Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 1/25/2021 (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 (Jan-Jun)	N/A	N/A	0.31	Dry	-0.12	Dry	0.14	Dry
Multi Seasonal (Jan-Oct)	N/A	N/A	2.83	Wet	2.15	Normal	2.09	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:

-81 cfs 14-day running average for Lake Okeechobee Net Inflow through 1/24/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

0.32 for Palmer Drought Index on 1/23/2021.
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 1/25/2021:

Lake Okeechobee Stage: **15.58 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.78	
	Intermediate sub-band	16.06	
	Low sub-band	13.74	← 15.58 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		12.03	
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 1/25/2021 (ENSO Condition- La Nina):

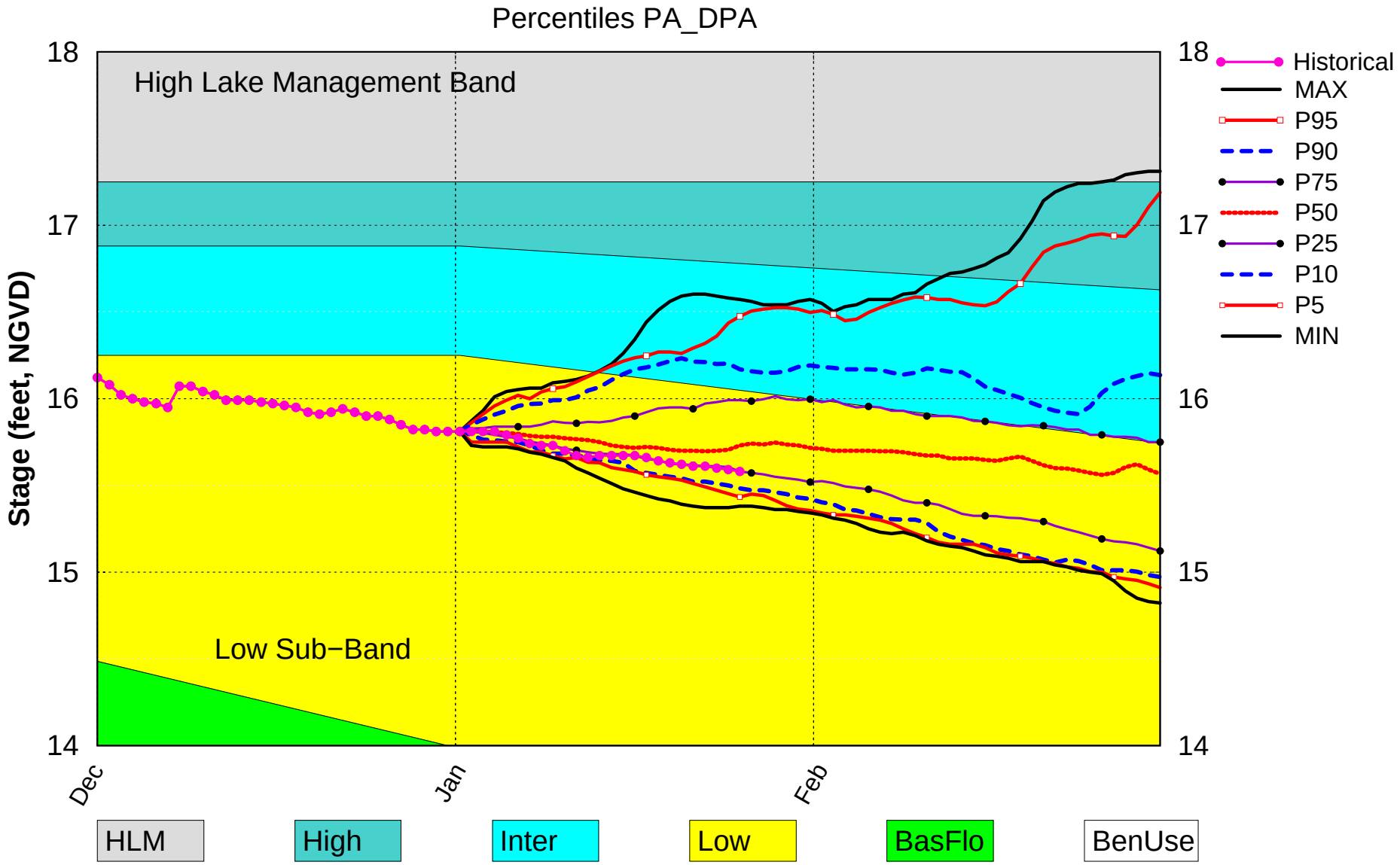
Status for week ending 1/25/2021:

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	0.32 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	-0.12 ft	H
	ENSO Forecast	Extremely Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.15 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.06 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.93 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.88 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.

