Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 4/12/2021 (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	1.89	Wet	1.88	Wet	1.65	Wet
Multi Seasonal (Apr-Oct)	N/A	N/A	2.58	Wet	2.43	Normal	2.30	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:

-2334 cfs 14-day running average for Lake Okeechobee Net Inflow through 4/11/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-1.40 for Palmer Drought Index on 4/10/2021.
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 4/12/2021:

Lake Okeechobee Stage: **14.16 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.05	
Operational Band	High sub-band	16.34	
	Intermediate sub-band	15.41	
	Low sub-band	13.50	← 14.16 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.43	
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 4/12/2021 (ENSO Condition- La Nina Advisory):

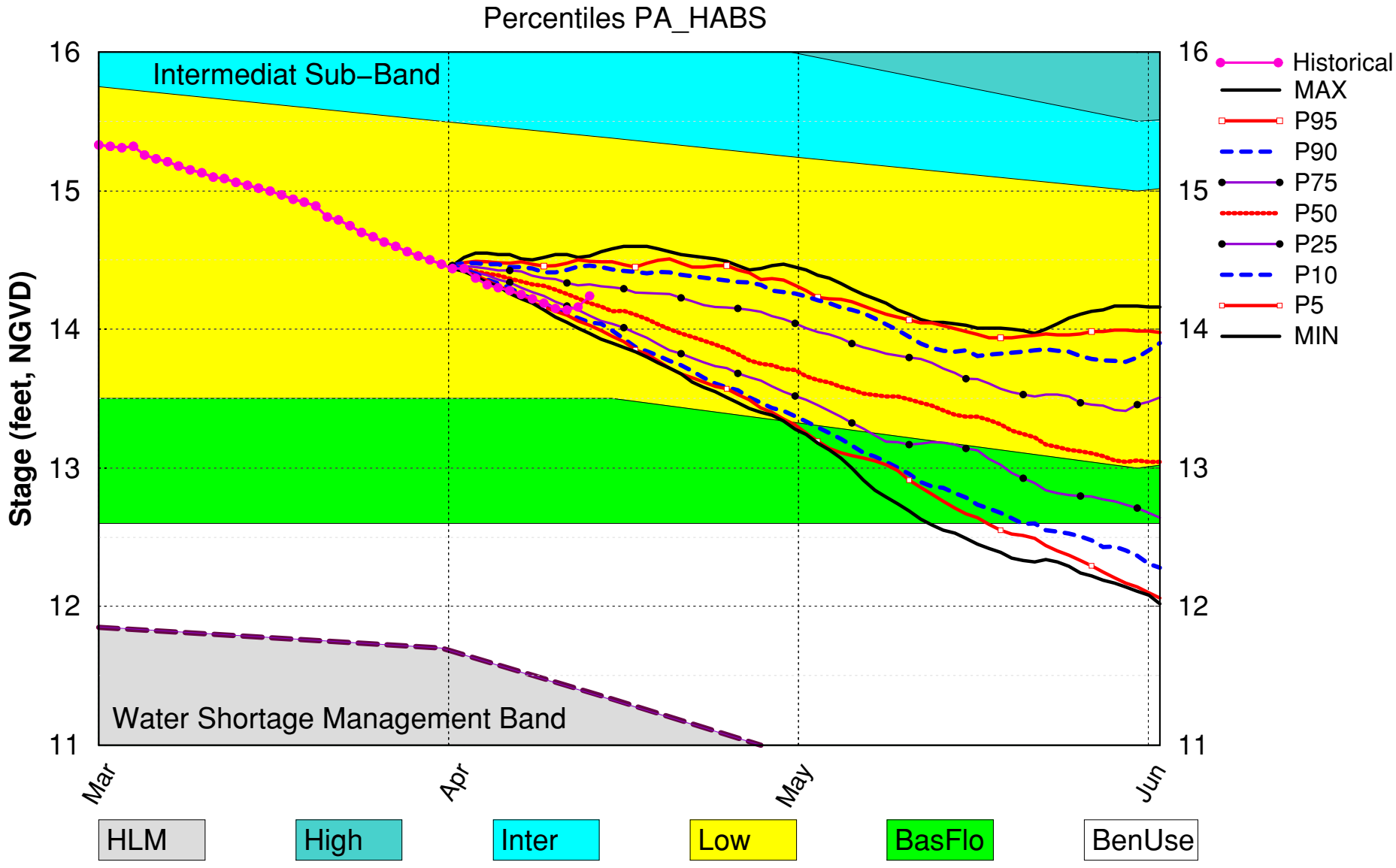
Status for week ending 4/12/2021:

