Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 08/15/2022 (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 Niña years³ and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Niña ENSO years⁴. The results for Croley's method and the SFWMD empirical method are based on the <u>CPC Outlook.</u>

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*}		ethod ^{1*} SFWMD Empirical Method ²		Sub-sampling of La Niña ENSO Years ³		Sub-sampling of AMO Warm + La Niña ENSO Years⁴	
	Value (ft)	<u>Condition</u>	Value (ft)	<u>Condition</u>	Value (ft)	Condition	Value (ft)	<u>Condition</u>
Current (Aug-Jan)	N/A	N/A	1.58	Wet	1.34	Normal	1.27	Normal
Multi Seasonal (Aug-Apr)	N/A	N/A	1.94	Normal	1.30	Normal	0.96	Dry

*Croley's Method Not Produced for This Report

See <u>Seasonal</u> and <u>Multi-Seasonal</u> 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:

-1380 cfs 14-day running average for Lake Okeechobee Net Inflow through 08/15/2022. According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Dry.

-3.71 for Palmer Drought Index on 08/13/2022.

According to the classification in <u>Tributary Hydrologic Conditions</u> table, this condition is Very Dry.

The wetter of the two conditions above is Dry.

LORS2008 Classification Tables:

Lake Okeechobee Stage on 08/15/2022:

Lake Okeechobee Stage: 12.79 feet

	ee Management /Band	Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Manag	ement Band	16.35	J
	High sub-band	15.94	
Operational Band	Intermediate sub-band	15.53	
	Low sub-band	13.70	
Base Flow sub-ba	nd	12.60	← 12.79 ft
Beneficial Use sub	o-band	12.03	
Water Shortage M	lanagement 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.

Lake Okeechobee Releases to the Caloosahatchee Estuary for 2008 LORS Baseflow & for Environmental Water Supply

Guidance for Lake Okeechobee Releases to the Caloosahatchee Estuary indicates no S77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise.

LORS2008 Implementation on 08/15/2022 (ENSO Condition- La Niña Watch)*: Status for week ending 08/15/2022:

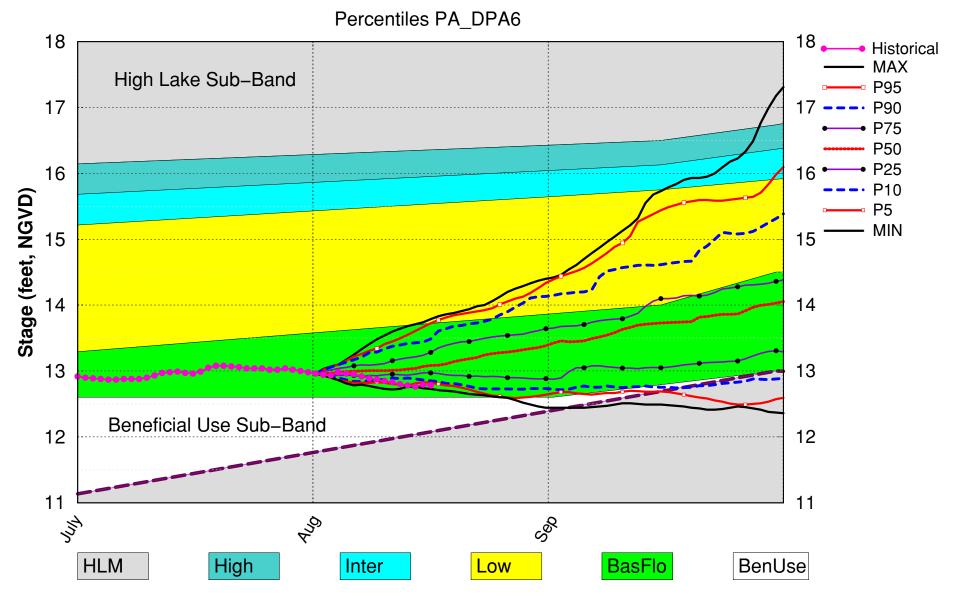
Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
	Projected LOK Stage for the next two months	Base Flow	М
	Palmer Drought Index for LOK Tributary Conditions	-3.71 (Extremely Dry)	н
	CPC Precipitation Outlook	1 month: Normal	L
LOK	CI CI TECIPITATION OUTOOK	3 months: Above Normal	L
	LOK Seasonal Net Inflow Outlook	1.34 ft	
	ENSO Forecast	Normal to extremely wet	L
	LOK Multi-Seasonal Net Inflow Outlook	1.30 ft	М
	ENSO Forecast	ENSO Forecast Normal	
	WCA 1: Station Average (Sites 1-7, 1- 8T, and 1-9)	Above Line 1 (16.35 ft)	L
WCAs	WCA 2A: Site 2-17	Above Line 1 (12.32 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.64 ft)	L
	Service Area 1	Year-Round Irrigation Rule in effect	L
LEC	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.