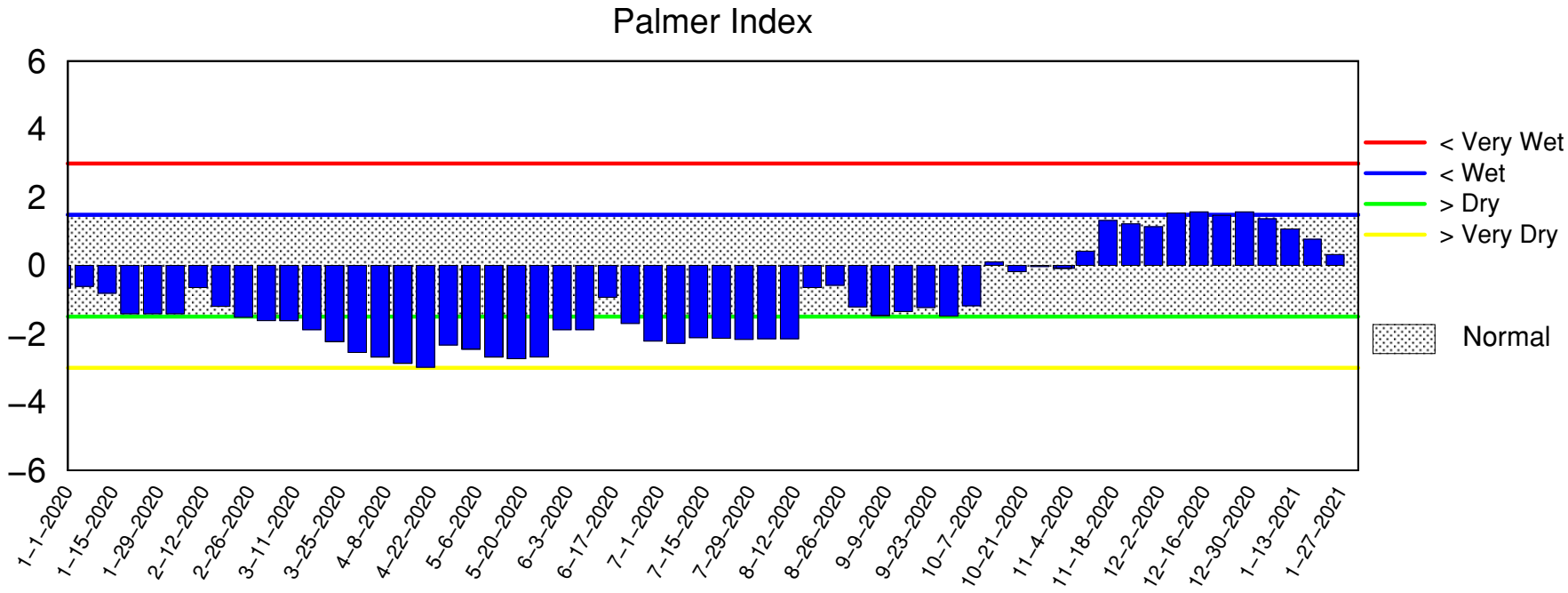
Lake Okeechobee SFWMM Jan 2021 Position Analysis