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	-1.40 (Dry)	M
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	1.88 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.43 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (16.31 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (11.63 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.35 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

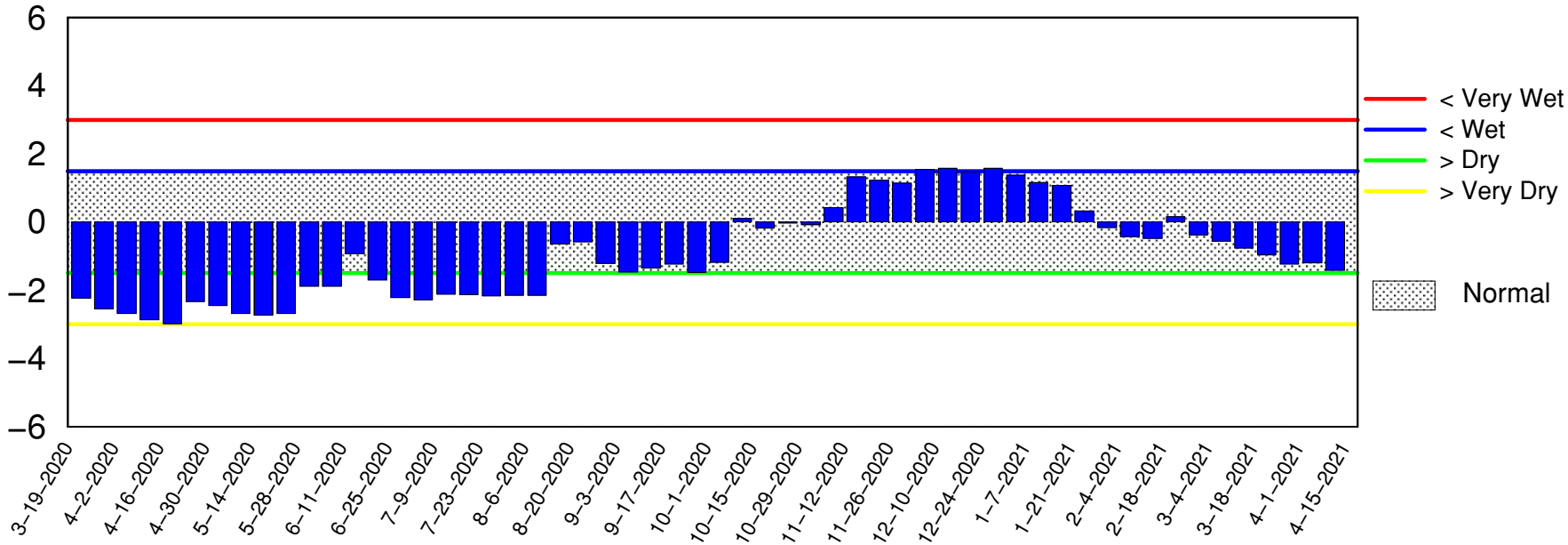


(See assumptions on the Position Analysis Results website)

