

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 10/19/2020 (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	1.53	Wet	0.96	Normal	0.88	Normal
Multi Seasonal (Oct-Apr)	N/A	N/A	1.47	Normal	0.83	Dry	0.78	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:

8740 cfs 14-day running average for Lake Okeechobee Net Inflow through 10/19/2020. According to the classification in Tributary Hydrologic Conditions table, this condition is Very Wet.

-0.18 for Palmer Drought Index on 10/17/2020.

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 10/19/2020:

Lake Okeechobee Stage: **16.19 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.03	
Operational Band	High sub-band	16.66	
	Intermediate sub-band	16.10	← 16.19ft
	Low sub-band	14.50	
Base Flow sub-band		12.99	
Beneficial Use sub-band		12.89	
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 10/19/2020 (ENSO Condition- La Nina):

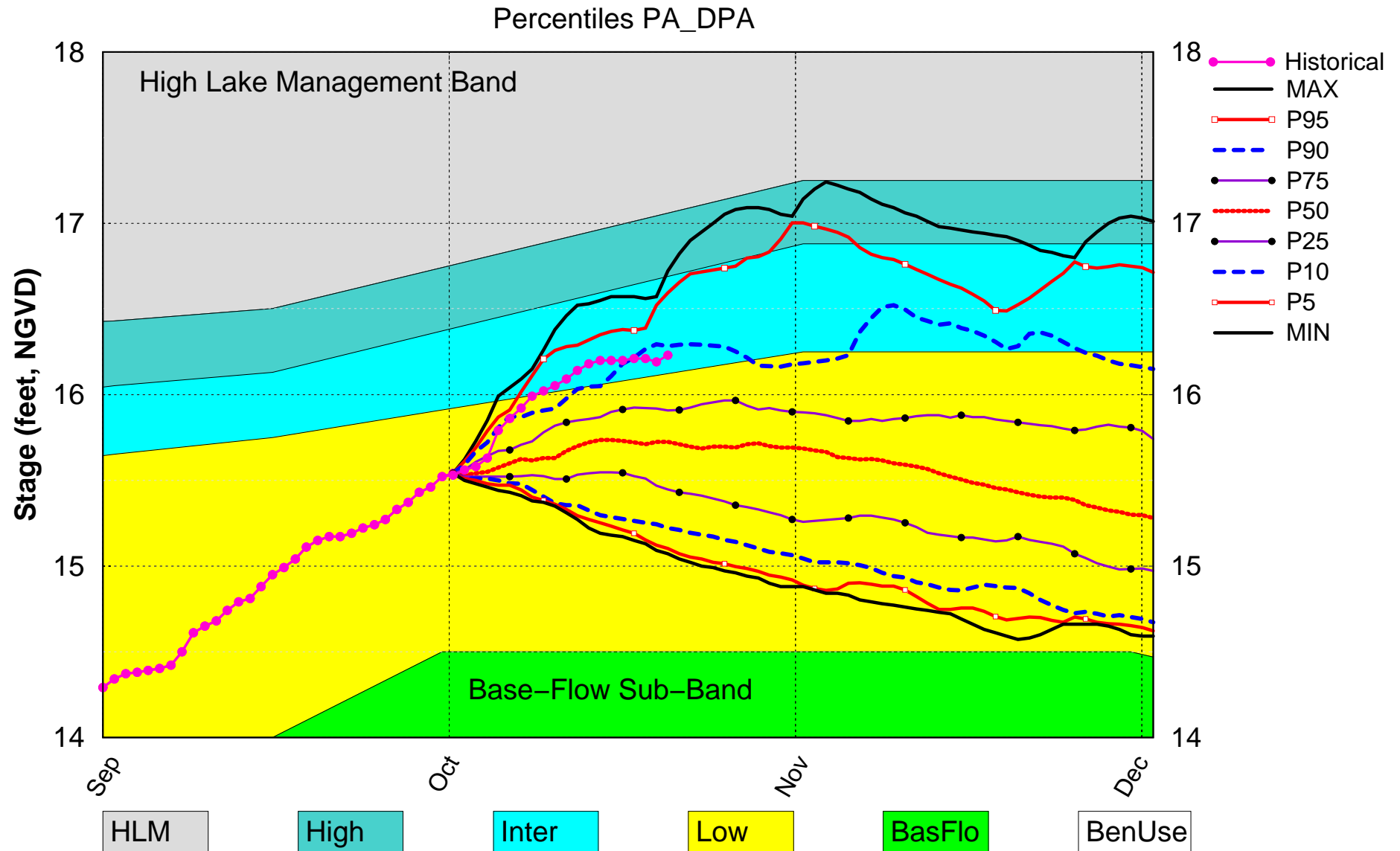
Status for week ending 10/19/2020:

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	-0.18 (Normal to Extremely Wet)	L
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	0.96 ft	M
	ENSO Forecast (positive)	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	0.83 ft	H
	ENSO Forecast (positive)	Dry	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.49 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (13.58 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.98 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.

