Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 04/25/2022 (ENSO Condition: La Niña)

Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using 4 methods: Croley's method[1], the SFWMD empirical method[2], a sub-sampling of La Nina years[3] and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Nina ENSO years[4]. 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[1*]		SFWMD Empirical Method[2]		Sub-sampling of La Nina ENSO Years[3]		Sub-sampling of AMO Warm + La Nina ENSO Years[4]	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Apr-Sep)	N/A	N/A	1.22	Normal	1.23	Normal	1.14	Normal
Multi Seasonal (Apr-Oct)	N/A	N/A	1.78	Normal	1.77	Normal	1.78	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 ENSO forecast used.

Tributary Hydrologic Conditions Graph:

-3914 cfs 14-day running average for Lake Okeechobee Net Inflow through 04/25/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-2.59 for Palmer Drought Index on 04/23/2022.
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 04/25/2022:

Lake Okeechobee Stage: **13.11 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.78	
Operational Band	High sub-band	16.12	
	Intermediate sub-band	15.30	
	Low sub-band	13.40	
Base Flow sub-band		12.60	← 13.11 ft
Beneficial Use sub-band		11.10	
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 2008 LORS 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 04/25/2022 (ENSO Condition- La Nina Watch):

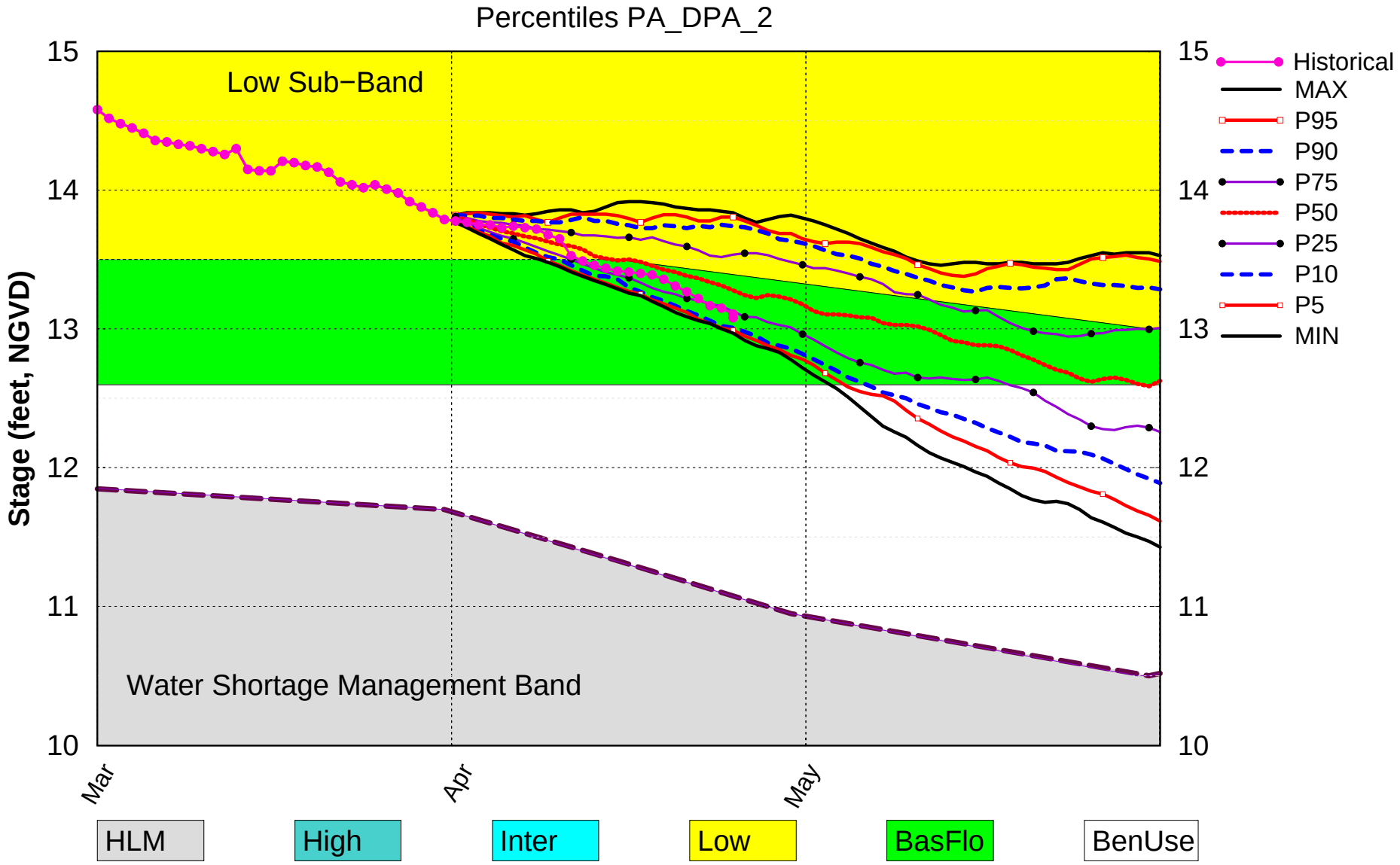
Status for week ending 04/25/2022:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Base Flow	M
	Palmer Drought Index for LOK Tributary Conditions	-2.59 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Normal	M
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.23 ft	L
	ENSO Forecast	Normal to extremely wet	
	LOK Multi-Seasonal Net Inflow Outlook	1.77 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T and 1-9)	Above Line 1 (15.91 ft)	L
	WCA 2A: Site 2-17	Above Line 0 (11.42 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 2 (8.60 ft)	M
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.