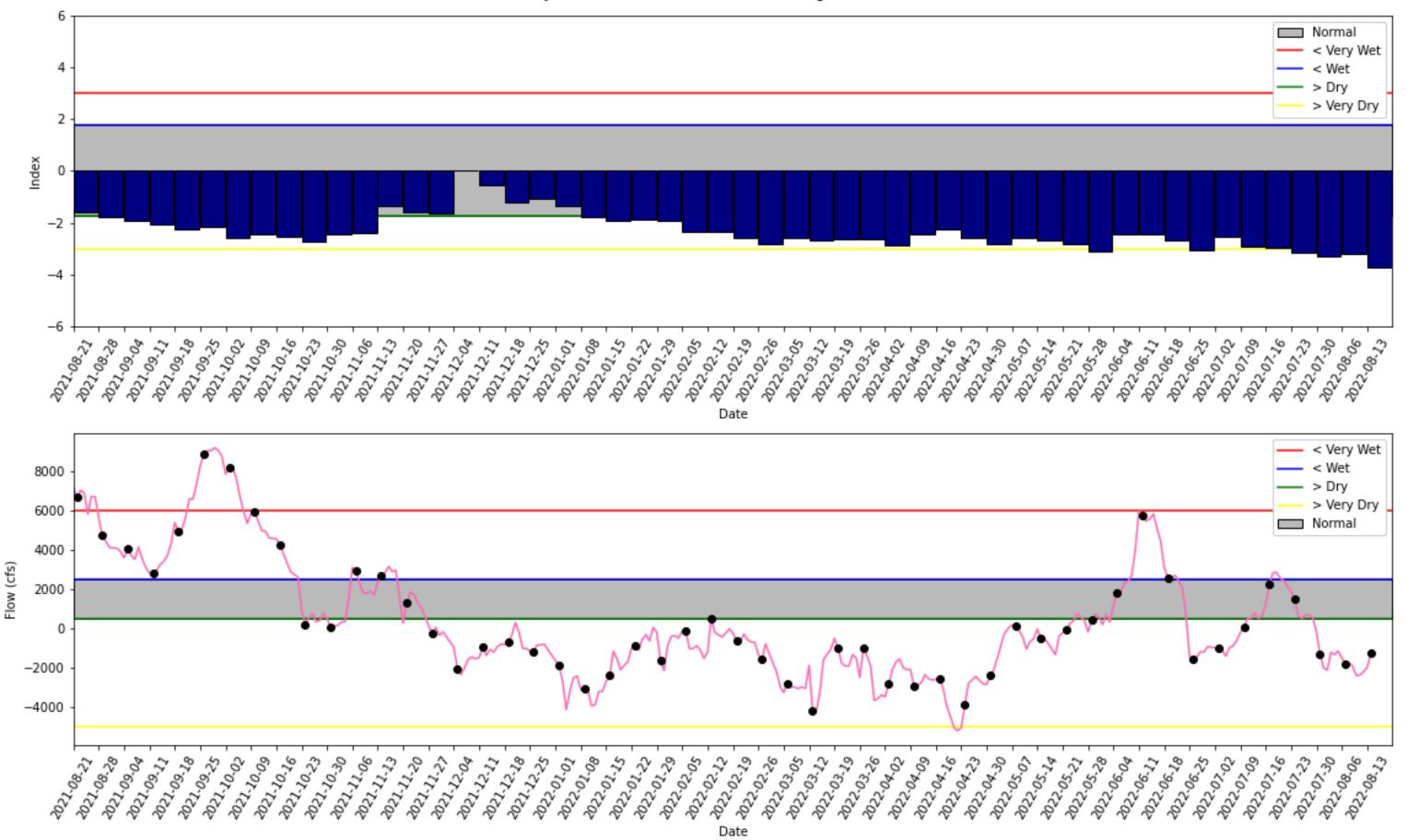
*- Flows at S80 not reported from Aug 9, 2022 and were assumed to be zero

