

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on
10/11/2021 (ENSO Condition: La Nina watch)

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 ENSO Neutral years³ and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with ENSO Neutral 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 Years ³		Sub-sampling of AMO Warm + La Nina 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	1.06	Normal	0.62	Dry	0.48	Dry
Multi Seasonal (Oct-Apr)	N/A	N/A	1.13	Normal	0.49	Dry	0.37	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:

5950 cfs 14-day running average for Lake Okeechobee Net Inflow through 10/10/2021. According to the classification in Tributary Hydrologic Conditions table, this condition is **Wet**.

-2.46 for Palmer Drought Index on 10/9/2021.

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

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 10/11/2021:

Lake Okeechobee Stage: **15.83 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.90	
Operational Band	High sub-band	16.53	
	Intermediate sub-band	16.02	
	Low sub-band	14.50	← 15.83 ft
Base Flow sub-band		12.96	
Beneficial Use sub-band		12.94	
Water Shortage Management Band			

Part C of LORS2008: Discharge to WCAs

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 10/11/2021 (ENSO Condition- La Nina Watch):

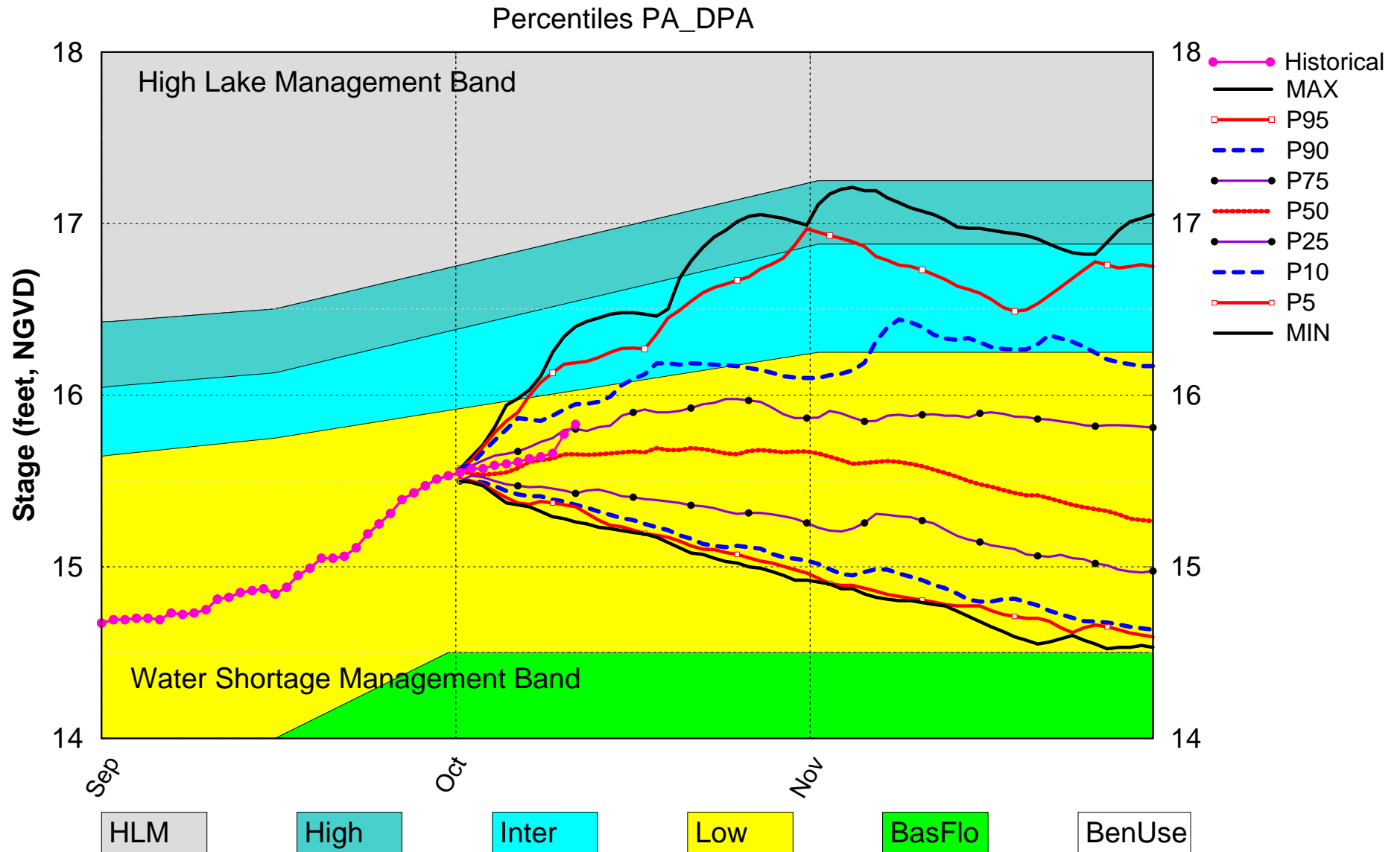
Status for week ending 10/11/2021:

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	-2.46 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Normal	L
		3 months: Below Normal	M
	LOK Seasonal Net Inflow Outlook	0.62 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	0.49 ft	H
	ENSO Forecast	Dry	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (17.38 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (14.11 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.53 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.