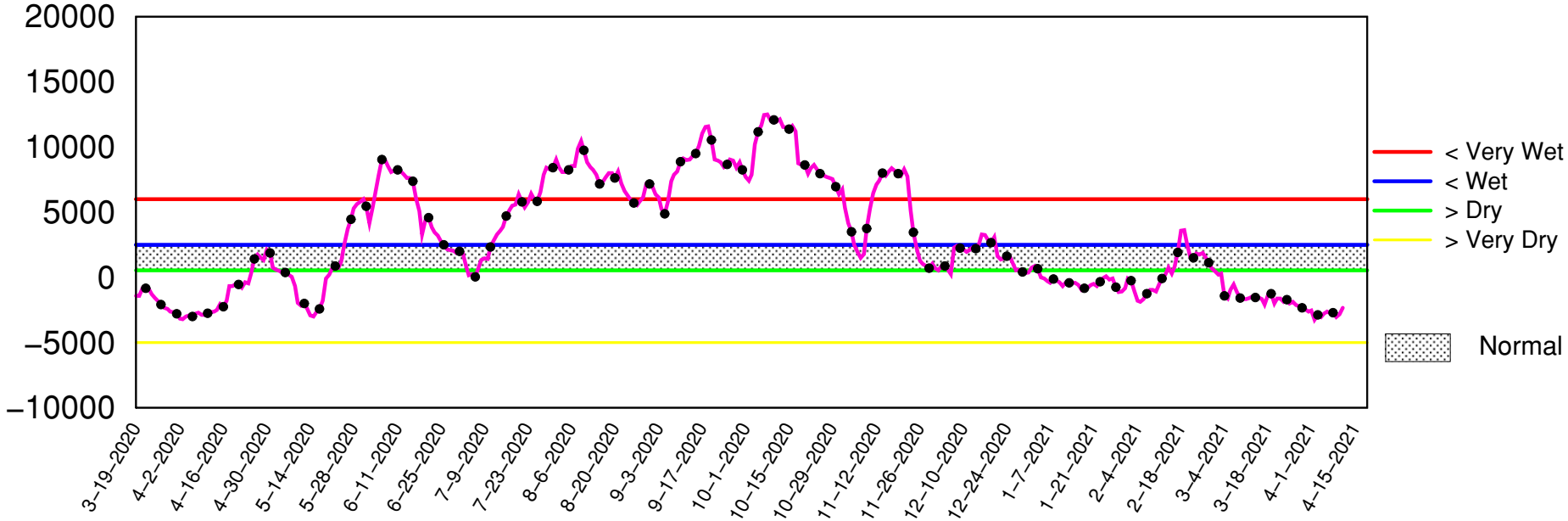
Tue Apr 13 07:29:01 EDT 2021

Tributary Basin Condition Indicators as of April 12 2021

Palmer Index



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



