

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 1/10/2022 (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 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 (Jan-Jun)	N/A	N/A	0.35	Dry	-0.53	Dry	-0.10	Dry
Multi Seasonal (Jan-Oct)	N/A	N/A	2.87	Wet	2.20	Normal	1.85	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:

-3103.58 cfs 14-day running average for Lake Okeechobee Net Inflow through 1/9/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-1.77 for Palmer Drought Index on 1/9/2021.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 1/9/2021:

Lake Okeechobee Stage: **15.29 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.85	
	Intermediate sub-band	16.18	
	Low sub-band	13.91	← 15.29 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		12.11	
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 450 cfs at S-79 and up to 200 cfs at S-80.

LORS2008 Implementation on 1/10/2022 (ENSO Condition- La Nina Watch):

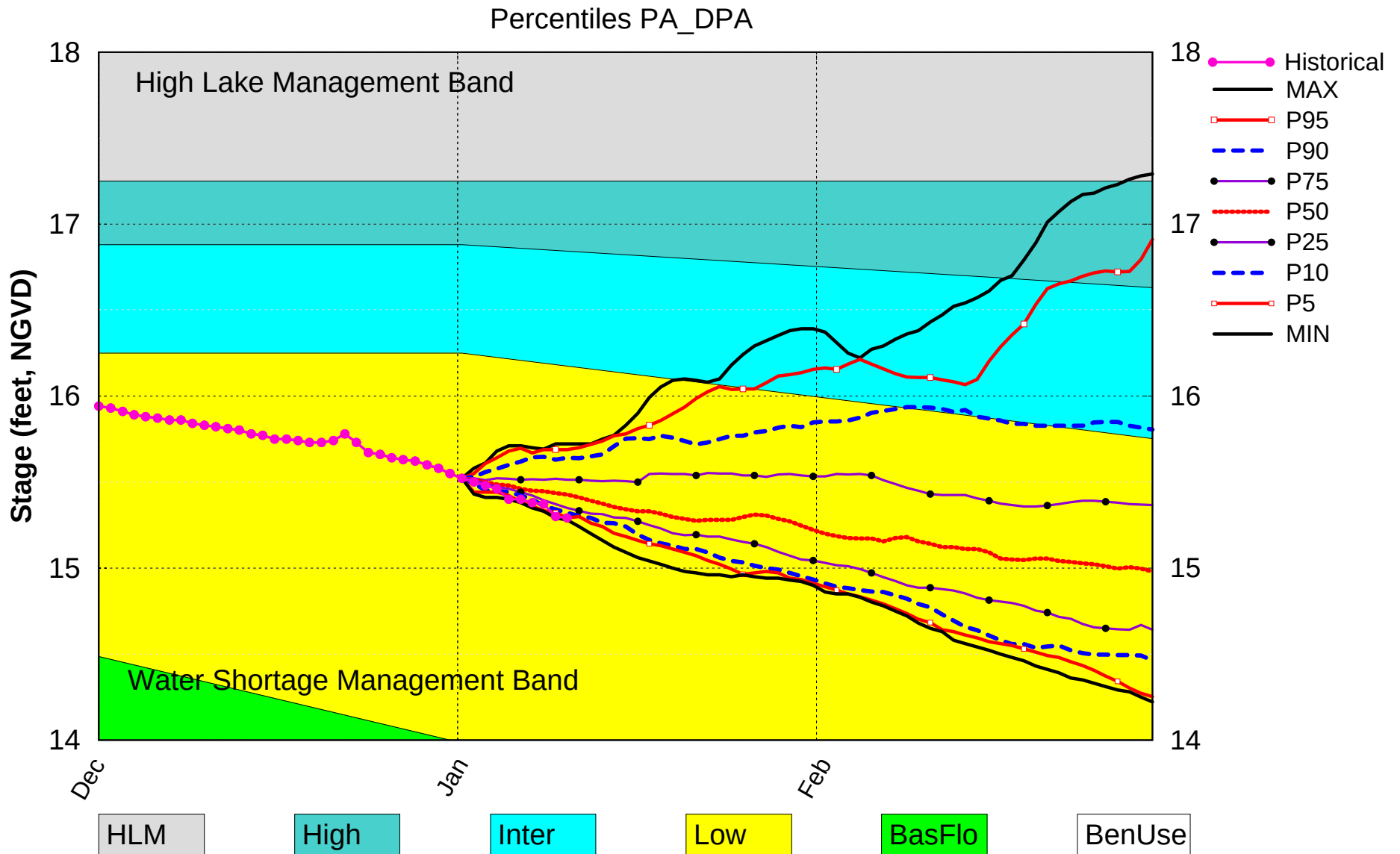
Status for week ending 1/10/2022:

Water Supply Risk Evaluation

Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub-band	M
	Palmer Drought Index for LOK Tributary Conditions	-1.77 (Dry)	M
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	-0.53 ft	H
	ENSO Forecast	Extremely Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.20 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T and 1-9)	Above Line 1 (17.22 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.55 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.85 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

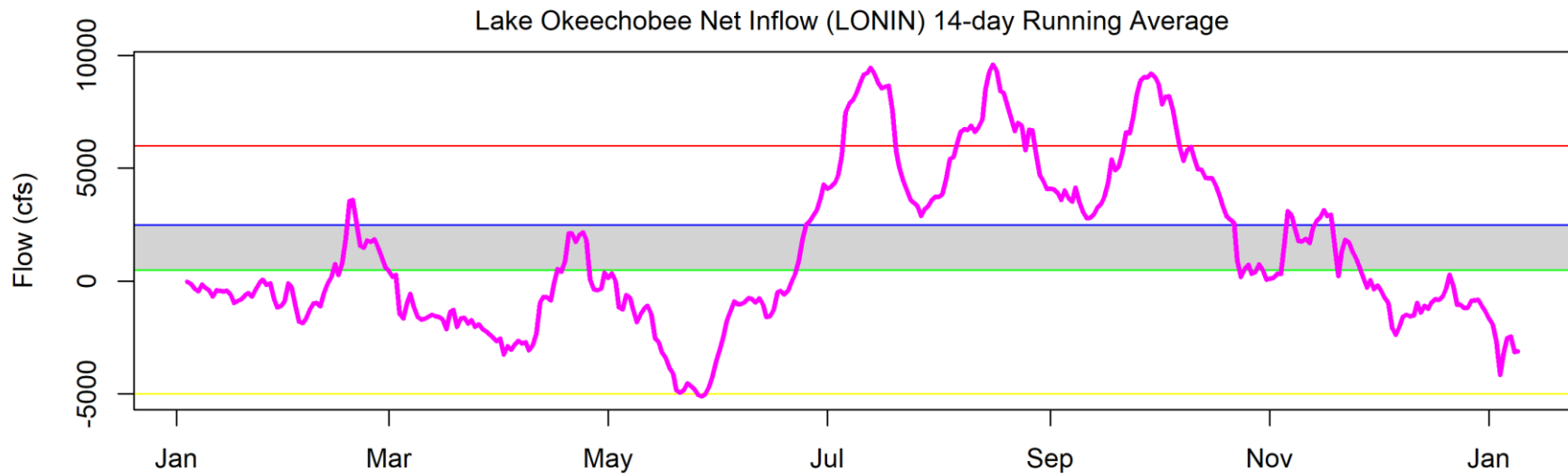
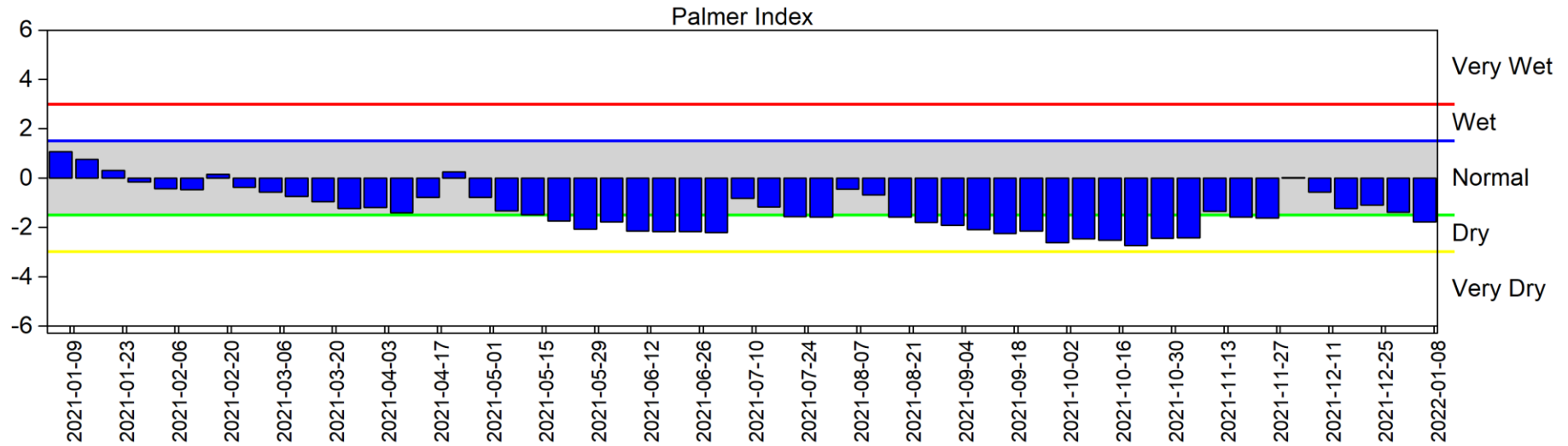
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

