Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 4/26/2021 (ENSO Condition: La Niña Advisory)

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	1.88	Wet	2.05	Very Wet	2.84	Very Wet
Multi Seasonal (Apr-Oct)	N/A	N/A	2.44	Normal	2.60	Wet	3.64	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 ENSO forecast used.

Tributary Hydrologic Conditions Graph:

1828 cfs 14-day running average for Lake Okeechobee Net Inflow through 4/25/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Normal.

0.26 for Palmer Drought Index on 4/24/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 4/26/2021:

Lake Okeechobee Stage: **14.17 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.76	
Operational Band	High sub-band	16.11	
	Intermediate sub-band	15.30	
	Low sub-band	13.39	← 14.17 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.08	
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 4/26/2021 (ENSO Condition- La Nina Advisory):

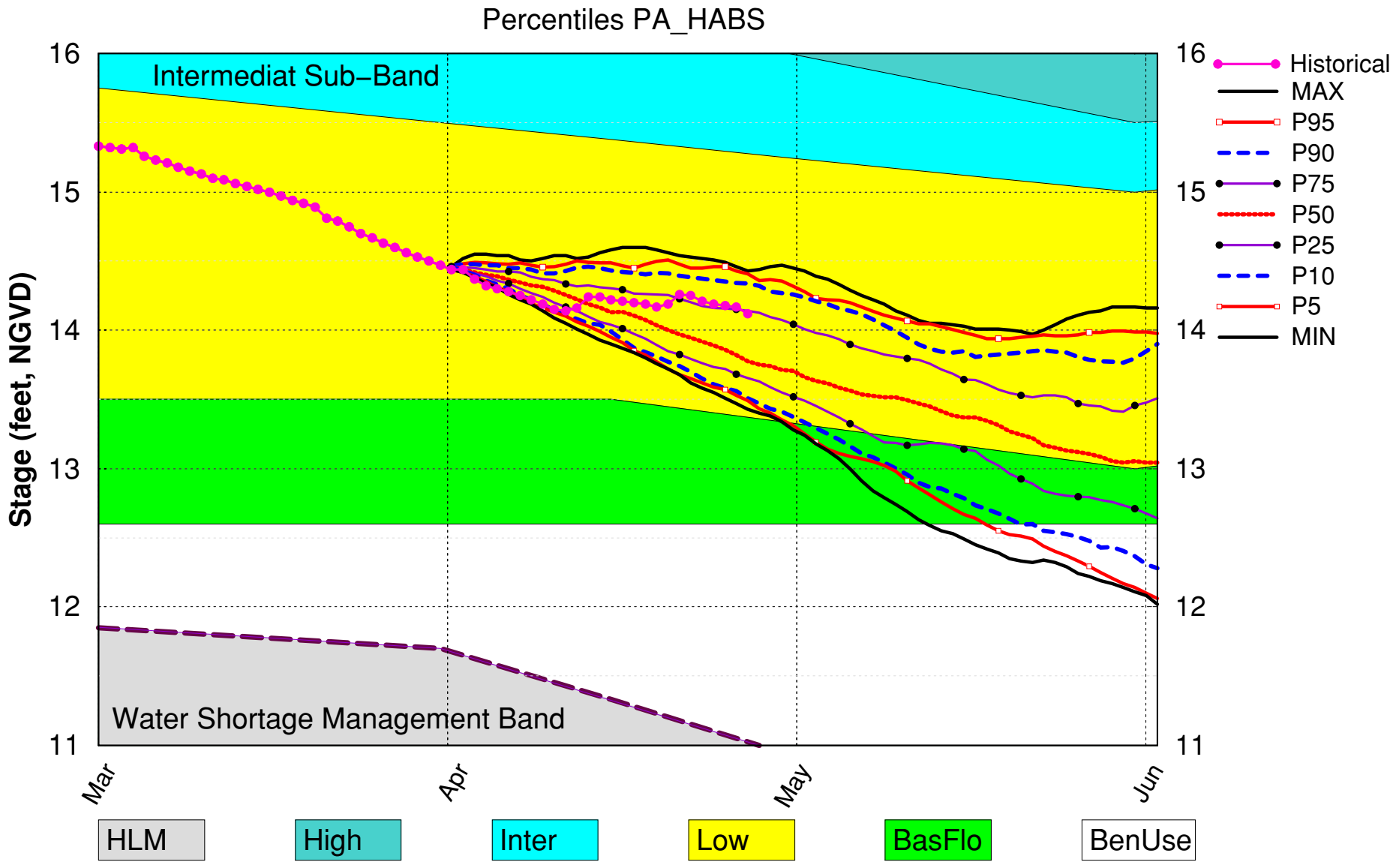
Status for week ending 4/26/2021:

