Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 12/28/2020 (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	0.28	Dry	-0.33	Dry	-0.22	Dry
Multi Seasonal (Dec-Oct)	N/A	N/A	3.18	Wet	2.38	Normal	2.28	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:

501 cfs 14-day running average for Lake Okeechobee Net Inflow through 12/27/2020.
According to the classification in Tributary Hydrologic Conditions table, this condition is Normal.

1.58 for Palmer Drought Index on 12/26/2020.
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 12/28/2020:

Lake Okeechobee Stage: **15.82 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	14.06	← 15.82 ft
Base Flow sub-band		12.62	
Beneficial Use sub-band		12.19	
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 12/28/2020 (ENSO Condition- La Nina):

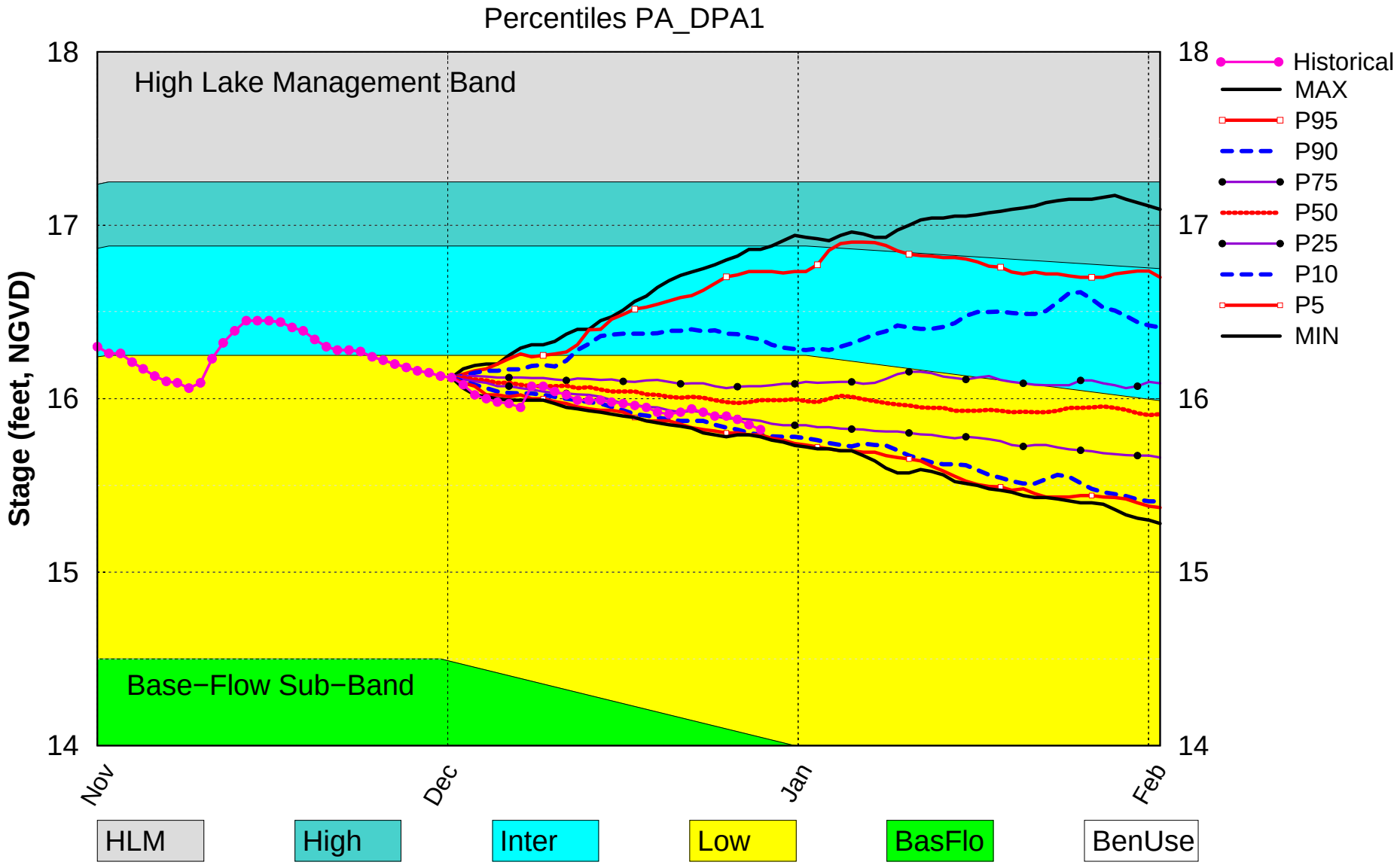
Status for week ending 12/28/2020:

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	1.58 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	-0.33 ft	H
	ENSO Forecast	Extremely Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.38 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.34 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.44 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (11.74 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.