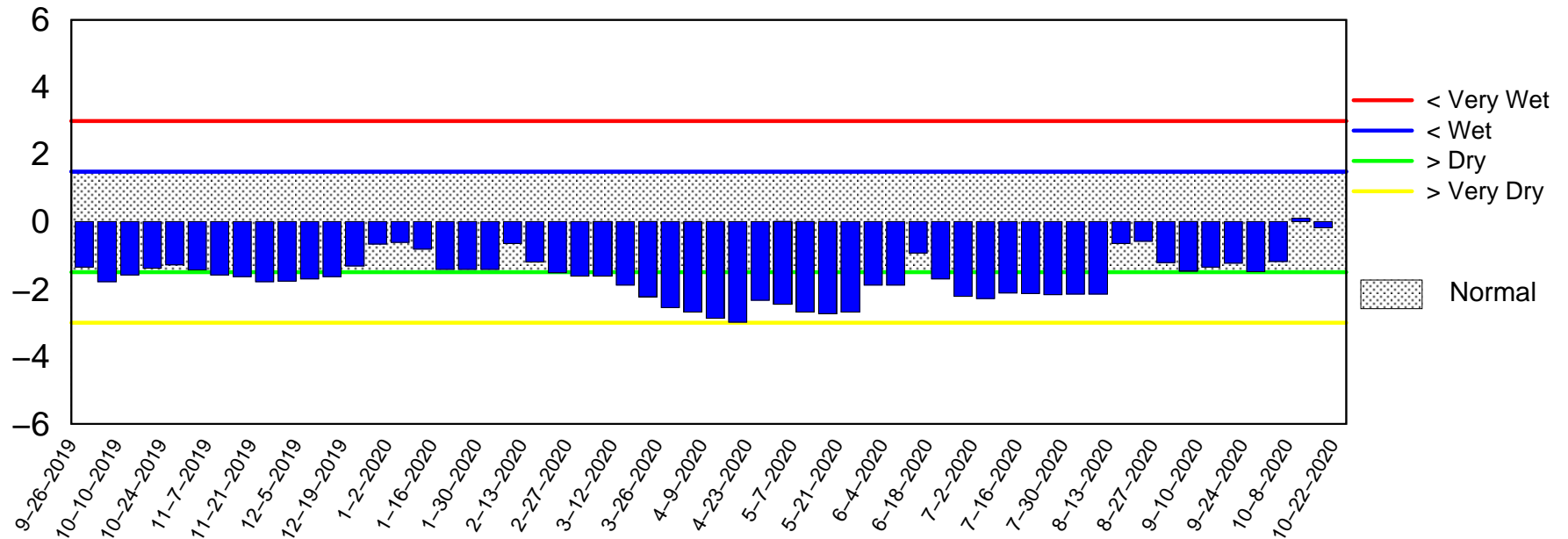
Lake Okeechobee SFWMM Oct 2020 Position Analysis



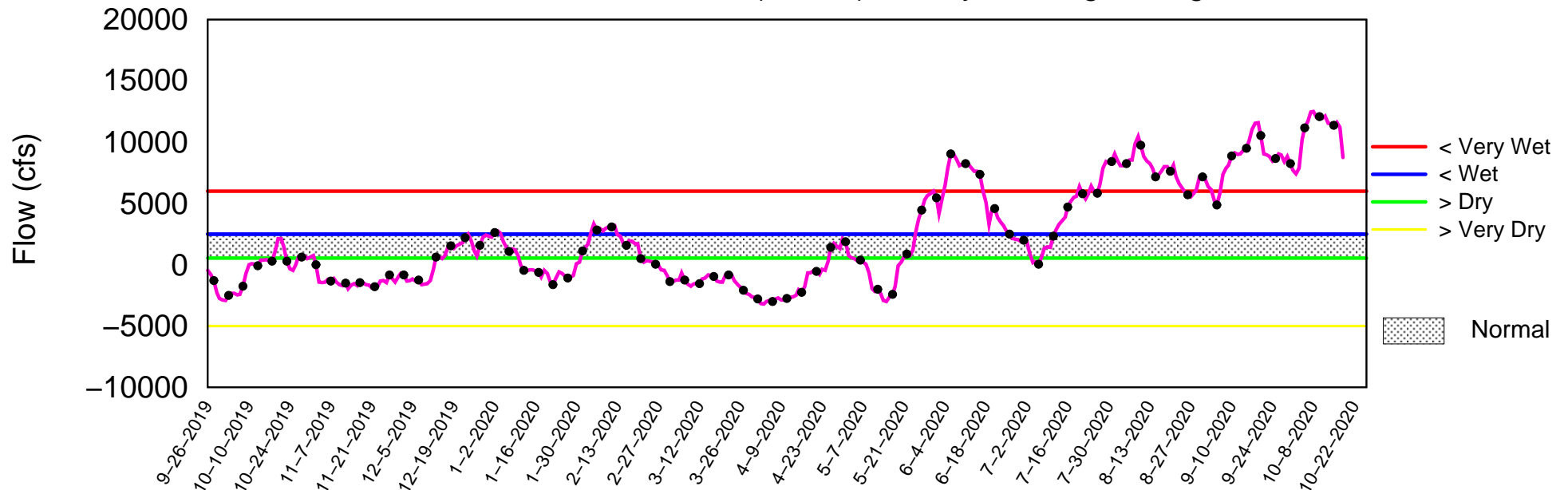
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of October 19 2020

