Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 03/28/2022 (ENSO Condition: La Niña)

Lake Okeechobee Net Inflow Outlook:

The Lake Okeechobee Net Inflow Outlook has been computed using 4 methods: Croley's method[1], the SFWMD empirical method[2], a sub-sampling of La Nina years[3] and a sub-sampling of warm years of the Atlantic Multi-decadal Oscillation (AMO) in combination with La Nina ENSO years[4]. 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)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Mar-Aug)	N/A	N/A	1.01	Normal	0.71	Dry	0.88	Normal
Multi Seasonal (Mar-Oct)	N/A	N/A	2.52	Wet	2.05	Normal	2.13	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:

-1047 cfs 14-day running average for Lake Okeechobee Net Inflow through 03/21/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

-2.77 for Palmer Drought Index on 03/21/2022.
According to the classification in Tributary Hydrologic Conditions table, this condition is Dry.

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

LORS2008 Classification Tables:

Lake Okeechobee Stage on 03/28/2022:

Lake Okeechobee Stage: **13.92 feet**

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.52	
	Intermediate sub-band	15.53	
	Low sub-band	13.50	← 13.92 ft
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.72	
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 03/28/2022 (ENSO Condition- La Nina Watch):

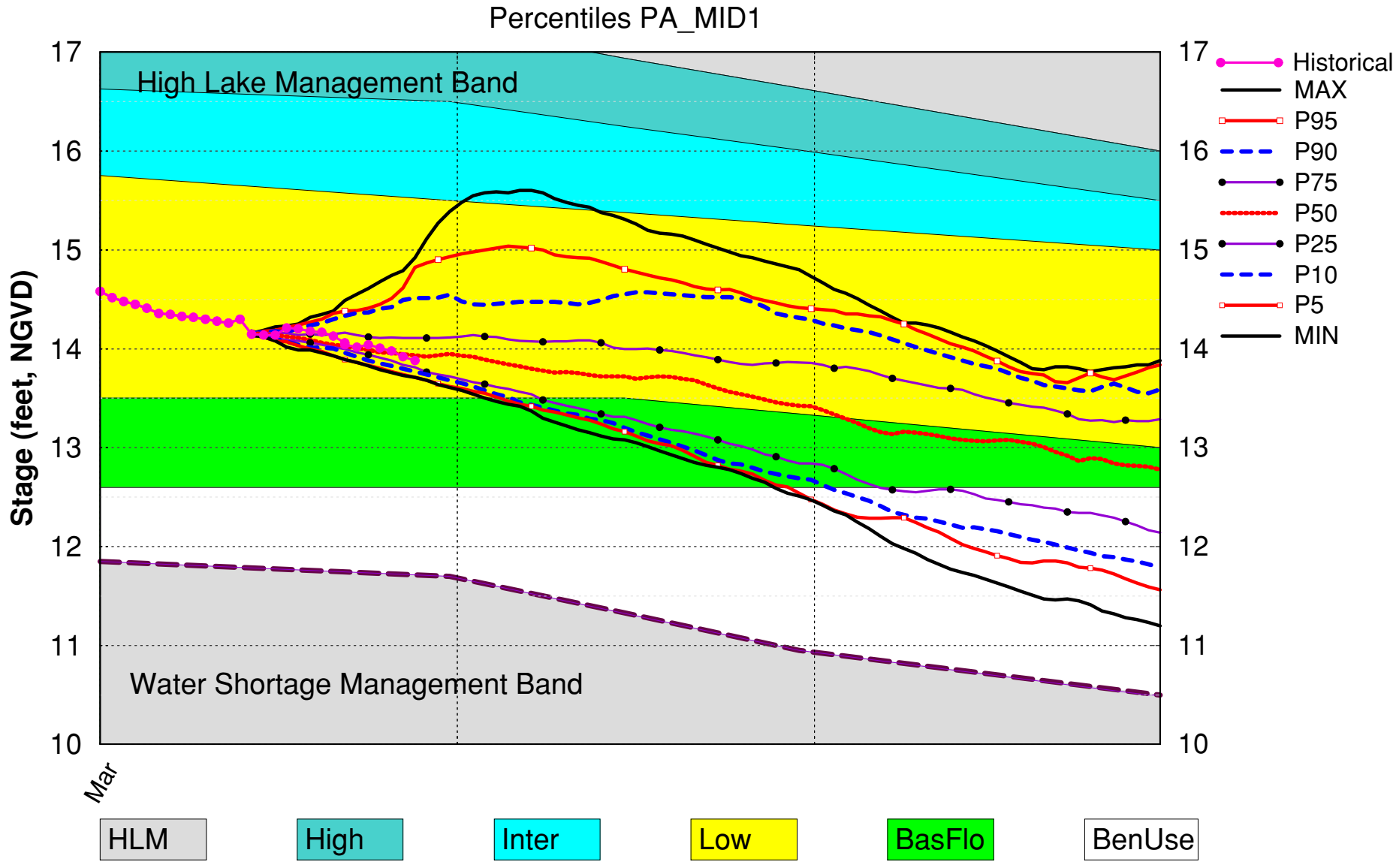
Status for week ending 03/28/2022:

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	-2.77 (Extremely Dry)	H
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Normal	L
	LOK Seasonal Net Inflow Outlook	0.71 ft	M
	ENSO Forecast	Dry	
	LOK Multi-Seasonal Net Inflow Outlook	2.05 ft	M
	ENSO Forecast	Normal	
WCAs	WCA 1: 3 Station Average (Sites 1-7, 1-8T and 1-9)	Above Line 1 (16.49 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (12.07 ft)	L
	WCA-3A: 3 Station Average (Sites 63, 64, and 65)	Above Line 1 (9.15 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

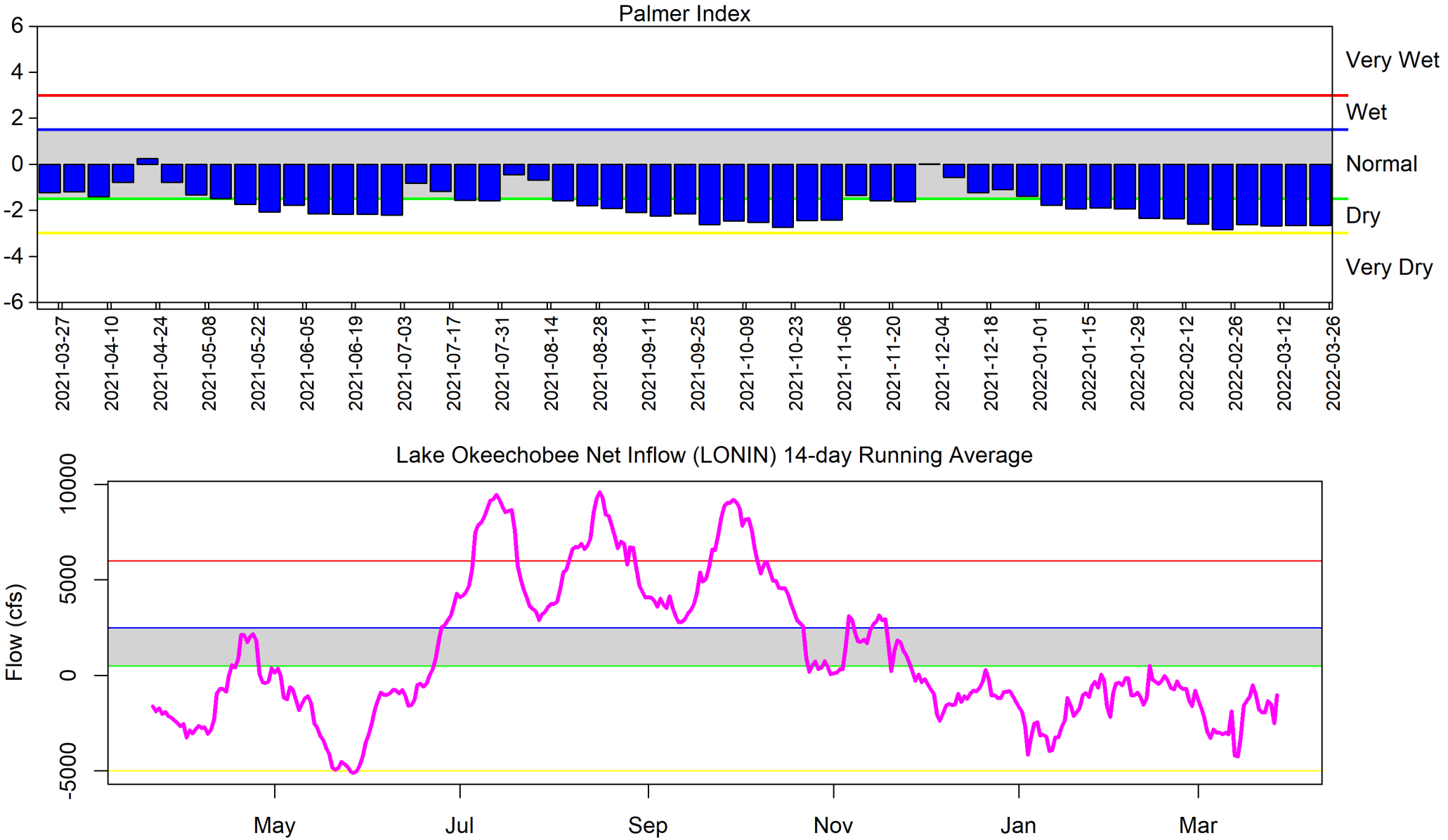
Note: The water supply risk classification based on the Palmer index, as well as the LOK seasonal and multi-seasonal net inflow outlooks use slightly different classification intervals than those used by the 2008-LORS.

