Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 04/11/2022 (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 (Mar-Aug)	N/A	N/A	1.82	Wet	1.66	Wet	1.59	Wet
Multi Seasonal (Mar-Oct)	N/A	N/A	2.52	Wet	2.20	Normal	2.23	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:

-2975 cfs 14-day running average for Lake Okeechobee Net Inflow through 04/11/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-2.47 for Palmer Drought Index on 04/11/2022.
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 04/11/2022:

Lake Okeechobee Stage: **13.53 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.07	
Operational Band	High sub-band	16.35	
	Intermediate sub-band	15.42	
	Low sub-band	13.50	← 13.53 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.45	
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 450 cfs at S-79 and up to 200 cfs at S-80.

LORS2008 Implementation on 04/11/2022 (ENSO Condition- La Nina Watch):

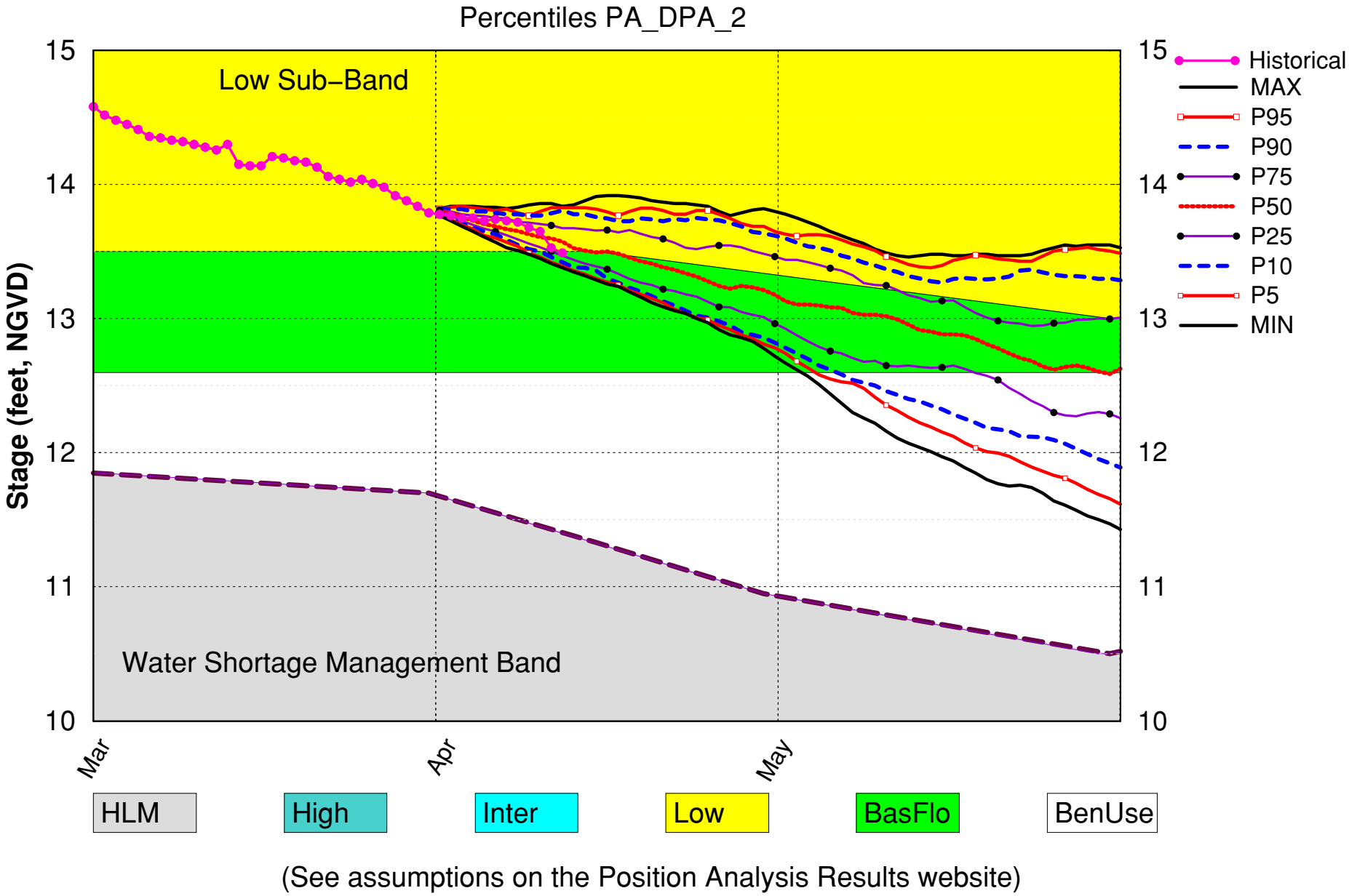
Status for week ending 04/11/2022:

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	-2.47 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	1.66 ft	L
	ENSO Forecast	Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.20 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T and 1-9)	Above Line 1 (16.29 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (11.81 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (8.90 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.