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	0.26 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	2.05 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.60 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (16.21 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (11.59 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.19 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 Apr 2021 Position Analysis

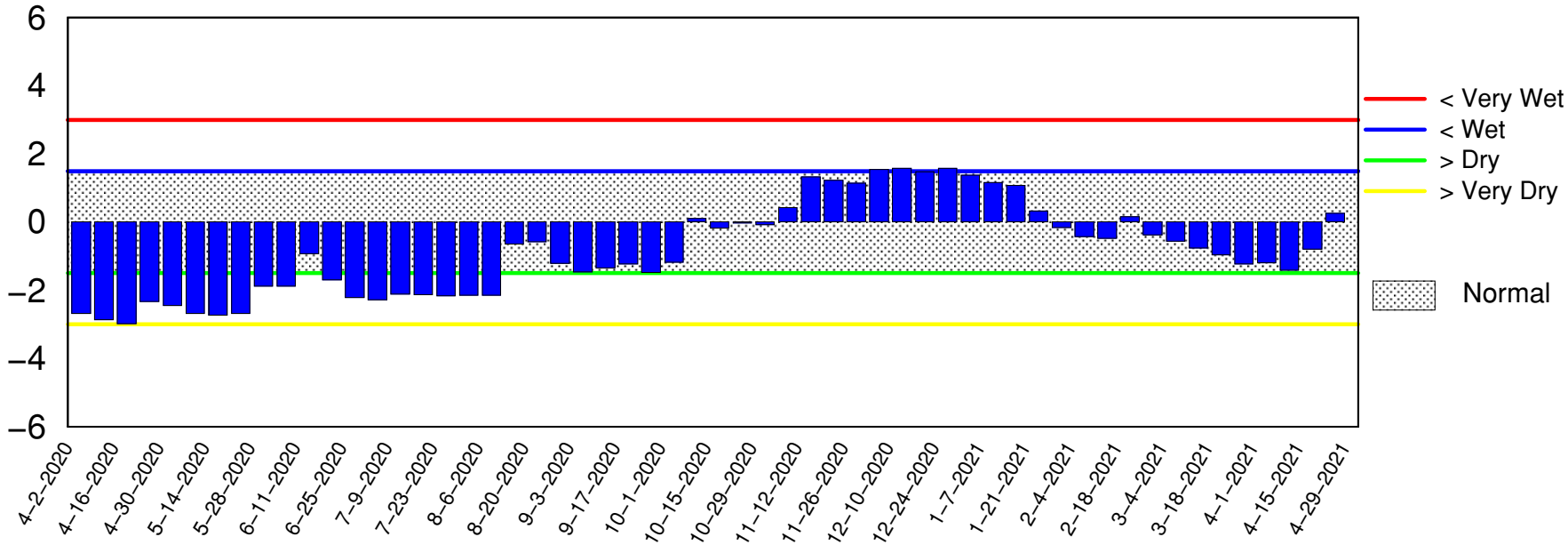


(See assumptions on the Position Analysis Results website)

