

Application of the Lake Okeechobee Regulation Schedule (LORS2008) on 2/12/2018 (ENSO La Nina 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)	Condition	Value (ft)	Condition	Value (ft)	Condition	Value (ft)	Condition
Current (Feb-Jul)	N/A	N/A	0.55	Dry	0.54	Dry	0.52	Dry
Multi Seasonal (Feb-Oct)	N/A	N/A	2.28	Normal	2.45	Normal	2.14	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:](#)

625 cfs 14-day running average for Lake Okeechobee Net Inflow through 2/11/2018.
According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Normal.

0.40 for Palmer Index on 2/10/2018.
According to the classification in [Tributary Hydrologic Conditions](#) table, this condition is Normal.

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

[LORS2008 Classification Tables:](#)

Lake Okeechobee Stage on 2/12/2018

Lake Okeechobee Stage: **15.19 feet**

[USACE Report for Lake Okeechobee](#)

[Lake Okeechobee Stage Hydrograph](#)

Lake Okeechobee Management Zone/Band		Bottom Elevation (feet, NGVD)	Current Lake Stage
High Lake Management Band		17.25	
Operational Band	High sub-band	16.70	
	Intermediate sub-band	15.90	
	Low sub-band	13.54	← 15.19
Base Flow sub-band		12.60	
Beneficial Use sub-band		11.94	
Water Shortage Management Band			

[Part C of LORS2008: Discharge to WCA's](#)

Release Guidance Flow Chart Outcome: Up to maximum practicable releases to the WCAs if desirable or with minimum everglades impacts, otherwise no releases.

[Part D of LORS2008: Discharge to Tidewater](#)

Release Guidance Flow Chart Outcome: S-79 Up to 450 cfs & S-80 Up to 200 cfs

Technical Input Summaries from:

- [Lake Okeechobee Division](#)
- [Coastal Ecosystems](#)
- [Everglades Ecosystems Division](#)
- [Water Supply Department](#)
- [Water Resource Management Release Recommendation](#)
- [Kissimmee Watershed Environmental Conditions](#)
- [Environmental Conditions for Systems Operations](#)

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[Back to U.S. Army Corps of Engineers LORSS Homepage](#)

LORS2008 Implementation on 2/12/2018 (ENSO La Nina Condition):

Status for week ending 2/12/2018:

District wide, Raindar rainfall was 0.10 inches for the week. Lake stage on 2/12/2018 was 15.19 ft, NGVD, down 0.01 ft from last week.

The updated February 2018 SFWMM Dynamic Position Analysis [percentile graph](#) for Lake Okeechobee show that the current lake stage is in the Low Operational Sub-Band.

The 2008 LORS Tributary Hydrologic Condition (THC) tributary is classified as **Normal**. The PDSI indicates Normal condition and the LONIN is Normal. The THC classification is based on the wetter of the two [indices](#).

