Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 8/2/2021 (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 (Aug-Jan)	N/A	N/A	1.97	Wet	1.97	Wet	3.29	Very Wet
Multi Seasonal (Aug-Apr)	N/A	N/A	2.33	Normal	1.92	Normal	3.36	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:

3733 cfs 14-day running average for Lake Okeechobee Net Inflow through 8/1/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Wet.

-1.58 for Palmer Drought Index on 7/31/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 8/2/2021:

Lake Okeechobee Stage: **13.72 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.29	
Operational Band	High sub-band	15.86	
	Intermediate sub-band	15.43	
	Low sub-band	13.58	← 13.72 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.7	
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 8/2/2021 (ENSO Condition- ENSO-neutral):

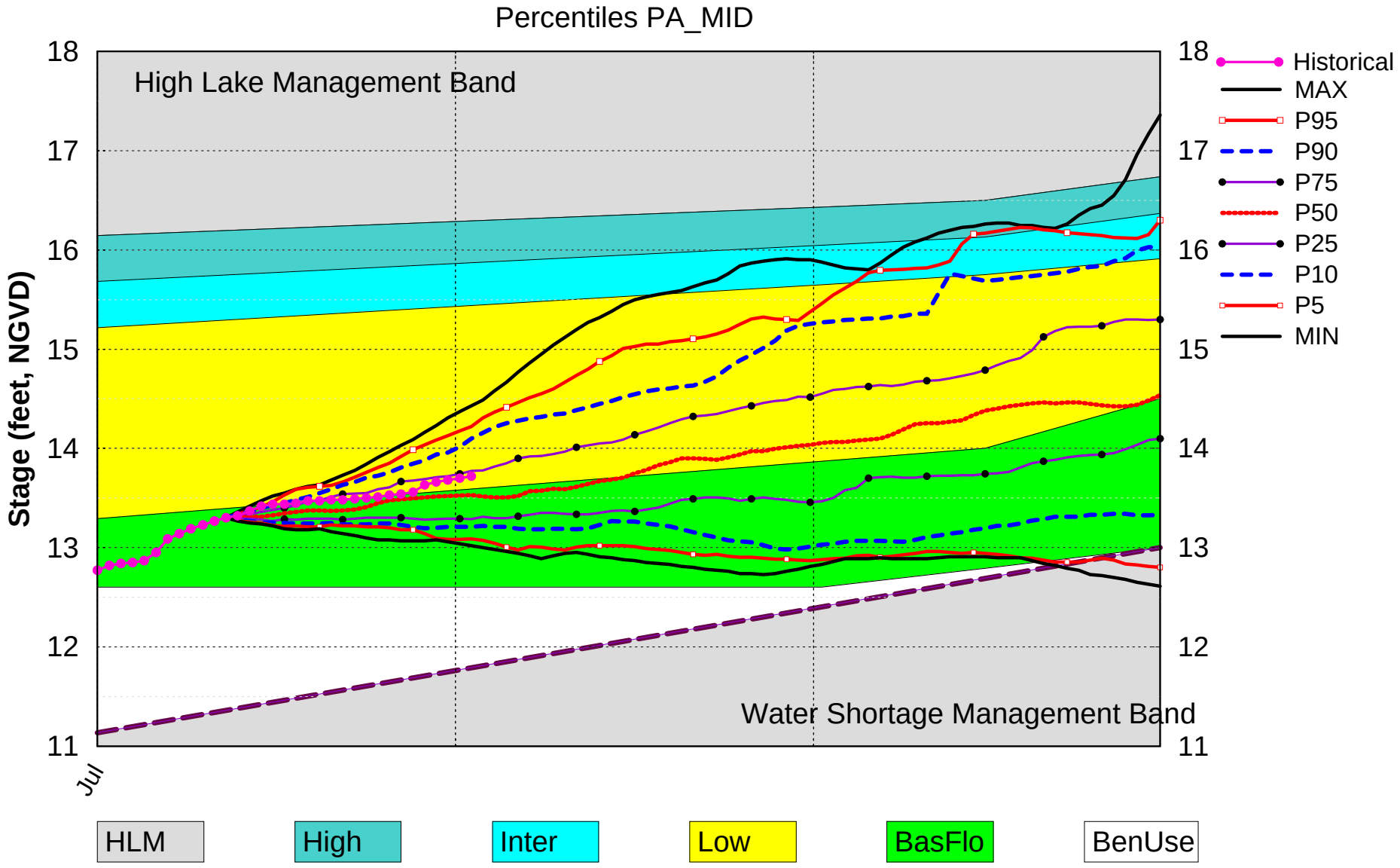
Status for week ending 8/2/2021:

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	-1.58 (Dry)	M
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	1.97 ft	L
	ENSO Forecast	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	1.92 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 2 Station Average (Site 1-8T and 1-9)	Above Line 1 (16.33 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.14 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.42 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.

