

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 10/12/2020 (ENSO Condition: La Niña)

Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using 4 methods: Croley's method¹, the SFWMD empirical method², a sub-sampling of La Nina years³ and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Nina ENSO years⁴. 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)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Oct-Mar)	N/A	N/A	1.44	Normal	0.91	Normal	0.85	Normal
Multi Seasonal (Oct-Apr)	N/A	N/A	1.52	Normal	0.77	Dry	0.75	Dry

***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:

11946 cfs 14-day running average for Lake Okeechobee Net Inflow through 10/12/2020. According to the classification in Tributary Hydrologic Conditions table, this condition is Very Wet.

0.11 for Palmer Drought Index on 10/10/2020.

According to the classification in Tributary Hydrologic Conditions table, this condition is Normal.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 10/12/2020:

Lake Okeechobee Stage: **16.14 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.91	
Operational Band	High sub-band	16.54	
	Intermediate sub-band	16.03	← 16.14ft
	Low sub-band	14.50	
Base Flow sub-band		12.96	
Beneficial Use sub-band		12.93	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

No releases to WCAs.

Part D of LORS2008: Discharge to Tide

Up to 4000 cfs at S-77 and up to 1800 cfs at S-80.

LORS2008 Implementation on 10/12/2020 (ENSO Condition- La Nina):

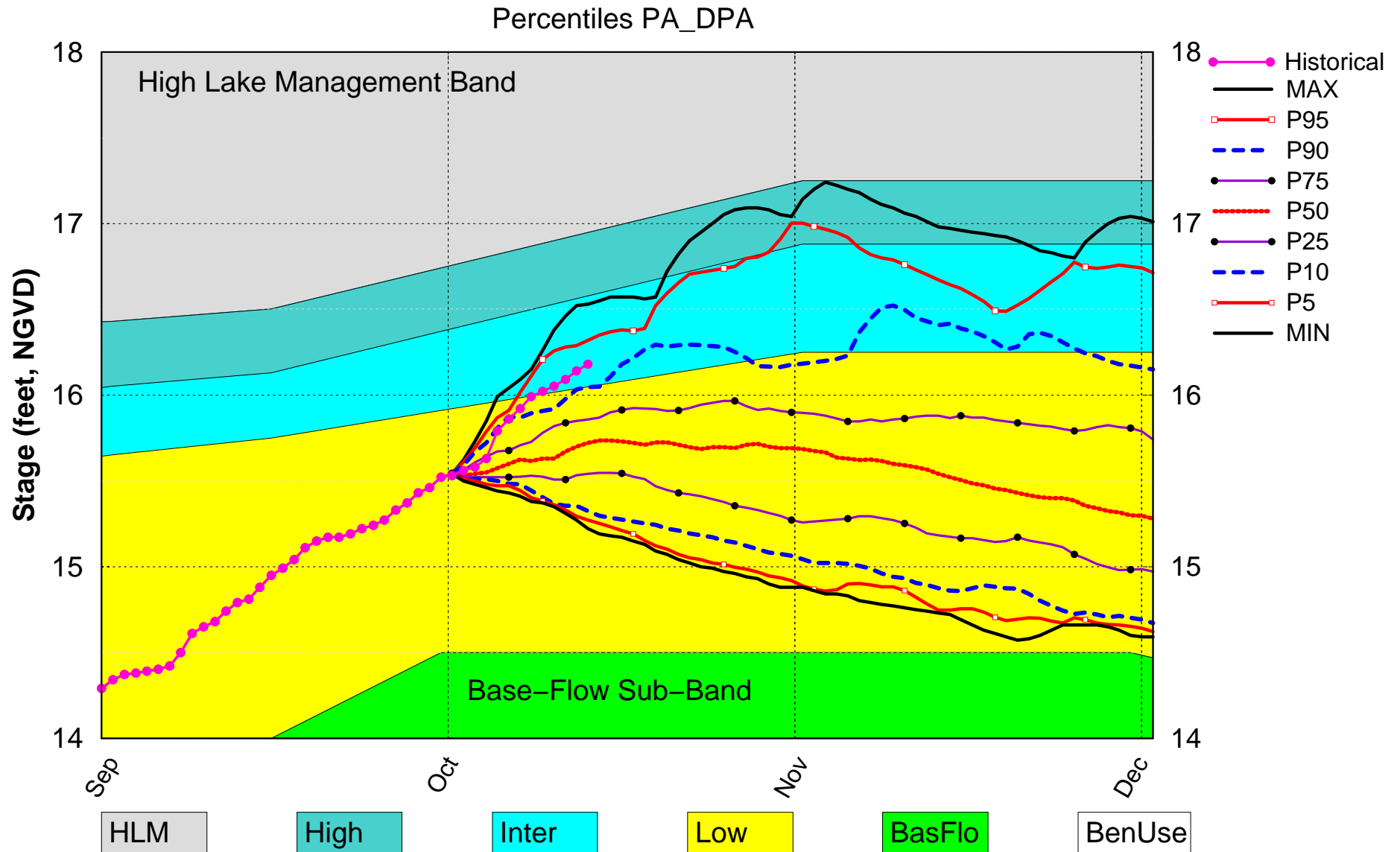
Status for week ending 10/12/2020:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	0.11 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	0.91 ft	M
	ENSO Forecast (positive)	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	0.77 ft	H
	ENSO Forecast (positive)	Dry	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.39 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.66 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.94 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.

