Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 1/11/2021 (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	0.41	Dry	-0.17	Dry	0.13	Dry
Multi Seasonal (Jan-Oct)	N/A	N/A	2.93	Wet	2.18	Normal	2.08	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:

-410 cfs 14-day running average for Lake Okeechobee Net Inflow through 1/10/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

1.08 for Palmer Drought Index on 1/9/2021.
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 1/11/2021:

Lake Okeechobee Stage: **15.67 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.84	
	Intermediate sub-band	16.17	
	Low sub-band	13.90	← 15.67 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		12.10	
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 1/11/2021 (ENSO Condition- La Nina):

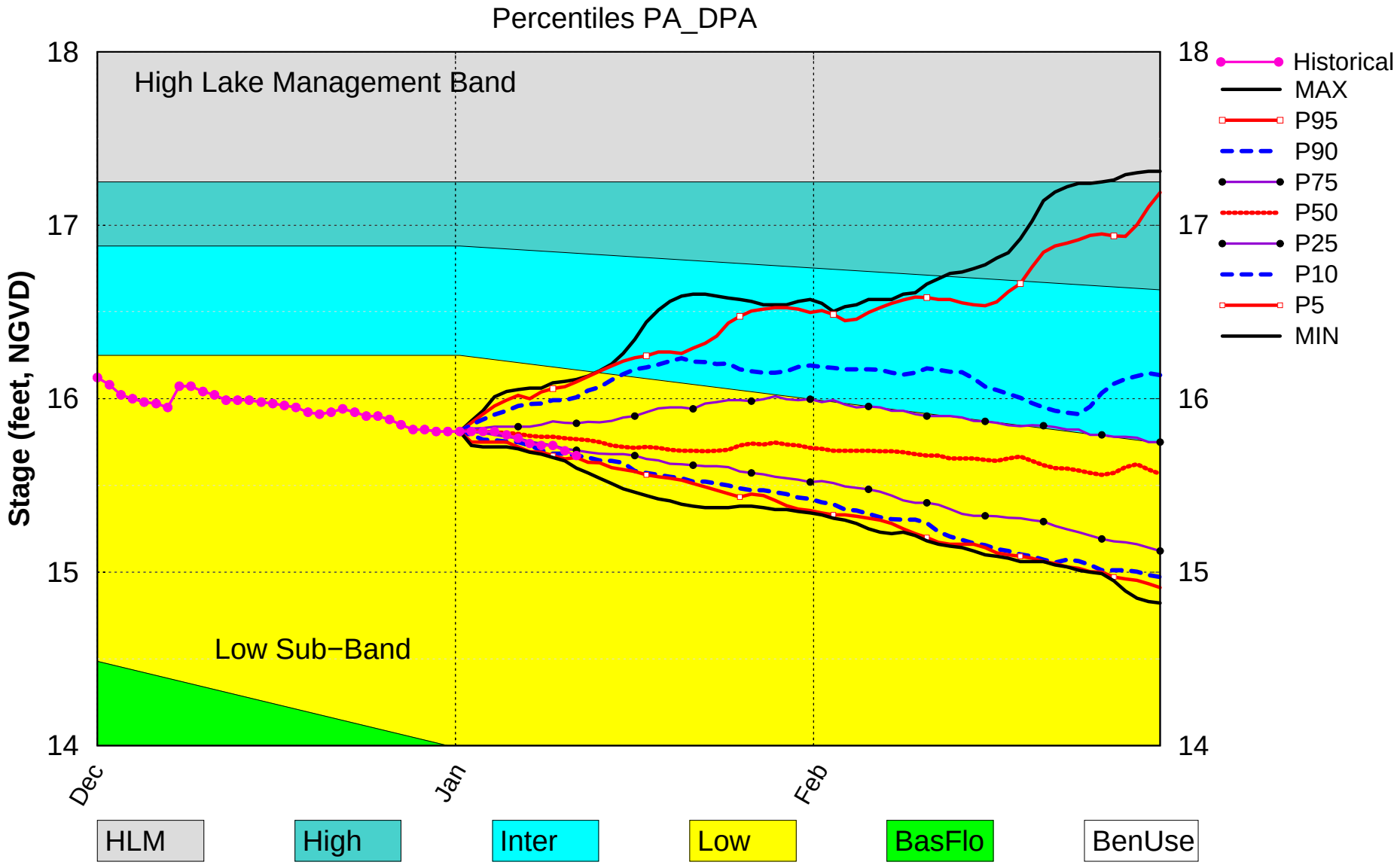
Status for week ending 1/11/2021:

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	1.08 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	-0.17 ft	H
	ENSO Forecast	Extremely Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.18 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.17 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.15 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (11.22 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.