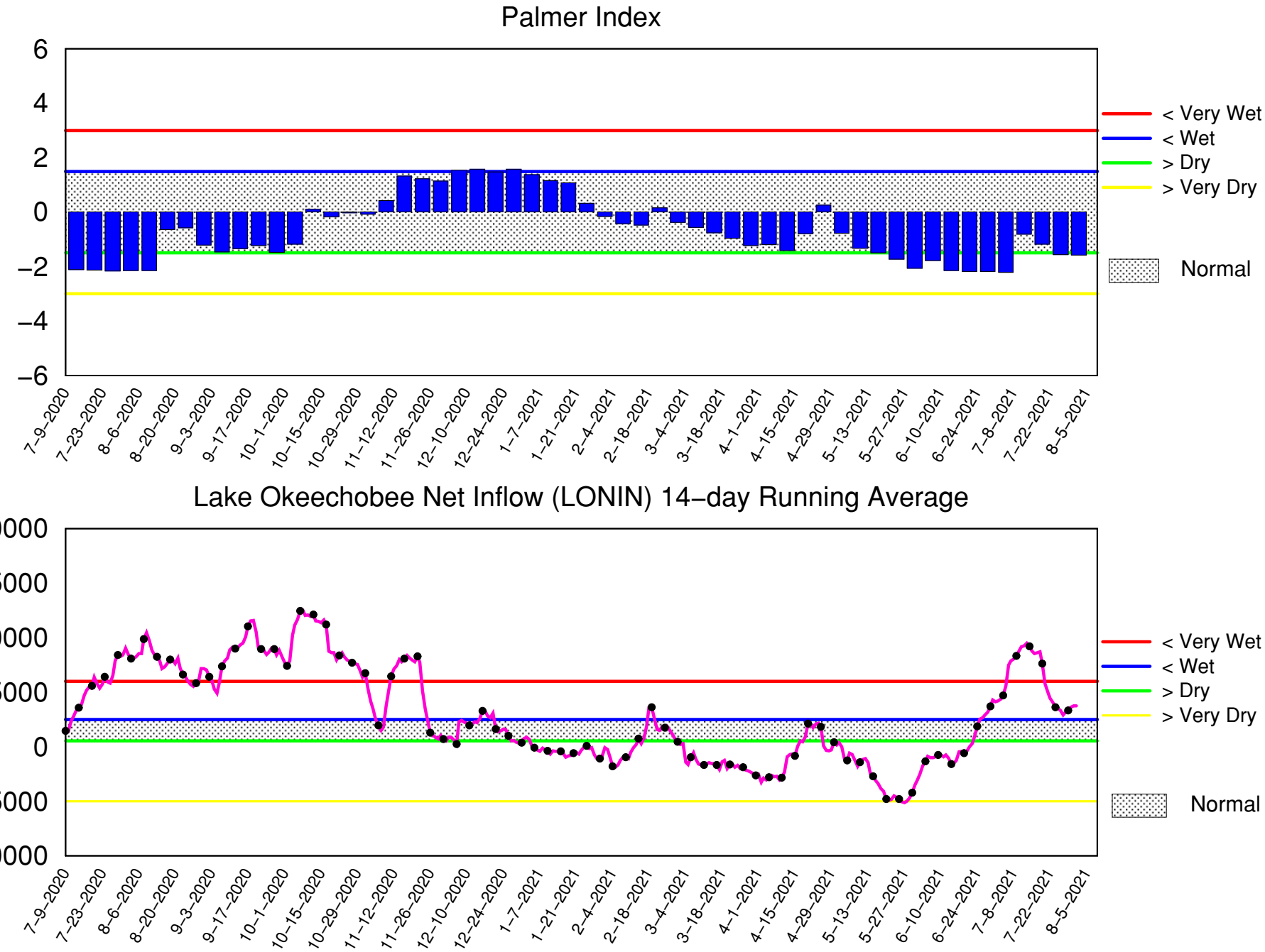
Lake Okeechobee SFWMM July 2021 Mid−Mon Position Analysis