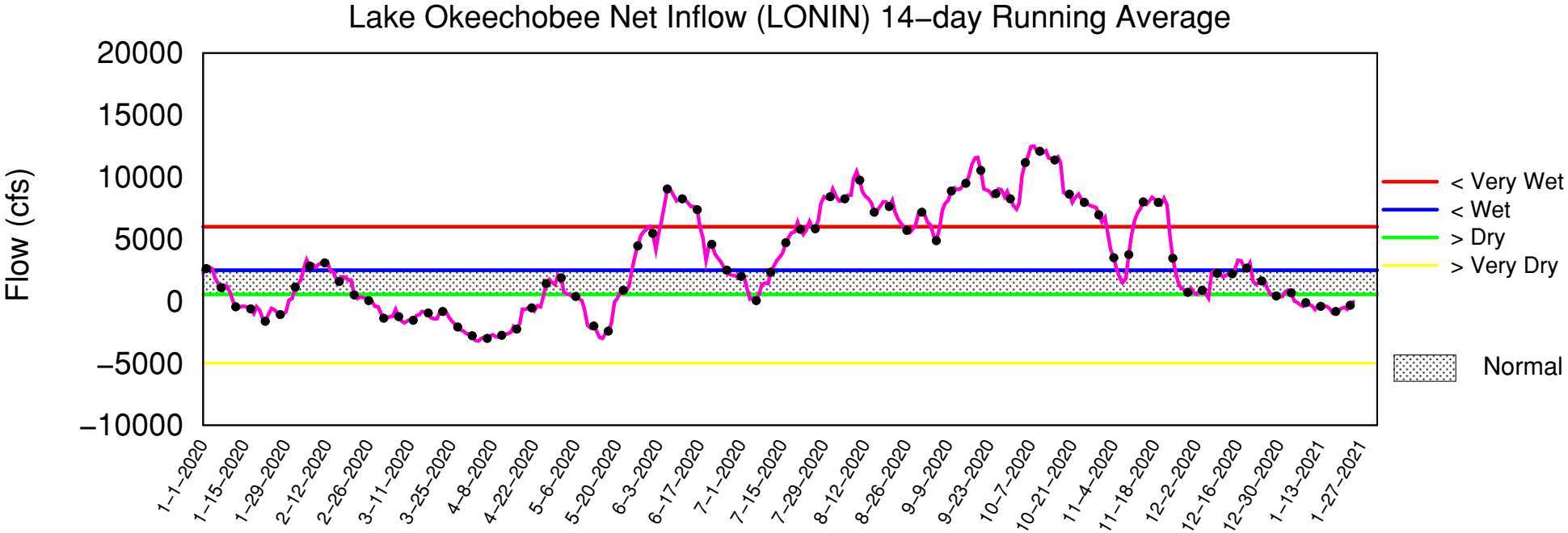


(See assumptions on the Position Analysis Results website)