Lake Okeechobee SFWMM Mar Mid–Mon 2022 Position Analysis



(See assumptions on the Position Analysis Results website)

Tues Mar 28 11:08:50 2022


Palmer Index
6
4
2
0
-2
-4
-6
Very Wet
Wet
Normal
Dry
Very Dry
2021-03-27
2021-04-10
2021-04-24
2021-05-08
2021-05-22
2021-06-05
2021-06-19
2021-07-03
2021-07-17
2021-07-31
2021-08-14
2021-08-28
2021-09-11
2021-09-25
2021-10-09
2021-10-23
2021-11-06
2021-11-20
2021-12-04
2021-12-18
2022-01-01
2022-01-15
2022-01-29
2022-02-12
2022-02-26
2022-03-12
2022-03-26
Lake Okeechobee Net Inflow (LONIN) 14-day Running Average
Flow (cfs)
10000
5000
0
-5000
May
Jul
Sep
Nov
Jan
Mar

2008 LORS

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

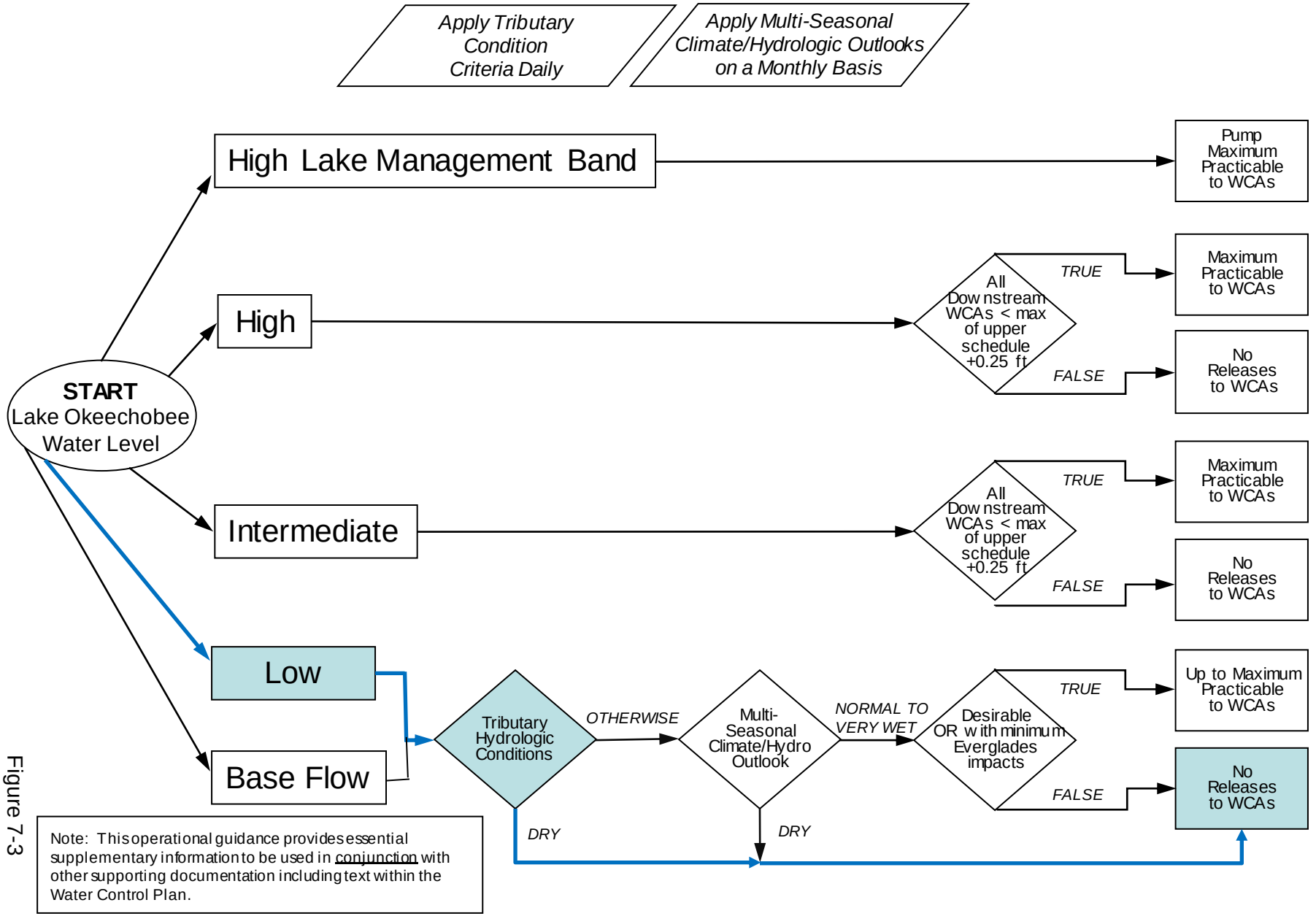
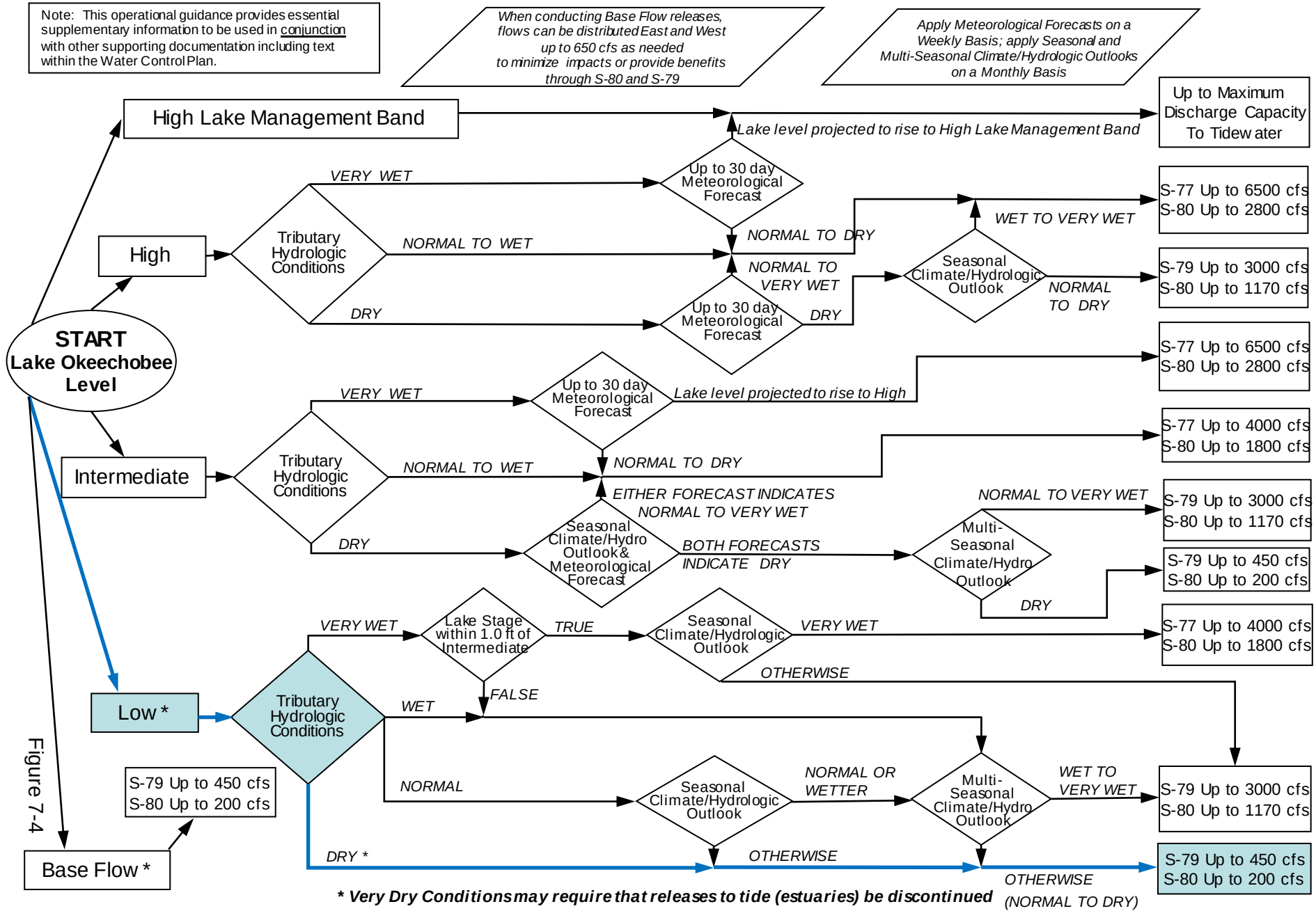