(See assumptions on the Position Analysis Results website)

Tue Aug 03 07:18:11 EDT 2021

Tributary Basin Condition Indicators as of August 2 2021



Mon Aug 02 12:18:02 EDT 2021

2008 LORS

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

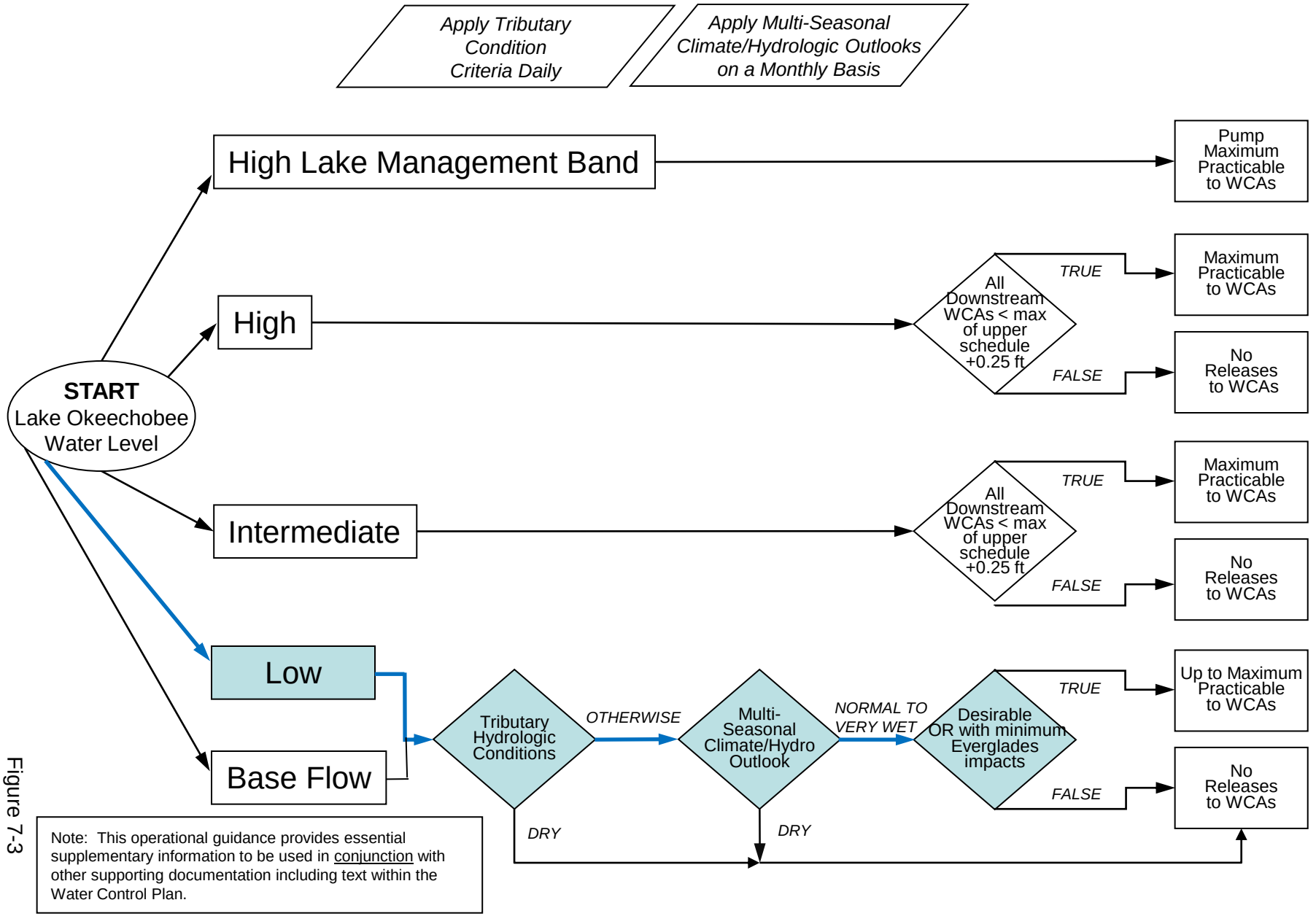


Figure 7-3

