

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 11/02/2020 (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 (Nov-Apr)	N/A	N/A	0.45	Dry	-0.19	Dry	-0.30	Dry
Multi Seasonal (Nov-Oct)	N/A	N/A	3.12	Wet	2.42	Normal	2.16	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:

6720 cfs 14-day running average for Lake Okeechobee Net Inflow through 11/01/2020. According to the classification in Tributary Hydrologic Conditions table, this condition is Very Wet.

-0.07 for Palmer Drought Index on 10/31/2020.

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 11/02/2020:

Lake Okeechobee Stage: **16.26 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	← 16.26 ft
	Low sub-band	14.50	
Base Flow sub-band		12.86	
Beneficial Use sub-band		12.79	
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 11/02/2020 (ENSO Condition- La Nina):

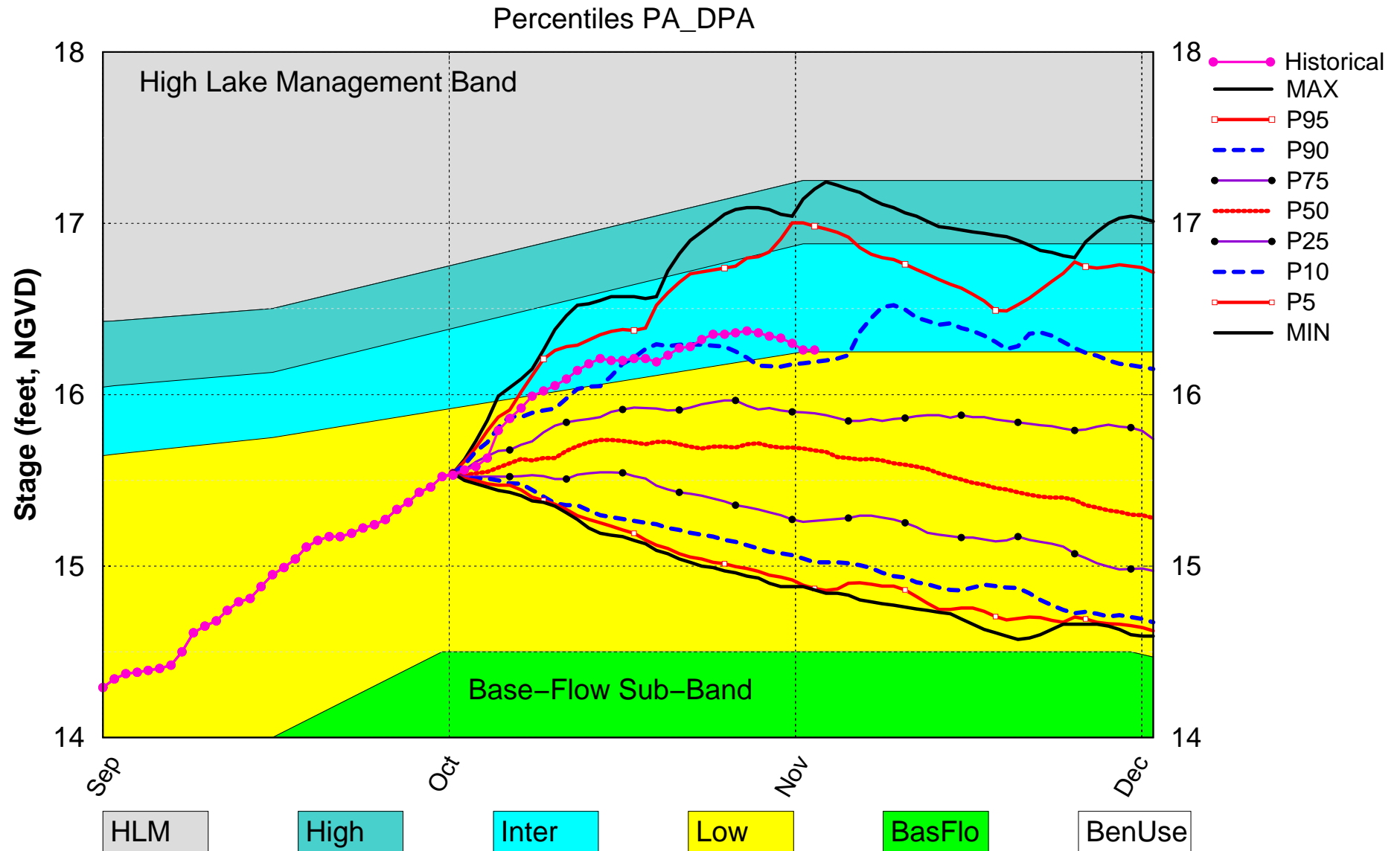
Status for week ending 11/02/2020:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Intermediate Sub-band	L
	Palmer Drought Index for LOK Tributary Conditions	-0.07 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	-0.19 ft	H
	ENSO Forecast	Extremely Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.42 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.50 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (14.54 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (11.68 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.