Palmer Index



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



Mon Oct 19 20:43:36 EDT 2020

2008 LORS

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

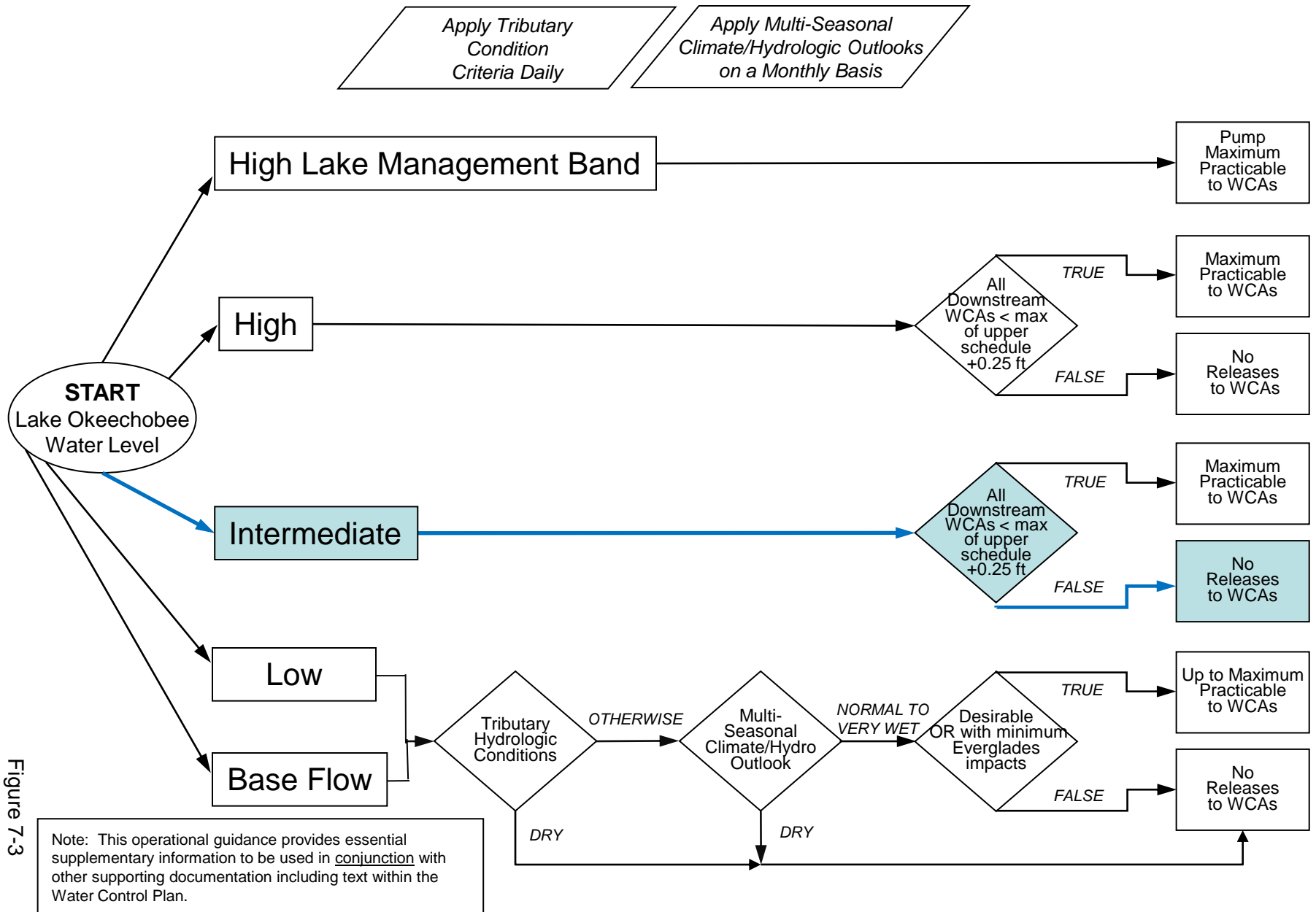
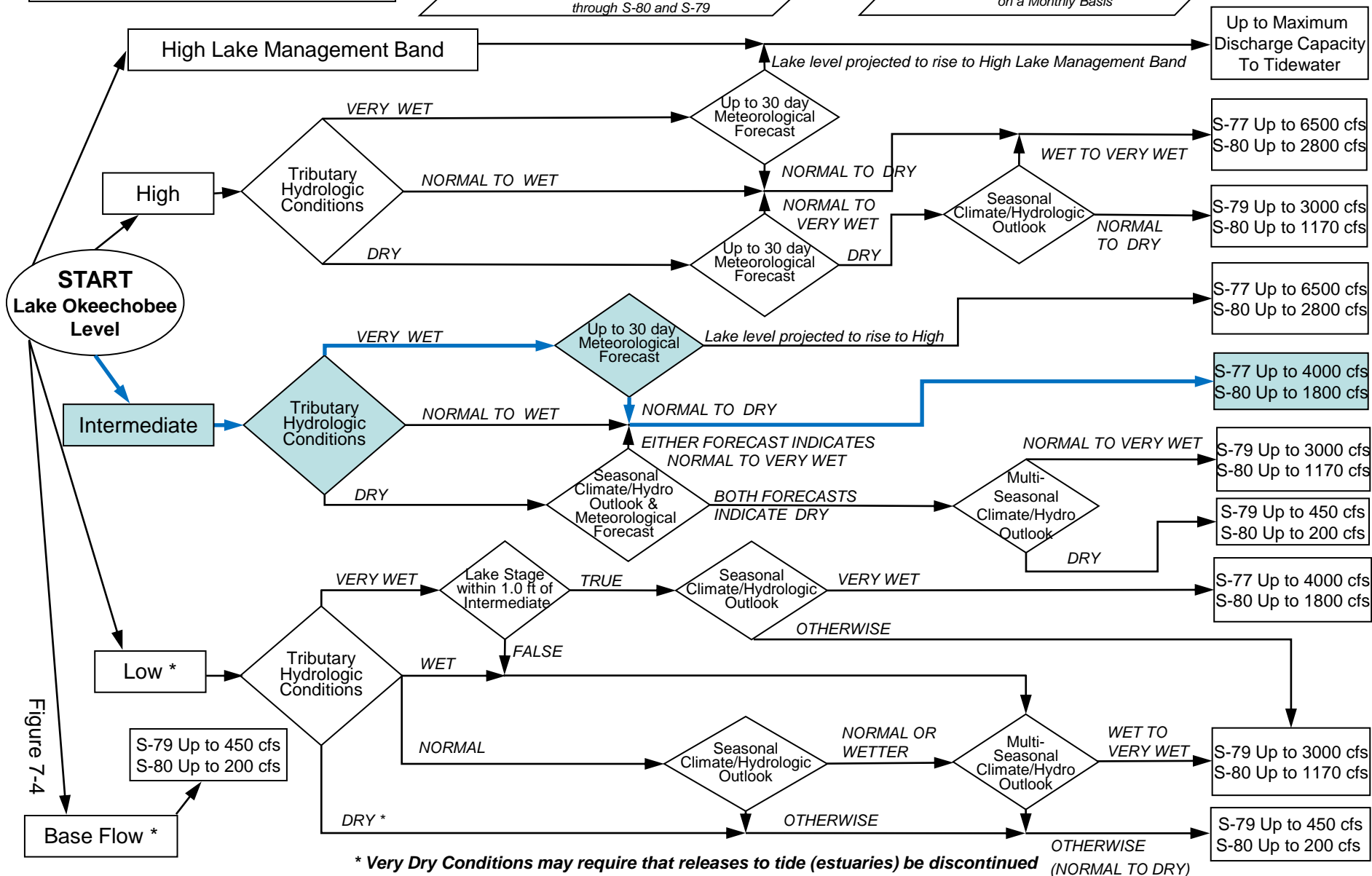