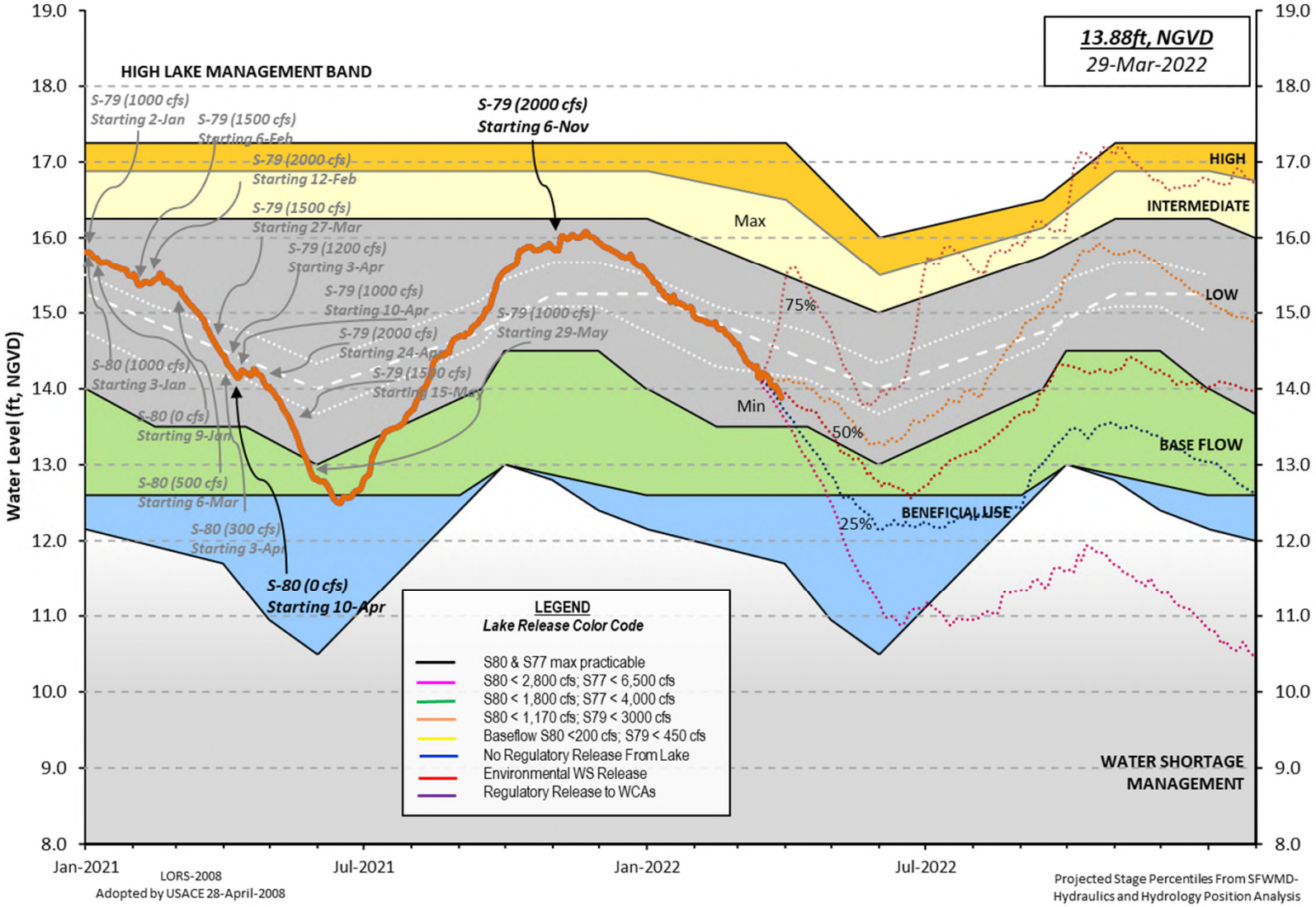
Figure 7-3

2008 LORS

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



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 27 MAR 2022

Okeechobee Lake Regulation	Elevation (ft-NGVD)	Last Year (ft-NGVD)	2YRS Ago (ft-NGVD)
*Okeechobee Lake Elevation	13.92	14.56	12.02 (Official Elv)

Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.72
Currently in Operational Management Band

Simulated Average LORS2008 [1965-2000] 13.07
Difference from Average LORS2008 0.85

27MAR (1965-2007) Period of Record Average 14.34
Difference from POR Average -0.42

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 7.86'
++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 6.06'
Bridge Clearance = 49.63'

---

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

L001	L005	L006	LZ40	S4	S352	S308	S133
13.81	13.82	13.97	13.92	-NR-	14.13	13.97	13.70

*Combination Okeechobee Avg-Daily Lake Average = 13.92 (*See Note)

Okeechobee Inflows (cfs):

S65E	827	S65EX1	0	Fisheating Cr	0
S154	0	S191	0	S135 Pumps	0
S84	0	S133 Pumps	0	S2 Pumps	0
S84X	0	S127 Pumps	0	S3 Pumps	0
S71	0	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	0

Total Inflows: 827

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	1283	S77	2213
S127 Culverts	0	S351	996	S308	303
S129 Culverts	0	S352	380		
S131 Culverts	0	L8 Canal Pt	-NR-		