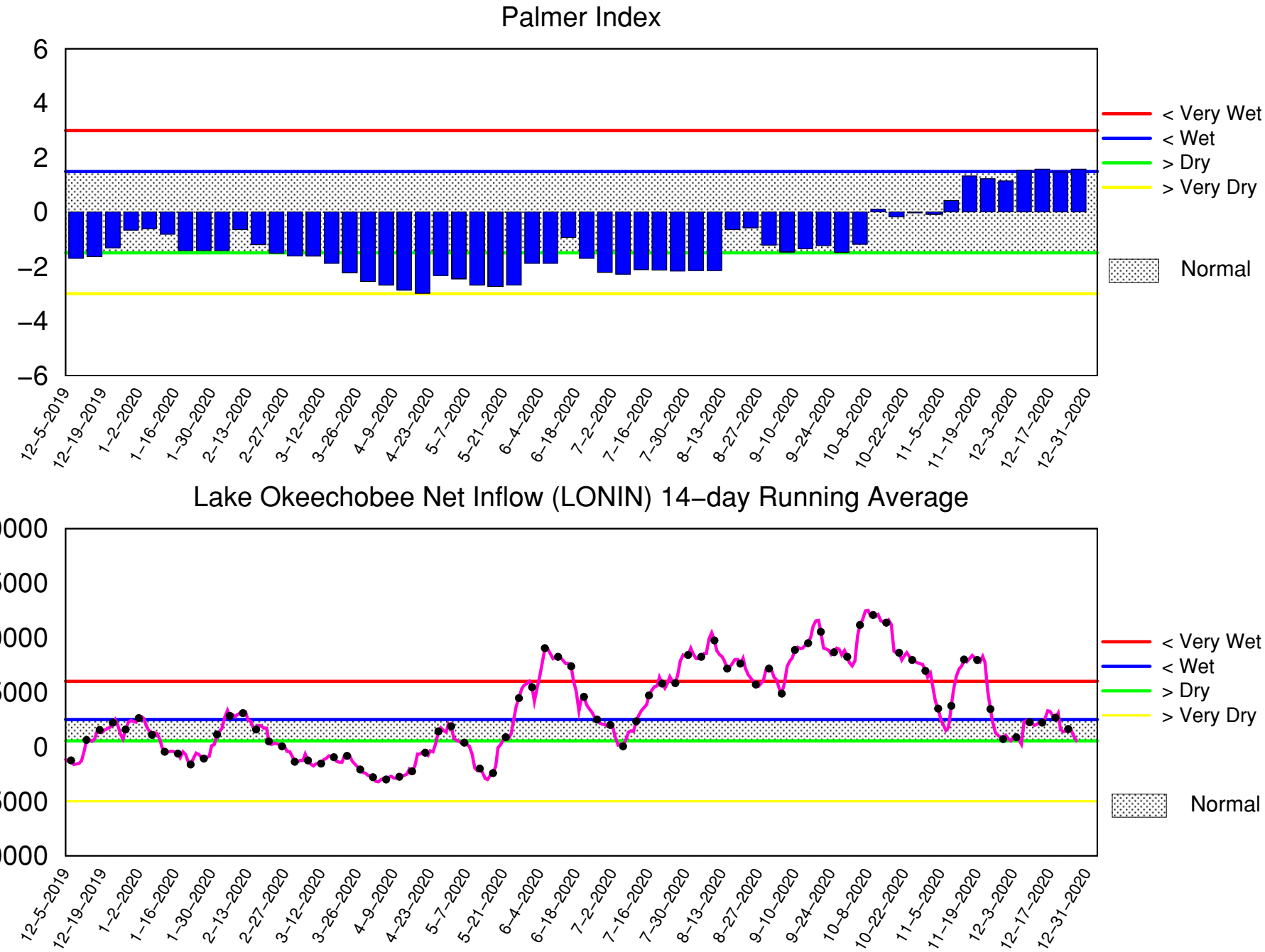
Lake Okeechobee SFWMM Dec 2020 Position Analysis



(See assumptions on the Position Analysis Results website)