Mon Jan 25 13:51:43 EST 2021

Tributary Basin Condition Indicators as of January 25 2021





Mon Jan 25 13:51:29 EST 2021

2008 LORS

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

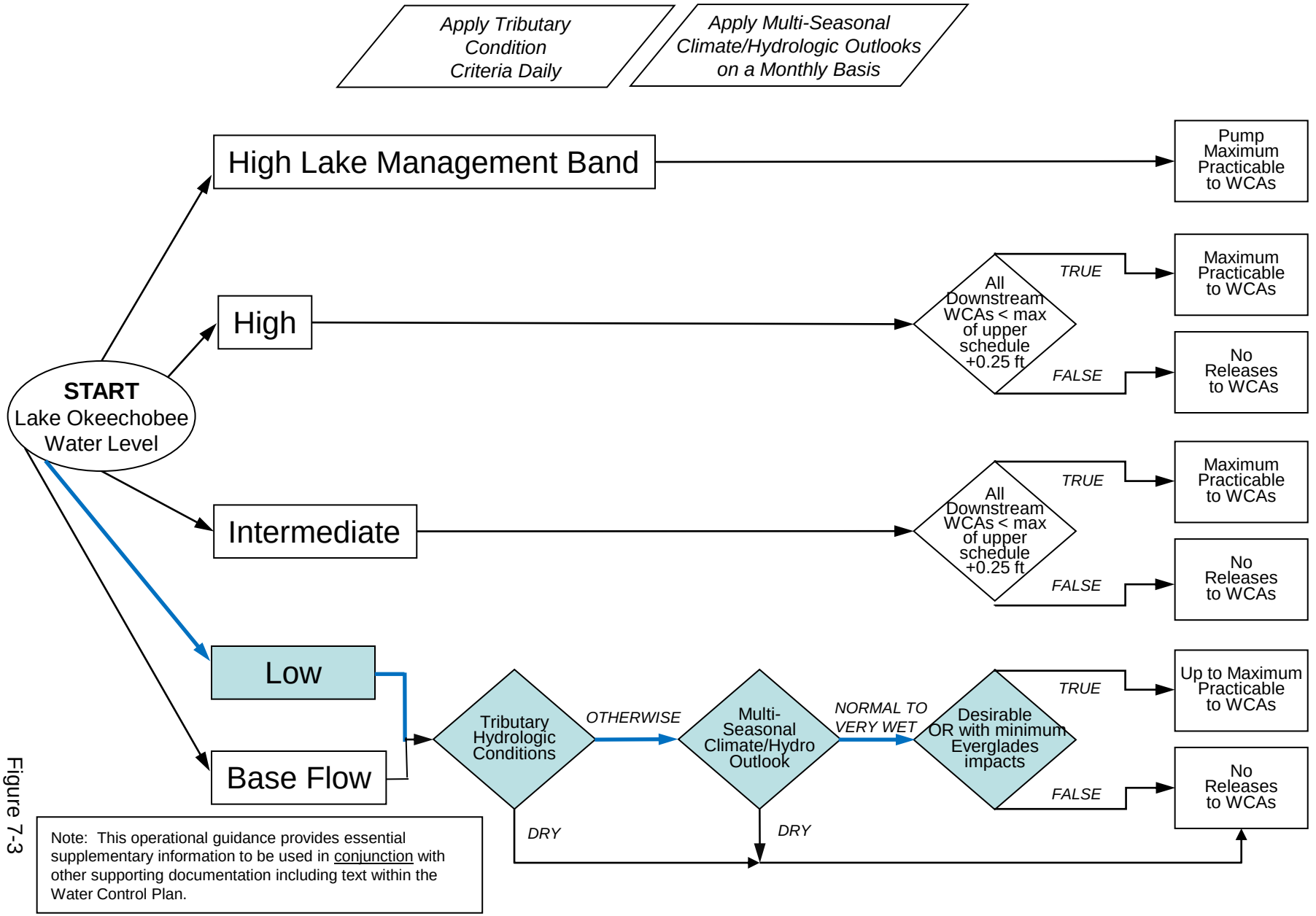


Figure 7-3

2008 LORS

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

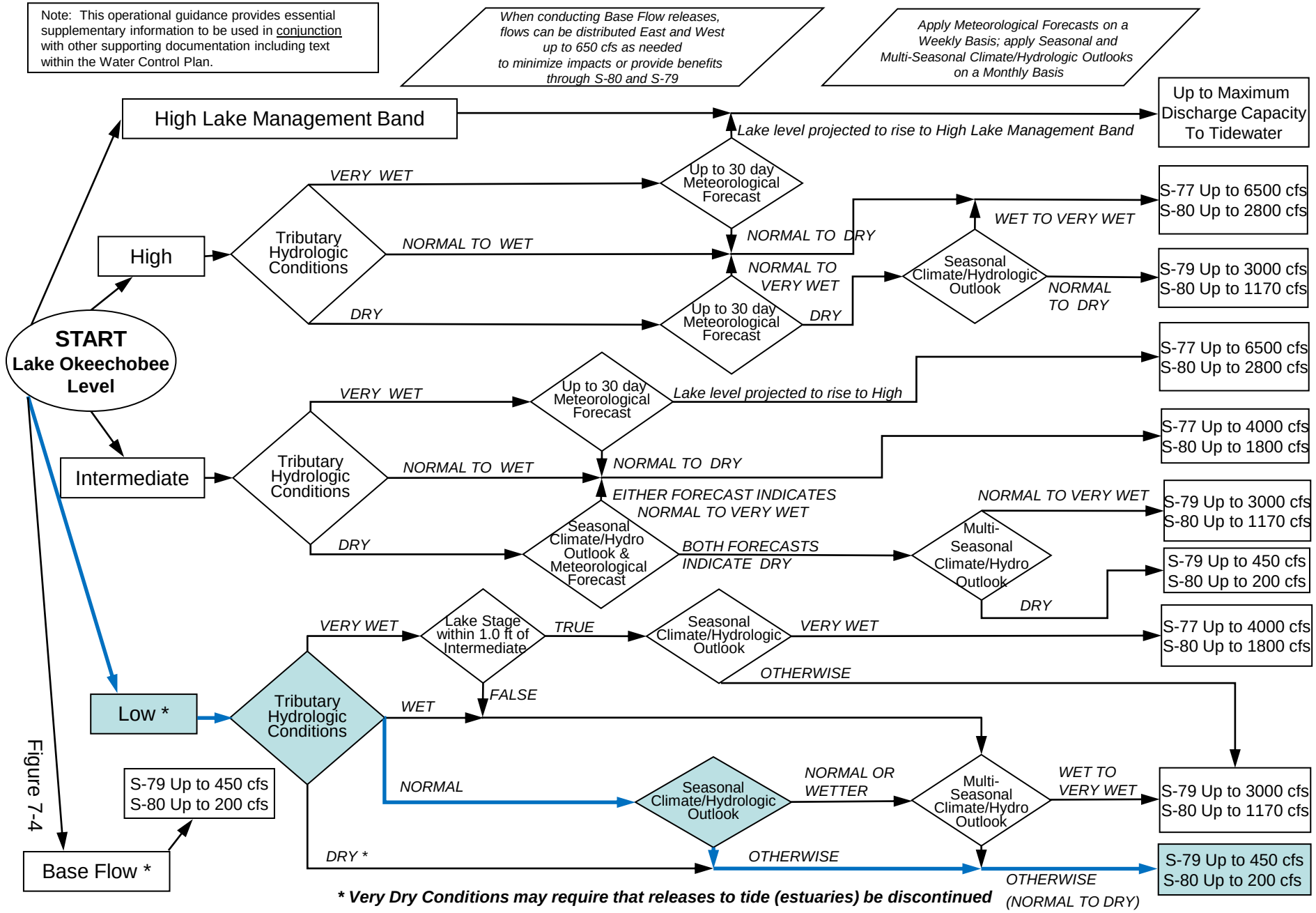
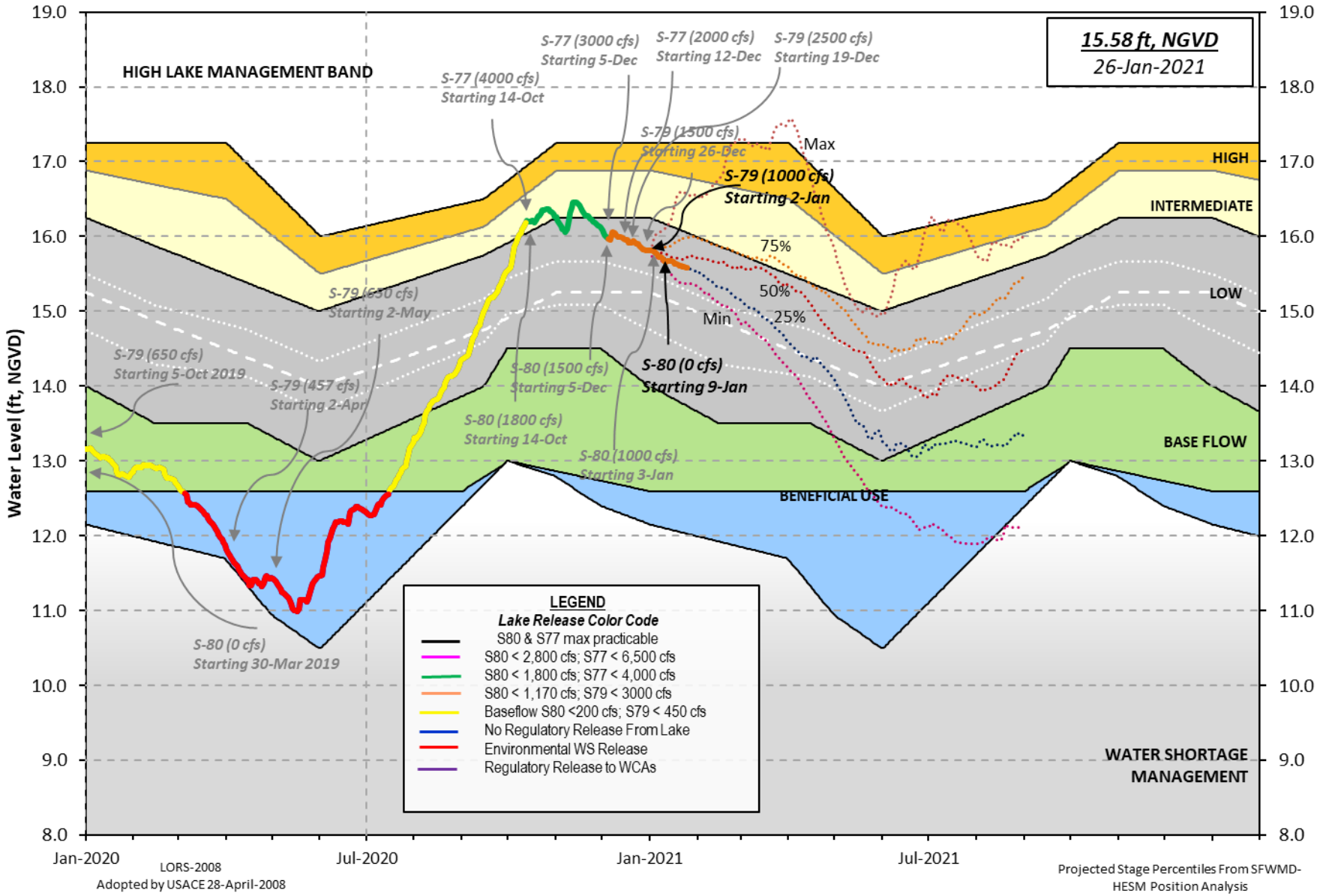


Figure 7-4

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 24 JAN 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.58	12.83	12.32 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.03
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] -NR-
Difference from Average LORS2008 -NR-

24JAN (1965-2007) Period of Record Average 14.69
Difference from POR Average 0.89

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.52'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.72'
Bridge Clearance = 49.62'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.54	15.61	15.59	15.56	15.59	15.69	15.58	15.49

*Combination Okeechobee Avg-Daily Lake Average = 15.58
(*See Note)

Okeechobee Inflows (cfs):