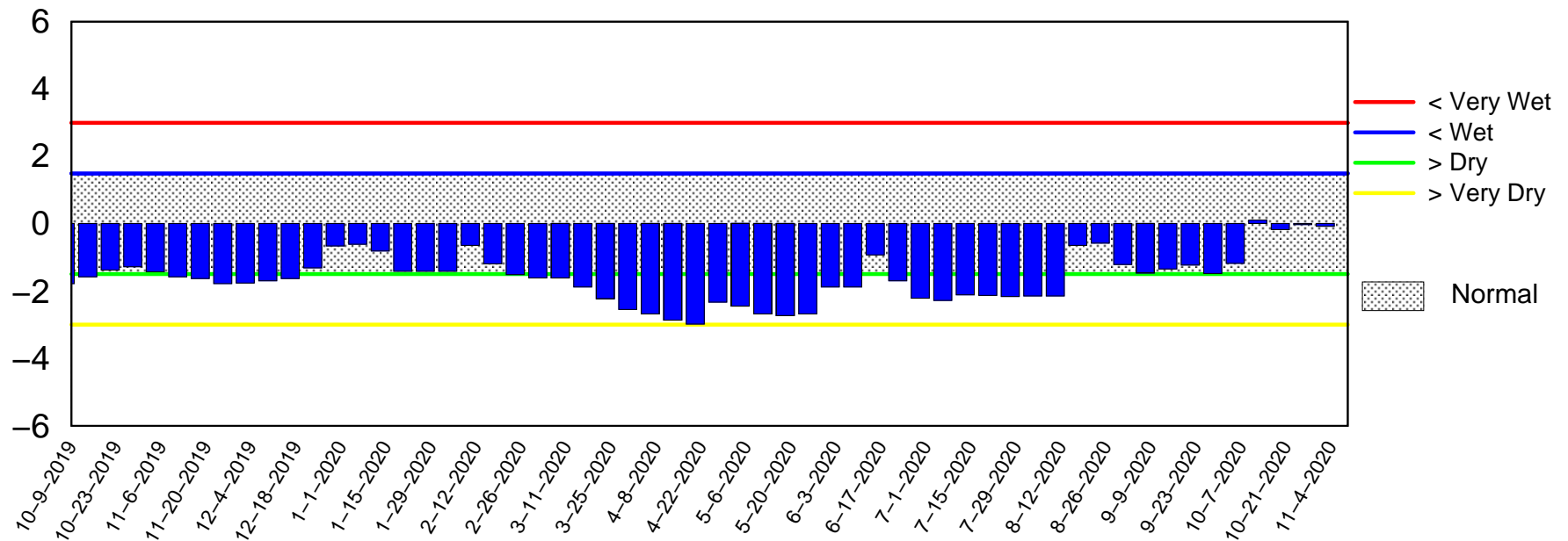
Lake Okeechobee SFWMM Oct 2020 Position Analysis



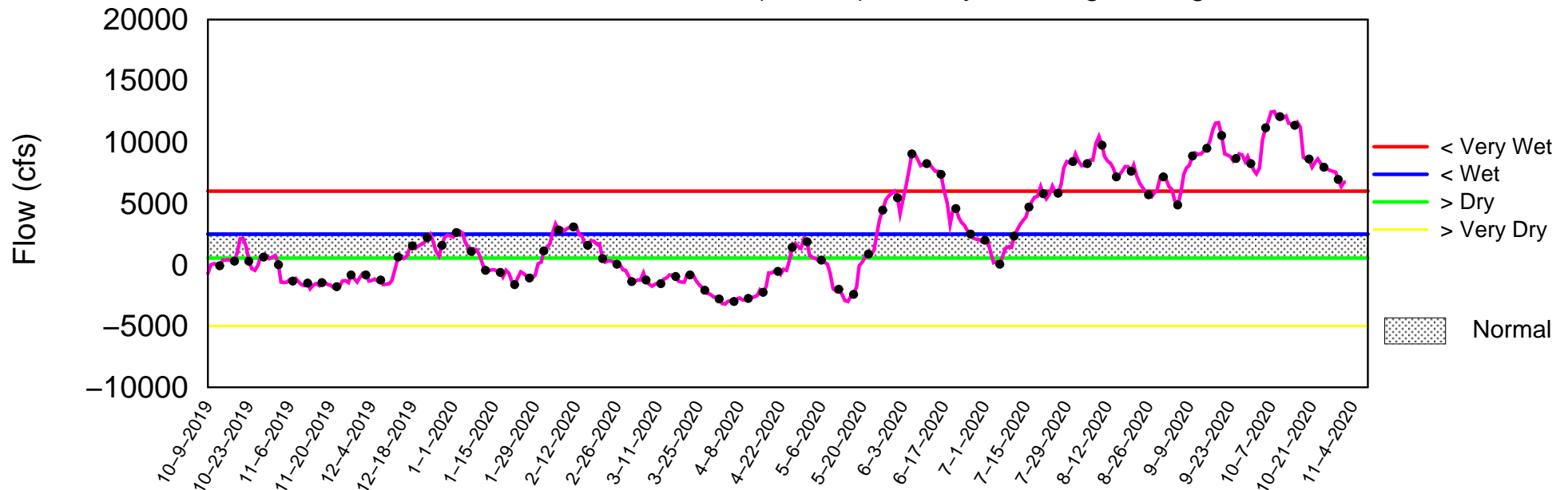
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of November 2 2020