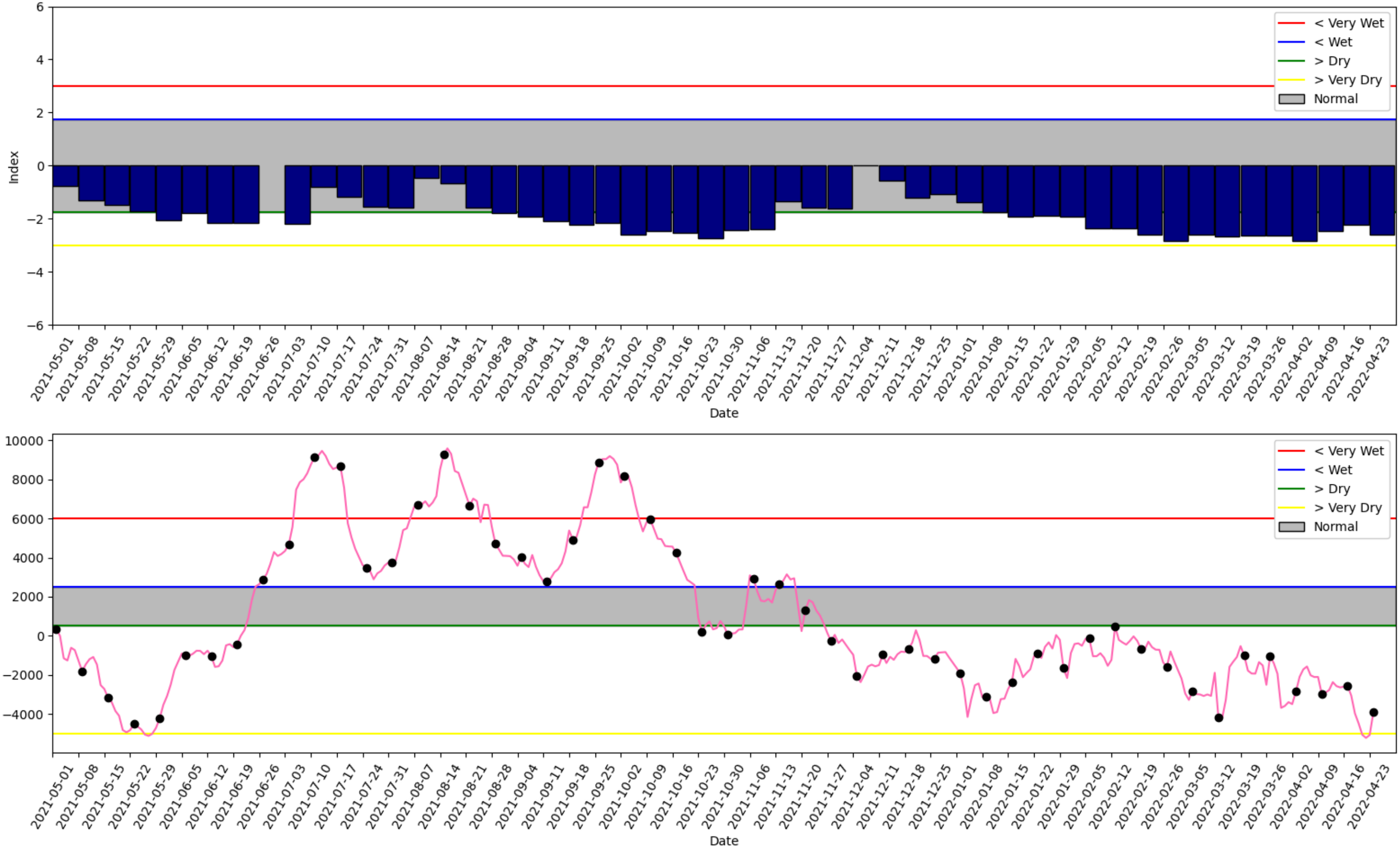
Lake Okeechobee SFWMM April 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

