

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 07/13/2020 (ENSO Neutral Condition)

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 (Jul-Dec)	N/A	N/A	2.55	Very Wet	2.47	Very Wet	3.80	Very Wet
Multi Seasonal (Jul-Apr)	N/A	N/A	3.00	Wet	2.54	Wet	3.98	Wet

***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:

2829 cfs 14-day running average for Lake Okeechobee Net Inflow through 07/13/2020. According to the classification in Tributary Hydrologic Conditions table, this condition is **Wet**.

-2.11 for Palmer Drought Index on 07/11/2020.

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 07/13/2020

Lake Okeechobee Stage: **12.50 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		16.19	
Operational Band	High sub-band	15.74	
	Intermediate sub-band	15.29	
	Low sub-band	13.39	
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.35	← 12.50 ft
Water Shortage Management Band			

Part C and Part D of LORS2008:

With Lake Okeechobee stage below the Base-Flow Sub-Band, Part C **nor** Part D of the 2008 LORS suggest releases to the WCAs or Estuaries required to manage lake stages.

Adaptive Protocol's Release Guidance: Caloosahatchee Estuary

The SFWMD's Lake Okeechobee Adaptive Protocol's Release Guidance suggests no S-77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise.

LORS2008 Implementation on 07/13/2020 (ENSO Neutral Condition):

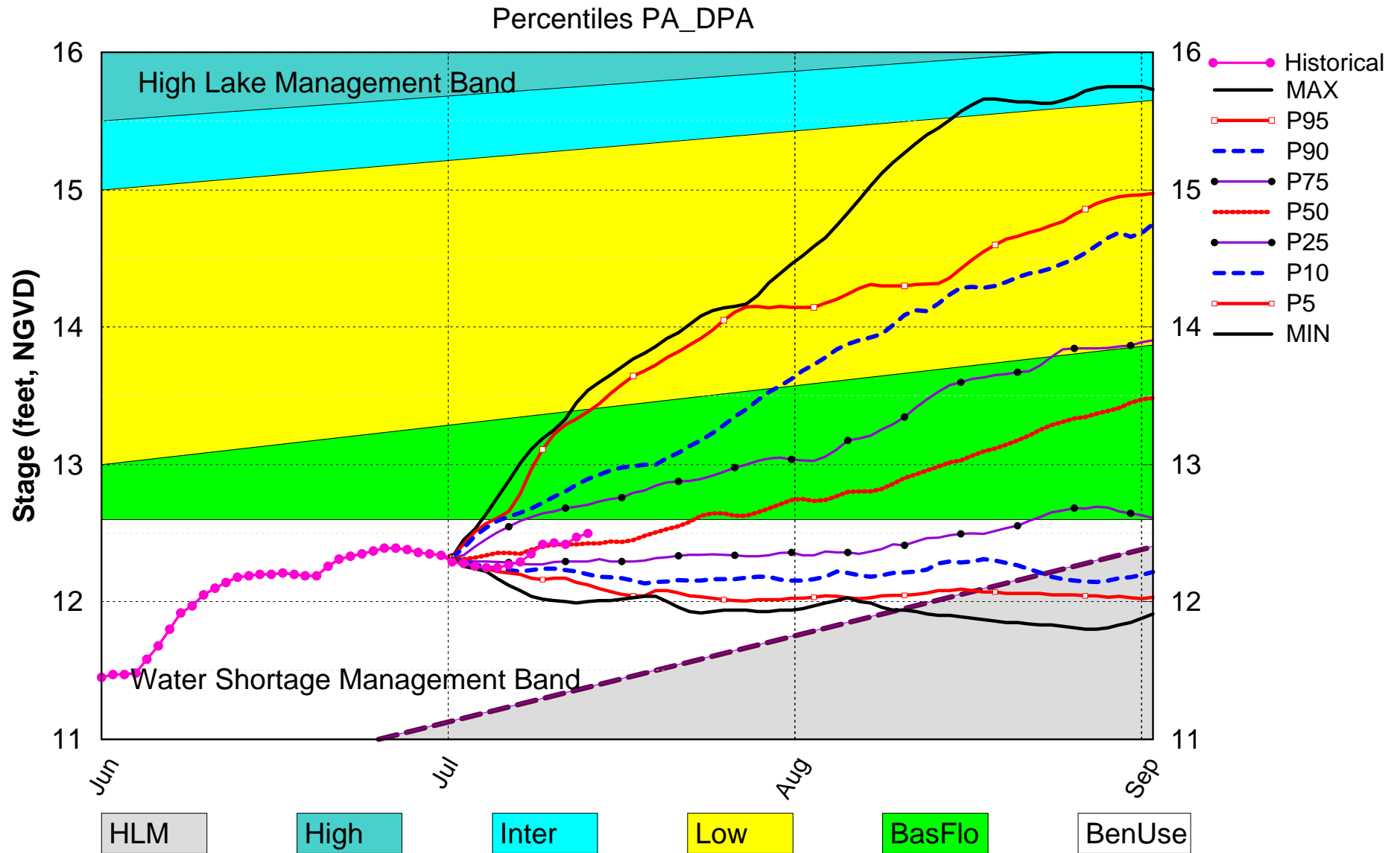
Status for week ending 7/13/2020:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Base Flow sub band	M
	Palmer Index for LOK Tributary Conditions	-2.11 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Above Normal	L
		3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	2.47 ft	L
	ENSO Forecast (positive)	Normal to Extremely Wet	
	LOK Multi-Seasonal Net Inflow Outlook	2.54 ft	M
	ENSO Forecast (positive)	Normal	
WCAs	WCA 1: 3 Station Average (Site 1-7, 1-8T and 1-9)	Above Line 1 (16.19 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (11.94 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (10.34 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.

