

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 09/14/2020 (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 Neutral 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 Neutral ENSO Years ³		Sub-sampling of AMO Warm + Neutral ENSO Years ⁴	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>
Current (Sep-Feb)	N/A	N/A	1.83	Wet	1.50	Normal	1.44	Normal
Multi Seasonal (Sep-Apr)	N/A	N/A	2.02	Normal	1.36	Normal	1.19	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:

9010 cfs 14-day running average for Lake Okeechobee Net Inflow through 09/14/2020. According to the classification in Tributary Hydrologic Conditions table, this condition is Very Wet.

-1.35 for Palmer Drought Index on 09/12/2020.

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 09/14/2020:

Lake Okeechobee Stage: **14.88 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.49	
Operational Band	High sub-band	16.12	
	Intermediate sub-band	15.74	
	Low sub-band	13.98	← 14.88 ft
Base Flow sub-band		12.76	
Beneficial Use sub-band		12.65	
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 3000 cfs at S-79 and up to 1170 cfs at S-80.

LORS2008 Implementation on 09/14/2020 (ENSO Condition- La Nina):

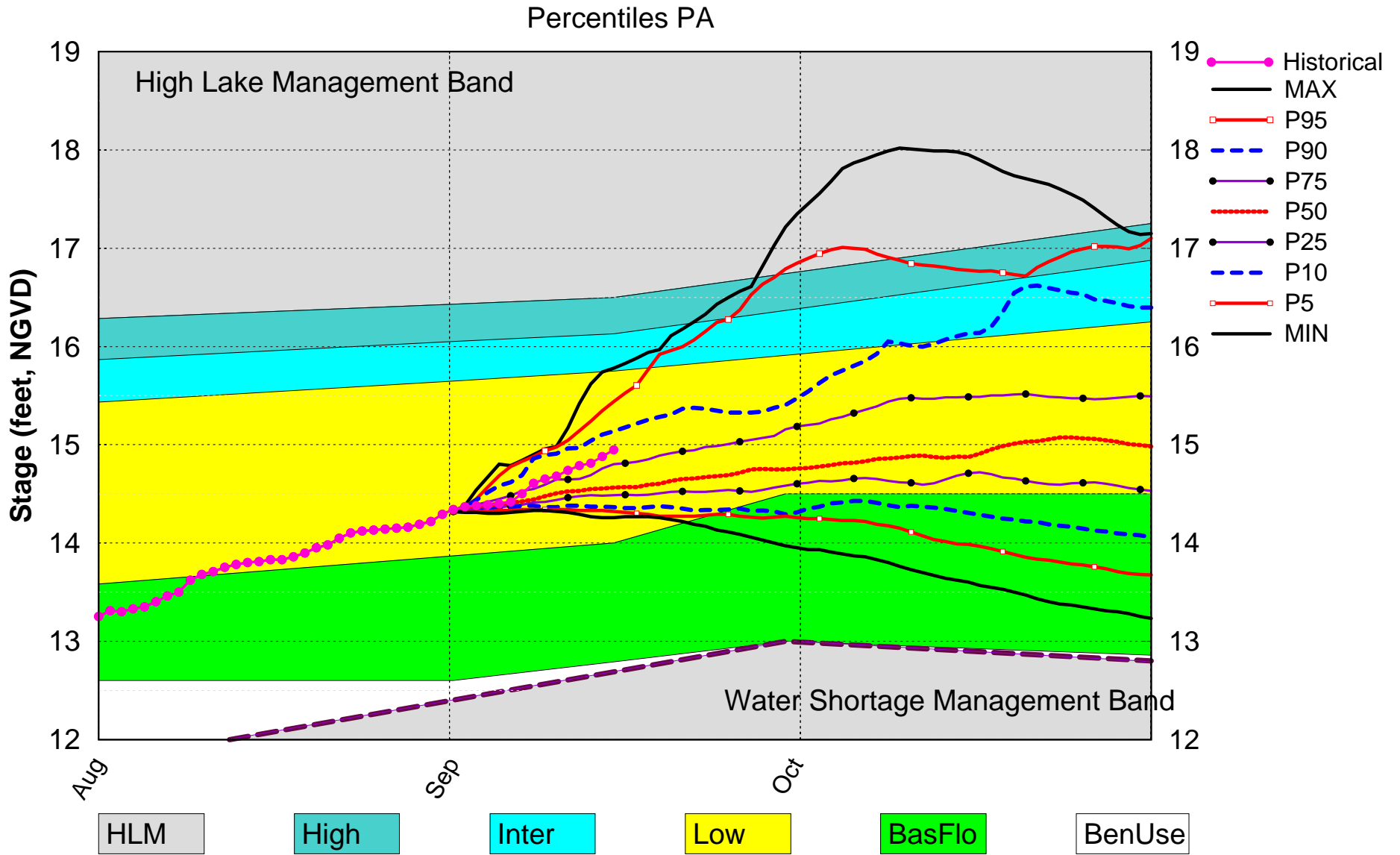
Status for week ending 9/14/2020:

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	-1.35 (Dry)	M
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.50 ft	L
	ENSO Forecast (positive)	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	1.36 ft	M
	ENSO Forecast (positive)	Normal	
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 (13.13 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.60 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.