Figure 7-3

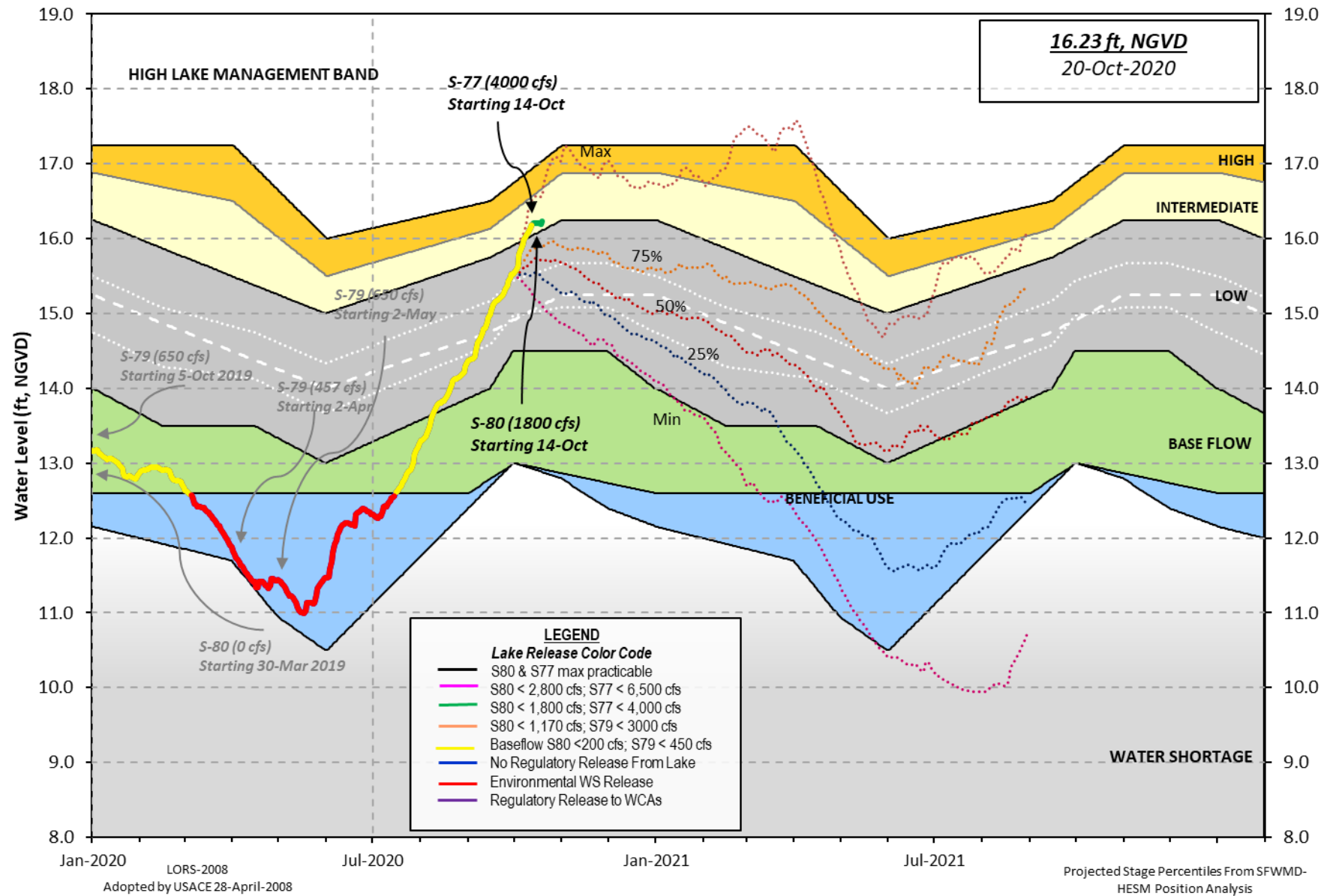
Part D: Establish Allowable Lake Okeechobee Releases to Tide (Estuaries)

*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 18 OCT 2020

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	16.19	13.40	14.13 (Official Elv)
Bottom of High Lake Mngmt= 17.03 Top of Water Short Mngmt= 12.89			
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	14.00
Difference from Average LORS2008	2.19

18OCT (1965-2007) Period of Record Average	15.06
Difference from POR Average	1.13

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 10.13'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 8.33'
 Bridge Clearance = 49.27'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
16.07	16.29	16.25	16.17	16.35	16.24	16.07	15.98

*Combination Okeechobee Avg-Daily Lake Average = 16.19
 (*See Note)

Okeechobee Inflows (cfs):

S65E	1770	S65EX1	901	Fisheating Cr	542
S154	104	S191	0	S135 Pumps	170
S84	750	S133 Pumps	0	S2 Pumps	0
S84X	192	S127 Pumps	0	S3 Pumps	0
S71	160	S129 Pumps	0	S4 Pumps	0
S72	219	S131 Pumps	0	C5	0
Total Inflows:	4810				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	555	S77	4101
S127 Culverts	0	S351	37	S308	379
S129 Culverts	0	S352	804		
S131 Culverts	0	L8 Canal Pt	1		
Total Outflows:	5877				

****S77 structure flow is being used to compute Total Outflow.
 ****S308 below flow meter is being used to compute Total Outflow.