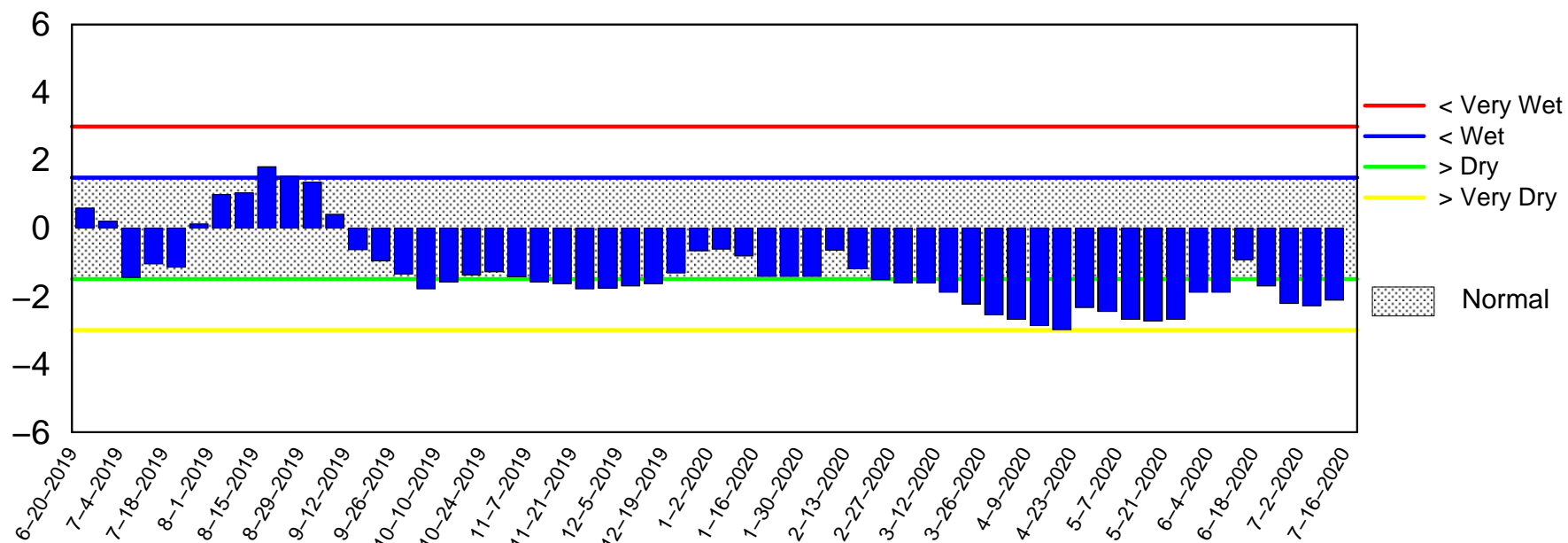
Lake Okeechobee SFWMM July 2020 Position Analysis



