

INDIAN PRAIRIE - C-40 BASIN TECHNICAL SHEET

Subwatershed: Indian Prairie		
Basin: C-40	Flow Issues¹: NO	Water Quality Issues²: YES

Monitored Structure(s): S-72

Inflow loads: Lake Istokpoga

Acreage: 24,076

Percentage of Subwatershed Acreage: 9%

Percentage of Lake Okeechobee Watershed: 0.7%

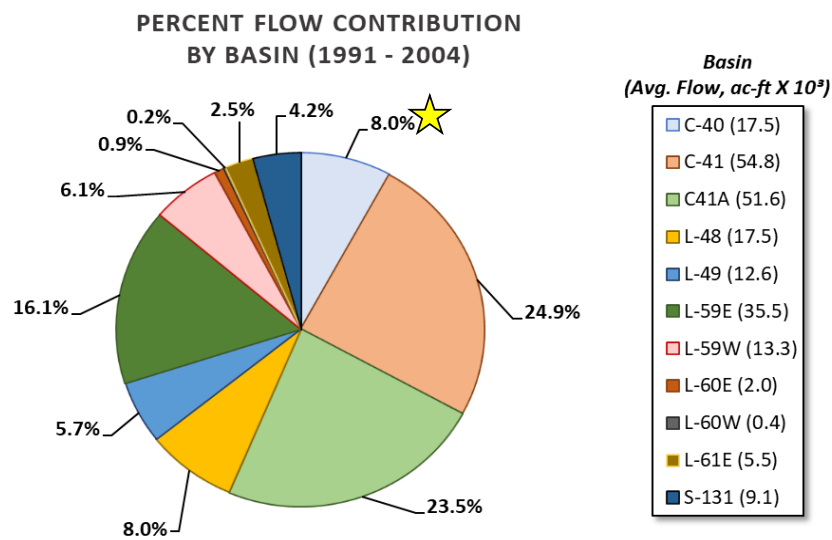
¹Flow Issues:

- 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.
- Flow has slightly increased (not significantly) between pre and post-protection plan periods.
- Flow has a statistically significant increasing trend in the post-protection plan period.
- Although there has been a slight increase in flow and load, this basin is a small contributor to the subwatershed relative to other basins (6% of flows).
- Flow and load estimates were based on samples and measurements taken at major structures within the regional system.

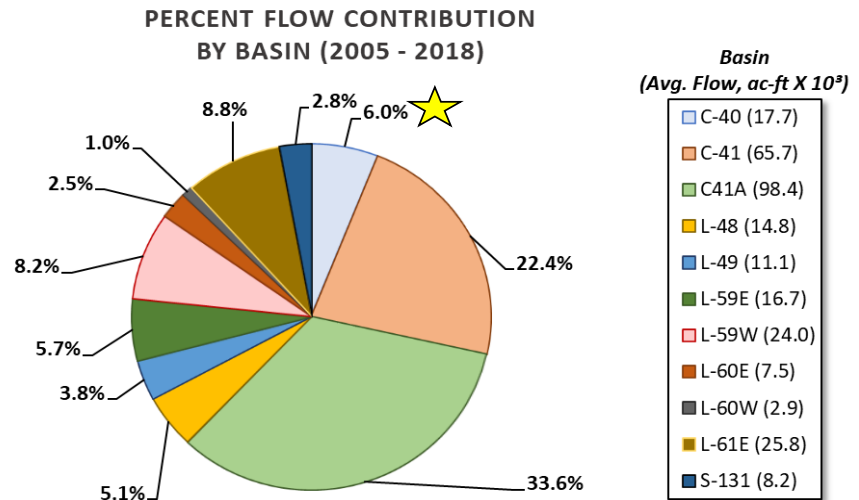
²Water Quality Issues:

- The total phosphorus (TP) load has a statistically significant increasing trend in the post-protection plan period.
- The TP flow-weighted mean concentrations (FWMC) was high relative to other areas with little change between pre and post-protection plan periods (494 µg/L to 493 µg/L).
- There was a slight decrease (not statistically significant) in total phosphorus (TP) median flows-weighted mean concentrations (FWMC) between the pre and post-protection plan period.