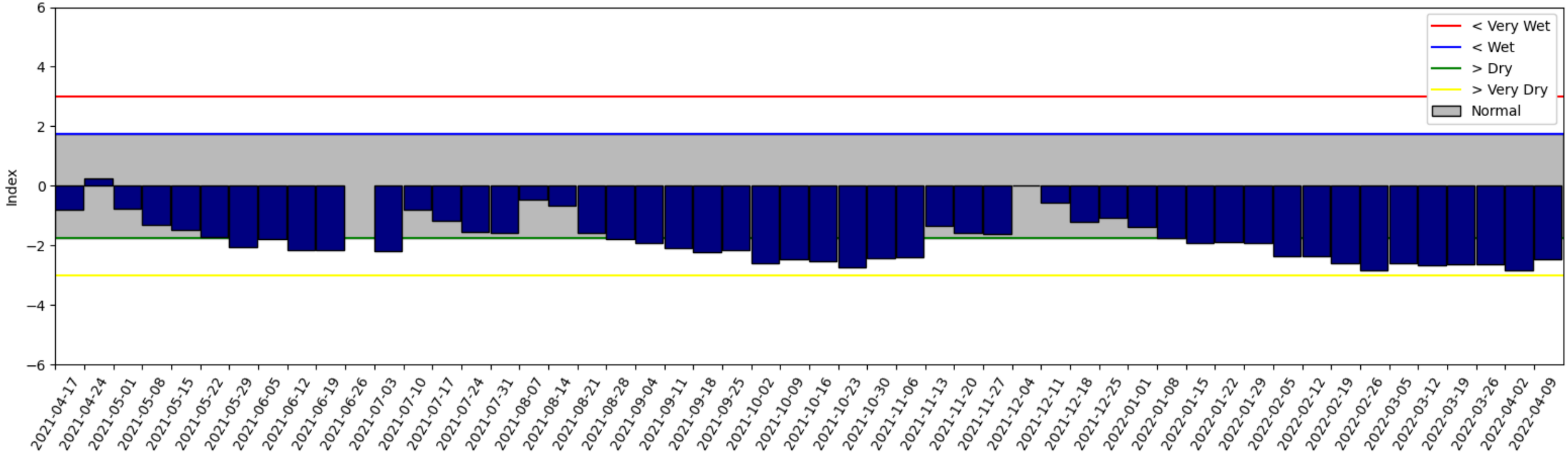
Lake Okeechobee SFWMM April 2022 Position Analysis