Okeechobee Pan Evaporation (inches):

S77	0.00	S308	0.07
Average Pan Evap x 0.75 Pan Coefficient = 0.03" = 0.00'			

Lake Average Precipitation using NEXRAD: = 0.26" = 0.02'

Evaporation - Precipitation: = -0.23" = -0.02'
 Evaporation - Precipitation using Lake Area of 730 square miles
 is equal to 4588 cfs into the lake.
 Lake Okeechobee (Change in Storage) Flow is -4538 cfs or -9000 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:	13.67	15.95	0	0	0	0	0	0	(cfs)		
S193:											
S191:	19.48	15.97	0	0.0	0.0	0.0					
S135 Pumps:	13.41	15.89	170	37	42	43	49		(cfs)		
S135 Culverts:			0	0.1	0.0						
North West Shore											
S65E:	20.85	15.80	1770	1.0	0.9	0.9	1.0	0.5	1.0		
S65EX1:	20.85	15.80	901								
S127 Pumps:	13.50	16.06	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.95	16.25	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.95	16.38	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.41	542								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.59	16.40	0	0	0	0			(cfs)		
S169:	14.91	11.62	114	0.0	0.0	0.0					
S310:	16.29		1								
S3 Pumps:	9.72	16.40	0	0	0	0			(cfs)		
S354:	16.40	9.72	555	0.8	0.8						
S2 Pumps:	10.04	-NR-	0	0	0	0	0		(cfs)		
S351:	-NR-	10.04	37	0.2	0.3	0.2					
S352:	16.12	11.10	804	1.1	1.3						
C10A:	-NR-	15.55		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		15.59	1								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.04	-NR-	37	-NR--NR--NR--NR--NR--NR-
S352:	11.10	16.12	804	-NR--NR--NR--NR-
S354:	9.72	16.40	555	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)

S47B:	14.24	11.14		0.0	0.0
S47D:	11.18	11.17	-34	6.5	

S77:
 Spillway and Sector Preferred Flow:
 15.97 11.14 4093 3.5 4.0 3.5 3.5
 Flow Due to Lockages+: 8

S78:
 Spillway and Sector Flow:
 10.90 3.17 4317 3.5 3.5 3.5 3.5
 Flow Due to Lockages+: 15

S79:
 Spillway and Sector Flow:
 3.11 1.20 6291 3.0 4.0 4.0 4.0 4.0 4.0 0.0 0.0
 Flow Due to Lockages+: 7
 Percent of flow from S77 65%
 Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:
 Spillway and Sector Preferred Flow:
 16.03 14.23 376 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 3

S153: 18.91 14.12 75 0.0 0.0

S80:
 Spillway and Sector Flow:
 14.25 2.74 164 0.0 0.0 0.0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 21
 Percent of flow from S308 229%

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

	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:	54.50	54.50	54.52	40	8
S78:	2.20	2.26	2.26	68	2
S79:	1.25	1.25	1.41	331	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:	0.42	0.73	0.73	69	9
S80:	7.63	7.88	8.16	96	12
Okeechobee Average	27.46	4.25	4.25		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg 0.26 0.59 0.76

Okeechobee Lake Elevations	18 OCT 2020	16.19	Difference from 18OCT20
18OCT20 -1 Day =	17 OCT 2020	16.21	0.02
18OCT20 -2 Days =	16 OCT 2020	16.21	0.02
18OCT20 -3 Days =	15 OCT 2020	16.20	0.01
18OCT20 -4 Days =	14 OCT 2020	16.20	0.01
18OCT20 -5 Days =	13 OCT 2020	16.20	0.01
18OCT20 -6 Days =	12 OCT 2020	16.18	-0.01
18OCT20 -7 Days =	11 OCT 2020	16.14	-0.05
18OCT20 -30 Days =	18 SEP 2020	15.15	-1.04
18OCT20 -1 Year =	18 OCT 2019	13.40	-2.79
18OCT20 -2 Year =	18 OCT 2018	14.13	-2.06

