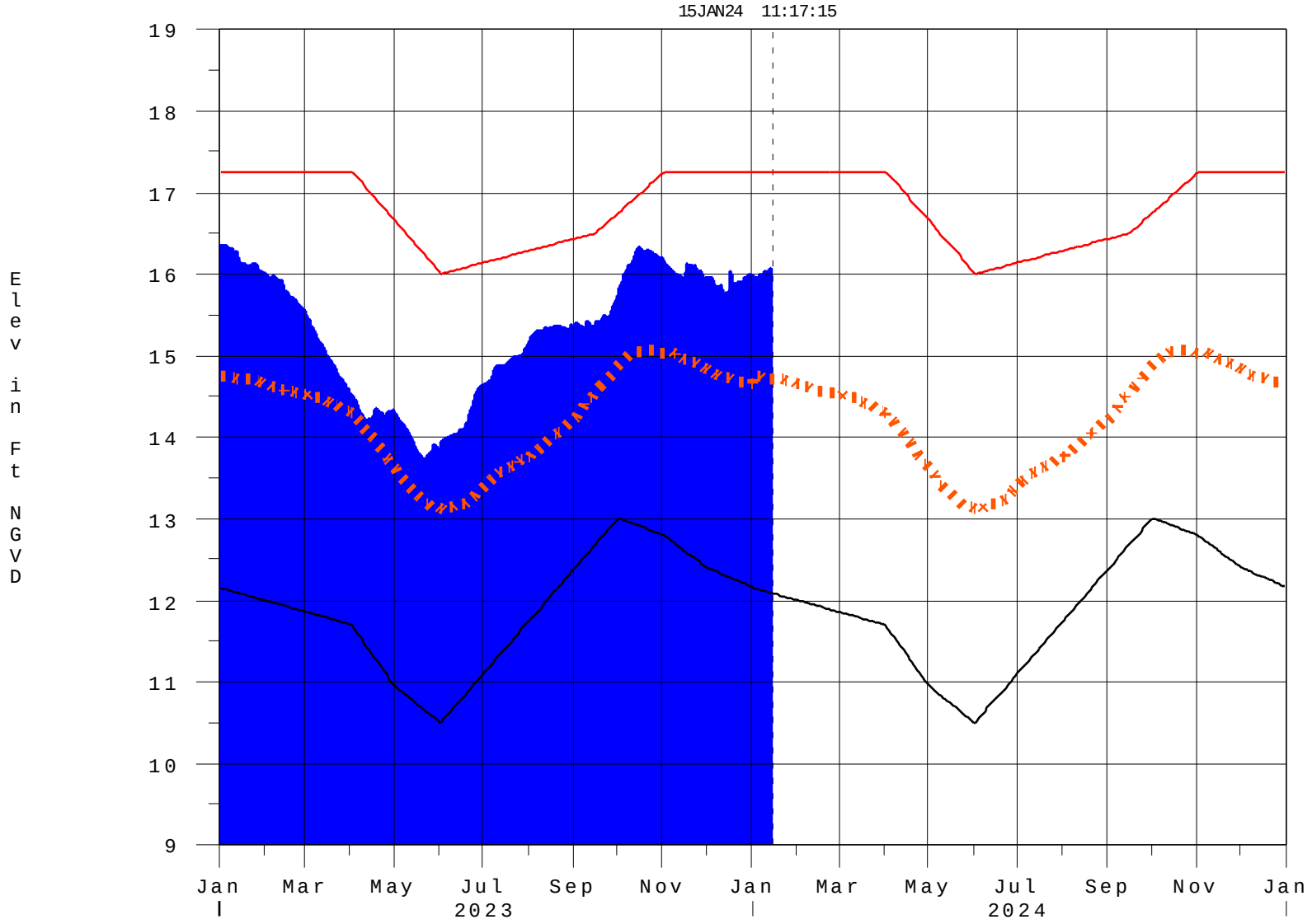
(I) - Flows preceeded by "I" signify an instantaneous
flow computed from the single value reported for the day

```
   * 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 15JAN2024 @ 11:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

15JAN24 11:17:15



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

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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**