Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 7/19/2021 (ENSO Condition: ENSO-neutral)

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 ENSO Neutral years[3] and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with ENSO Neutral 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 ENSO Neutral Years[3]		Sub-sampling of AMO Warm + ENSO Neutral Years [4]	
	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Jul-Dec)	N/A	N/A	2.55	Very Wet	2.68	Very Wet	3.98	Very Wet
Multi Seasonal (Jul-Apr)	N/A	N/A	3.07	Wet	2.68	Wet	4.17	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:

8670 cfs 14-day running average for Lake Okeechobee Net Inflow through 7/18/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Very Wet.

-1.18 for Palmer Drought Index on 7/17/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Normal.

The wetter of the two conditions above is **Very Wet.**

LORS2008 Classification Tables:

Lake Okeechobee Stage on 7/19/2021:

Lake Okeechobee Stage: **13.47 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.22	
Operational Band	High sub-band	15.78	
	Intermediate sub-band	15.34	
	Low sub-band	13.45	← 13.47 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.47	
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 7/19/2021 (ENSO Condition- ENSO-neutral):

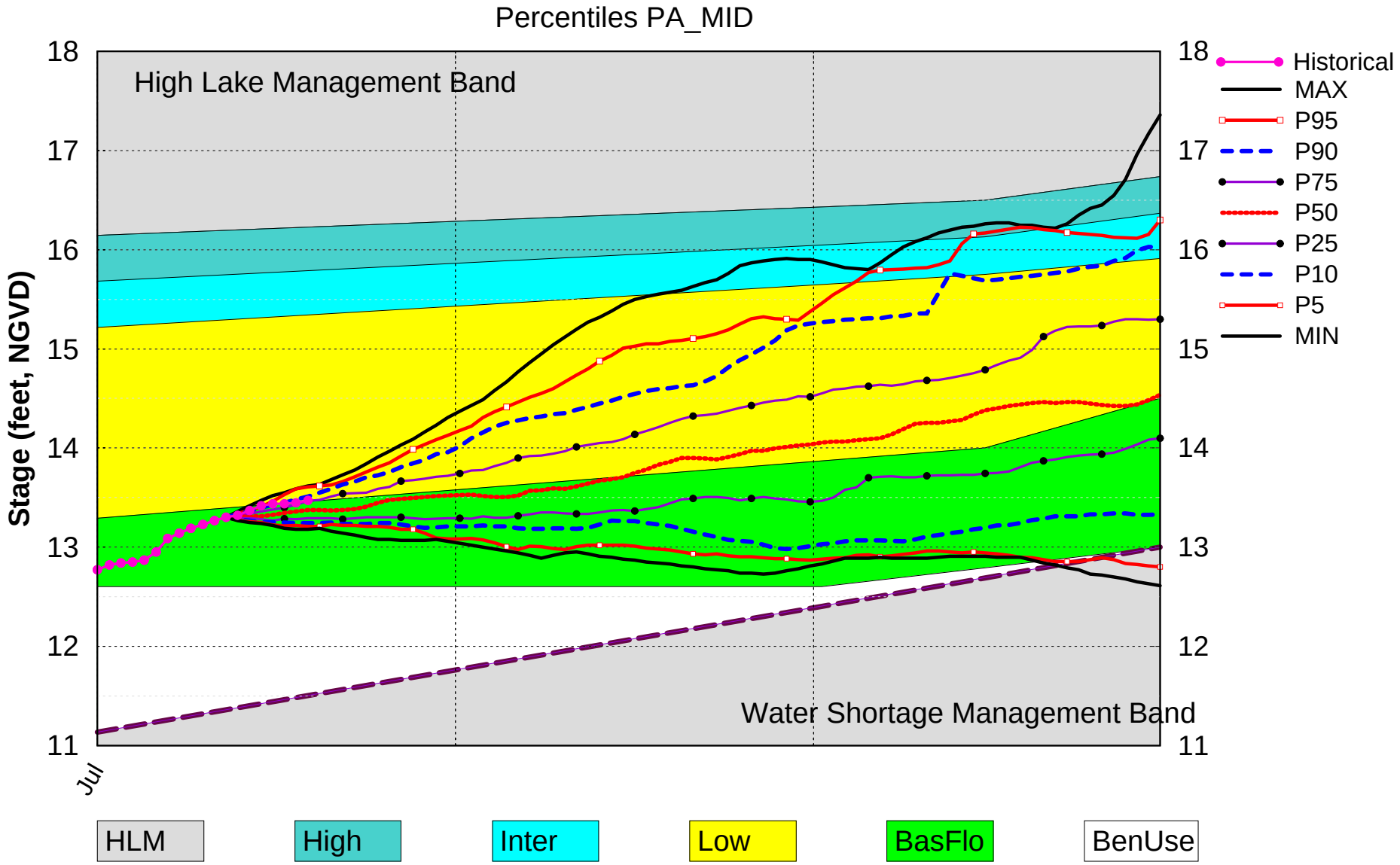
Status for week ending 7/19/2021:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	-1.18 (Dry)	M
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	2.68 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.68 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 1-8C	Above Line 1 (16.19 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.36 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.14 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.