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
18OCT20 Today =	18 OCT 2020	8193	MON		1328
18OCT20 -1 Day =	17 OCT 2020	10818	SUN		5855
18OCT20 -2 Days =	16 OCT 2020	11261	SAT		8485
18OCT20 -3 Days =	15 OCT 2020	11002	FRI		5522
18OCT20 -4 Days =	14 OCT 2020	11138	THU		2658
18OCT20 -5 Days =	13 OCT 2020	11845	WED		5471
18OCT20 -6 Days =	12 OCT 2020	12424	TUE		9930
18OCT20 -7 Days =	11 OCT 2020	12674	MON		12187
18OCT20 -8 Days =	10 OCT 2020	12728	SUN		9992
18OCT20 -9 Days =	09 OCT 2020	13070	SAT		7659
18OCT20 -10 Days =	08 OCT 2020	13833	FRI		7529
18OCT20 -11 Days =	07 OCT 2020	13798	THU		-NR-
18OCT20 -12 Days =	06 OCT 2020	12812	WED		13909
18OCT20 -13 Days =	05 OCT 2020	12040	TUE		15984

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
18OCT20 Today=	18 OCT 2020	3684	MON		1930
18OCT20 -1 Day =	17 OCT 2020	3918	SUN		1999
18OCT20 -2 Days =	16 OCT 2020	4072	SAT		2439
18OCT20 -3 Days =	15 OCT 2020	4165	FRI		2885
18OCT20 -4 Days =	14 OCT 2020	4265	THU		3122
18OCT20 -5 Days =	13 OCT 2020	4358	WED		3500
18OCT20 -6 Days =	12 OCT 2020	4419	TUE		3623
18OCT20 -7 Days =	11 OCT 2020	4476	MON		3923
18OCT20 -8 Days =	10 OCT 2020	4499	SUN		4224
18OCT20 -9 Days =	09 OCT 2020	4503	SAT		4359
18OCT20 -10 Days =	08 OCT 2020	4490	FRI		4346
18OCT20 -11 Days =	07 OCT 2020	4497	THU		4989
18OCT20 -12 Days =	06 OCT 2020	4471	WED		5140
18OCT20 -13 Days =	05 OCT 2020	4412	TUE		5103

S65EX1					
Average Flow over previous 14 days					Avg-Daily Flow
18OCT20 Today=	18 OCT 2020	894	MON		901
18OCT20 -1 Day =	17 OCT 2020	896	SUN		897
18OCT20 -2 Days =	16 OCT 2020	898	SAT		879

18OCT20	-3 Days =	15 OCT 2020	903	FRI		880
18OCT20	-4 Days =	14 OCT 2020	907	THU		879
18OCT20	-5 Days =	13 OCT 2020	912	WED		884
18OCT20	-6 Days =	12 OCT 2020	916	TUE		895
18OCT20	-7 Days =	11 OCT 2020	920	MON		892
18OCT20	-8 Days =	10 OCT 2020	924	SUN		885
18OCT20	-9 Days =	09 OCT 2020	929	SAT		907
18OCT20	-10 Days =	08 OCT 2020	933	FRI		905
18OCT20	-11 Days =	07 OCT 2020	936	THU		898
18OCT20	-12 Days =	06 OCT 2020	940	WED		910
18OCT20	-13 Days =	05 OCT 2020	945	TUE		906

Lake Okeechobee Outlets Last 14 Days

	S-77	Below S-77	S-78	S-79	
	Discharge	Discharge	Discharge	Discharge	
	(ALL DAY)	(ALL-DAY)	(ALL DAY)	(ALL DAY)	
DATE	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	
18 OCT 2020	8138	9511	8610	12497	
17 OCT 2020	8044	9262	8010	11598	
16 OCT 2020	7895	8786	7656	9714	
15 OCT 2020	6781	7435	6807	9595	
14 OCT 2020	1718	2049	2638	5076	
13 OCT 2020	13	353	989	3212	
12 OCT 2020	14	181	492	1627	
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	

	S-310	S-351	S-352	S-354	L8 Canal Pt
	Discharge	Discharge	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL DAY)	(ALL DAY)	(ALL DAY)	(ALL DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)	(AC-FT)
18 OCT 2020	2	74	1593	1100	2
17 OCT 2020	8	147	1650	1106	-8
16 OCT 2020	12	806	1790	1376	-18
15 OCT 2020	11	975	1792	1284	-1
14 OCT 2020	19	1079	1435	853	91
13 OCT 2020	13	372	776	702	-31
12 OCT 2020	8	384	590	723	-16
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