Palmer Index



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



Tue Nov 03 07:04:02 EST 2020

2008 LORS

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

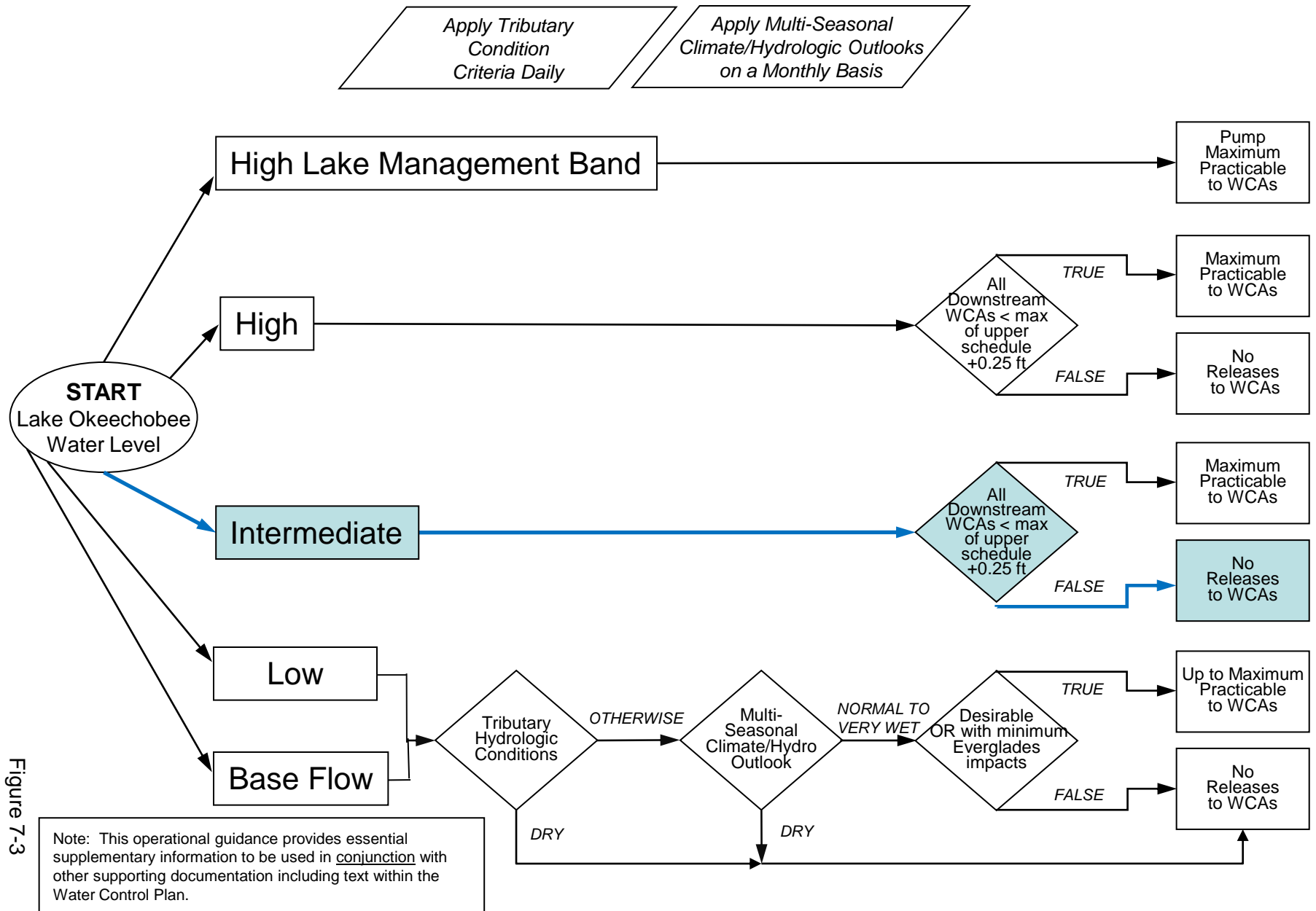


Figure 7-3

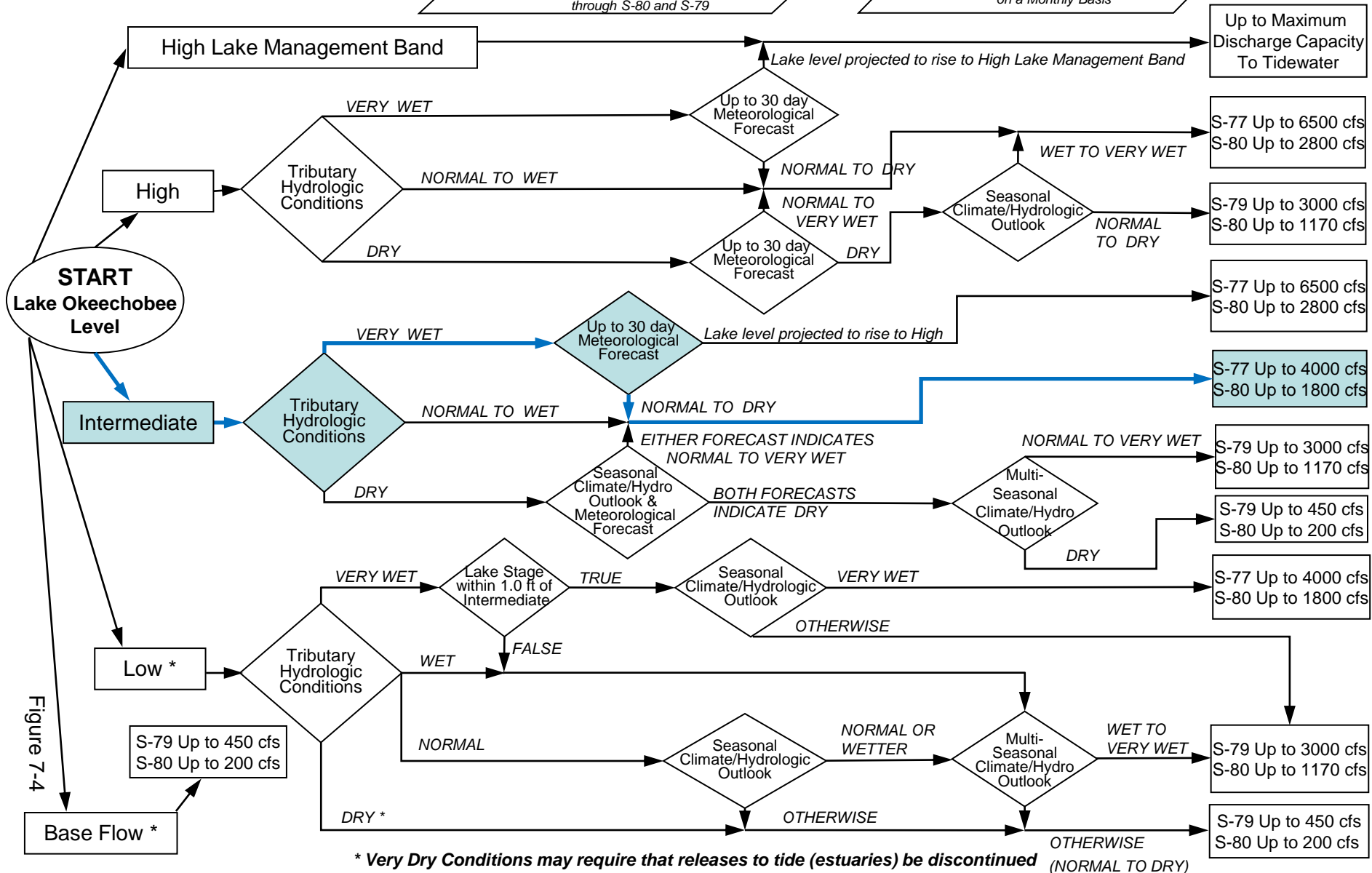
2008 LORS

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

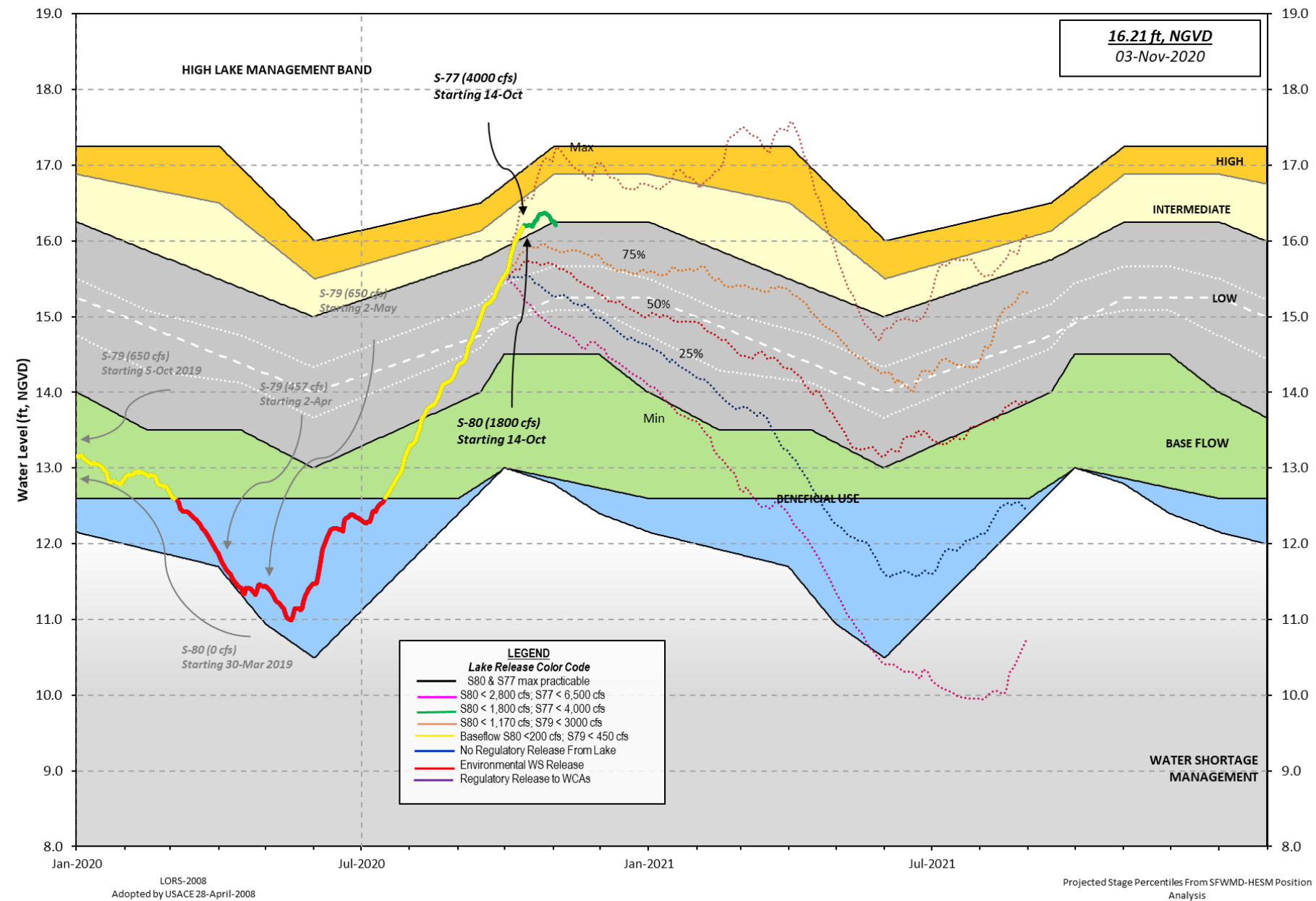
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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 01 NOV 2020

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	16.26	13.44	13.62 (Official Elv)
Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.79			
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.96
Difference from Average LORS2008	2.30

01NOV (1965-2007) Period of Record Average	15.03
Difference from POR Average	1.23

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 10.20'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 8.40'
 Bridge Clearance = 48.76'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.22	16.31	16.28	16.24	16.28	16.36	16.21	16.15

*Combination Okeechobee Avg-Daily Lake Average = 16.26
 (*See Note)

Okeechobee Inflows (cfs):

S65E	885	S65EX1	0	Fisheating Cr	386
S154	66	S191	198	S135 Pumps	146
S84	133	S133 Pumps	158	S2 Pumps	0
S84X	84	S127 Pumps	0	S3 Pumps	0
S71	226	S129 Pumps	0	S4 Pumps	0
S72	108	S131 Pumps	0	C5	0
Total Inflows:	2390				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	182	S77	3980
S127 Culverts	0	S351	9	S308	1743
S129 Culverts	0	S352	416		
S131 Culverts	0	L8 Canal Pt	2		
Total Outflows:	6332				