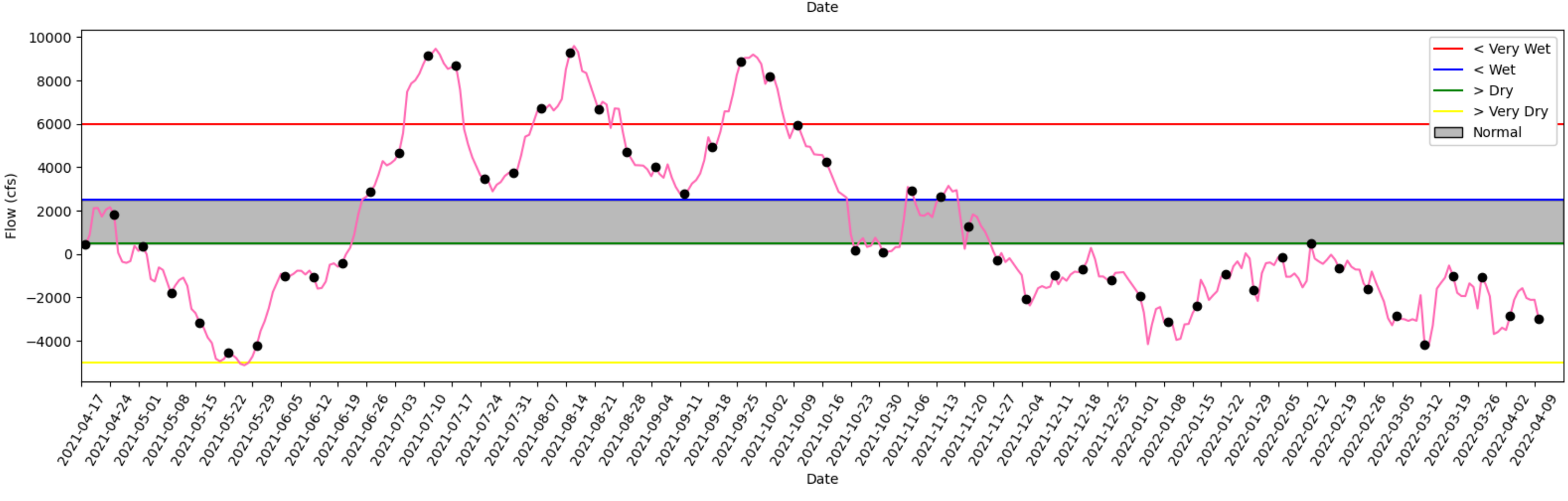


(See assumptions on the Position Analysis Results website)