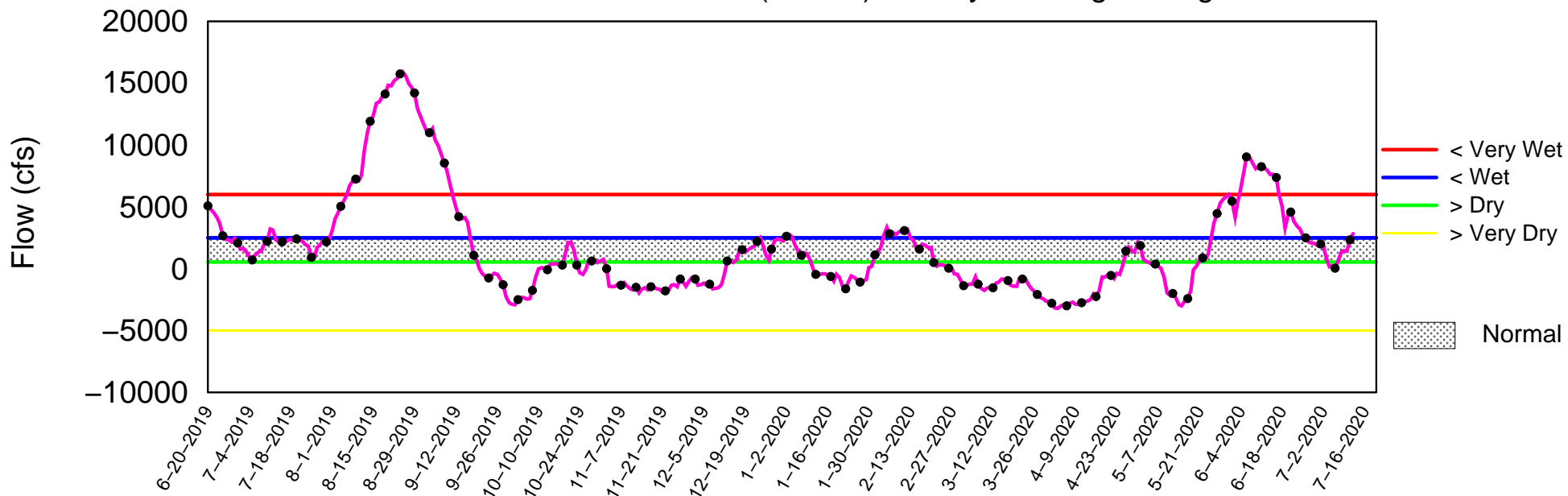
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of July 13 2020

