Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 2/1/2021 (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 (Feb-July)	N/A	N/A	0.79	Normal	0.37	Dry	0.53	Dry
Multi Seasonal (Feb-Oct)	N/A	N/A	2.86	Wet	2.21	Normal	2.15	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:

-905 cfs 14-day running average for Lake Okeechobee Net Inflow through 1/31/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-0.16 for Palmer Drought Index on 1/30/2021.
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 2/1/2021:

Lake Okeechobee Stage: **15.47 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.75	
	Intermediate sub-band	16.00	
	Low sub-band	13.67	← 15.47 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		12.00	
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 2/1/2021 (ENSO Condition- La Nina):

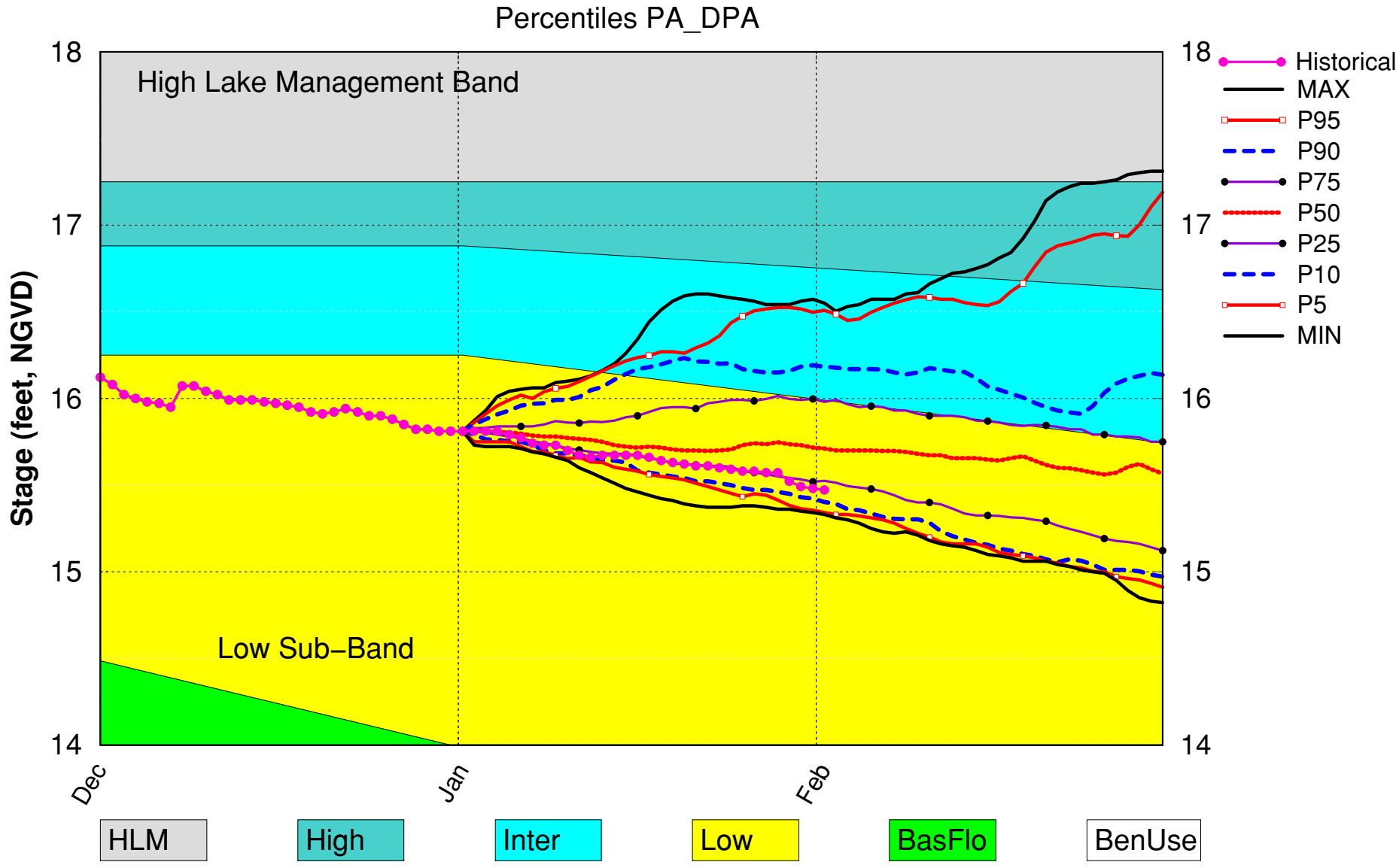
Status for week ending 2/1/2021:

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	-0.16 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	0.37 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.21 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (16.99 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.76 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.66 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.