Mon Apr 12 15:28:47 EDT 2021

2008 LORS

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

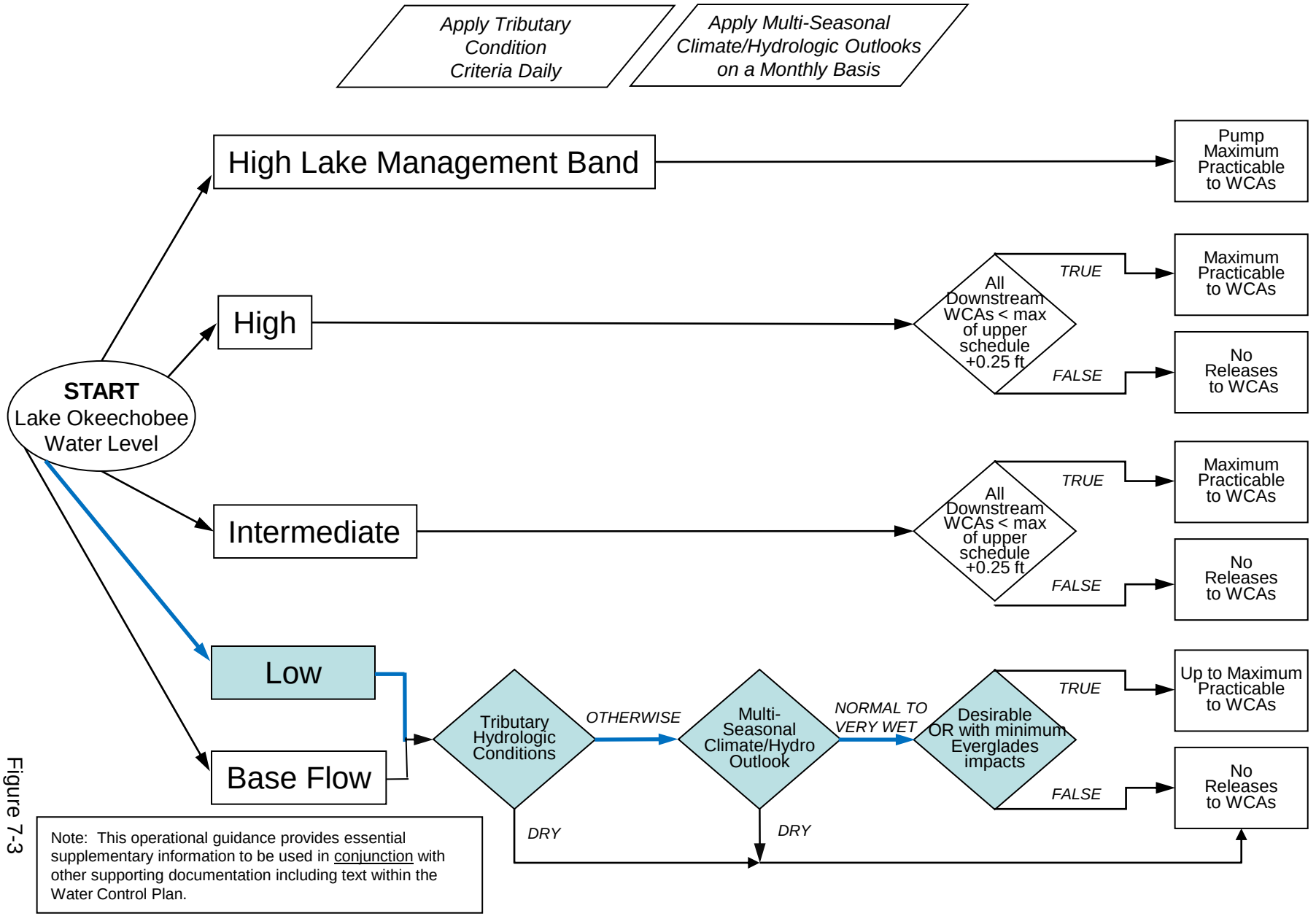
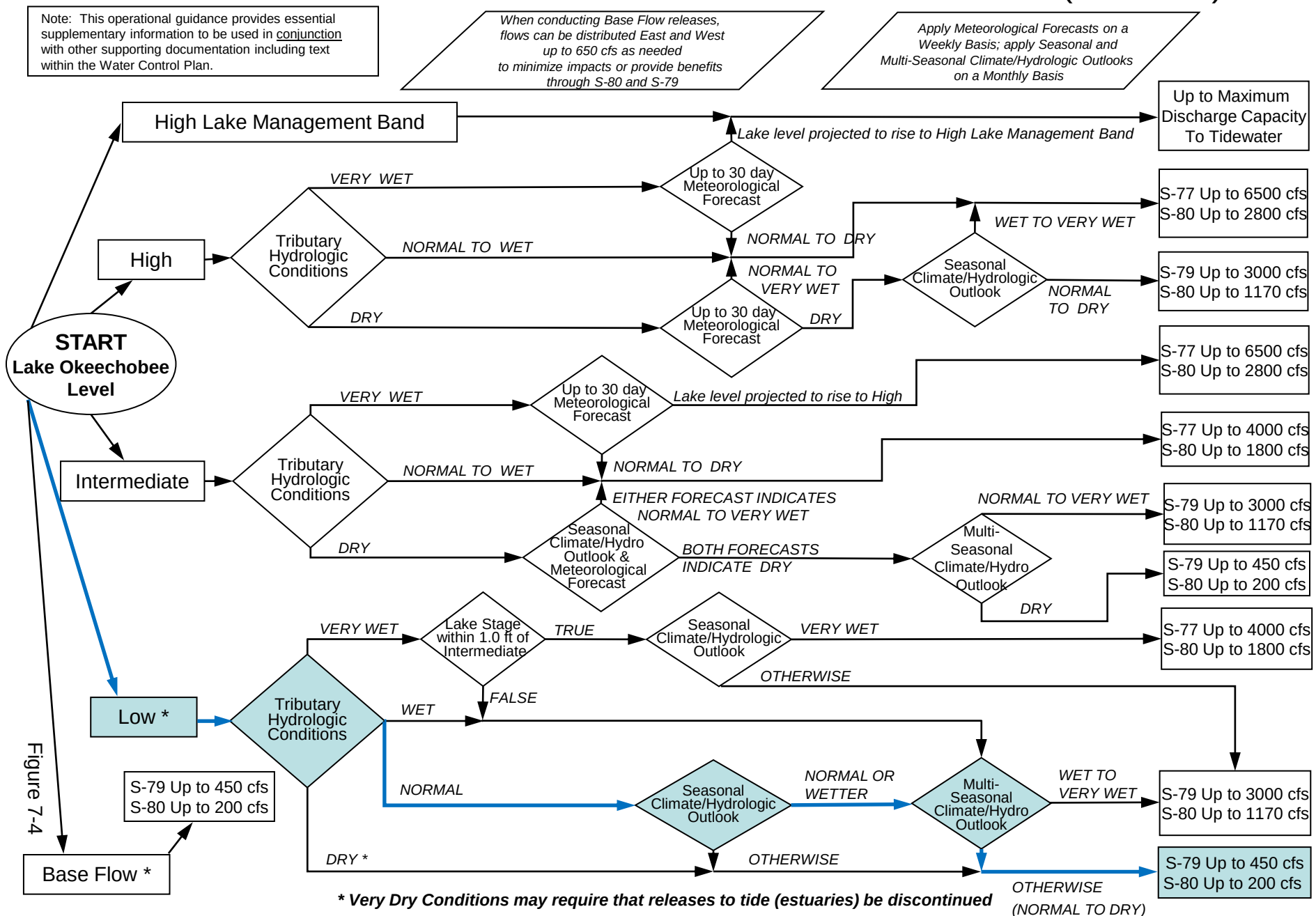


