

TCNS - S-154 BASIN TECHNICAL SHEET

Subwatershed: Taylor Creek/Nubbin Slough		
Basin: S-154 (NEEPP Priority Basin)	Flow Issues¹: NO	Water Quality Issues²: YES

Monitored Structure(s):	S154
Inflow loads:	None
Acreage:	31,815
Percentage of Subwatershed Acreage:	16%
Percentage of Lake Okeechobee Watershed:	0.9%

¹Flow Issues:

- There were no statistically significant differences in flows from the pre to the post-protection plan periods and no statistically significant trends within any of the periods.

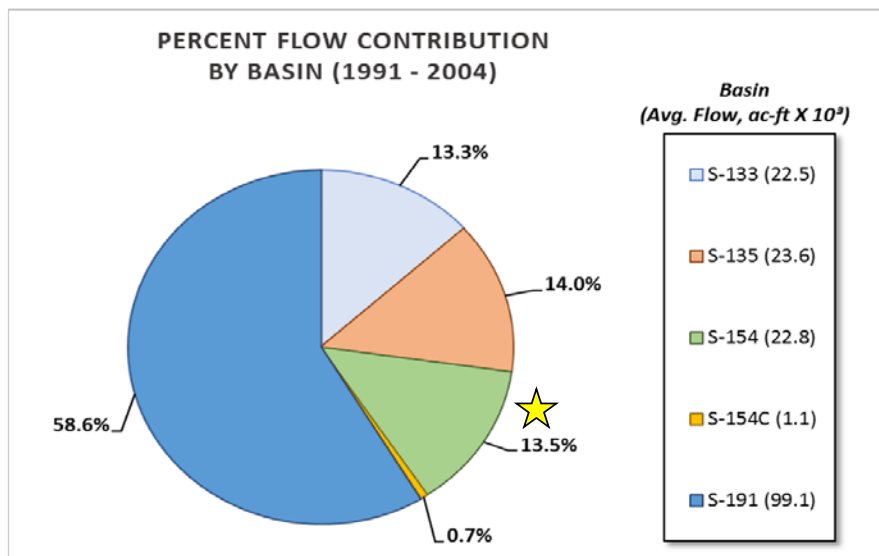
- The overall flow contribution to Lake Okeechobee watershed from this basin is low (approximately 1%).

²Water Quality Issues:

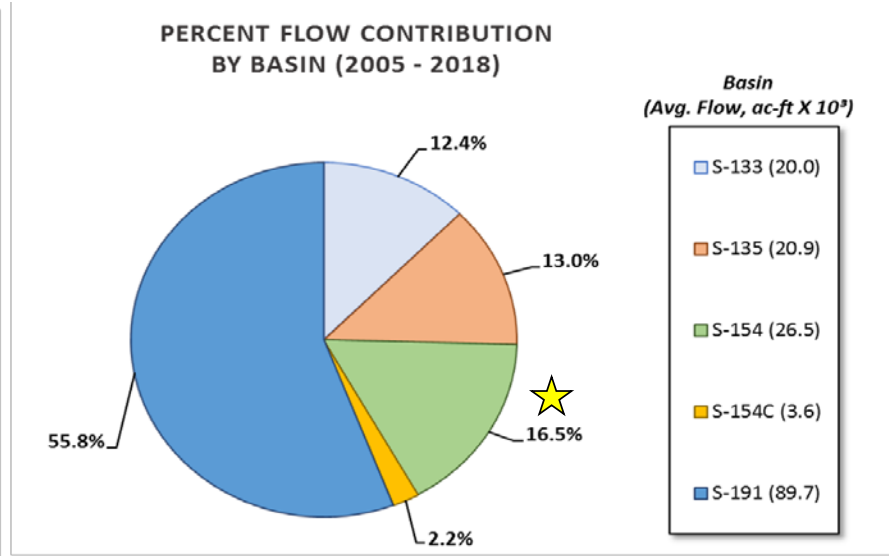
- This is one of the Northern Everglades and Estuaries Protection Plan (NEEPP) four Priority basins.

- While the basin did have a statistically significant decreasing trend in total phosphorus (TP) flow-weighted mean concentrations (FWMC) for the period of record and the pre-protection plan period, the basin continues to have high TP FWMC (663 µg/L during the post-protection plan period) and has the second highest TP load in the Taylor Creek Nubbin Slough subwatershed (21 mt/yr during the post-protection plan period).