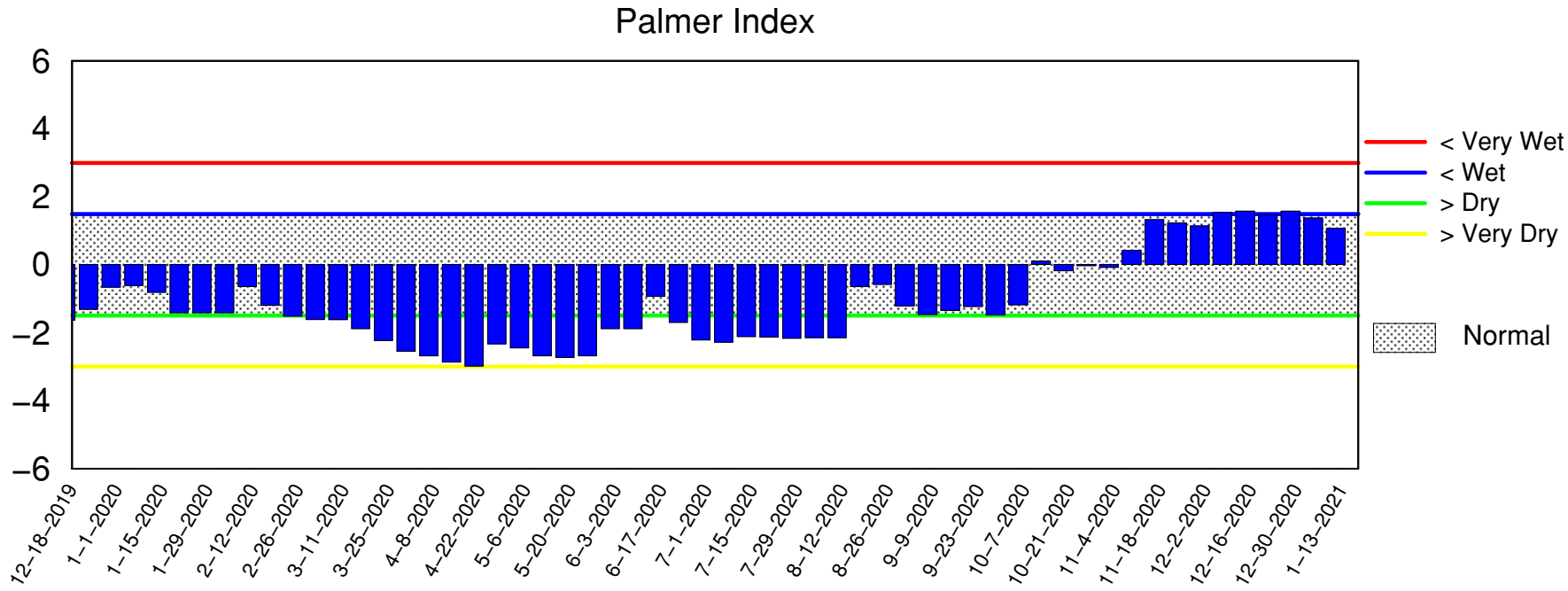
Lake Okeechobee SFWMM Jan 2021 Position Analysis