Tues Apr 26 14:33:48 2022

Tributary Basin Condition Indicators as of April 24 2022



2008 LORS

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

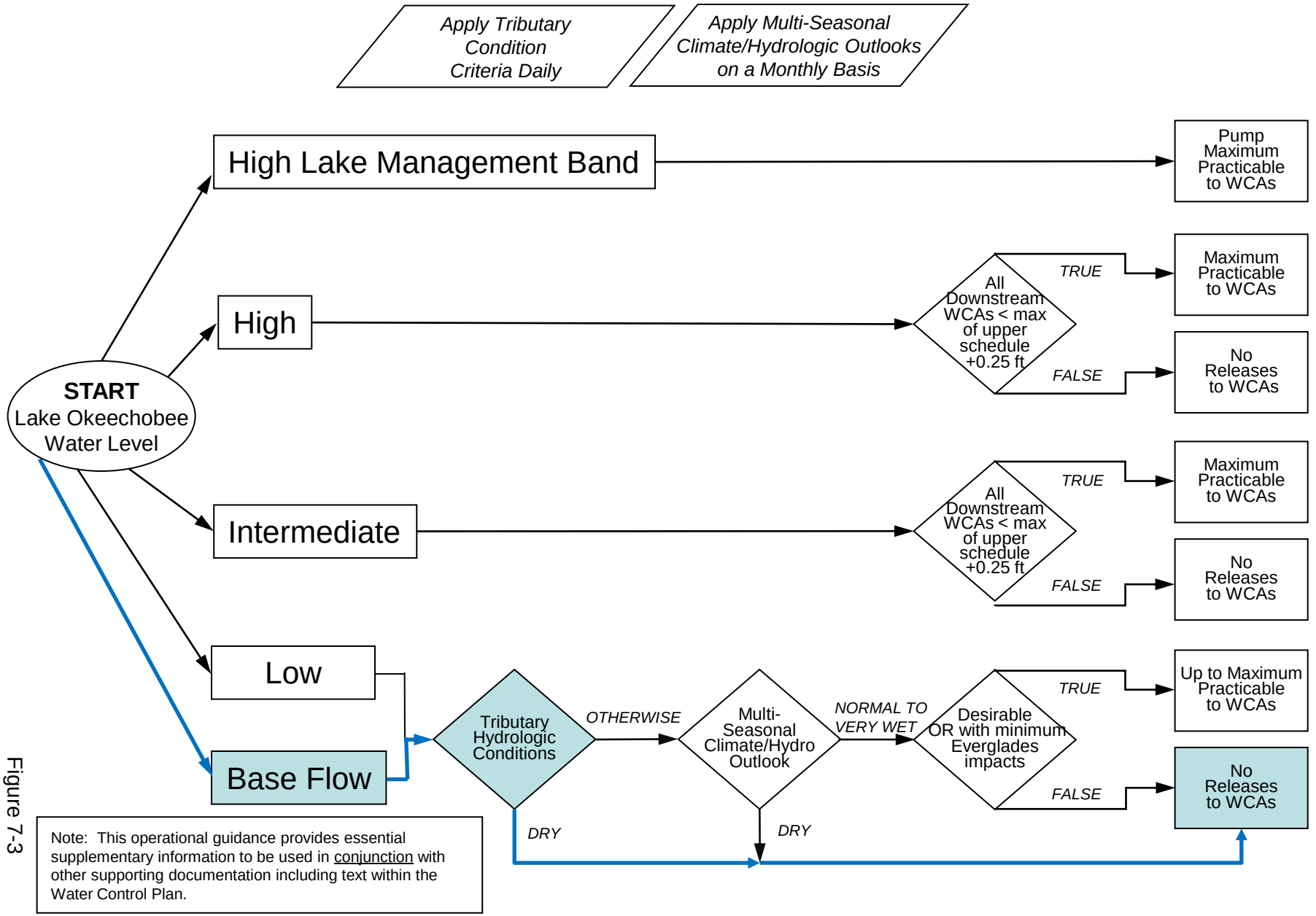


