SOUTH LAKE OKEECHOBEE SUBWATERSHED TECHNICAL SHEET

Subwatershed:	**South Lake Okeechobee**		
Basins:	S2, S3, S4, S5A, East Beach Water Control District, East Shore Water Control District, South Florida Conservancy District, South Shore Drainage District, Closter Farms, Industrial Canal	**Flow Issues[1]:** **NO**	**Water Quality Issues[2]:** **NO**

Monitored Structure(s): S-2 (S2/S6/S7), S-3(S3/S8), S-352(S5A), S-4 (S4), C-10 (EBWCD), C-12A (Closter), C-12(ESWCD), C-4A (SSDD), S-236(SFCD), S-310 (S4/Industrial Canal)

Inflow loads: Lake Okeechobee, C-139 Basin, West Lake Okeechobee subwatershed

Acreage: 363,141

Percentage of Subwatershed Acreage: N/A

Percentage of Lake Okeechobee Watershed: 10.5%

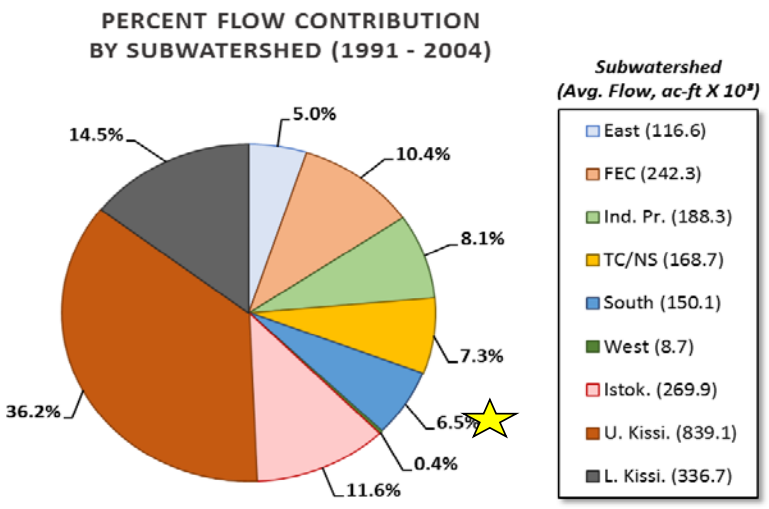
[1]Flow Issues:

- Flows from the South subwatershed represented only 3% of total inflows to Lake Okeechobee during the post-protection plan period. Flow and load evaluations were conducted based only on that portion of the flow that discharges from the South Lake Okeechobee subwatershed into Lake Okeechobee. There was a statistically significant decrease between pre and post-protection plan median flows. There was also a statistically significant decreasing trend for flow for the period of record.

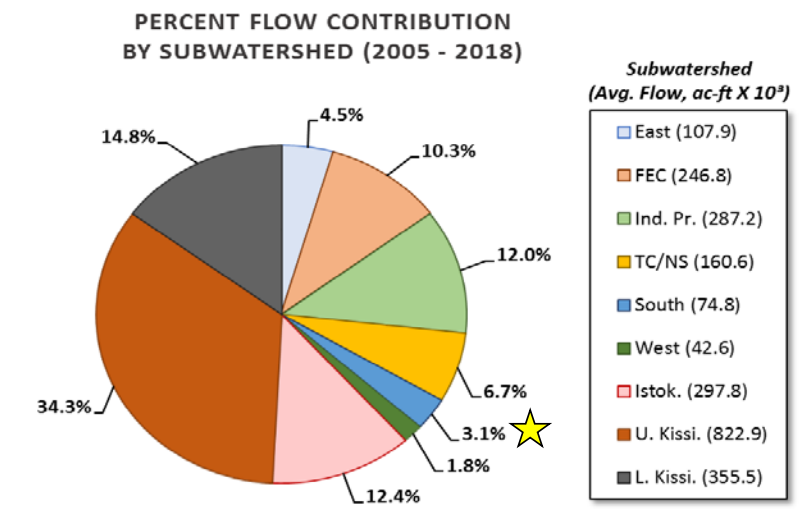
[2]Water Quality Issues:

- The South subwatershed contributed only 4% of all total phosphorus (TP) loads discharged into the lake during the post-protection plan period. In addition, a statistically siginificant decreasing trend in TP load was found for the period of record.