Tues Apr 12 14:33:48 2022

Tributary Basin Condition Indicators as of April 10 2022





2008 LORS

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

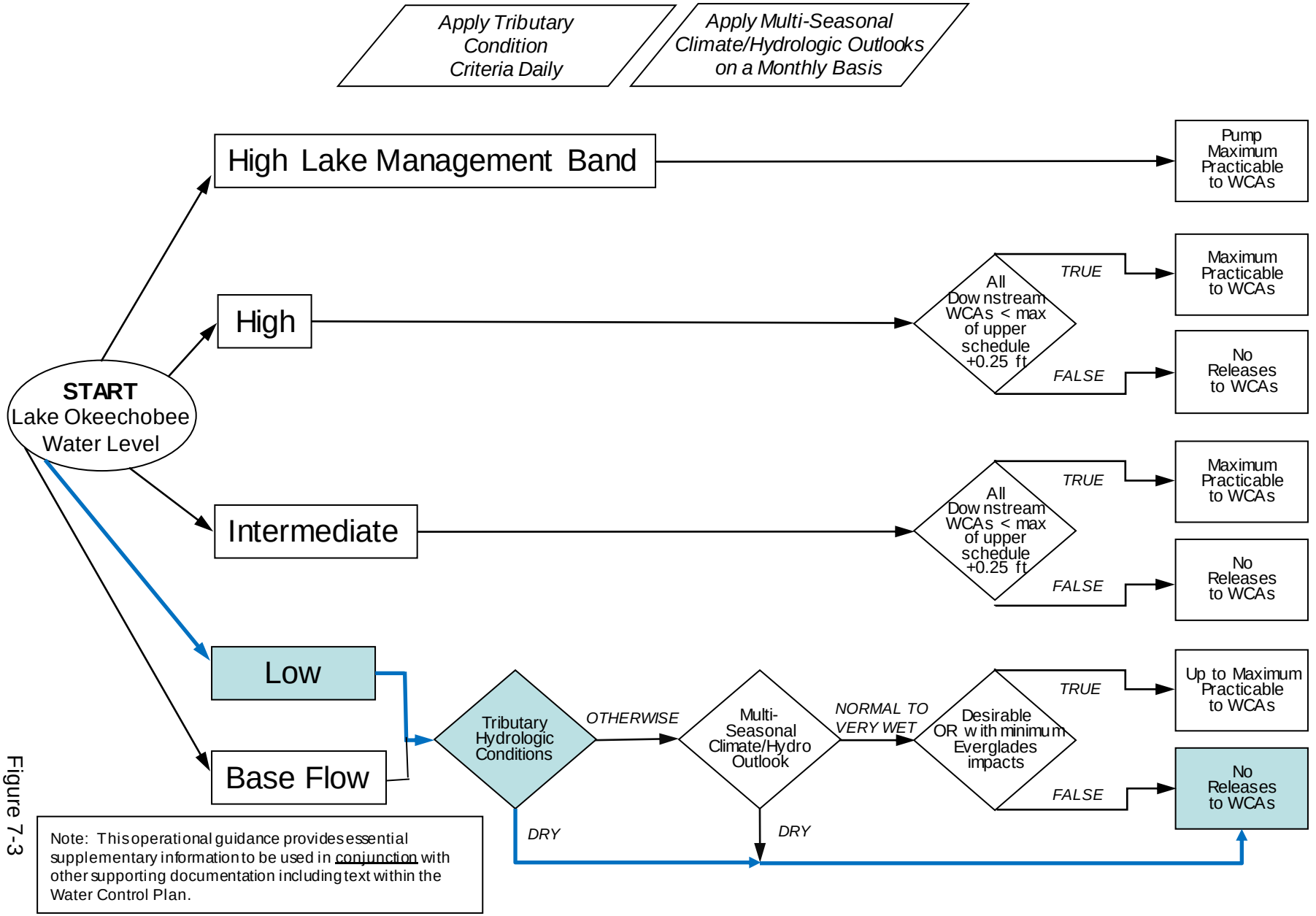