Water Supply Risk Evaluation

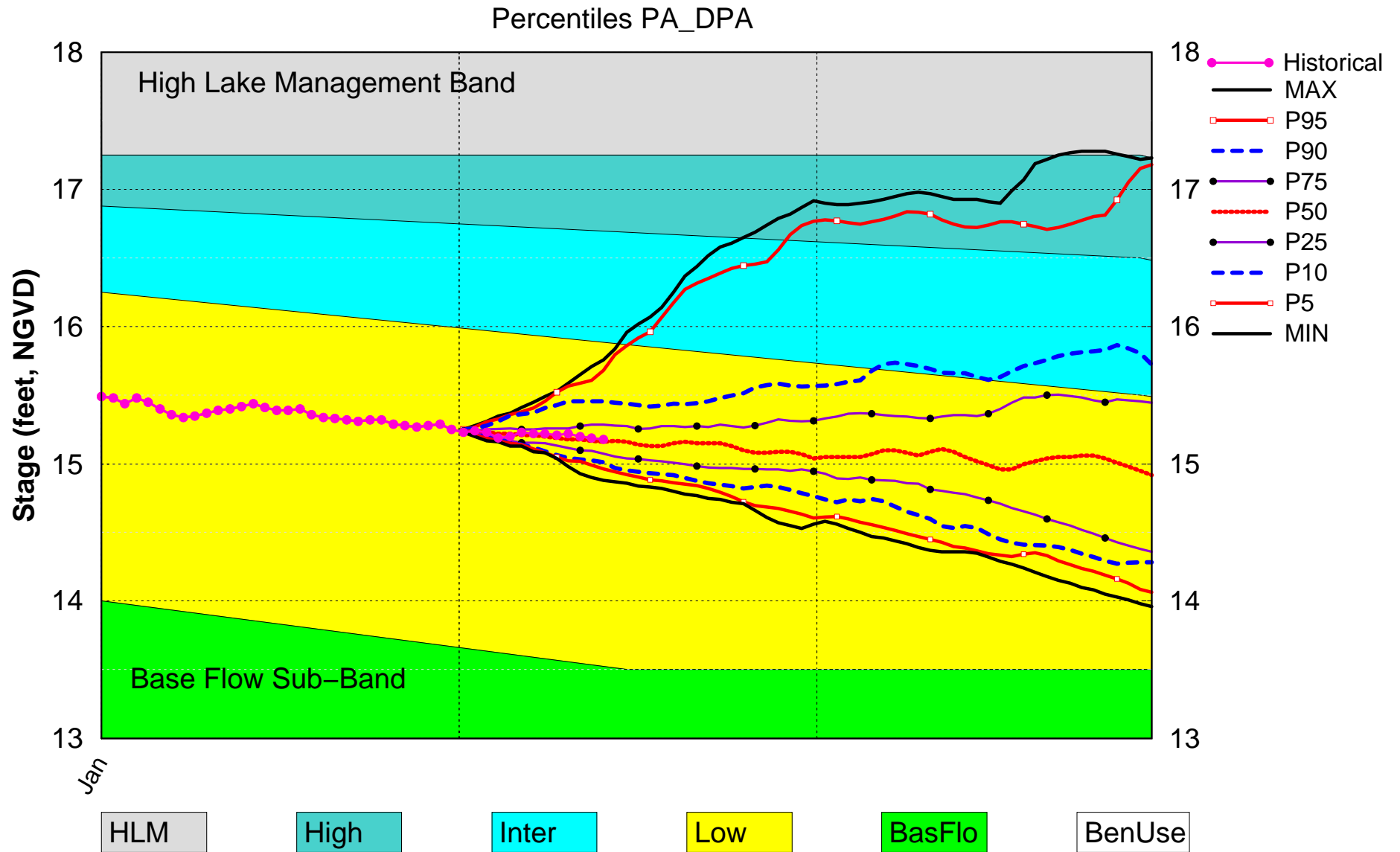
Area	Indicator	Value	Color Coded Scoring Scheme
LOK	Projected LOK Stage for the next two months	Low Sub Band	M
	Palmer Index for LOK Tributary Conditions	0.40 (Normal)	L
	CPC Precipitation Outlook	1 month: Below Normal	M
		3 months: Below Normal	H
	LOK Seasonal Net Inflow Outlook	0.54 ft (Dry)	M
	ENSO La Nina Years		M
	LOK Multi-Seasonal Net Inflow Outlook	2.45 ft (Normal)	M
	ENSO La Nina Years		M
WCAs	WCA 1: Site 1-7, Site 1-8T, & Site 1-9 Average	Above Line 1 (16.71 ft)	L
	WCA 2A: Site 2-17	Above Line 1 (11.82 ft)	L
	WCA-3A: 3 Station Average (Site 63, 64 and 65)	Above Line 1 (9.91 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.

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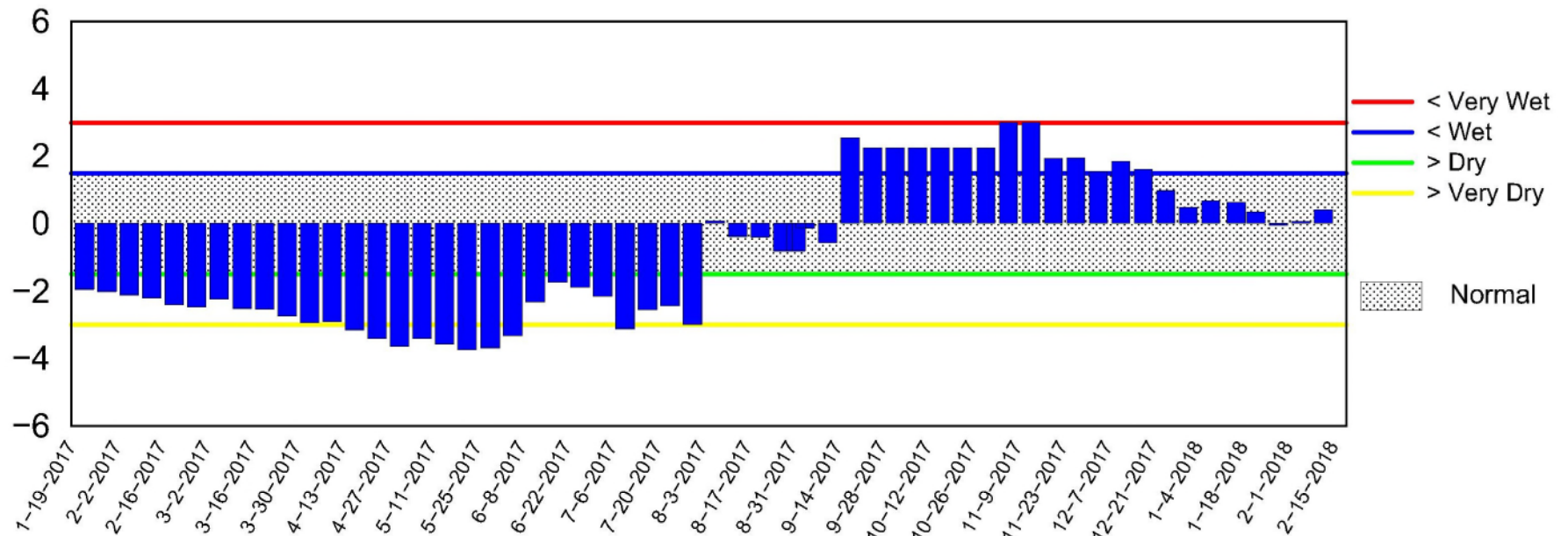
Lake Okeechobee SFWMM Feb 2018 Position Analysis