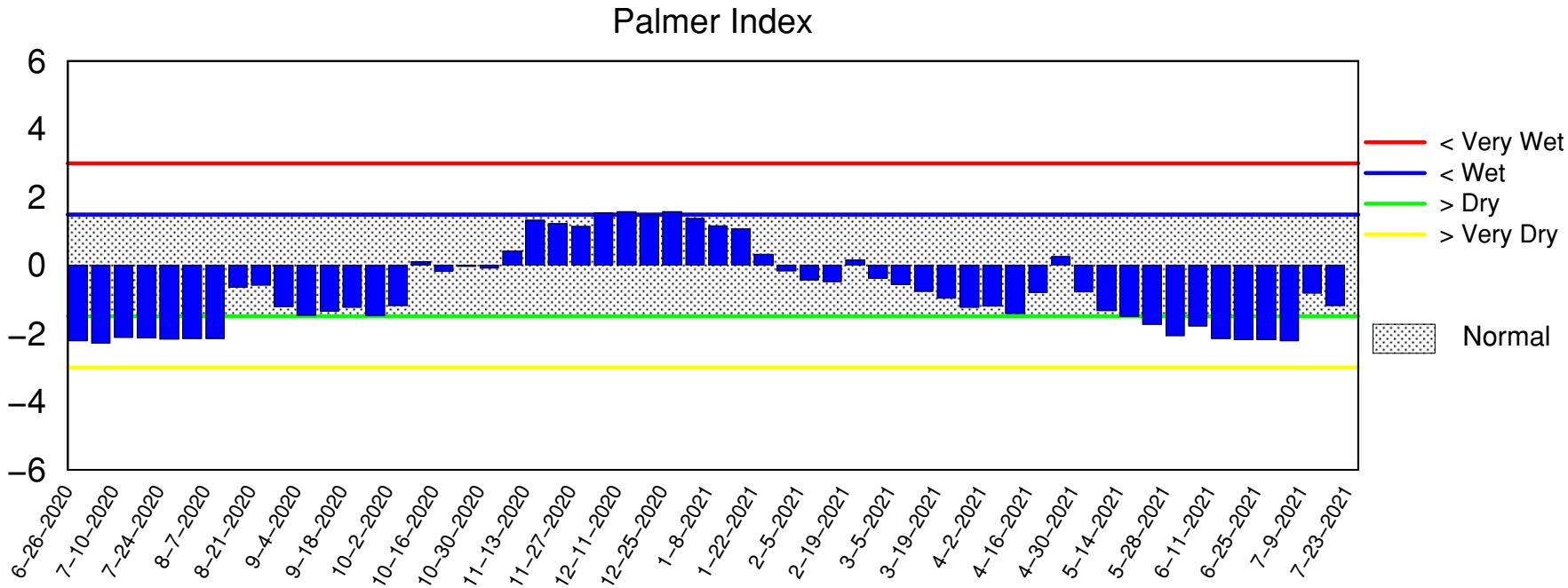
Lake Okeechobee SFWMM July 2021 Mid−Mon Position Analysis