Lake Okeechobee SFWMM August 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

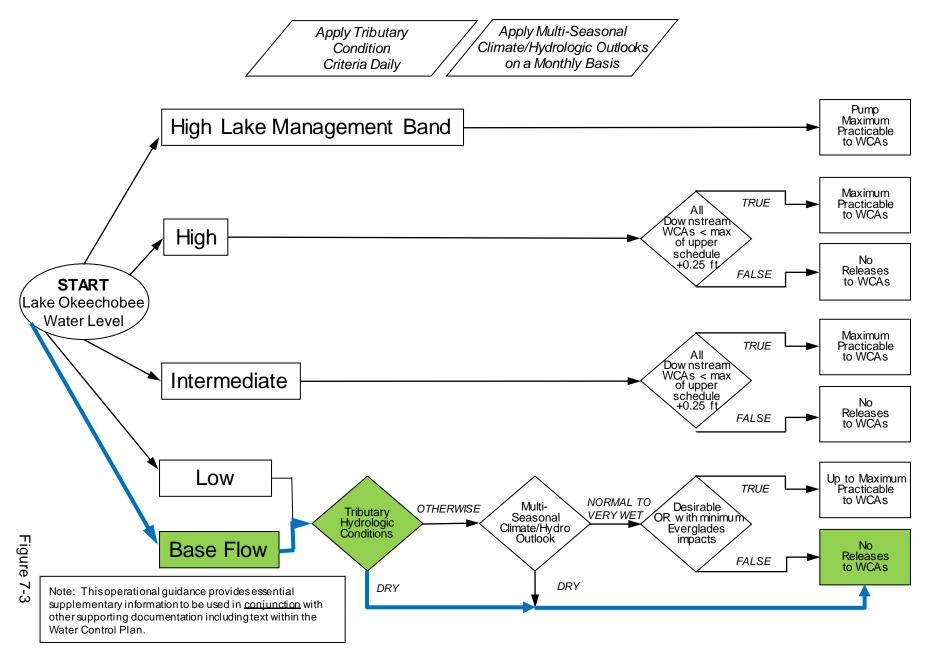
Tue Aug 16 08:08:57 2022



Tributary Basin Condition Indicators as of August 14 2022

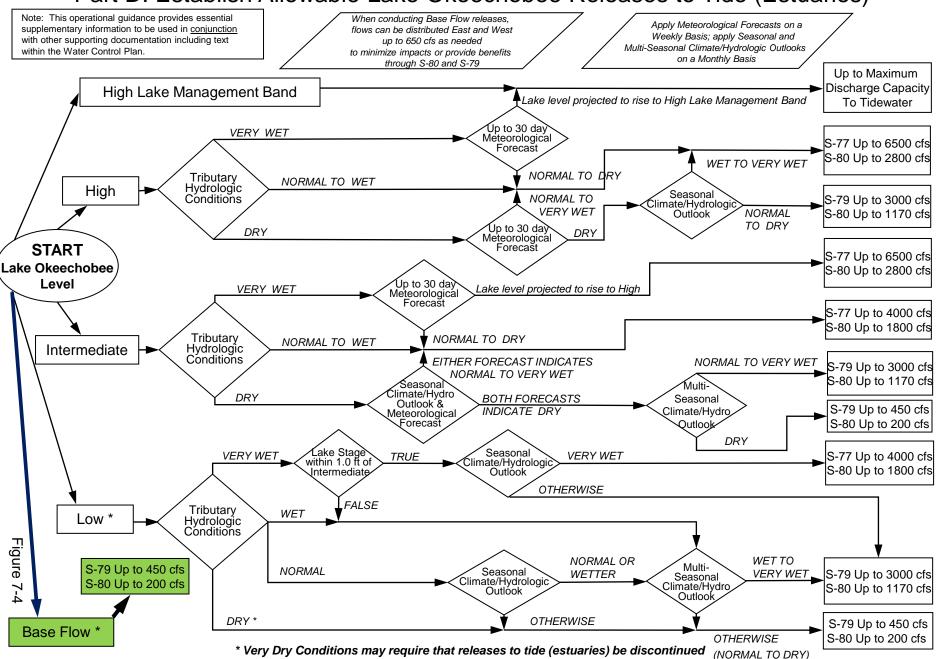
2008 LORS

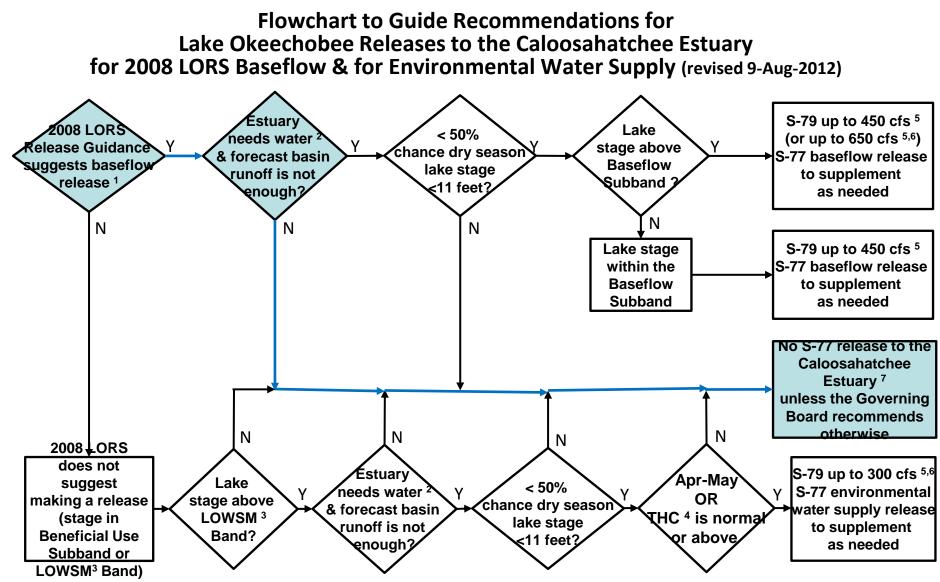
Part C: Establish Allowable Lake Okeechobee Releases to the Water Conservation Areas