Lake Okeechobee SFWMM Jan 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

Tributary Basin Indicators as of January 10, 2022



2008 LORS

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

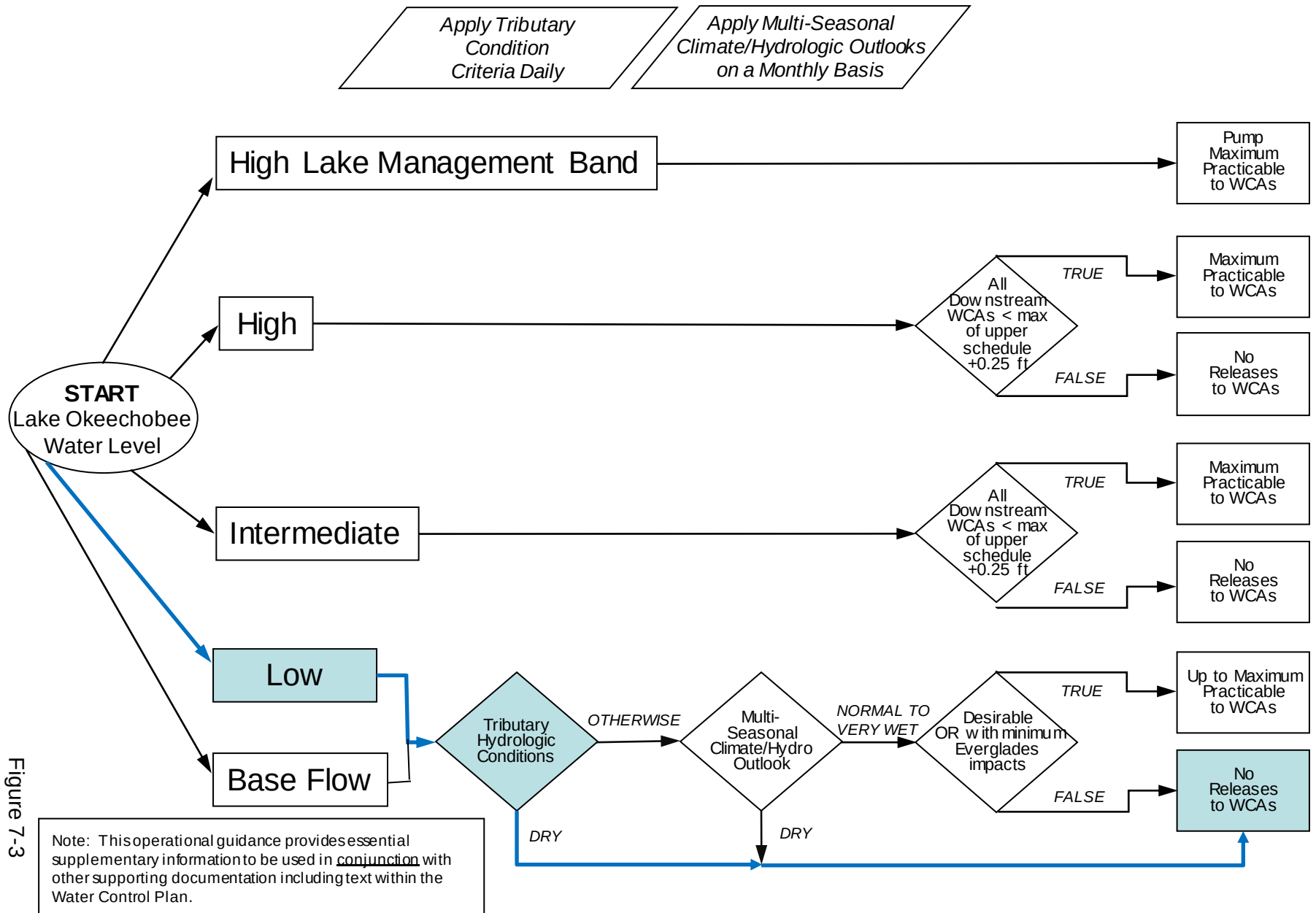


Figure 7-3

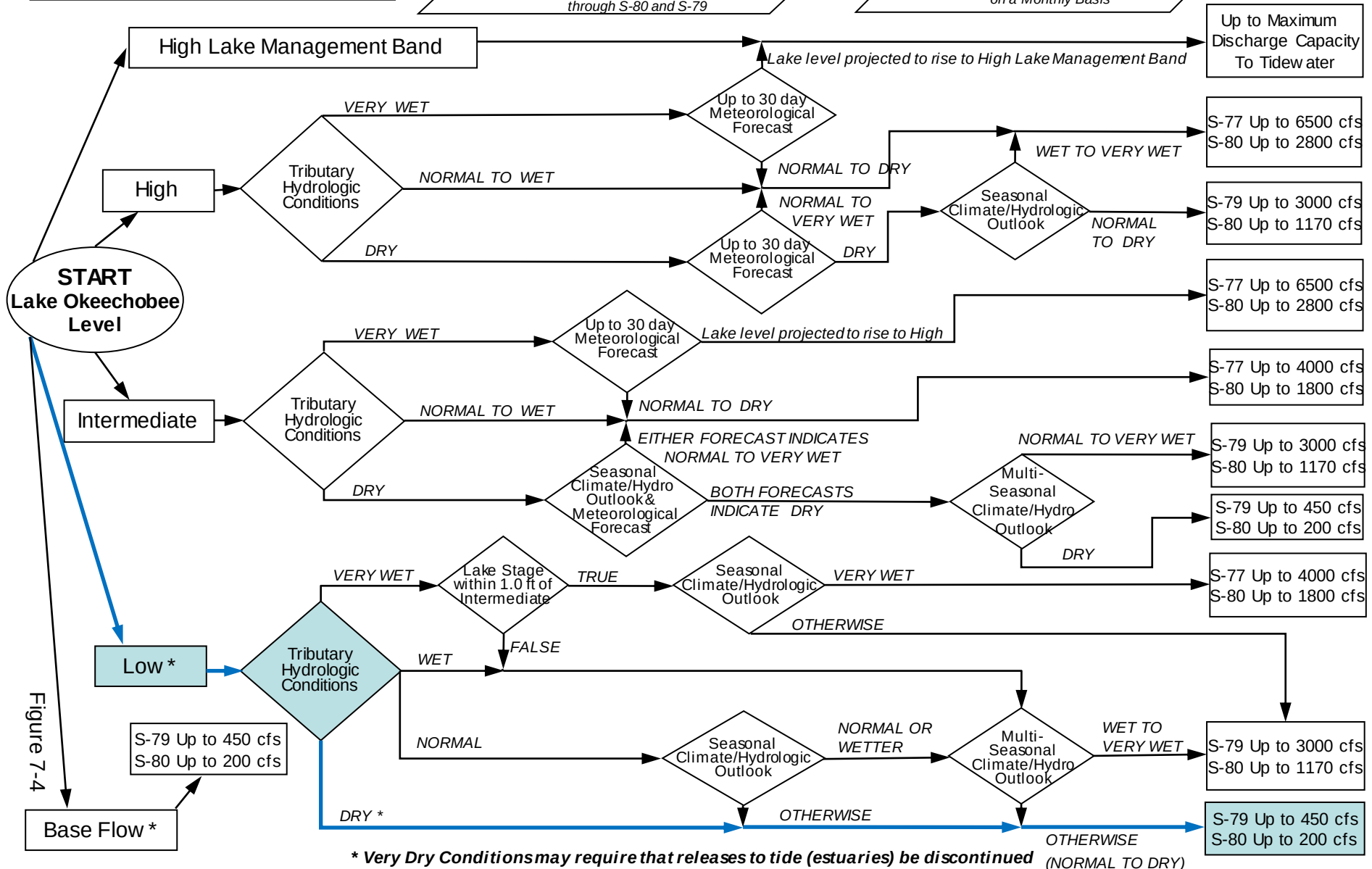
2008 LORS

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

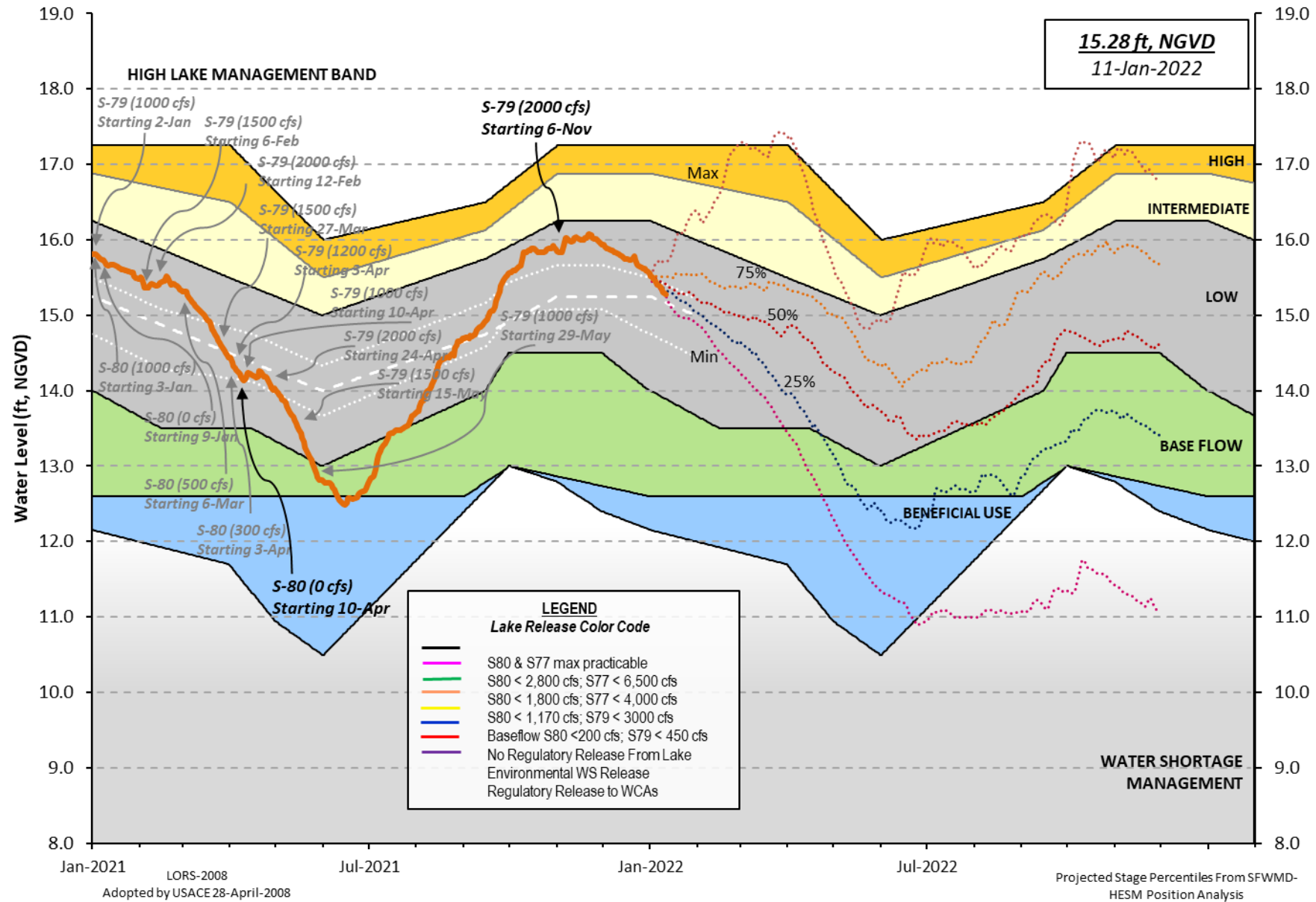
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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 09 JAN 2022

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	15.29	15.70	13.07 (Official Elv)
Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 12.11			
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.59
Difference from Average LORS2008	1.70

09JAN (1965-2007) Period of Record Average	14.74
Difference from POR Average	0.55

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 9.23'
 ++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 7.43'
 Bridge Clearance = 49.76'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.25	15.35	15.26	15.28	-NR-	15.35	15.24	15.24

*Combination Okeechobee Avg-Daily Lake Average = 15.29
 (*See Note)

Okeechobee Inflows (cfs):

S65E	330	S65EX1	0	Fisheating Cr	15
S154	0	S191	0	S135 Pumps	0
S84	119	S133 Pumps	0	S2 Pumps	0
S84X	59	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	0
Total Inflows:	524				

Okeechobee Outflows (cfs):

S135 Culverts	-NR-	S354	208	S77	1508
S127 Culverts	0	S351	628	S308	406
S129 Culverts	0	S352	73		
S131 Culverts	0	L8 Canal Pt	-NR-		
Total Outflows:	2823				

****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	0.18	S308	0.16
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 -2168 cfs or -4300 AC-FT