2008 LORS

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

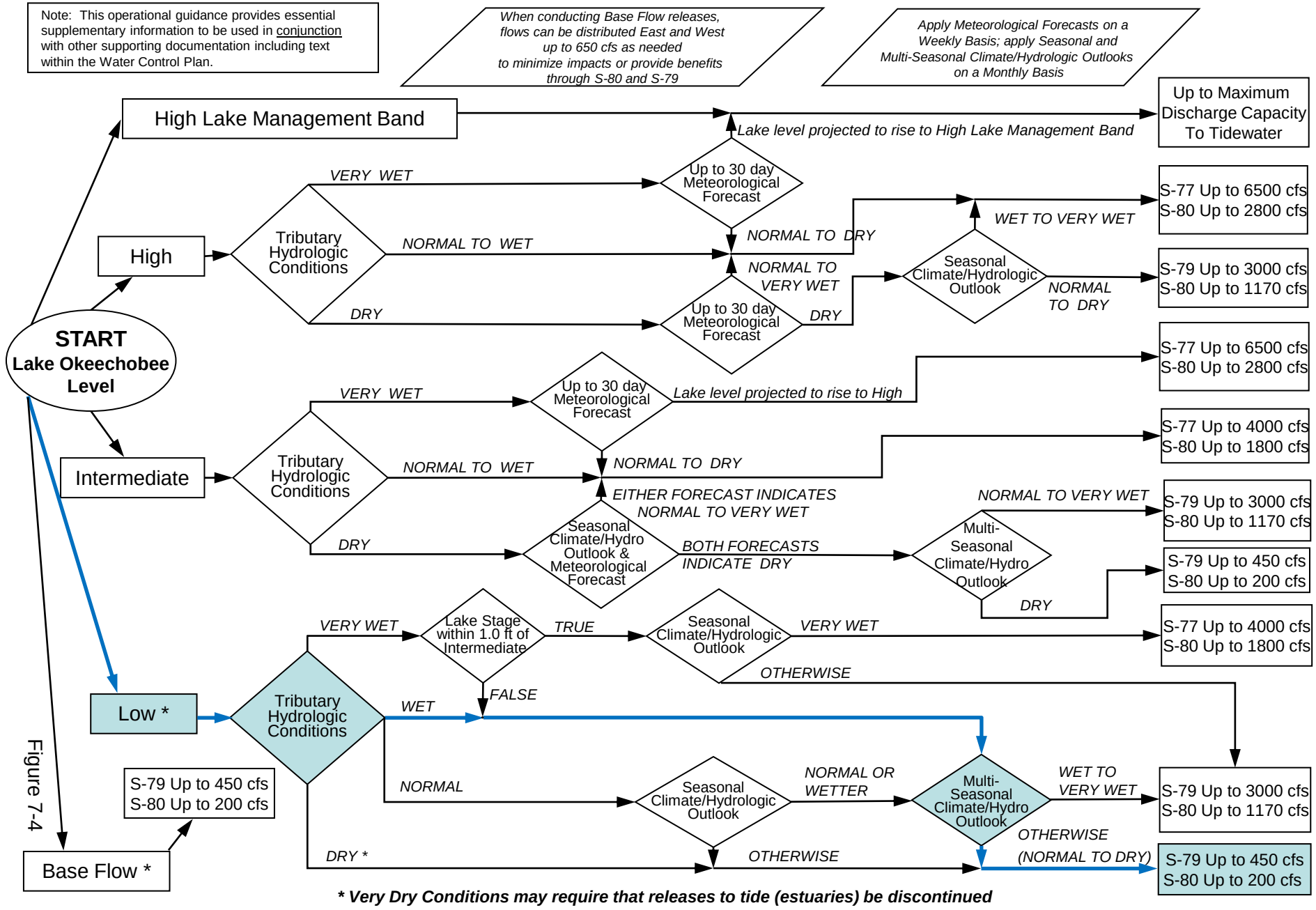
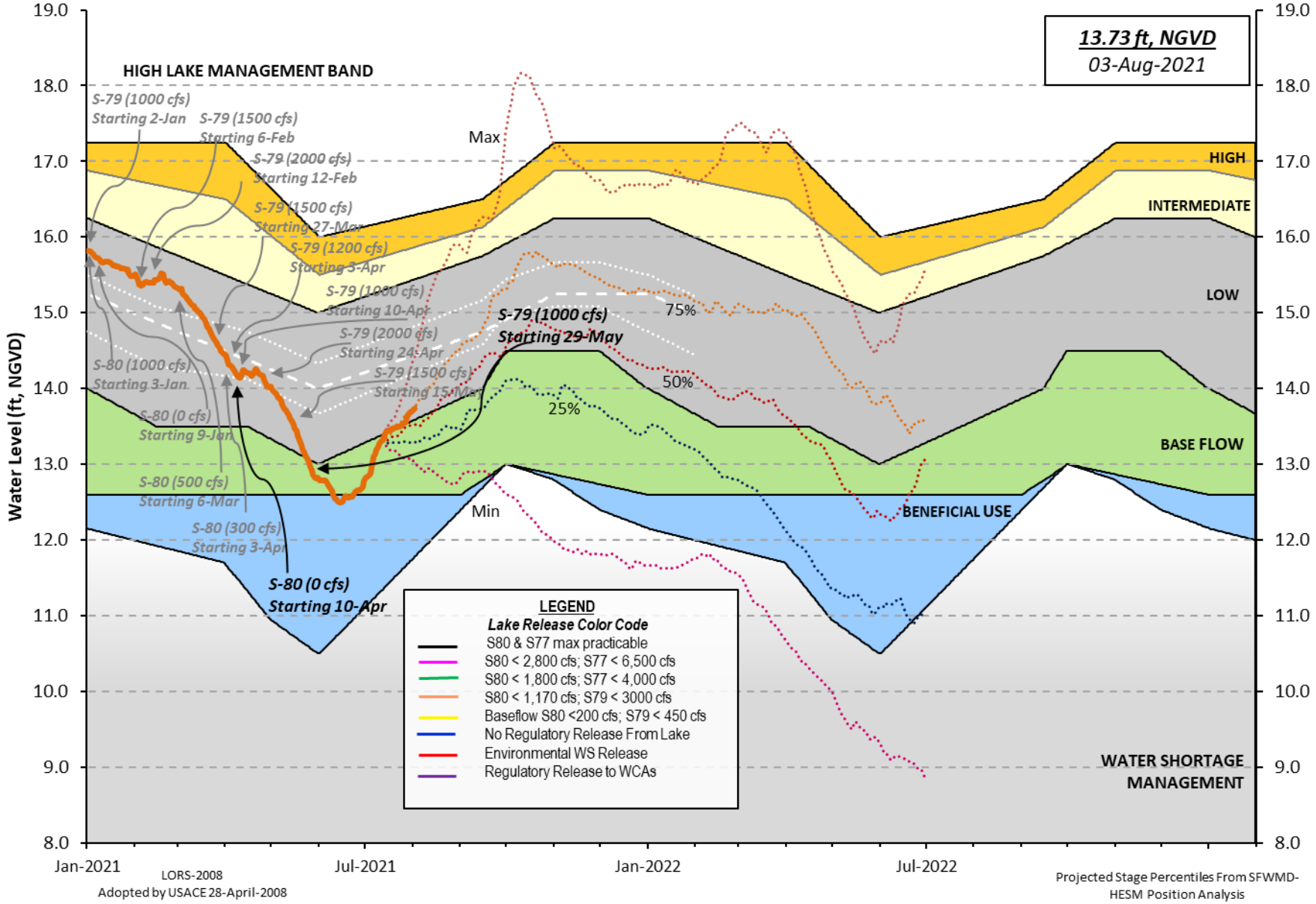