Tue Dec 29 07:40:45 EST 2020

Tributary Basin Condition Indicators as of December 28 2020



Mon Dec 28 14:40:38 EST 2020

2008 LORS

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

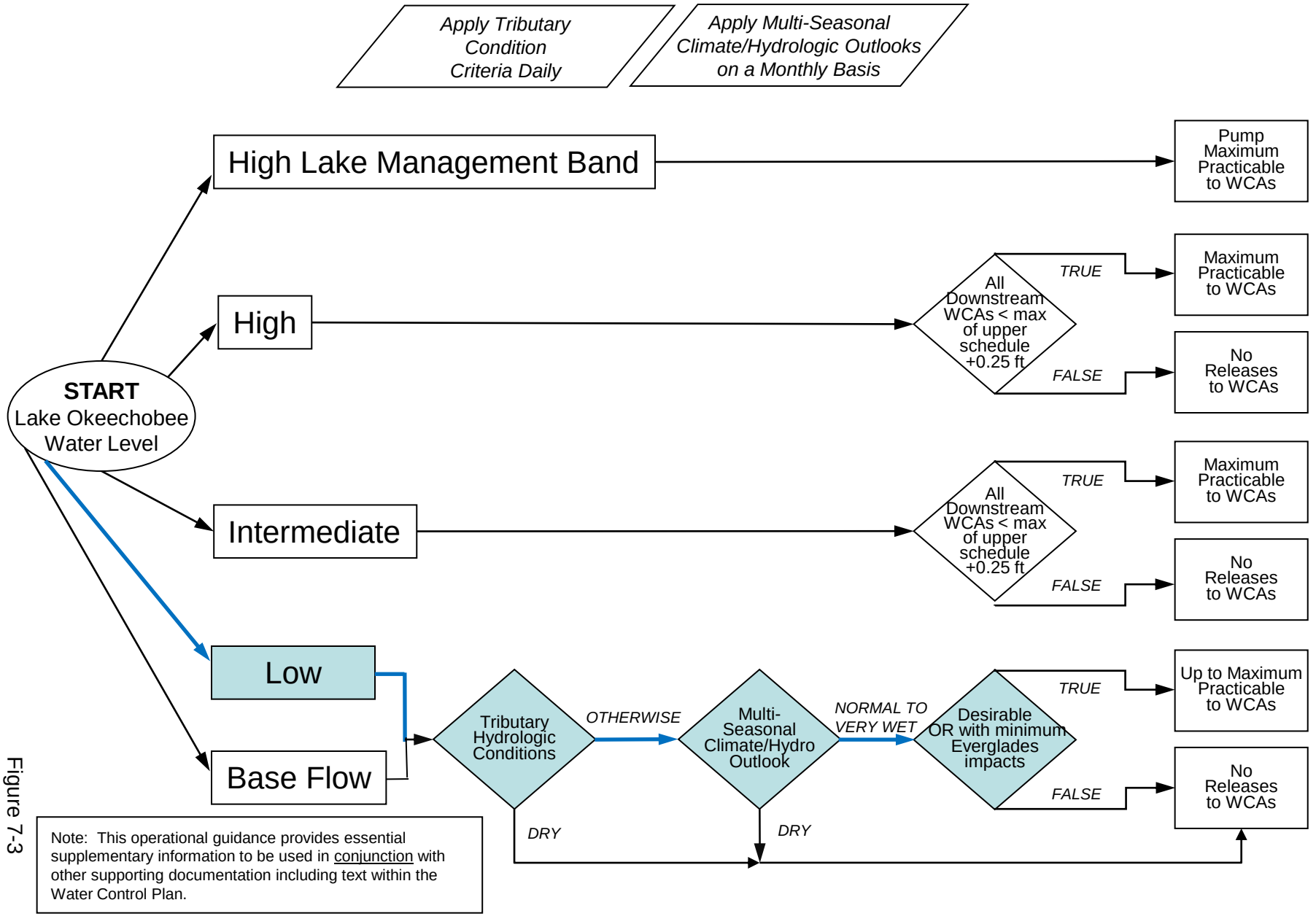
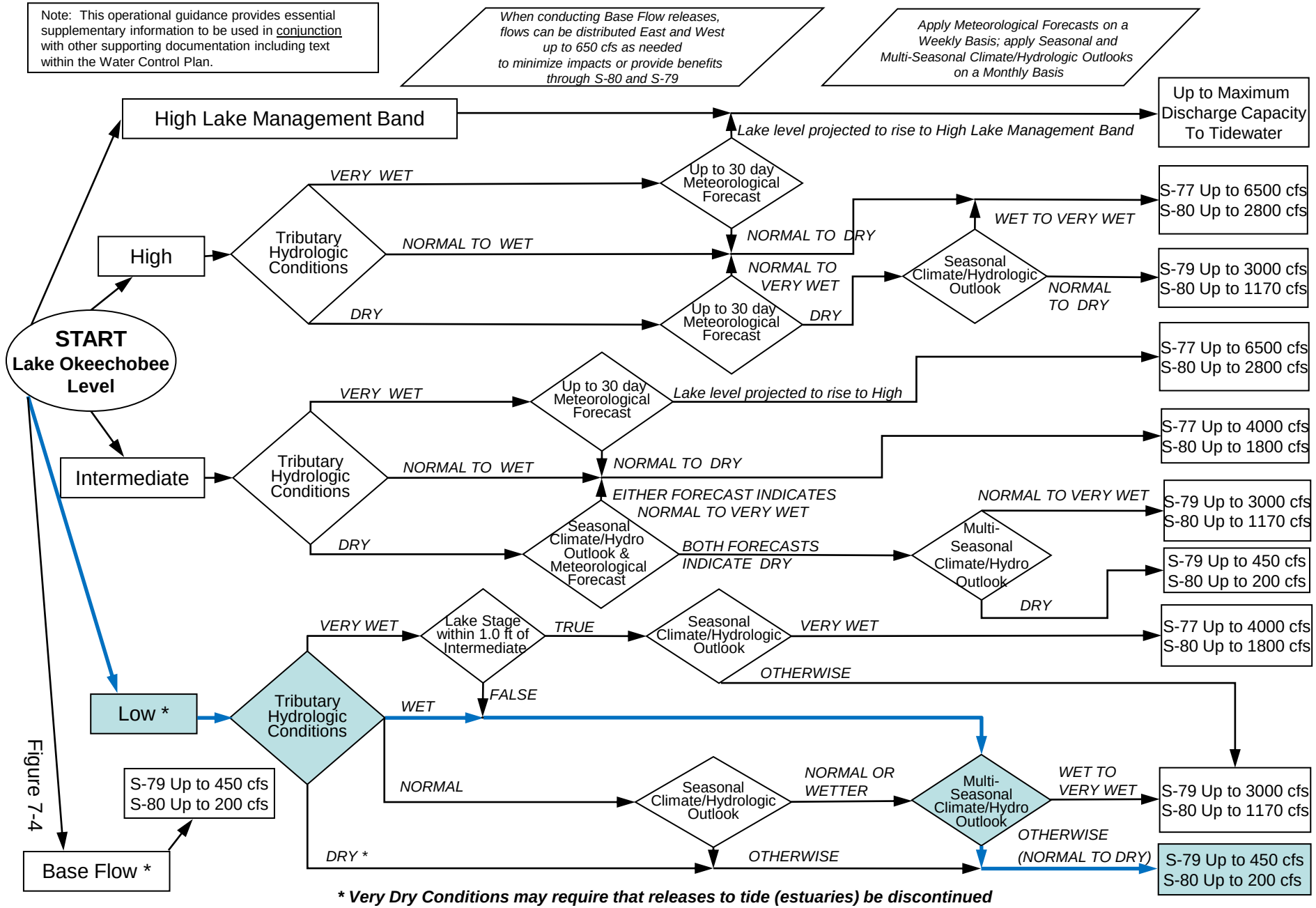