Palmer Index

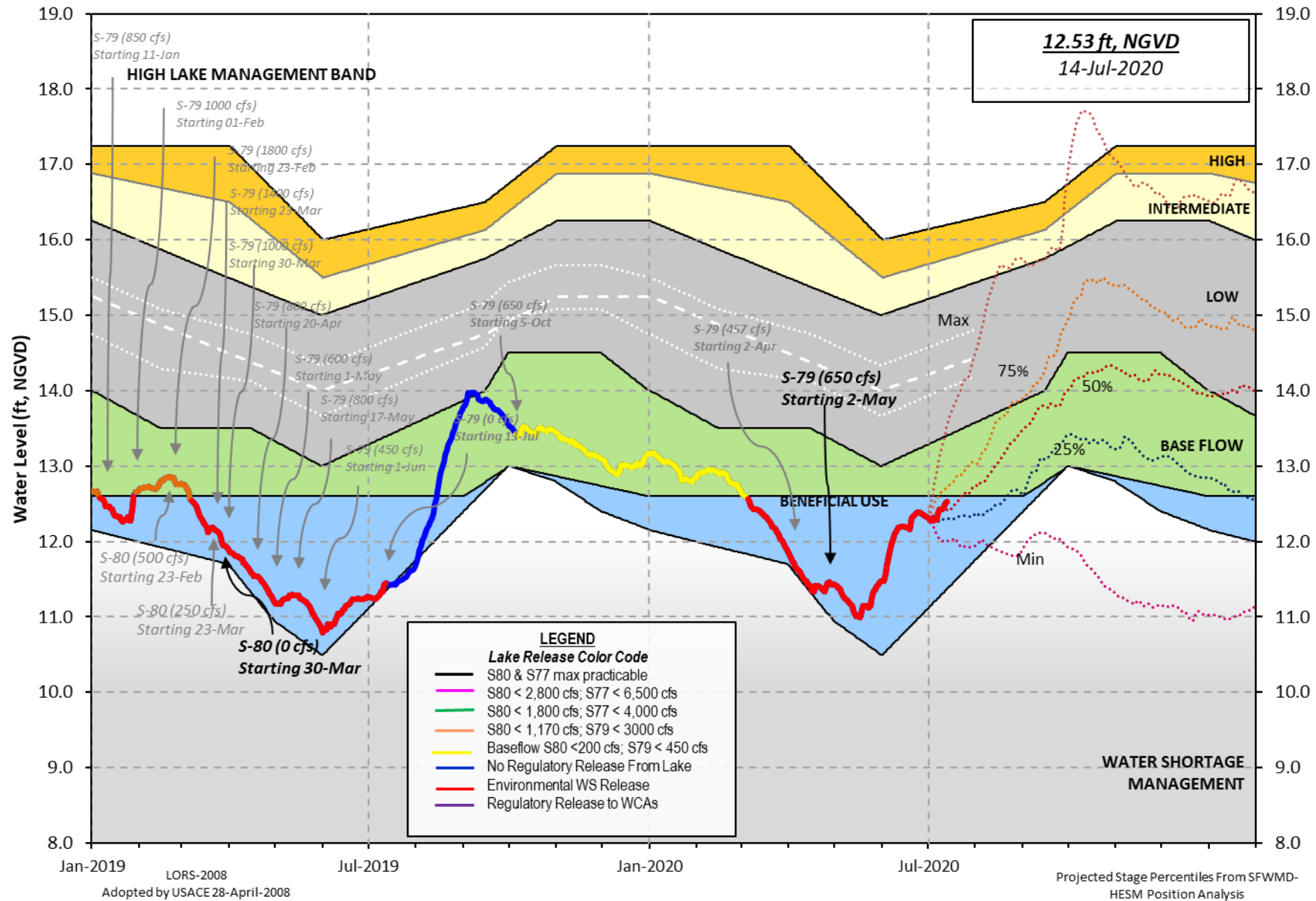


Lake Okeechobee Net Inflow (LONIN) 14-day Running Average



Tue Jul 14 06:45:14 EDT 2020

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 12 JUL 2020

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	12.50	11.45	14.49 (Official Elv)
Bottom of High Lake Mngmt=	16.19	Top of Water Short Mngmt=	11.35
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	12.46
Difference from Average LORS2008	0.04

12JUL (1965-2007) Period of Record Average	13.57
Difference from POR Average	-1.07

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 6.44'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 4.64'
Bridge Clearance = 50.92'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
12.68	12.53	12.45	12.49	12.35	12.67	12.59	12.68

*Combination Okeechobee Avg-Daily Lake Average = 12.50
(*See Note)

Okeechobee Inflows (cfs):

S65E	1311	S65EX1	382	Fisheating Cr	44
S154	0	S191	0	S135 Pumps	0
S84	390	S133 Pumps	0	S2 Pumps	0
S84X	124	S127 Pumps	0	S3 Pumps	0
S71	15	S129 Pumps	0	S4 Pumps	0
S72	104	S131 Pumps	17	C5	0
Total Inflows:	2388				

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	0	S77	242
S127 Culverts	0	S351	0	S308	-292
S129 Culverts	0	S352	0		
S131 Culverts	0	L8 Canal Pt	-48		
Total Outflows:	-98				

****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	0.19	S308	0.18
Average Pan Evap x 0.75 Pan Coefficient = 0.14" = 0.01'			

Lake Average Precipitation using NEXRAD: = 0.42" = 0.04'