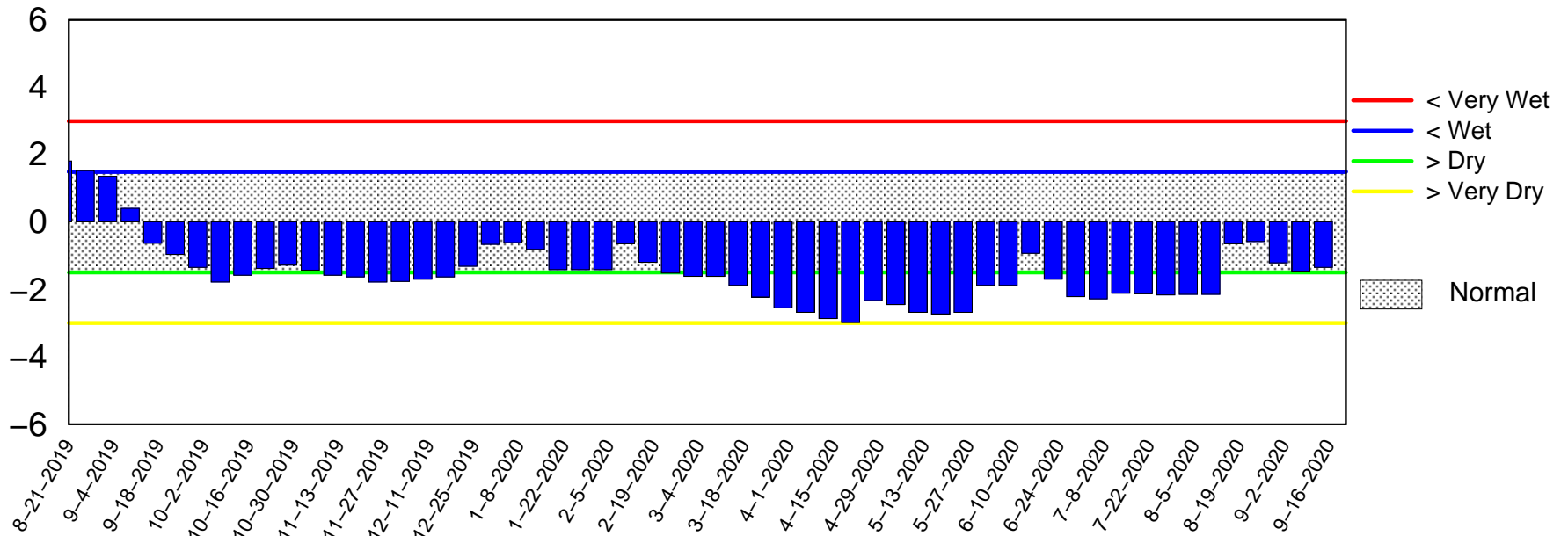
Lake Okeechobee SFWMM Sep 2020 Position Analysis