Total Outflows: 5176

****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 0.26 S308 0.18
Average Pan Evap x 0.75 Pan Coefficient = 0.16" = 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 -12705 cfs or -25200 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:	13.60	13.73	0	0	0	0	0	0	(cfs)		
S193:											
S191:	18.35	13.75	0	0.0	0.0	0.0					
S135 Pumps:	13.14	13.73	0	0	0	0	0		(cfs)		
S135 Culverts:			0	0.0	0.0						
North West Shore											
S65E:	21.13	13.64	827	0.1	0.6	0.2	0.4	0.5	0.4		
S65EX1:	21.13	13.64	0								
S127 Pumps:	13.51	13.75	0	0	0	0	0	0	(cfs)		
S127 Culvert:			0	0.0							
S129 Pumps:	12.94	13.79	0	0	0	0			(cfs)		
S129 Culvert:			0	0.0							
S131 Pumps:	12.84	13.64	0	0	0				(cfs)		
S131 Culvert:			0								
Fisheating Creek											
nr Palmdale		27.01	0								
nr Lakeport											
C5:		-NR-	0	-NR-	-NR-	-NR-					
South Shore											
S4 Pumps:	11.54	-NR-	0	0	0	0			(cfs)		
S169:		-NR-	-NR-	-NR-	-NR-	-NR-					
S310:	13.83		65								

```
  S3 Pumps:    10.50     14.01       0      0    0    0            (cfs)
  S354:        14.01     10.50    1283    2.0  2.0
  S2 Pumps:    10.41      -NR-       0   -NR- -NR- -NR- -NR-       (cfs)
  S351:         -NR-     10.41     996    0.8  0.9  0.8
  S352:        14.09     10.44     380    0.6  0.4
  C10A:         -NR-     13.86            8.0   8.0   8.0   0.0   0.0
  L8 Canal PT            13.89    -NR-
```