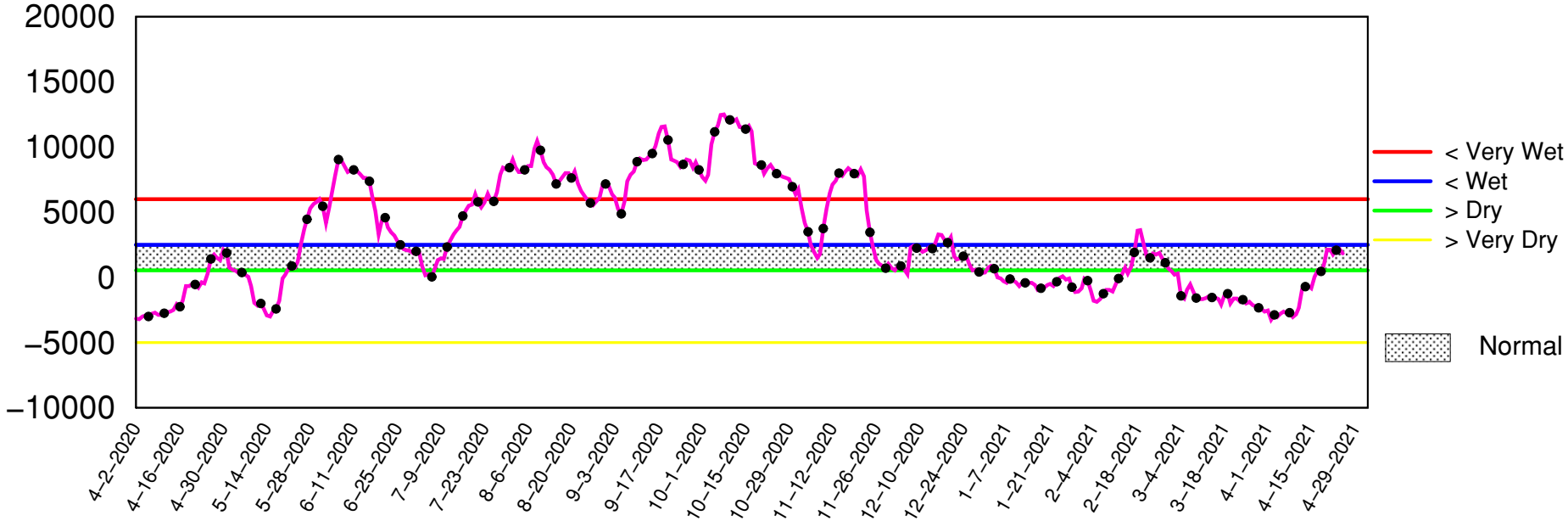
Tue Apr 27 07:09:48 EDT 2021

Tributary Basin Condition Indicators as of April 26 2021

Palmer Index