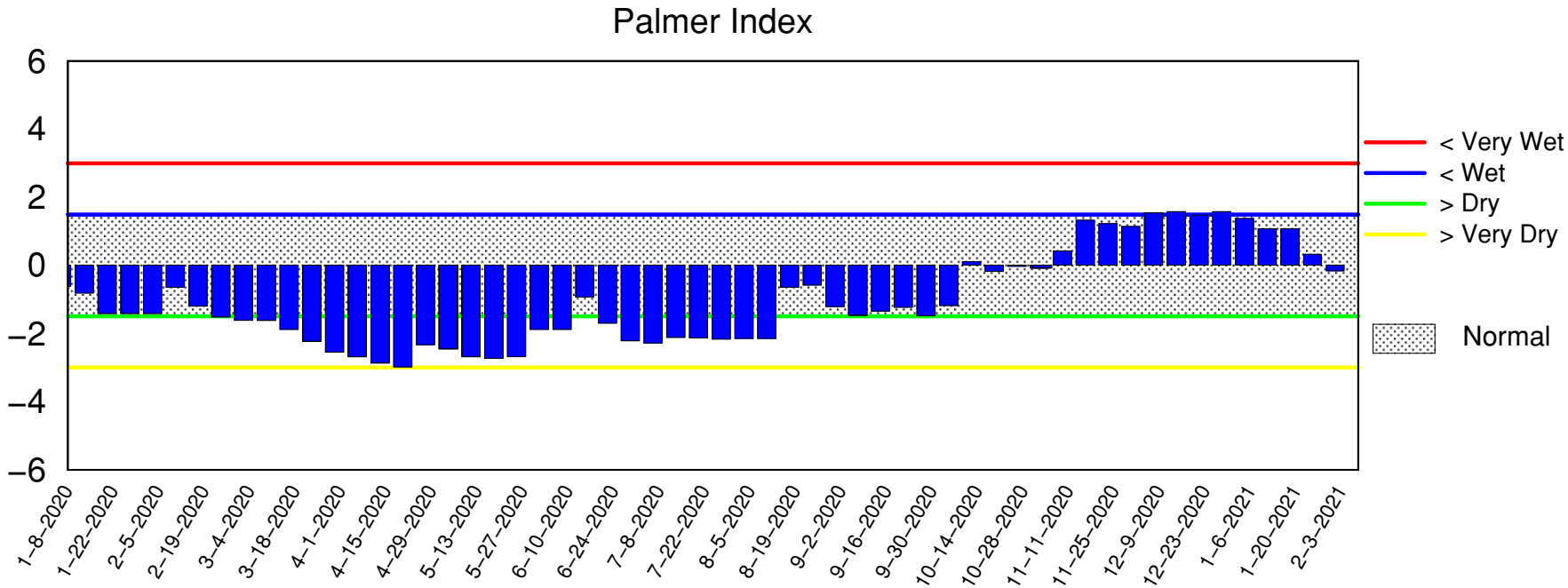
Lake Okeechobee SFWMM Jan 2021 Position Analysis