Figure 7-3

2008 LORS

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

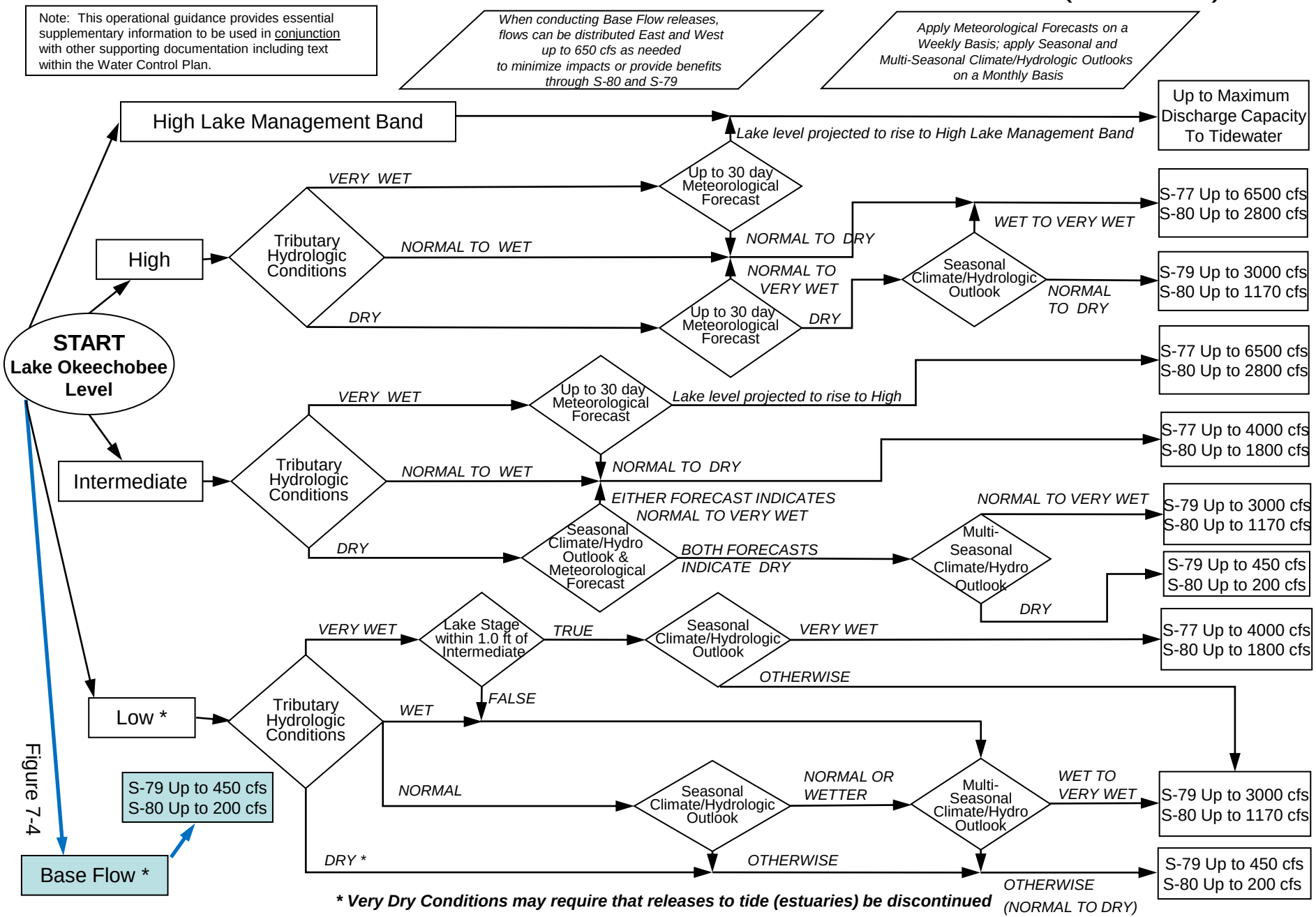
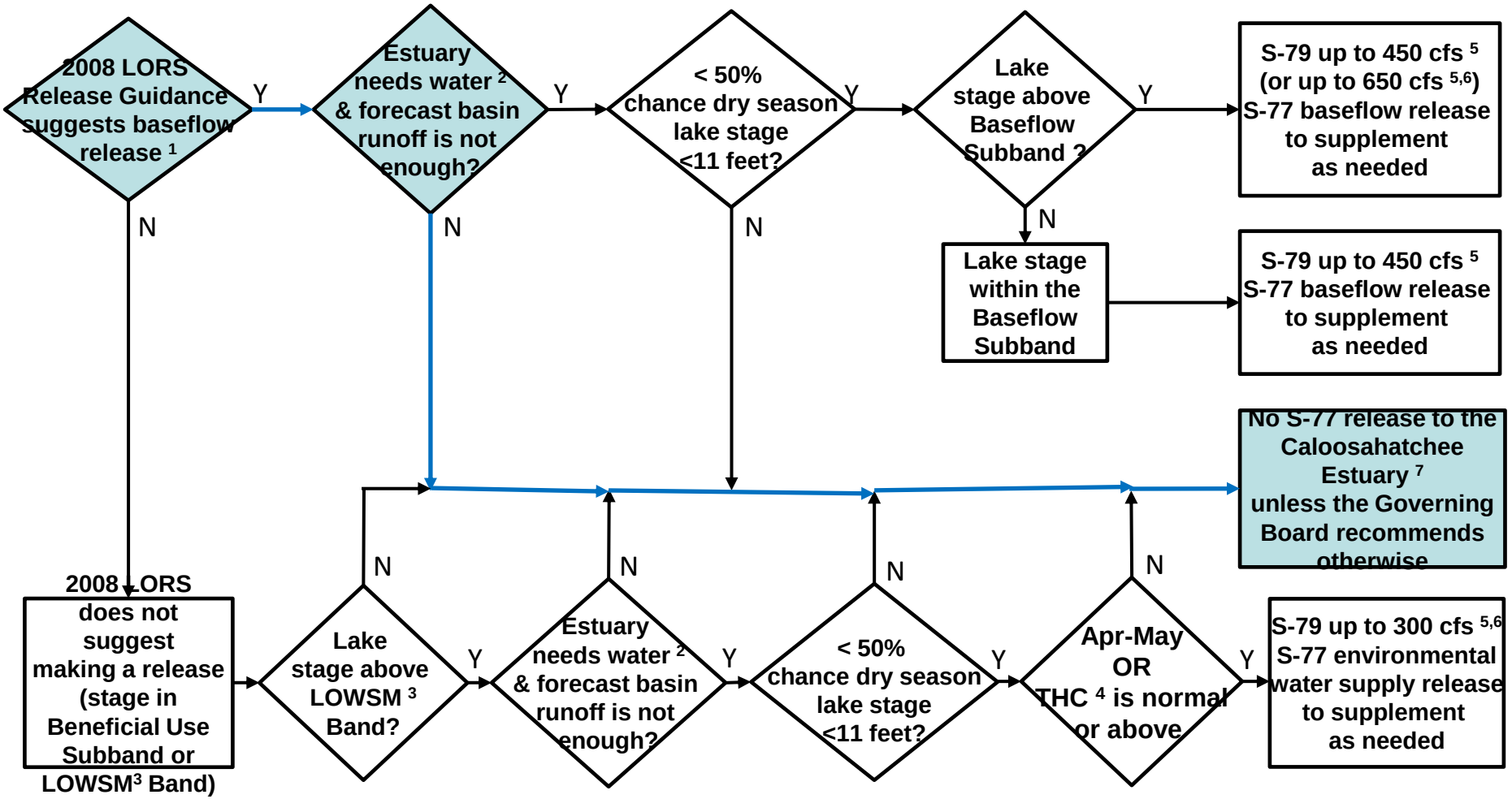


