

INDIAN PRAIRIE - C-41A BASIN TECHNICAL SHEET			
Subwatershed:	Indian Prairie		
Basin:	C-41A	Flow Issues ¹ : YES	Water Quality Issues ² : NO

Monitored Structure(s): S-84

Inflow loads: Lake Istokpoga

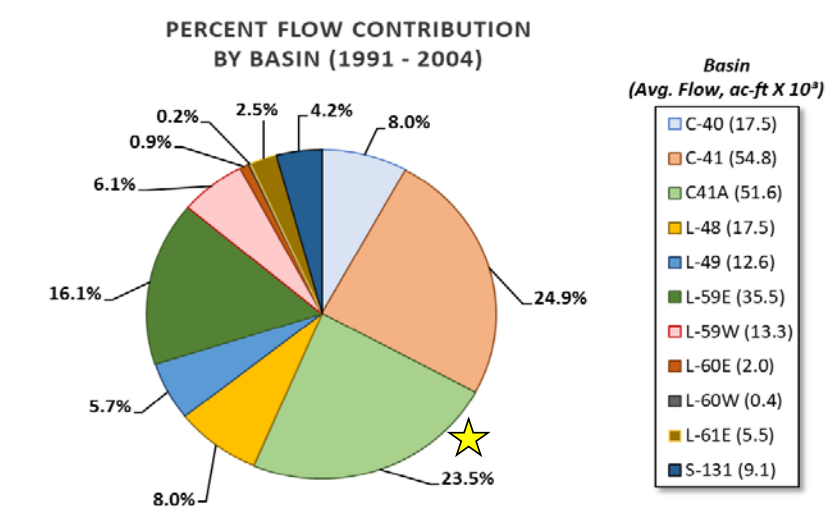
Acreage: 57,748

Percentage of Subwatershed Acreage: 21%

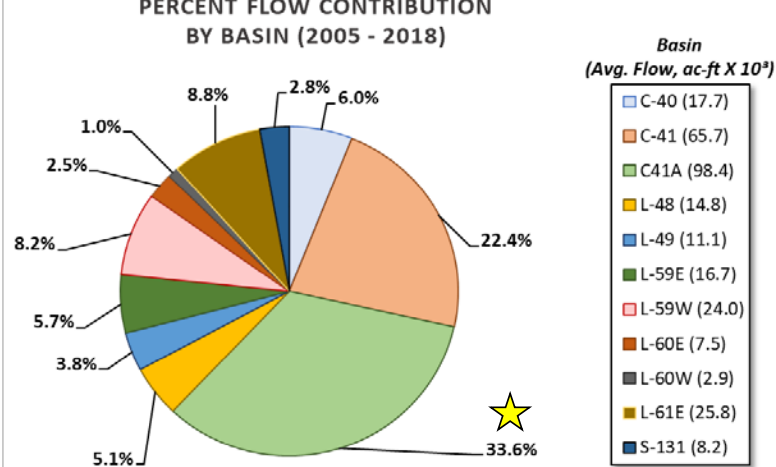
Percentage of Lake Okeechobee Watershed: 1.7%

- ¹**Flow Issues:**
- The proportion of load and flows generated among C-40, C-41, C-41A is not known. It is currently estimated by an algebraic equation.
 - The flow almost doubled between the pre and post-protection plan periods but there was not a statistically significant difference.
 - The unit area flow (UAF) almost doubled between the pre and post-protection plan periods (10.72 inches to 20.45 inches, respectively).
 - Flow in this basin is complicated and has been heavily influenced by climatology, projects and flow measurement changes. The distribution of water in this basin may not be consistent between the pre and post-protection plan periods.
 - Within the last 10 years, more water may be moving through C-41A due to changes in operations. This should be investigated further.
 - Flow and load estimates were based on major structure values to the lake which did not include irrigation.
- ²**Water Quality Issues:**
- The TP flow-weighted mean concentrations (FWMC) (154 µg/L) has not changed. However, TP load almost doubled between the pre and post-protection plan periods but there was not a statistically significant difference.
 - The TP unit area load almost doubled between the pre and post-protection plan periods.