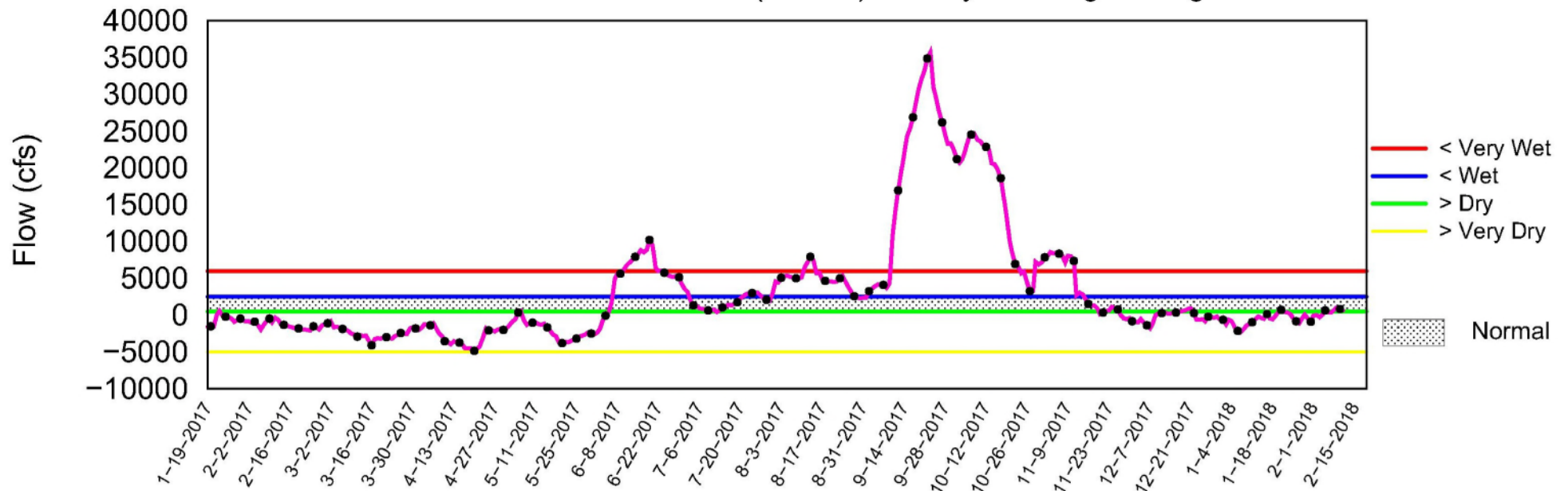
(See assumptions on the Position Analysis Results website)