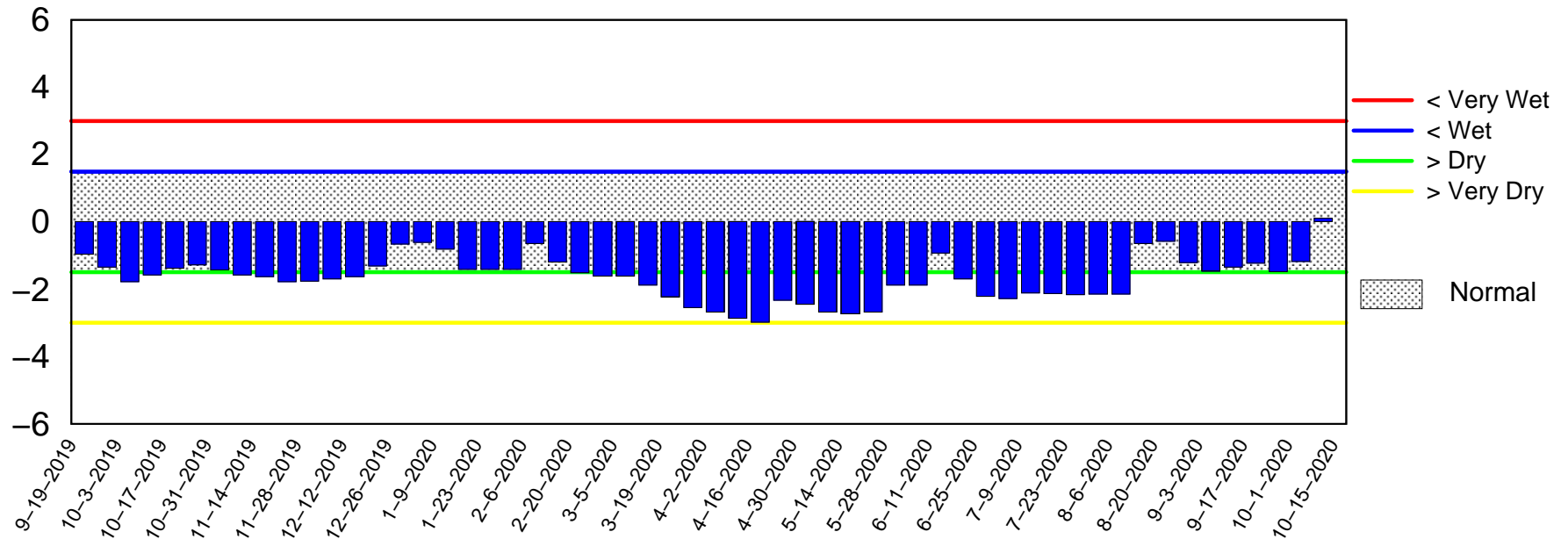
Lake Okeechobee SFWMM Oct 2020 Position Analysis