Lake Okeechobee Net Inflow (LONIN) 14−day Running Average



Mon Apr 26 16:09:14 EDT 2021

2008 LORS

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

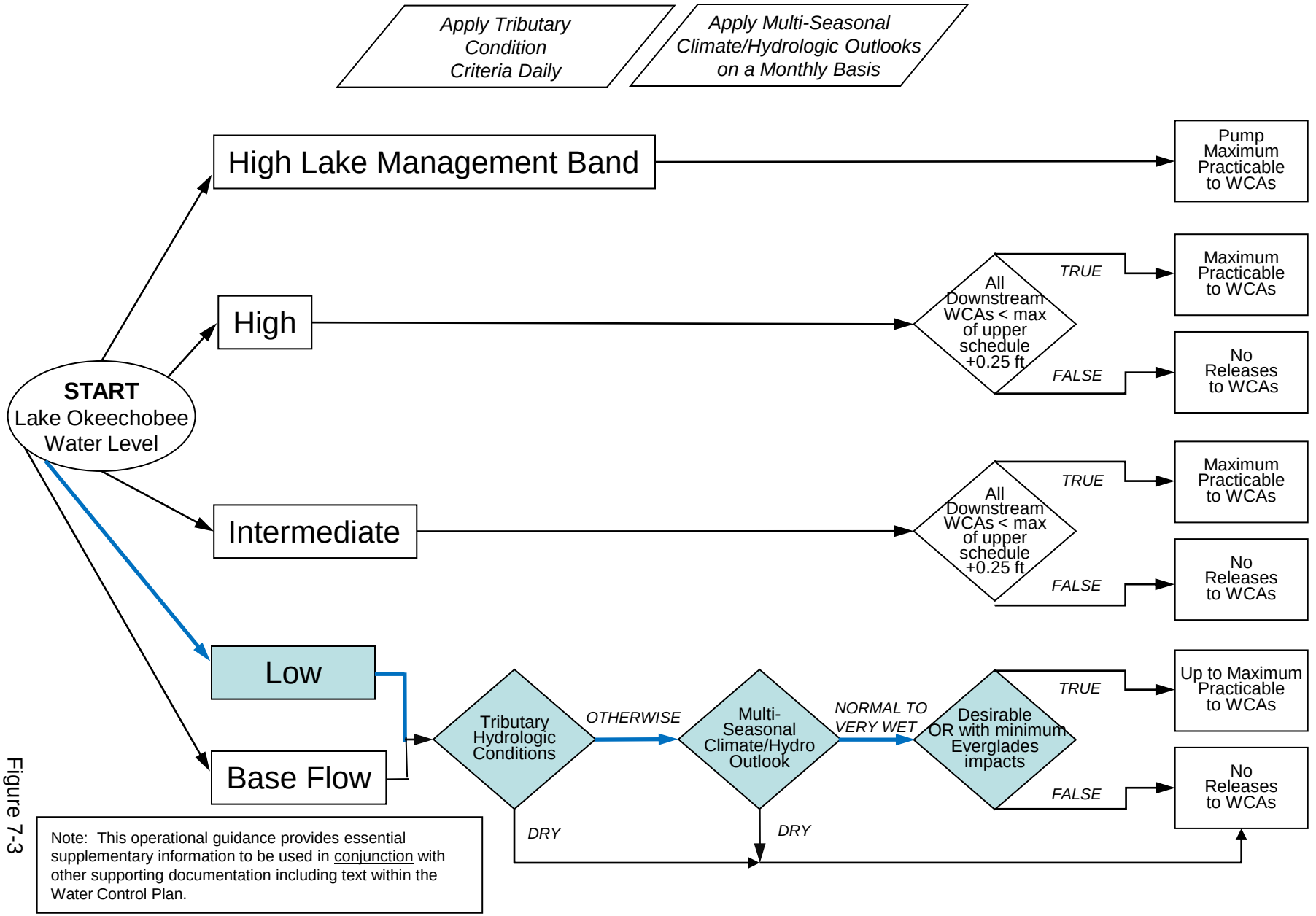