Tributary Basin Condition Indicators as of February 12 2018

Palmer Index



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



Mon Feb 12 14:50:59 EST 2018

2008 LORS

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

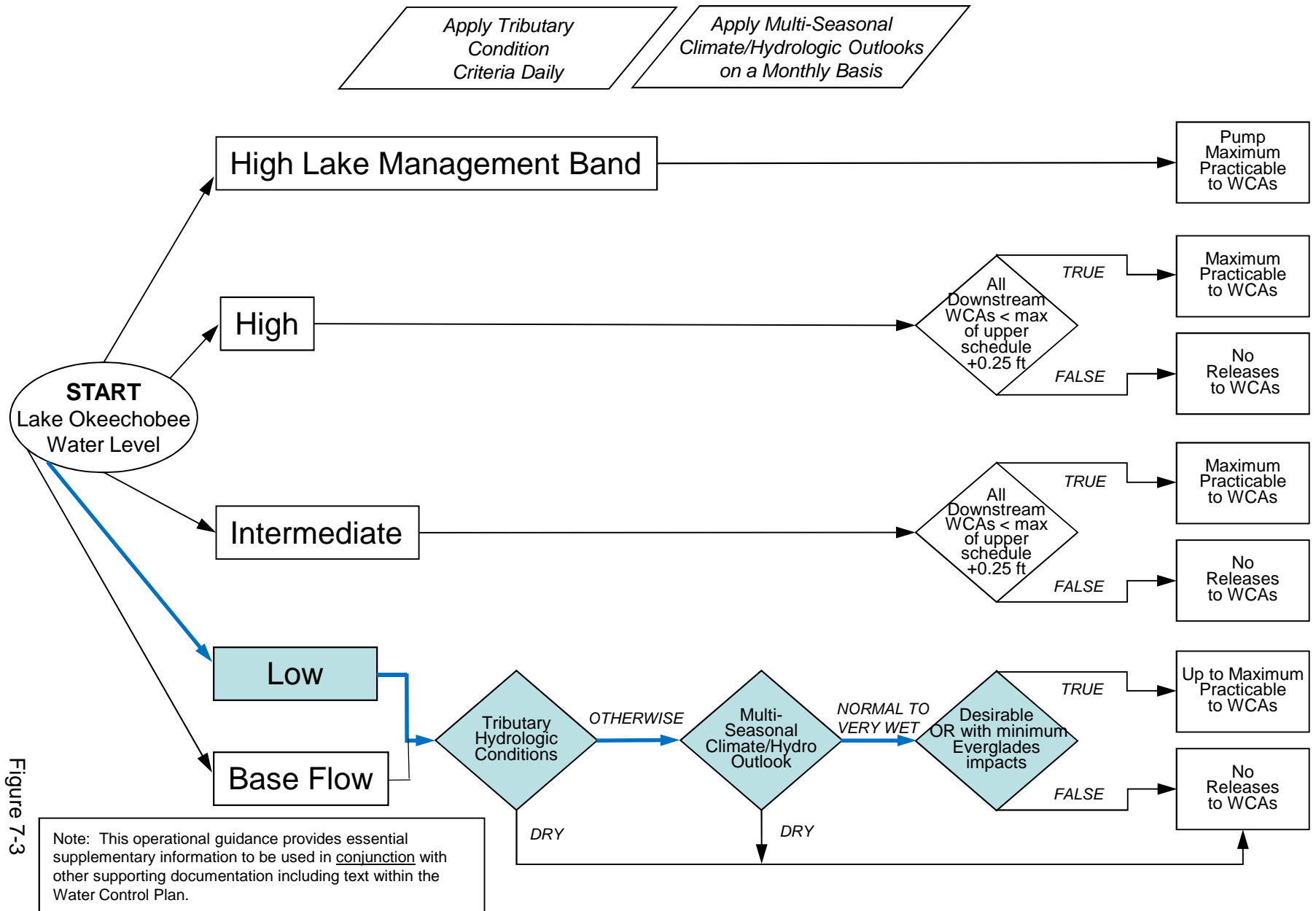


Figure 7-3

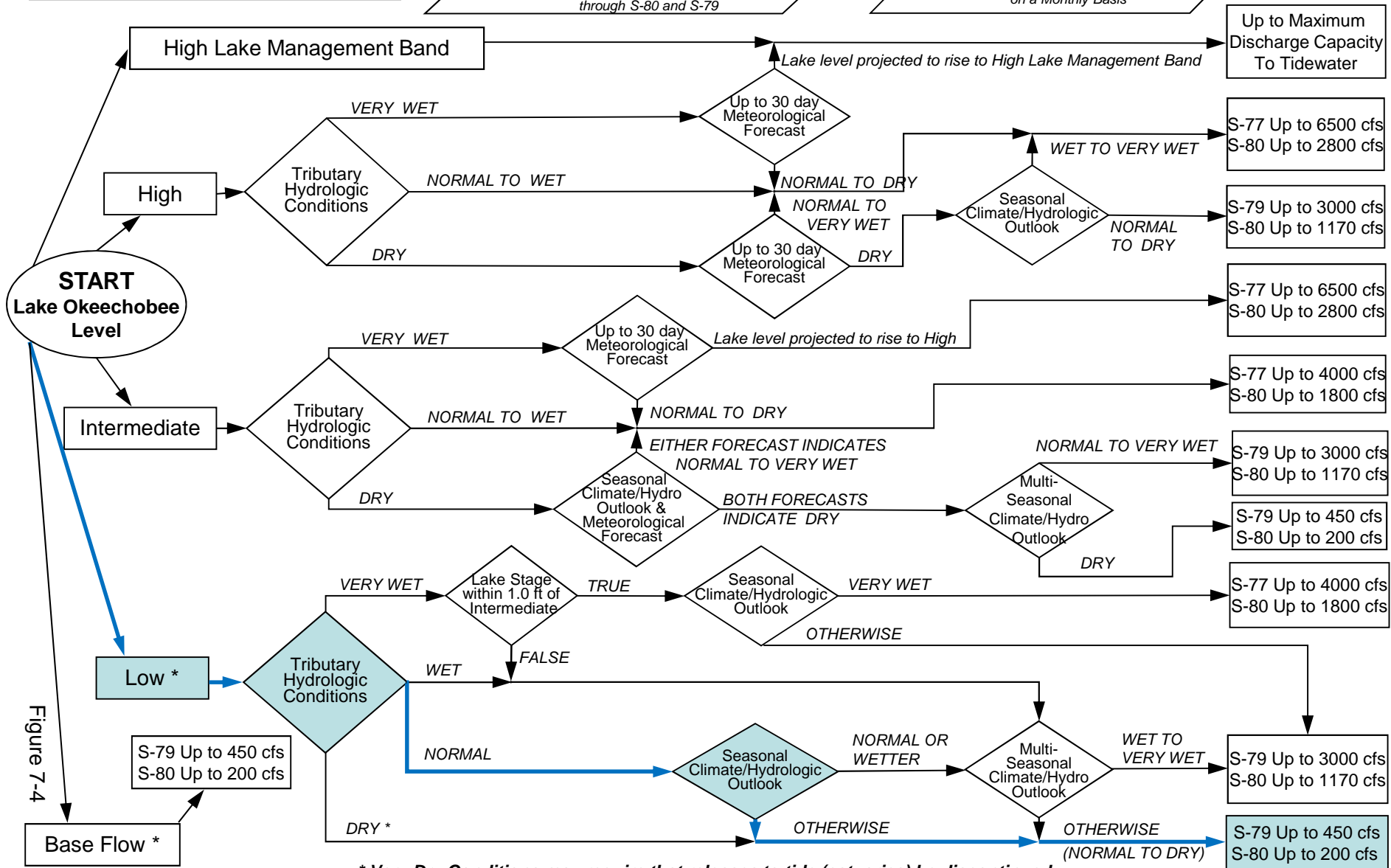