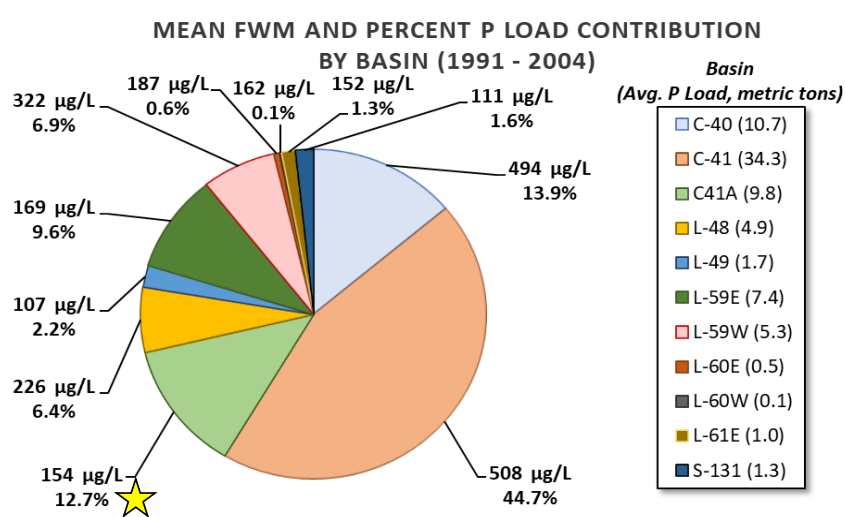
Pre-Protection Plan Flows



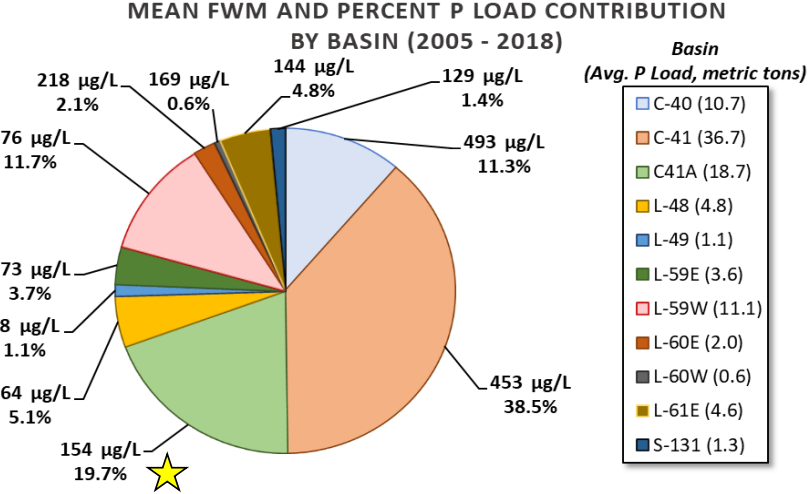