Figure 7-3

2008 LORS

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

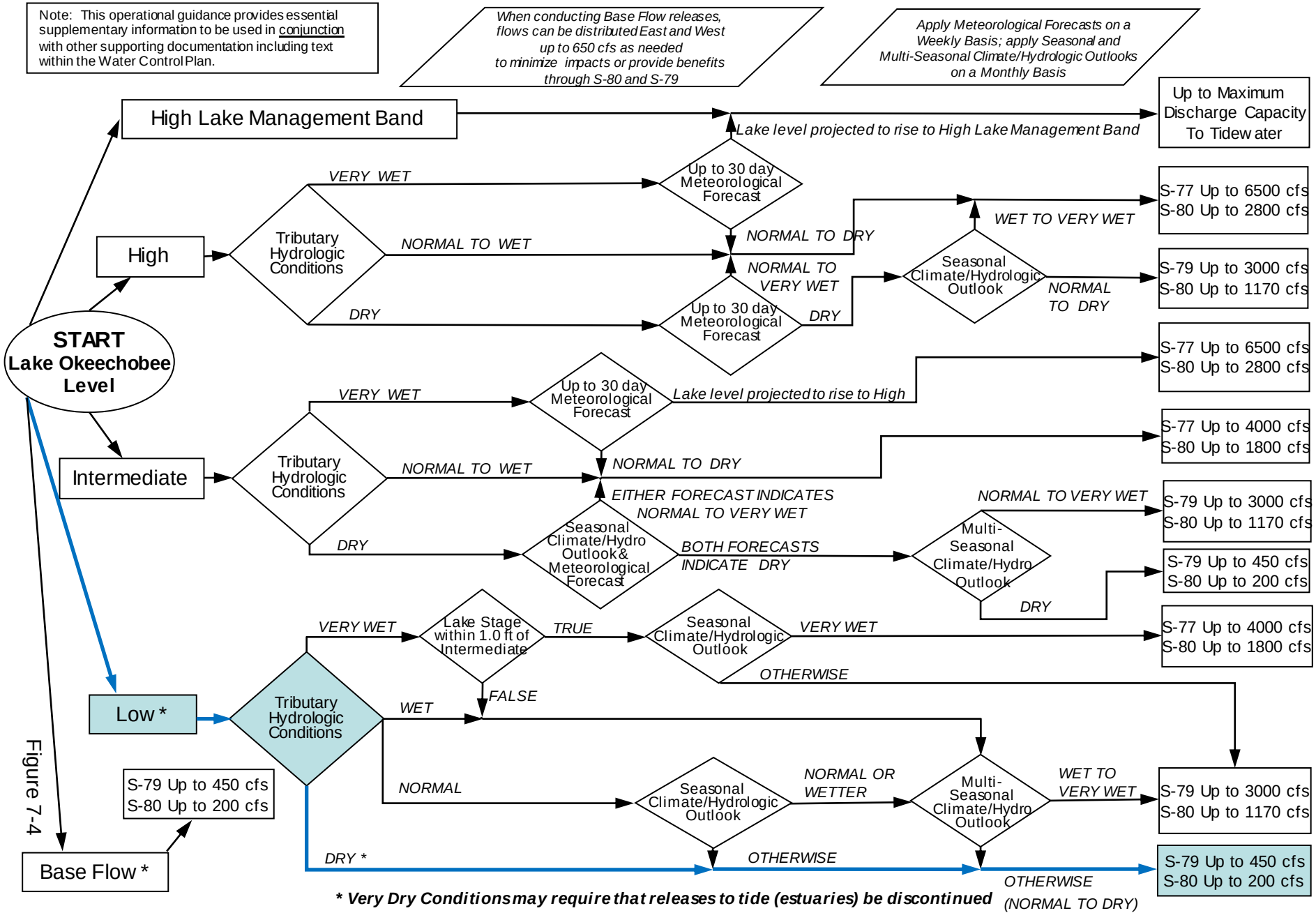
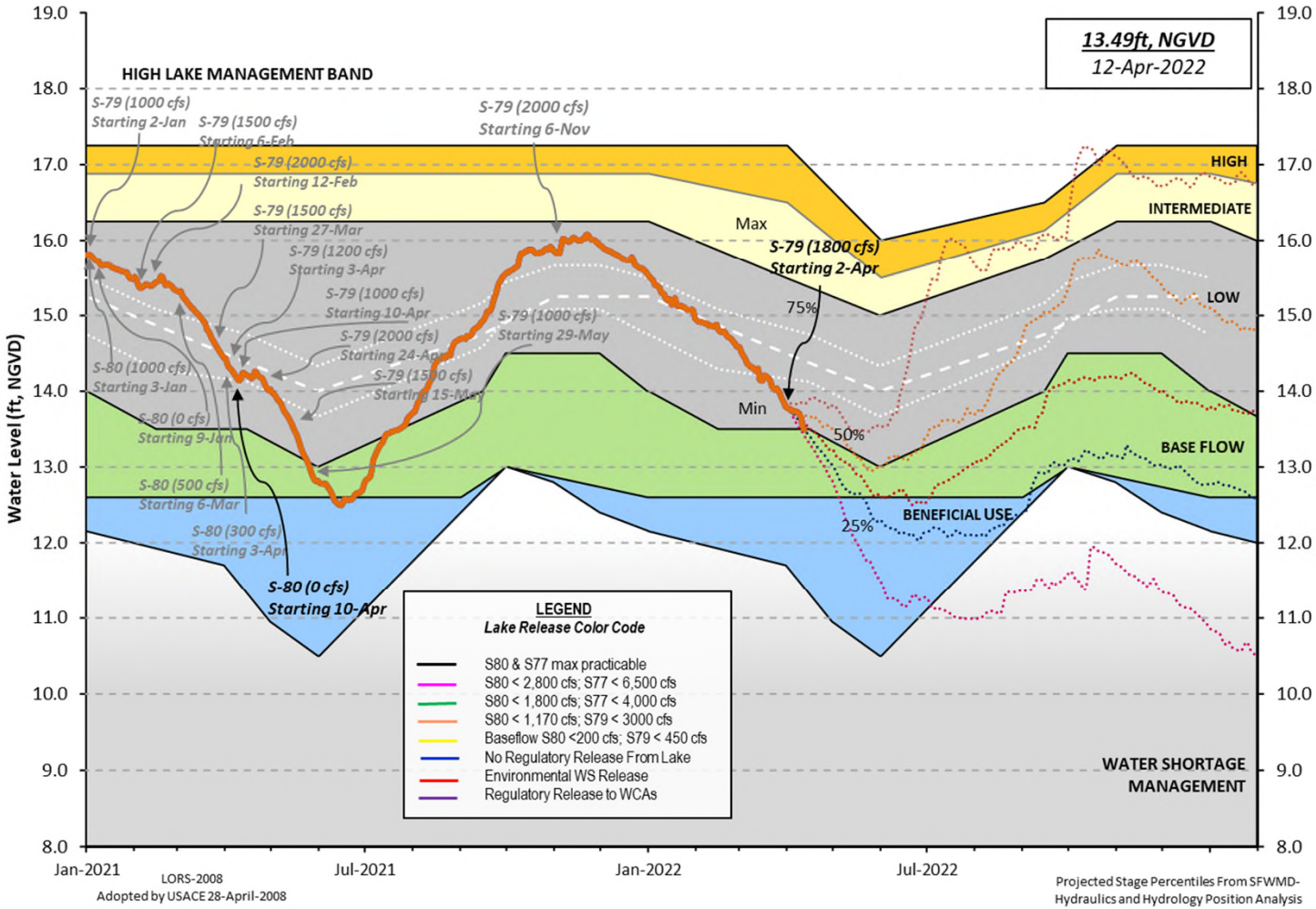