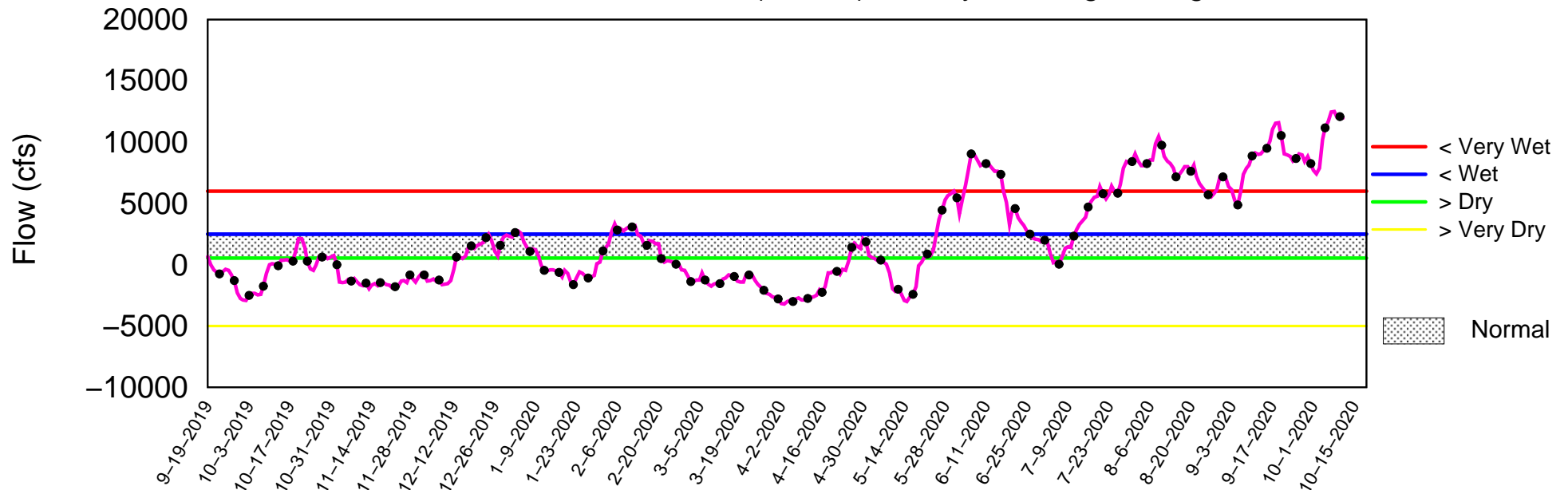
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of October 12 2020

