Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 12/07/2020 (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 (Dec-May)	N/A	N/A	0.35	Dry	-0.50	Dry	-0.39	Dry
Multi Seasonal (Dec-Oct)	N/A	N/A	3.02	Wet	2.21	Normal	2.10	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:

227 cfs 14-day running average for Lake Okeechobee Net Inflow through 12/06/2020.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

1.54 for Palmer Drought Index on 12/05/2020.
According to the classification in Tributary Hydrologic Conditions table, this condition is Wet.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 12/07/2020:

Lake Okeechobee Stage: **15.95 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.88	
	Intermediate sub-band	16.25	
	Low sub-band	14.40	← 15.95 ft
Base Flow sub-band		12.71	
Beneficial Use sub-band		12.35	
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 12/7/2020 (ENSO Condition- La Nina):

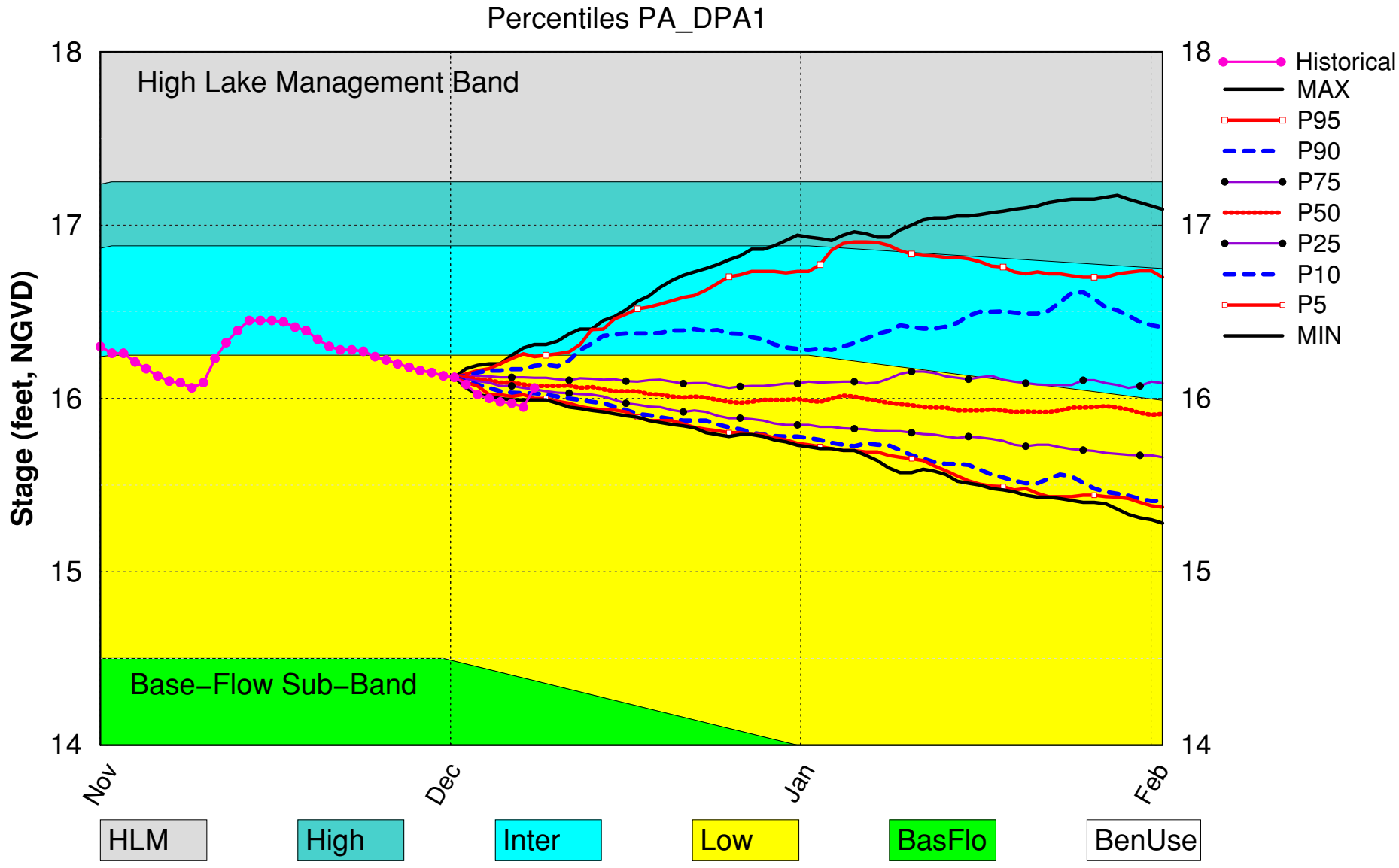
Status for week ending 12/7/2020:

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	1.54 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	-0.50 ft	H
	ENSO Forecast	Extremely 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 (17.45 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.84 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (12.44 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.