Figure 7-4

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 10 APR 2022

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	13.53	14.14	11.52 (Official Elv)

Bottom of High Lake Mngmt= 17.07 Top of Water Short Mngmt= 11.45
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 12.85
Difference from Average LORS2008 0.68

10APR (1965-2007) Period of Record Average 14.10
Difference from POR Average -0.57

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 7.47'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 5.67'
Bridge Clearance = 50.15'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
13.39	13.55	13.60	13.56	-NR-	13.65	13.49	13.31

*Combination Okeechobee Avg-Daily Lake Average = 13.53 (*See Note)

Okeechobee Inflows (cfs):

S65E	1025	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: 1025

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	1245	S77	2481
S127 Culverts	0	S351	244	S308	-NR-
S129 Culverts	0	S352	491		
S131 Culverts	0	L8 Canal Pt	-NR-		

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

****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 0.17 S308 -NR-
  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 -25410 cfs or -50400 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:	13.34	13.40	0	0	0	0	0	0				(cfs)
S193:												
S191:	18.88	13.36	0	0.0	0.0	0.0						
S135 Pumps:	13.09	13.33	0	0	0	0	0					(cfs)
S135 Culverts:			0	2.6	2.6							
North West Shore												
S65E:	21.17	13.35	1025	0.3	0.3	0.9	0.4	0.3	0.4			
S65EX1:	21.17	13.35	0									
S127 Pumps:	13.14	13.44	0	0	0	0	0	0				(cfs)
S127 Culvert:			0	0.0								
S129 Pumps:	12.84	13.47	0	0	0	0						(cfs)
S129 Culvert:			0	0.0								
S131 Pumps:	12.58	13.72	0	0	0							(cfs)
S131 Culvert:			0									
Fisheating Creek												
nr Palmdale		27.04	0									
nr Lakeport												
C5:		-NR-	0	-NR-	-NR-	-NR-						
South Shore												
S4 Pumps:	11.46	-NR-	0	0	0	0						(cfs)
S169:		-NR-	-NR-	-NR-	-NR-	-NR-						
S310:	13.56		10									

```
  S3 Pumps:    10.96     13.62       0      0    0    0            (cfs)
  S354:        13.62     10.96    1245    2.6  2.8
  S2 Pumps:    10.49      -NR-       0   -NR- -NR- -NR- -NR-       (cfs)
  S351:         -NR-     10.49     244    0.0  0.0  0.3
  S352:        13.54     10.50     491    0.7  0.8
  C10A:         -NR-     13.32            8.0   8.0   8.0   0.0   0.0
  L8 Canal PT            13.35    -NR-
```