Palmer Index



Lake Okeechobee Net Inflow (LONIN) 14-day Running Average



Mon Oct 12 13:48:15 EDT 2020

2008 LORS

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

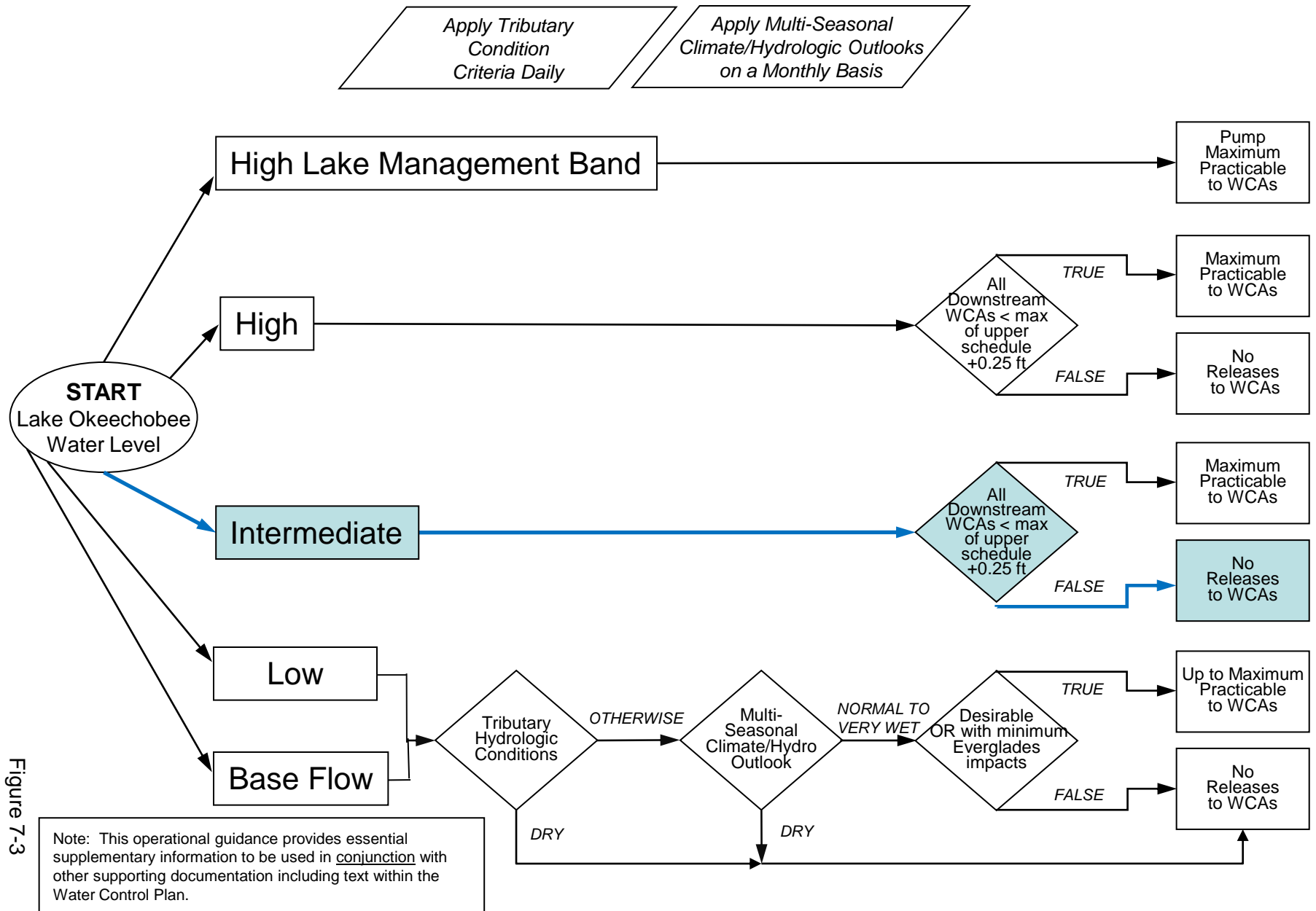


Figure 7-3

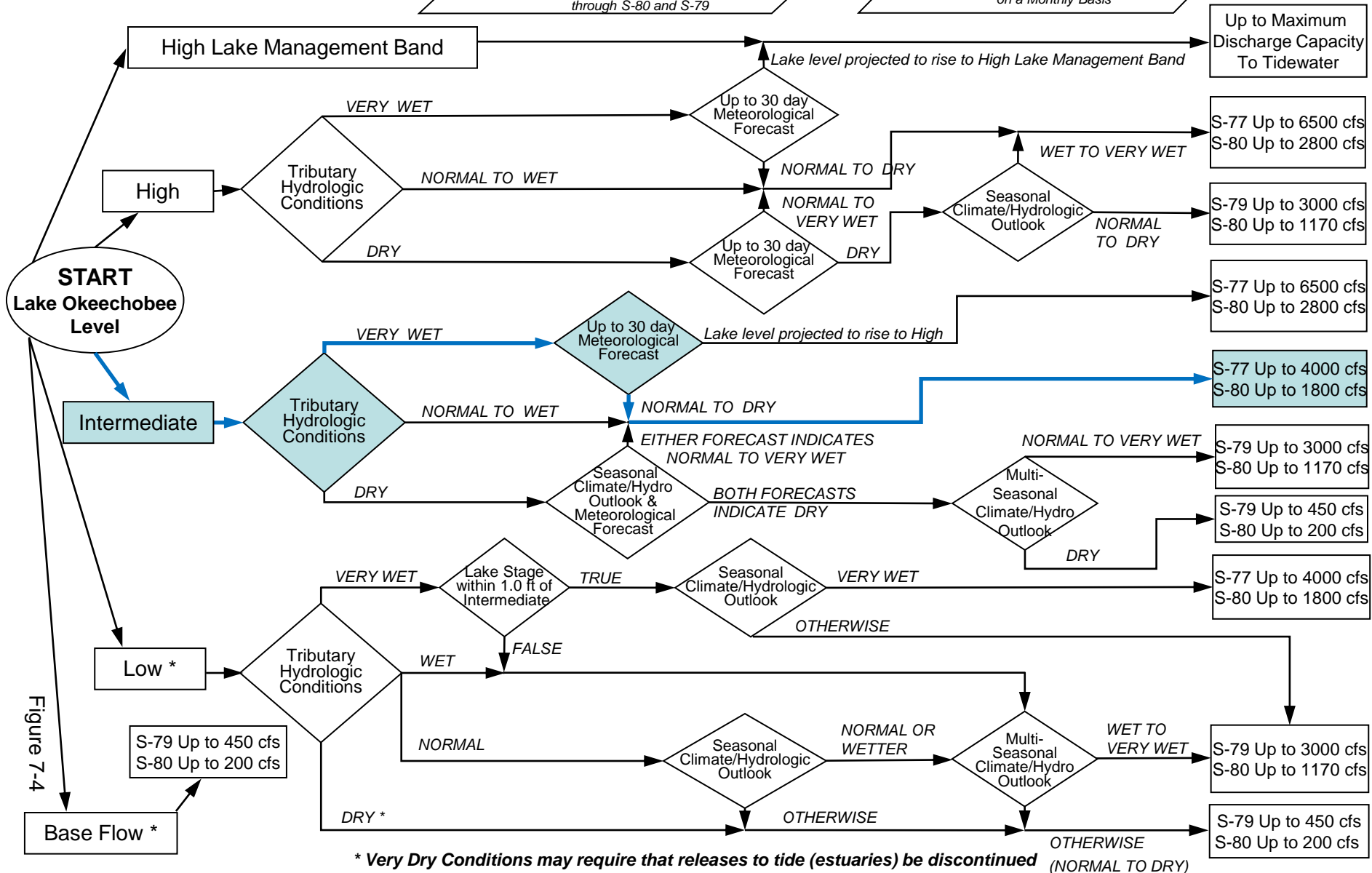
2008 LORS

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

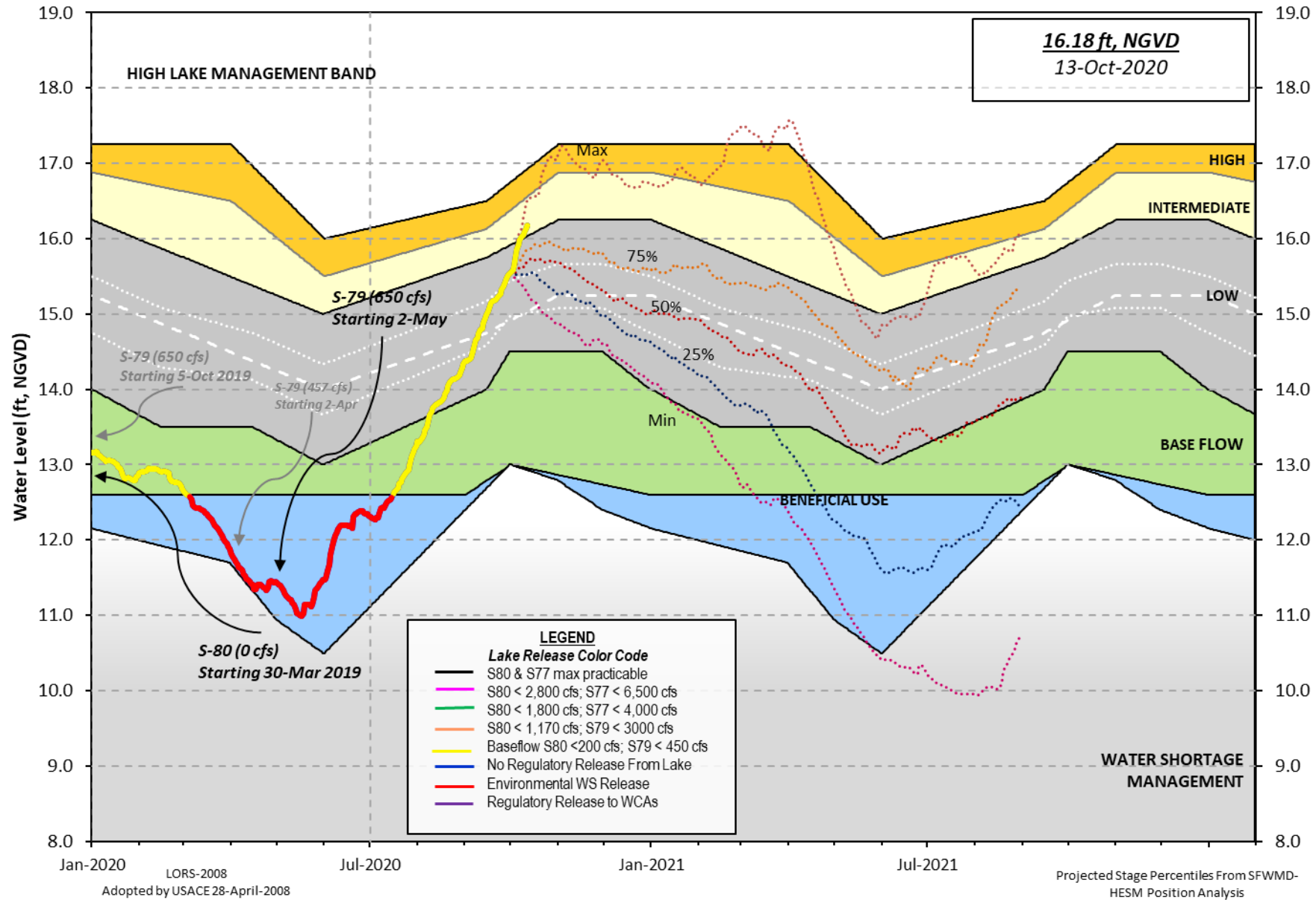
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

When conducting Base Flow releases, flows can be distributed East and West up to 650 cfs as needed to minimize impacts or provide benefits through S-80 and S-79

Apply Meteorological Forecasts on a Weekly Basis; apply Seasonal and Multi-Seasonal Climate/Hydrologic Outlooks on a Monthly Basis



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 11 OCT 2020

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	16.14	13.52	14.25 (Official Elv)
Bottom of High Lake Mngmt=	16.91	Top of Water Short Mngmt=	12.93
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.95
Difference from Average LORS2008	2.19

11OCT (1965-2007) Period of Record Average	15.03
Difference from POR Average	1.11

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 10.08'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 8.28'
 Bridge Clearance = 49.36'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.16	16.15	16.14	16.12	16.10	16.27	16.12	16.09