2008 LORS

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





¹The 2008 LORS Release Guidance (Part D) can suggest baseflow releases in the Intermediate, Low, or Baseflow Subbands.

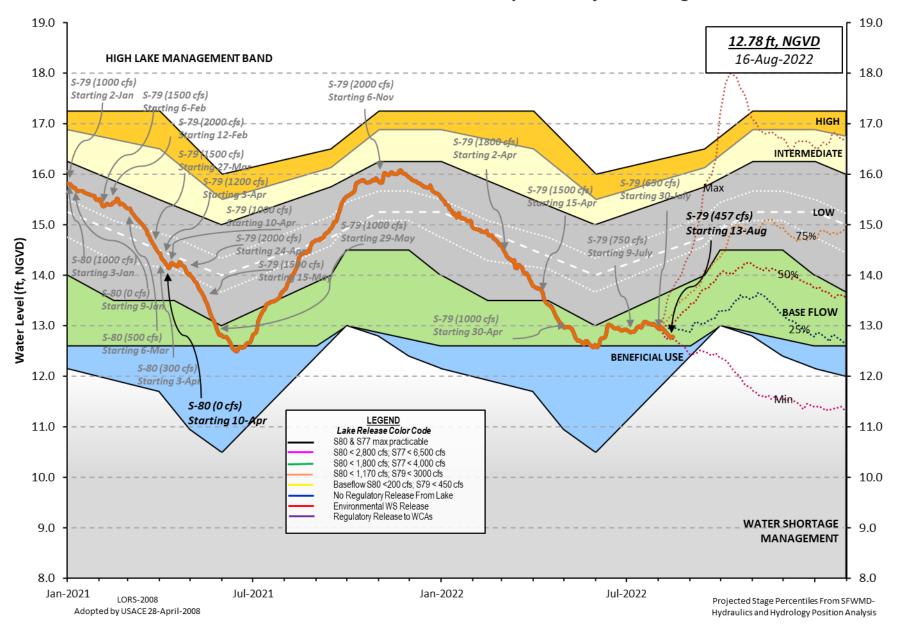
²Estuary "needs" water when the 30-day moving average salinity at I-75 bridge is projected to exceed 5 practical salinity units (psu) within 2 weeks.