Evaporation - Precipitation: = -0.28" = -0.02'
 Evaporation - Precipitation using Lake Area of 730 square miles
 is equal to 5521 cfs into the lake.
 Lake Okeechobee (Change in Storage) Flow is 5899 cfs or 11700 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:	13.01	12.75	0	0	0	0	0	0	0		(cfs)
S193:											
S191:	18.25	12.80	0	0.0	0.0	0.0					
S135 Pumps:	13.44	12.69	0	0	0	0	0				(cfs)
S135 Culverts:			0	0.1	0.0						
North West Shore											
S65E:	21.12	12.78	1311	1.0	1.0	0.5	0.5	0.5	0.5		
S65EX1:	21.12	12.78	382								
S127 Pumps:	13.63	12.76	0	0	0	0	0	0			(cfs)
S127 Culvert:			0	0.0							
S129 Pumps:	13.06	12.85	0	0	0	0					(cfs)
S129 Culvert:			0	0.0							
S131 Pumps:	12.87	12.53	17	0	0						(cfs)
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		29.48	44								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	12.36	12.30	0	0	0	0					(cfs)
S169:	12.34	12.35	-22	5.0	5.0	5.0					
S310:	12.31		-98								
S3 Pumps:	10.57	12.30	0	0	0	0					(cfs)
S354:	12.30	10.57	0	0.0	0.0						
S2 Pumps:	10.82	-NR-	0	0	0	0	0				(cfs)
S351:	-NR-	10.82	0	0.0	0.0	0.0					
S352:	12.69	9.38	0	0.0	0.0						
C10A:	-NR-	12.80		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		12.52	-48								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.82	-NR-	0	-NR--NR--NR--NR--NR--NR-
S352:	9.38	12.69	0	-NR--NR--NR--NR-
S354:	10.57	12.30	0	-NR--NR--NR--NR-

Caloosahatchee River (S77, S78, S79)

S47B:	12.36	11.09		0.0	0.0
S47D:	11.07	11.07	-33	4.6	

S77:

Spillway and Sector Preferred Flow:

12.26 10.96 241 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 1

S78:

Spillway and Sector Flow:

11.01 2.86 248 1.0 0.0 0.0 0.0
Flow Due to Lockages+: 6

S79:

Spillway and Sector Flow:

3.12 1.49 765 0.0 1.0 1.0 1.5 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 10
Percent of flow from S77 32%
Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:

12.60 12.58 -292 3.0 3.0 3.0 3.0
Flow Due to Lockages+: 0

S153:

19.09 12.46 0 0.0 0.0

S80:

Spillway and Sector Flow:

12.78 0.25 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Flow Due to Lockages+: 19
Percent of flow from S308 NA %

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	Direction	Speed
Daily Precipitation Totals	(inches)	(inches)	(inches)	(DegØ)	(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:	34.56	34.56	36.57	160	6
S78:	17.98	18.99	19.65	217	3
S79:	1.12	1.96	2.17	135	3
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:	1.07	2.07	3.44	202	14
S80:	40.59	40.75	41.86	198	3
Okeechobee Average	17.82	2.82	3.08		

(Sites S78, S79 and S80 not included)

Oke Nexrad Basin Avg 0.42 1.30 3.44

Okeechobee Lake Elevations	12 JUL 2020	12.50	Difference from 12JUL20
12JUL20 -1 Day =	11 JUL 2020	12.47	-0.03
12JUL20 -2 Days =	10 JUL 2020	12.42	-0.08
12JUL20 -3 Days =	09 JUL 2020	12.43	-0.07
12JUL20 -4 Days =	08 JUL 2020	12.42	-0.08
12JUL20 -5 Days =	07 JUL 2020	12.35	-0.15
12JUL20 -6 Days =	06 JUL 2020	12.29	-0.21
12JUL20 -7 Days =	05 JUL 2020	12.27	-0.23
12JUL20 -30 Days =	12 JUN 2020	12.19	-0.31
12JUL20 -1 Year =	12 JUL 2019	11.45	-1.05
12JUL20 -2 Year =	12 JUL 2018	14.49	1.99

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
12JUL20 Today =	12 JUL 2020	2344	MON		6140
12JUL20 -1 Day =	11 JUL 2020	1803	SUN		10199
12JUL20 -2 Days =	10 JUL 2020	790	SAT		-1582
12JUL20 -3 Days =	09 JUL 2020	807	FRI		2523
12JUL20 -4 Days =	08 JUL 2020	673	THU		14058
12JUL20 -5 Days =	07 JUL 2020	-442	WED		-NR-
12JUL20 -6 Days =	06 JUL 2020	-94	TUE		4647
12JUL20 -7 Days =	05 JUL 2020	-157	MON		4502
12JUL20 -8 Days =	04 JUL 2020	-208	SUN		1386
12JUL20 -9 Days =	03 JUL 2020	437	SAT		-618
12JUL20 -10 Days =	02 JUL 2020	1540	FRI		-2042
12JUL20 -11 Days =	01 JUL 2020	1718	THU		224
12JUL20 -12 Days =	30 JUN 2020	1613	WED		-8148
12JUL20 -13 Days =	29 JUN 2020	2118	TUE		-812