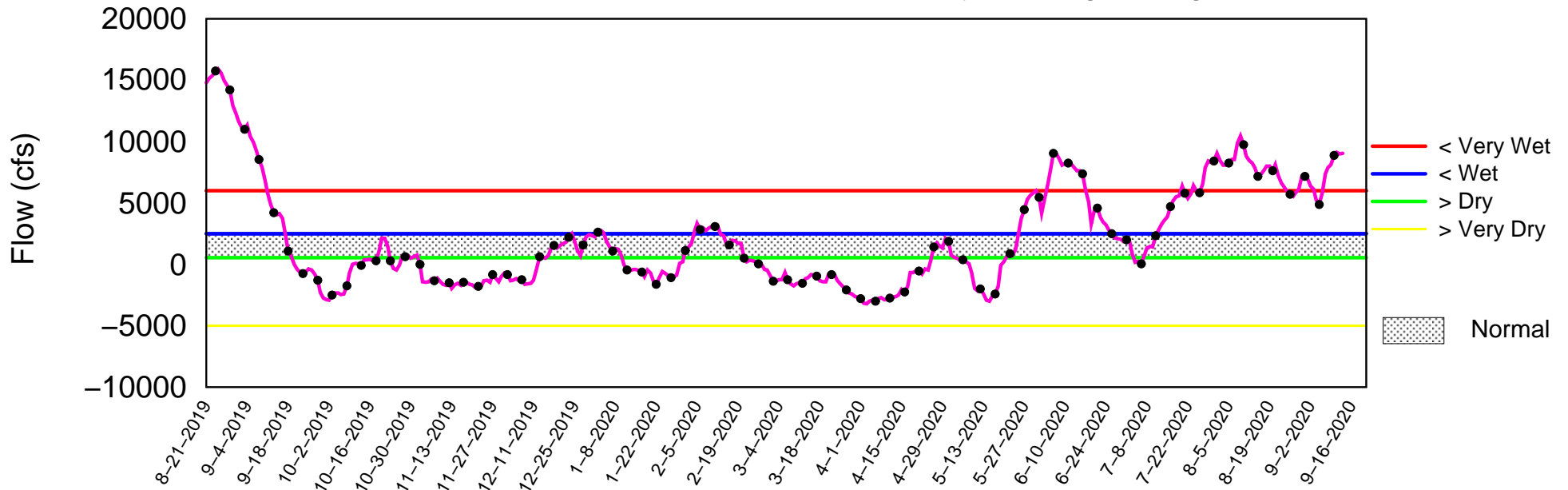
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of September 14 2020