Figure 7-3

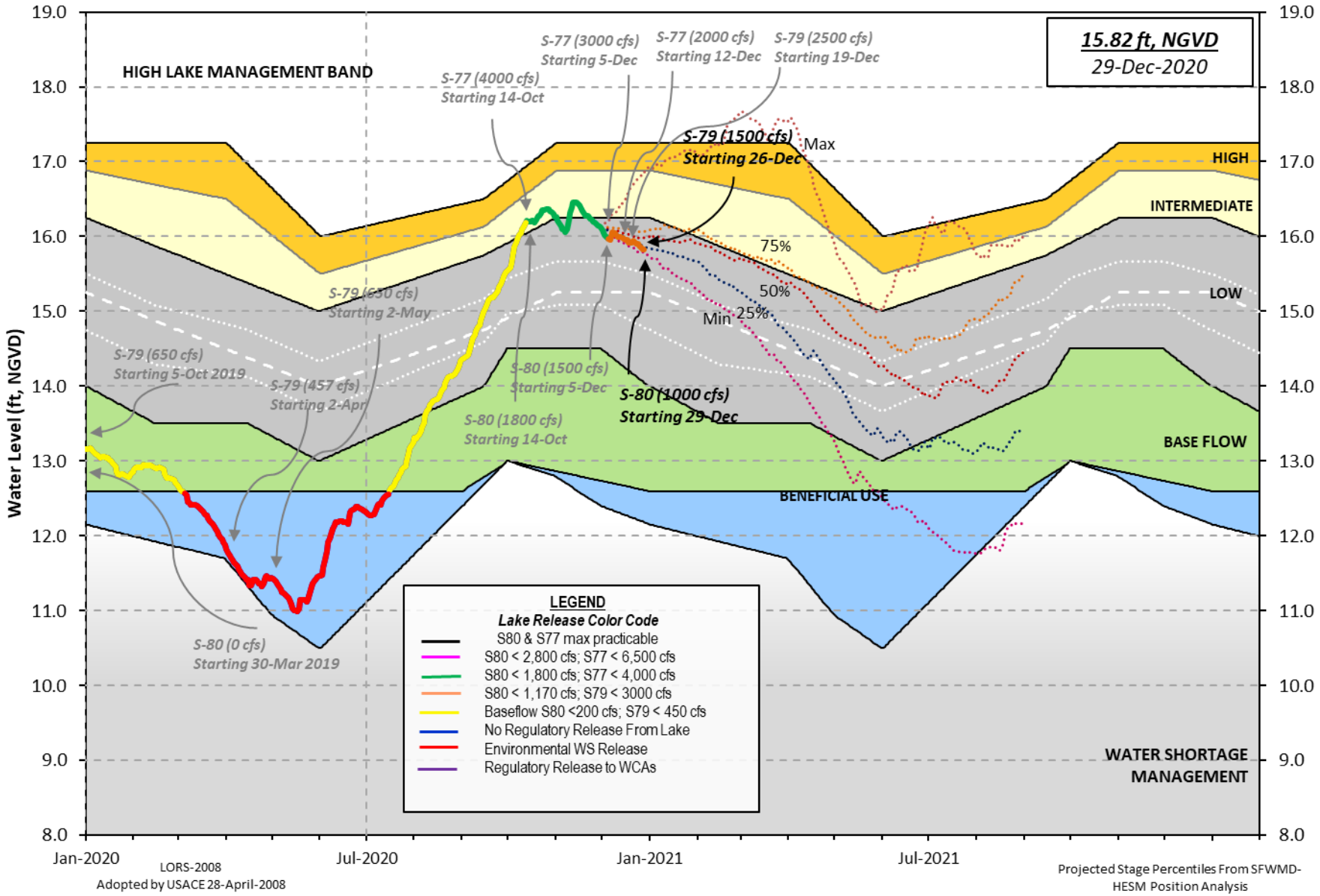
2008 LORS

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 27 DEC 2020

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.82	13.03	12.72 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.19
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.53
Difference from Average LORS2008 2.29

27DEC (1965-2007) Period of Record Average 14.65
Difference from POR Average 1.17

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ◆ 9.76'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ◆ 7.96'
Bridge Clearance = 48.77'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.73	15.85	15.87	15.82	15.92	15.95	15.79	15.67

*Combination Okeechobee Avg-Daily Lake Average = 15.82
(*See Note)

Okeechobee Inflows (cfs):

S65E	962	S65EX1	0	Fisheating Cr	104
S154	22	S191	0	S135 Pumps	0
S84	295	S133 Pumps	0	S2 Pumps	0
S84X	114	S127 Pumps	0	S3 Pumps	0
S71	197	S129 Pumps	0	S4 Pumps	0
S72	10	S131 Pumps	0	C5	0

Total Inflows: 1705

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	36	S77	1219
S127 Culverts	0	S351	0	S308	2148
S129 Culverts	0	S352	45		
S131 Culverts	0	L8 Canal Pt	-1		

Total Outflows: 3446

****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	0.13

Average Pan Evap x 0.75 Pan Coefficient = 0.05" = 0.00'

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

Evaporation - Precipitation: = 0.05" = 0.00'
Evaporation - Precipitation using Lake Area of 730 square miles
is equal to 957 cfs out of the lake.
Lake Okeechobee (Change in Storage) Flow is -6504 cfs or -12900 AC-FT