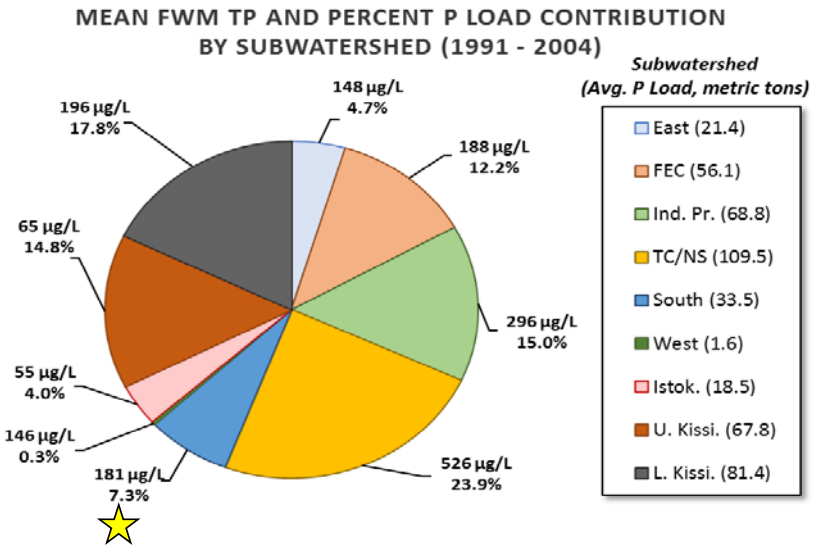
Pre-Protection Plan Flows



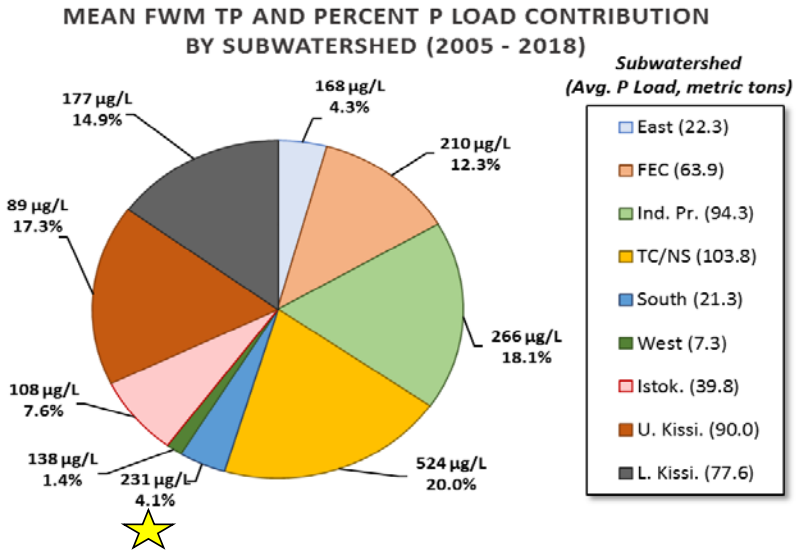
Post-Protection Plan Flows



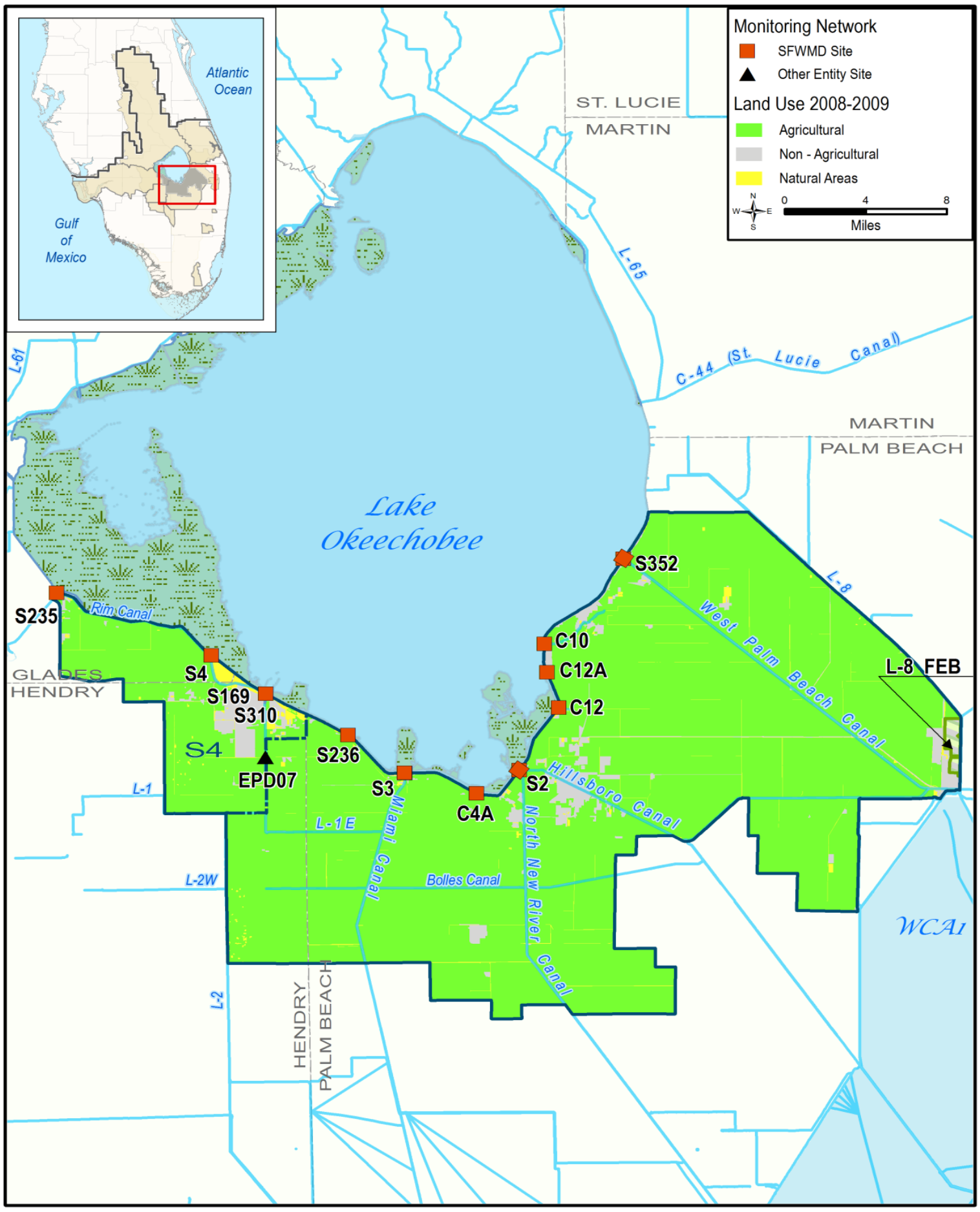
Pre-Protection Plan Loads



Post-Protection Plan Loads



SOUTH LAKE OKEECHOBEE SUBWATERSHED - MAP



SOUTH LAKE OKEECHOBEE SUBWATERSHED - STATISTICS

Summary Statistics				
	Period of Record	Pre-Protection Plan	Post-Protection Plan	
	WY1991-WY2018	WY1991-WY2004	WY2005-WY2018	
Averages				
Avg. Flow (acft/yr)	112,496	150,148	74,844	
Avg. Load (mt/yr)	27.37	33.45	21.30	
FWMC (ug/L)	197	181	231	
Avg. UAL (lbs/acre/yr)	0.17	0.20	0.13	
Medians				Mann-Whitney Results p-values[3]
Median Flow (acft/yr)	89,944	115,966	85,200	0.0149
Median Load (mt/yr)	25.38	28.06	22.68	0.0661
Median FWMC (ug/L)	201	190	215	0.1181
Median UAL (lbs/acre/yr)	0.15	0.17	0.14	0.0691

Highlighted cells indicate statistical significance

[3]The Mann-Whitney test is a non-parametric test alternative to the two sample t-test. It is used to test the equality around the central tendency of two data sets (pre-protection plan period and post-protection plan period). A p-value of less than 0.05 indicates that a significant difference between pre-protection plan period and post-protection plan period exists. A comparison of the median values identifies which period is higher. A median is a value at the mid-point of a distribution of observed data.

Sub-watershed South - Seasonal Kendall τ Results for Total Monthly Flow (ac-ft) by Basin over Three Water Year Ranges