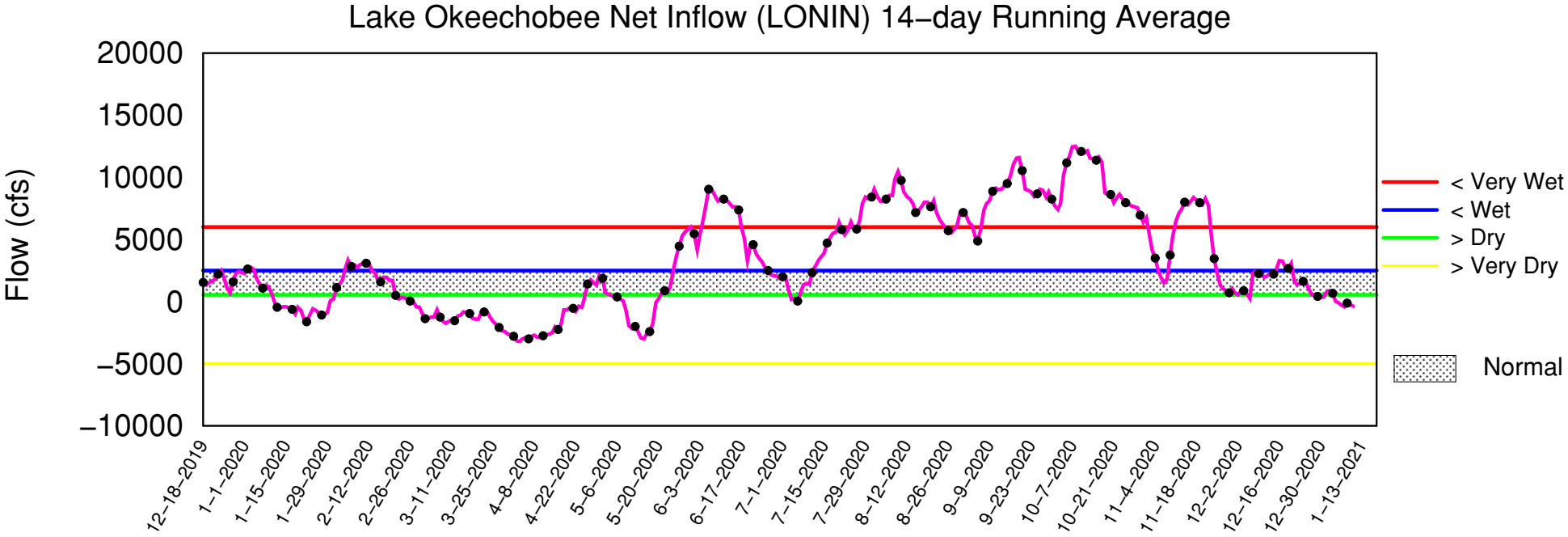


(See assumptions on the Position Analysis Results website)