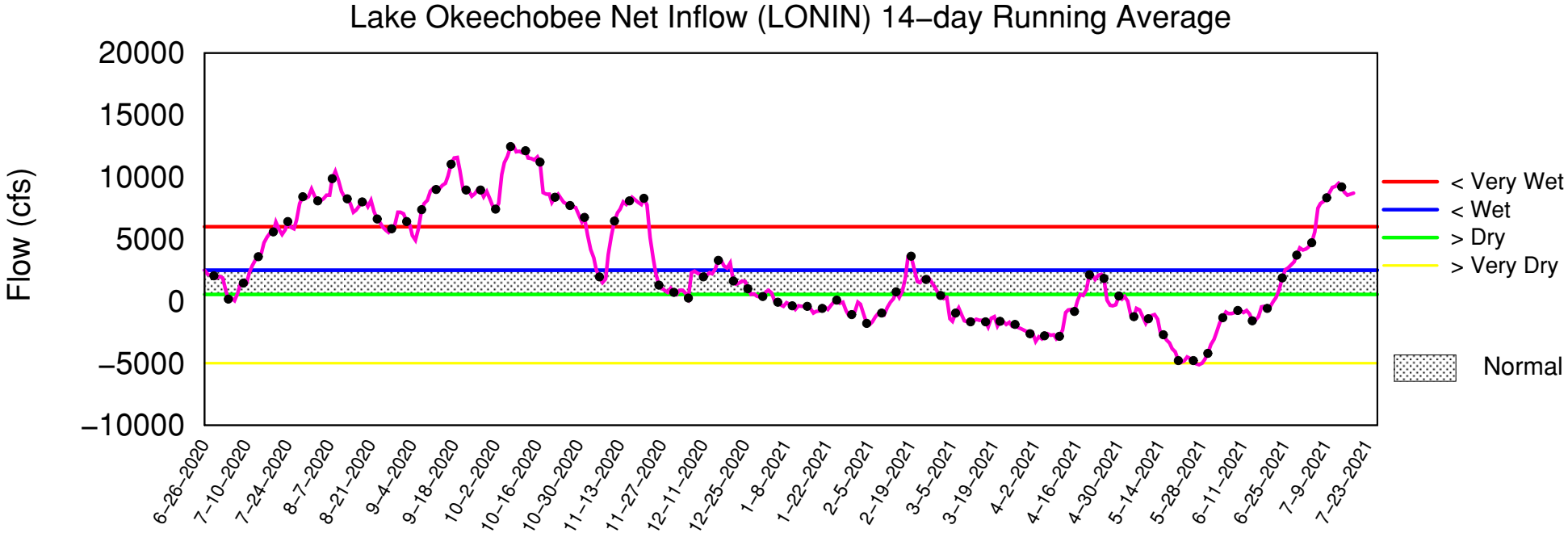


(See assumptions on the Position Analysis Results website)