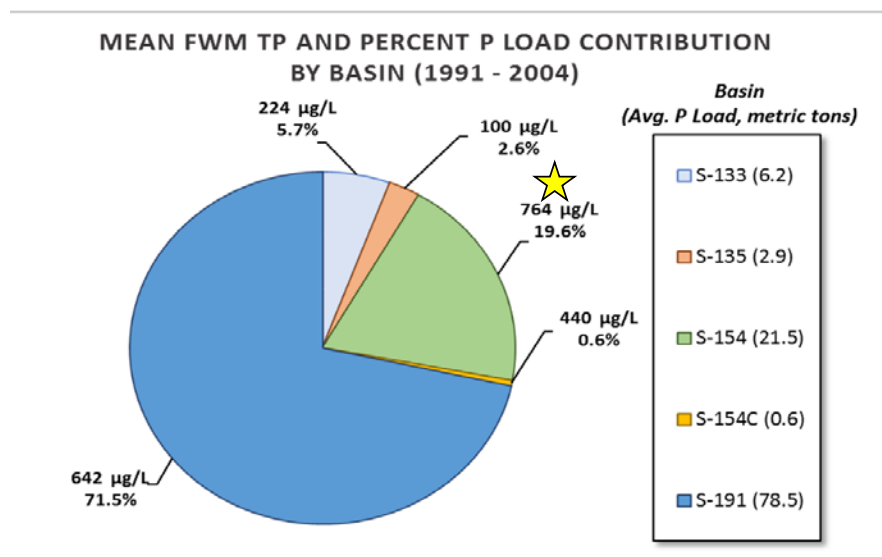
Pre-Protection Plan Flows



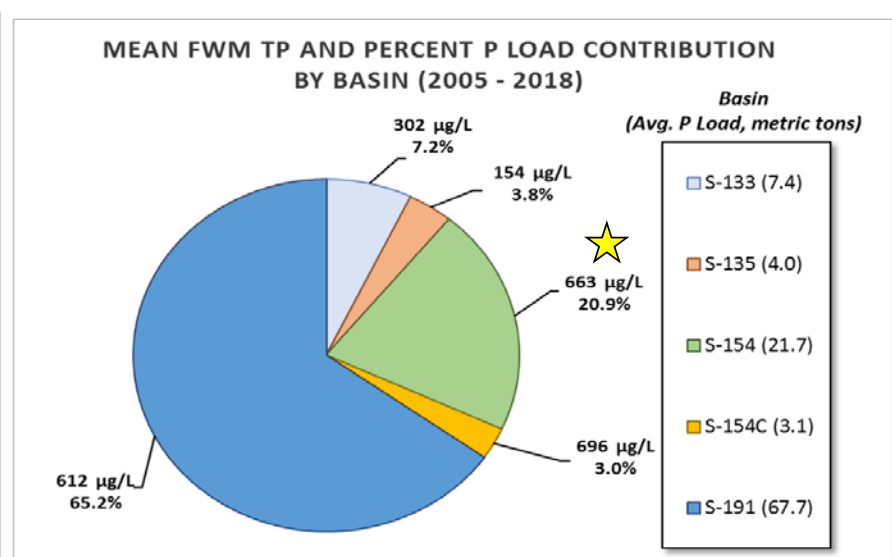
Post-Protection Plan Flows



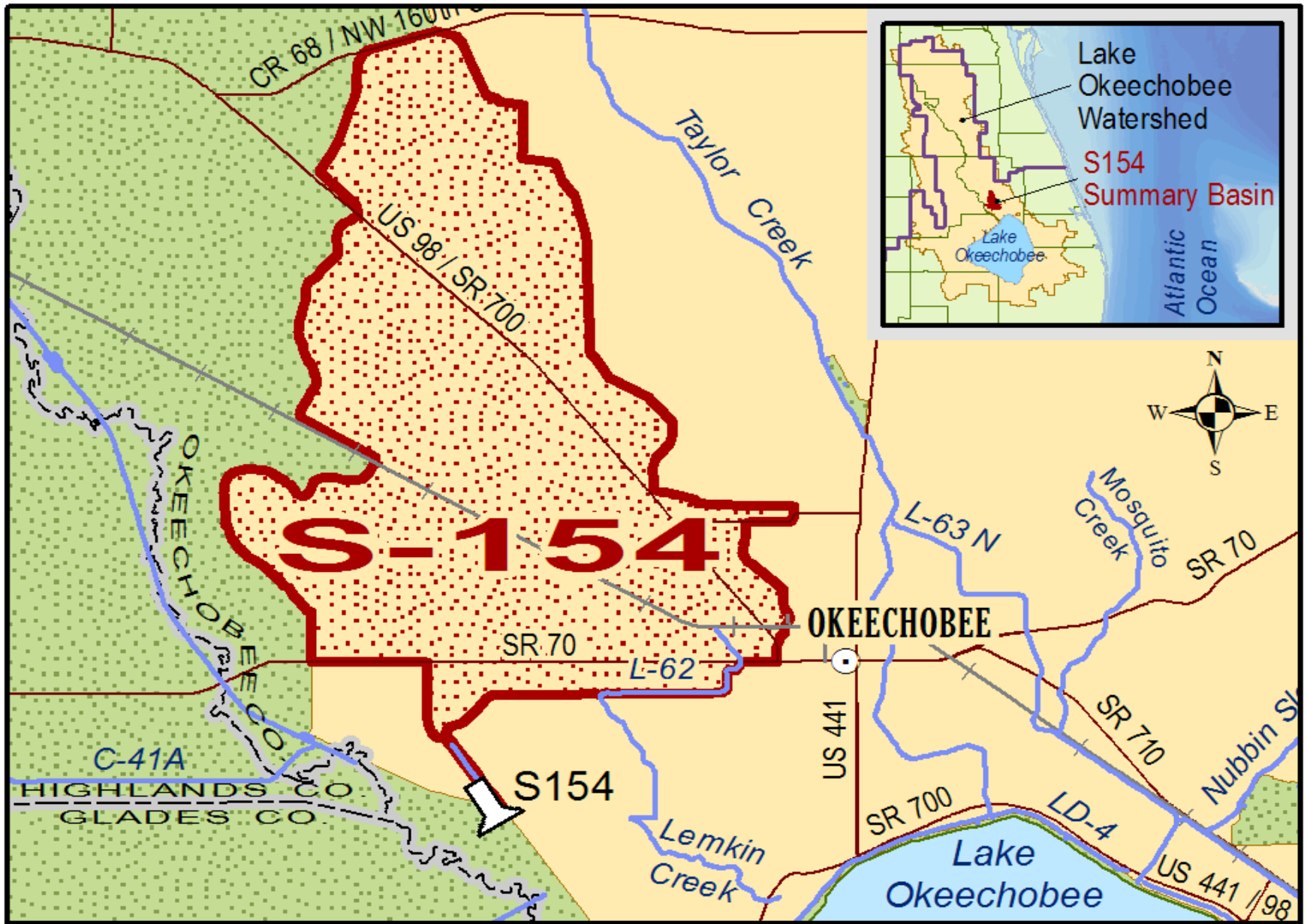
Pre-Protection Plan Loads



Post-Protection Plan Loads



S-154 BASIN - MAP



REG/EREG 24-SEP-2012 CMISSAU \\ad.sfwmd.gov\dfsroot\data\err_gis\projects\EVG\lok\kEdgemon_LOK_PerformanceMeasures\mxd\S154_PerformanceMeasures_TinyMap_cm1.mxd

S-154 BASIN - STATISTICS

Summary Statistics				
	Period of Record	Pre-Protection Plan	Post-Protection Plan	
	WY1991-WY2018	WY1991-WY2004	WY2005-WY2018	
Averages				
Avg. Flow (acft/yr)	24,683	22,849	26,518	
Avg. Load (mt/yr)	21.60	21.52	21.68	
FWMC (ug/L)	710	764	663	
Avg. UAL (lbs/acre/yr)	1.50	1.49	1.50	
Medians				Mann-Whitney Results p-values³
Median Flow (acft/yr)	22,749	20,870	26,803	0.4082
Median Load (mt/yr)	17.07	20.88	15.97	0.9634
Median FWMC (ug/L)	638.13	750	598	0.0981
Median UAL (lbs/acre/yr)	1.18	1.45	1.11	0.9817

Highlighted cells indicate statistical significance

³The 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 Taylor Creek/Nubbin Slough - 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
S-154 Basin	0.0%	0.033	0.00	47	0.648	0.0%	0.014	0.00	100	0.908	0.0%	0.179	0.03	12	0.087

Sub-watershed Taylor Creek/Nubbin Slough - 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
S-154 Basin	0.0%	0.000	0.00	13	0.997	0.0%	-0.008	0.00	60	0.944	0.0%	0.180	0.01	2	0.075

Sub-watershed Taylor Creek/Nubbin Slough - Seasonal Kendall τ Results for Monthly FWM TP ($\mu\text{g/L}$) 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
S-154 Basin	36.0%	-0.330	-16	707	<0.001	36.9%	-0.310	-30	816	0.013	35.1%	0.008	1	355	0.954

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.

S-154 BASIN - MONTHLY DATA AND SKT TRENDS