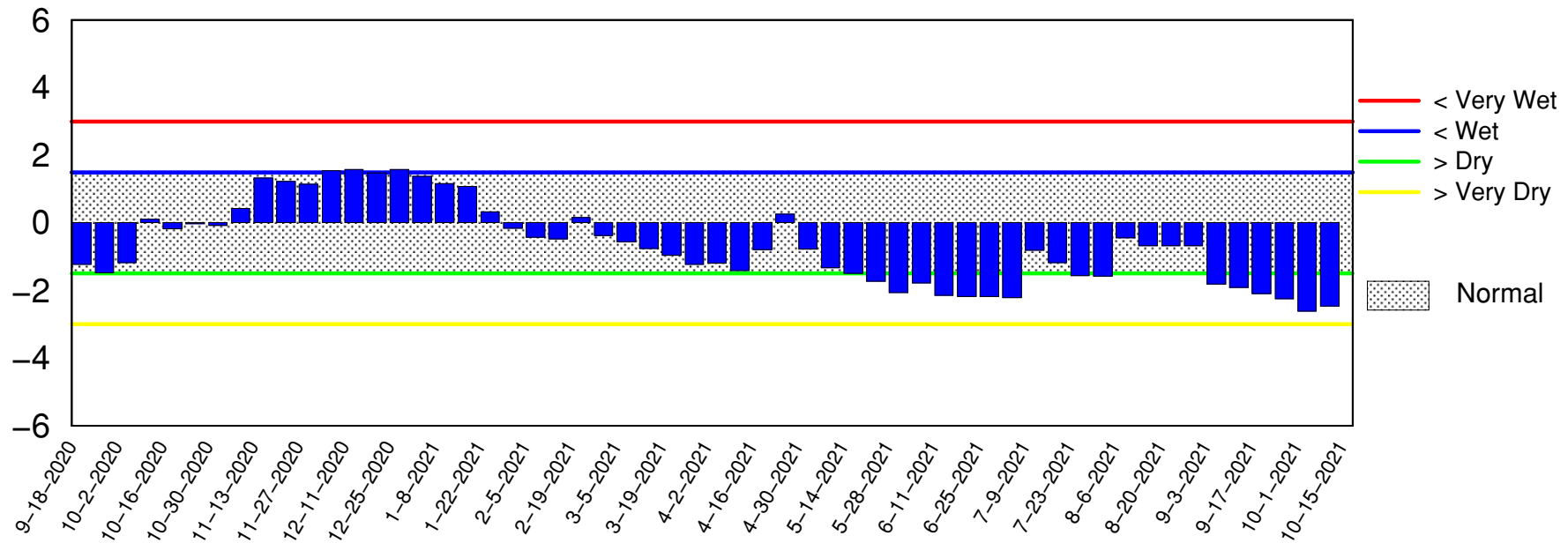
Lake Okeechobee SFWMM Oct 2021 Position Analysis