****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	0.11
Average Pan Evap x 0.75 Pan Coefficient = 0.04" = 0.00'			

Lake Average Precipitation using NEXRAD: = 0.24" = 0.02'

Evaporation - Precipitation: = -0.20" = -0.02'
 Evaporation - Precipitation using Lake Area of 730 square miles
 is equal to 3901 cfs into the lake.
 Lake Okeechobee (Change in Storage) Flow is 0 cfs or 0 AC-FT

	Headwater	Tailwater		----- Gate Positions -----							
	Elevation	Elevation	Disch	#1	#2	#3	#4	#5	#6	#7	#8
	(ft-msl)	(ft-msl)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			(I)	see note at bottom							
North East Shore											
S133 Pumps:	13.36	16.17	158	18	30	36	36	42	(cfs)		
S193:											
S191:	19.37	16.21	198	0.5	0.0	0.5					
S135 Pumps:	13.40	16.14	146	36	36	36	36		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.11	16.08	885	0.4	0.5	1.0	0.5	0.5	0.5		
S65EX1:	21.11	16.08	0								
S127 Pumps:	13.49	16.17	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.06	16.22	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.92	16.12	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.24	386								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	12.38	16.24	0	0	0	0			(cfs)		
S169:	14.91	12.41	35	0.0	0.0	0.0					
S310:	16.23		4								
S3 Pumps:	10.57	16.30	0	0	0	0			(cfs)		
S354:	16.30	10.57	182	1.6	0.0						
S2 Pumps:	10.48	-NR-	0	0	0	0	0		(cfs)		
S351:	-NR-	10.48	9	0.0	0.2	0.0					
S352:	16.29	10.68	416	1.4	1.4						
C10A:	-NR-	16.13		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		16.17	2								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.48	-NR-	9	-NR--NR--NR--NR--NR--NR-
S352:	10.68	16.29	416	-NR--NR--NR--NR-
S354:	10.57	16.30	182	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)

S47B:	14.16	11.48		1.0	1.0
S47D:	11.42	11.43	14	6.5	

S77:
 Spillway and Sector Preferred Flow:
 15.90 11.38 3976 3.5 3.7 3.5 3.5
 Flow Due to Lockages+: 4

S78:
 Spillway and Sector Flow:
 11.19 3.24 4051 3.0 3.5 3.5 3.0
 Flow Due to Lockages+: 11

S79:
 Spillway and Sector Flow:
 3.15 1.53 5919 1.0 3.0 3.0 3.0 3.0 3.0 3.0
 Flow Due to Lockages+: 8
 Percent of flow from S77 67%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:
 Spillway and Sector Preferred Flow:
 16.34 14.74 1740 0.0 4.0 3.5 0.0
 Flow Due to Lockages+: 3

S153: 18.87 14.50 72 0.1 0.5

S80:
 Spillway and Sector Flow:
 14.34 2.07 1805 0.0 0.0 1.0 0.0 0.0 4.0 0.0
 Flow Due to Lockages+: 16
 Percent of flow from S308 96%

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

Speedy Point Top Salinity (mg/ml) 2525
 Speedy Point Bottom Salinity (mg/ml) 4795

+ 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:	58.39	58.92	58.94	314	2
S78:	4.67	4.76	4.96	314	2
S79:	-0.61	-0.61	-0.45	197	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:	5.31	5.32	5.33	308	11
S80:	2.87	3.24	3.51	264	2
Okeechobee Average	31.85	4.94	4.94		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg 0.24 0.52 0.78

Okeechobee Lake Elevations	01 NOV 2020	16.26	Difference from 01NOV20
01NOV20 -1 Day =	31 OCT 2020	16.26	0.00
01NOV20 -2 Days =	30 OCT 2020	16.30	0.04
01NOV20 -3 Days =	29 OCT 2020	16.33	0.07
01NOV20 -4 Days =	28 OCT 2020	16.34	0.08
01NOV20 -5 Days =	27 OCT 2020	16.36	0.10
01NOV20 -6 Days =	26 OCT 2020	16.37	0.11
01NOV20 -7 Days =	25 OCT 2020	16.36	0.10
01NOV20 -30 Days =	02 OCT 2020	15.58	-0.68
01NOV20 -1 Year =	01 NOV 2019	13.44	-2.82
01NOV20 -2 Year =	01 NOV 2018	13.62	-2.64