Palmer Index



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



2008 LORS

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

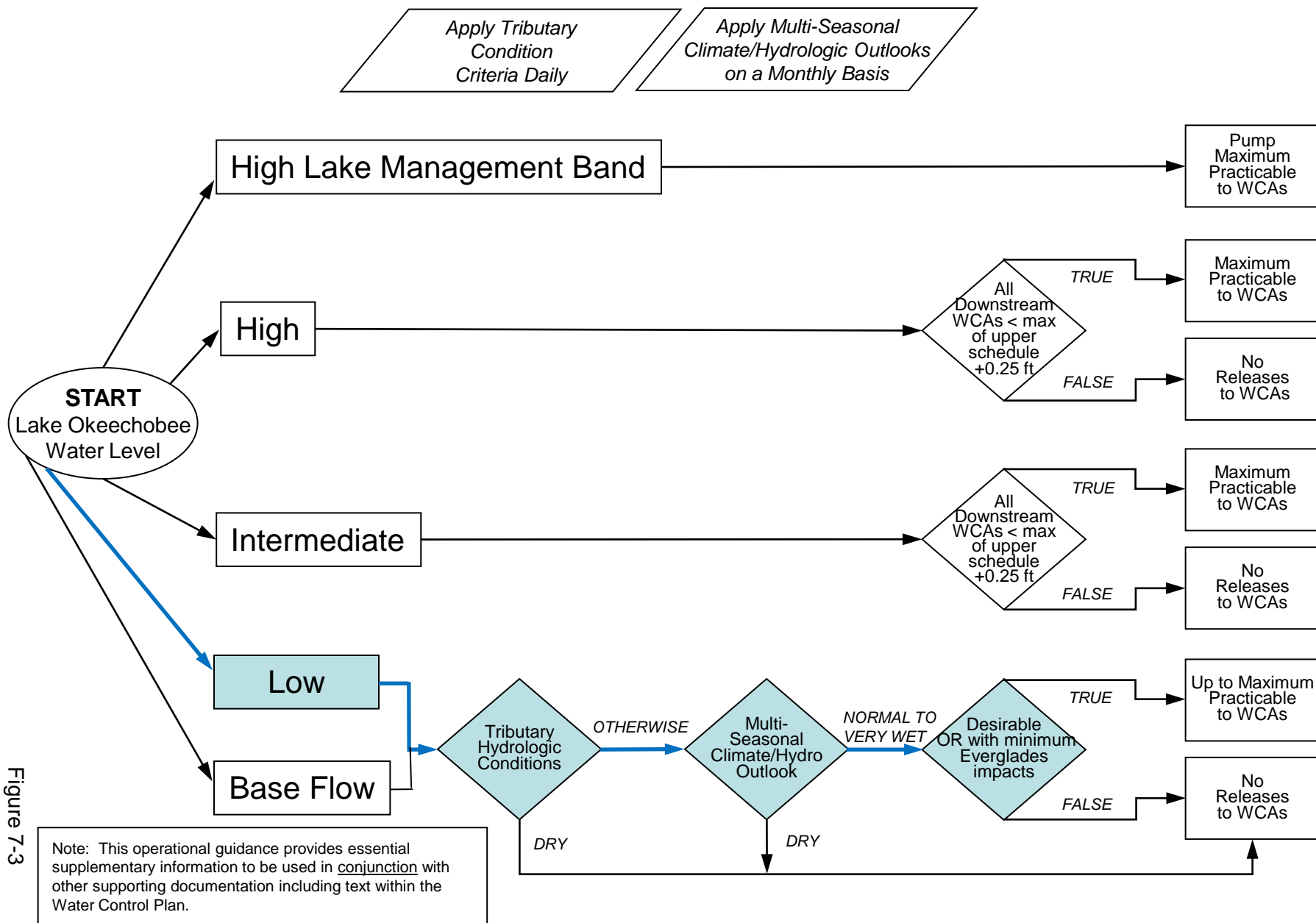


Figure 7-3

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

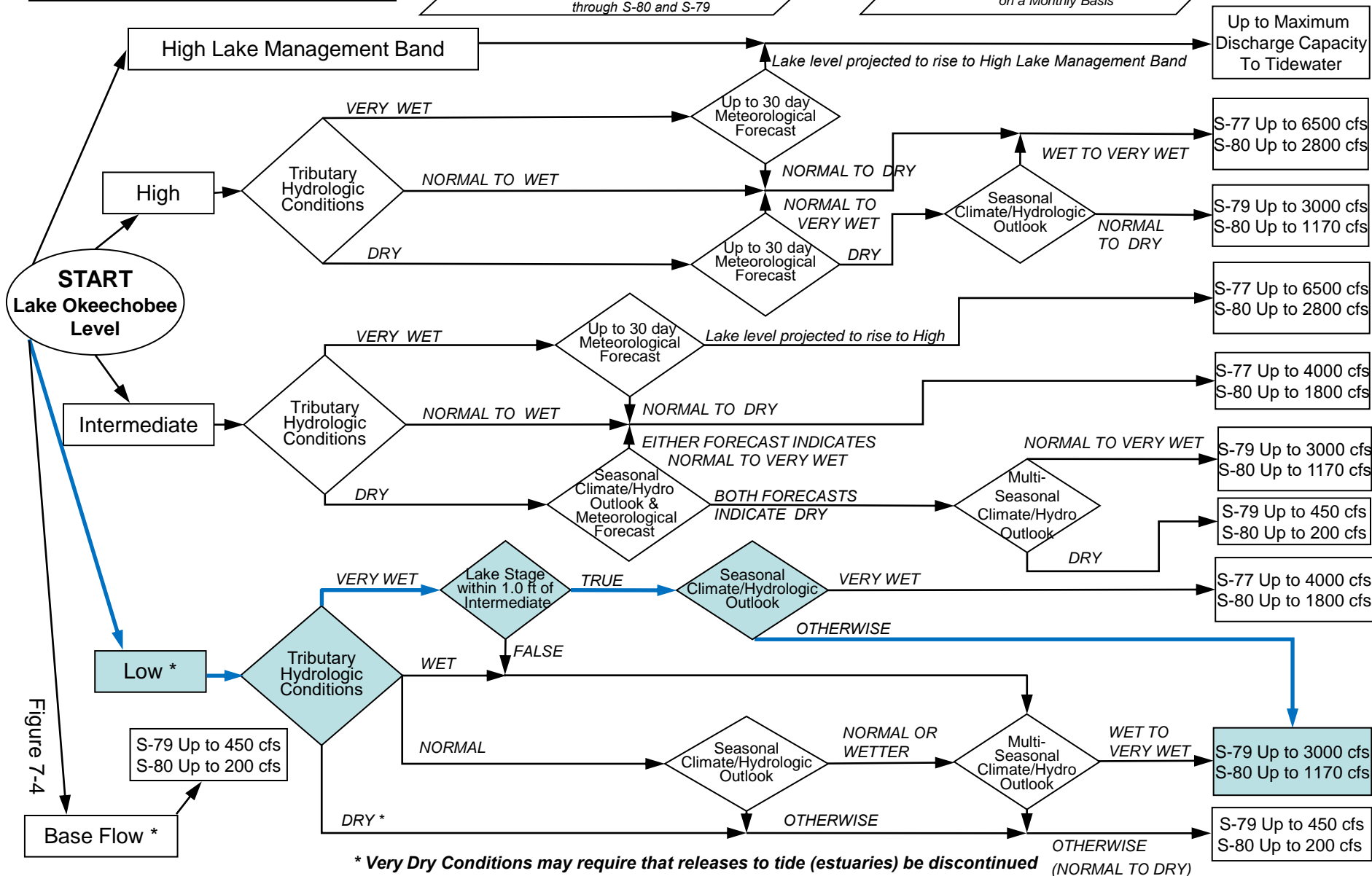
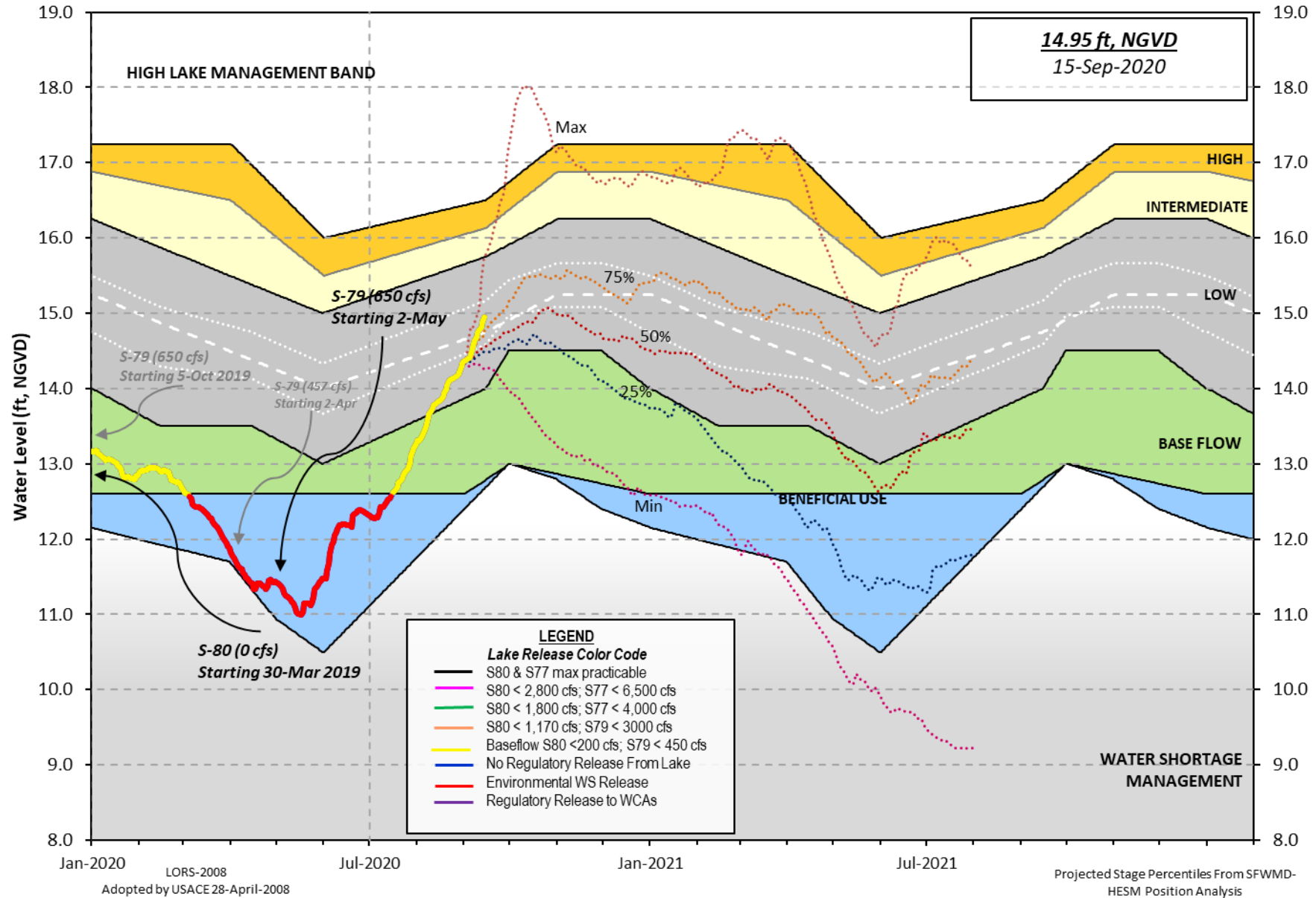


Figure 7-4

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 13 SEP 2020

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	14.88	13.86	14.71 (Official Elv)
Bottom of High Lake Mngmt=	16.49	Top of Water Short Mngmt=	12.65
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.48
Difference from Average LORS2008	1.40

13SEP (1965-2007) Period of Record Average	14.54
Difference from POR Average	0.34

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 8.82'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 7.02'
 Bridge Clearance = 49.13'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
14.89	14.95	14.86	14.85	14.88	14.94	15.86	14.85

*Combination Okeechobee Avg-Daily Lake Average = 14.88
 (*See Note)

Okeechobee Inflows (cfs):