Figure 7-4

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 01 AUG 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)	
*Okeechobee Lake Elevation	13.72	13.31	11.71	(Official Elv)

Bottom of High Lake Mngmt= 16.29 Top of Water Short Mngmt= 11.76
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 12.70
Difference from Average LORS2008 1.02

01AUG (1965-2007) Period of Record Average 13.77
Difference from POR Average -0.05

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 7.66'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 5.86'
Bridge Clearance = 49.21'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
13.79	13.72	13.66	13.67	13.59	13.82	13.74	13.73

*Combination Okeechobee Avg-Daily Lake Average = 13.72 (*See Note)

Okeechobee Inflows (cfs):

S65E	1595	S65EX1	0	Fisheating Cr	172
S154	30	S191	0	S135 Pumps	0
S84	986	S133 Pumps	10	S2 Pumps	0
S84X	354	S127 Pumps	23	S3 Pumps	0
S71	310	S129 Pumps	18	S4 Pumps	0
S72	224	S131 Pumps	40	C5	0
Total Inflows:	3760				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	3
S127 Culverts	0	S351	0	S308	-184
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-NR-		
Total Outflows:	-182				

****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	0.90	S308	0.32

Average Pan Evap x 0.75 Pan Coefficient = 0.46" = 0.04'

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 4235 cfs or 8400 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:	13.27	13.77	10	0	0	11	0	0	(cfs)		
S193:											
S191:	18.26	13.78	0	0.0	0.0	0.0					
S135 Pumps:	13.30	13.73	0	0	0	0	0	(cfs)			
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.11	13.50	1595	0.5	0.5	0.7	1.1	1.1	-0.0		
S65EX1:	21.11	13.50	0								
S127 Pumps:	13.31	13.66	23	0	22	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.84	13.66	18	19	0	0	(cfs)				
S129 Culvert:			0	0.0							
S131 Pumps:	12.95	13.60	40	44	0	(cfs)					
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		31.52	172								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.15	13.56	0	0	0	0	(cfs)				
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	13.49		-2								
S3 Pumps:	9.25	13.66	0	0	0	0	(cfs)				
S354:	13.66	9.25	0	0.0	0.0						
S2 Pumps:	9.55	-NR-	0	-NR-	-NR-	-NR-	-NR-	(cfs)			
S351:	-NR-	9.55	0	0.0	0.0	0.0					
S352:	13.77	9.57	0	0.0	0.0						
C10A:	-NR-	13.63		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT			-NR-								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	9.55	-NR-	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	9.57	13.77	0	-NR-	-NR-	-NR-	-NR-				
S354:	9.25	13.66	0	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	13.72	12.56		0.0	0.0						
S47D:	12.55	11.10	0	0.0							
S77:											
Spillway and Sector Preferred Flow:											
	13.58	11.02	0	0.0	0.0	0.0	0.0				
Flow Due to Lockages+:			3								
S78:											

```
    Spillway and Sector Flow:
              11.00      3.00     593    1.0  0.0  0.0  1.0
    Flow Due to Lockages+:          13

  S79:
    Spillway and Sector Flow:
               3.20      1.61    1803    1.0  1.0  1.0  1.5  1.0  1.0  1.0  1.0
    Flow Due to Lockages+:           9
    Percent of flow from S77         0%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              13.82     14.29    -184  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          -0

  S153:        18.67     13.91      61    0.0  0.0
  S80:
    Spillway and Sector Flow:
              14.19      0.23       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           6
    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:	5.03	5.03	6.56	192	7
S78:	3.90	3.90	4.78	201	2
S79:	23.19	23.19	28.55	60	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:	37.17	37.20	39.34	142	5
S80:	13.64	13.64	14.24	253	3
Okeechobee Average (Sites S78, S79 and S80 not included)	21.10	3.25	3.53		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