S351 and S352 Temporary Pumps/S354 Spillway

```
  S351:        10.49      -NR-     244  -NR--NR--NR--NR--NR--NR-
  S352:        10.50     13.54     491  -NR--NR--NR--NR-
  S354:        10.96     13.62    1245  -NR--NR--NR--NR-
```

```
Caloosahatchee River (S77, S78, S79)
  S47B:        12.97     12.30            1.5  2.0
  S47D:        12.20     11.23       0    0.0
  S77:
    Spillway and Sector Preferred Flow:
               13.23     11.11    2476  3.5  3.5  3.5  3.0
    Flow Due to Lockages+:           5

  S78:
    Spillway and Sector Flow:
               11.09      3.13    1780    1.5  0.0  2.5  1.5
    Flow Due to Lockages+:          22

  S79:
    Spillway and Sector Flow:
                3.29      1.39    2221    0.0  0.0  1.0  2.0  2.0  1.5  0.0
0.0
    Flow Due to Lockages+:          16
    Percent of flow from S77       111%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
               13.43     13.35     468  3.0  3.0  3.0  3.0
    Flow Due to Lockages+:        -NR-

  S153:        18.65     13.15       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
               13.37     -0.09       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          28
    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:	5.00	5.00	5.06	121	4
S78:	0.83	0.83	0.95	97	4
S79:	7.85	7.85	8.13	34	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:	3.96	3.96	4.46	32	2
S80:	7.67	7.67	8.27	107	0
Okeechobee Average (Sites S78, S79 and S80 not included)	4.48	0.69	0.73		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations			10 APR 2022	13.53 Difference from 10APR22
10APR22	-1 Day =	09 APR 2022	13.65	0.12
10APR22	-2 Days =	08 APR 2022	13.68	0.15
10APR22	-3 Days =	07 APR 2022	13.72	0.19
10APR22	-4 Days =	06 APR 2022	13.73	0.20
10APR22	-5 Days =	05 APR 2022	13.74	0.21
10APR22	-6 Days =	04 APR 2022	13.73	0.20
10APR22	-7 Days =	03 APR 2022	13.75	0.22
10APR22	-30 Days =	11 MAR 2022	14.26	0.73
10APR22	-1 Year =	10 APR 2021	14.14	0.61
10APR22	-2 Year =	10 APR 2020	11.52	-2.01

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

10APR22	Today =	10 APR 2022	-2220	MON	-20309
10APR22	-1 Day =	09 APR 2022	-1299	SUN	-1911
10APR22	-2 Days =	08 APR 2022	-1275	SAT	-4606
10APR22	-3 Days =	07 APR 2022	-1161	FRI	1261
10APR22	-4 Days =	06 APR 2022	-687	THU	1164
10APR22	-5 Days =	05 APR 2022	-759	WED	3901
10APR22	-6 Days =	04 APR 2022	-1034	TUE	-1585
10APR22	-7 Days =	03 APR 2022	-1665	MON	3002
10APR22	-8 Days =	02 APR 2022	-2318	SUN	-1654
10APR22	-9 Days =	01 APR 2022	-2214	SAT	470
10APR22	-10 Days =	31 MAR 2022	-2422	FRI	2347
10APR22	-11 Days =	30 MAR 2022	-2568	THU	-5415
10APR22	-12 Days =	29 MAR 2022	-862	WED	-3463
10APR22	-13 Days =	28 MAR 2022	-379	TUE	-4279

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
10APR22	Today=	10 APR 2022	1057	MON	1179
10APR22	-1 Day =	09 APR 2022	1041	SUN	1158