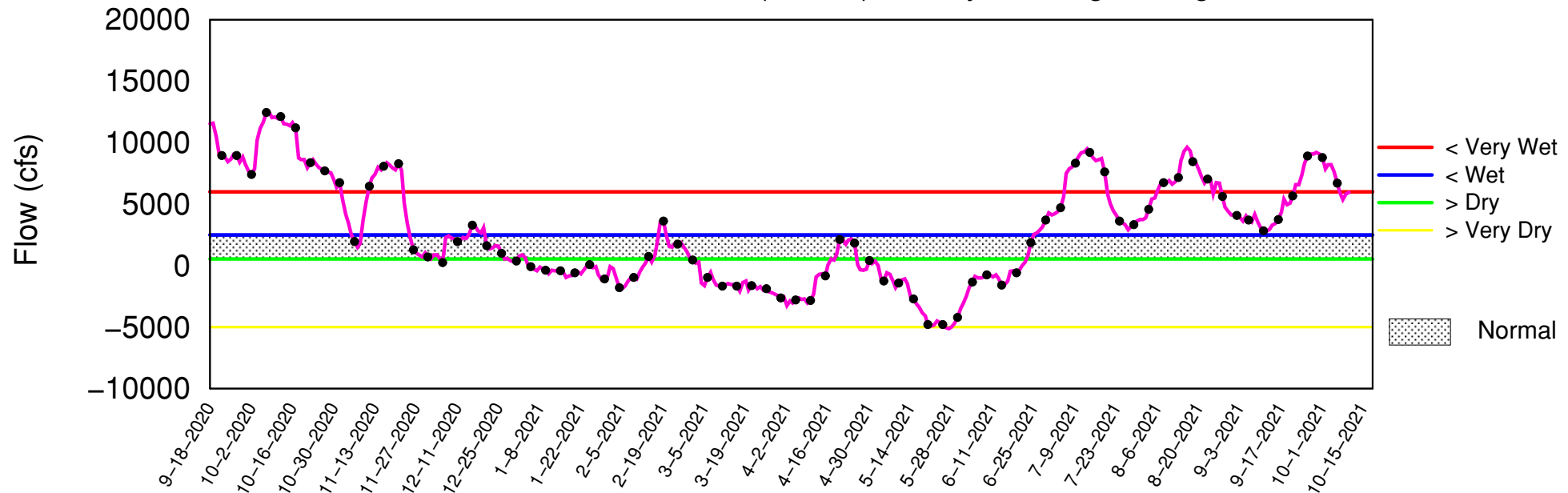
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of October 11 2021