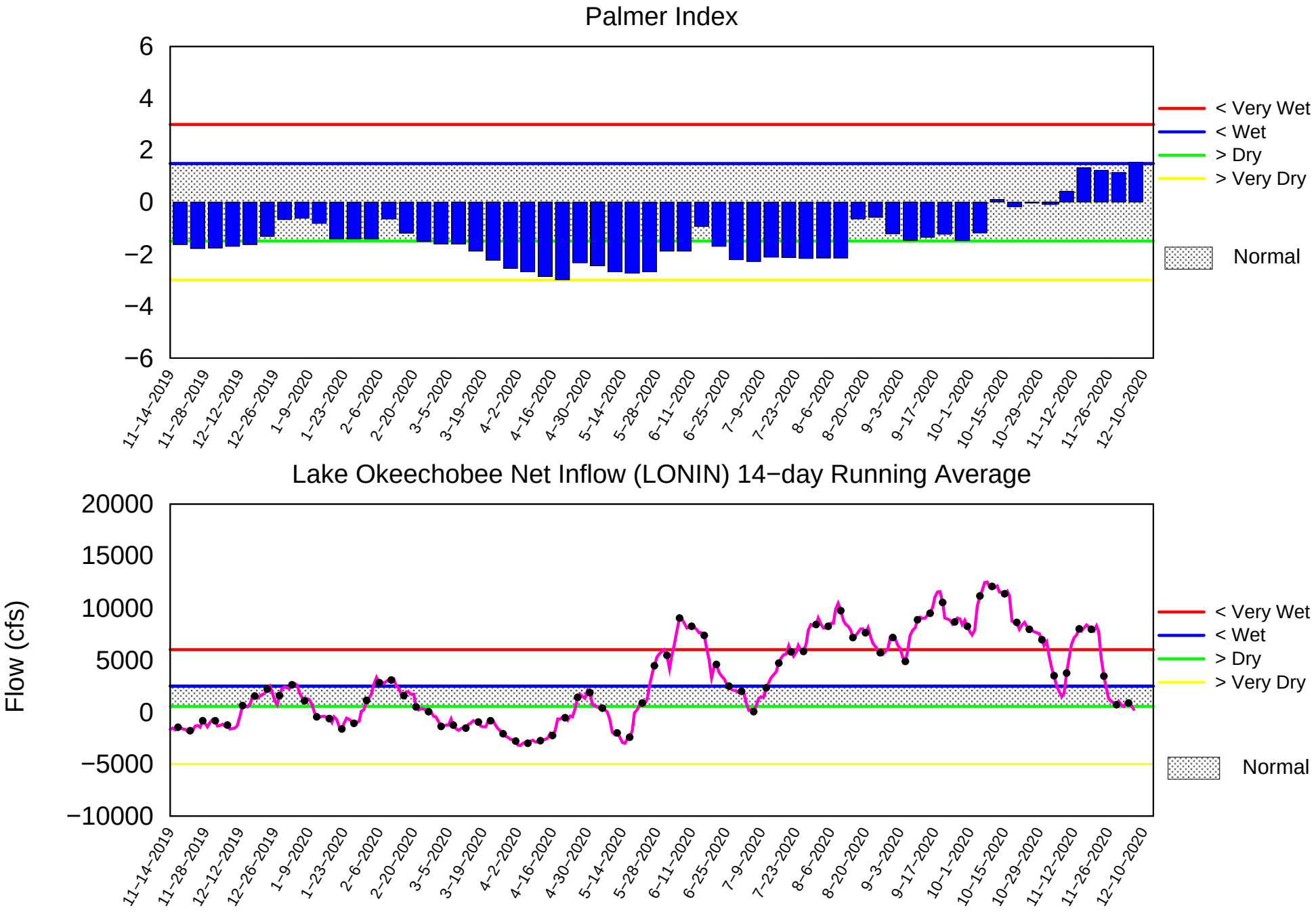
Lake Okeechobee SFWMM Dec 2020 Position Analysis