S65E	2451	S65EX1	1071	Fisheating Cr	437
S154	93	S191	595	S135 Pumps	205
S84	1823	S133 Pumps	107	S2 Pumps	0
S84X	457	S127 Pumps	45	S3 Pumps	0
S71	214	S129 Pumps	39	S4 Pumps	0
S72	424	S131 Pumps	44	C5	0
Total Inflows:	8007				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	3
S127 Culverts	0	S351	0	S308	2
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-370		
Total Outflows:	-366				

****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	0.15
Average Pan Evap x 0.75 Pan Coefficient = 0.06" = 0.00'			

Lake Average Precipitation using NEXRAD: = -NR-" = -NR-'

Evaporation - Precipitation: = -NR-" = -NR-'
 Evaporation - Precipitation using Lake Area of 730 square miles
 is equal to -NR-
 Lake Okeechobee (Change in Storage) Flow is 15175 cfs or 30100 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:	13.42	14.85	107	0	96	0	15	0	(cfs)		
S193:											
S191:	19.03	14.83	595	1.0	1.0	0.5					
S135 Pumps:	13.54	14.73	205	96	53	53	12		(cfs)		
S135 Culverts:			0	0.1	0.0						
North West Shore											
S65E:	21.11	14.90	2451	1.0	0.9	0.9	1.0	1.0	1.0		
S65EX1:	21.11	14.90	1071								
S127 Pumps:	13.35	14.89	45	48	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.89	14.93	39	0	31	18			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.90	15.02	44	43	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.36	437								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.70	14.94	0	0	0	0			(cfs)		
S169:	14.93	11.74	0	0.0	0.0	0.0					
S310:	14.87		-41								
S3 Pumps:	9.38	14.92	0	0	0	0			(cfs)		
S354:	14.92	9.38	0	0.0	0.0						
S2 Pumps:	9.76	-NR-	0	-NR-	-NR-	-NR-	-NR-		(cfs)		
S351:	-NR-	9.76	0	0.0	0.0	0.0					
S352:	14.92	10.33	0	0.0	0.0						
C10A:	-NR-	15.44		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		15.49	-370								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	9.76	-NR-	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-	
S352:	10.33	14.92	0	-NR-	-NR-	-NR-	-NR-			
S354:	9.38	14.92	0	-NR-	-NR-	-NR-	-NR-			

Caloosahatchee River (S77, S78, S79)

S47B:	14.44	12.82		1.0	1.5
S47D:	12.95	11.20	62	0.0	

S77:

Spillway and Sector Preferred Flow:
 14.79 11.09 0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 3

S78:

Spillway and Sector Flow:
 11.11 3.02 801 1.0 0.0 0.0 1.5
 Flow Due to Lockages+: 4

S79:

Spillway and Sector Flow:
 3.17 2.05 3928 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
 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:
 15.93 14.37 0 0.0 0.0 0.0 0.0
 Flow Due to Lockages+: 2

S153: 18.69 14.35 282 0.5 0.3

S80:

Spillway and Sector Flow:
 14.47 1.19 1200 0.0 0.0 2.0 1.5 1.5 0.0 0.0
 Flow Due to Lockages+: -NR-
 Percent of flow from S308 0%

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 (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:	49.56	49.73	49.90	106	5
S78:	33.31	33.63	36.21	87	4
S79:	11.30	12.17	12.51	64	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:	14.27	15.39	17.96	81	5
S80:	2.13	3.97	4.37	-NR-	-NR-
Okeechobee Average	31.92	5.01	5.22		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg -NR- 0.73 2.23

Okeechobee Lake Elevations	13 SEP 2020	14.88	Difference from 13SEP20
13SEP20 -1 Day =	12 SEP 2020	14.81	-0.07
13SEP20 -2 Days =	11 SEP 2020	14.79	-0.09
13SEP20 -3 Days =	10 SEP 2020	14.74	-0.14
13SEP20 -4 Days =	09 SEP 2020	14.68	-0.20
13SEP20 -5 Days =	08 SEP 2020	14.65	-0.23
13SEP20 -6 Days =	07 SEP 2020	14.61	-0.27
13SEP20 -7 Days =	06 SEP 2020	14.50	-0.38
13SEP20 -30 Days =	14 AUG 2020	13.81	-1.07
13SEP20 -1 Year =	13 SEP 2019	13.86	-1.02
13SEP20 -2 Year =	13 SEP 2018	14.71	-0.17