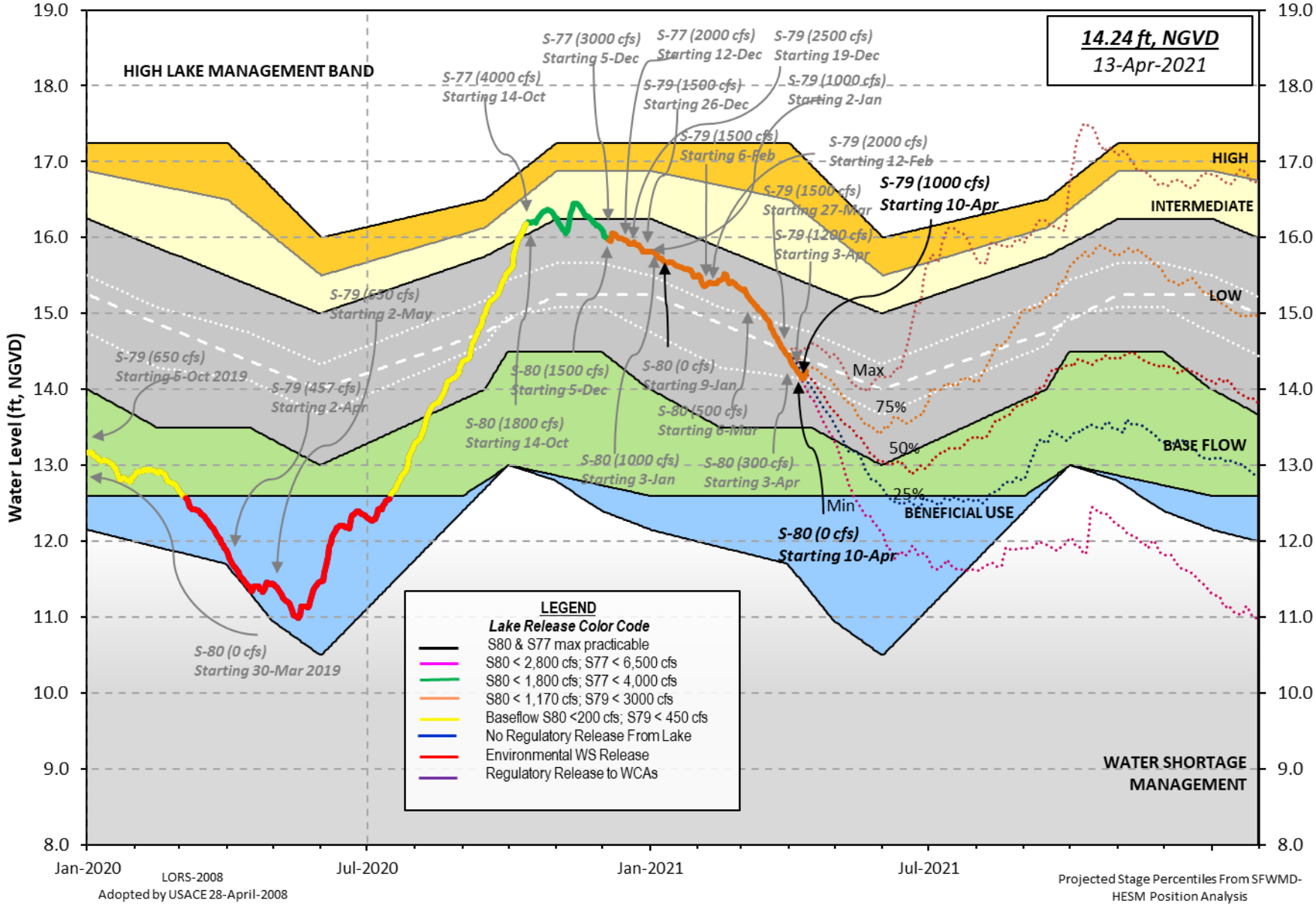
Figure 7-3

2008 LORS

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



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 11 APR 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	14.16	11.49	11.70 (Official Elv)