Mon Jul 19 22:10:55 EDT 2021

Tributary Basin Condition Indicators as of July 19 2021





Mon Jul 19 12:10:48 EDT 2021

2008 LORS

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

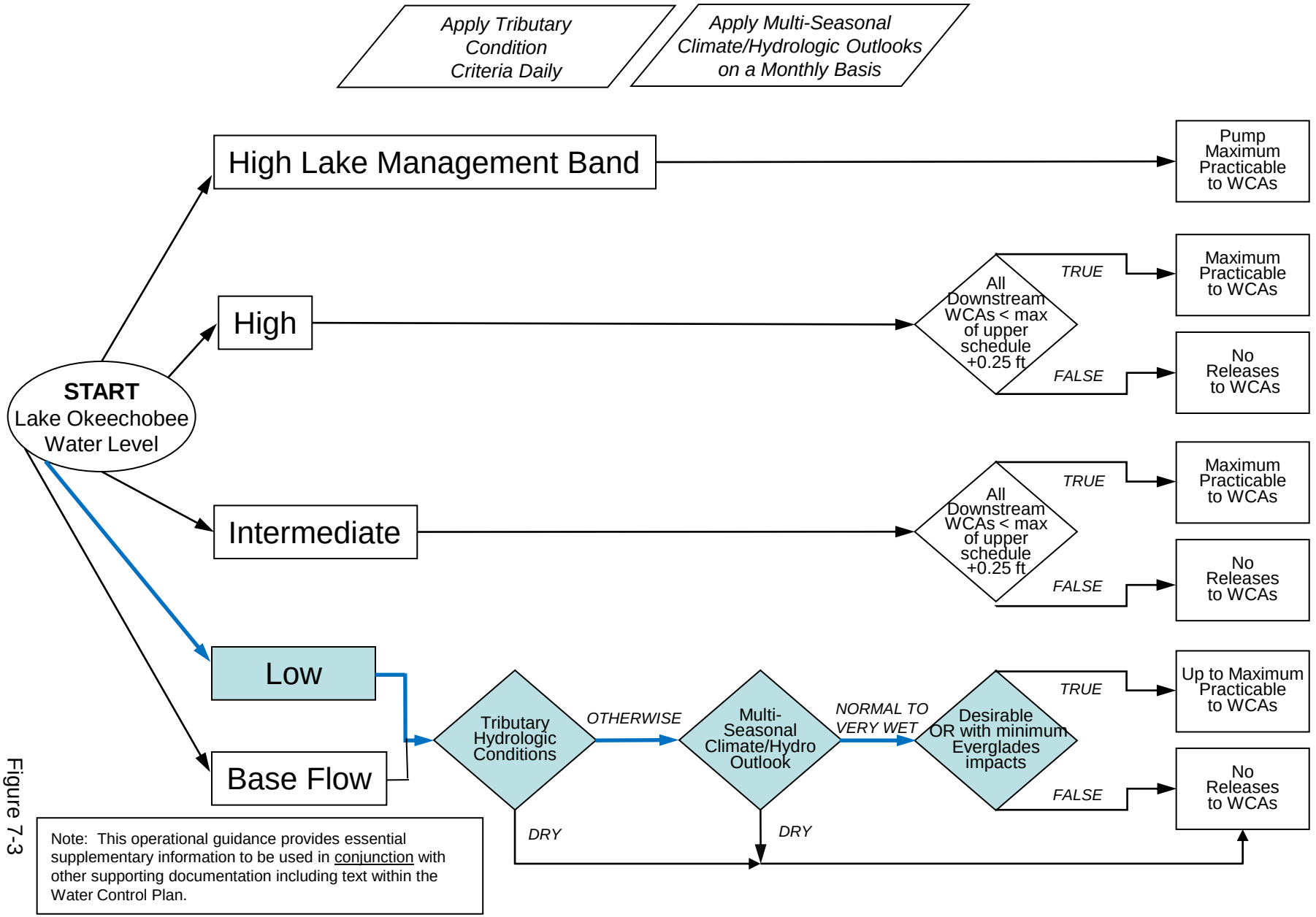


Figure 7-3

2008 LORS

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

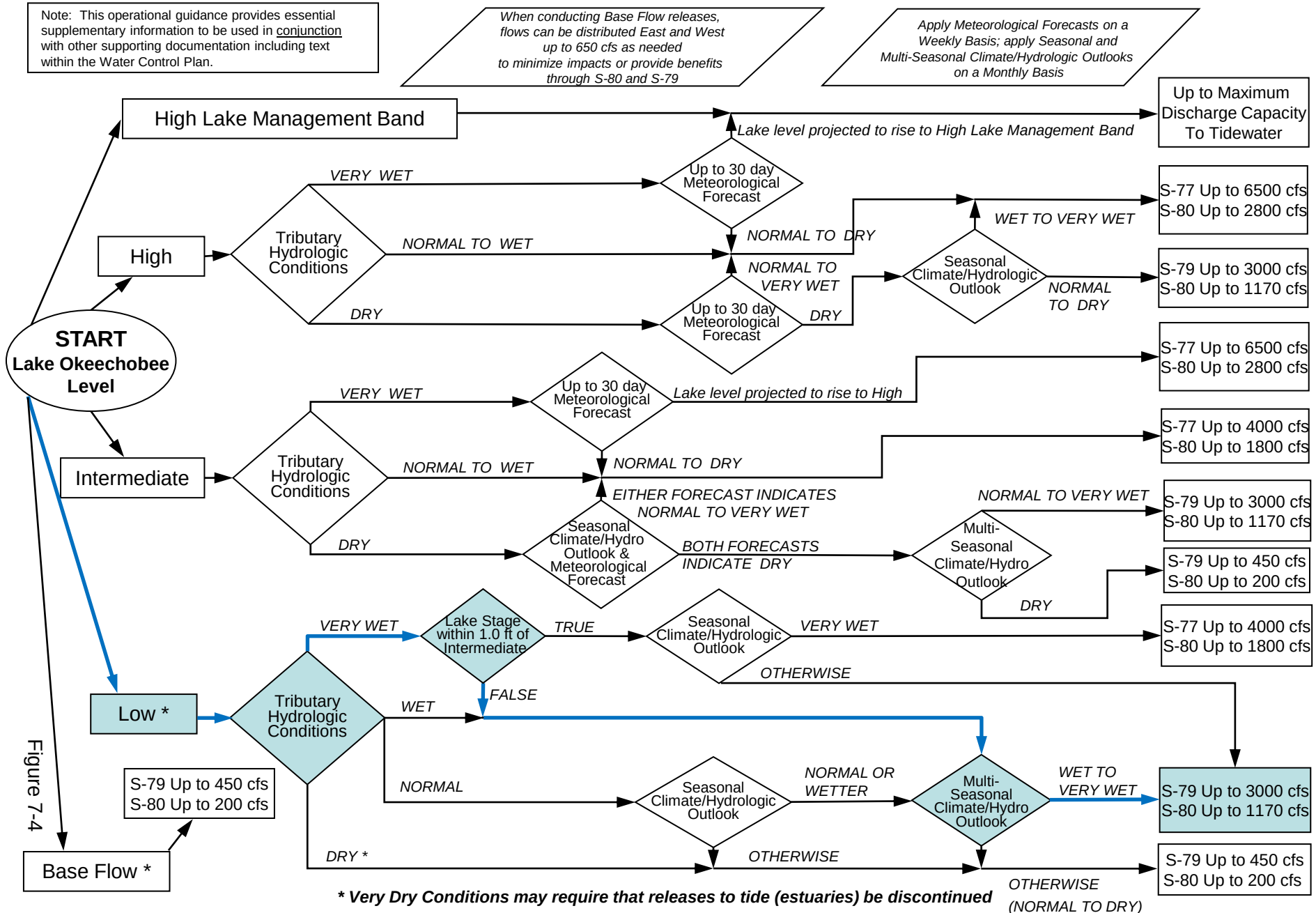
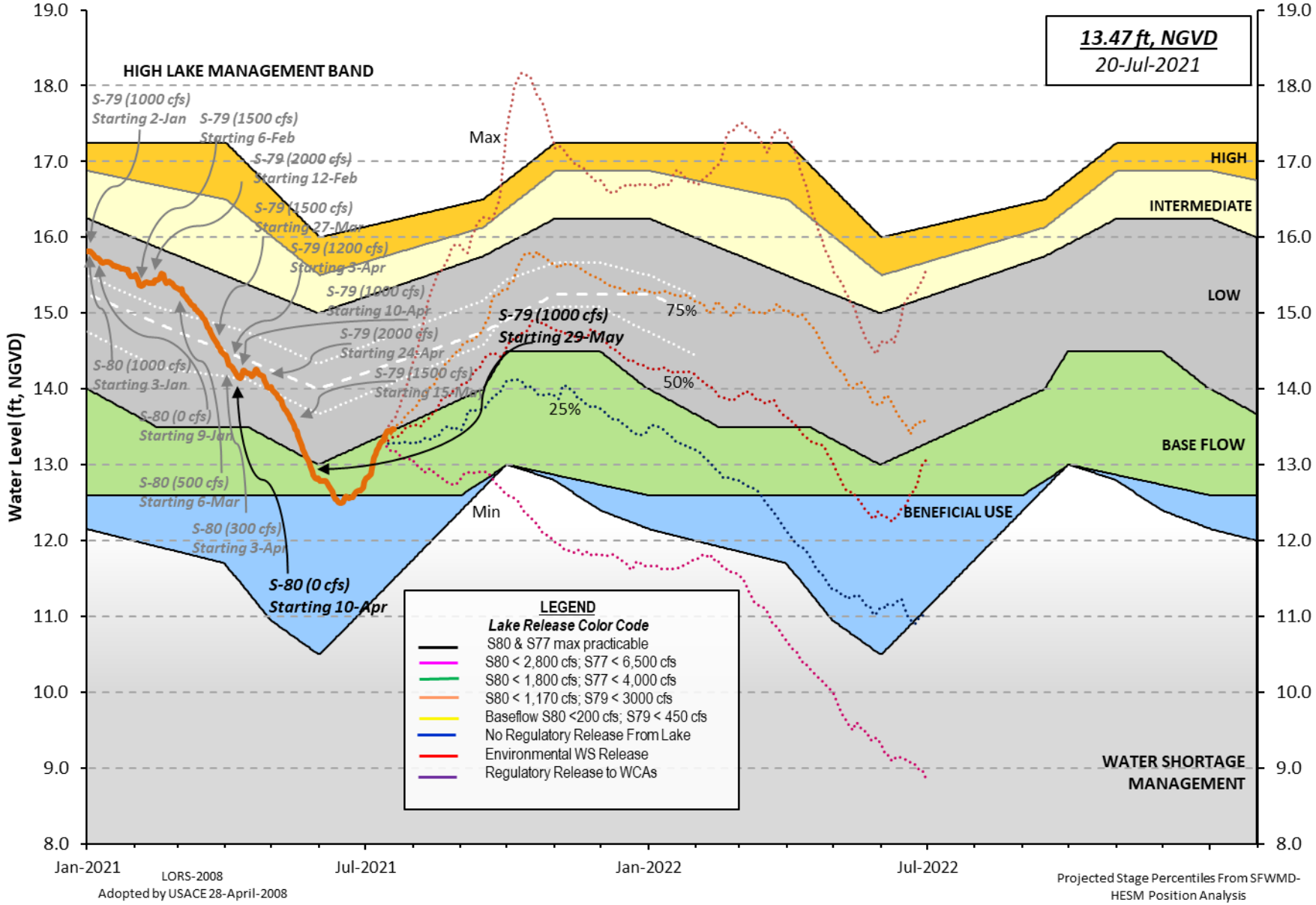


Figure 7-4

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 18 JUL 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)	
*Okeechobee Lake Elevation	13.47	12.66	11.43	(Official Elv)

Bottom of High Lake Mngmt= 16.22 Top of Water Short Mngmt= 11.47
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 12.52
Difference from Average LORS2008 0.95