Figure 7-4

Flowchart to Guide Recommendations for Lake Okeechobee Releases to the Caloosahatchee Estuary for 2008 LORS Baseflow & for Environmental Water Supply (revised 9-Aug-2012)



[1]The 2008 LORS Release Guidance (Part D) can suggest baseflow releases in the Intermediate, Low, or Baseflow Subbands.

[2]Estuary "needs" water when the 30-day moving average salinity at I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.

[3]LOWSM = Lake Okeechobee Water Shortage Management.

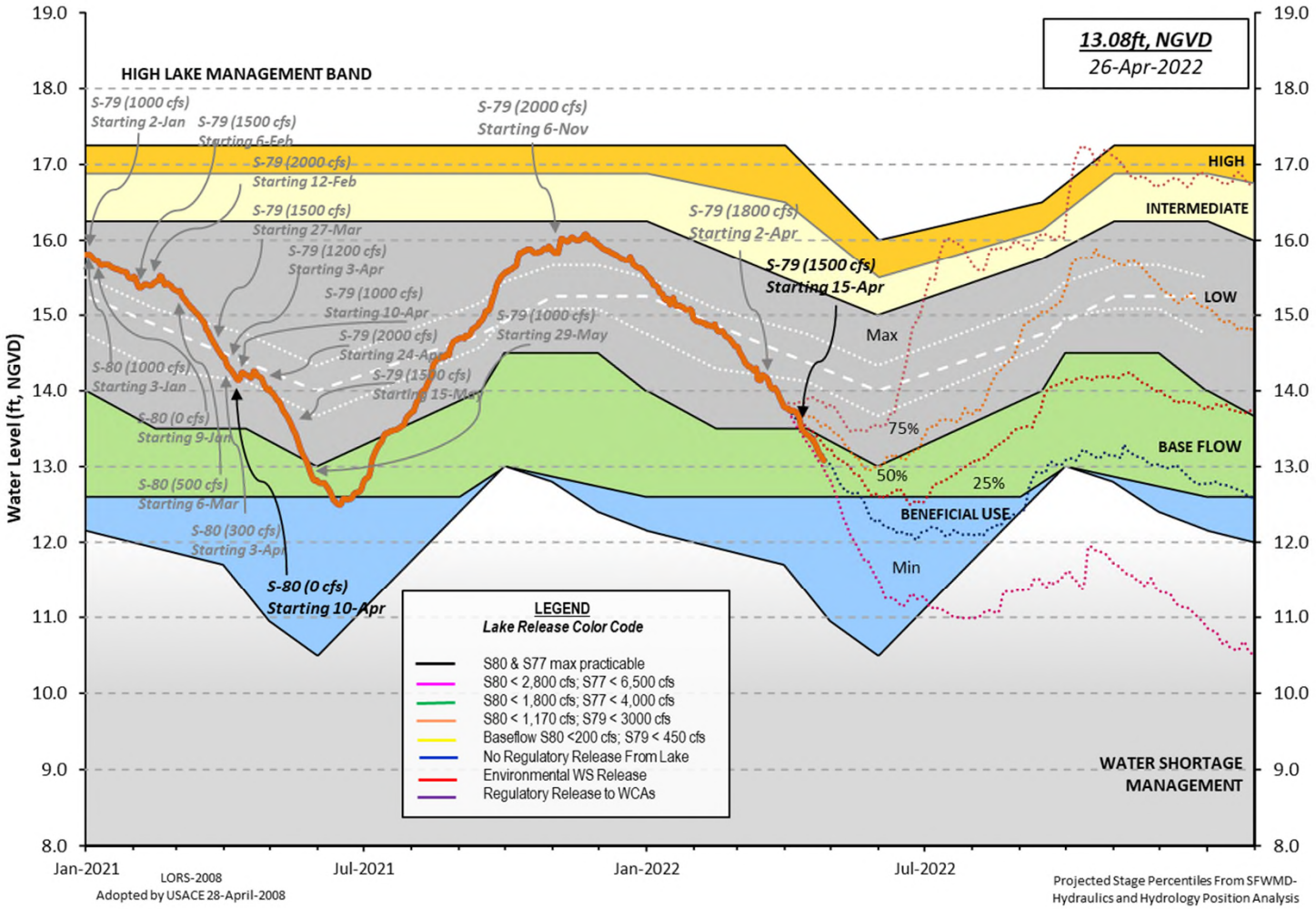
[4]Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