Headwater Tailwater		----- Gate Positions -----									
Elevation	Elevation	Disch	#1	#2	#3	#4	#5	#6	#7	#8	
(ft-msl)	(ft-msl)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
(I) see note at bottom											
North East Shore											
S133 Pumps:	13.56	15.24	0	0	0	0	0	0	0	(cfs)	
S193:											
S191:	19.29	15.24	0	0.0	0.0	0.0					
S135 Pumps:		-NR-	0	0	0	0	0			(cfs)	
S135 Culverts:			-NR-	-NR-	-NR-						
North West Shore											
S65E:	20.97	15.05	330	-0.1	0.3	0.4	0.0	0.0	0.4		
S65EX1:	20.97	15.05	0								
S127 Pumps:	13.58	15.22	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	13.18	15.27	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.91	15.28	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		28.72	15								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.59	-NR-	0	0	0	0			(cfs)		
S169:	15.29	15.31	-NR-	-NR-	-NR-	-NR-					
S310:	15.24		10								
S3 Pumps:	10.47	15.27	0	0	0	0			(cfs)		
S354:	15.27	10.47	208	0.2	0.4						
S2 Pumps:	10.36	-NR-	0	0	0	0	0		(cfs)		
S351:	-NR-	10.36	628	0.6	0.5	0.4					
S352:	15.41	10.40	73	0.0	0.0						
C10A:	-NR-	14.91		8.0	8.0	8.0	0.0	0.0			
L8 Canal PT		14.92	-NR-								

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.36	-NR-	628	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-
S352:	10.40	15.41	73	-NR-	-NR-	-NR-	-NR-		
S354:	10.47	15.27	208	-NR-	-NR-	-NR-	-NR-		

Caloosahatchee River (S77, S78, S79)

S47B:	13.14	12.75		2.8	2.8				
S47D:	12.65	11.08	58	0.0					
S77:									
Spillway and Sector Preferred Flow:									
	15.09	11.00	1506	0.5	2.5	2.5	0.5		
Flow Due to Lockages+:			2						

S78:

Spillway and Sector Flow:

10.98	2.93	1631	1.5	2.5	0.0	1.5
-------	------	------	-----	-----	-----	-----

Flow Due to Lockages+: 7

S79:

Spillway and Sector Flow:

3.09	1.57	1957	0.0	0.0	0.0	2.0	2.2	2.0	0.0	0.0
------	------	------	-----	-----	-----	-----	-----	-----	-----	-----

Flow Due to Lockages+: 9

Percent of flow from S77 77%

Chloride (ppm) 0

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Preferred Flow:

15.31	13.74	406	0.0	0.0	3.0	0.0
-------	-------	-----	-----	-----	-----	-----

Flow Due to Lockages+: 0

S153: 18.79 13.54 0 0.0 0.0

S80:

Spillway and Sector Flow:

13.78	0.37	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-------	------	---	-----	-----	-----	-----	-----	-----	-----

Flow Due to Lockages+: 0

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

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:	0.00	0.00	0.01	94	1
S78:	0.00	0.00	0.03	72	2
S79:	0.00	0.00	0.13	325	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	0.03	21	2
S80:	0.03	0.03	0.07	315	1
Okeechobee Average (Sites S78, S79 and S80 not included)	0.00	0.00	0.00		

Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations	09 JAN 2022	15.29	Difference from 09JAN22
09JAN22 -1 Day =	08 JAN 2022	15.30	0.01

09JAN22	-2 Days =	07 JAN 2022	15.37	0.08
09JAN22	-3 Days =	06 JAN 2022	15.38	0.09
09JAN22	-4 Days =	05 JAN 2022	15.40	0.11
09JAN22	-5 Days =	04 JAN 2022	15.40	0.11
09JAN22	-6 Days =	03 JAN 2022	15.46	0.17
09JAN22	-7 Days =	02 JAN 2022	15.48	0.19
09JAN22	-30 Days =	10 DEC 2021	15.82	0.53
09JAN22	-1 Year =	09 JAN 2021	15.70	0.41
09JAN22	-2 Year =	09 JAN 2020	13.07	-2.22

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
09JAN22	Today =	09 JAN 2022	-1940 MON	822
09JAN22	-1 Day =	08 JAN 2022	-2017 SUN	-11531
09JAN22	-2 Days =	07 JAN 2022	-1363 SAT	2207
09JAN22	-3 Days =	06 JAN 2022	-1525 FRI	-182
09JAN22	-4 Days =	05 JAN 2022	-2302 THU	4681
09JAN22	-5 Days =	04 JAN 2022	-3234 WED	-8958
09JAN22	-6 Days =	03 JAN 2022	-1856 TUE	-1898
09JAN22	-7 Days =	02 JAN 2022	-1414 MON	-2020
09JAN22	-8 Days =	01 JAN 2022	-1182 SUN	-1925
09JAN22	-9 Days =	31 DEC 2021	-1124 SAT	-3731
09JAN22	-10 Days =	30 DEC 2021	-679 FRI	-3420
09JAN22	-11 Days =	29 DEC 2021	-486 THU	-986
09JAN22	-12 Days =	28 DEC 2021	-610 WED	-1039
09JAN22	-13 Days =	27 DEC 2021	-529 TUE	820