18JUL (1965-2007) Period of Record Average 13.63
Difference from POR Average -0.16

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 7.41'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 5.61'
Bridge Clearance = 49.73'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
13.49	13.56	13.36	13.42	13.46	13.53	13.47	13.45

*Combination Okeechobee Avg-Daily Lake Average = 13.47 (*See Note)

Okeechobee Inflows (cfs):

S65E	1154	S65EX1	0	Fisheating Cr	467
S154	55	S191	0	S135 Pumps	158
S84	448	S133 Pumps	56	S2 Pumps	0
S84X	164	S127 Pumps	39	S3 Pumps	0
S71	153	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	23	C5	0

Total Inflows: 2717

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	164
S127 Culverts	0	S351	0	S308	-188
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-NR-		

Total Outflows: -24

****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	0.29	S308	0.19

Average Pan Evap x 0.75 Pan Coefficient = 0.18" = 0.01'

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 4134 cfs or 8200 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:	13.31	13.48	56	6	0	0	6	48	(cfs)		
S193:	------										
S191:	19.01	13.45	0	0.0	0.0	0.0					
S135 Pumps:	13.40	13.31	158	-NR-	-NR-	-NR-	-NR-		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.16	13.39	1154	0.5	0.5	0.9	0.5	0.5	-0.0		
S65EX1:	21.16	13.39	0								
S127 Pumps:	13.33	13.45	39	0	42	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.85	13.49	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.81	13.37	23	25	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.32	467								
nr Lakeport	------										
C5:	------	-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.17	13.40	0	0	0	0			(cfs)		
S169:	------	-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	13.40		-50								
S3 Pumps:	10.47	13.42	0	0	0	0			(cfs)		
S354:	13.42	10.47	0	0.0	0.0						
S2 Pumps:	9.62	-NR-	0	-NR-	-NR-	-NR-	-NR-		(cfs)		
S351:	-NR-	9.62	0	0.0	0.0	0.0					
S352:	13.50	9.46	0	0.0	0.0						
C10A:	-NR-	13.32		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		------	-NR-								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	9.62	-NR-	0	-NR--NR--NR--NR--NR--NR--NR-							
S352:	9.46	13.50	0	-NR--NR--NR--NR-							
S354:	10.47	13.42	0	-NR--NR--NR--NR-							
Caloosahatchee River (S77, S78, S79)											
S47B:	13.31	12.54		0.0	0.0						
S47D:	12.55	11.10	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	13.26	10.97	160	0.0	2.5	0.0	0.0				
Flow Due to Lockages+:			4								
S78:											

```
    Spillway and Sector Flow:
              11.00      2.87     948    0.0  0.0  2.5  0.0
    Flow Due to Lockages+:          12

  S79:
    Spillway and Sector Flow:
               3.05      1.63    2677    1.0  1.0  1.0  1.0  1.0  1.0  1.0  1.0
    Flow Due to Lockages+:           8
    Percent of flow from S77         6%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              13.48     13.77    -188  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          -0

  S153:        19.10     13.46      13    0.0  0.0
  S80:
    Spillway and Sector Flow:
              13.76      0.19       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           8
    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:	0.40	0.40	0.99	13	6
S78:	0.22	0.44	2.16	346	1
S79:	17.19	17.30	18.58	36	4
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:	33.88	33.89	34.55	103	4
S80:	12.03	12.10	12.47	103	2
Okeechobee Average (Sites S78, S79 and S80 not included)	17.14	2.64	2.73		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
Okeechobee Lake Elevations  18 JUL 2021          13.47 Difference from 18JUL21
   18JUL21  -1 Day  =       17 JUL 2021          13.45            -0.02
```

18JUL21	-2 Days =	16 JUL 2021	13.44	-0.03
18JUL21	-3 Days =	15 JUL 2021	13.44	-0.03
18JUL21	-4 Days =	14 JUL 2021	13.42	-0.05
18JUL21	-5 Days =	13 JUL 2021	13.37	-0.10
18JUL21	-6 Days =	12 JUL 2021	13.32	-0.15
18JUL21	-7 Days =	11 JUL 2021	13.30	-0.17
18JUL21	-30 Days =	18 JUN 2021	12.58	-0.89
18JUL21	-1 Year =	18 JUL 2020	12.66	-0.81
18JUL21	-2 Year =	18 JUL 2019	11.43	-2.04