S351 and S352 Temporary Pumps/S354 Spillway

```
  S351:        10.41      -NR-     996  -NR--NR--NR--NR--NR--NR-
  S352:        10.44     14.09     380  -NR--NR--NR--NR-
  S354:        10.50     14.01    1283  -NR--NR--NR--NR-
```

```
Caloosahatchee River (S77, S78, S79)
  S47B:        13.15     12.50            0.0  0.5
  S47D:        12.49     11.18       0    0.0
  S77:
    Spillway and Sector Preferred Flow:
                13.55     11.09    2212  0.0  3.0  3.0  3.0
    Flow Due to Lockages+:           1

  S78:
    Spillway and Sector Flow:
                11.08      3.08    1583    0.5  2.5  0.0  1.0
    Flow Due to Lockages+:           9

  S79:
    Spillway and Sector Flow:
                 3.11      1.77    2029    0.0  0.0  1.0  2.0  2.0  1.5  0.0
0.0
    Flow Due to Lockages+:          14
    Percent of flow from S77       109%
    Chloride            (ppm)      0


St. Lucie Canal (S308, S80)
  S308:
    Spillway and Sector Preferred Flow:
                13.96     13.87     303  0.0  3.0  3.0  3.0
    Flow Due to Lockages+:           0

  S153:        18.84     13.67       0    0.0  0.0
  S80:
    Spillway and Sector Flow:
                13.86      0.47       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)	Wind 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	310	5
S78:	0.00	0.00	0.24	295	1
S79:	0.00	0.00	0.00	201	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:	3.35	3.35	3.39	90	3
S80:	5.16	5.16	5.24	309	1
Okeechobee Average (Sites S78, S79 and S80 not included)	1.67	0.26	0.26		
Oke Nexrad Basin Avg	-NR-	0.00	0.00		

Okeechobee Lake Elevations	27 MAR 2022	13.92	Difference from 27MAR22
27MAR22 -1 Day =	26 MAR 2022	13.98	0.06
27MAR22 -2 Days =	25 MAR 2022	14.01	0.09
27MAR22 -3 Days =	24 MAR 2022	14.04	0.12
27MAR22 -4 Days =	23 MAR 2022	14.02	0.10
27MAR22 -5 Days =	22 MAR 2022	14.04	0.12
27MAR22 -6 Days =	21 MAR 2022	14.06	0.14
27MAR22 -7 Days =	20 MAR 2022	14.13	0.21
27MAR22 -30 Days =	25 FEB 2022	14.63	0.71
27MAR22 -1 Year =	27 MAR 2021	14.56	0.64
27MAR22 -2 Year =	27 MAR 2020	12.02	-1.90

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

27MAR22	Today =	27 MAR 2022	-112	MON	-7413
27MAR22	-1 Day =	26 MAR 2022	-1737	SUN	-1586
27MAR22	-2 Days =	25 MAR 2022	-858	SAT	-3007
27MAR22	-3 Days =	24 MAR 2022	-689	FRI	7895
27MAR22	-4 Days =	23 MAR 2022	-1244	THU	165
27MAR22	-5 Days =	22 MAR 2022	-1237	WED	51
27MAR22	-6 Days =	21 MAR 2022	-1098	TUE	-10424
27MAR22	-7 Days =	20 MAR 2022	-357	MON	-6146
27MAR22	-8 Days =	19 MAR 2022	194	SUN	-198
27MAR22	-9 Days =	18 MAR 2022	-290	SAT	-2441
27MAR22	-10 Days =	17 MAR 2022	-441	FRI	312
27MAR22	-11 Days =	16 MAR 2022	-641	THU	18462
27MAR22	-12 Days =	15 MAR 2022	-2286	WED	3303
27MAR22	-13 Days =	14 MAR 2022	-3163	TUE	-539

S65E

		Average Flow over previous 14 days			Avg-Daily Flow
27MAR22	Today=	27 MAR 2022	861	MON	954
27MAR22	-1 Day =	26 MAR 2022	822	SUN	962
27MAR22	-2 Days =	25 MAR 2022	787	SAT	989
27MAR22	-3 Days =	24 MAR 2022	741	FRI	905
27MAR22	-4 Days =	23 MAR 2022	702	THU	931
27MAR22	-5 Days =	22 MAR 2022	658	WED	978