S65E	80	S65EX1	876	Fisheating Cr	20
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: 976

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	226	S77	-NR-
S127 Culverts	0	S351	342	S308	-NR-
S129 Culverts	0	S352	99		
S131 Culverts	0	L8 Canal Pt	1		

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 -NR- 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 -2168 cfs or -4300 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:	13.64	15.52	0	0	0	0	0	0				(cfs)
S193:												
S191:	18.99	15.52	0	0.0	0.0	0.0						
S135 Pumps:	13.46	15.45	0	0	0	0	0					(cfs)
S135 Culverts:			0	0.1	0.0							
North West Shore												
S65E:	21.07	15.30	80	0.4	0.5	0.5	0.5	0.5	0.4			
S65EX1:	21.07	15.30	876									
S127 Pumps:	13.50	15.52	0	0	0	0	0	0				(cfs)
S127 Culvert:			0	0.0								
S129 Pumps:	12.96	15.58	0	0	0	0						(cfs)
S129 Culvert:			0	0.0								
S131 Pumps:	12.96	15.60	0	0	0							(cfs)
S131 Culvert:			0									
Fisheating Creek												
nr Palmdale		28.86	20									
nr Lakeport												
C5:		-NR-	0	-NR-	-NR-	-NR-						
South Shore												
S4 Pumps:	11.80	15.57	0	0	0	0						(cfs)
S169:	15.54	11.97	191	1.5	1.5	1.0						
S310:	15.51		181									
S3 Pumps:	10.47	15.56	0	0	0	0						(cfs)
S354:	15.56	10.47	226	0.2	0.2							
S2 Pumps:	10.41	-NR-	0	-NR-	-NR-	-NR-	-NR-					(cfs)
S351:	-NR-	10.41	342	0.2	0.3	0.2						
S352:	15.65	10.39	99	0.0	0.2							
C10A:	-NR-	13.40		8.0	8.0	8.0	0.0	0.0				
L8 Canal PT		13.42	1									
S351 and S352 Temporary Pumps/S354 Spillway												
S351:	10.41	-NR-	342	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-			
S352:	10.39	15.65	99	-NR-	-NR-	-NR-	-NR-					
S354:	10.47	15.56	226	-NR-	-NR-	-NR-	-NR-					
Caloosahatchee River (S77, S78, S79)												
S47B:	14.22	11.33		0.5	1.0							
S47D:	11.30	11.29	46	6.0								

```
  S77:
    Spillway and Sector Preferred Flow:
              15.44     11.14     657  0.0  2.5  0.0  0.0
    Flow Due to Lockages+:        -NR-

  S78:
    Spillway and Sector Flow:
              11.20      3.04     496    0.5  0.0  0.0  1.0
    Flow Due to Lockages+:        -NR-

  S79:
    Spillway and Sector Flow:
               3.25      1.80     592    0.0  1.0  1.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:        -NR-
    Percent of flow from S77       111%
    Chloride            (ppm)     -N