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
18JUL21	Today =	18 JUL 2021	8992	MON	4377
18JUL21	-1 Day =	17 JUL 2021	8957	SUN	2310
18JUL21	-2 Days =	16 JUL 2021	8953	SAT	54
18JUL21	-3 Days =	15 JUL 2021	9244	FRI	4134
18JUL21	-4 Days =	14 JUL 2021	9674	THU	10487
18JUL21	-5 Days =	13 JUL 2021	9934	WED	10588
18JUL21	-6 Days =	12 JUL 2021	9629	TUE	4473
18JUL21	-7 Days =	11 JUL 2021	9530	MON	6353
18JUL21	-8 Days =	10 JUL 2021	9094	SUN	8471
18JUL21	-9 Days =	09 JUL 2021	8590	SAT	-NR-
18JUL21	-10 Days =	08 JUL 2021	8261	FRI	10588
18JUL21	-11 Days =	07 JUL 2021	8089	THU	10588
18JUL21	-12 Days =	06 JUL 2021	7690	WED	28889
18JUL21	-13 Days =	05 JUL 2021	5739	TUE	15579

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
18JUL21	Today=	18 JUL 2021	1234	MON	1312
18JUL21	-1 Day =	17 JUL 2021	1222	SUN	1329
18JUL21	-2 Days =	16 JUL 2021	1199	SAT	1318
18JUL21	-3 Days =	15 JUL 2021	1184	FRI	1354
18JUL21	-4 Days =	14 JUL 2021	1156	THU	1387
18JUL21	-5 Days =	13 JUL 2021	1123	WED	777
18JUL21	-6 Days =	12 JUL 2021	1130	TUE	1242
18JUL21	-7 Days =	11 JUL 2021	1118	MON	1296
18JUL21	-8 Days =	10 JUL 2021	1080	SUN	1313
18JUL21	-9 Days =	09 JUL 2021	1033	SAT	1119
18JUL21	-10 Days =	08 JUL 2021	990	FRI	1393
18JUL21	-11 Days =	07 JUL 2021	925	THU	1221
18JUL21	-12 Days =	06 JUL 2021	878	WED	1176
18JUL21	-13 Days =	05 JUL 2021	826	TUE	1035

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
18JUL21	Today=	18 JUL 2021	51	MON	0
18JUL21	-1 Day =	17 JUL 2021	51	SUN	0
18JUL21	-2 Days =	16 JUL 2021	51	SAT	0
18JUL21	-3 Days =	15 JUL 2021	51	FRI	0
18JUL21	-4 Days =	14 JUL 2021	51	THU	0
18JUL21	-5 Days =	13 JUL 2021	51	WED	621
18JUL21	-6 Days =	12 JUL 2021	7	TUE	95
18JUL21	-7 Days =	11 JUL 2021	0	MON	0
18JUL21	-8 Days =	10 JUL 2021	0	SUN	0
18JUL21	-9 Days =	09 JUL 2021	0	SAT	0
18JUL21	-10 Days =	08 JUL 2021	0	FRI	0
18JUL21	-11 Days =	07 JUL 2021	0	THU	0
18JUL21	-12 Days =	06 JUL 2021	0	WED	0
18JUL21	-13 Days =	05 JUL 2021	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)
18 JUL 2021	342	501	1881	5261
17 JUL 2021	344	842	2547	6308
16 JUL 2021	4	632	3661	7531
15 JUL 2021	4	750	3788	8686
14 JUL 2021	5	690	3145	7468
13 JUL 2021	-NR-	619	2371	5388
12 JUL 2021	343	1026	1897	4283
11 JUL 2021	5	1037	3659	6871
10 JUL 2021	6	1156	3652	7775
09 JUL 2021	-NR-	985	2550	5417
08 JUL 2021	-NR-	1039	2680	3465
07 JUL 2021	-NR-	1073	3194	5785
06 JUL 2021	1	678	2626	5362
05 JUL 2021	-NR-	503	1646	3432

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)
18 JUL 2021	-99	0	0	0	-NR-
17 JUL 2021	-115	0	0	0	-NR-
16 JUL 2021	-189	0	0	0	-NR-
15 JUL 2021	-191	0	0	0	-NR-
14 JUL 2021	-218	0	0	0	-NR-
13 JUL 2021	-108	0	0	0	-NR-
12 JUL 2021	-NR-	0	0	0	-NR-
11 JUL 2021	-NR-	0	0	0	-NR-
10 JUL 2021	0	0	0	0	-NR-
09 JUL 2021	-240	0	0	0	-NR-
08 JUL 2021	-NR-	0	0	0	-NR-
07 JUL 2021	-361	0	0	0	-NR-
06 JUL 2021	-421	0	0	0	-NR-
05 JUL 2021	-114	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)
18 JUL 2021	-372	-391	15
17 JUL 2021	-524	-731	34
16 JUL 2021	-1	220	-NR-
15 JUL 2021	-279	-134	55
14 JUL 2021	-504	-437	19
13 JUL 2021	-1046	-1440	27
12 JUL 2021	-577	-690	31
11 JUL 2021	-506	-788	38
10 JUL 2021	-433	-596	19
09 JUL 2021	-490	-534	31
08 JUL 2021	-550	-880	35
07 JUL 2021	-509	-773	30
06 JUL 2021	-1301	-1442	15
05 JUL 2021	-434	-542	29