S65E

Average Flow over previous 14 days				Avg-Daily Flow
09JAN22	Today=	09 JAN 2022	415 MON	381
09JAN22	-1 Day =	08 JAN 2022	418 SUN	353
09JAN22	-2 Days =	07 JAN 2022	424 SAT	368
09JAN22	-3 Days =	06 JAN 2022	430 FRI	395
09JAN22	-4 Days =	05 JAN 2022	433 THU	437
09JAN22	-5 Days =	04 JAN 2022	432 WED	411
09JAN22	-6 Days =	03 JAN 2022	435 TUE	428
09JAN22	-7 Days =	02 JAN 2022	437 MON	425
09JAN22	-8 Days =	01 JAN 2022	440 SUN	445
09JAN22	-9 Days =	31 DEC 2021	440 SAT	434
09JAN22	-10 Days =	30 DEC 2021	440 FRI	428
09JAN22	-11 Days =	29 DEC 2021	447 THU	431
09JAN22	-12 Days =	28 DEC 2021	448 WED	440
09JAN22	-13 Days =	27 DEC 2021	448 TUE	438

S65EX1

Average Flow over previous 14 days				Avg-Daily Flow
09JAN22	Today=	09 JAN 2022	0 MON	0
09JAN22	-1 Day =	08 JAN 2022	0 SUN	0
09JAN22	-2 Days =	07 JAN 2022	0 SAT	0
09JAN22	-3 Days =	06 JAN 2022	0 FRI	0
09JAN22	-4 Days =	05 JAN 2022	0 THU	0
09JAN22	-5 Days =	04 JAN 2022	0 WED	0
09JAN22	-6 Days =	03 JAN 2022	0 TUE	0
09JAN22	-7 Days =	02 JAN 2022	0 MON	0
09JAN22	-8 Days =	01 JAN 2022	0 SUN	0
09JAN22	-9 Days =	31 DEC 2021	0 SAT	0
09JAN22	-10 Days =	30 DEC 2021	0 FRI	0
09JAN22	-11 Days =	29 DEC 2021	0 THU	0
09JAN22	-12 Days =	28 DEC 2021	0 WED	0
09JAN22	-13 Days =	27 DEC 2021	0 TUE	0

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)
	09 JAN 2022	2991	3243	3263	3880
	08 JAN 2022	3435	3848	3346	4735
	07 JAN 2022	3746	3890	3691	4206
	06 JAN 2022	3629	3669	3312	4161
	05 JAN 2022	4595	-NR-	3067	4046
	04 JAN 2022	3680	3587	3762	4060
	03 JAN 2022	2556	2367	2555	3839
	02 JAN 2022	2898	2880	2731	3809
	01 JAN 2022	3143	3093	2734	3790
	31 DEC 2021	3328	3278	2827	3976
	30 DEC 2021	3374	3412	3036	4118
	29 DEC 2021	3293	3312	3019	3766
	28 DEC 2021	3280	3244	3041	3767
	27 DEC 2021	3066	3011	3028	4109

		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)
	09 JAN 2022	19	1245	145	413	-NR-
	08 JAN 2022	78	1231	481	659	-NR-
	07 JAN 2022	79	2265	608	669	-NR-
	06 JAN 2022	46	1983	405	745	-NR-
	05 JAN 2022	-NR-	1827	486	656	-NR-
	04 JAN 2022	-2	1877	171	768	-NR-
	03 JAN 2022	-14	1650	202	349	-NR-
	02 JAN 2022	-2	937	0	677	-NR-
	01 JAN 2022	-3	937	0	613	-NR-
	31 DEC 2021	-8	1149	21	811	-NR-
	30 DEC 2021	-3	1517	145	920	-NR-
	29 DEC 2021	-1	2221	175	795	-NR-
	28 DEC 2021	-4	2240	166	769	-NR-
	27 DEC 2021	-10	1707	398	671	-NR-