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

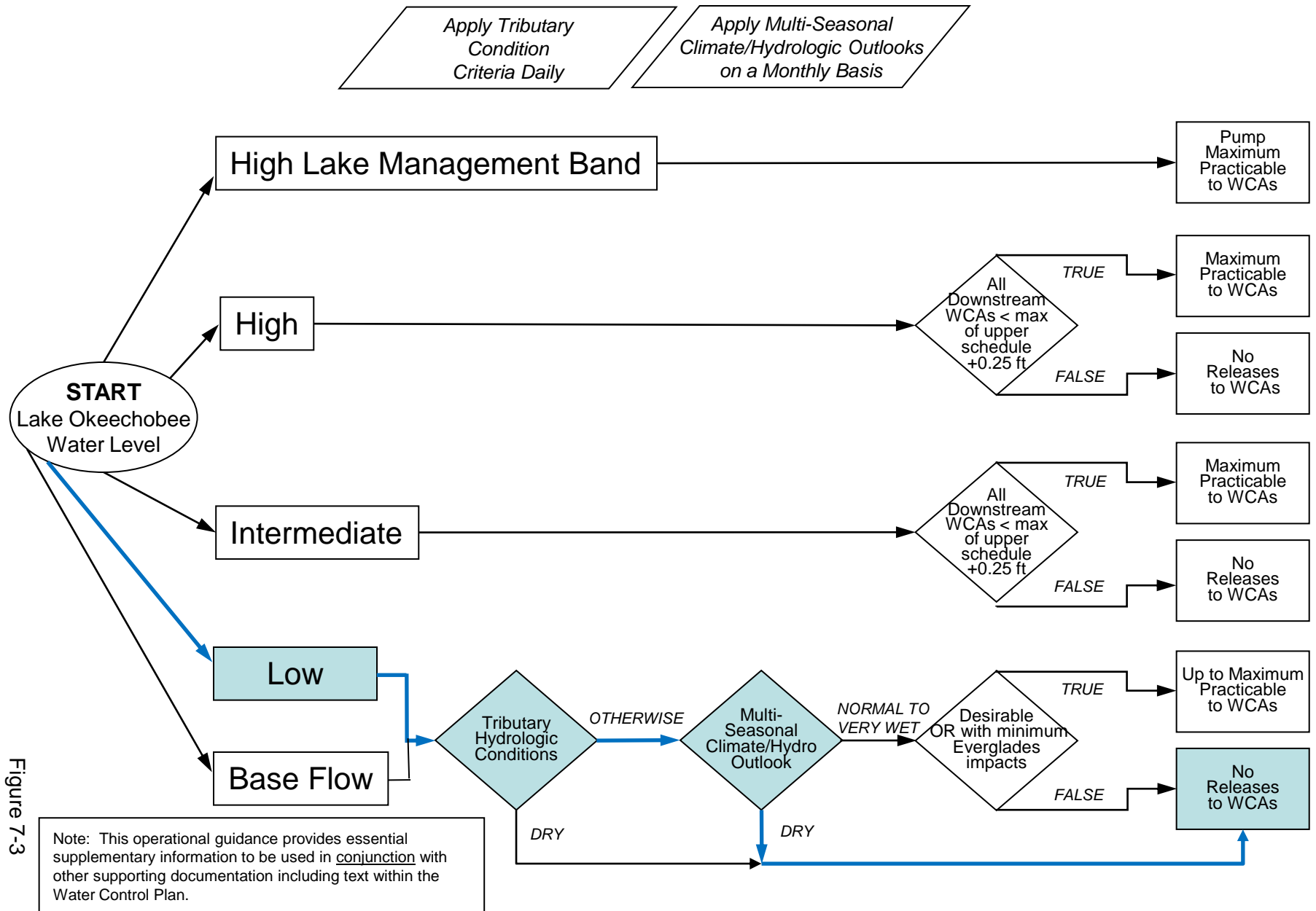


Figure 7-3

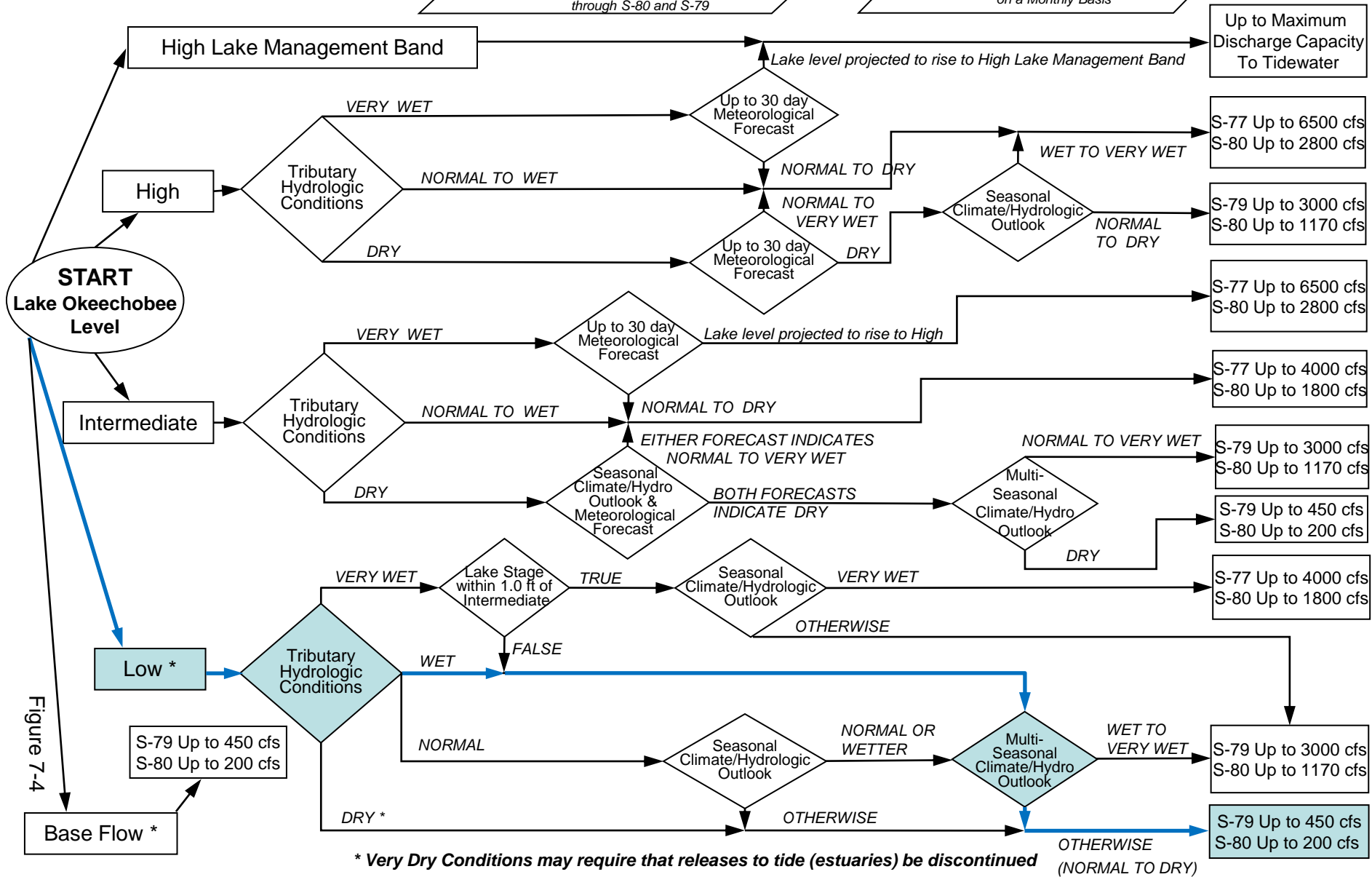
2008 LORS

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

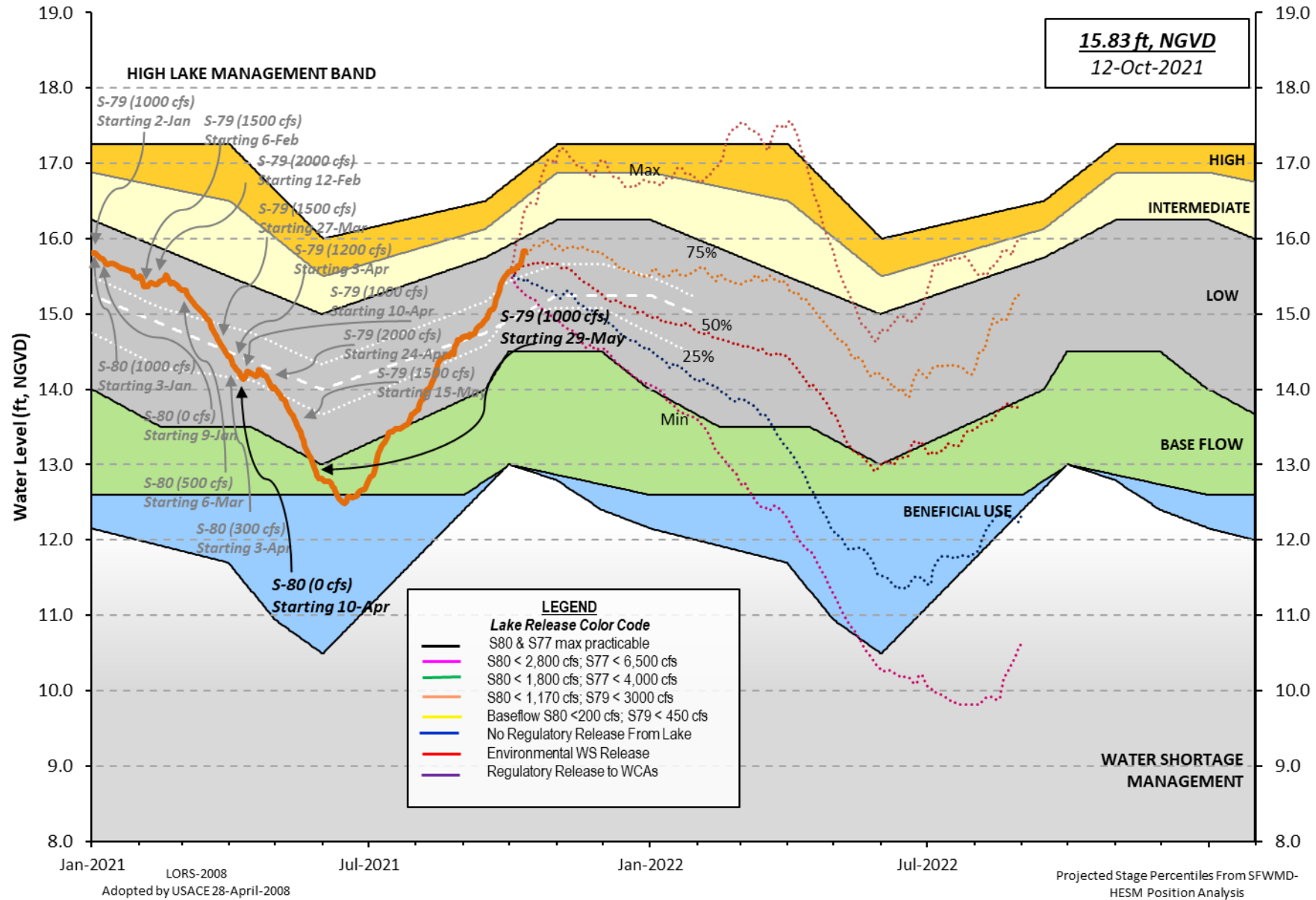
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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



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 10 OCT 2021

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.83	16.09	13.53 (Official Elv)
Bottom of High Lake Mngmt= 16.90 Top of Water Short Mngmt= 12.94			
Currently in Operational Management Band			
Simulated Average LORS2008 [1965-2000]	13.93		
Difference from Average LORS2008	1.90		
10OCT (1965-2007) Period of Record Average	15.02		
Difference from POR Average	0.81		

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 9.77'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 7.97'
Bridge Clearance = 49.12'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.76	15.83	15.84	15.80	15.88	15.93	15.81	15.69