*Combination Okeechobee Avg-Daily Lake Average = 16.14
 (*See Note)

Okeechobee Inflows (cfs):

S65E	3728	S65EX1	892	Fisheating Cr	1296
S154	163	S191	273	S135 Pumps	213
S84	1211	S133 Pumps	99	S2 Pumps	0
S84X	310	S127 Pumps	33	S3 Pumps	0
S71	959	S129 Pumps	33	S4 Pumps	0
S72	389	S131 Pumps	22	C5	0
Total Inflows:	9621				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	353	S77	8
S127 Culverts	0	S351	200	S308	4
S129 Culverts	0	S352	290		
S131 Culverts	0	L8 Canal Pt	-30		
Total Outflows:	824				

****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	0.17
Average Pan Evap x 0.75 Pan Coefficient = 0.06" = 0.01'			

Lake Average Precipitation using NEXRAD: = 0.18" = 0.02'

Evaporation - Precipitation: = -0.12" = -0.01'
 Evaporation - Precipitation using Lake Area of 730 square miles
 is equal to 2282 cfs into the lake.
 Lake Okeechobee (Change in Storage) Flow is 11344 cfs or 22500 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:	13.36	16.12	99	0	42	36	24	0			(cfs)
S193:											
S191:	19.55	16.15	273	0.3	0.3	0.3					
S135 Pumps:	13.40	16.06	213	49	55	55	55				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.12	16.14	3728	2.0	1.9	1.9	2.0	1.5	1.5		
S65EX1:	21.12	16.14	892								
S127 Pumps:	13.35	16.06	33	0	0	36	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	12.85	16.10	33	0	0	36					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	12.85	16.13	22	0	24						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		33.21	1296								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	10.89	16.12	0	0	0	0					(cfs)
S169:	15.11	10.90	0	0.0	0.0	0.0					
S310:	16.06		6								
S3 Pumps:	9.25	16.18	0	0	0	0					(cfs)
S354:	16.18	9.25	353	0.5	0.5						
S2 Pumps:	9.56	-NR-	0	-NR-	-NR-	-NR-	-NR-				(cfs)
S351:	-NR-	9.56	200	0.2	0.2	0.2					
S352:	16.24	10.02	290	0.3	0.4						
C10A:	-NR-	16.15		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		16.19	-30								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	9.56	-NR-	200	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-		
S352:	10.02	16.24	290	-NR-	-NR-	-NR-	-NR-				
S354:	9.25	16.18	353	-NR-	-NR-	-NR-	-NR-				

Caloosahatchee River (S77, S78, S79)

S47B:	14.15	12.24		0.9	0.9						
S47D:	12.39	10.86	50	0.0							

S77:

Spillway and Sector Preferred Flow:

15.94 10.70 0 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 8

S78:

Spillway and Sector Flow:

10.72 2.39 600 0.5 0.0 0.0 0.0
Flow Due to Lockages+: 14

S79:

Spillway and Sector Flow:

2.69 2.30 2331 3.0 3.0 3.0 3.0 3.0 1.5 0.0 0.0
Flow Due to Lockages+: 1
Percent of flow from S77 0%
Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:

16.14 14.14 0 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 4

S153: 18.67 13.96 186 0.5 0.5

S80:

Spillway and Sector Flow:

14.14 1.17 551 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 22
Percent of flow from S308 0%

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

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

Speedy Point Top Salinity (mg/ml) 3105

Speedy Point Bottom Salinity (mg/ml) 9615

+ 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

	1-Day	3-Day	7-Day	----- Wind -----	
Daily Precipitation Totals	(inches)	(inches)	(inches)	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:	0.03	0.10	0.22	240	1
S78:	0.07	0.09	0.49	237	0
S79:	0.05	0.05	0.06	138	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:	0.52	1.11	1.97	123	4
S80:	0.00	0.40	1.93	180	1
Okeechobee Average	0.27	0.09	0.17		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg 0.18 0.53 0.94

Okeechobee Lake Elevations	11 OCT 2020	16.14	Difference from 11OCT20
11OCT20 -1 Day =	10 OCT 2020	16.09	-0.05
11OCT20 -2 Days =	09 OCT 2020	16.05	-0.09
11OCT20 -3 Days =	08 OCT 2020	16.02	-0.12
11OCT20 -4 Days =	07 OCT 2020	15.99	-0.15
11OCT20 -5 Days =	06 OCT 2020	15.92	-0.22
11OCT20 -6 Days =	05 OCT 2020	15.86	-0.28
11OCT20 -7 Days =	04 OCT 2020	15.79	-0.35
11OCT20 -30 Days =	11 SEP 2020	14.79	-1.35
11OCT20 -1 Year =	11 OCT 2019	13.52	-2.62
11OCT20 -2 Year =	11 OCT 2018	14.25	-1.89