	Headwater Elevation (ft-msl)	Tailwater Elevation (ft-msl)	Disch (cfs) (I) see note at bottom	Gate Positions #1 (ft)	#2 (ft)	#3 (ft)	#4 (ft)	#5 (ft)	#6 (ft)	#7 (ft)	#8 (ft)
North East Shore											
S133 Pumps:	13.62	15.65	0	0	0	0	0	0	(cfs)		
S193:											
S191:	19.20	15.68	0	0.0	0.0	0.0					
S135 Pumps:	13.78	15.64	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.1	0.0						
North West Shore											
S65E:	21.13	15.35	962	0.4	0.8	0.4	0.1	0.6	0.6		
S65EX1:	21.13	15.35	0								
S127 Pumps:	13.56	15.75	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.07	15.80	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.95	15.78	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		30.84	104								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.15	15.88	0	0	0	0			(cfs)		
S169:	14.77	11.07	0	0.0	0.0	0.0					
S310:	15.81		6								
S3 Pumps:	10.51	15.90	0	0	0	0			(cfs)		
S354:	15.90	10.51	36	0.0	0.0						
S2 Pumps:	10.38	-NR-	0	-NR-	-NR-	-NR-	-NR-		(cfs)		
S351:	-NR-	10.38	0	0.0	0.0	0.0					
S352:	15.97	10.27	45	0.0	0.4						
C10A:	-NR-	14.80		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		14.85	-1								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.38	-NR-	0	-NR--NR--NR--NR--NR--NR--NR-
S352:	10.27	15.97	45	-NR--NR--NR--NR-
S354:	10.51	15.90	36	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)					
S47B:	14.22	12.55		1.0	1.0
S47D:	12.46	11.12	53	1.0	

```
  S77:
    Spillway and Sector Preferred Flow:
              15.70     11.00    1209  0.0  2.5  0.5  0.0
    Flow Due to Lockages+:          10

  S78:
    Spillway and Sector Flow:
              11.01      3.10    1052    0.0  0.0  2.5  0.0
    Flow Due to Lockages+:           0

  S79:
    Spillway and Sector Flow:
               3.28      1.79    1885    0.0  0.0  2.0  2.6  2.0  0.0  0.0  0.0
    Flow Due to Lockages+:          13
    Percent of flow from S77        64%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
              15.79     14.73    2144  3.0  3.0  3.0  3.0
    Flow Due to Lockages+:           4

  S153:        18.82     14.52      49    0.0  0.0
  S80:
    Spillway and Sector Flow:
              14.10      0.91    1401    0.0  0.0  2.0  2.0  2.0  0.0  0.0
    Flow Due to Lockages+:          15
    Percent of flow from S308      153%