Post-Protection Plan Flows



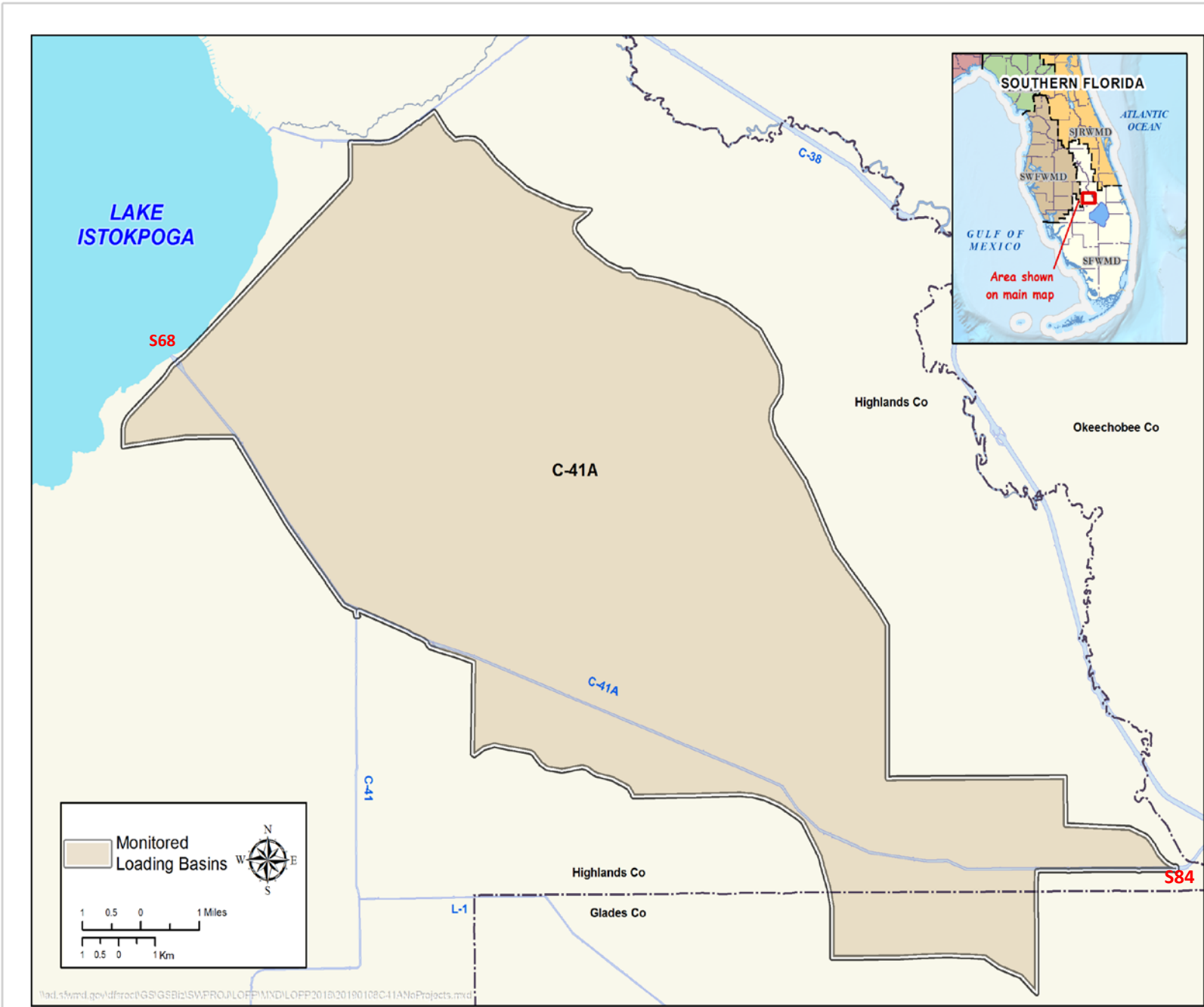
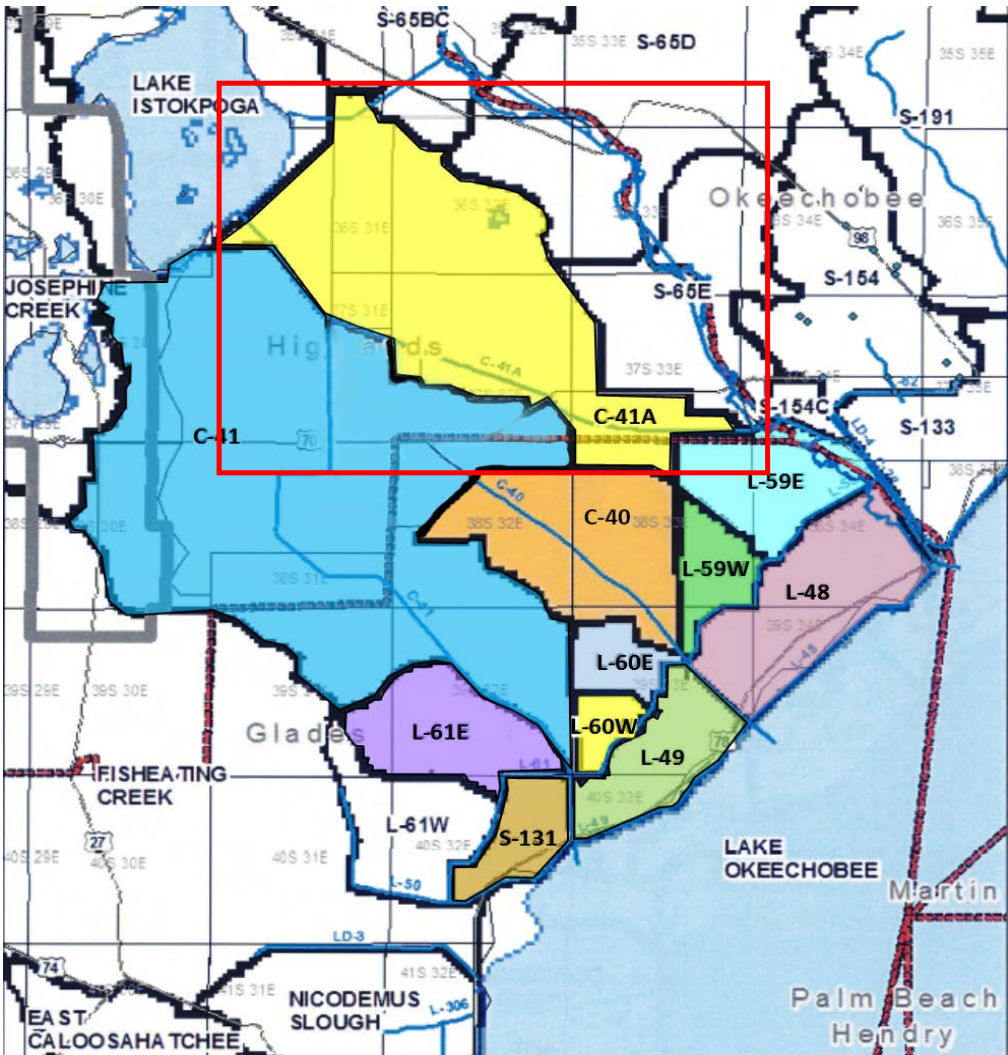
Pre-Protection Plan Loads