*Combination Okeechobee Avg-Daily Lake Average = 15.83
(*See Note)

Okeechobee Inflows (cfs):

S65E	1951	S65EX1	0	Fisheating Cr	697
S154	338	S191	451	S135 Pumps	153
S84	322	S133 Pumps	383	S2 Pumps	0
S84X	166	S127 Pumps	103	S3 Pumps	0
S71	330	S129 Pumps	33	S4 Pumps	0
S72	410	S131 Pumps	31	C5	0
Total Inflows:		5368			

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	7
S127 Culverts	0	S351	0	S308	1
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-12888		
Total Outflows:		-12879			

****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	0.15	S308	0.19
Average Pan Evap x 0.75 Pan Coefficient = 0.13" = 0.01'			

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 13008 cfs or 25800 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:	13.53	15.64	383	79	79	79	78	80			(cfs)
S193:											
S191:	19.44	15.65	451	0.5	0.4	0.5					
S135 Pumps:	13.41	15.64	153	43	43	25	43				(cfs)
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	20.97	15.39	1951	0.8	0.6	0.6	0.8	0.6	1.3		
S65EX1:	20.97	15.39	0								
S127 Pumps:	13.50	15.67	103	24	24	18	12	12			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	12.78	15.81	33	0	0	36					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	12.93	15.78	31	0	36						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		32.68	697								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.20	15.89	0	0	0	0					(cfs)
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	15.81		4								
S3 Pumps:	9.78	7.40	0	0	0	0					(cfs)
S354:	7.40	9.78	0	0.0	0.0						
S2 Pumps:	10.76	-NR-	0	-NR-	-NR-	-NR-	-NR-				(cfs)
S351:	-NR-	10.76	0	0.0	0.0	0.0					
S352:	15.93	10.96	0	0.0	0.0						
C10A:	-NR-	-NR-		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT			-12888								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.76	-NR-	0	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-
S352:	10.96	15.93	0	-NR-	-NR-	-NR-	-NR-		
S354:	9.78	7.40	0	-NR-	-NR-	-NR-	-NR-		

Caloosahatchee River (S77, S78, S79)

S47B:	12.62	12.31		3.0	3.0				
S47D:	12.11	10.98	229	1.0					
S77:									
Spillway and Sector Preferred Flow:									
	15.71	10.89	0	0.0	0.0	0.0	0.0		
Flow Due to Lockages+:			7						

S78:

Spillway and Sector Flow:
10.90 2.93 498 0.5 0.0 0.0 1.0
Flow Due to Lockages+: -NR-

S79:

Spillway and Sector Flow:
3.04 1.69 3985 0.0 0.0 3.0 3.0 3.0 3.0 0.0 0.0
Flow Due to Lockages+: 8
Percent of flow from S77 0%
Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:
15.84 14.38 0 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 1

S153: 18.62 14.01 207 0.5 0.0

S80:

Spillway and Sector Flow:
14.31 1.88 702 0.0 0.0 0.8 0.0 1.0 0.0 0.0
Flow Due to Lockages+: 11
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 Speed (Deg) (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	1.73	1.74	37 4
S78:	0.00	0.93	1.51	305 1
S79:	0.00	0.48	-0.04	343 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:	0.00	1.24	1.24	344 1
S80:	0.01	3.81	3.81	202 2
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.23	0.23	

Oke Nexrad Basin Avg	-NR-	0.00	0.00	

Okeechobee Lake Elevations	10 OCT 2021	15.83	Difference from 10OCT21
10OCT21 -1 Day =	09 OCT 2021	15.77	-0.06

10OCT21	-2 Days =	08 OCT 2021	15.66	-0.17
10OCT21	-3 Days =	07 OCT 2021	15.64	-0.19
10OCT21	-4 Days =	06 OCT 2021	15.63	-0.20
10OCT21	-5 Days =	05 OCT 2021	15.61	-0.22
10OCT21	-6 Days =	04 OCT 2021	15.60	-0.23
10OCT21	-7 Days =	03 OCT 2021	15.59	-0.24
10OCT21	-30 Days =	10 SEP 2021	14.82	-1.01
10OCT21	-1 Year =	10 OCT 2020	16.09	0.26
10OCT21	-2 Year =	10 OCT 2019	13.53	-2.30