27MAR22	-6 Days =	21 MAR 2022	610	TUE	994
27MAR22	-7 Days =	20 MAR 2022	562	MON	909
27MAR22	-8 Days =	19 MAR 2022	519	SUN	850
27MAR22	-9 Days =	18 MAR 2022	487	SAT	847
27MAR22	-10 Days =	17 MAR 2022	458	FRI	805
27MAR22	-11 Days =	16 MAR 2022	436	THU	786
27MAR22	-12 Days =	15 MAR 2022	420	WED	603
27MAR22	-13 Days =	14 MAR 2022	419	TUE	535

S65EX1

		Average Flow over previous 14 days			Avg-Daily Flow
27MAR22	Today=	27 MAR 2022	0	MON	0
27MAR22	-1 Day =	26 MAR 2022	0	SUN	0
27MAR22	-2 Days =	25 MAR 2022	0	SAT	0
27MAR22	-3 Days =	24 MAR 2022	0	FRI	0
27MAR22	-4 Days =	23 MAR 2022	0	THU	0
27MAR22	-5 Days =	22 MAR 2022	0	WED	0
27MAR22	-6 Days =	21 MAR 2022	0	TUE	0
27MAR22	-7 Days =	20 MAR 2022	0	MON	0
27MAR22	-8 Days =	19 MAR 2022	0	SUN	0
27MAR22	-9 Days =	18 MAR 2022	0	SAT	0
27MAR22	-10 Days =	17 MAR 2022	0	FRI	0
27MAR22	-11 Days =	16 MAR 2022	0	THU	0
27MAR22	-12 Days =	15 MAR 2022	0	WED	0
27MAR22	-13 Days =	14 MAR 2022	0	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)
27 MAR 2022	4381	4436	3133	4046
26 MAR 2022	3998	4022	3719	4075
25 MAR 2022	3255	3427	2711	4159
24 MAR 2022	3297	3358	2628	3090
23 MAR 2022	3352	3206	2516	2881
22 MAR 2022	3706	3733	2739	3555
21 MAR 2022	4248	4494	3219	4364
20 MAR 2022	4015	4089	3124	4366
19 MAR 2022	2891	2959	3028	3822
18 MAR 2022	2817	2801	2692	3557
17 MAR 2022	2827	2990	2647	3822
16 MAR 2022	3436	3565	2891	3743
15 MAR 2022	3670	3488	3004	3866
14 MAR 2022	2440	2503	2727	3482

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)
27 MAR 2022	130	1975	754	2545	-NR-
26 MAR 2022	180	1874	903	1508	-NR-
25 MAR 2022	18	1462	393	582	-NR-
24 MAR 2022	143	1877	37	449	-NR-
23 MAR 2022	267	2748	119	621	-NR-
22 MAR 2022	397	2445	11	562	-NR-
21 MAR 2022	244	3316	45	180	-NR-
20 MAR 2022	120	103	0	193	-NR-
19 MAR 2022	127	0	0	41	-NR-
18 MAR 2022	115	0	0	0	-NR-
17 MAR 2022	-4	636	0	0	-NR-
16 MAR 2022	17	1036	0	267	-NR-
15 MAR 2022	86	1109	0	0	-NR-
14 MAR 2022	17	444	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)
27 MAR 2022	555	-NR-	0
26 MAR 2022	778	-NR-	0
25 MAR 2022	730	-NR-	0
24 MAR 2022	1102	-NR-	0
23 MAR 2022	1448	-NR-	0
22 MAR 2022	1319	-NR-	0
21 MAR 2022	959	-NR-	0
20 MAR 2022	388	-NR-	0
19 MAR 2022	666	-NR-	0
18 MAR 2022	679	-NR-	0
17 MAR 2022	1001	-NR-	0
16 MAR 2022	1401	-NR-	0
15 MAR 2022	1504	-NR-	0
14 MAR 2022	0	-NR-	111

*** 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

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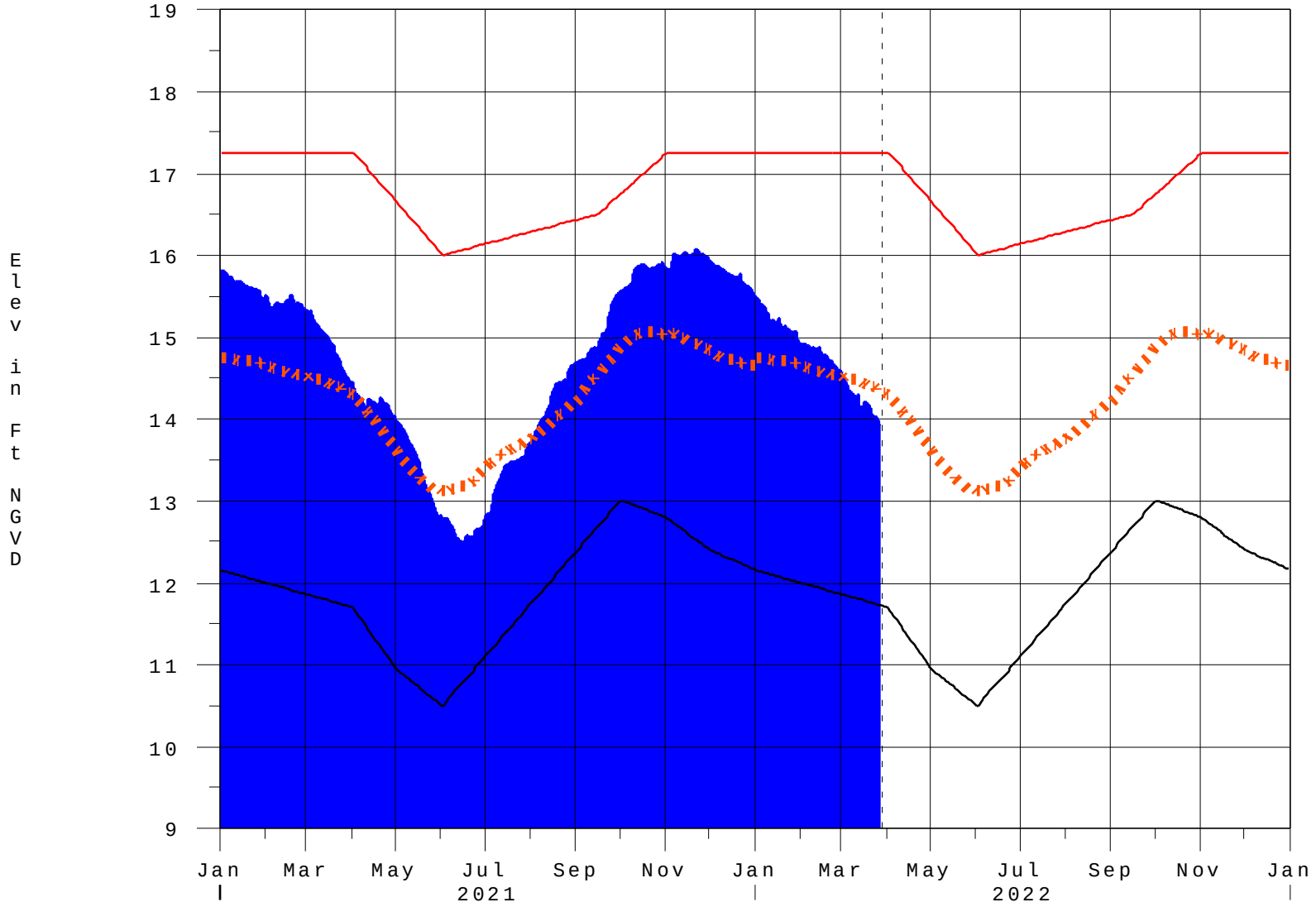
* On 11 May 1999, Lake Okeechobee Elevation was switched from
Instantaneous 2400 value to an average-daily lake average.
On 14 Mar 2001, due to the isolation of various gages within the standard
10 stations, the average of the interior 4 station gages was used
as the Lake Okeechobee Elevation.
On 05 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 28MAR2022 @ 15:15 ** Preliminary Data - Subject to Revision **

Lake Okeechobee

28MAR22 16:30:20



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

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 >= 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**