	S-308	Below S-308	S-80
	Discharge	Discharge	Discharge
	(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE	(AC-FT)	(AC-FT)	(AC-FT)
18 OCT 2020	744	746	431
17 OCT 2020	534	683	415
16 OCT 2020	450	470	544
15 OCT 2020	252	266	426
14 OCT 2020	292	172	664
13 OCT 2020	5	122	519

12 OCT 2020	11	-10	682
11 OCT 2020	8	-110	800
10 OCT 2020	6	-17	698
09 OCT 2020	7	-75	1171
08 OCT 2020	5	123	-NR-
07 OCT 2020	-NR-	-117	861
06 OCT 2020	0	-4	985
05 OCT 2020	1	90	671

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

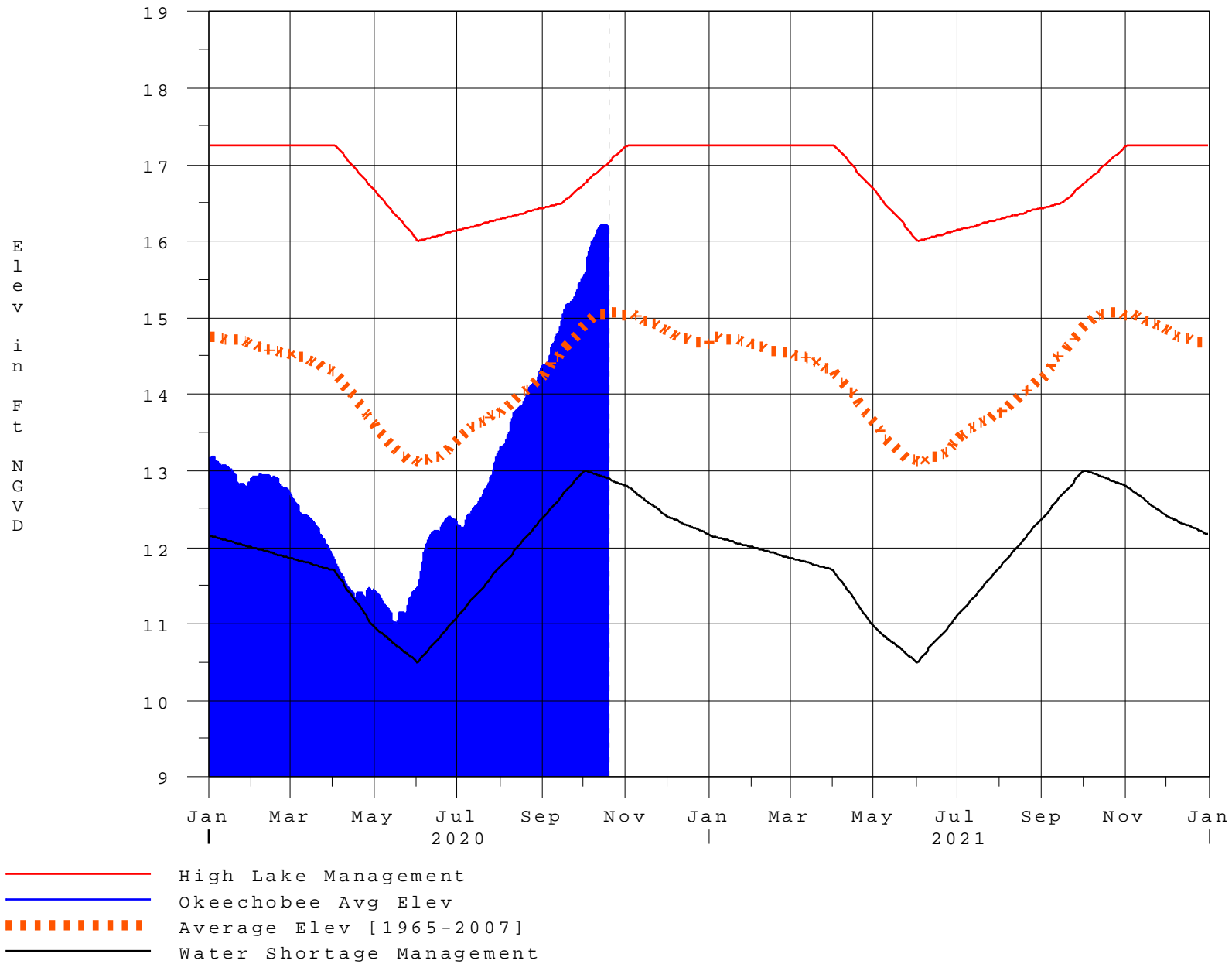
(I) - Flows preceeded by "I" signify an instantaneous flow computed from the single value reported for the day

* 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 19OCT2020 @ 19:43 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

19OCT20 20:30:55



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