10APR22	-2 Days =	08 APR 2022	1027	SAT	1089
10APR22	-3 Days =	07 APR 2022	1020	FRI	1178
10APR22	-4 Days =	06 APR 2022	1000	THU	1098
10APR22	-5 Days =	05 APR 2022	988	WED	1066
10APR22	-6 Days =	04 APR 2022	982	TUE	1060
10APR22	-7 Days =	03 APR 2022	977	MON	1015
10APR22	-8 Days =	02 APR 2022	970	SUN	1022
10APR22	-9 Days =	01 APR 2022	957	SAT	1030
10APR22	-10 Days =	31 MAR 2022	944	FRI	988
10APR22	-11 Days =	30 MAR 2022	931	THU	968
10APR22	-12 Days =	29 MAR 2022	918	WED	960
10APR22	-13 Days =	28 MAR 2022	893	TUE	985

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
10APR22	Today=	10 APR 2022	0	MON	0
10APR22	-1 Day =	09 APR 2022	0	SUN	0
10APR22	-2 Days =	08 APR 2022	0	SAT	0
10APR22	-3 Days =	07 APR 2022	0	FRI	0
10APR22	-4 Days =	06 APR 2022	0	THU	0
10APR22	-5 Days =	05 APR 2022	0	WED	0
10APR22	-6 Days =	04 APR 2022	0	TUE	0
10APR22	-7 Days =	03 APR 2022	0	MON	0
10APR22	-8 Days =	02 APR 2022	0	SUN	0
10APR22	-9 Days =	01 APR 2022	0	SAT	0
10APR22	-10 Days =	31 MAR 2022	0	FRI	0
10APR22	-11 Days =	30 MAR 2022	0	THU	0
10APR22	-12 Days =	29 MAR 2022	0	WED	0
10APR22	-13 Days =	28 MAR 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)
10 APR 2022	4954	4790	3577	4429
09 APR 2022	3515	3521	2749	3607
08 APR 2022	3662	3633	1722	3140
07 APR 2022	1895	1969	2127	2740
06 APR 2022	2526	******	1482	3433
05 APR 2022	2936	2180	2536	3702
04 APR 2022	3852	3879	3183	4082
03 APR 2022	4001	4078	3368	4281
02 APR 2022	3671	3677	3010	3482
01 APR 2022	2669	2549	2256	3671
31 MAR 2022	3610	3811	2741	3435
30 MAR 2022	4900	5241	3700	3975
29 MAR 2022	4628	4615	3509	3850
28 MAR 2022	3599	3827	2624	3468

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)
10 APR 2022	20	484	974	2470	-NR-
09 APR 2022	310	813	1195	1827	-NR-
08 APR 2022	193	521	1410	760	-NR-
07 APR 2022	473	1028	1324	728	-NR-
06 APR 2022	279	1190	1102	0	-NR-
05 APR 2022	114	0	50	0	-NR-
04 APR 2022	124	0	5	86	-NR-
03 APR 2022	78	293	219	360	-NR-
02 APR 2022	147	0	0	0	-NR-
01 APR 2022	288	55	338	292	-NR-
31 MAR 2022	117	942	1293	1058	-NR-
30 MAR 2022	266	1047	1231	1355	-NR-
29 MAR 2022	375	1170	1119	1592	-NR-
28 MAR 2022	277	1252	604	1632	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
10 APR 2022	-NR-	-NR-	56
09 APR 2022	-NR-	-NR-	54
08 APR 2022	-NR-	-NR-	58
07 APR 2022	1194	-NR-	55
06 APR 2022	1235	-NR-	46
05 APR 2022	1262	-NR-	56
04 APR 2022	1295	-NR-	36
03 APR 2022	1088	-NR-	52
02 APR 2022	1170	-NR-	61
01 APR 2022	1214	-NR-	50
31 MAR 2022	1337	-NR-	46
30 MAR 2022	1127	-NR-	45
29 MAR 2022	942	-NR-	49
28 MAR 2022	1088	-NR-	0

*** 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

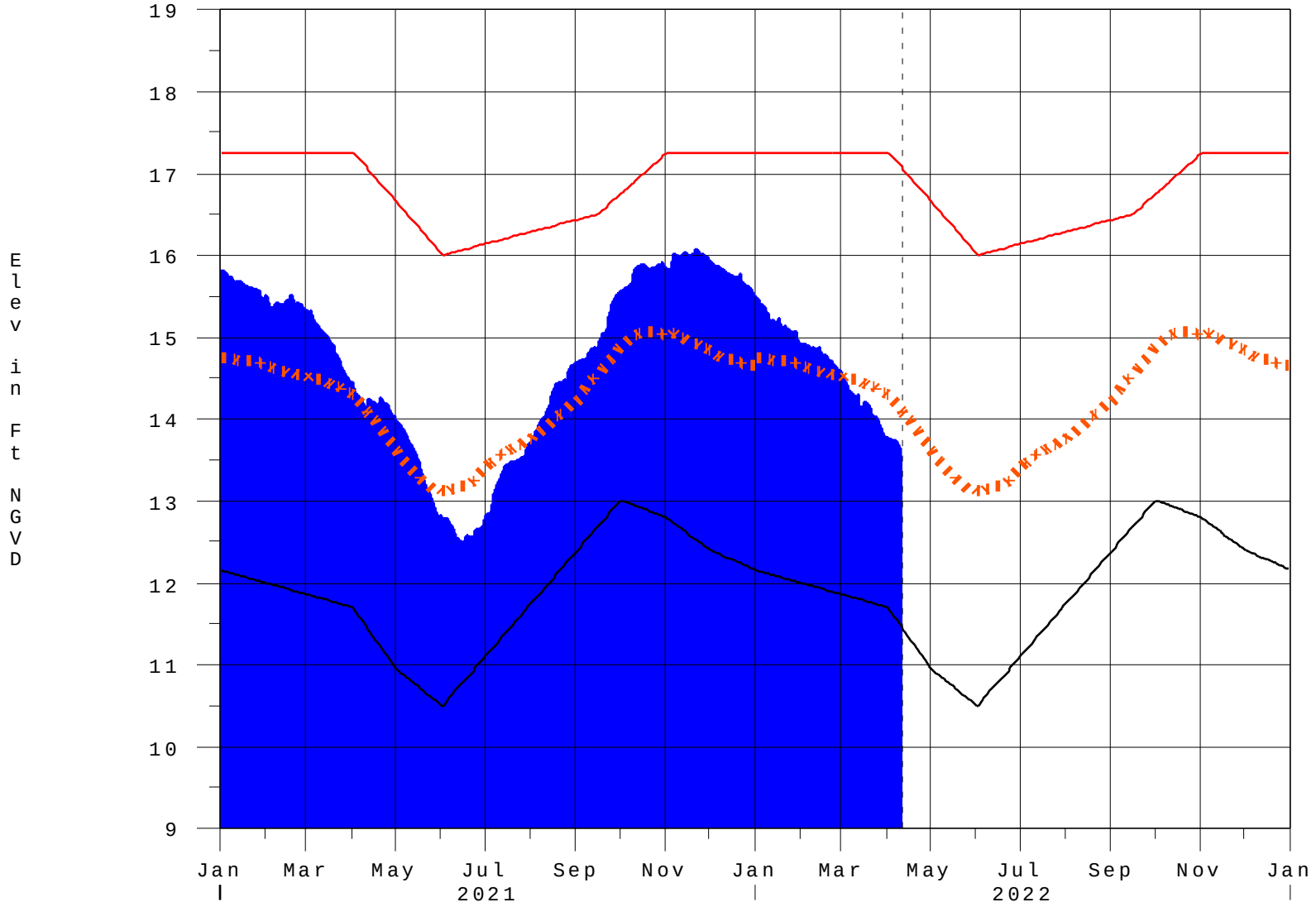
---

* 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 11APR2022 @ 15:38 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

11APR22 17:00:20



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**