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
13SEP20 Today =	13 SEP 2020	9027	MON	15175
13SEP20 -1 Day =	12 SEP 2020	9002	SUN	4285
13SEP20 -2 Days =	11 SEP 2020	9161	SAT	10588
13SEP20 -3 Days =	10 SEP 2020	8880	FRI	12705
13SEP20 -4 Days =	09 SEP 2020	8163	THU	6353
13SEP20 -5 Days =	08 SEP 2020	7904	WED	8470
13SEP20 -6 Days =	07 SEP 2020	7464	TUE	23293
13SEP20 -7 Days =	06 SEP 2020	5980	MON	17343
13SEP20 -8 Days =	05 SEP 2020	5068	SUN	4381
13SEP20 -9 Days =	04 SEP 2020	5536	SAT	2170
13SEP20 -10 Days =	03 SEP 2020	6460	FRI	2165
13SEP20 -11 Days =	02 SEP 2020	6779	THU	2167
13SEP20 -12 Days =	01 SEP 2020	7426	WED	6603
13SEP20 -13 Days =	31 AUG 2020	7595	TUE	10682

S65E				
Average Flow over previous 14 days				Avg-Daily Flow
13SEP20 Today=	13 SEP 2020	2898	MON	2645
13SEP20 -1 Day =	12 SEP 2020	2936	SUN	2961
13SEP20 -2 Days =	11 SEP 2020	2919	SAT	2528
13SEP20 -3 Days =	10 SEP 2020	2938	FRI	2448
13SEP20 -4 Days =	09 SEP 2020	2950	THU	2603
13SEP20 -5 Days =	08 SEP 2020	2922	WED	2878
13SEP20 -6 Days =	07 SEP 2020	2866	TUE	2880
13SEP20 -7 Days =	06 SEP 2020	2799	MON	2921
13SEP20 -8 Days =	05 SEP 2020	2739	SUN	2926
13SEP20 -9 Days =	04 SEP 2020	2686	SAT	3096
13SEP20 -10 Days =	03 SEP 2020	2622	FRI	3110
13SEP20 -11 Days =	02 SEP 2020	2566	THU	3106
13SEP20 -12 Days =	01 SEP 2020	2516	WED	3253
13SEP20 -13 Days =	31 AUG 2020	2457	TUE	3215

S65EX1				
Average Flow over previous 14 days				Avg-Daily Flow
13SEP20 Today=	13 SEP 2020	1284	MON	1071
13SEP20 -1 Day =	12 SEP 2020	1315	SUN	1055
13SEP20 -2 Days =	11 SEP 2020	1337	SAT	1094

13SEP20	-3 Days =	10 SEP 2020	1358	FRI	1103
13SEP20	-4 Days =	09 SEP 2020	1355	THU	1225
13SEP20	-5 Days =	08 SEP 2020	1336	WED	1026
13SEP20	-6 Days =	07 SEP 2020	1332	TUE	1081
13SEP20	-7 Days =	06 SEP 2020	1323	MON	1336
13SEP20	-8 Days =	05 SEP 2020	1296	SUN	1343
13SEP20	-9 Days =	04 SEP 2020	1270	SAT	1534
13SEP20	-10 Days =	03 SEP 2020	1228	FRI	1540
13SEP20	-11 Days =	02 SEP 2020	1188	THU	1540
13SEP20	-12 Days =	01 SEP 2020	1147	WED	1472
13SEP20	-13 Days =	31 AUG 2020	1107	TUE	1557

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)
13 SEP 2020	7	244	1599	8136
12 SEP 2020	8	434	2649	6204
11 SEP 2020	11	657	4172	10543
10 SEP 2020	2	682	4213	11153
09 SEP 2020	4	846	2315	6932
08 SEP 2020	2	489	878	4896
07 SEP 2020	7	6	509	3618
06 SEP 2020	10	8	316	2909
05 SEP 2020	11	8	397	3307
04 SEP 2020	5	204	422	3567
03 SEP 2020	4	160	337	3170
02 SEP 2020	6	279	1468	6468
01 SEP 2020	0	64	1244	3881
31 AUG 2020	5	182	678	2875

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)
13 SEP 2020	-81	0	0	0	-735
12 SEP 2020	-140	0	0	0	-817
11 SEP 2020	-197	0	0	0	-1090
10 SEP 2020	-199	0	0	0	-1251
09 SEP 2020	-210	0	0	0	-1137
08 SEP 2020	-264	0	0	0	-826
07 SEP 2020	-197	0	0	0	-691
06 SEP 2020	-71	0	0	0	-284
05 SEP 2020	30	0	90	0	-189
04 SEP 2020	-98	0	103	0	-150
03 SEP 2020	-174	0	94	0	-243
02 SEP 2020	-277	0	98	0	-308
01 SEP 2020	-390	0	496	0	-452
31 AUG 2020	-503	0	187	0	-459