[5]Can release less than the "up to" limit if lower release is sufficient to reach or sustain desired estuary salinity; cfs = cubic feet per second.

[6]After reviewing conditions in Water Conservation Areas (WCAs), Stormwater Treatment Areas (STAs), ENP, St. Lucie Estuary and Lake Okeechobee.

[7]Should this condition be reached, the Governing Board will be briefed at their next regularly scheduled meeting as part of the State of the Water Resources agenda item.

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 24 APR 2022

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	13.11	14.18	11.33 (Official Elv)

Bottom of High Lake Mngmt= 16.78 Top of Water Short Mngmt= 11.10
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 12.54
Difference from Average LORS2008 0.57

24APR (1965-2007) Period of Record Average 13.76
Difference from POR Average -0.65

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 7.05'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 5.25'
Bridge Clearance = 50.53'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
13.11	13.26	13.11	13.13	13.08	13.09	13.05	13.06

*Combination Okeechobee Avg-Daily Lake Average = 13.11 (*See Note)

Okeechobee Inflows (cfs):

S65E	1500	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: 1500

Okeechobee Outflows (cfs):

S135 Culverts	1	S354	503	S77	1491
S127 Culverts	0	S351	1042	S308	680
S129 Culverts	0	S352	780		
S131 Culverts	0	L8 Canal Pt	-NR-		

Total Outflows: 4498

****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 0.29
  Average Pan Evap x 0.75 Pan Coefficient = 0.21" = 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 -8470 cfs or -16800 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:	13.04	13.04	0	0	0	0	0	0	(cfs)		
S193:											
S191:	19.15	13.05	0	0.0	0.0	0.0					
S135 Pumps:	12.76	12.91	0	0	0	0	0		(cfs)		
S135 Culverts:			1	2.6	2.6						
North West Shore											
S65E:	21.02	12.94	1500	0.9	0.8	0.2	0.4	0.5	0.9		
S65EX1:	21.02	12.94	0								
S127 Pumps:	12.85	13.15	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.65	13.20	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.67	13.46	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		27.56	0								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.40	-NR-	0	0	0	0			(cfs)		
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	13.17		85								

```
  S3 Pumps:    10.92     13.18       0      0    0    0            (cfs)
  S354:        13.18     10.92     503    1.1  1.2
  S2 Pumps:    10.65      -NR-       0   -NR- -NR- -NR- -NR-       (cfs)
  S351:         -NR-     10.65    1042    1.5  1.6  1.6
  S352:        12.88     11.28     780    1.5  1.8
  C10A:         -NR-     12.80            8.0   8.0   8.0   0.0   0.0
  L8 Canal PT            12.99    -NR-
```