2008 LORS

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

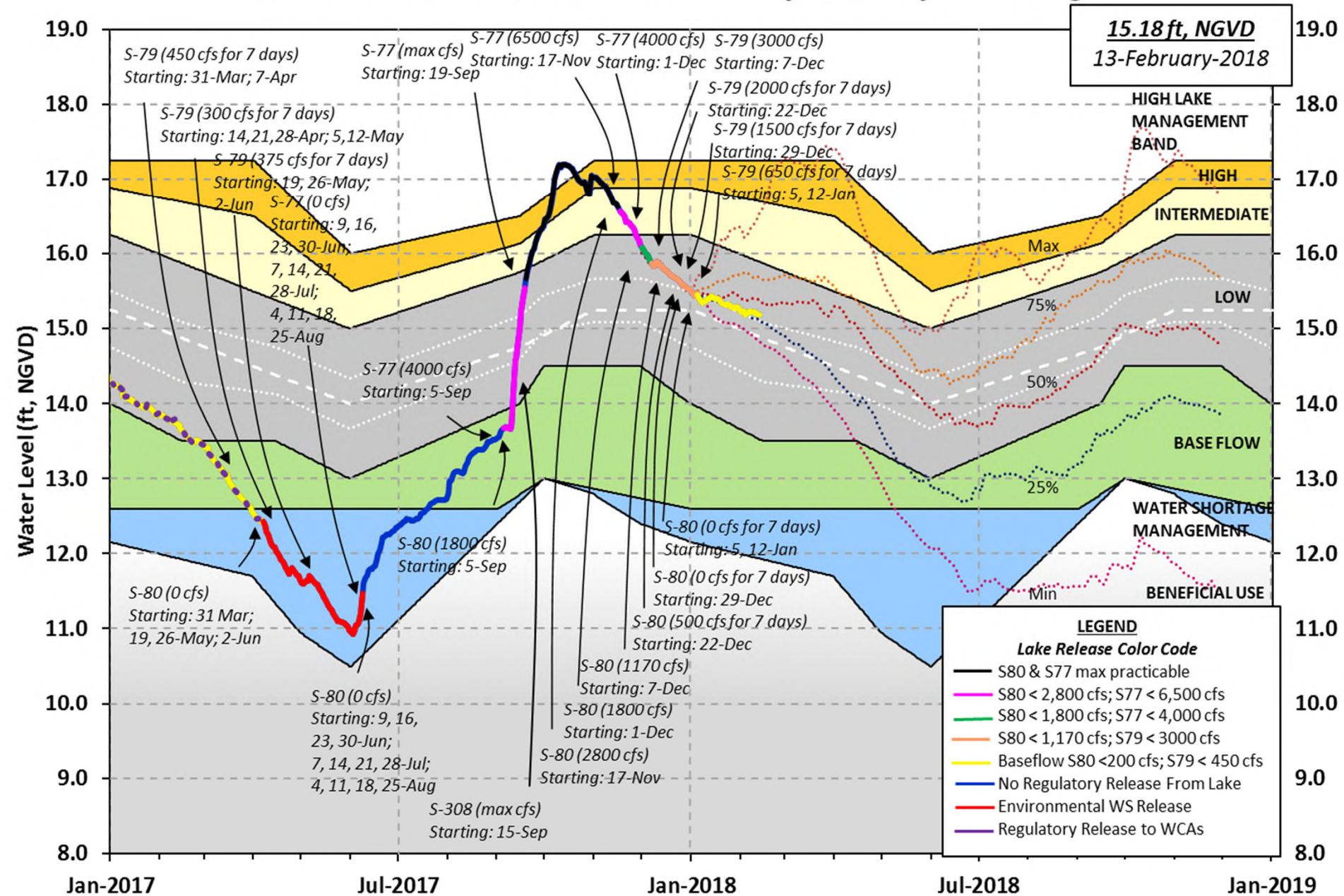
Note: This operational guidance provides essential supplementary information to be used in conjunction with other supporting documentation including text within the Water Control Plan.