S65E					
Average Flow over previous 14 days					Avg-Daily Flow
12JUL20 Today=	12 JUL 2020	1106	MON		1488
12JUL20 -1 Day =	11 JUL 2020	1069	SUN		1423
12JUL20 -2 Days =	10 JUL 2020	1045	SAT		1381
12JUL20 -3 Days =	09 JUL 2020	1033	FRI		1277
12JUL20 -4 Days =	08 JUL 2020	1023	THU		1251
12JUL20 -5 Days =	07 JUL 2020	1023	WED		1108
12JUL20 -6 Days =	06 JUL 2020	1041	TUE		1109
12JUL20 -7 Days =	05 JUL 2020	1050	MON		924
12JUL20 -8 Days =	04 JUL 2020	1076	SUN		920
12JUL20 -9 Days =	03 JUL 2020	1109	SAT		924
12JUL20 -10 Days =	02 JUL 2020	1144	FRI		891
12JUL20 -11 Days =	01 JUL 2020	1143	THU		887
12JUL20 -12 Days =	30 JUN 2020	1151	WED		898
12JUL20 -13 Days =	29 JUN 2020	1144	TUE		1001

S65EX1					
Average Flow over previous 14 days					Avg-Daily Flow
12JUL20 Today=	12 JUL 2020	446	MON		382
12JUL20 -1 Day =	11 JUL 2020	441	SUN		429
12JUL20 -2 Days =	10 JUL 2020	430	SAT		431

12JUL20	-3 Days =	09 JUL 2020	425	FRI		465
12JUL20	-4 Days =	08 JUL 2020	413	THU		430
12JUL20	-5 Days =	07 JUL 2020	410	WED		520
12JUL20	-6 Days =	06 JUL 2020	408	TUE		471
12JUL20	-7 Days =	05 JUL 2020	411	MON		438
12JUL20	-8 Days =	04 JUL 2020	423	SUN		453
12JUL20	-9 Days =	03 JUL 2020	438	SAT		513
12JUL20	-10 Days =	02 JUL 2020	439	FRI		485
12JUL20	-11 Days =	01 JUL 2020	436	THU		515
12JUL20	-12 Days =	30 JUN 2020	443	WED		308
12JUL20	-13 Days =	29 JUN 2020	465	TUE		401

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)
12 JUL 2020	476	815	514	1562
11 JUL 2020	733	990	308	1243
10 JUL 2020	765	869	395	1490
09 JUL 2020	718	1014	657	1786
08 JUL 2020	679	890	666	1732
07 JUL 2020	599	824	664	1736
06 JUL 2020	852	966	663	1617
05 JUL 2020	847	1503	953	1752
04 JUL 2020	1584	1712	1163	1441
03 JUL 2020	1587	1713	953	991
02 JUL 2020	1617	1859	889	905
01 JUL 2020	1794	1552	529	896
30 JUN 2020	985	1211	663	1117
29 JUN 2020	912	1386	660	1451

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)
12 JUL 2020	-194	0	0	0	-94
11 JUL 2020	-25	0	0	0	-110
10 JUL 2020	101	0	0	0	-101
09 JUL 2020	-111	0	392	0	-171
08 JUL 2020	-226	0	407	0	-214
07 JUL 2020	-94	0	429	0	-77
06 JUL 2020	64	0	0	0	-90
05 JUL 2020	208	0	284	0	-63
04 JUL 2020	325	90	700	373	10
03 JUL 2020	351	122	543	307	120
02 JUL 2020	498	785	633	588	128
01 JUL 2020	712	816	618	945	174
30 JUN 2020	611	0	712	1034	217
29 JUN 2020	294	0	303	773	200

DATE	S-308 Discharge (ALL DAY) (AC-FT)	Below S-308 Discharge (ALL-DAY) (AC-FT)	S-80 Discharge (ALL-DAY) (AC-FT)
12 JUL 2020	69	-580	37
11 JUL 2020	-212	-563	37
10 JUL 2020	-464	-575	20
09 JUL 2020	-824	-565	37
08 JUL 2020	-NR-	-1013	34
07 JUL 2020	-NR-	-926	20