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
11OCT20 Today =	11 OCT 2020	12674	MON		12187
11OCT20 -1 Day =	10 OCT 2020	12728	SUN		9992
11OCT20 -2 Days =	09 OCT 2020	13070	SAT		7659
11OCT20 -3 Days =	08 OCT 2020	13833	FRI		7529
11OCT20 -4 Days =	07 OCT 2020	13798	THU		-NR-
11OCT20 -5 Days =	06 OCT 2020	12812	WED		13909
11OCT20 -6 Days =	05 OCT 2020	12040	TUE		15984
11OCT20 -7 Days =	04 OCT 2020	10808	MON		35448
11OCT20 -8 Days =	03 OCT 2020	6937	SUN		11615
11OCT20 -9 Days =	02 OCT 2020	6191	SAT		5121
11OCT20 -10 Days =	01 OCT 2020	6641	FRI		7294
11OCT20 -11 Days =	30 SEP 2020	7517	THU		-NR-
11OCT20 -12 Days =	29 SEP 2020	7844	WED		-NR-
11OCT20 -13 Days =	28 SEP 2020	7901	TUE		-NR-

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
11OCT20 Today=	11 OCT 2020	4476	MON		3919
11OCT20 -1 Day =	10 OCT 2020	4500	SUN		4229
11OCT20 -2 Days =	09 OCT 2020	4503	SAT		4360
11OCT20 -3 Days =	08 OCT 2020	4490	FRI		4343
11OCT20 -4 Days =	07 OCT 2020	4497	THU		4993
11OCT20 -5 Days =	06 OCT 2020	4471	WED		5139
11OCT20 -6 Days =	05 OCT 2020	4412	TUE		5103
11OCT20 -7 Days =	04 OCT 2020	4324	MON		5207
11OCT20 -8 Days =	03 OCT 2020	4190	SUN		4143
11OCT20 -9 Days =	02 OCT 2020	4131	SAT		3743
11OCT20 -10 Days =	01 OCT 2020	4102	FRI		4290
11OCT20 -11 Days =	30 SEP 2020	4028	THU		4415
11OCT20 -12 Days =	29 SEP 2020	3950	WED		4356
11OCT20 -13 Days =	28 SEP 2020	3843	TUE		4430

S65EX1					
Average Flow over previous 14 days					Avg-Daily Flow
11OCT20 Today=	11 OCT 2020	920	MON		892
11OCT20 -1 Day =	10 OCT 2020	924	SUN		885
11OCT20 -2 Days =	09 OCT 2020	929	SAT		907

11OCT20	-3 Days =	08 OCT 2020	933	FRI		905
11OCT20	-4 Days =	07 OCT 2020	936	THU		898
11OCT20	-5 Days =	06 OCT 2020	940	WED		910
11OCT20	-6 Days =	05 OCT 2020	945	TUE		906
11OCT20	-7 Days =	04 OCT 2020	950	MON		924
11OCT20	-8 Days =	03 OCT 2020	954	SUN		928
11OCT20	-9 Days =	02 OCT 2020	957	SAT		944
11OCT20	-10 Days =	01 OCT 2020	958	FRI		937
11OCT20	-11 Days =	30 SEP 2020	961	THU		954
11OCT20	-12 Days =	29 SEP 2020	961	WED		942
11OCT20	-13 Days =	28 SEP 2020	964	TUE		943

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)
11 OCT 2020	15	360	1188	4589
10 OCT 2020	14	319	1996	5749
09 OCT 2020	14	136	919	4607
08 OCT 2020	12	693	1550	4507
07 OCT 2020	18	373	2658	6885
06 OCT 2020	2	555	2623	7550
05 OCT 2020	0	760	4252	10960
04 OCT 2020	0	495	3812	10827
03 OCT 2020	0	-116	1049	5254
02 OCT 2020	0	350	569	4766
01 OCT 2020	-NR-	552	1661	7332
30 SEP 2020	0	544	2463	8560
29 SEP 2020	4	807	1855	8945
28 SEP 2020	6	1008	1238	4825

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)
11 OCT 2020	12	398	575	699	-60
10 OCT 2020	95	368	757	694	-83
09 OCT 2020	12	393	588	711	-30
08 OCT 2020	13	364	580	689	-166
07 OCT 2020	12	363	677	671	-266
06 OCT 2020	15	357	748	683	-78
05 OCT 2020	4	691	561	353	-71
04 OCT 2020	3	988	521	0	-125
03 OCT 2020	-0	957	580	0	-65
02 OCT 2020	120	967	591	0	-90
01 OCT 2020	362	969	597	0	-82
30 SEP 2020	369	973	670	0	-NR-
29 SEP 2020	354	933	764	0	-NR-
28 SEP 2020	375	944	790	466	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
11 OCT 2020	8	-110	1146
10 OCT 2020	6	-17	794
09 OCT 2020	7	-75	1406
08 OCT 2020	5	123	-NR-
07 OCT 2020	-NR-	-117	1146
06 OCT 2020	0	-4	1309