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              15.57     13.88       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:        -NR-

  S153:        18.71     13.54      48    0.0  0.0
  S80:
    Spillway and Sector Flow:
              13.76      0.24       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:        -NR-
    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	0.00	107	4
S78:	0.00	0.00	0.00	250	0
S79:	0.00	0.00	0.00	324	0
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	0.00	77	4
S80:	0.00	0.00	0.00	87	2
Okeechobee Average	0.00	0.00	0.00		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg	-NR-	0.00	0.00

Okeechobee Lake Elevations				24 JAN 2021	15.58	Difference from 24JAN21
24JAN21	-1 Day	=	23 JAN 2021		15.59	0.01
24JAN21	-2 Days	=	22 JAN 2021		15.60	0.02
24JAN21	-3 Days	=	21 JAN 2021		15.61	0.03
24JAN21	-4 Days	=	20 JAN 2021		15.61	0.03
24JAN21	-5 Days	=	19 JAN 2021		15.62	0.04
24JAN21	-6 Days	=	18 JAN 2021		15.63	0.05
24JAN21	-7 Days	=	17 JAN 2021		15.64	0.06
24JAN21	-30 Days	=	25 DEC 2020		15.88	0.30
24JAN21	-1 Year	=	24 JAN 2020		12.83	-2.75
24JAN21	-2 Year	=	24 JAN 2019		12.32	-3.26

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
24JAN21	Today	=	24 JAN 2021	-81	MON	-843
24JAN21	-1 Day	=	23 JAN 2021	-360	SUN	-338
24JAN21	-2 Days	=	22 JAN 2021	-693	SAT	-183
24JAN21	-3 Days	=	21 JAN 2021	-525	FRI	1958
24JAN21	-4 Days	=	20 JAN 2021	-608	THU	-571
24JAN21	-5 Days	=	19 JAN 2021	-810	WED	-765
24JAN21	-6 Days	=	18 JAN 2021	-873	TUE	-1019
24JAN21	-7 Days	=	17 JAN 2021	-970	MON	-3189
24JAN21	-8 Days	=	16 JAN 2021	-611	SUN	-1106
24JAN21	-9 Days	=	15 JAN 2021	-422	SAT	1029
24JAN21	-10 Days	=	14 JAN 2021	-454	FRI	682
24JAN21	-11 Days	=	13 JAN 2021	-426	THU	698
24JAN21	-12 Days	=	12 JAN 2021	-404	WED	3247
24JAN21	-13 Days	=	11 JAN 2021	-677	TUE	-740

S65E

			Average Flow over previous 14 days			Avg-Daily Flow
24JAN21	Today	=	24 JAN 2021	651	MON	68
24JAN21	-1 Day	=	23 JAN 2021	708	SUN	0
24JAN21	-2 Days	=	22 JAN 2021	774	SAT	93
24JAN21	-3 Days	=	21 JAN 2021	823	FRI	661
24JAN21	-4 Days	=	20 JAN 2021	831	THU	872
24JAN21	-5 Days	=	19 JAN 2021	803	WED	983
24JAN21	-6 Days	=	18 JAN 2021	733	TUE	752
24JAN21	-7 Days	=	17 JAN 2021	691	MON	966
24JAN21	-8 Days	=	16 JAN 2021	668	SUN	798
24JAN21	-9 Days	=	15 JAN 2021	657	SAT	783
24JAN21	-10 Days	=	14 JAN 2021	647	FRI	787
24JAN21	-11 Days	=	13 JAN 2021	636	THU	786
24JAN21	-12 Days	=	12 JAN 2021	647	WED	776