Mon Jan 11 23:06:32 EST 2021

Tributary Basin Condition Indicators as of January 11 2021





Mon Jan 11 23:06:17 EST 2021

2008 LORS

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

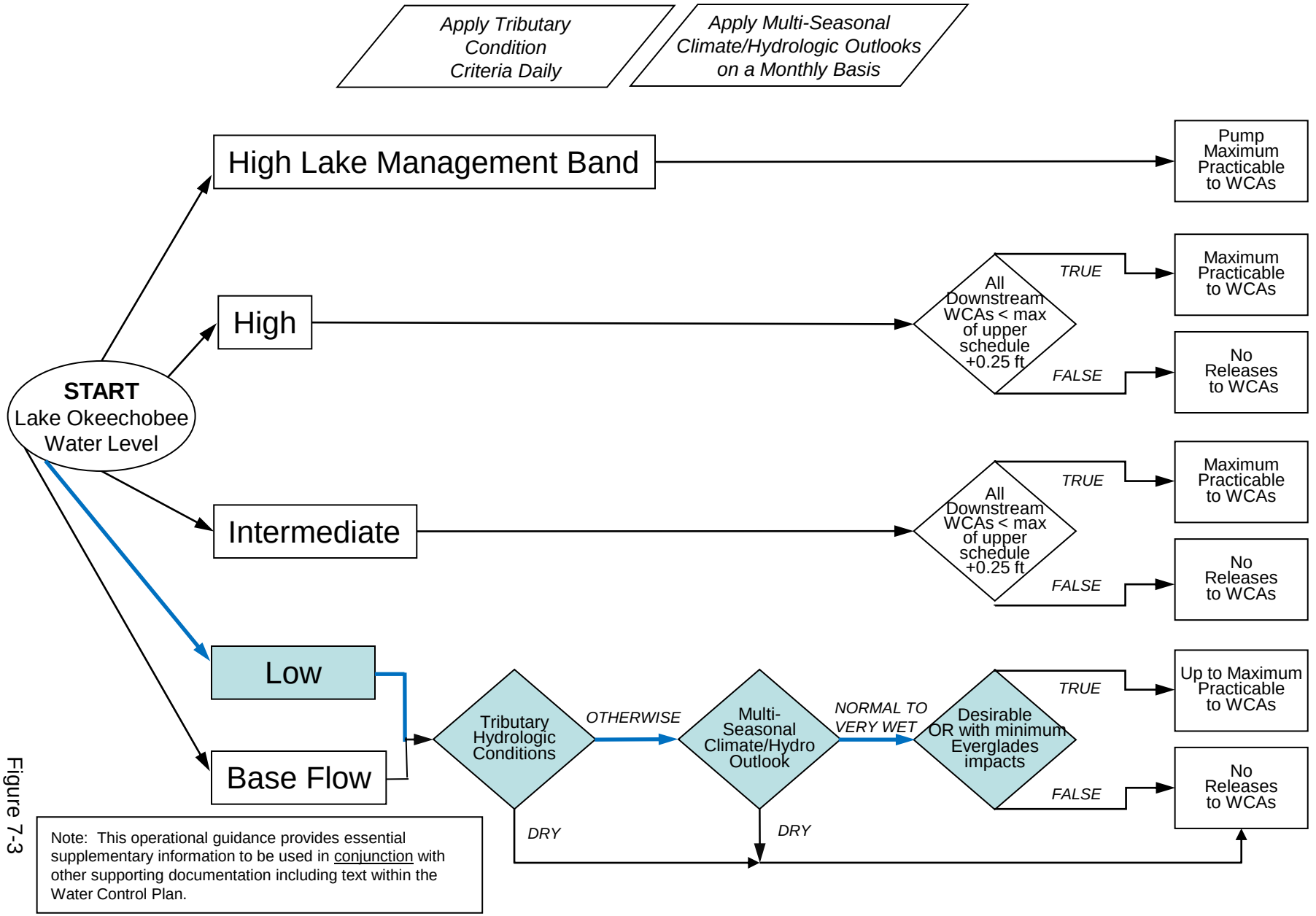


Figure 7-3

2008 LORS

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

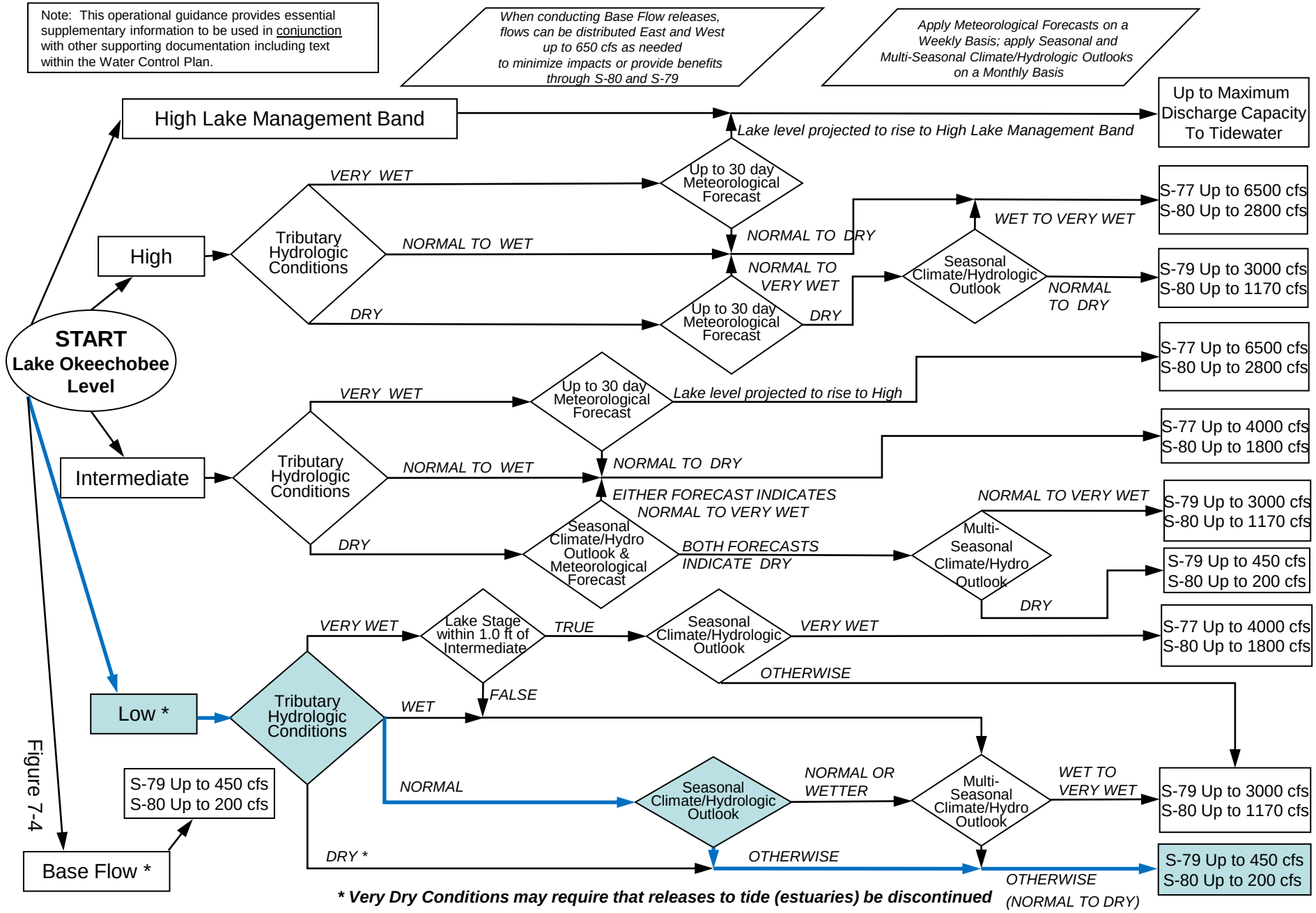