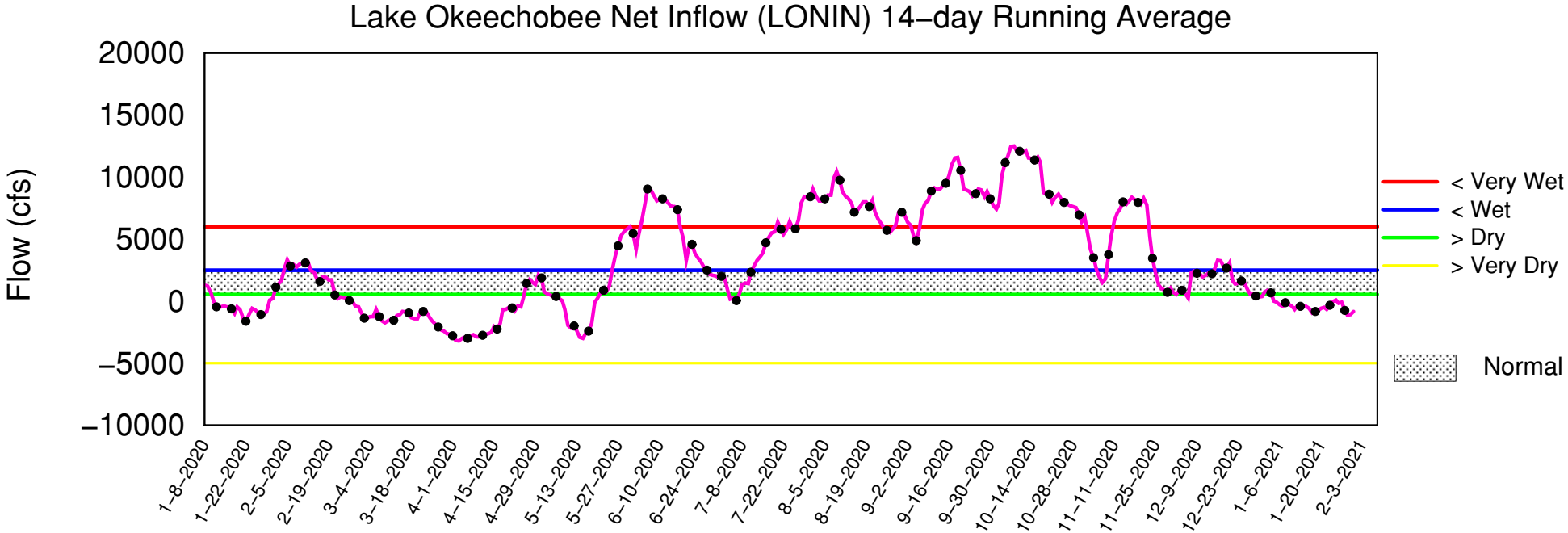


(See assumptions on the Position Analysis Results website)