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 11 FEB 2018

Okeechobee Lake Regulation	Elevation	Last Year	2YRS Ago
	(ft-NGVD)	(ft-NGVD)	(ft-NGVD)
*Okeechobee Lake Elevation	15.19	13.73	16.29 (Official Elv)
Bottom of High Lake Mngmt= 17.25 Top of Water Short Mngmt= 11.94			
Currently in Operational Management Band			

Simulated Average LORS2008 [1965-2000]	13.43
Difference from Average LORS2008	1.76

11FEB (1965-2007) Period of Record Average	14.59
Difference from POR Average	0.60

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

++Navigation Depth (Based on 2007 Channel Condition Survey) Route 1 ÷ 9.13'

++Navigation Depth (Based on 2008 Channel Condition Survey) Route 2 ÷ 7.33'

Bridge Clearance = 48.83'

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

L001	L005	L006	LZ40	S4	S352	S308	S133
15.20	15.24	15.17	15.14	15.19	15.26	15.14	15.17

*Combination Okeechobee Avg-Daily Lake Average = 15.19
(*See Note)

Okeechobee Inflows (cfs):

S65E	0	S65EX1	925	Fisheating Cr	26
S154	0	S191	0	S135 Pumps	0
S84	0	S133 Pumps	0	S2 Pumps	0
S84X	141	S127 Pumps	0	S3 Pumps	0
S71	37	S129 Pumps	0	S4 Pumps	0
S72	0	S131 Pumps	0	C5	0
Total Inflows:		1129			

Okeechobee Outflows (cfs):

S135 Culverts	0	S354	308	S77	804
S127 Culverts	0	S351	1090	S308	2
S129 Culverts	0	S352	172		
S131 Culverts	0	L8 Canal Pt	227		
Total Outflows:		2603			

S3 Pumps:	10.93	15.19	0	0	0	0		(cfs)
S354:	15.19	10.93	308	0.4	0.6			
S2 Pumps:	10.88	15.17	0	0	0	0	0	(cfs)
S351:	15.17	10.88	1090	1.2	1.5	1.3		
S352:	15.26	10.82	172	0.0	0.4			
C10A:	-NR-	14.02		8.0	8.0	8.0	0.0	0.0
L8 Canal PT		13.83	227					

S351 and S352 Temporary Pumps/S354 Spillway

S351:	10.88	15.17	1090	-NR-	-NR-	-NR-	-NR-	-NR-	-NR-
S352:	10.82	15.26	172	-NR-	-NR-	-NR-	-NR-		
S354:	10.93	15.19	308	-NR-	-NR-	-NR-	-NR-		

Caloosahatchee River (S77, S78, S79)

S47B:	13.30	11.12		0.0	0.0		
S47D:	11.15	11.14	66	6.5			

S77:

Spillway and Sector Flow:

15.17	11.20	795.29	1.0	3.0	0.0	1.0
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Flow Due to Lockages+: 9

S77 Below USGS Flow Gage 795

S78:

Spillway and Sector Flow:

11.05	3.03	893	0.5	2.5	0.0	0.0
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Flow Due to Lockages+: 21

S79:

Spillway and Sector Flow:

3.17	1.98	1208	0.0	0.0	0.0	1.0	1.0	1.0	1.0
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0.5

Flow Due to Lockages+: 13

Percent of flow from S77 66%

Chloride (ppm) 51

St. Lucie Canal (S308, S80)

S308:

Spillway and Sector Flow:

15.14	14.67	0.00	0.0	0.0	0.0	0.0
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Flow Due to Lockages+: 2

S308 Below USGS Flow Gage -97

S153:	18.67	14.46	19	0.1	0.1
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S80:

Spillway and Sector Flow:

14.68	-0.06	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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Flow Due to Lockages+: 35

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.

				----- Wind -----	
Daily Precipitation Totals	1-Day	3-Day	7-Day	Direction	
Speed	(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:	0.00	0.00	0.00	121	4
S78:	0.00	0.00	0.02	77	3
S79:	0.01	0.01	0.01	270	0
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	0.02	0.08	120	5
S80:	0.00	0.00	0.00	190	4
Okeechobee Average	0.00	0.00	0.01		
(Sites S78, S79 and S80 not included)					

Oke Nexrad Basin Avg	0.00	0.00	0.04		

Okeechobee Lake Elevations	11 FEB 2018	15.19	Difference from
11FEB18			
11FEB18 -1 Day =	10 FEB 2018	15.20	0.01
11FEB18 -2 Days =	09 FEB 2018	15.22	0.03
11FEB18 -3 Days =	08 FEB 2018	15.21	0.02
11FEB18 -4 Days =	07 FEB 2018	15.22	0.03
11FEB18 -5 Days =	06 FEB 2018	15.22	0.03
11FEB18 -6 Days =	05 FEB 2018	15.23	0.04
11FEB18 -7 Days =	04 FEB 2018	15.20	0.01
11FEB18 -30 Days =	12 JAN 2018	15.42	0.23
11FEB18 -1 Year =	11 FEB 2017	13.73	-1.46
11FEB18 -2 Year =	11 FEB 2016	16.29	1.10