(See assumptions on the Position Analysis Results website)

Tue Dec 8 07:29:35 2020

Tributary Basin Condition Indicators as of December 7 2020



Mon Dec 07 13:57:55 EST 2020

2008 LORS

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

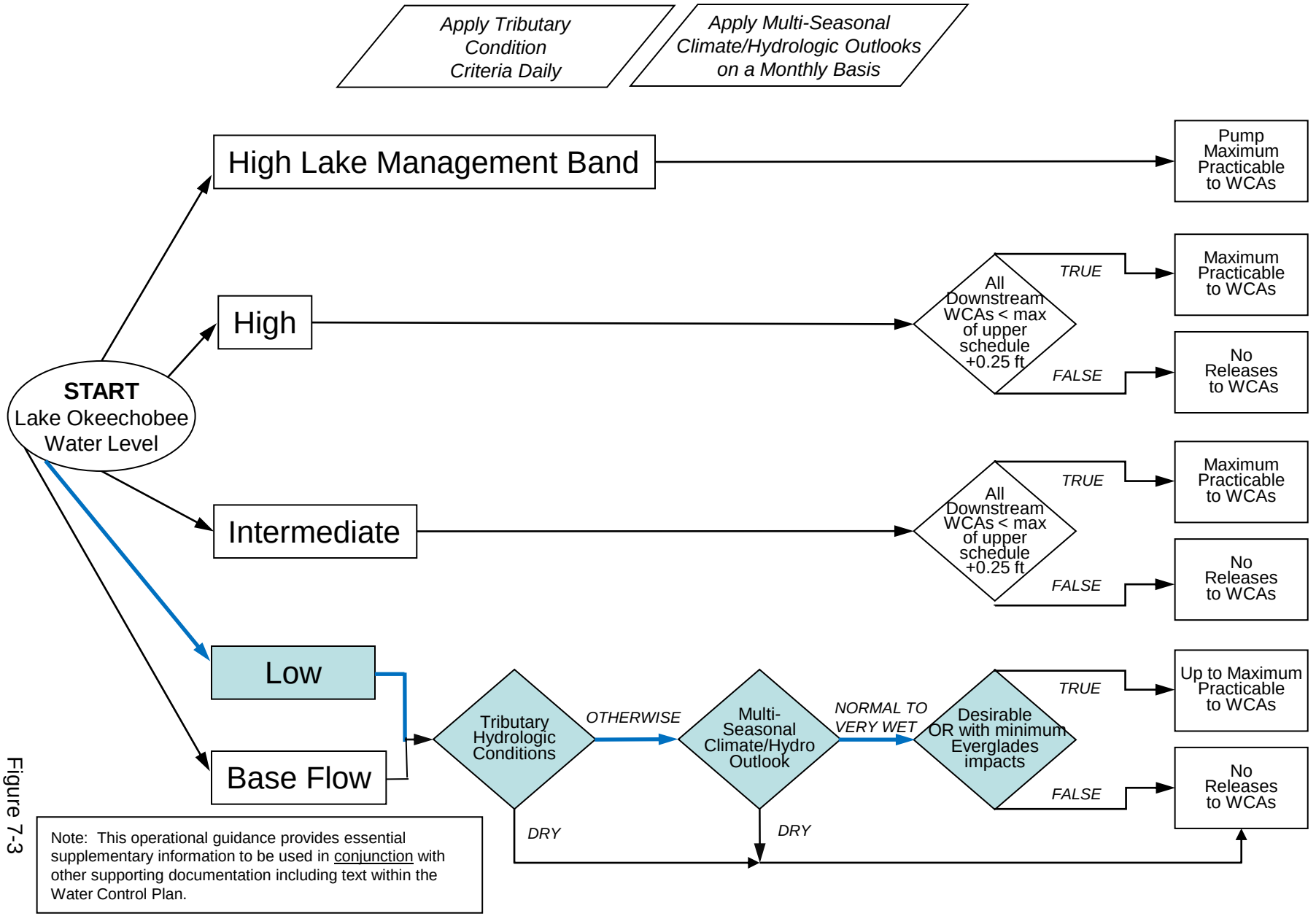
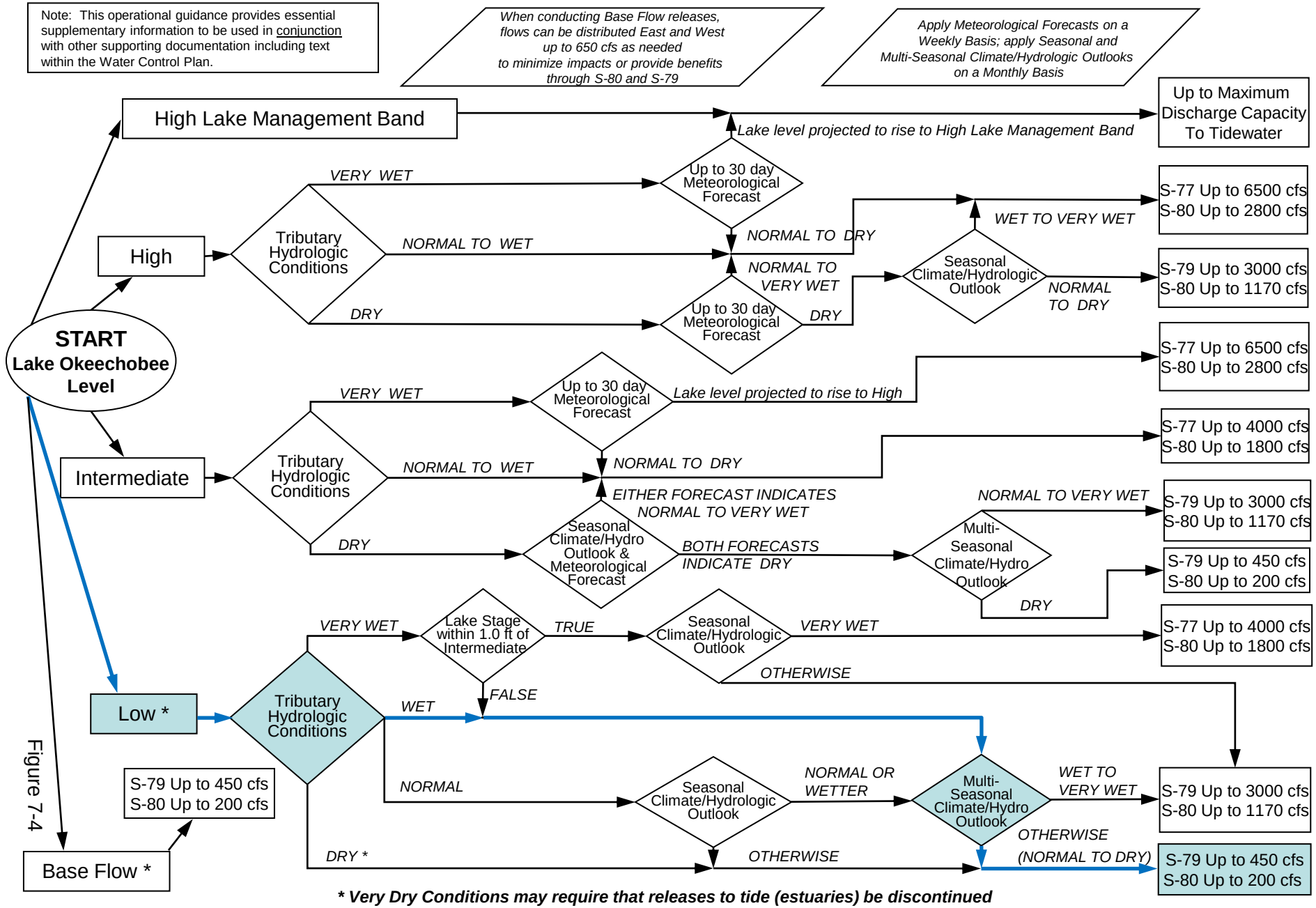