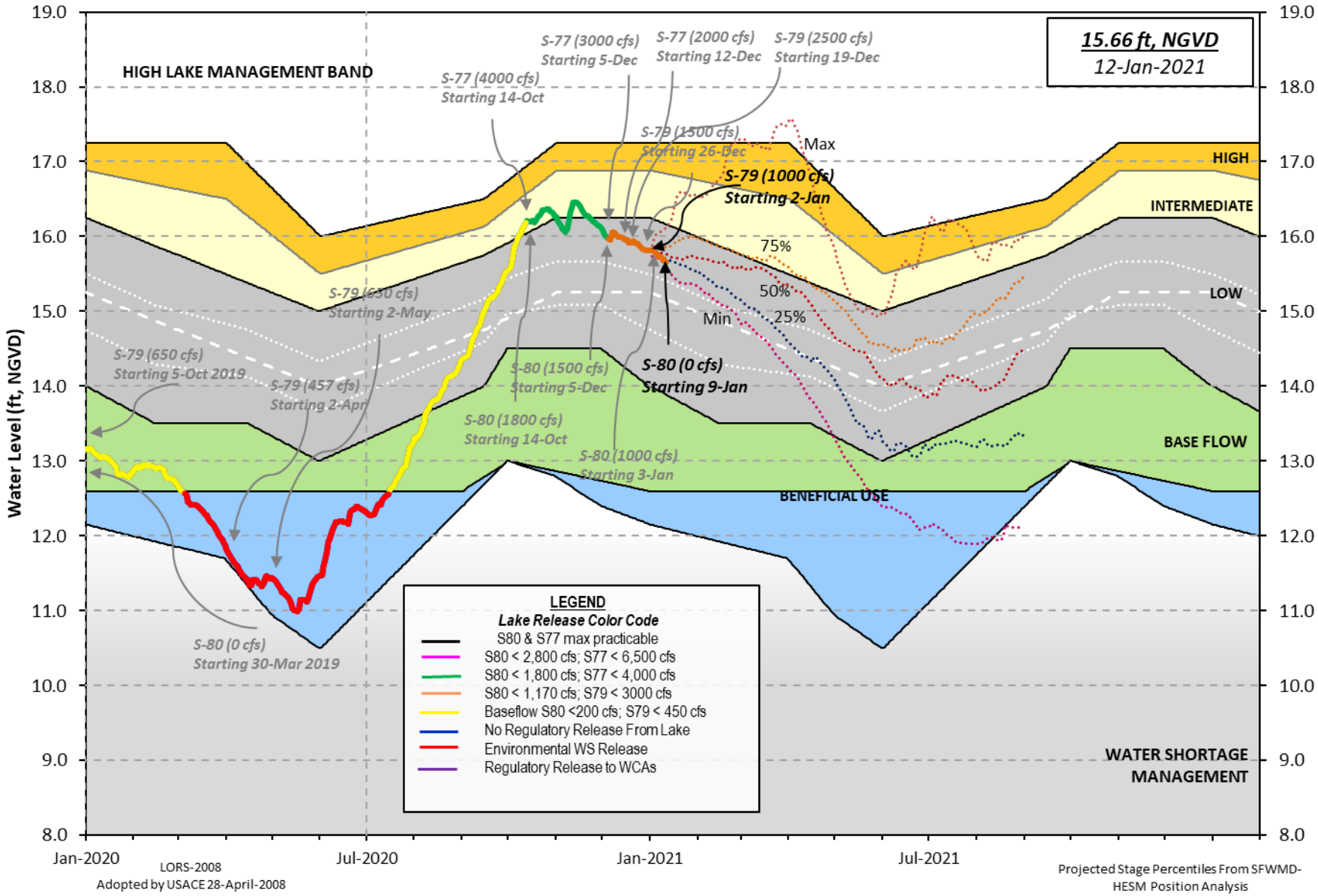


Figure 7-4

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 10 JAN 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)	
*Okeechobee Lake Elevation	15.67	13.05	12.46	(Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.10
Currently in Operational Management Band