Sub-watershed/*Basin*	1991-2018					1991-2004					2005-2018				
	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value
South	*0.0%*	*-0.238*	*-106*	*4546*	*<0.001*	0.0%	-0.067	-76	5119	0.365	0.0%	-0.035	-16	1758	0.559

Sub-watershed South - Seasonal Kendall τ Results for Total Monthly P Load (kg) by Basin over Three Water Year Ranges

Sub-watershed/*Basin*	1991-2018					1991-2004					2005-2018				
	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value
South	*0.0%*	*-0.192*	*-14.68*	*727*	*<0.001*	0.0%	-0.078	-16.81	966	0.184	0.0%	-0.011	-1.18	318	0.862

Sub-watershed South - Seasonal Kendall τ Results for Monthly FWM TP (µg/L) by Basin over Three Water Year Ranges

Sub-watershed/*Basin*	1991-2018					1991-2004					2005-2018				
	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value	% Missing Months	Kendall's τ	Sen Slope	Intercept	p-value
South	1.2%	0.103	1	145	0.133	1.2%	-0.106	-2	169	0.299	1.2%	0.100	2	153	0.322

Italic red font cells indicate statistical significance

Note: The Seasonal Kendall Tau analyzes data for monotonic trends (consistent upward or downward trend) and accounts for seasonality. Typically monthly data are used to identify seasons. Probability values (p-values) are derived from the tau-statistic which identifies the direction of the trend. A p-value less than 0.05 detects statistically significant trends for a period of interest. The Sen Slope provides an indication of the magnitude of the observed trend.

SOUTH LAKE OKEECHOBEE SUBWATERSHED - MONTHLY DATA AND SKT TRENDS