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
10OCT21	Today =	10 OCT 2021	6195	MON	13008
10OCT21	-1 Day =	09 OCT 2021	5886	SUN	23847
10OCT21	-2 Days =	08 OCT 2021	5421	SAT	4336
10OCT21	-3 Days =	07 OCT 2021	6040	FRI	2175
10OCT21	-4 Days =	06 OCT 2021	6814	THU	4345
10OCT21	-5 Days =	05 OCT 2021	7743	WED	2168
10OCT21	-6 Days =	04 OCT 2021	8362	TUE	2168
10OCT21	-7 Days =	03 OCT 2021	8362	MON	4336
10OCT21	-8 Days =	02 OCT 2021	8052	SUN	0
10OCT21	-9 Days =	01 OCT 2021	8978	SAT	4336
10OCT21	-10 Days =	30 SEP 2021	9273	FRI	4336
10OCT21	-11 Days =	29 SEP 2021	10029	THU	4336
10OCT21	-12 Days =	28 SEP 2021	10339	WED	8672
10OCT21	-13 Days =	27 SEP 2021	9255	TUE	8672

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
10OCT21	Today=	10 OCT 2021	2778	MON	2126
10OCT21	-1 Day =	09 OCT 2021	2895	SUN	2339
10OCT21	-2 Days =	08 OCT 2021	2987	SAT	2284
10OCT21	-3 Days =	07 OCT 2021	3079	FRI	2065
10OCT21	-4 Days =	06 OCT 2021	3147	THU	2478
10OCT21	-5 Days =	05 OCT 2021	3184	WED	2526
10OCT21	-6 Days =	04 OCT 2021	3234	TUE	2546
10OCT21	-7 Days =	03 OCT 2021	3292	MON	2829
10OCT21	-8 Days =	02 OCT 2021	3241	SUN	2869
10OCT21	-9 Days =	01 OCT 2021	3161	SAT	2822
10OCT21	-10 Days =	30 SEP 2021	3111	FRI	3217
10OCT21	-11 Days =	29 SEP 2021	2988	THU	3320
10OCT21	-12 Days =	28 SEP 2021	2859	WED	3692
10OCT21	-13 Days =	27 SEP 2021	2699	TUE	3774

S65EX1					
Average Flow over previous 14 days					Avg-Daily Flow
10OCT21	Today=	10 OCT 2021	0	MON	0
10OCT21	-1 Day =	09 OCT 2021	0	SUN	0
10OCT21	-2 Days =	08 OCT 2021	0	SAT	0
10OCT21	-3 Days =	07 OCT 2021	0	FRI	0
10OCT21	-4 Days =	06 OCT 2021	0	THU	0
10OCT21	-5 Days =	05 OCT 2021	0	WED	0
10OCT21	-6 Days =	04 OCT 2021	0	TUE	0
10OCT21	-7 Days =	03 OCT 2021	4	MON	0
10OCT21	-8 Days =	02 OCT 2021	4	SUN	0
10OCT21	-9 Days =	01 OCT 2021	4	SAT	0
10OCT21	-10 Days =	30 SEP 2021	4	FRI	0
10OCT21	-11 Days =	29 SEP 2021	5	THU	0
10OCT21	-12 Days =	28 SEP 2021	5	WED	0
10OCT21	-13 Days =	27 SEP 2021	5	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)
10 OCT 2021	15	84	-NR-	7805
09 OCT 2021	5	224	-NR-	6032
08 OCT 2021	10	217	-NR-	4085
07 OCT 2021	9	-7	-NR-	2979
06 OCT 2021	4	-74	-NR-	3101
05 OCT 2021	4	-42	-NR-	1805
04 OCT 2021	4	-22	-NR-	4302
03 OCT 2021	8	190	-NR-	3384
02 OCT 2021	10	193	-NR-	5452
01 OCT 2021	7	148	-NR-	3307
30 SEP 2021	18	406	-NR-	6109
29 SEP 2021	5	745	3972	9384
28 SEP 2021	3	460	3922	9927
27 SEP 2021	8	561	4523	13086

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)
10 OCT 2021	8	0	0	0	-25556
09 OCT 2021	94	0	0	0	-NR-
08 OCT 2021	5	0	0	0	-NR-
07 OCT 2021	3	0	0	0	-NR-
06 OCT 2021	4	0	0	0	-NR-
05 OCT 2021	11	0	0	0	-NR-
04 OCT 2021	12	0	0	0	-NR-
03 OCT 2021	52	0	0	0	-NR-
02 OCT 2021	70	0	0	0	-NR-
01 OCT 2021	8	0	0	0	-NR-
30 SEP 2021	83	0	0	0	-NR-
29 SEP 2021	140	0	0	0	-NR-
28 SEP 2021	-41	0	0	0	-NR-
27 SEP 2021	-12	0	0	0	-NR-