Mon Feb 01 13:51:43 EST 2021

Tributary Basin Condition Indicators as of February 1 2021





Mon Feb 01 01:13:36 EST 2021

2008 LORS

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

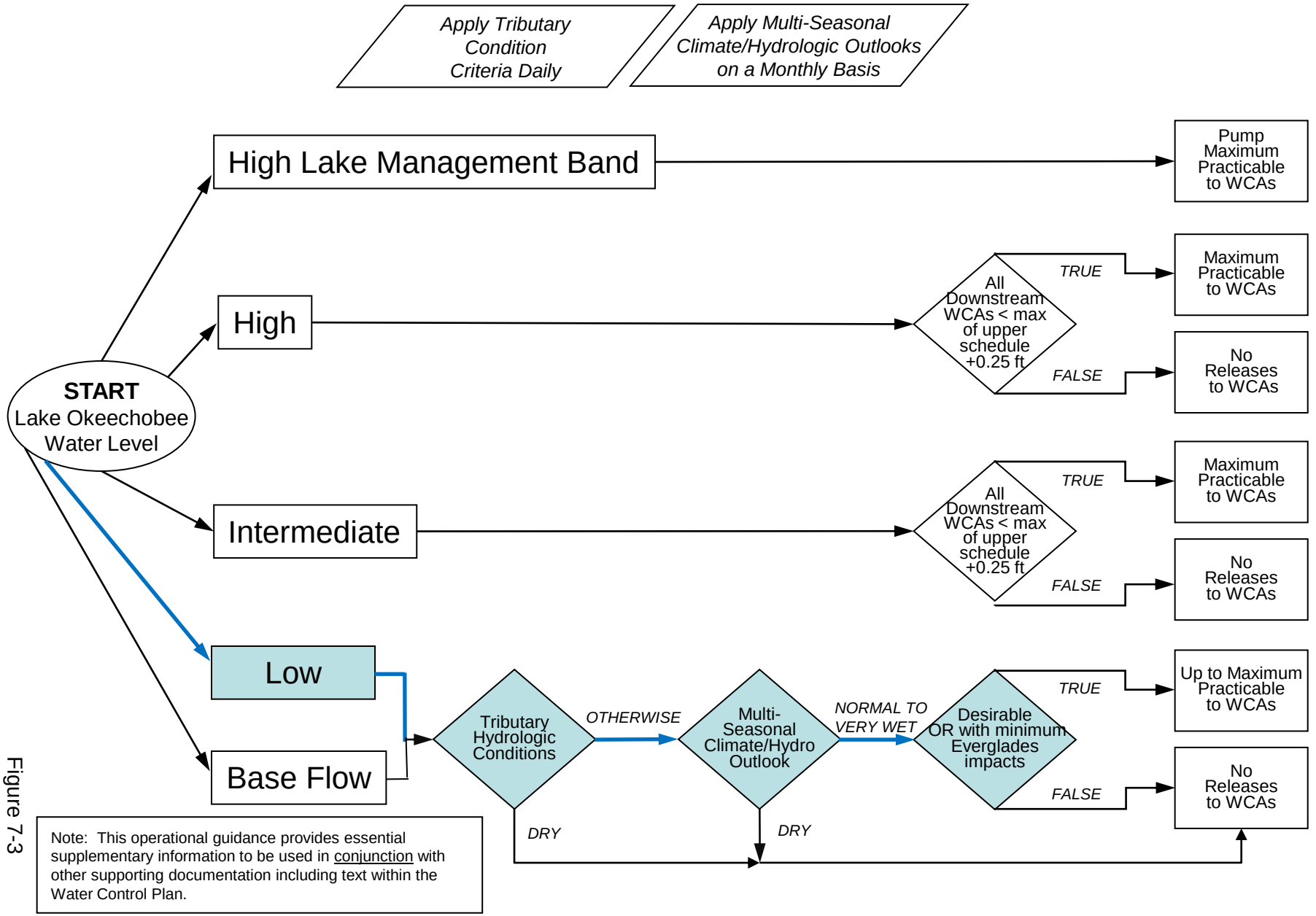


Figure 7-3

2008 LORS

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

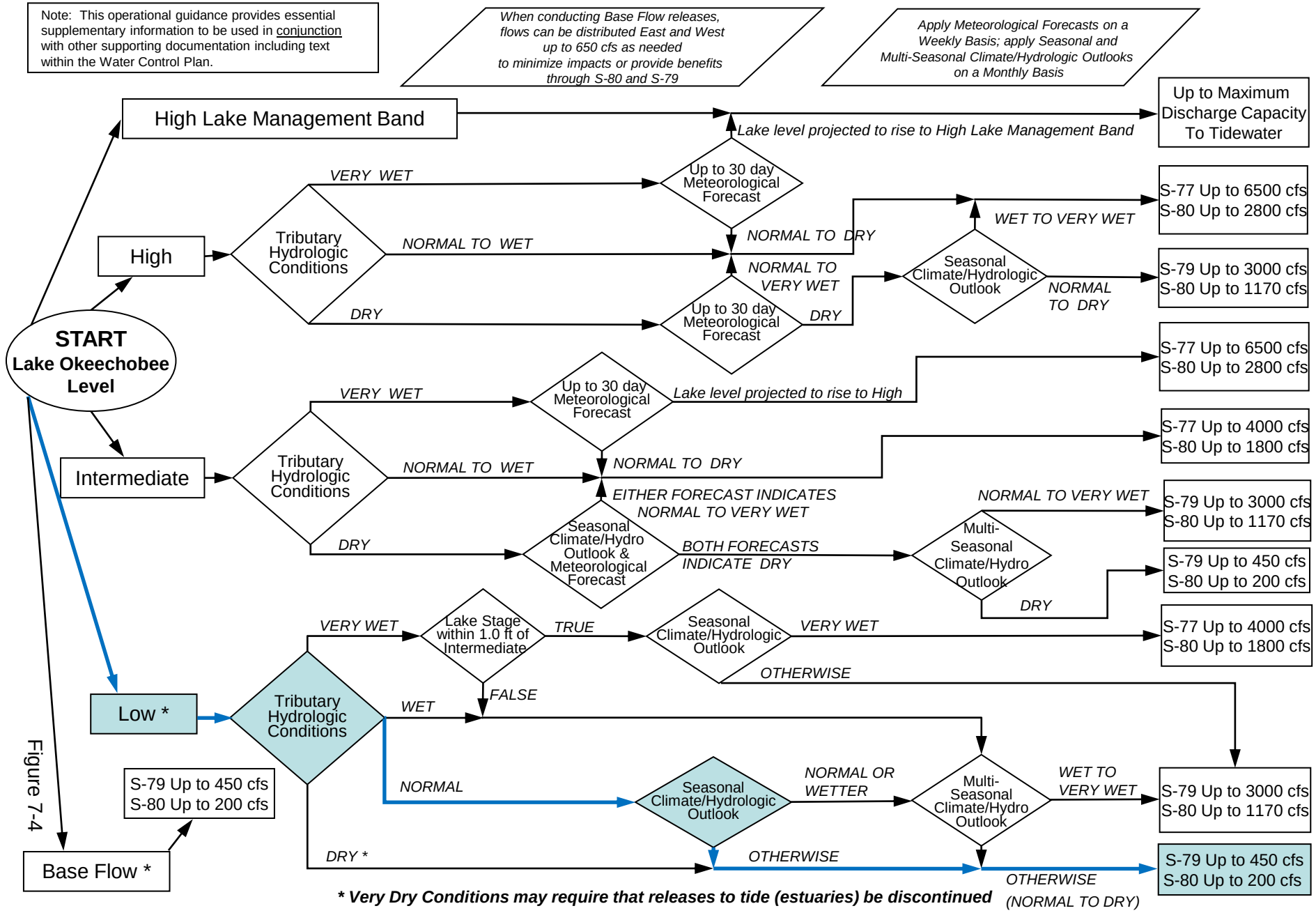
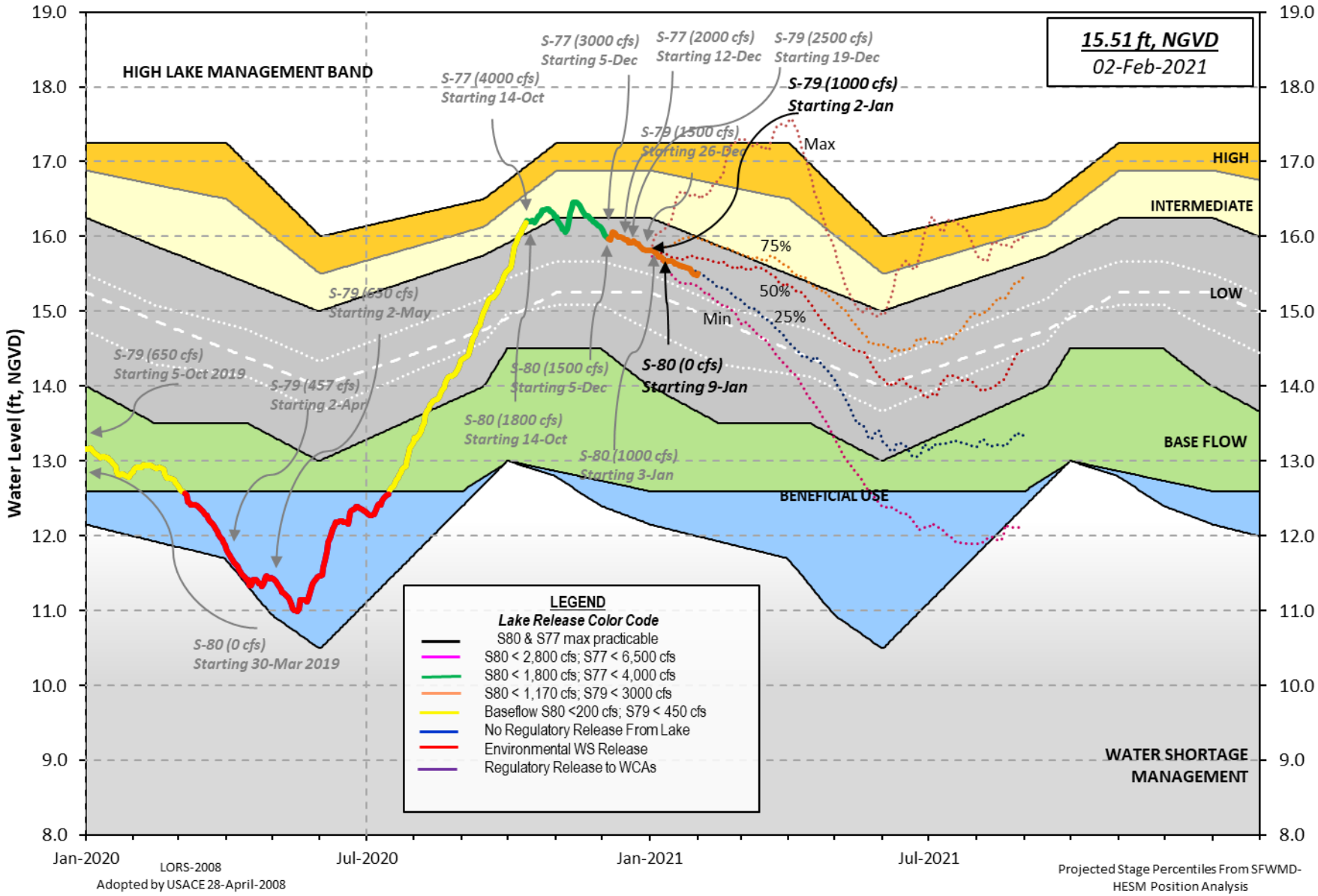