Post-Protection Plan Loads



C-41A BASIN - MAP



C-41A BASIN - STATISTICS

Summary Statistics				
	Period of Record	Pre-Protection Plan	Post-Protection Plan	
	WY1991-WY2018	WY1991-WY2004	WY2005-WY2018	
Averages				
Avg. Flow (acft/yr)	74,998	51,580	98,415	
Avg. Load (mt/yr)	14.26	9.77	18.74	
FWMC (ug/L)	154	154	154	
Avg. UAL (lbs/acre/yr)	0.54	0.37	0.72	
Medians				Mann-Whitney Results p-values ³
Median Flow (acft/yr)	65,912	56,205	82,356	0.0731
Median Load (mt/yr)	10.74	9.57	20.11	0.1078
Median FWMC (ug/L)	143.04	137.5	149	0.6132
Median UAL (lbs/acre/yr)	0.41	0.37	0.77	0.1128
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 Indian Prairie - Seasonal Kendall τ Results for Total Monthly Flow (ac-ft) by Basin over Three Water Year Ranges															
Sub-watershed/ <i>Basin</i>	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
<i>C-41A Basin</i>	0.9%	0.140	74.06	121	0.029	1.2%	-0.002	0.00	1107	0.991	0.6%	0.296	303.71	-863	0.006

Sub-watershed Indian Prairie - Seasonal Kendall τ Results for Total Monthly P Load (kg) by Basin over Three Water Year Ranges															
Sub-watershed/ <i>Basin</i>	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
<i>C-41A Basin</i>	0.9%	0.055	1.76	147	0.323	1.2%	0.041	3.78	235	0.671	0.6%	0.186	16.82	11	0.001

Sub-watershed Indian Prairie - Seasonal Kendall τ Results for Monthly FWM TP (μ g/L) by Basin over Three Water Year Ranges															
Sub-watershed/ <i>Basin</i>	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
<i>C-41A Basin</i>	40.2%	0.138	2	96	0.125	39.3%	0.257	6	68	0.002	41.1%	-0.142	-5	180	0.306

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.

C-41A BASIN - MONTHLY DATA AND SKT TRENDS