24JAN21	-13 Days	=	11 JAN 2021	671	TUE	785

S65EX1

			Average Flow over previous 14 days			Avg-Daily Flow
24JAN21	Today	=	24 JAN 2021	206	MON	876
24JAN21	-1 Day	=	23 JAN 2021	144	SUN	978
24JAN21	-2 Days	=	22 JAN 2021	74	SAT	857

24JAN21	-3 Days =	21 JAN 2021	12	FRI	173
24JAN21	-4 Days =	20 JAN 2021	0	THU	0
24JAN21	-5 Days =	19 JAN 2021	31	WED	0
24JAN21	-6 Days =	18 JAN 2021	103	TUE	0
24JAN21	-7 Days =	17 JAN 2021	152	MON	0
24JAN21	-8 Days =	16 JAN 2021	174	SUN	0
24JAN21	-9 Days =	15 JAN 2021	199	SAT	0
24JAN21	-10 Days =	14 JAN 2021	222	FRI	0
24JAN21	-11 Days =	13 JAN 2021	252	THU	0
24JAN21	-12 Days =	12 JAN 2021	252	WED	0
24JAN21	-13 Days =	11 JAN 2021	252	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)
24 JAN 2021	-NR-	1553	-NR-	-NR-
23 JAN 2021	-NR-	1551	-NR-	-NR-
22 JAN 2021	-NR-	1621	-NR-	-NR-
21 JAN 2021	-NR-	1722	-NR-	1640
20 JAN 2021	-NR-	1870	1052	1784
19 JAN 2021	-NR-	2483	1037	1810
18 JAN 2021	-NR-	1602	1031	2046
17 JAN 2021	-NR-	951	1013	2621
16 JAN 2021	-NR-	889	1009	1995
15 JAN 2021	-NR-	1565	1186	2017
14 JAN 2021	-NR-	1643	1604	2102
13 JAN 2021	-NR-	1567	1420	2071
12 JAN 2021	-NR-	1419	901	1935
11 JAN 2021	-NR-	1011	950	1829

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)
24 JAN 2021	359	678	196	449	2
23 JAN 2021	176	1285	282	757	-2
22 JAN 2021	195	1521	417	704	-3
21 JAN 2021	326	1339	627	638	-4
20 JAN 2021	377	1182	335	377	-6
19 JAN 2021	405	807	329	354	-3
18 JAN 2021	333	405	254	297	-5
17 JAN 2021	294	489	177	299	-5
16 JAN 2021	338	583	113	134	-5
15 JAN 2021	331	132	318	312	-3
14 JAN 2021	308	58	0	0	-7
13 JAN 2021	298	85	0	0	-6
12 JAN 2021	254	540	103	153	-4
11 JAN 2021	337	1067	327	121	-6

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
24 JAN 2021	-NR-	-79	-NR-
23 JAN 2021	-NR-	-128	-NR-
22 JAN 2021	-NR-	-155	-NR-
21 JAN 2021	6	-79	27
20 JAN 2021	8	-111	36
19 JAN 2021	7	5	44

18 JAN 2021	6	-207	40
17 JAN 2021	8	-76	31
16 JAN 2021	6	4	27
15 JAN 2021	8	-136	42
14 JAN 2021	5	-108	42
13 JAN 2021	4	-70	27
12 JAN 2021	5	32	50
11 JAN 2021	7	-11	157

*** 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

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* 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

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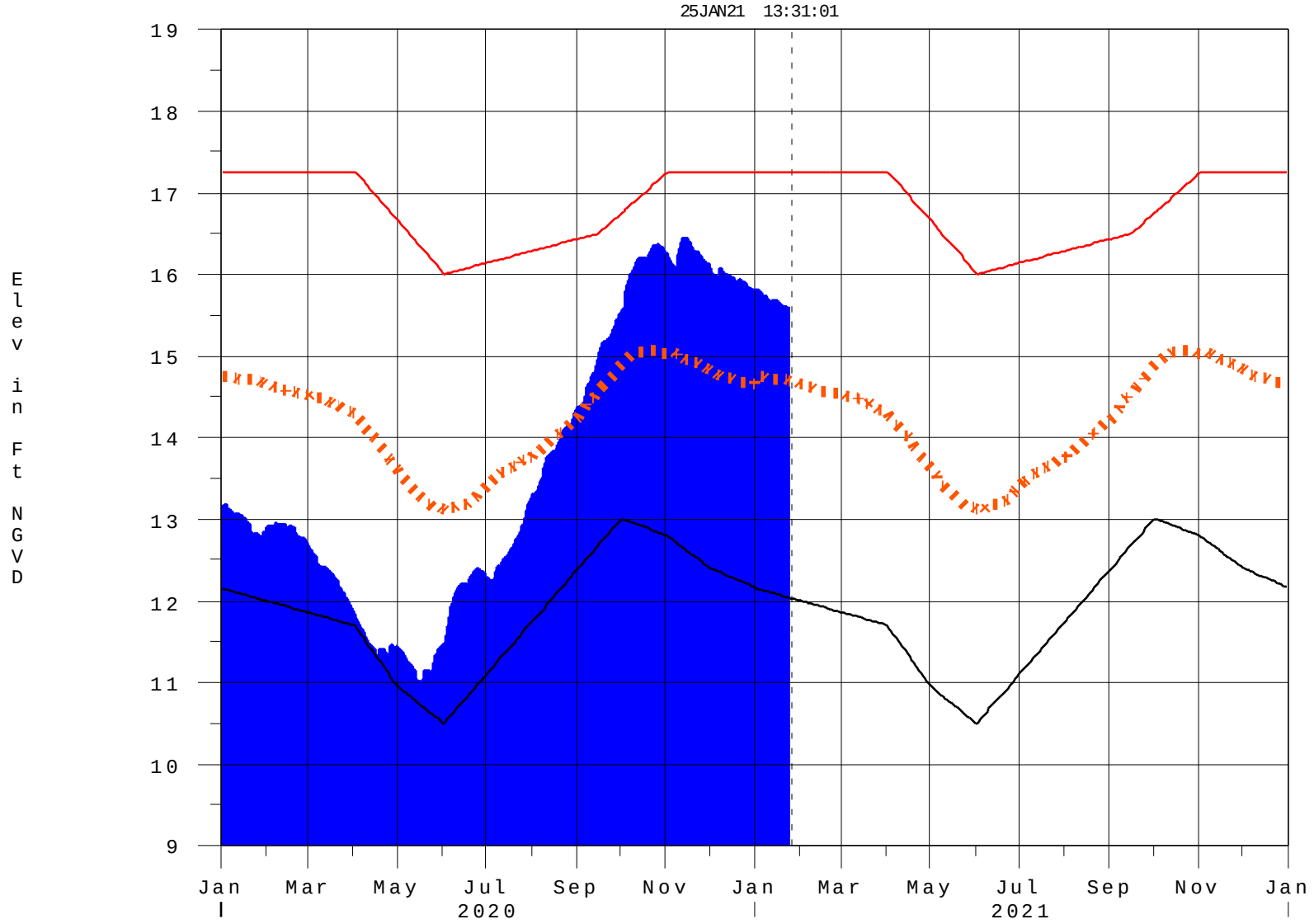
Report Generated 25JAN2021 @ 09:15 ** Preliminary Data - Subject to Revision **

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