Figure 7-4

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 01 FEB 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.51	12.89	12.70 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.99
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.51
Difference from Average LORS2008 2.01

01FEB (1965-2007) Period of Record Average 14.65
Difference from POR Average 0.86

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.45'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.65'
Bridge Clearance = 49.57'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.41	15.21	15.59	15.53	15.31	15.94	15.78	15.31

*Combination Okeechobee Avg-Daily Lake Average = 15.51
(*See Note)

Okeechobee Inflows (cfs):

S65E	648	S65EX1	365	Fisheating Cr	14
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: 1028

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	177	S77	220
S127 Culverts	0	S351	506	S308	181
S129 Culverts	0	S352	108		
S131 Culverts	0	L8 Canal Pt	239		

Total Outflows: 1431

****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	0.00	S308	0.22

Average Pan Evap x 0.75 Pan Coefficient = 0.08" = 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 8672 cfs or 17200 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:	13.49	15.03	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.46	15.12	0	0.0	0.0	0.0					
S135 Pumps:	13.41	15.53	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.1	0.0						
North West Shore											
S65E:	21.02	14.99	648	0.3	0.9	0.2	0.2	0.2	0.5		
S65EX1:	21.02	14.99	365								
S127 Pumps:	13.42	15.05	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.90	15.03	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.93	14.93	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		28.66	14								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	12.25	15.39	0	0	0	0			(cfs)		
S169:	14.90	12.31	222	0.0	0.0	0.0					
S310:	15.47		172								
S3 Pumps:	10.61	15.94	0	0	0	0			(cfs)		
S354:	15.94	10.61	177	0.2	0.2						
S2 Pumps:	10.55	-NR-	0	-NR-	-NR-	-NR-	-NR-		(cfs)		
S351:	-NR-	10.55	506	0.2	0.4	0.4					
S352:	16.19	10.55	108	0.0	0.4						
C10A:	-NR-	13.87		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		13.90	239								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.55	-NR-	506	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.55	16.19	108	-NR-	-NR-	-NR-	-NR-				
S354:	10.61	15.94	177	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	13.84	10.92		0.0	0.0						
S47D:	10.92	11.27	-11	0.0							

```
  S77:
    Spillway and Sector Preferred Flow:
               14.99     11.19     216  0.0  0.5  0.5  0.0
    Flow Due to Lockages+:           4

  S78:
    Spillway and Sector Flow:
               11.12      2.83     600    2.0  0.0  0.0  0.0
    Flow Due to Lockages+:           5

  S79:
    Spillway and Sector Flow:
                2.91      0.95     987    1.0  1.0  1.0  1.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           1
    Percent of flow from S77        22%
    Chloride             (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
               16.31     13.93     179  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           2

  S153:        18.79     13.65      24    0.0  0.0
  S80:
    Spillway and Sector Flow:
               14.05      1.00       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:	0.15	0.15	0.15	286	13
S78:	8.56	8.67	8.67	312	6
S79:	-0.40	-0.16	-0.16	189	12
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:	12.29	12.30	12.30	307	30
S80:	6.23	6.24	6.24	288	4
Okeechobee Average	6.22	0.96	0.96		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg	-NR-	0.00	0.00

Okeechobee Lake Elevations		01 FEB 2021	15.51	Difference from 01FEB21
01FEB21	-1 Day =	31 JAN 2021	15.47	-0.04
01FEB21	-2 Days =	30 JAN 2021	15.47	-0.04
01FEB21	-3 Days =	29 JAN 2021	15.49	-0.02
01FEB21	-4 Days =	28 JAN 2021	15.52	0.01
01FEB21	-5 Days =	27 JAN 2021	15.57	0.06
01FEB21	-6 Days =	26 JAN 2021	15.57	0.06
01FEB21	-7 Days =	25 JAN 2021	15.58	0.07
01FEB21	-30 Days =	02 JAN 2021	15.81	0.30
01FEB21	-1 Year =	01 FEB 2020	12.89	-2.62
01FEB21	-2 Year =	01 FEB 2019	12.70	-2.81

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
01FEB21	Today =	01 FEB 2021	-54	TUE	10097
01FEB21	-1 Day =	31 JAN 2021	-848	MON	1981
01FEB21	-2 Days =	30 JAN 2021	-1217	SUN	-2703
01FEB21	-3 Days =	29 JAN 2021	-1103	SAT	-4388
01FEB21	-4 Days =	28 JAN 2021	-716	FRI	-8744
01FEB21	-5 Days =	27 JAN 2021	-43	THU	1676
01FEB21	-6 Days =	26 JAN 2021	-113	WED	-168
01FEB21	-7 Days =	25 JAN 2021	131	TUE	1440
01FEB21	-8 Days =	24 JAN 2021	-24	MON	-700
01FEB21	-9 Days =	23 JAN 2021	-314	SUN	-196
01FEB21	-10 Days =	22 JAN 2021	-656	SAT	-42
01FEB21	-11 Days =	21 JAN 2021	-498	FRI	2097
01FEB21	-12 Days =	20 JAN 2021	-591	THU	-431
01FEB21	-13 Days =	19 JAN 2021	-804	WED	-672

S65E

			Average Flow over previous 14 days		Avg-Daily Flow
01FEB21	Today=	01 FEB 2021	740	TUE	741
01FEB21	-1 Day =	31 JAN 2021	741	MON	925
01FEB21	-2 Days =	30 JAN 2021	744	SUN	934
01FEB21	-3 Days =	29 JAN 2021	734	SAT	970
01FEB21	-4 Days =	28 JAN 2021	721	FRI	1020