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

10JAN (1965-2007) Period of Record Average 14.72
Difference from POR Average 0.95

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.61'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.81'
Bridge Clearance = 49.05'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.57	15.70	15.72	15.66	15.75	15.80	15.65	15.51

*Combination Okeechobee Avg-Daily Lake Average = 15.67
(*See Note)

Okeechobee Inflows (cfs):

S65E	767	S65EX1	0	Fisheating Cr	42
S154	25	S191	0	S135 Pumps	0
S84	0	S133 Pumps	0	S2 Pumps	0
S84X	0	S127 Pumps	0	S3 Pumps	0
S71	46	S129 Pumps	0	S4 Pumps	0
S72	32	S131 Pumps	0	C5	0

Total Inflows: 913

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	259	S77	-NR-
S127 Culverts	0	S351	562	S308	3
S129 Culverts	0	S352	277		
S131 Culverts	0	L8 Canal Pt	-2		

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 0.08
Average Pan Evap x 0.75 Pan Coefficient = -NR-" = -NR-'

Lake Average Precipitation using NEXRAD: = 0.00" = 0.00'

Evaporation - Precipitation: = -NR-" = -NR-'
Evaporation - Precipitation using Lake Area of 730 square miles
is equal to -NR-
Lake Okeechobee (Change in Storage) Flow is -6504 cfs or -12900 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:	13.44	15.59	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.77	15.58	0	0.0	0.0	0.0					
S135 Pumps:	13.30	15.50	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.84	15.54	767	0.5	0.5	0.0	0.5	0.5	0.2		
S65EX1:	20.84	15.54	0								
S127 Pumps:	13.52	15.54	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.02	15.69	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.87	15.68	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		29.47	42								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.69	15.74	0	0	0	0			(cfs)		
S169:	15.30	11.73	210	0.0	0.0	0.0					
S310:	15.66		157								
S3 Pumps:	10.49	15.74	0	0	0	0			(cfs)		
S354:	15.74	10.49	259	0.4	0.6						
S2 Pumps:	10.38	-NR-	0	-NR-	-NR-	-NR-	-NR-		(cfs)		
S351:	-NR-	10.38	562	0.8	0.6	0.3					
S352:	15.69	10.56	277	0.0	0.7						
C10A:	-NR-	14.54		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		14.57	-2								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.38	-NR-	562	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.56	15.69	277	-NR-	-NR-	-NR-	-NR-				
S354:	10.49	15.74	259	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	14.49	12.73		0.5	1.0						
S47D:	12.72	11.36	40	1.0							

```
  S77:
    Spillway and Sector Preferred Flow:
               15.64     11.22     658  0.0  2.5  0.0  0.0