		S-308	Below S-308	S-80
		Discharge	Discharge	Discharge
		(ALL DAY)	(ALL-DAY)	(ALL-DAY)
	DATE	(AC-FT)	(AC-FT)	(AC-FT)
	09 JAN 2022	783	-NR-	0
	08 JAN 2022	1048	-NR-	-NR-
	07 JAN 2022	1102	-NR-	-NR-
	06 JAN 2022	1131	-NR-	0
	05 JAN 2022	1428	-NR-	0
	04 JAN 2022	1385	-NR-	0
	03 JAN 2022	2	-NR-	23
	02 JAN 2022	8	-NR-	35
	01 JAN 2022	5	-NR-	42
	31 DEC 2021	12	-NR-	64
	30 DEC 2021	7	-NR-	53
	29 DEC 2021	10	-NR-	53
	28 DEC 2021	9	-NR-	57
	27 DEC 2021	10	-NR-	199

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

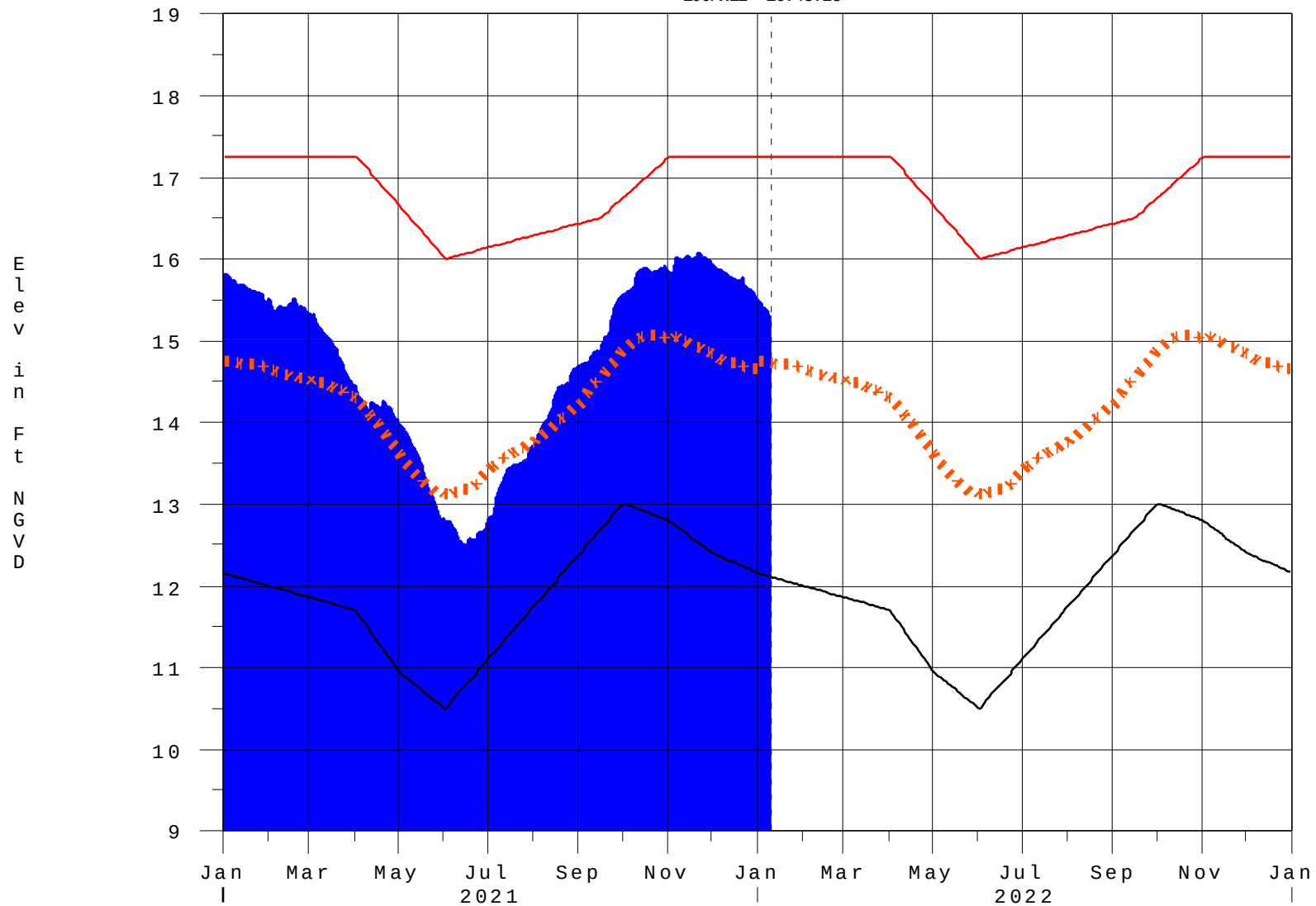
(I) - Flows preceeded by "I" signify an instantaneous flow computed from the single value reported for the day

-
- * 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 Okeechobee 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 10JAN2022 @ 08:30 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

10JAN22 10:45:25



- 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