Long Term Mean 30day Avearge ET for Lake Alfred (Inches) = 2.31

Lake Okeechobee Net Inflow (LONIN)

Average Flow over the previous 14 days					Avg-Daily Flow
11FEB18	Today =	11 FEB 2018	65	MON	424
11FEB18	-1 Day =	10 FEB 2018	330	SUN	-2047
11FEB18	-2 Days =	09 FEB 2018	546	SAT	4312
11FEB18	-3 Days =	08 FEB 2018	93	FRI	-404
11FEB18	-4 Days =	07 FEB 2018	-358	THU	-NR-
11FEB18	-5 Days =	06 FEB 2018	-223	WED	-947
11FEB18	-6 Days =	05 FEB 2018	176	TUE	7968
11FEB18	-7 Days =	04 FEB 2018	-522	MON	3999
11FEB18	-8 Days =	03 FEB 2018	-862	SUN	-4010
11FEB18	-9 Days =	02 FEB 2018	-464	SAT	-1859
11FEB18	-10 Days =	01 FEB 2018	-467	FRI	-NR-
11FEB18	-11 Days =	31 JAN 2018	-992	THU	-2886
11FEB18	-12 Days =	30 JAN 2018	-511	WED	-7289
11FEB18	-13 Days =	29 JAN 2018	54	TUE	3516

S65E

Average Flow over previous 14 days					Avg-Daily Flow
11FEB18	Today=	11 FEB 2018	0	MON	0
11FEB18	-1 Day =	10 FEB 2018	0	SUN	0
11FEB18	-2 Days =	09 FEB 2018	0	SAT	0
11FEB18	-3 Days =	08 FEB 2018	0	FRI	0
11FEB18	-4 Days =	07 FEB 2018	0	THU	0
11FEB18	-5 Days =	06 FEB 2018	0	WED	0
11FEB18	-6 Days =	05 FEB 2018	0	TUE	0
11FEB18	-7 Days =	04 FEB 2018	0	MON	0
11FEB18	-8 Days =	03 FEB 2018	0	SUN	0
11FEB18	-9 Days =	02 FEB 2018	0	SAT	0
11FEB18	-10 Days =	01 FEB 2018	0	FRI	0
11FEB18	-11 Days =	31 JAN 2018	0	THU	0
11FEB18	-12 Days =	30 JAN 2018	0	WED	0
11FEB18	-13 Days =	29 JAN 2018	0	TUE	0

S65EX1

Average Flow over previous 14 days					Avg-Daily Flow
11FEB18	Today=	11 FEB 2018	939	MON	925
11FEB18	-1 Day =	10 FEB 2018	935	SUN	945
11FEB18	-2 Days =	09 FEB 2018	915	SAT	1000
11FEB18	-3 Days =	08 FEB 2018	891	FRI	1020
11FEB18	-4 Days =	07 FEB 2018	867	THU	1004
11FEB18	-5 Days =	06 FEB 2018	846	WED	942
11FEB18	-6 Days =	05 FEB 2018	829	TUE	1009
11FEB18	-7 Days =	04 FEB 2018	804	MON	1007
11FEB18	-8 Days =	03 FEB 2018	776	SUN	940
11FEB18	-9 Days =	02 FEB 2018	755	SAT	896
11FEB18	-10 Days =	01 FEB 2018	736	FRI	916
11FEB18	-11 Days =	31 JAN 2018	717	THU	910
11FEB18	-12 Days =	30 JAN 2018	704	WED	847
11FEB18	-13 Days =	29 JAN 2018	712	TUE	786

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)
11 FEB 2018		2484	1577	1808	2415
10 FEB 2018		2504	1060	2089	2529
09 FEB 2018		2482	589	1493	1943
08 FEB 2018		19	46	47	76
07 FEB 2018		19	97	355	400
06 FEB 2018		18	180	338	986
05 FEB 2018		412	329	851	1288
04 FEB 2018		1921	917	1966	1724
03 FEB 2018		3020	1339	2051	3083
02 FEB 2018		2079	744	1576	2141
01 FEB 2018		468	229	143	88
31 JAN 2018		457	344	466	513
30 JAN 2018		679	138	668	1043
29 JAN 2018		276	289	671	1134

		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)
11 FEB 2018		30	-NR-	297	559	451
10 FEB 2018		-28	-NR-	379	575	461
09 FEB 2018		8	-NR-	266	333	470
08 FEB 2018		19	-NR-	456	17	445
07 FEB 2018		36	-NR-	153	200	-NR-
06 FEB 2018		16	-NR-	4	186	369
05 FEB 2018		-10	-NR-	48	178	370
04 FEB 2018		45	-NR-	147	198	371
03 FEB 2018		59	-NR-	470	420	377
02 FEB 2018		98	-NR-	795	496	364
01 FEB 2018		8	-NR-	531	974	-NR-
31 JAN 2018		96	-NR-	284	0	366
30 JAN 2018		86	-NR-	393	0	371
29 JAN 2018		56	-NR-	299	377	363