06 JUL 2020	563	-660	27
05 JUL 2020	1123	-306	36
04 JUL 2020	799	-280	43
03 JUL 2020	1053	-198	43
02 JUL 2020	1284	-113	46
01 JUL 2020	1229	-210	40
30 JUN 2020	1226	-194	50
29 JUN 2020	1367	-79	-NR-

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

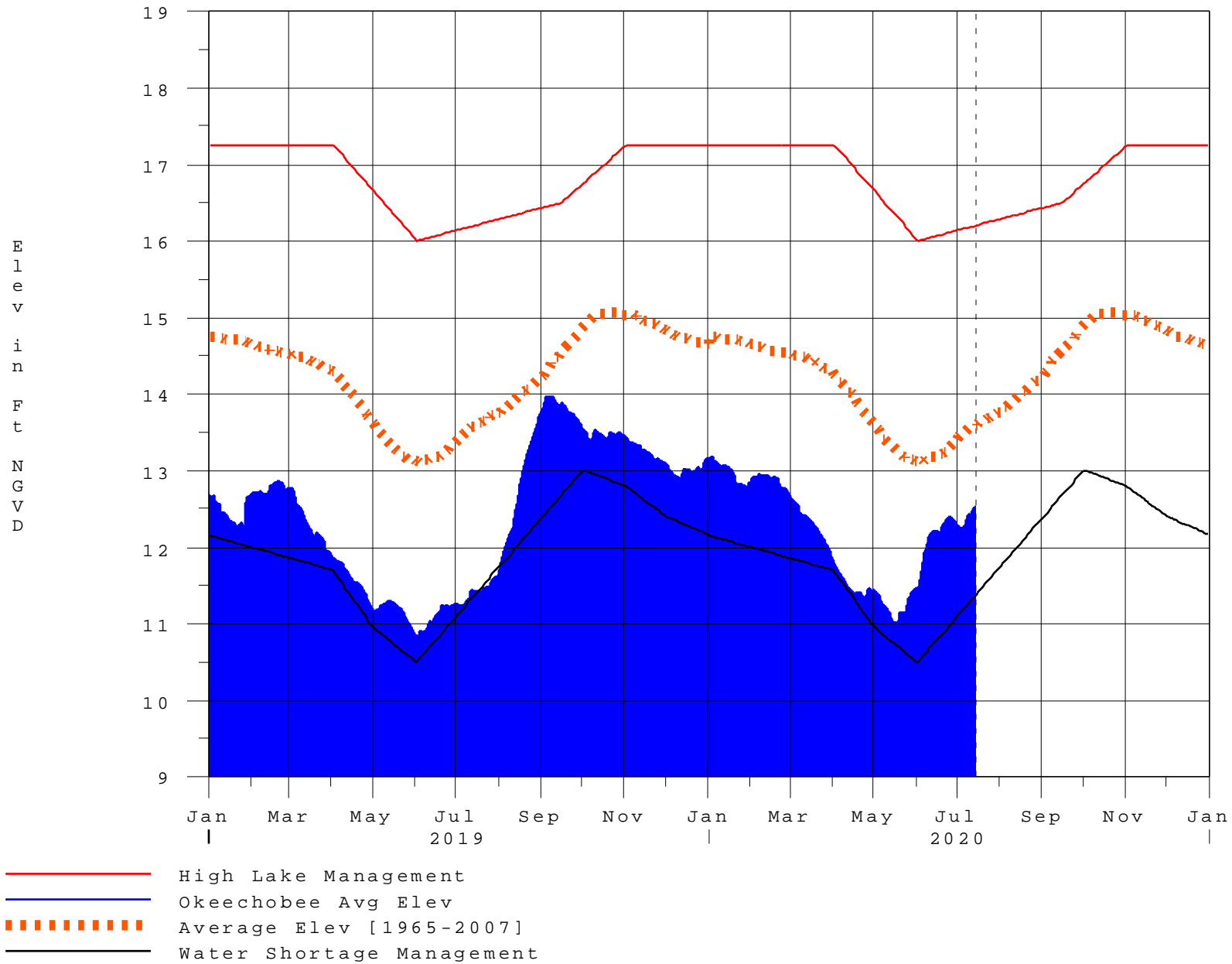
(I) - Flows preceded by "I" signify an instantaneous flow computed from the single value reported for the day

* 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 13JUL2020 @ 23:39 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

14JUL20 07:00:24



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