    Flow Due to Lockages+:        -NR-

  S78:
    Spillway and Sector Flow:
               11.29      2.84     328    0.5  0.0  0.0  0.5
    Flow Due to Lockages+:          17

  S79:
    Spillway and Sector Flow:
                3.08      1.63     756    1.5  0.0  0.0  0.0  0.0  0.0  0.0  1.0
    Flow Due to Lockages+:          11
    Percent of flow from S77        87%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
               15.63     14.45       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           3

  S153:        18.94     14.09       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
               14.33      0.66       0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          12
    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	0.01	54	7
S78:	0.00	0.00	0.00	88	3
S79:	0.00	0.00	0.12	9	7
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	82	1
S80:	0.00	0.00	0.00	16	2
Okeechobee Average	0.00	0.00	0.00		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg	0.00	0.00	0.01

Okeechobee Lake Elevations	10 JAN 2021	15.67	Difference from 10JAN21
10JAN21 -1 Day =	09 JAN 2021	15.70	0.03
10JAN21 -2 Days =	08 JAN 2021	15.73	0.06
10JAN21 -3 Days =	07 JAN 2021	15.73	0.06
10JAN21 -4 Days =	06 JAN 2021	15.74	0.07
10JAN21 -5 Days =	05 JAN 2021	15.77	0.10
10JAN21 -6 Days =	04 JAN 2021	15.79	0.12
10JAN21 -7 Days =	03 JAN 2021	15.81	0.14
10JAN21 -30 Days =	11 DEC 2020	15.99	0.32
10JAN21 -1 Year =	10 JAN 2020	13.05	-2.62
10JAN21 -2 Year =	10 JAN 2019	12.46	-3.21

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
10JAN21 Today =	10 JAN 2021	-409	MON	-4749
10JAN21 -1 Day =	09 JAN 2021	-289	SUN	-4992
10JAN21 -2 Days =	08 JAN 2021	-139	SAT	2167
10JAN21 -3 Days =	07 JAN 2021	-450	FRI	801
10JAN21 -4 Days =	06 JAN 2021	-329	THU	-3407
10JAN21 -5 Days =	05 JAN 2021	-115	WED	-1640
10JAN21 -6 Days =	04 JAN 2021	-20	TUE	-2380
10JAN21 -7 Days =	03 JAN 2021	653	MON	1830
10JAN21 -8 Days =	02 JAN 2021	844	SUN	1543
10JAN21 -9 Days =	01 JAN 2021	726	SAT	590
10JAN21 -10 Days =	31 DEC 2020	368	FRI	1071
10JAN21 -11 Days =	30 DEC 2020	331	THU	1004
10JAN21 -12 Days =	29 DEC 2020	396	WED	-574
10JAN21 -13 Days =	28 DEC 2020	561	TUE	3013

S65E

		Average Flow over previous 14 days		Avg-Daily Flow
10JAN21 Today=	10 JAN 2021	704	MON	869
10JAN21 -1 Day =	09 JAN 2021	718	SUN	922
10JAN21 -2 Days =	08 JAN 2021	746	SAT	784
10JAN21 -3 Days =	07 JAN 2021	789	FRI	768
10JAN21 -4 Days =	06 JAN 2021	839	THU	464
10JAN21 -5 Days =	05 JAN 2021	918	WED	0
10JAN21 -6 Days =	04 JAN 2021	1031	TUE	168
10JAN21 -7 Days =	03 JAN 2021	1140	MON	644