Figure 7-3

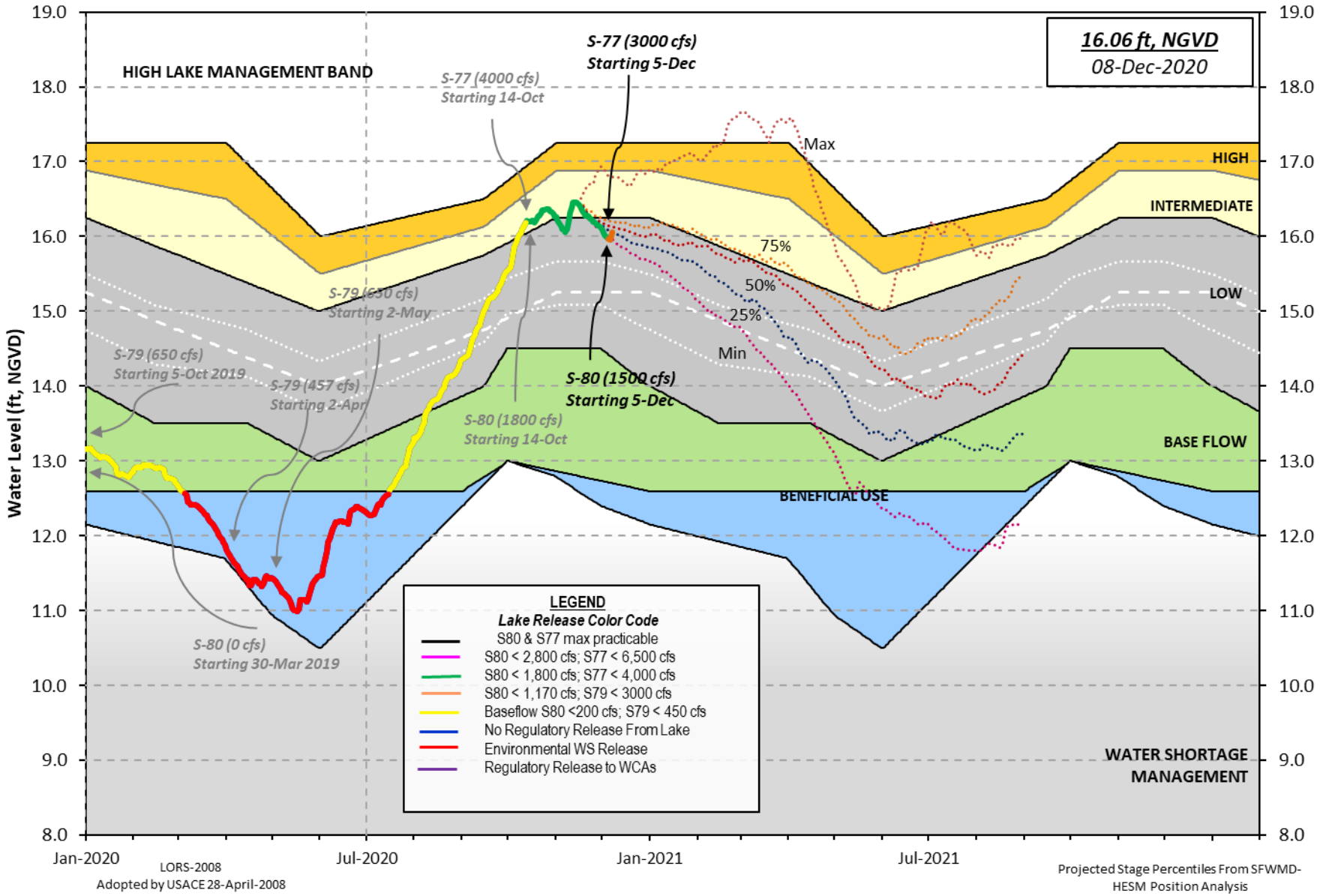
2008 LORS

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



**** Very Dry Conditions may require that releases to tide (estuaries) be discontinued***

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 06 DEC 2020

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.95	12.94	12.94 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.35
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.70
Difference from Average LORS2008 2.25

06DEC (1965-2007) Period of Record Average 14.77
Difference from POR Average 1.18

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 9.89'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 8.09'
Bridge Clearance = 49.09'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.88	15.97	15.98	15.94	15.99	16.08	15.93	15.82

*Combination Okeechobee Avg-Daily Lake Average = 15.95 (*See Note)

Okeechobee Inflows (cfs):

S65E	928	S65EX1	506	Fisheating Cr	82
S154	11	S191	0	S135 Pumps	220
S84	365	S133 Pumps	0	S2 Pumps	0
S84X	139	S127 Pumps	0	S3 Pumps	0
S71	159	S129 Pumps	0	S4 Pumps	0
S72	28	S131 Pumps	0	C5	0

Total Inflows: 2437

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	3137
S127 Culverts	0	S351	130	S308	3
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	1		

Total Outflows: 3271

****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	0.20

Average Pan Evap x 0.75 Pan Coefficient = 0.08" = 0.01'

Lake Average Precipitation using NEXRAD: = 1.29" = 0.11'