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
10 OCT 2021	3	-66	1408
09 OCT 2021	4	-231	1749
08 OCT 2021	4	-245	762
07 OCT 2021	3	-51	30
06 OCT 2021	2	152	34
05 OCT 2021	1	-87	15
04 OCT 2021	2	-40	222
03 OCT 2021	5	123	260
02 OCT 2021	4	188	367
01 OCT 2021	4	135	34
30 SEP 2021	6	8	222
29 SEP 2021	5	48	650
28 SEP 2021	6	30	662
27 SEP 2021	1	-108	580

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

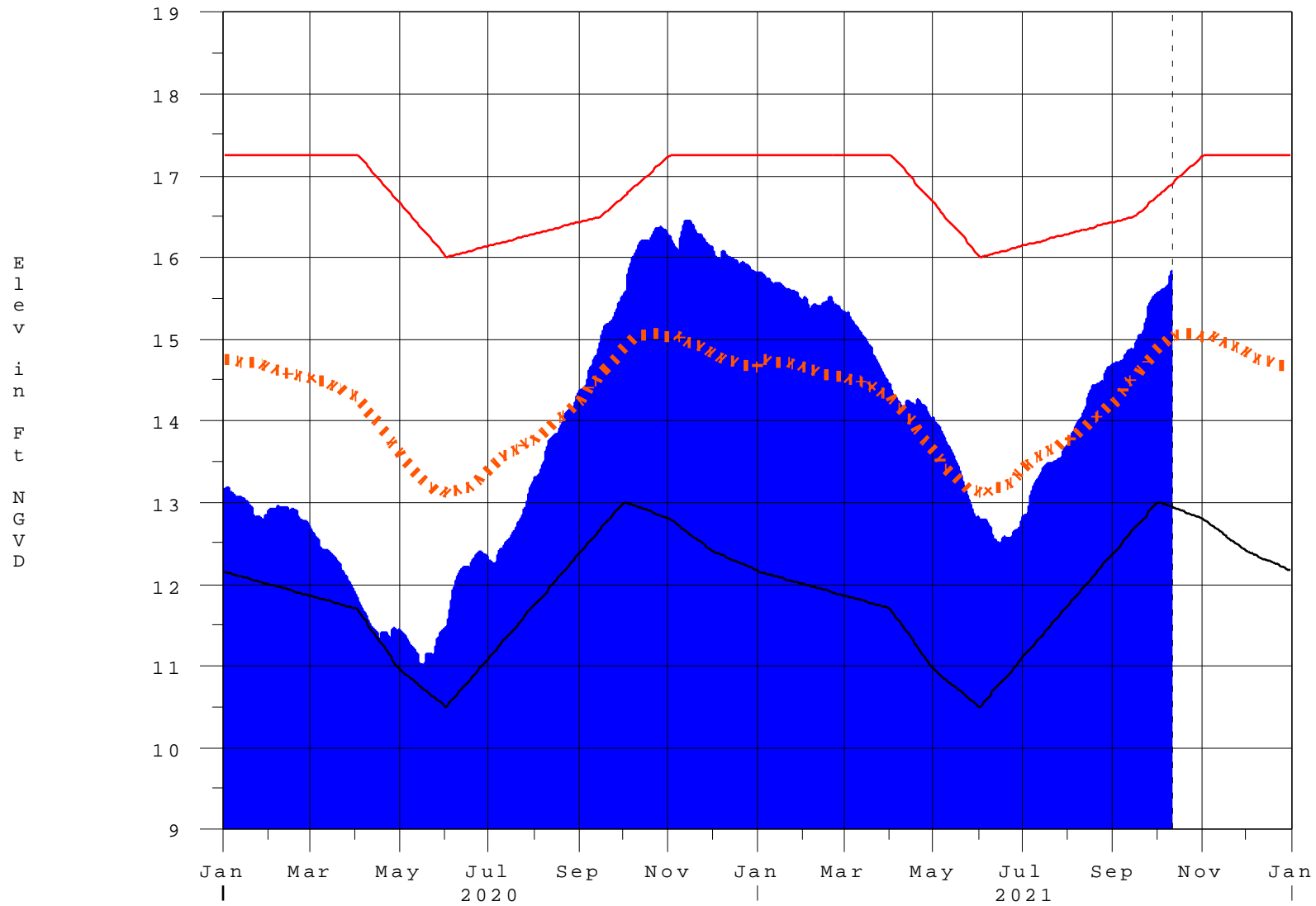
(I) - Flows preceeded by "I" signify an instantaneous flow computed from the single value reported for the day

* 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 11OCT2021 @ 12:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

11OCT21 12:31:20



- 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

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[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