Figure 7-3

2008 LORS

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

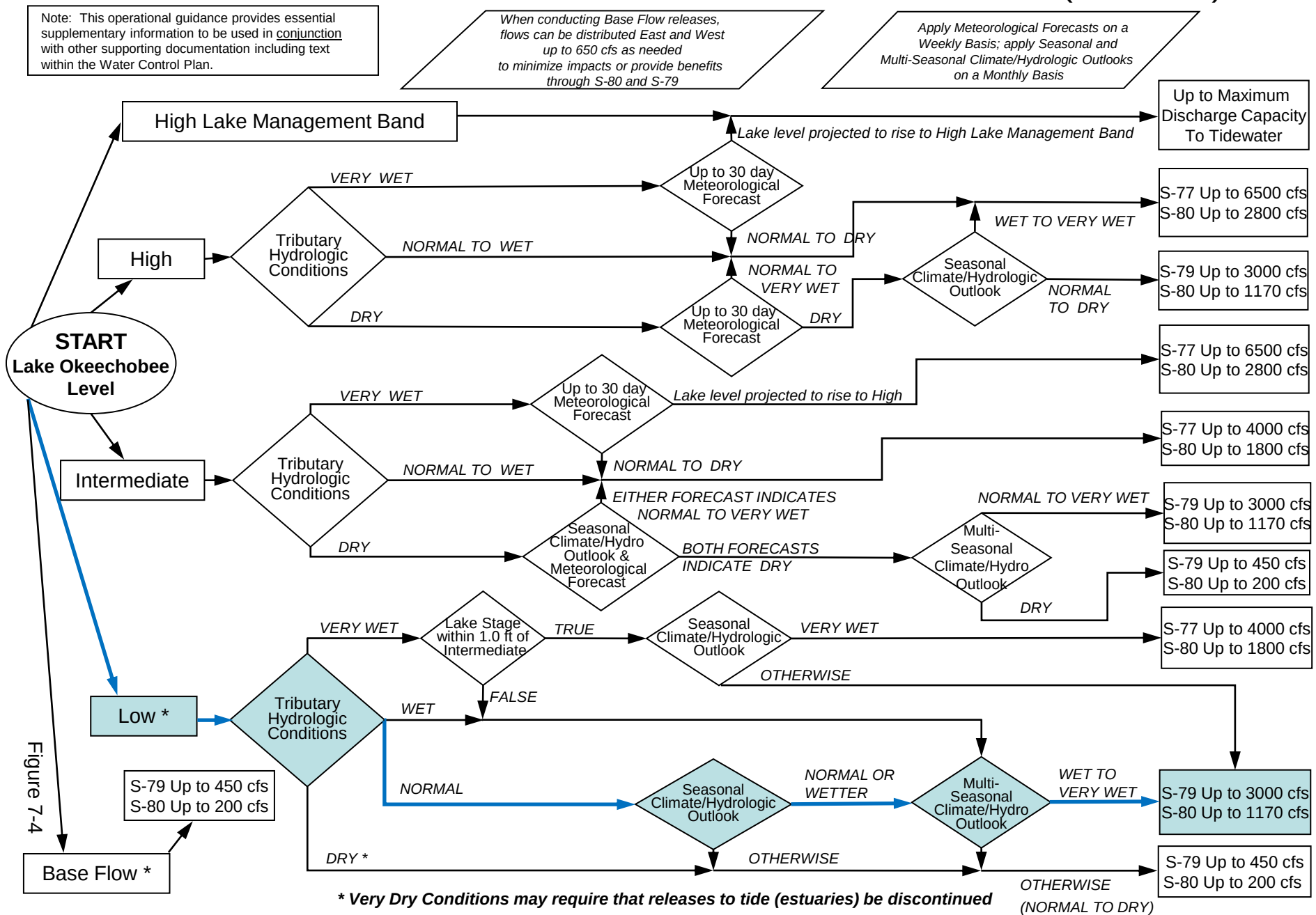
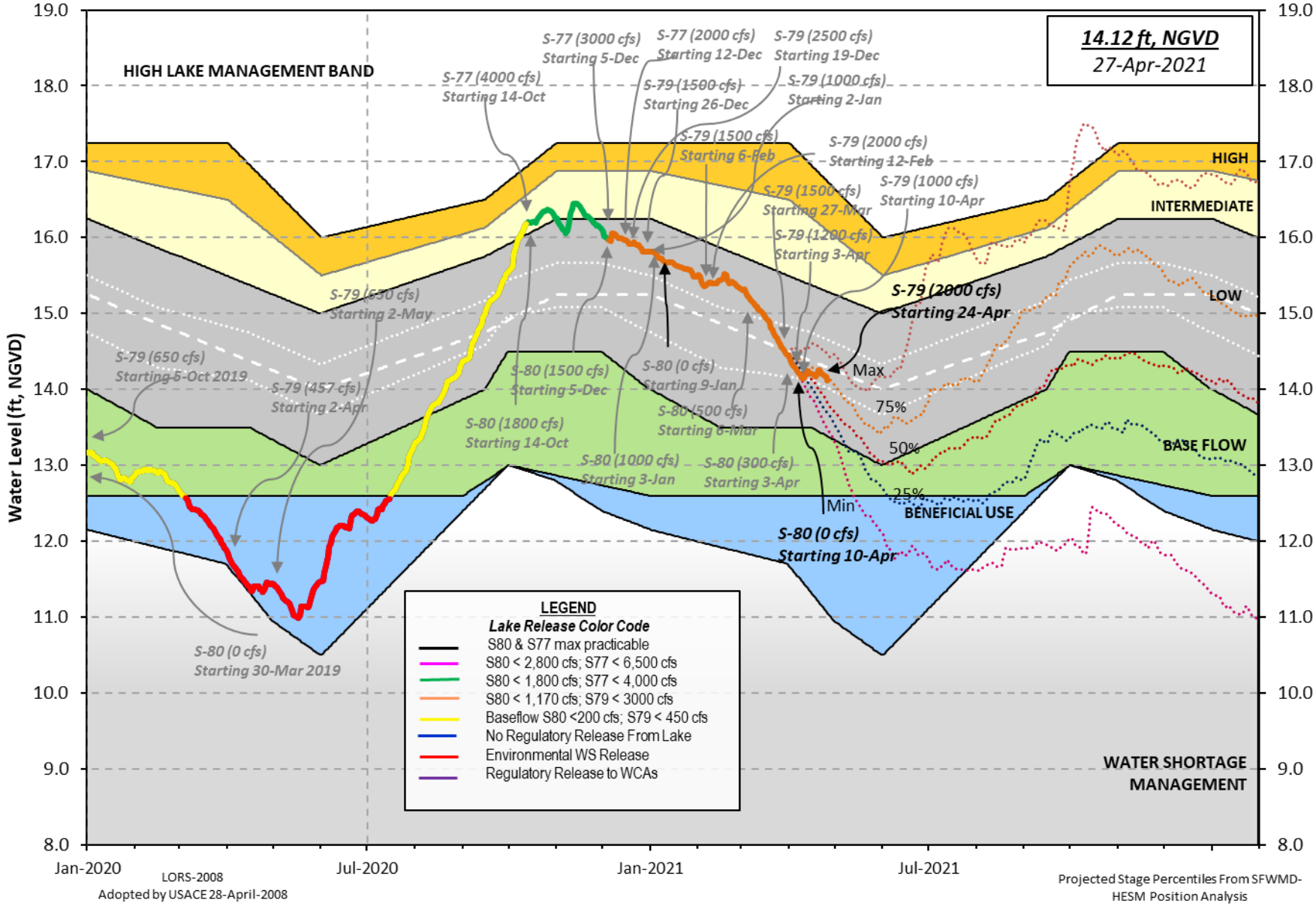