01FEB21	-5 Days =	27 JAN 2021	704	THU	1035
01FEB21	-6 Days =	26 JAN 2021	686	WED	1070
01FEB21	-7 Days =	25 JAN 2021	665	TUE	988
01FEB21	-8 Days =	24 JAN 2021	651	MON	68
01FEB21	-9 Days =	23 JAN 2021	708	SUN	0
01FEB21	-10 Days =	22 JAN 2021	774	SAT	87
01FEB21	-11 Days =	21 JAN 2021	824	FRI	672
01FEB21	-12 Days =	20 JAN 2021	831	THU	868
01FEB21	-13 Days =	19 JAN 2021	803	WED	983

S65EX1

			Average Flow over previous 14 days		Avg-Daily Flow
01FEB21	Today=	01 FEB 2021	232	TUE	365
01FEB21	-1 Day =	31 JAN 2021	206	MON	0
01FEB21	-2 Days =	30 JAN 2021	206	SUN	0

01FEB21	-3 Days =	29 JAN 2021	206	SAT	0
01FEB21	-4 Days =	28 JAN 2021	206	FRI	0
01FEB21	-5 Days =	27 JAN 2021	206	THU	0
01FEB21	-6 Days =	26 JAN 2021	206	WED	0
01FEB21	-7 Days =	25 JAN 2021	206	TUE	0
01FEB21	-8 Days =	24 JAN 2021	206	MON	876
01FEB21	-9 Days =	23 JAN 2021	144	SUN	978
01FEB21	-10 Days =	22 JAN 2021	74	SAT	857
01FEB21	-11 Days =	21 JAN 2021	12	FRI	173
01FEB21	-12 Days =	20 JAN 2021	0	THU	0
01FEB21	-13 Days =	19 JAN 2021	31	WED	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 FEB 2021	437	817	1200	1949
31 JAN 2021	-NR-	1016	1247	2283
30 JAN 2021	-NR-	1108	1085	1750
29 JAN 2021	1307	1911	859	1977
28 JAN 2021	1674	1964	1275	2167
27 JAN 2021	-NR-	1211	1276	2150
26 JAN 2021	-NR-	1395	1287	2162
25 JAN 2021	-NR-	1040	1298	2211
24 JAN 2021	-NR-	1283	1315	2372
23 JAN 2021	-NR-	1551	1321	1853
22 JAN 2021	-NR-	1621	1314	1238
21 JAN 2021	-NR-	1722	1347	1640
20 JAN 2021	-NR-	1870	1356	1784
19 JAN 2021	-NR-	2483	1339	1810

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 FEB 2021	341	1003	215	351	474
31 JAN 2021	446	1645	515	730	444
30 JAN 2021	493	1166	186	527	478
29 JAN 2021	551	1204	413	770	502
28 JAN 2021	386	1181	659	435	220
27 JAN 2021	173	1136	240	334	-1
26 JAN 2021	167	1385	550	426	-0
25 JAN 2021	211	788	301	179	10
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

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
01 FEB 2021	331	312	-NR-
31 JAN 2021	12	-230	-NR-
30 JAN 2021	13	131	-NR-
29 JAN 2021	13	27	-NR-
28 JAN 2021	15	-129	-NR-
27 JAN 2021	11	-210	-NR-

26 JAN 2021	8	-104	-NR-
25 JAN 2021	4	34	-NR-
24 JAN 2021	8	-79	-NR-
23 JAN 2021	11	-128	-NR-
22 JAN 2021	14	-155	-NR-
21 JAN 2021	6	-79	27
20 JAN 2021	8	-111	36
19 JAN 2021	7	5	44

*** 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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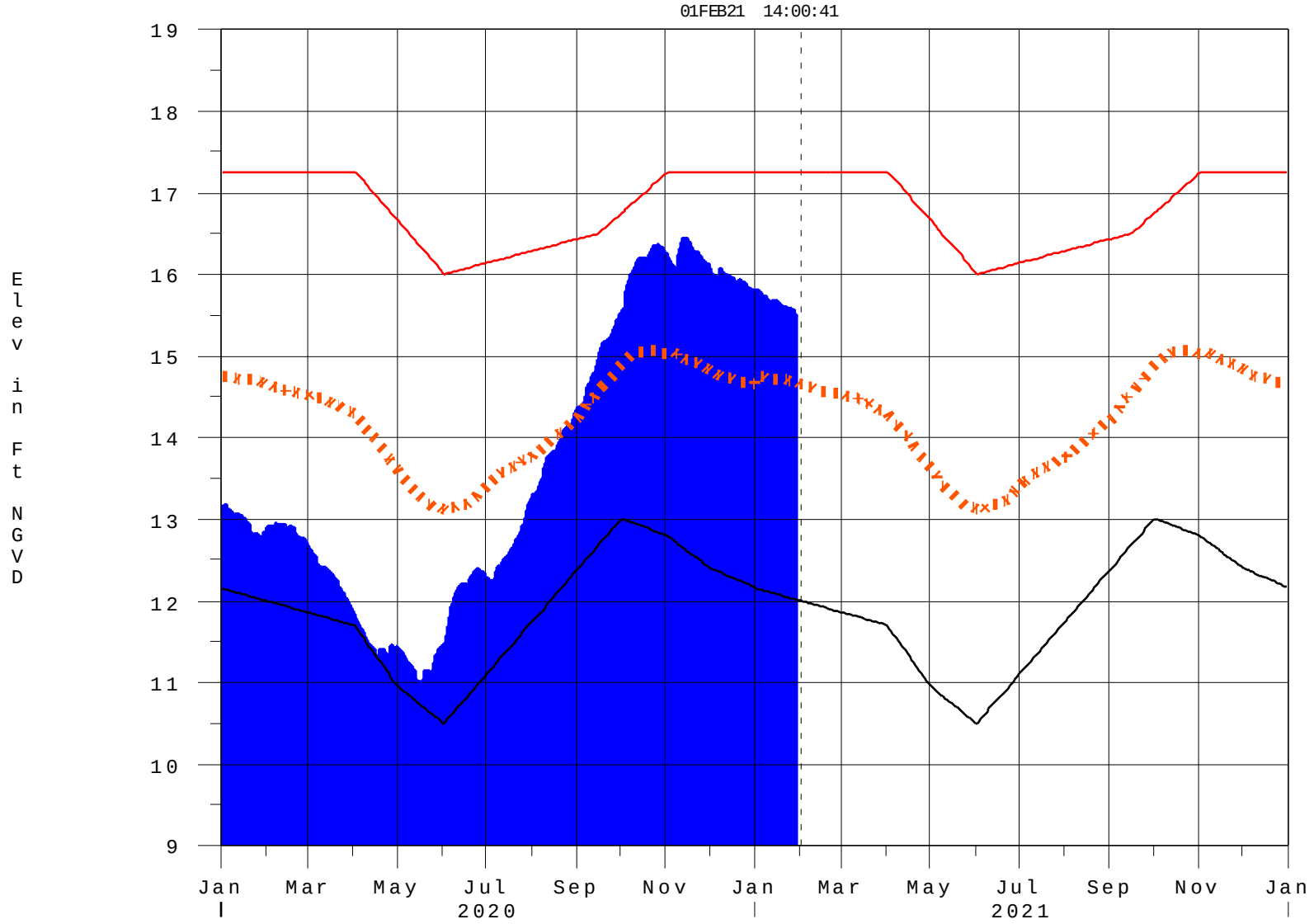
Report Generated 02FEB2021 @ 23:39 ** Preliminary Data - Subject to Revision **

Lake Okeechobee



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