```
Okeechobee Lake Elevations  01 AUG 2021          13.72 Difference from 01AUG21
   01AUG21  -1 Day  =       31 JUL 2021          13.70            -0.02
```

01AUG21	-2 Days =	30 JUL 2021	13.68	-0.04
01AUG21	-3 Days =	29 JUL 2021	13.66	-0.06
01AUG21	-4 Days =	28 JUL 2021	13.63	-0.09
01AUG21	-5 Days =	27 JUL 2021	13.56	-0.16
01AUG21	-6 Days =	26 JUL 2021	13.54	-0.18
01AUG21	-7 Days =	25 JUL 2021	13.53	-0.19
01AUG21	-30 Days =	02 JUL 2021	12.84	-0.88
01AUG21	-1 Year =	01 AUG 2020	13.31	-0.41
01AUG21	-2 Year =	01 AUG 2019	11.71	-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
01AUG21	Today =	01 AUG 2021	3919	MON	4235
01AUG21	-1 Day =	31 JUL 2021	3929	SUN	4235
01AUG21	-2 Days =	30 JUL 2021	3791	SAT	4235
01AUG21	-3 Days =	29 JUL 2021	3493	FRI	6353
01AUG21	-4 Days =	28 JUL 2021	3334	THU	14823
01AUG21	-5 Days =	27 JUL 2021	3024	WED	4235
01AUG21	-6 Days =	26 JUL 2021	3478	TUE	2409
01AUG21	-7 Days =	25 JUL 2021	3626	MON	4235
01AUG21	-8 Days =	24 JUL 2021	3777	SUN	2362
01AUG21	-9 Days =	23 JUL 2021	4213	SAT	2395
01AUG21	-10 Days =	22 JUL 2021	4353	FRI	2245
01AUG21	-11 Days =	21 JUL 2021	4995	THU	149
01AUG21	-12 Days =	20 JUL 2021	5798	WED	2700
01AUG21	-13 Days =	19 JUL 2021	7812	TUE	250

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
01AUG21	Today=	01 AUG 2021	1646	MON	1772
01AUG21	-1 Day =	31 JUL 2021	1613	SUN	1639
01AUG21	-2 Days =	30 JUL 2021	1591	SAT	1656
01AUG21	-3 Days =	29 JUL 2021	1567	FRI	1839
01AUG21	-4 Days =	28 JUL 2021	1533	THU	1800
01AUG21	-5 Days =	27 JUL 2021	1503	WED	1794
01AUG21	-6 Days =	26 JUL 2021	1431	TUE	1916
01AUG21	-7 Days =	25 JUL 2021	1383	MON	1509
01AUG21	-8 Days =	24 JUL 2021	1368	SUN	1510
01AUG21	-9 Days =	23 JUL 2021	1354	SAT	1508
01AUG21	-10 Days =	22 JUL 2021	1326	FRI	1542
01AUG21	-11 Days =	21 JUL 2021	1315	THU	1625
01AUG21	-12 Days =	20 JUL 2021	1286	WED	1604
01AUG21	-13 Days =	19 JUL 2021	1256	TUE	1334

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
01AUG21	Today=	01 AUG 2021	0	MON	0