Bottom of High Lake Mngmt= 17.05 Top of Water Short Mngmt= 11.43
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 12.83
Difference from Average LORS2008 1.33

11APR (1965-2007) Period of Record Average 14.07
Difference from POR Average 0.09

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 8.10'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 6.30'
Bridge Clearance = 48.81'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
14.17	14.19	14.14	14.15	14.04	14.29	14.16	14.16

*Combination Okeechobee Avg-Daily Lake Average = 14.16
(*See Note)

Okeechobee Inflows (cfs):

S65E	658	S65EX1	0	Fisheating Cr	3
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	11	S131 Pumps	0	C5	0
Total Inflows:	672				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	1299
S127 Culverts	0	S351	0	S308	-0
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-NR-		
Total Outflows:	1299				

****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	0.11	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 4336 cfs or 8600 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:	13.51	14.64	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.49	14.61	0	0.0	-NR-	0.0					
S135 Pumps:	13.14	14.38	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.92	14.57	658	0.4	0.5	0.2	0.6	0.2	0.0		
S65EX1:	20.92	14.57	0								
S127 Pumps:	13.29	14.32	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.98	14.23	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	13.06	14.02	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		28.31	3								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.99	13.75	0	0	0	0			(cfs)		
S169:	13.83	12.02	0	0.0	0.0	0.0					
S310:	13.46		10								
S3 Pumps:	9.82	13.71	0	0	0	0			(cfs)		
S354:	13.71	9.82	0	0.0	0.0						
S2 Pumps:	9.90	-NR-	0	0	0	0	0		(cfs)		
S351:	-NR-	9.90	0	0.0	0.0	0.0					
S352:	14.42	9.51	0	0.0	0.0						
C10A:	-NR-	14.26		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT			-NR-								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	9.90	-NR-	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	9.51	14.42	0	-NR-	-NR-	-NR-	-NR-				
S354:	9.82	13.71	0	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	14.04	12.27		0.0	0.0						
S47D:	12.32	11.17	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	13.76	11.09	1296	0.0	3.0	3.0	0.0				
Flow Due to Lockages+:			3								
S78:											

```
    Spillway and Sector Flow:
              11.03      2.94    1226    2.0  2.5  0.0  0.0
    Flow Due to Lockages+:          15

  S79:
    Spillway and Sector Flow:
               3.17      1.23    1747    1.0  1.0  1.0  2.0  2.0  1.0  1.0  0.0
    Flow Due to Lockages+:           4
    Percent of flow from S77        74%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              14.53     14.69       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          -0

  S153:        18.61     14.37      78    0.0  0.0
  S80:
    Spillway and Sector Flow:
              14.70      1.32       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   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:	0.02	0.02	0.02	229	8
S78:	1.16	1.17	1.17	220	11
S79:	1.88	1.95	1.95	84	5
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:	1.11	1.24	1.24	227	24
S80:	1.32	1.65	1.65	234	6
Okeechobee Average (Sites S78, S79 and S80 not included)	0.57	0.10	0.10		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
Okeechobee Lake Elevations  11 APR 2021          14.16 Difference from 11APR21
   11APR21  -1 Day  =       10 APR 2021          14.14            -0.02
```

11APR21	-2 Days =	09 APR 2021	14.15	-0.01
11APR21	-3 Days =	08 APR 2021	14.19	0.03
11APR21	-4 Days =	07 APR 2021	14.22	0.06
11APR21	-5 Days =	06 APR 2021	14.25	0.09
11APR21	-6 Days =	05 APR 2021	14.28	0.12
11APR21	-7 Days =	04 APR 2021	14.30	0.14
11APR21	-30 Days =	12 MAR 2021	15.06	0.90
11APR21	-1 Year =	11 APR 2020	11.49	-2.67
11APR21	-2 Year =	11 APR 2019	11.70	-2.46