S351 and S352 Temporary Pumps/S354 Spillway

```
  S351:        10.65      -NR-    1042  -NR--NR--NR--NR--NR--NR-
  S352:        11.28     12.88     780  -NR--NR--NR--NR-
  S354:        10.92     13.18     503  -NR--NR--NR--NR-
```

```
Caloosahatchee River (S77, S78, S79)
  S47B:        12.69     12.35            1.5  1.5
  S47D:        12.35     11.18       0    0.0
  S77:
    Spillway and Sector Preferred Flow:
                13.07     11.09    1487  3.0  3.0  2.5  0.0
    Flow Due to Lockages+:           4

  S78:
    Spillway and Sector Flow:
                11.08      2.94    1677    0.0  2.5  2.5  0.5
    Flow Due to Lockages+:          21

  S79:
    Spillway and Sector Flow:
                 3.15      2.25    1850    0.0  0.0  1.7  2.0  2.0  1.0  0.0
0.0
    Flow Due to Lockages+:          12
    Percent of flow from S77        80%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
                13.05     12.97     680  3.5  3.5  3.5  3.5
    Flow Due to Lockages+:           0

  S153:        18.66     12.65       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
                12.78      0.36       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          26
    Percent of flow from S308   NA  %

  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 (Degø)	Wind 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	0.69	98	4
S78:	0.00	0.00	0.00	98	9
S79:	0.00	0.00	0.00	358	6
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:	0.01	0.01	0.27	136	4
S80:	0.00	0.00	0.08	102	6
Okeechobee Average (Sites S78, S79 and S80 not included)	0.01	0.00	0.07		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations			24 APR 2022	13.11 Difference from 24APR22
24APR22	-1 Day =	23 APR 2022	13.15	0.04
24APR22	-2 Days =	22 APR 2022	13.17	0.06
24APR22	-3 Days =	21 APR 2022	13.22	0.11
24APR22	-4 Days =	20 APR 2022	13.27	0.16
24APR22	-5 Days =	19 APR 2022	13.31	0.20
24APR22	-6 Days =	18 APR 2022	13.36	0.25
24APR22	-7 Days =	17 APR 2022	13.39	0.28
24APR22	-30 Days =	25 MAR 2022	14.01	0.90
24APR22	-1 Year =	24 APR 2021	14.18	1.07
24APR22	-2 Year =	24 APR 2020	11.33	-1.78

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

24APR22	Today =	24 APR 2022	-2804	MON	-3851
24APR22	-1 Day =	23 APR 2022	-3980	SUN	588
24APR22	-2 Days =	22 APR 2022	-4158	SAT	-5414
24APR22	-3 Days =	21 APR 2022	-4101	FRI	-5985
24APR22	-4 Days =	20 APR 2022	-3583	THU	-5039
24APR22	-5 Days =	19 APR 2022	-3140	WED	-7242
24APR22	-6 Days =	18 APR 2022	-2344	TUE	-3888
24APR22	-7 Days =	17 APR 2022	-2180	MON	2130
24APR22	-8 Days =	16 APR 2022	-2117	SUN	-1202
24APR22	-9 Days =	15 APR 2022	-2150	SAT	1436
24APR22	-10 Days =	14 APR 2022	-2219	FRI	868
24APR22	-11 Days =	13 APR 2022	-2113	THU	-6041
24APR22	-12 Days =	12 APR 2022	-2068	WED	-1980
24APR22	-13 Days =	11 APR 2022	-2174	TUE	-3640

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
24APR22	Today=	24 APR 2022	1378	MON	1695
24APR22	-1 Day =	23 APR 2022	1338	SUN	1585