Evaporation - Precipitation: = -1.21" = -0.10'
Evaporation - Precipitation using Lake Area of 730 square miles
is equal to 23849 cfs into the lake.
Lake Okeechobee (Change in Storage) Flow is -4336 cfs or -8600 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:	13.56	15.73	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.69	15.74	0	0.0	0.0	0.0					
S135 Pumps:	13.41	15.75	220	55	55	55	55		(cfs)		
S135 Culverts:			0	0.2	0.0						
North West Shore											
S65E:	21.12	15.57	928	0.0	0.5	0.5	0.0	0.0	0.0		
S65EX1:	21.12	15.57	506								
S127 Pumps:	13.49	15.83	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.90	15.90	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.91	15.89	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.53	82								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.96	16.03	0	0	0	0			(cfs)		
S169:	15.31	12.01	262	0.0	0.0	0.0					
S310:	15.94		194								
S3 Pumps:	10.30	16.11	0	0	0	0			(cfs)		
S354:	16.11	10.30	0	0.0	0.0						
S2 Pumps:	10.48	-NR-	0	-NR-	-NR-	-NR-	-NR-		(cfs)		
S351:	-NR-	10.48	130	0.0	0.0	0.0					
S352:	16.10	10.60	0	0.0	0.0						
C10A:	-NR-	14.55		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		14.57	1								
S351 and S352 Temporary Pumps/S354 Spillway											
S351:	10.48	-NR-	130	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.60	16.10	0	-NR-	-NR-	-NR-	-NR-				
S354:	10.30	16.11	0	-NR-	-NR-	-NR-	-NR-				
Caloosahatchee River (S77, S78, S79)											
S47B:	14.30	11.06		0.5	0.5						
S47D:	11.02	11.02	27	5.0							

```
  S77:
    Spillway and Sector Preferred Flow:
               15.65     10.97    3130  2.5  3.0  3.0  3.0
    Flow Due to Lockages+:           7

  S78:
    Spillway and Sector Flow:
               10.79      3.07    3258    2.5  2.5  3.0  2.5
    Flow Due to Lockages+:           0

  S79:
    Spillway and Sector Flow:
                3.11      1.63    4427    0.0  1.0  3.0  3.0  3.0  3.0  3.0  0.0
    Flow Due to Lockages+:          11
    Percent of flow from S77        71%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
               15.93     14.41       0  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:           3

  S153:        19.06     14.24      31    0.0  0.0
  S80:
    Spillway and Sector Flow:
               14.50      0.64     160    0.0  0.0  0.4  0.0  0.0  0.0  0.0