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
11APR21	Today =	11 APR 2021	-2330	MON	5887
11APR21	-1 Day =	10 APR 2021	-2846	SUN	-344
11APR21	-2 Days =	09 APR 2021	-3059	SAT	-5672
11APR21	-3 Days =	08 APR 2021	-2723	FRI	-2234
11APR21	-4 Days =	07 APR 2021	-2762	THU	-2107
11APR21	-5 Days =	06 APR 2021	-2641	WED	-2165
11APR21	-6 Days =	05 APR 2021	-2828	TUE	-769
11APR21	-7 Days =	04 APR 2021	-3041	MON	-989
11APR21	-8 Days =	03 APR 2021	-2884	SUN	-7603
11APR21	-9 Days =	02 APR 2021	-3252	SAT	-11957
11APR21	-10 Days =	01 APR 2021	-2541	FRI	2449
11APR21	-11 Days =	31 MAR 2021	-2658	THU	-3098
11APR21	-12 Days =	30 MAR 2021	-2494	WED	-2678
11APR21	-13 Days =	29 MAR 2021	-2357	TUE	-1341

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
11APR21	Today=	11 APR 2021	486	MON	741
11APR21	-1 Day =	10 APR 2021	490	SUN	502
11APR21	-2 Days =	09 APR 2021	509	SAT	659
11APR21	-3 Days =	08 APR 2021	516	FRI	681
11APR21	-4 Days =	07 APR 2021	519	THU	622
11APR21	-5 Days =	06 APR 2021	528	WED	313
11APR21	-6 Days =	05 APR 2021	566	TUE	348
11APR21	-7 Days =	04 APR 2021	609	MON	384
11APR21	-8 Days =	03 APR 2021	651	SUN	387
11APR21	-9 Days =	02 APR 2021	694	SAT	347
11APR21	-10 Days =	01 APR 2021	741	FRI	362
11APR21	-11 Days =	31 MAR 2021	787	THU	296
11APR21	-12 Days =	30 MAR 2021	837	WED	394
11APR21	-13 Days =	29 MAR 2021	881	TUE	761

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
11APR21	Today=	11 APR 2021	294	MON	0
11APR21	-1 Day =	10 APR 2021	294	SUN	0
11APR21	-2 Days =	09 APR 2021	294	SAT	0
11APR21	-3 Days =	08 APR 2021	294	FRI	0
11APR21	-4 Days =	07 APR 2021	294	THU	139
11APR21	-5 Days =	06 APR 2021	284	WED	476
11APR21	-6 Days =	05 APR 2021	250	TUE	475
11APR21	-7 Days =	04 APR 2021	216	MON	476
11APR21	-8 Days =	03 APR 2021	182	SUN	478
11APR21	-9 Days =	02 APR 2021	148	SAT	487
11APR21	-10 Days =	01 APR 2021	114	FRI	471
11APR21	-11 Days =	31 MAR 2021	80	THU	464
11APR21	-12 Days =	30 MAR 2021	47	WED	461
11APR21	-13 Days =	29 MAR 2021	14	TUE	194

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)
11 APR 2021	2578	2760	2471	3520
10 APR 2021	2162	2624	1754	2329
09 APR 2021	1975	2350	1546	1196
08 APR 2021	1883	2289	1563	1579
07 APR 2021	1839	2115	1296	1667
06 APR 2021	2280	2359	1237	2017
05 APR 2021	2482	2619	1777	2561
04 APR 2021	2511	2737	2400	3347
03 APR 2021	2437	2703	2524	3404
02 APR 2021	2739	2653	2366	4089
01 APR 2021	3311	3372	2581	3643
31 MAR 2021	3348	3401	2579	3225
30 MAR 2021	3418	3585	2602	3214
29 MAR 2021	3453	3597	2602	3144

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)
11 APR 2021	19	0	0	0	-NR-
10 APR 2021	84	0	771	0	-NR-
09 APR 2021	225	1295	1474	386	-NR-
08 APR 2021	260	2461	1698	833	-NR-
07 APR 2021	282	2640	1678	650	-NR-
06 APR 2021	251	2187	1601	666	-NR-
05 APR 2021	255	1640	1336	656	-NR-
04 APR 2021	72	1847	1437	31	-NR-
03 APR 2021	70	1294	1370	0	-NR-
02 APR 2021	75	1390	959	0	-NR-
01 APR 2021	44	322	423	47	-NR-
31 MAR 2021	99	305	849	182	-NR-
30 MAR 2021	244	722	1111	722	-NR-
29 MAR 2021	290	1996	1585	1231	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
11 APR 2021	-1	-155	40
10 APR 2021	-143	31	160
09 APR 2021	193	842	570
08 APR 2021	607	1032	819
07 APR 2021	868	1164	1106
06 APR 2021	874	1243	1212
05 APR 2021	129	576	881
04 APR 2021	-0	190	38
03 APR 2021	185	315	214
02 APR 2021	401	389	753
01 APR 2021	117	747	1116
31 MAR 2021	1199	2352	1369
30 MAR 2021	1054	2404	1552
29 MAR 2021	967	1881	1215