01AUG21	-1 Day =	31 JUL 2021	0	SUN	0
01AUG21	-2 Days =	30 JUL 2021	0	SAT	0
01AUG21	-3 Days =	29 JUL 2021	0	FRI	0
01AUG21	-4 Days =	28 JUL 2021	0	THU	0
01AUG21	-5 Days =	27 JUL 2021	0	WED	0
01AUG21	-6 Days =	26 JUL 2021	44	TUE	0
01AUG21	-7 Days =	25 JUL 2021	51	MON	0
01AUG21	-8 Days =	24 JUL 2021	51	SUN	0
01AUG21	-9 Days =	23 JUL 2021	51	SAT	0
01AUG21	-10 Days =	22 JUL 2021	51	FRI	0
01AUG21	-11 Days =	21 JUL 2021	51	THU	0
01AUG21	-12 Days =	20 JUL 2021	51	WED	0
01AUG21	-13 Days =	19 JUL 2021	51	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)
01 AUG 2021	6	40	1209	3630
31 JUL 2021	9	277	1624	4620
30 JUL 2021	9	718	3416	7476
29 JUL 2021	3	475	2259	5390
28 JUL 2021	2	167	1595	5210
27 JUL 2021	1	305	1281	4155
26 JUL 2021	3	339	1117	3307
25 JUL 2021	9	174	970	3196
24 JUL 2021	7	225	907	3994
23 JUL 2021	4	90	468	2664
22 JUL 2021	7	376	1066	4292
21 JUL 2021	5	485	1283	4341
20 JUL 2021	4	234	1378	5174
19 JUL 2021	390	780	1739	4364

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)
01 AUG 2021	-3	0	0	0	-NR-
31 JUL 2021	15	0	0	0	-NR-
30 JUL 2021	25	0	0	0	-NR-
29 JUL 2021	-11	0	0	0	-NR-
28 JUL 2021	32	0	0	0	-NR-
27 JUL 2021	31	0	0	0	-NR-
26 JUL 2021	27	237	0	340	-NR-
25 JUL 2021	-31	0	0	0	-NR-
24 JUL 2021	-50	0	484	0	-NR-
23 JUL 2021	1	89	560	0	-NR-
22 JUL 2021	-62	90	264	0	-NR-
21 JUL 2021	-26	295	0	0	-NR-
20 JUL 2021	17	754	362	0	-NR-
19 JUL 2021	15	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)
01 AUG 2021	-361	-416	12
31 JUL 2021	-2	112	61
30 JUL 2021	-1	-118	37
29 JUL 2021	-322	-483	30
28 JUL 2021	-28	-212	11
27 JUL 2021	-0	-76	18
26 JUL 2021	-437	-753	14
25 JUL 2021	-158	-139	40
24 JUL 2021	-0	32	40
23 JUL 2021	1	-238	37
22 JUL 2021	-0	-27	34
21 JUL 2021	-0	-166	15
20 JUL 2021	-1	-229	34
19 JUL 2021	-214	-351	65

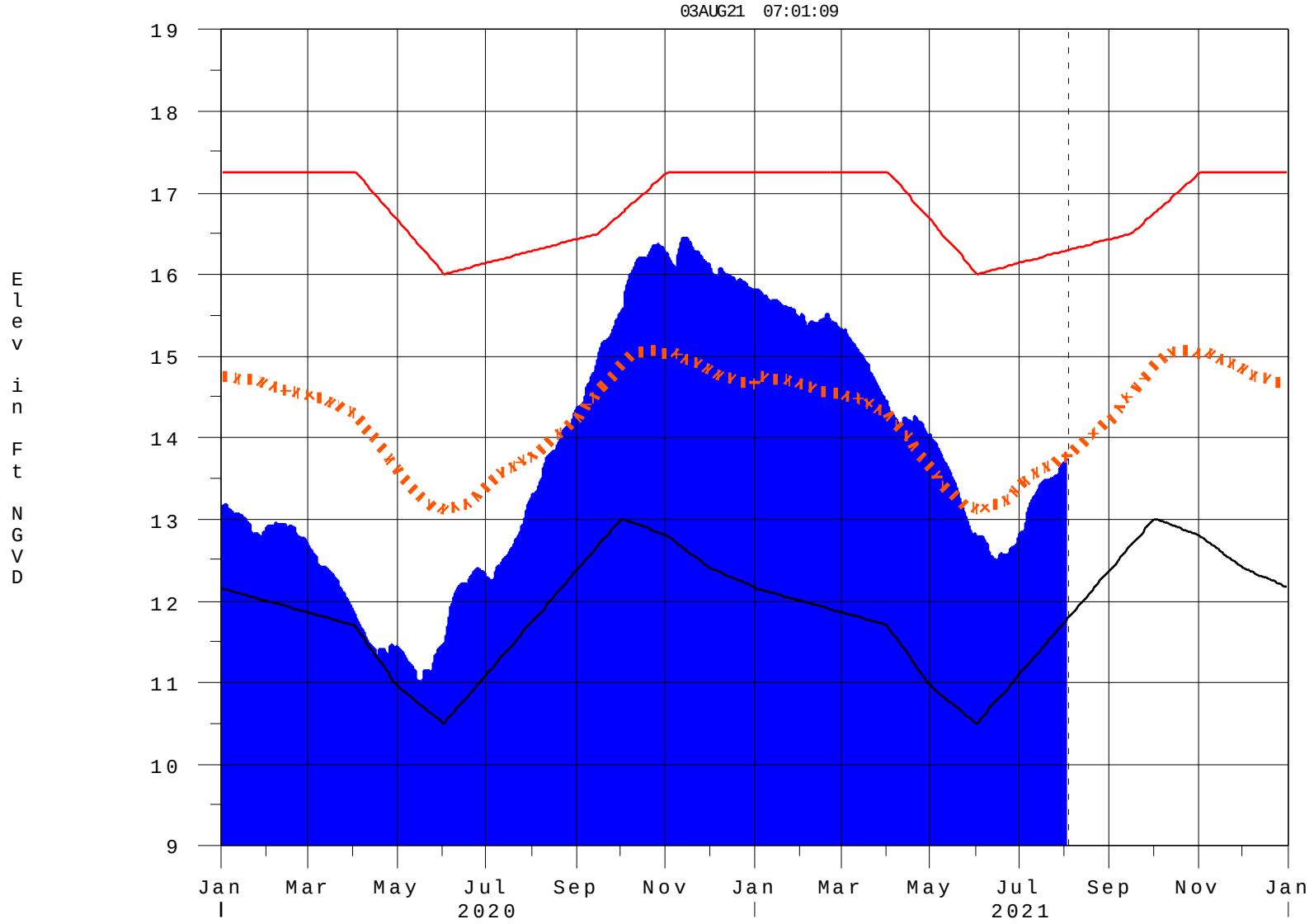
*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

(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 02AUG2021 @ 23:39 ** 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