05 OCT 2020	1	90	991
04 OCT 2020	3	4	905
03 OCT 2020	1	79	922
02 OCT 2020	3	-108	954
01 OCT 2020	0	119	-NR-
30 SEP 2020	3	127	466
29 SEP 2020	2	-273	1175
28 SEP 2020	7	-302	1204

*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate and Lockages Discharges from 0015 hrs to 2400 hrs.

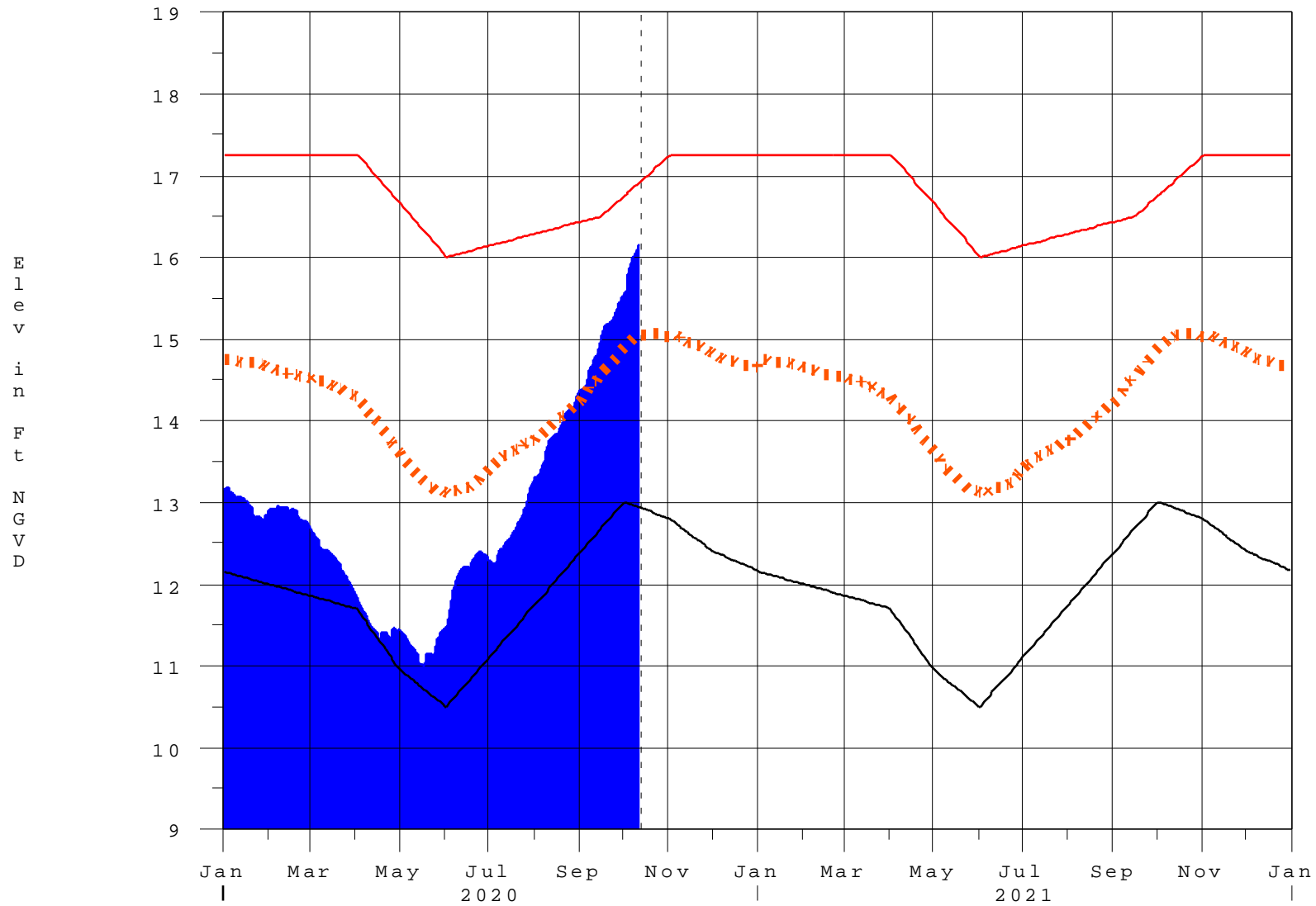
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

* 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 12OCT2020 @ 12:48 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

12OCT20 13:31:11



- 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 \geq 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