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
01NOV20	Today =	01 NOV 2020	6720	MON	6325
01NOV20	-1 Day =	31 OCT 2020	6360	SUN	-2325
01NOV20	-2 Days =	30 OCT 2020	6944	SAT	218
01NOV20	-3 Days =	29 OCT 2020	7534	FRI	4559
01NOV20	-4 Days =	28 OCT 2020	7603	THU	1574
01NOV20	-5 Days =	27 OCT 2020	7518	WED	3729
01NOV20	-6 Days =	26 OCT 2020	7805	TUE	7988
01NOV20	-7 Days =	25 OCT 2020	7944	MON	7860
01NOV20	-8 Days =	24 OCT 2020	8253	SUN	5213
01NOV20	-9 Days =	23 OCT 2020	8594	SAT	10960
01NOV20	-10 Days =	22 OCT 2020	8358	FRI	13495
01NOV20	-11 Days =	21 OCT 2020	7932	THU	6382
01NOV20	-12 Days =	20 OCT 2020	8051	WED	13793
01NOV20	-13 Days =	19 OCT 2020	8060	TUE	14308

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
01NOV20	Today=	01 NOV 2020	1106	MON	988
01NOV20	-1 Day =	31 OCT 2020	1174	SUN	1369
01NOV20	-2 Days =	30 OCT 2020	1217	SAT	1447
01NOV20	-3 Days =	29 OCT 2020	1287	FRI	1582
01NOV20	-4 Days =	28 OCT 2020	1379	THU	899
01NOV20	-5 Days =	27 OCT 2020	1538	WED	524
01NOV20	-6 Days =	26 OCT 2020	1749	TUE	521
01NOV20	-7 Days =	25 OCT 2020	1971	MON	823
01NOV20	-8 Days =	24 OCT 2020	2192	SUN	814
01NOV20	-9 Days =	23 OCT 2020	2436	SAT	867
01NOV20	-10 Days =	22 OCT 2020	2685	FRI	1183
01NOV20	-11 Days =	21 OCT 2020	2911	THU	1339
01NOV20	-12 Days =	20 OCT 2020	3172	WED	1558
01NOV20	-13 Days =	19 OCT 2020	3428	TUE	1576

S65EX1					
Average Flow over previous 14 days					Avg-Daily Flow
01NOV20	Today=	01 NOV 2020	608	MON	0
01NOV20	-1 Day =	31 OCT 2020	673	SUN	0
01NOV20	-2 Days =	30 OCT 2020	737	SAT	0

01NOV20	-3 Days =	29 OCT 2020	800	FRI		0
01NOV20	-4 Days =	28 OCT 2020	862	THU		556
01NOV20	-5 Days =	27 OCT 2020	886	WED		889
01NOV20	-6 Days =	26 OCT 2020	885	TUE		882
01NOV20	-7 Days =	25 OCT 2020	886	MON		865
01NOV20	-8 Days =	24 OCT 2020	888	SUN		887
01NOV20	-9 Days =	23 OCT 2020	888	SAT		880
01NOV20	-10 Days =	22 OCT 2020	890	FRI		882
01NOV20	-11 Days =	21 OCT 2020	892	THU		886
01NOV20	-12 Days =	20 OCT 2020	892	WED		901
01NOV20	-13 Days =	19 OCT 2020	893	TUE		890

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 NOV 2020	7886	9177	8063	11982
31 OCT 2020	8254	9383	8067	10143
30 OCT 2020	8095	9295	8721	11495
29 OCT 2020	8137	9350	8834	11201
28 OCT 2020	8106	9619	9295	11416
27 OCT 2020	7983	9885	9932	12972
26 OCT 2020	7845	10022	9870	13217
25 OCT 2020	7840	10089	9804	12913
24 OCT 2020	8039	9736	9788	12784
23 OCT 2020	8250	9631	9756	13128
22 OCT 2020	8130	9486	10238	13914
21 OCT 2020	8157	*****	10220	14073
20 OCT 2020	8018	*****	10963	15249
19 OCT 2020	8092	9490	9303	12810

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 NOV 2020	9	17	825	362	5
31 OCT 2020	10	772	1269	1091	-1
30 OCT 2020	3	685	1179	894	-148
29 OCT 2020	20	367	1410	637	-303
28 OCT 2020	16	0	376	1034	-232
27 OCT 2020	11	0	0	1076	-430
26 OCT 2020	9	0	0	0	-628
25 OCT 2020	19	0	0	0	-371
24 OCT 2020	10	0	0	0	-287
23 OCT 2020	11	0	0	0	-720
22 OCT 2020	676181	0	0	0	-601
21 OCT 2020	13	0	0	0	-308
20 OCT 2020	20	0	5	0	-370
19 OCT 2020	20	150	674	550	-153