Figure 7-4

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 25 APR 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	14.17	11.37	11.38 (Official Elv)

Bottom of High Lake Mngmt= 16.76 Top of Water Short Mngmt= 11.08
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 12.52
Difference from Average LORS2008 1.65

25APR (1965-2007) Period of Record Average 13.74
Difference from POR Average 0.43

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 8.11'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 6.31'
Bridge Clearance = 49.51'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
14.22	14.13	14.14	14.14	14.01	14.33	14.24	14.18

*Combination Okeechobee Avg-Daily Lake Average = 14.17 (*See Note)

Okeechobee Inflows (cfs):

S65E	929	S65EX1	0	Fisheating Cr	102
S154	0	S191	0	S135 Pumps	0
S84	119	S133 Pumps	0	S2 Pumps	0
S84X	54	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	17	C5	0

Total Inflows: 1221

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	1018	S77	1079
S127 Culverts	0	S351	935	S308	133
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-NR-		

Total Outflows: 3165

****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	0.25	S308	0.30

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 -2168 cfs or -4300 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:	13.47	14.01	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.17	14.06	0	0.0	-NR-	0.0					
S135 Pumps:	13.36	14.11	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.85	13.88	929	0.4	0.4	0.3	0.5	0.5	0.5		
S65EX1:	20.85	13.88	0								
S127 Pumps:	13.51	14.04	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.91	14.07	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.79	13.99	17	19	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.91	102								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.43	14.06	0	0	0	0			(cfs)		
S169:	14.10	11.47	0	0.0	0.0	0.0					
S310:	14.03		17								
S3 Pumps:	10.85	14.18	0	0	0	0			(cfs)		
S354:	14.18	10.85	1018	1.9	2.0						
S2 Pumps:	10.98	-NR-	0	0	0	0	0		(cfs)		
S351:	-NR-	10.98	935	1.3	1.5	1.4					
S352:	14.41	10.83	0	0.0	0.0						
C10A:	-NR-	14.15		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT			-NR-								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.98	-NR-	935	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.83	14.41	0	-NR-	-NR-	-NR-	-NR-				
S354:	10.85	14.18	1018	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	13.93	12.53		0.0	0.0						
S47D:	12.53	11.02	28	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	13.87	10.86	1074	0.0	2.5	2.5	0.0				
Flow Due to Lockages+:			5								
S78:											

```
    Spillway and Sector Flow:
              10.92      2.72     936    2.0  0.0  0.0  1.0
    Flow Due to Lockages+:          16

  S79:
    Spillway and Sector Flow:
               2.87      1.02    1469    1.0  1.0  1.0  2.0  1.0  1.0  1.0  0.0
    Flow Due to Lockages+:           7
    Percent of flow from S77        73%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              14.35     13.99     132  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           1

  S153:        18.81     13.68       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
              13.96      1.49       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          32
    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 (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:	0.00	0.00	0.97	278	6
S78:	0.00	0.00	1.17	265	2
S79:	0.00	0.00	1.49	183	3
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:	0.00	0.00	0.42	302	14
S80:	0.00	0.00	0.56	262	1
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.00	0.11		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
Okeechobee Lake Elevations  25 APR 2021          14.17 Difference from 25APR21
   25APR21  -1 Day  =       24 APR 2021          14.18             0.01
```

25APR21	-2 Days =	23 APR 2021	14.19	0.02
25APR21	-3 Days =	22 APR 2021	14.21	0.04
25APR21	-4 Days =	21 APR 2021	14.25	0.08
25APR21	-5 Days =	20 APR 2021	14.26	0.09
25APR21	-6 Days =	19 APR 2021	14.19	0.02
25APR21	-7 Days =	18 APR 2021	14.17	0.00
25APR21	-30 Days =	26 MAR 2021	14.60	0.43
25APR21	-1 Year =	25 APR 2020	11.37	-2.80
25APR21	-2 Year =	25 APR 2019	11.38	-2.79