24APR22	-2 Days =	22 APR 2022	1305	SAT	1580
24APR22	-3 Days =	21 APR 2022	1267	FRI	1476
24APR22	-4 Days =	20 APR 2022	1244	THU	1380
24APR22	-5 Days =	19 APR 2022	1223	WED	1373
24APR22	-6 Days =	18 APR 2022	1199	TUE	1359
24APR22	-7 Days =	17 APR 2022	1176	MON	1178
24APR22	-8 Days =	16 APR 2022	1164	SUN	1497
24APR22	-9 Days =	15 APR 2022	1127	SAT	1244
24APR22	-10 Days =	14 APR 2022	1111	FRI	1238
24APR22	-11 Days =	13 APR 2022	1092	THU	1114
24APR22	-12 Days =	12 APR 2022	1080	WED	-NR-
24APR22	-13 Days =	11 APR 2022	1072	TUE	1190

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
24APR22	Today=	24 APR 2022	0	MON	0
24APR22	-1 Day =	23 APR 2022	0	SUN	0
24APR22	-2 Days =	22 APR 2022	0	SAT	0
24APR22	-3 Days =	21 APR 2022	0	FRI	0
24APR22	-4 Days =	20 APR 2022	0	THU	0
24APR22	-5 Days =	19 APR 2022	0	WED	0
24APR22	-6 Days =	18 APR 2022	0	TUE	0
24APR22	-7 Days =	17 APR 2022	0	MON	0
24APR22	-8 Days =	16 APR 2022	0	SUN	0
24APR22	-9 Days =	15 APR 2022	0	SAT	0
24APR22	-10 Days =	14 APR 2022	0	FRI	0
24APR22	-11 Days =	13 APR 2022	0	THU	0
24APR22	-12 Days =	12 APR 2022	0	WED	0
24APR22	-13 Days =	11 APR 2022	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)
24 APR 2022	2957	3471	3380	3682
23 APR 2022	3117	3141	2402	3091
22 APR 2022	3330	3088	2182	2814
21 APR 2022	2629	2663	2247	2702
20 APR 2022	953	2225	2001	2968
19 APR 2022	987	3103	2129	3315
18 APR 2022	1196	2711	2055	3208
17 APR 2022	691	1108	1988	3509
16 APR 2022	656	1661	1789	3293
15 APR 2022	1837	2469	2491	3415
14 APR 2022	3346	4043	2640	3349
13 APR 2022	3599	4509	3039	3186
12 APR 2022	3567	3345	2413	3309
11 APR 2022	3889	3319	2424	3964

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)
24 APR 2022	169	2067	1546	998	-NR-
23 APR 2022	164	2301	1320	1181	-NR-
22 APR 2022	177	2736	1332	1326	-NR-
21 APR 2022	39	2468	1432	1154	-NR-
20 APR 2022	-67	2157	1419	878	-NR-
19 APR 2022	-23	2414	1343	713	-NR-
18 APR 2022	-71	1076	1135	230	-NR-
17 APR 2022	-9	1145	739	461	-NR-
16 APR 2022	-145	0	0	0	-NR-
15 APR 2022	-54	0	0	0	-NR-
14 APR 2022	75	300	311	275	-NR-
13 APR 2022	385	1123	1035	1117	-NR-
12 APR 2022	325	1018	1094	975	-NR-
11 APR 2022	283	864	1260	1605	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
24 APR 2022	1353	-NR-	52
23 APR 2022	1463	-NR-	44
22 APR 2022	1446	-NR-	20
21 APR 2022	1468	-NR-	44
20 APR 2022	1426	-NR-	40
19 APR 2022	1162	-NR-	35
18 APR 2022	1263	-NR-	43
17 APR 2022	1237	-NR-	54
16 APR 2022	1120	-NR-	43
15 APR 2022	1023	-NR-	44
14 APR 2022	1421	-NR-	33
13 APR 2022	1444	-NR-	0
12 APR 2022	1440	-NR-	56
11 APR 2022	1371	-NR-	44

*** 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

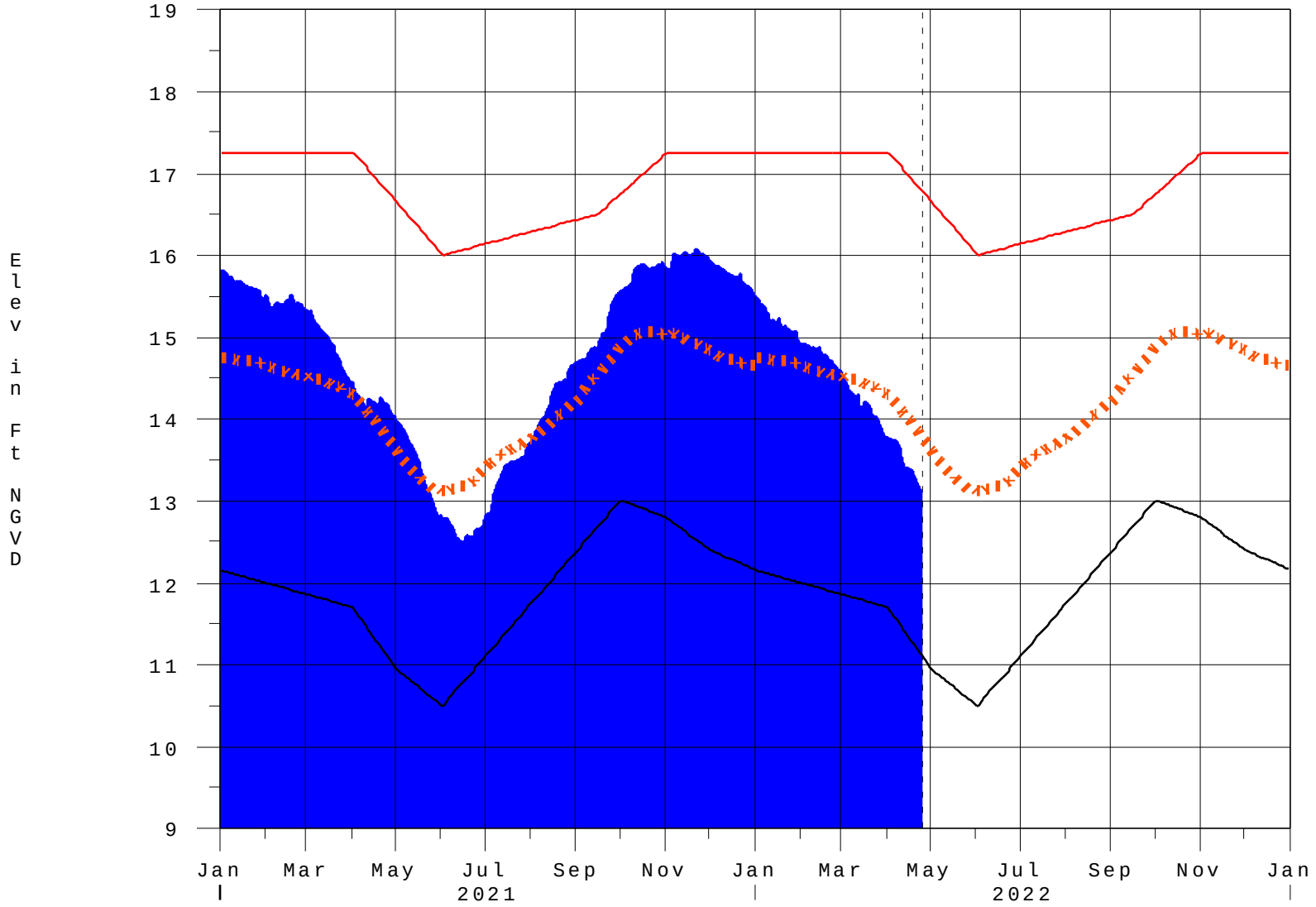
---

* 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 25APR2022 @ 13:39 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

25APR22 10:00:23



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

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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**