³LOWSM = Lake Okeechobee Water Shortage Management.

⁴Tributary Hydrologic Condition (THC) is based on classification of Lake Okeechobee Net Inflow and Palmer Index.

⁵Can release less than the "up to" limit if lower release is sufficient to reach or sustain desired estuary salinity; cfs = cubic feet per second.

⁶After reviewing conditions in Water Conservation Areas (WCAs), Stormwater Treatment Areas (STAs), ENP, St. Lucie Estuary and Lake Okeechobee. ⁷Should this condition be reached, the Governing Board will be briefed at their next regularly scheduled meeting as part of the State of the Water Besources agenda item 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 14 AUG 2022 Okeechobee Lake Regulation Elevation Last Year 2YRS Ago (ft-NGVD) (ft-NGVD) (ft-NGVD) *Okeechobee Lake Elevation 12.79 14.28 13.81 (Official Elv) Bottom of High Lake Mngmt= 16.35 Top of Water Short Mngmt= 12.03 Currently in Operational Management Band Simulated Average LORS2008 [1965-2000] 12.93 Difference from Average LORS2008 -0.14 14AUG (1965-2007) Period of Record Average 13.96 Difference from POR Average -1.17 Today Lake Okeechobee elevation is determined from the 4 Int & 4 Edge stations ++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 🚸 6.73' ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 🚸 4.93' Bridge Clearance = 49.91' 4 Interior and 4 Edge Okeechobee Lake Average (Avg-Daily values): L001 L005 L006 LZ40 S4 S308 S352 S133 12.78 12.78 12.83 12.80 12.74 12.97 12.73 12.72 *Combination Okeechobee Avg-Daily Lake Average = 12.79 (*See Note) Okeechobee Inflows (cfs): S65E 69 S65EX1 0 Fisheating Cr 14 S154 0 S191 0 S135 Pumps 0 S84 0 S133 Pumps 0 S2 Pumps 0 S84X 0 S127 Pumps 0 S3 Pumps 0 S4 Pumps S71 17 S129 Pumps 0 0 \$72 62 S131 Pumps 41 C5 0 Total Inflows: 203 Okeechobee Outflows (cfs): S135 Culverts S354 S77 -NR-0 0 0 S127 Culverts S351 178 S308 -NR-S129 Culverts S352 0 84 S131 Culverts 0 L8 Canal Pt -NR -Total Outflows: No Report Due To Missing S77 or S308 Discharge Data ****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 0.17 S308 - NR -Average Pan Evap x 0.75 Pan Coefficient = -NR-" = -NR-' Lake Average Precipitation using NEXRAD: = -NR-" = -NR-' = -NR-" = -NR-' Evaporation - Precipitation: Evaporation - Precipitation using Lake Area of 730 square miles