*** 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

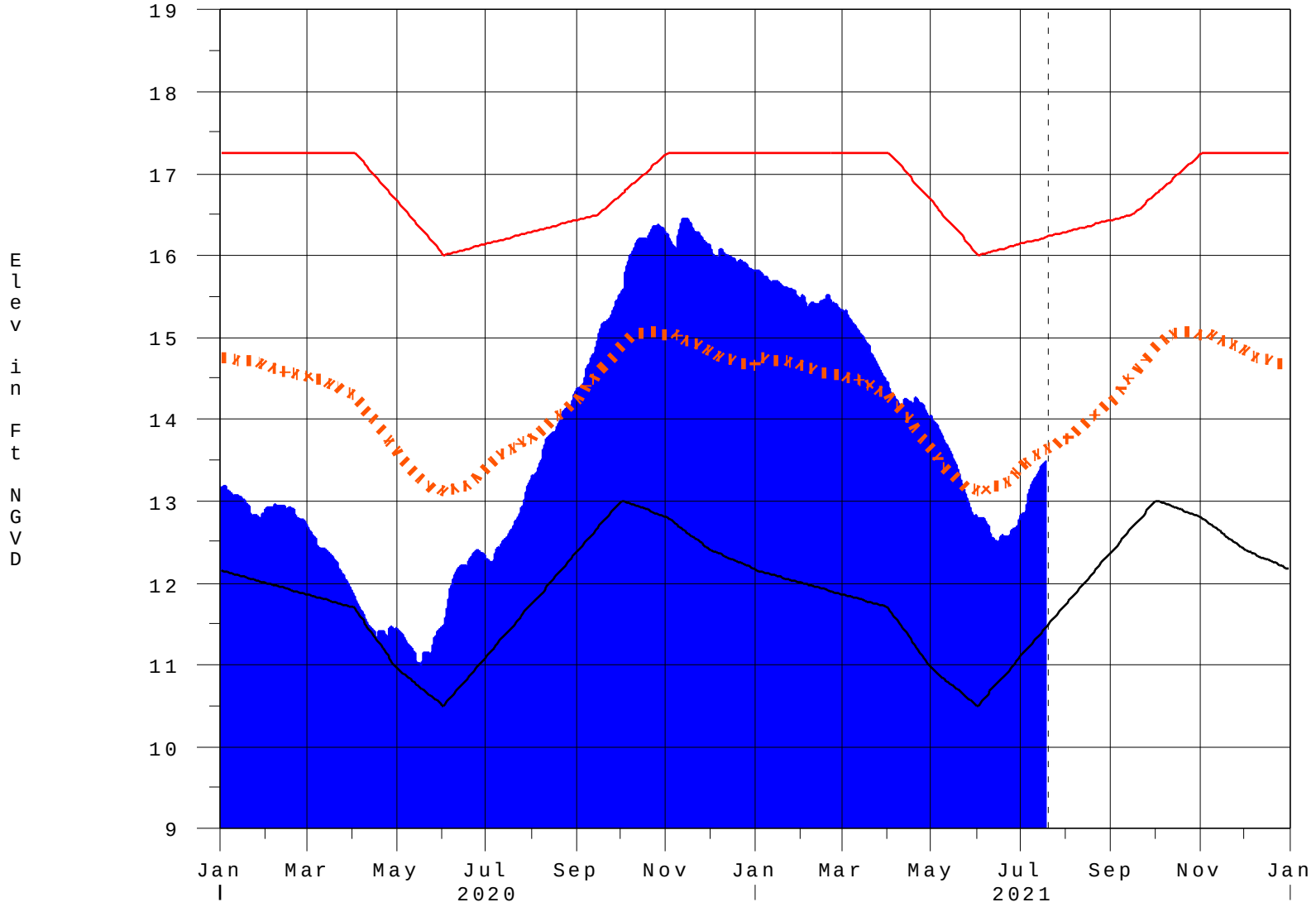
++ For more information see the Jacksonville District Navigation website
at http://www.saj.usace.army.mil/

$ For information regarding Lake Okeechobee Service Area water restrictions
please refer to www.sfwmd.gov

Report Generated 19JUL2021 @ 23:39 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

19JUL21 21:45:55



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

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