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
13 SEP 2020	3	-NR-	-NR-
12 SEP 2020	5	-NR-	641
11 SEP 2020	3	-NR-	724
10 SEP 2020	5	-125	1276
09 SEP 2020	2	-201	1490
08 SEP 2020	0	-97	863

07 SEP 2020	3	25	52
06 SEP 2020	14	31	49
05 SEP 2020	7	-229	49
04 SEP 2020	5	-83	34
03 SEP 2020	4	-4	27
02 SEP 2020	2	83	40
01 SEP 2020	1	58	149
31 AUG 2020	2	27	323

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

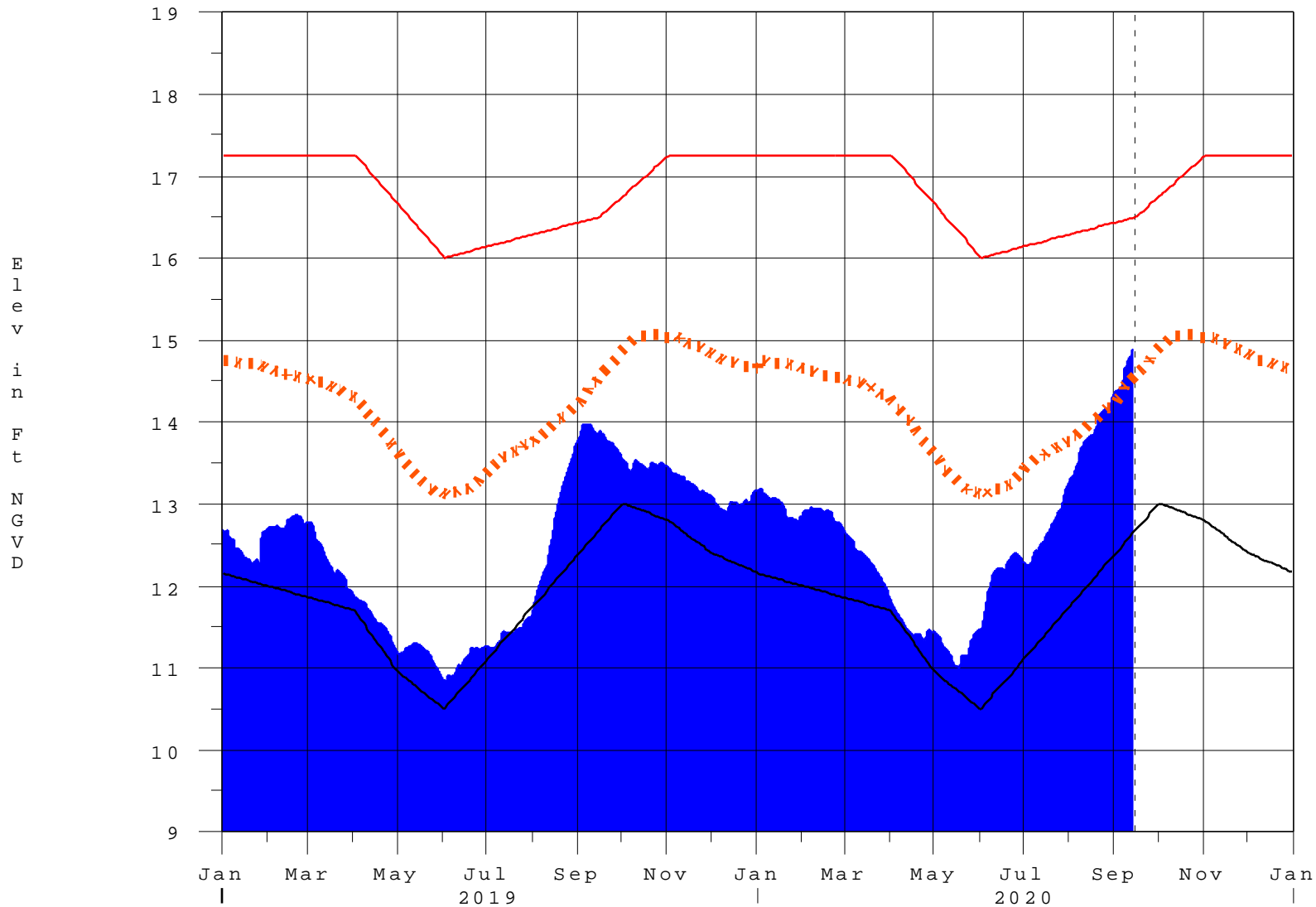
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

* 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 14SEP2020 @ 09:30 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

14SEP20 22:47:09



- 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