    Flow Due to Lockages+:          16
    Percent of flow from S308        0%

  Steele Point Top Salinity    (mg/ml) ****
  Steele Point Bottom Salinity (mg/ml) ****

  Speedy Point Top Salinity    (mg/ml) 9122
  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 (Degø)	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:	0.06	0.06	0.20	0	8
S78:	1.08	1.08	1.34	330	3
S79:	1.25	1.26	1.44	218	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:	1.16	1.16	1.28	11	3
S80:	0.99	0.99	1.38	25	3
Okeechobee Average	0.61	0.09	0.11		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg	1.29	1.30	1.44

Okeechobee Lake Elevations		06 DEC 2020	15.95	Difference from 06DEC20
06DEC20	-1 Day =	05 DEC 2020	15.97	0.02
06DEC20	-2 Days =	04 DEC 2020	15.98	0.03
06DEC20	-3 Days =	03 DEC 2020	16.00	0.05
06DEC20	-4 Days =	02 DEC 2020	16.02	0.07
06DEC20	-5 Days =	01 DEC 2020	16.08	0.13
06DEC20	-6 Days =	30 NOV 2020	16.12	0.17
06DEC20	-7 Days =	29 NOV 2020	16.13	0.18
06DEC20	-30 Days =	06 NOV 2020	16.09	0.14
06DEC20	-1 Year =	06 DEC 2019	12.94	-3.01
06DEC20	-2 Year =	06 DEC 2018	12.94	-3.01

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
06DEC20	Today =	06 DEC 2020	229	MON	-1075
06DEC20	-1 Day =	05 DEC 2020	588	SUN	1869
06DEC20	-2 Days =	04 DEC 2020	864	SAT	1514
06DEC20	-3 Days =	03 DEC 2020	852	FRI	1136
06DEC20	-4 Days =	02 DEC 2020	543	THU	-8007
06DEC20	-5 Days =	01 DEC 2020	711	WED	-3431
06DEC20	-6 Days =	30 NOV 2020	1029	TUE	3439
06DEC20	-7 Days =	29 NOV 2020	704	MON	1105
06DEC20	-8 Days =	28 NOV 2020	874	SUN	3274
06DEC20	-9 Days =	27 NOV 2020	1041	SAT	979
06DEC20	-10 Days =	26 NOV 2020	1270	FRI	1026
06DEC20	-11 Days =	25 NOV 2020	2211	THU	1068
06DEC20	-12 Days =	24 NOV 2020	3444	WED	1223
06DEC20	-13 Days =	23 NOV 2020	5102	TUE	-918

S65E

			Average Flow over previous 14 days		Avg-Daily Flow
06DEC20	Today=	06 DEC 2020	1532	MON	1049
06DEC20	-1 Day =	05 DEC 2020	1601	SUN	979
06DEC20	-2 Days =	04 DEC 2020	1673	SAT	1252
06DEC20	-3 Days =	03 DEC 2020	1717	FRI	1106
06DEC20	-4 Days =	02 DEC 2020	1780	THU	1167
06DEC20	-5 Days =	01 DEC 2020	1839	WED	1584
06DEC20	-6 Days =	30 NOV 2020	1868	TUE	1691
06DEC20	-7 Days =	29 NOV 2020	1897	MON	1657
06DEC20	-8 Days =	28 NOV 2020	1942	SUN	1659
06DEC20	-9 Days =	27 NOV 2020	1975	SAT	1814
06DEC20	-10 Days =	26 NOV 2020	2014	FRI	1805
06DEC20	-11 Days =	25 NOV 2020	2053	THU	1765