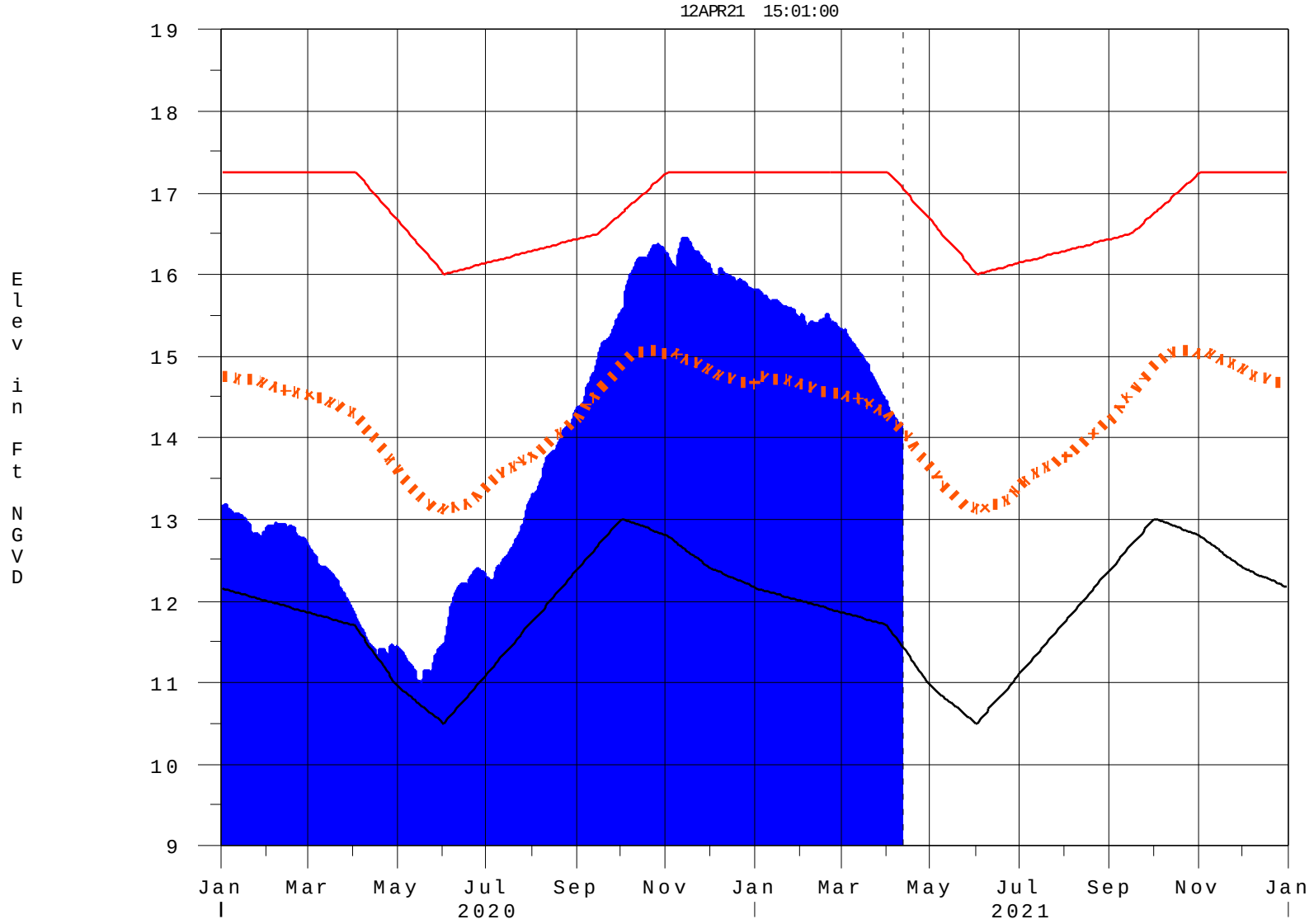
*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(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 12APR2021 @ 09:30 ** 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