  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	0.08	0.16	22	5
S78:	0.00	0.00	0.09	95	1
S79:	0.00	0.00	0.18	242	2
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:	0.01	0.02	0.06	74	4
S80:	0.16	0.16	0.32	30	1
Okeechobee Average	0.01	0.01	0.02		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg	0.00	0.00	0.12

Okeechobee Lake Elevations			27 DEC 2020	15.82	Difference from 27DEC20
27DEC20	-1 Day =		26 DEC 2020	15.85	0.03
27DEC20	-2 Days =		25 DEC 2020	15.88	0.06
27DEC20	-3 Days =		24 DEC 2020	15.90	0.08
27DEC20	-4 Days =		23 DEC 2020	15.90	0.08
27DEC20	-5 Days =		22 DEC 2020	15.92	0.10
27DEC20	-6 Days =		21 DEC 2020	15.94	0.12
27DEC20	-7 Days =		20 DEC 2020	15.92	0.10
27DEC20	-30 Days =		27 NOV 2020	16.16	0.34
27DEC20	-1 Year =		27 DEC 2019	13.03	-2.79
27DEC20	-2 Year =		27 DEC 2018	12.72	-3.10

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
27DEC20	Today =	27 DEC 2020	502	MON	-3070
27DEC20	-1 Day =	26 DEC 2020	998	SUN	-2890
27DEC20	-2 Days =	25 DEC 2020	1556	SAT	-2190
27DEC20	-3 Days =	24 DEC 2020	1607	FRI	2496
27DEC20	-4 Days =	23 DEC 2020	1425	THU	-408
27DEC20	-5 Days =	22 DEC 2020	1193	WED	-322
27DEC20	-6 Days =	21 DEC 2020	1432	TUE	7053
27DEC20	-7 Days =	20 DEC 2020	3055	MON	4506
27DEC20	-8 Days =	19 DEC 2020	2657	SUN	-119
27DEC20	-9 Days =	18 DEC 2020	2799	SAT	-4424
27DEC20	-10 Days =	17 DEC 2020	3223	FRI	559
27DEC20	-11 Days =	16 DEC 2020	3264	THU	1908
27DEC20	-12 Days =	15 DEC 2020	2556	WED	1747
27DEC20	-13 Days =	14 DEC 2020	2186	TUE	2181

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
27DEC20	Today=	27 DEC 2020	1652	MON	1070
27DEC20	-1 Day =	26 DEC 2020	1710	SUN	1306
27DEC20	-2 Days =	25 DEC 2020	1756	SAT	1421
27DEC20	-3 Days =	24 DEC 2020	1777	FRI	1446
27DEC20	-4 Days =	23 DEC 2020	1802	THU	1573
27DEC20	-5 Days =	22 DEC 2020	1810	WED	1600
27DEC20	-6 Days =	21 DEC 2020	1832	TUE	1692
27DEC20	-7 Days =	20 DEC 2020	1838	MON	1622
27DEC20	-8 Days =	19 DEC 2020	1797	SUN	1805
27DEC20	-9 Days =	18 DEC 2020	1737	SAT	1830
27DEC20	-10 Days =	17 DEC 2020	1696	FRI	2004
27DEC20	-11 Days =	16 DEC 2020	1630	THU	1947
27DEC20	-12 Days =	15 DEC 2020	1573	WED	2038
27DEC20	-13 Days =	14 DEC 2020	1540	TUE	1772

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
27DEC20	Today=	27 DEC 2020	0	MON	0
27DEC20	-1 Day =	26 DEC 2020	0	SUN	0
27DEC20	-2 Days =	25 DEC 2020	0	SAT	0

27DEC20	-3 Days =	24 DEC 2020	0	FRI	0