		Tailwater							ns	
		Elevation		#1		#3	#4	#5	#6 #7	#8
	(+t-msl)						(+t)	(+t)	(ft) (ft)	(+1
		(1	.) see	note at	ο σττ	om				
orth East SI			_	_	_	_	_	_		
S133 Pumps	: 13.02	12.57	0	0	0	0	0	0	(cfs)	
S193:										
S191:	18.89	12.61	0	0.0	0.0	0.0				
S135 Pumps	: 13.30	12.74	0	0	0	0	0		(cfs)	
S135 Culve	rts:		0	0.0	0.0					
orth West Sl	nore									
S65E:	20.93	12.14	69	-0.0	0.0	0.0	0.1	0.1	0.0	
S65EX1:	20.93	12.14	0							
S127 Pumps		12.65	0	0	0	0	0	0	(cfs)	
S127 Culve			0	0.0	-	-	-	-	()	
5127 CUIVE			Ŭ	0.0						
S129 Pumps	: 13.30	13.21	0	0	0	0			(cfs)	
S129 Culve		17.21	0	0.0	0	0			((13)	
SIZE CUIVE	·		0	0.0						
C121 Dump	12 00	12 02	41	ND	0				(
S131 Pumps		12.82	41	- NR -	0				(cfs)	
S131 Culve	יד:		0							
Fisheating										
nr Palmda		28.69	14							
nr Lakepo	ort									
C5:		-NR -	0	-NR	R− −NF	R− −NF	<u>۱</u> – ۲			
outh Shore										
S4 Pumps:	12.77	-NR -	0	0	0	0			(cfs)	
S169:	12.70	12.73	-NR-	- NR -	-NR -	-NR-			. ,	
S310:	12.77		26							
	9.93	12.78	0	0	0	0			(cfs)	
S354:	12.78	9.93	0	0.0		Ũ			((()))	
S2 Pumps:	9.65	12.70	0	0.0	0.0	0	0		(cfs)	
•							0		((15)	
S351:	12.70	9.65	178	1.8		1.8				
S352:	13.01	9.61	84	0.8						
C10A:	-NR-	12.79		8.0	8.6	8.	.0 (0.0	0.0	
L8 Canal P	Γ	12.69	-NR-							
	S35	1 and S352	Tempor	ary Pum	ips/S3	354 Sp	oillwa	ау		
S351:	9.65	12.70	178	-NRN	IR – – NF	RNR-	-NR-	-NR -		
S352:	9.61	13.01	84	-NRN	IR – – NF	RNR-				
S354:	9.93	12.78	0	-NRN						
			-							
aloosahatch	e River (577. 578 9	579)							
S47B:	12.53	11.07	,	aa	0.0					
			07	5.0	0.0					
	11.08	11.10	-87	5.0						
S47D:										
S47D: S77:										
S47D: S77:		r Preferred								
S47D: S77: Spillway	and Secto 12.57 to Lockag	10.97	I Flow: 389 -NR-	0.0 2	2.5 0).0 (0.0			

Spillway and Sector Flow: 538 10.99 3.06 1.0 0.0 0.0 1.0 Flow Due to Lockages+: 15 S79: Spillway and Sector Flow: 1423 0.0 0.0 2.0 2.0 2.0 0.0 0.0 0.0 3.18 1.42 Flow Due to Lockages+: 3 Percent of flow from S77 27% Chloride (ppm) Ø St. Lucie Canal (S308, S80) S308: Spillway and Sector Preferred Flow: 0 0.0 0.0 0.0 0.0 12.62 13.59 Flow Due to Lockages+: -NR-S153: 18.78 13.31 0 0.0 0.0 S80: Spillway and Sector Flow: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 13.61 1.01 0 Flow Due to Lockages+: -NR-Percent of flow from S308 NA % (mg/ml) **** Steele Point Top Salinity Steele Point Bottom Salinity (mg/ml) **** (mg/ml) **** Speedy Point Top Salinity 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

				Wi	nd
aily Precipitation Totals	1-Day	3-Day	7 - Day	Directio	n Speed
	(inches)	(inches)	(inches)	(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:	0.09	1.20	1.63	280	1
S78:	0.02	0.04	0.24	350	2
S79:	0.46	0.49	0.53	2	1
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	0.00	0.00	7	1
S80:	0.39	0.41	0.43	186	1
Okeechobee Average	0.05	0.09	0.13		
(Sites S78, S79 and	S80 not inc	luded)			
Oke Nexrad Basin Avg		0.00	0.00		