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
25APR21	Today =	25 APR 2021	1993	MON	1279
25APR21	-1 Day =	24 APR 2021	2348	SUN	1122
25APR21	-2 Days =	23 APR 2021	2235	SAT	-1188
25APR21	-3 Days =	22 APR 2021	1890	FRI	-7710
25APR21	-4 Days =	21 APR 2021	2311	THU	-1946
25APR21	-5 Days =	20 APR 2021	2299	WED	15057
25APR21	-6 Days =	19 APR 2021	974	TUE	5615
25APR21	-7 Days =	18 APR 2021	483	MON	-2161
25APR21	-8 Days =	17 APR 2021	573	SUN	-246
25APR21	-9 Days =	16 APR 2021	7	SAT	-NR-
25APR21	-10 Days =	15 APR 2021	-847	FRI	329
25APR21	-11 Days =	14 APR 2021	-696	THU	-2869
25APR21	-12 Days =	13 APR 2021	-712	WED	453
25APR21	-13 Days =	12 APR 2021	-936	TUE	18178

S65E

			Average Flow over previous 14 days		Avg-Daily Flow
25APR21	Today=	25 APR 2021	919	MON	1064
25APR21	-1 Day =	24 APR 2021	892	SUN	1066
25APR21	-2 Days =	23 APR 2021	845	SAT	1062
25APR21	-3 Days =	22 APR 2021	811	FRI	1116
25APR21	-4 Days =	21 APR 2021	775	THU	1144
25APR21	-5 Days =	20 APR 2021	733	WED	-NR-
25APR21	-6 Days =	19 APR 2021	700	TUE	-NR-
25APR21	-7 Days =	18 APR 2021	675	MON	895
25APR21	-8 Days =	17 APR 2021	639	SUN	1019
25APR21	-9 Days =	16 APR 2021	594	SAT	898
25APR21	-10 Days =	15 APR 2021	554	FRI	821
25APR21	-11 Days =	14 APR 2021	521	THU	750
25APR21	-12 Days =	13 APR 2021	489	WED	618
25APR21	-13 Days =	12 APR 2021	473	TUE	572

S65EX1

			Average Flow over previous 14 days		Avg-Daily Flow
25APR21	Today=	25 APR 2021	44	MON	0
25APR21	-1 Day =	24 APR 2021	44	SUN	0
25APR21	-2 Days =	23 APR 2021	44	SAT	0
25APR21	-3 Days =	22 APR 2021	44	FRI	0
25APR21	-4 Days =	21 APR 2021	44	THU	0
25APR21	-5 Days =	20 APR 2021	54	WED	223
25APR21	-6 Days =	19 APR 2021	72	TUE	400
25APR21	-7 Days =	18 APR 2021	78	MON	0
25APR21	-8 Days =	17 APR 2021	112	SUN	0
25APR21	-9 Days =	16 APR 2021	146	SAT	0
25APR21	-10 Days =	15 APR 2021	181	FRI	0
25APR21	-11 Days =	14 APR 2021	214	THU	0
25APR21	-12 Days =	13 APR 2021	248	WED	0
25APR21	-13 Days =	12 APR 2021	280	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)
25 APR 2021	2139	2302	1891	2942
24 APR 2021	1606	1630	1513	2179
23 APR 2021	184	388	644	1171
22 APR 2021	588	942	796	1451
21 APR 2021	10	455	1319	3666
20 APR 2021	343	836	1726	2501
19 APR 2021	2134	2187	1670	2576
18 APR 2021	2943	3017	2203	3242
17 APR 2021	1639	1816	1550	2189
16 APR 2021	1308	1500	1060	702
15 APR 2021	1121	1324	1221	933
14 APR 2021	533	893	1182	2040
13 APR 2021	470	989	1536	3841
12 APR 2021	2029	2683	1941	3870

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)
25 APR 2021	33	1855	0	2019	-NR-
24 APR 2021	15	2331	51	2055	-NR-
23 APR 2021	1	3173	630	1908	-NR-
22 APR 2021	19	82	476	79	-NR-
21 APR 2021	-65	0	0	0	-NR-
20 APR 2021	-59	0	0	0	-NR-
19 APR 2021	-34	273	0	44	-NR-
18 APR 2021	43	1041	19	181	-NR-
17 APR 2021	20	1269	726	44	-NR-
16 APR 2021	8	1666	528	608	-NR-
15 APR 2021	19	1408	1401	606	-NR-
14 APR 2021	-37	714	1067	403	-NR-
13 APR 2021	-48	0	374	0	-NR-
12 APR 2021	-30	0	0	0	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
25 APR 2021	249	-175	64
24 APR 2021	163	171	54
23 APR 2021	4	223	60
22 APR 2021	3	53	50
21 APR 2021	278	-149	62
20 APR 2021	3	-327	607
19 APR 2021	2	125	871
18 APR 2021	-668	-354	50
17 APR 2021	-0	-283	43
16 APR 2021	-1	-371	55
15 APR 2021	-0	-254	71
14 APR 2021	-1	113	309
13 APR 2021	-3	61	1816
12 APR 2021	-3	-44	1355