10JAN21 -8 Days =	02 JAN 2021	1210	SUN	637
10JAN21 -9 Days =	01 JAN 2021	1293	SAT	638
10JAN21 -10 Days =	31 DEC 2020	1378	FRI	642
10JAN21 -11 Days =	30 DEC 2020	1476	THU	939
10JAN21 -12 Days =	29 DEC 2020	1548	WED	1116
10JAN21 -13 Days =	28 DEC 2020	1614	TUE	1270

S65EX1

		Average Flow over previous 14 days		Avg-Daily Flow
10JAN21 Today=	10 JAN 2021	252	MON	0
10JAN21 -1 Day =	09 JAN 2021	252	SUN	0
10JAN21 -2 Days =	08 JAN 2021	252	SAT	0

10JAN21	-3 Days =	07 JAN 2021	252	FRI	0
10JAN21	-4 Days =	06 JAN 2021	252	THU	431
10JAN21	-5 Days =	05 JAN 2021	221	WED	1017
10JAN21	-6 Days =	04 JAN 2021	148	TUE	688
10JAN21	-7 Days =	03 JAN 2021	99	MON	295
10JAN21	-8 Days =	02 JAN 2021	78	SUN	353
10JAN21	-9 Days =	01 JAN 2021	53	SAT	328
10JAN21	-10 Days =	31 DEC 2020	29	FRI	411
10JAN21	-11 Days =	30 DEC 2020	0	THU	0
10JAN21	-12 Days =	29 DEC 2020	0	WED	0
10JAN21	-13 Days =	28 DEC 2020	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)
10 JAN 2021	-NR-	933	685	1520
09 JAN 2021	-NR-	892	668	1971
08 JAN 2021	-NR-	1068	731	2110
07 JAN 2021	-NR-	1576	920	1756
06 JAN 2021	1720	1994	1124	1950
05 JAN 2021	1738	2303	1537	1882
04 JAN 2021	749	1515	1568	2107
03 JAN 2021	740	1494	1564	2142
02 JAN 2021	734	1386	1399	2082
01 JAN 2021	705	1120	1274	2724
31 DEC 2020	1620	1962	1113	2514
30 DEC 2020	1663	2217	1684	2813
29 DEC 2020	1653	2076	1691	2627
28 DEC 2020	1629	1878	1718	2993

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)
10 JAN 2021	311	1114	549	513	-5
09 JAN 2021	313	922	536	241	-1
08 JAN 2021	334	1027	924	353	7
07 JAN 2021	296	1700	643	81	6
06 JAN 2021	357	1456	533	249	-3
05 JAN 2021	290	868	390	119	-4
04 JAN 2021	357	426	224	222	-4
03 JAN 2021	277	263	192	127	6
02 JAN 2021	284	274	238	0	5
01 JAN 2021	282	298	188	0	4
31 DEC 2020	328	352	157	0	4
30 DEC 2020	324	135	210	0	-3
29 DEC 2020	429	0	246	0	1
28 DEC 2020	12	0	184	0	-1

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
10 JAN 2021	7	-127	23
09 JAN 2021	7	11	31
08 JAN 2021	679	582	632
07 JAN 2021	2170	2113	2032
06 JAN 2021	2159	2324	1879
05 JAN 2021	2320	2487	1983

04 JAN 2021	2287	2449	2103
03 JAN 2021	2328	2139	2117
02 JAN 2021	1871	1535	1532
01 JAN 2021	10	118	254
31 DEC 2020	4	185	305
30 DEC 2020	10	290	112
29 DEC 2020	1204	1086	1056
28 DEC 2020	4192	3714	2816

*** 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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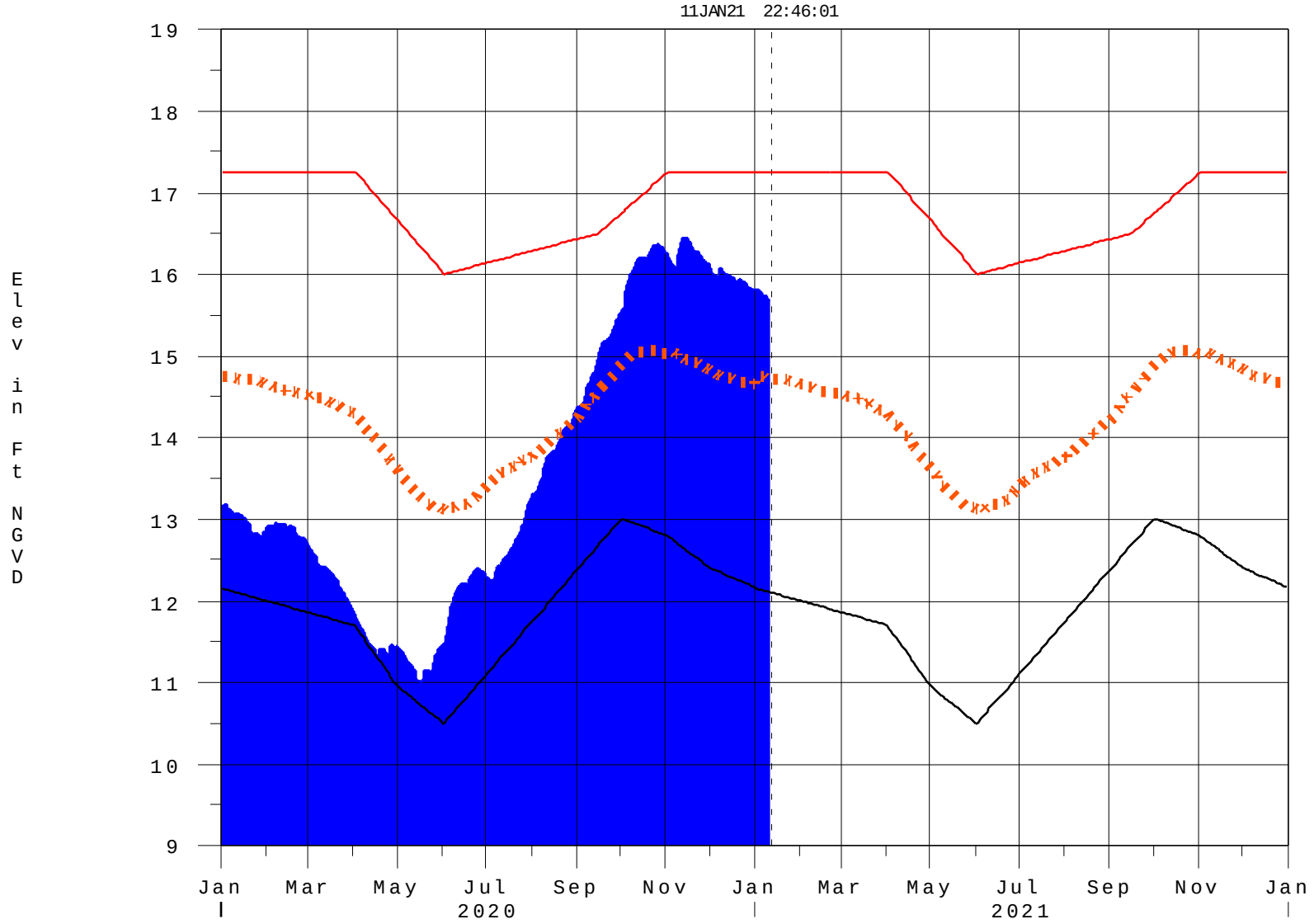
Report Generated 11JAN2021 @ 20:15 ** Preliminary Data - Subject to Revision **

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