14AUG22	-2	Days	=	12	AUG	2022		12.78	-0.01
14AUG22		Days				2022		12.80	0.01
14AUG22		Days				2022		12.83	0.04
14AUG22		Days				2022		12.85	0.06
14AUG22		Days				2022		12.87	0.08
14AUG22		Days				2022		12.89	0.10
14AUG22		-				2022		12.96	0.17
14AUG22		Year				2021		14.28	1.49
14AUG22		Year				2020		13.81	1.02
ng Term	Mean	30day	у А	vearge E	Г foi	r Lake	Alfred (1	[nches)	= -NR-
				Lake ()kee	chohee	Net Inflo	w (LON	TN)
			٩ve				previous		
14AUG22		Today		-		2022	-1359	MON	6601
14AUG22		Day				2022	-2092	SUN	-2599
14AUG22		Days				2022	-2186	SAT	-1680
14AUG22		Days				2022	-2365	FRI	-3822
14AUG22		Days				2022	-2391		-2328
14AUG22		Days				2022	-1920		-2628
14AUG22		Days				2022	-1729		-2912
14AUG22		Days				2022	-1819		-4746
14AUG22		Days				2022	-1479		-4740
14AUG22		Days		05	AUG	2022	-1140		-1705
14AUG22		-				2022	-1321	FRI	-3641
14AUG22		-				2022	-1211	THU	10512
14AUG22		-				2022	-2113	WED	-1541
14AUG22		-				2022	-2003		- 3792
				Average		65E	previous	14 day	s Avg-Daily Flow
14AUG22		Today	/=	-		2022	146	MON	84
14AUG22		Day				2022	168	SUN	92
14AUG22		Days				2022	100	SAT	116
14AUG22		Days				2022	205	FRI	123
14AUG22		Days				2022	203	THU	136
14AUG22		Days				2022	200	WED	127
14AUG22		Days				2022	202	TUE	69
14AUG22		Days				2022	202	MON	86
14AUG22		Days				2022	201	SUN	106
14AUG22						2022	201	SAT	100
14AUG22						2022	202	FRI	126
14AUG22 14AUG22						2022	198	THU	70
14AUG22						2022	198		456
14AUG22 14AUG22		-				2022	174	TUE	348
				Average		65EX1	previous	14 dav	s Avg-Daily Flow
144UG22				Average 14					

				Average	Flov	v over	previous	14 days	Avg-Daily Flow
14AUG22		Today	/=	14	AUG	2022	0	MON	0
14AUG22	-1	Day	=	13	AUG	2022	0	SUN	0
14AUG22	-2	Days	=	12	AUG	2022	0	SAT	0
14AUG22	-3	Days	=	11	AUG	2022	0	FRI	0
14AUG22	-4	Days	=	10	AUG	2022	0	THU	0
14AUG22	-5	Days	=	09	AUG	2022	0	WED	0
14AUG22	-6	Days	=	08	AUG	2022	0	TUE	0
14AUG22	-7	Days	=	07	AUG	2022	0	MON	0
14AUG22	-8	Days	=	06	AUG	2022	0	SUN	0
14AUG22	-9	Days	=	05	AUG	2022	0	SAT	0
14AUG22	-10	Days	=	04	AUG	2022	0	FRI	0
14AUG22	-11	Days	=	03	AUG	2022	0	THU	0
14AUG22	-12	Days	=	02	AUG	2022	0	WED	0
14AUG22	-13	Days	=	01	AUG	2022	0	TUE	0