27DEC20	-4 Days =	23 DEC 2020	0	THU	0
27DEC20	-5 Days =	22 DEC 2020	0	WED	0
27DEC20	-6 Days =	21 DEC 2020	0	TUE	0
27DEC20	-7 Days =	20 DEC 2020	8	MON	0
27DEC20	-8 Days =	19 DEC 2020	44	SUN	0
27DEC20	-9 Days =	18 DEC 2020	80	SAT	0
27DEC20	-10 Days =	17 DEC 2020	116	FRI	0
27DEC20	-11 Days =	16 DEC 2020	152	THU	0
27DEC20	-12 Days =	15 DEC 2020	188	WED	0
27DEC20	-13 Days =	14 DEC 2020	212	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)
27 DEC 2020	2396	2531	2058	3796
26 DEC 2020	2810	1771	2819	2842
25 DEC 2020	4	71	586	3186
24 DEC 2020	461	991	1056	1652
23 DEC 2020	3170	3643	3856	3545
22 DEC 2020	5448	6068	5368	6481
21 DEC 2020	5390	6027	5547	8718
20 DEC 2020	4680	5124	5622	6926
19 DEC 2020	4073	4473	4154	6852
18 DEC 2020	4124	4494	4132	5231
17 DEC 2020	4209	4655	4327	6108
16 DEC 2020	4198	4136	4598	6636
15 DEC 2020	4137	4783	4598	8678
14 DEC 2020	4053	4788	4637	7299

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)
27 DEC 2020	12	0	89	72	-3
26 DEC 2020	6	0	0	91	-7
25 DEC 2020	7	91	0	0	-2
24 DEC 2020	173	0	0	0	-5
23 DEC 2020	3	0	0	0	7
22 DEC 2020	0	0	0	0	-1
21 DEC 2020	5	0	0	0	-3
20 DEC 2020	20	0	0	0	-4
19 DEC 2020	-3	0	0	0	1
18 DEC 2020	-1	0	0	0	2
17 DEC 2020	9	0	0	0	-7
16 DEC 2020	******	0	0	0	9
15 DEC 2020	******	64	26	0	5
14 DEC 2020	12	300	374	327	2

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
27 DEC 2020	4219	4008	2810
26 DEC 2020	4335	4091	2811
25 DEC 2020	4184	4299	2801
24 DEC 2020	4471	4266	2805
23 DEC 2020	4560	4415	2777
22 DEC 2020	2551	2107	2503

21 DEC 2020	5	-93	667
20 DEC 2020	7	51	42
19 DEC 2020	8	103	42
18 DEC 2020	7	41	438
17 DEC 2020	1189	1013	1080
16 DEC 2020	3911	3521	2827
15 DEC 2020	3553	3212	2806
14 DEC 2020	3583	2920	2849

*** 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

---

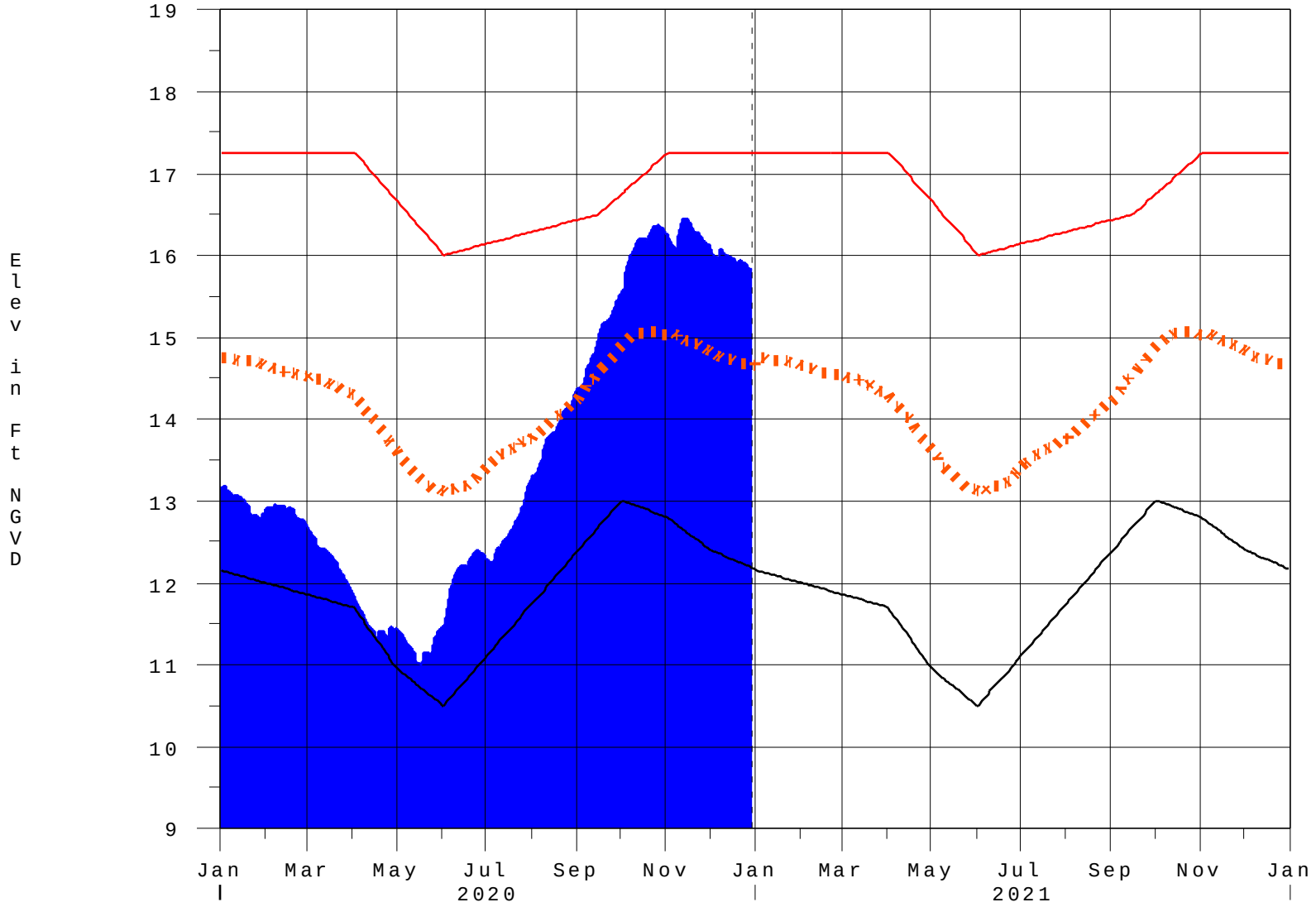
* On 11 May 1999, Lake Okeechobee Elevation was switched from Instantaneous 2400 value to an average-daily lake average.
On 14 Mar 2001, due to the isolation of various gages within the standard 10 stations, the average of the interior 4 station gages was used as the Lake Okeechobee Elevation.
On 05 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 28DEC2020 @ 23:39 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

29DEC20 07:18:20



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