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
01 NOV 2020	3444	3426	3614
31 OCT 2020	2037	2060	2959
30 OCT 2020	3089	3315	2922
29 OCT 2020	3013	2977	4033
28 OCT 2020	2627	2552	4041
27 OCT 2020	2838	2801	4382

26 OCT 2020	3606	3602	4904
25 OCT 2020	3187	3228	3844
24 OCT 2020	2326	2307	3487
23 OCT 2020	7	190	2907
22 OCT 2020	805	693	2715
21 OCT 2020	4	278	2082
20 OCT 2020	1322	1517	2323
19 OCT 2020	891	1245	1682

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

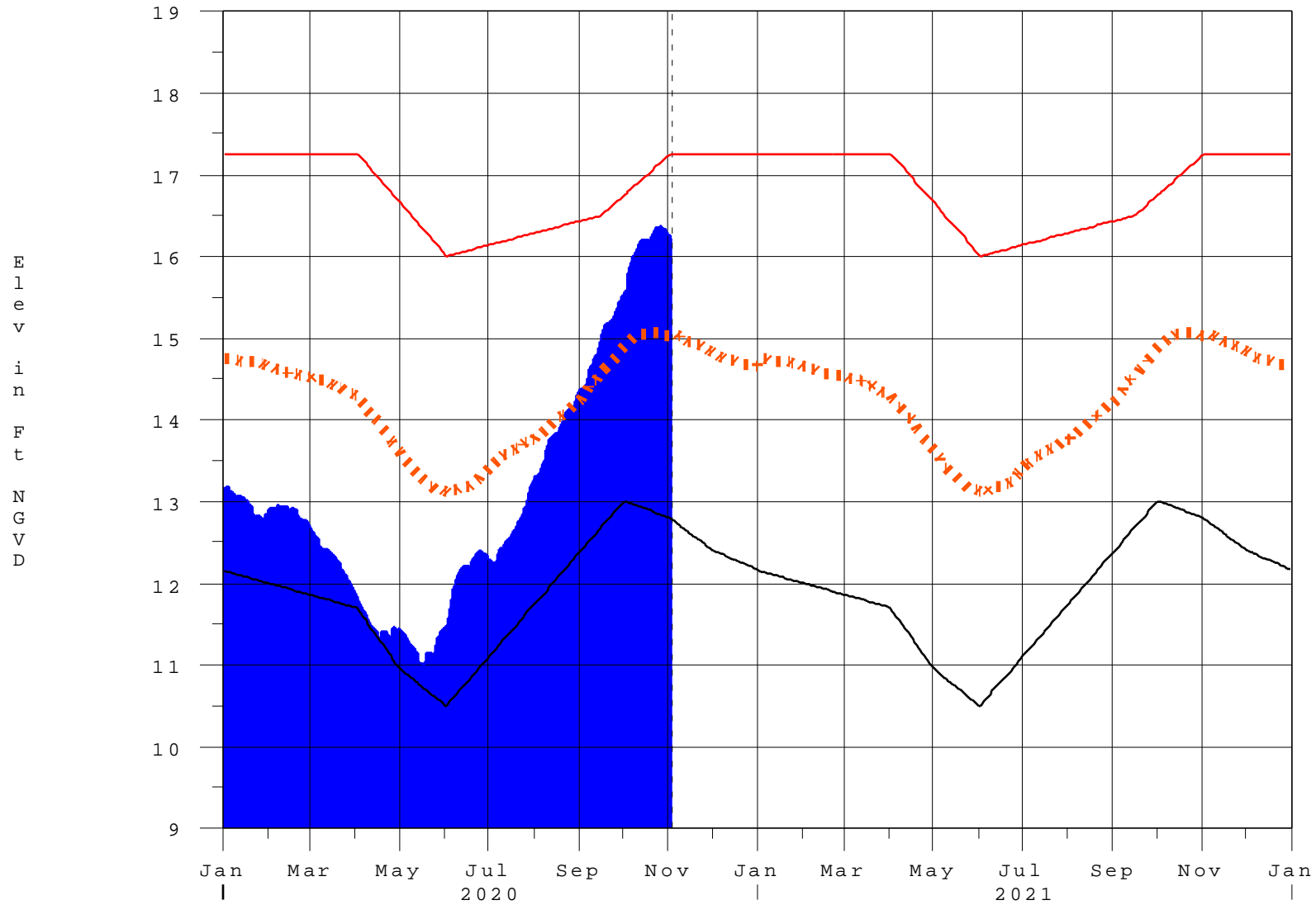
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

* 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 02NOV2020 @ 23:41 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

03NOV20 08:01:26



- 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