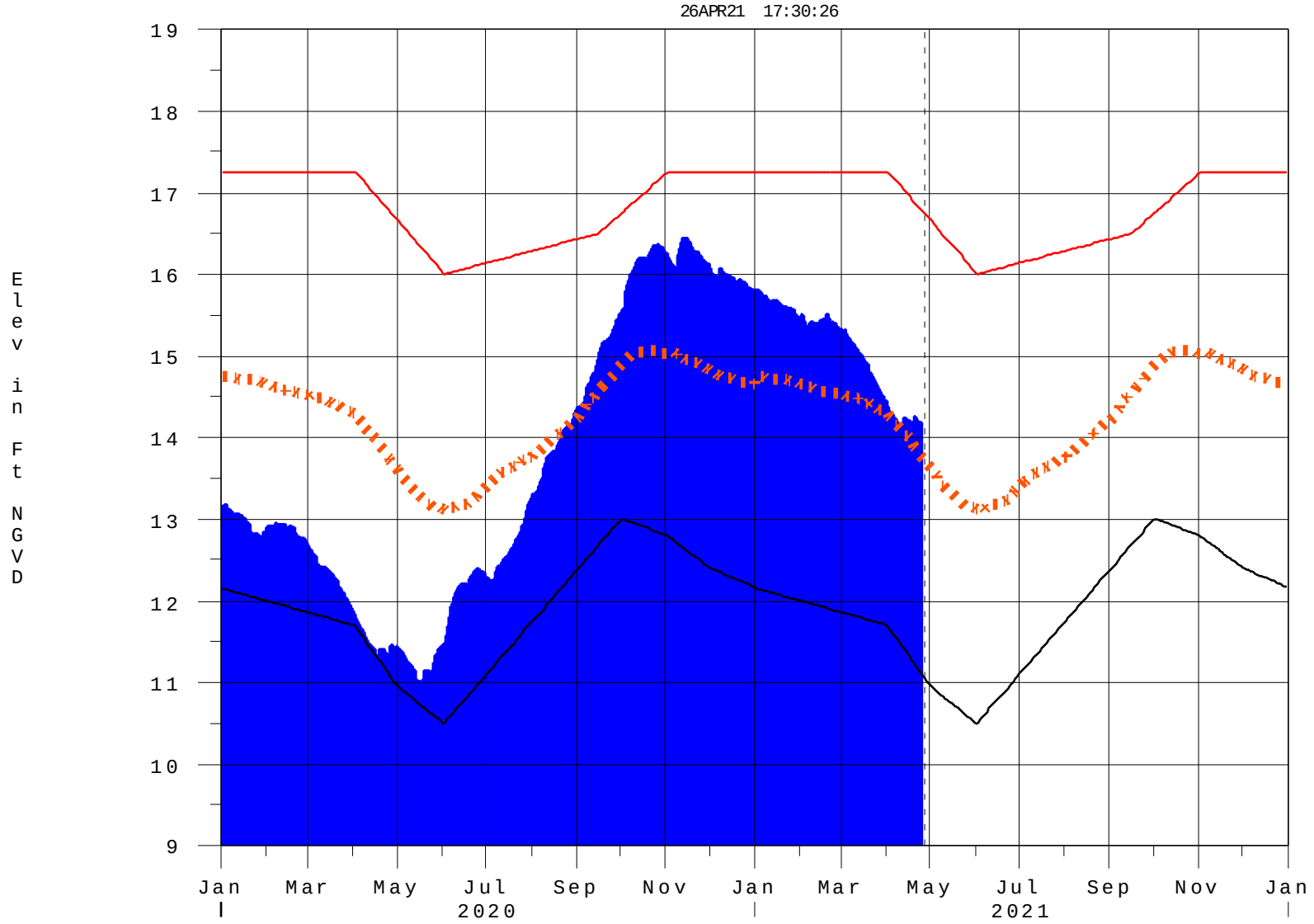
*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(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 26APR2021 @ 09:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee



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