06DEC20	-12 Days =	24 NOV 2020	2078	WED	1933
06DEC20	-13 Days =	23 NOV 2020	2060	TUE	1988

S65EX1

			Average Flow over previous 14 days		Avg-Daily Flow
06DEC20	Today=	06 DEC 2020	205	MON	506
06DEC20	-1 Day =	05 DEC 2020	169	SUN	503
06DEC20	-2 Days =	04 DEC 2020	133	SAT	502

06DEC20	-3 Days =	03 DEC 2020	97	FRI	505
06DEC20	-4 Days =	02 DEC 2020	61	THU	510
06DEC20	-5 Days =	01 DEC 2020	24	WED	340
06DEC20	-6 Days =	30 NOV 2020	0	TUE	0
06DEC20	-7 Days =	29 NOV 2020	0	MON	0
06DEC20	-8 Days =	28 NOV 2020	0	SUN	0
06DEC20	-9 Days =	27 NOV 2020	0	SAT	0
06DEC20	-10 Days =	26 NOV 2020	0	FRI	0
06DEC20	-11 Days =	25 NOV 2020	0	THU	0
06DEC20	-12 Days =	24 NOV 2020	0	WED	0
06DEC20	-13 Days =	23 NOV 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)
06 DEC 2020	6225	7434	6452	8810
05 DEC 2020	6693	7534	6643	-NR-
04 DEC 2020	7849	8402	7317	9553
03 DEC 2020	7892	8245	7305	10218
02 DEC 2020	7885	7990	7214	9491
01 DEC 2020	7912	7771	7047	9121
30 NOV 2020	7807	7827	7109	10203
29 NOV 2020	7786	7995	7251	9836
28 NOV 2020	7815	8086	7260	9601
27 NOV 2020	7780	8209	7272	10273
26 NOV 2020	7873	8071	7262	9439
25 NOV 2020	7947	8289	6898	10214
24 NOV 2020	8147	8388	7034	9269
23 NOV 2020	8157	8319	7598	10716

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)
06 DEC 2020	385	259	0	0	1
05 DEC 2020	445	226	0	53	-4
04 DEC 2020	424	236	28	146	5
03 DEC 2020	63	67	9	0	4
02 DEC 2020	59	0	55	0	11
01 DEC 2020	8	0	118	0	-1
30 NOV 2020	13	0	258	0	-9
29 NOV 2020	7	0	180	0	-4
28 NOV 2020	69	0	0	0	-6
27 NOV 2020	126	0	0	0	-6
26 NOV 2020	71	0	0	0	-11
25 NOV 2020	20	0	0	0	-2
24 NOV 2020	14	0	86	0	4
23 NOV 2020	6	231	174	0	-8

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
06 DEC 2020	6	-58	352
05 DEC 2020	973	1059	1140
04 DEC 2020	3360	3271	3825
03 DEC 2020	3316	3335	3821
02 DEC 2020	3177	3263	3867
01 DEC 2020	3186	3427	3885

30 NOV 2020	3306	3377	3882
29 NOV 2020	3231	3050	3883
28 NOV 2020	3204	2951	3885
27 NOV 2020	3169	3021	3863
26 NOV 2020	3175	2983	3872
25 NOV 2020	3173	3146	3903
24 NOV 2020	3221	3291	4034
23 NOV 2020	3129	3228	4197

*** 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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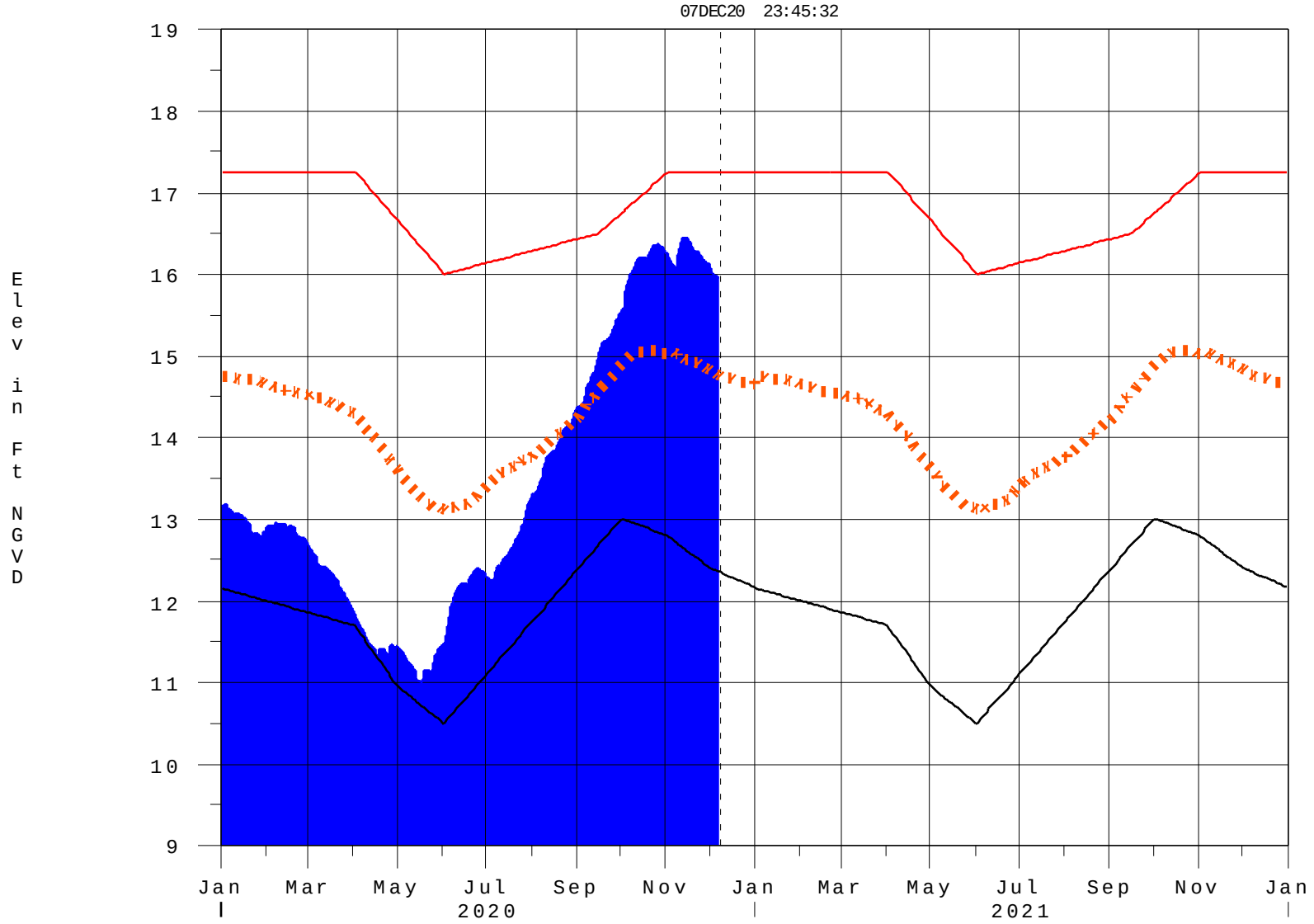
Report Generated 07DEC2020 @ 20:15 ** Preliminary Data - Subject to Revision **

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