Lake Okeechobee Outlets Last 14 Days

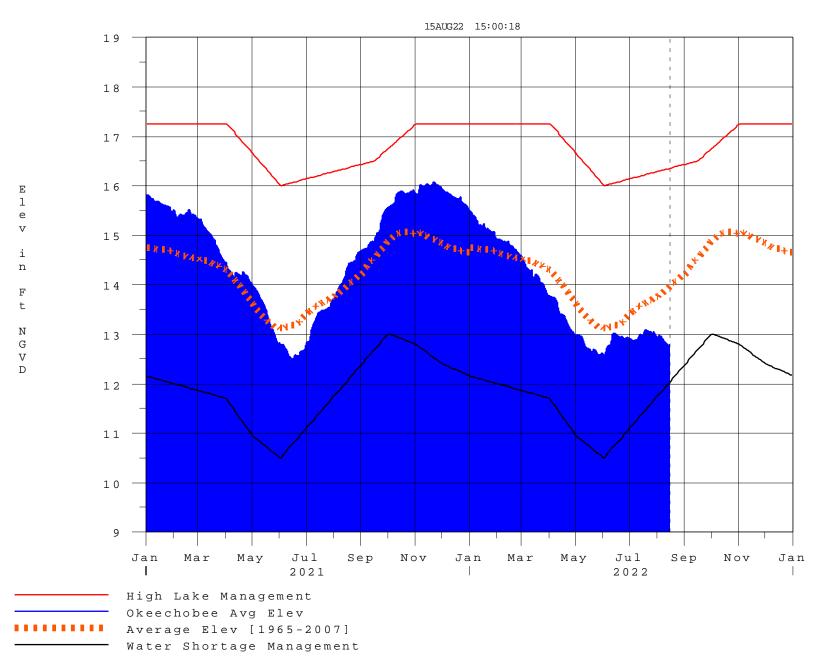
DATE 14 AUG 2022 13 AUG 2022 12 AUG 2022 11 AUG 2022 10 AUG 2022 09 AUG 2022 09 AUG 2022 07 AUG 2022 06 AUG 2022 06 AUG 2022 05 AUG 2022 04 AUG 2022 03 AUG 2022 04 AUG 2022 04 AUG 2022 04 AUG 2022 04 AUG 2022 04 AUG 2022 05 AUG 2022 04 AUG 2022 05 AUG 2022 06 AUG 2022 07 AUG 2022 07 AUG 2022 08 AUG 2022 09 AUG 2022 00 AUG 2022	773 788 -NR- -NR- -NR- -NR- -NR- -NR- 830 -NR-	Below S-77 Discharge (ALL-DAY) (AC-FT) 790 927 1264 953 400 808 -91 961 904 -168 489 1042 1059 1087	S-78 Discharge (ALL DAY) (AC-FT) 1109 604 596 583 617 300 304 321 200 300 423 554 153 450	S-79 Discharge (ALL DAY) (AC-FT) 2841 1635 1541 1240 1620 1139 1498 1786 889 1382 1765 1448 1008 633		
		,				
	S-310	S-351	S-352	S-354	L8 Canal Pt	
	Discharge	Discharge	Discharge	Discharge	Discharge	
DATE	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	(ALL DAY) (AC-FT)	
14 AUG 2022		353	167	(AC-IT) 0	-NR-	
13 AUG 2022		927	428	454	-NR-	
12 AUG 2022		1641	795	1121	- NR -	
11 AUG 2022		1561	839	956	- NR -	
10 AUG 2022		1309	564	656	- NR -	
09 AUG 2022		1073	261	764	-NR-	
08 AUG 2022		1038	0 0	570 407	-NR-	
07 AUG 2022 06 AUG 2022		957 850	0	497 625	- NR - - NR -	
05 AUG 2022		147	0	264	-NR-	
04 AUG 2022		0	0	243	-NR-	
03 AUG 2022	129	0	0	438	- NR -	
02 AUG 2022		0	0	0	- NR -	
01 AUG 2022	158	0	0	0	- NR -	
	S-308	Below S-30	8 S-80			
	Discharge	Discharge	Discharg	e		
	(ALL DAY)	(ALL-DAY)	(ALL-DAY			
DATE	(AC-FT)	(AC-FT)	(AC-FT)			
14 AUG 2022		- NR -	- NR -			
13 AUG 2022		-NR -	-NR-			
12 AUG 2022 11 AUG 2022		- NR - - NR -	- NR - - NR -			
10 AUG 2022		-NR-	-NR-			
09 AUG 2022		-NR-	-NR-			
08 AUG 2022		-NR -	28			
07 AUG 2022		- NR -	35			
06 AUG 2022		-NR -	19			
05 AUG 2022		-NR -	31			
04 AUG 2022 03 AUG 2022		- NR - - NR -	32 20			
02 AUG 2022		-NR-	20			
01 AUG 2022		-NR-	32			
*** NOTE:		arge (ALL DA ges Discharg			pillway, Sect 00 hrs.	tor Gate and

* 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.
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 15AUG2022 @ 14:38 ** Preliminary Data - Subject to Revision **





Classification Tables

Supplemental Tables used in conjunction with the LORS2008 Release

Guidance Flow Charts

• <u>Class Limits for Tributary Hydrologic Conditions</u>

Table K-2 in the Lake Okeechobee Water Control Plan

• <u>6-15 Day Precipitation Outlook Categories</u>

Table ?? in the Lake Okeechobee Water Control Plan

• <u>Classification of Lake Okeechobee Net Inflow for Seasonal</u>

<u>Outlook</u>

 Table K-3 in the Lake Okeechobee Water Control Plan

<u>Classification of Lake Okeechobee Net Inflow for Multi-</u>

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	Palmer Index	2-wk Mean L.O. Net
Classification*	Class Limits	Inflow Class Limits
Very Wet	3.0 or greater	Greater >= 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	Equivalent Depth**	Lake Okeechobee
[million acre-feet]	[feet]	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	Equivalent Depth**	Lake Okeechobee
[million acre-feet]	[feet]	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