		S-308	Below S-308	S-80
		Discharge	Discharge	Discharge
		(ALL DAY)	(ALL-DAY)	(ALL-DAY)
DATE		(AC-FT)	(AC-FT)	(AC-FT)
11 FEB 2018		4	-192	70
10 FEB 2018		5	26	64
09 FEB 2018		4	269	44
08 FEB 2018		4	-97	57
07 FEB 2018		7	-110	64
06 FEB 2018		5	138	48
05 FEB 2018		4	-NR-	60
04 FEB 2018		4	144	42
03 FEB 2018		5	48	30
02 FEB 2018		6	0	50
01 FEB 2018		8	143	57
31 JAN 2018		3	136	34
30 JAN 2018		2	28	28

29 JAN 2018

3

-253

45

*** NOTE: Discharge (ALL DAY) is computed using Spillway, Sector Gate
and

Lockages Discharges from 0015 hrs to 2400 hrs.

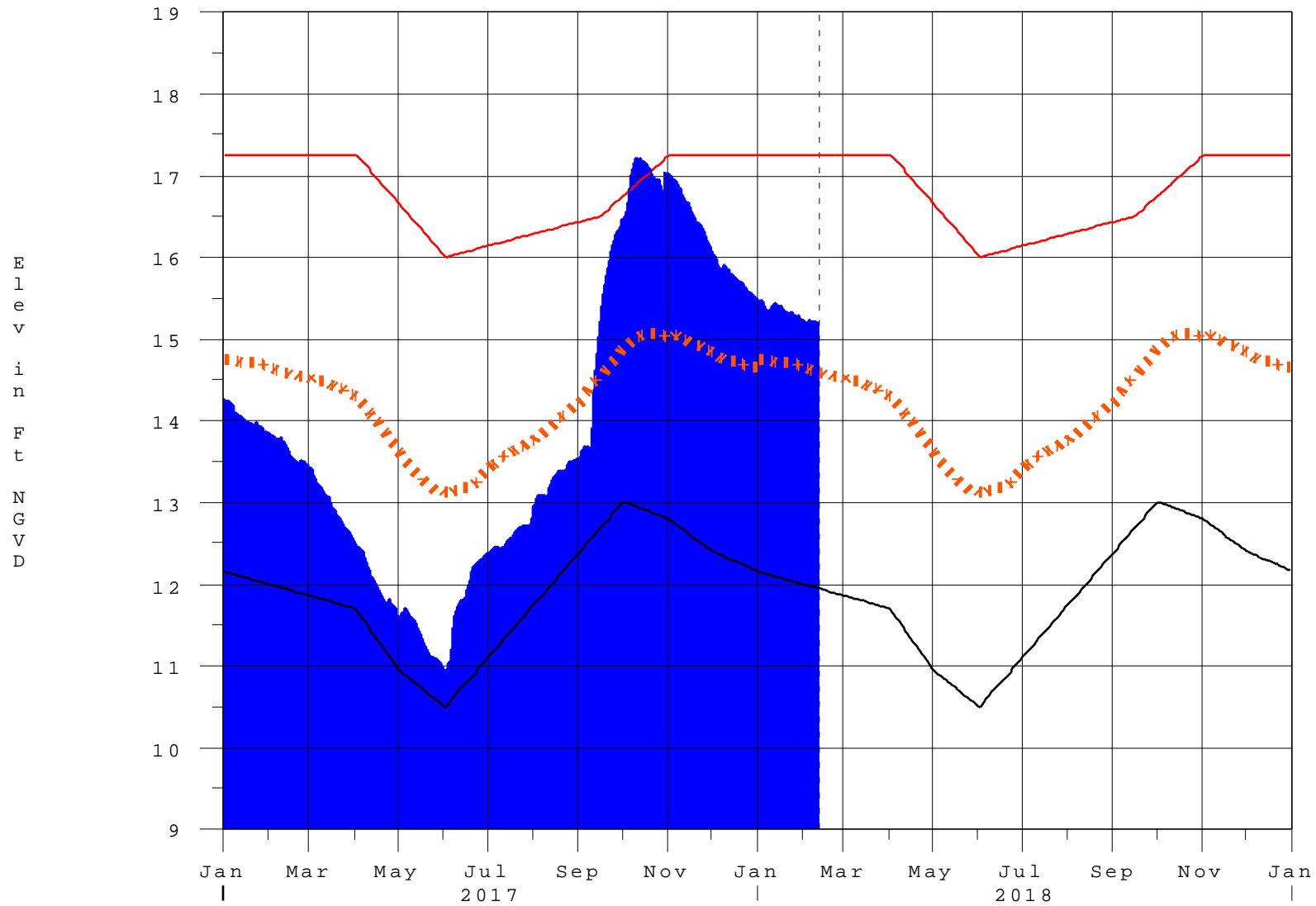
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(I) - Flows preceded by "I" signify an instantaneous
flow computed from the single value reported for the day

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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 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 12FEB2018 @ 10:59 ** Preliminary Data - Subject to Revision
**

Lake Okeechobee

12FEB18 11:17:29



- 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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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