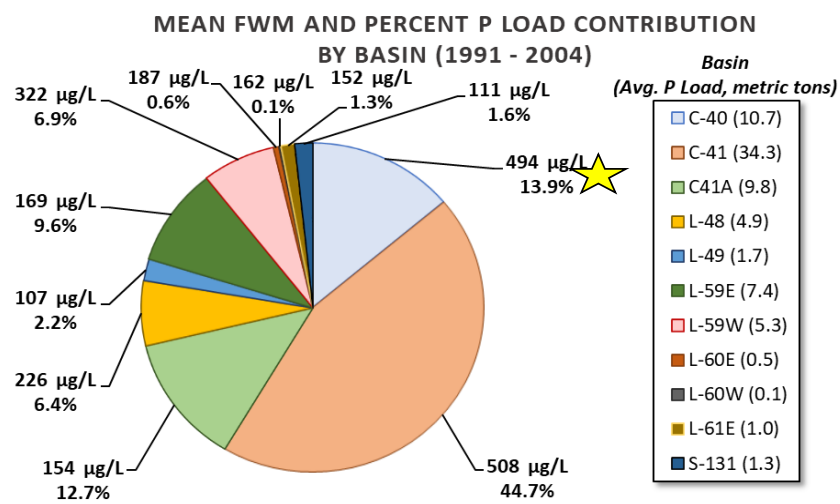
Pre-Protection Plan Flows



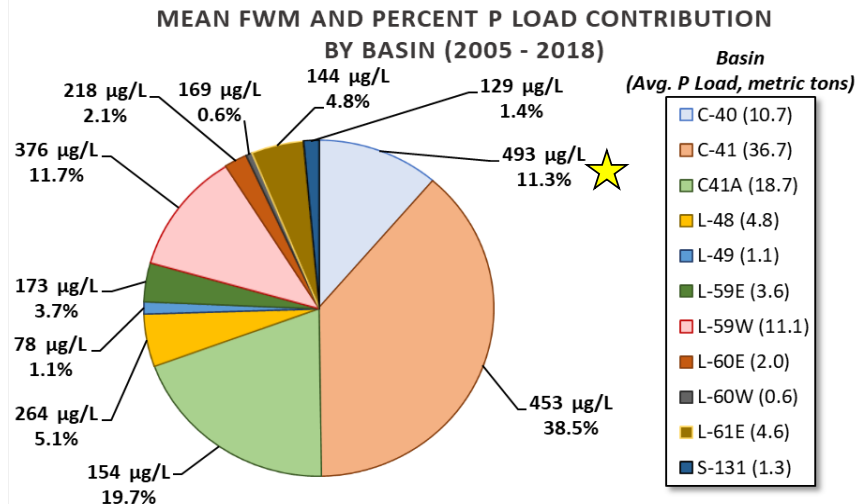
Post-Protection Plan Flows



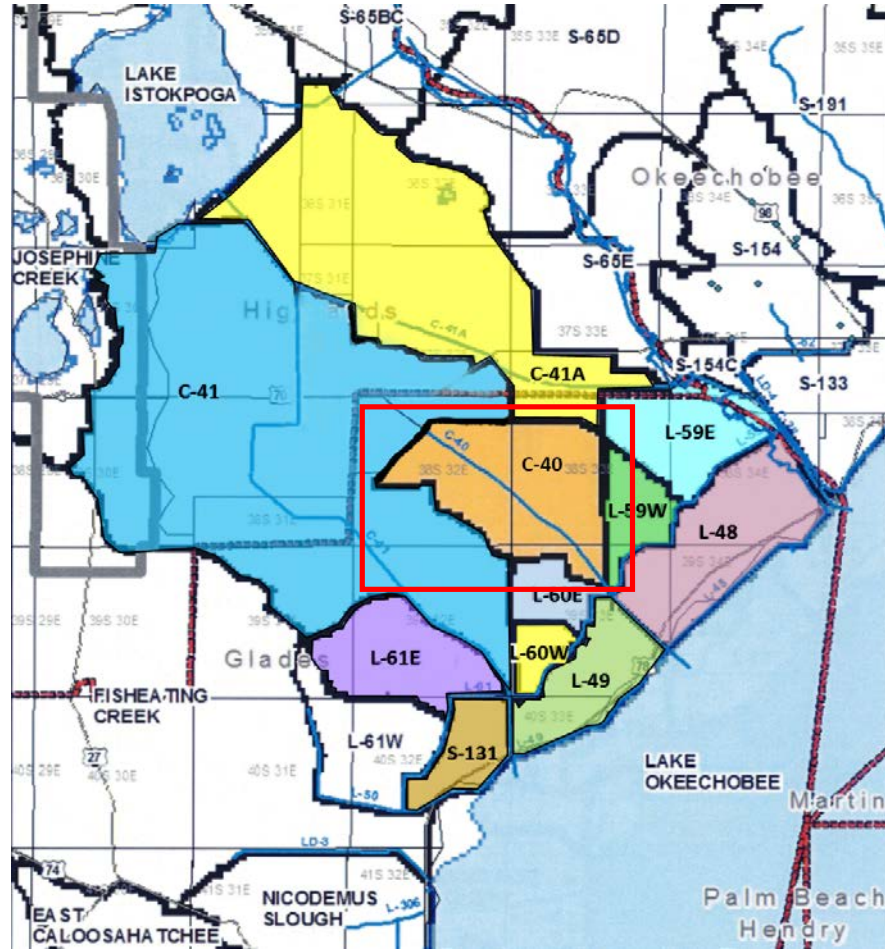
Pre-Protection Plan Loads



Post-Protection Plan Loads



C-40 BASIN - MAP



C-40 BASIN - STATISTICS

Summary Statistics				
	Period of Record	Pre-Protection Plan	Post-Protection Plan	
	WY1991-WY2018	WY1991-WY2004	WY2005-WY2018	
Averages				
Avg. Flow (acft/yr)	17,602	17,526	17,679	
Avg. Load (mt/yr)	10.71	10.67	10.74	
FWMC (ug/L)	493	494	493	
Avg. UAL (lbs/acre/yr)	0.98	0.98	0.98	
Medians				Mann-Whitney Results p-values³
Median Flow (acft/yr)	13,297	16,701	12,458	0.9268
Median Load (mt/yr)	8.21	10.18	6.51	0.3827
Median FWMC (ug/L)	527.57	589.5	475	0.3581
Median UAL (lbs/acre/yr)	0.75	0.93	0.60	0.3952

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/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
C-40 Basin	0.9%	0.054	2.76	226	0.303	1.2%	0.001	0.00	294	1.000	0.6%	0.189	19.15	71	0.022

Sub-watershed Indian Prairie - 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
C-40 Basin	0.9%	-0.059	-1.14	193	0.238	1.2%	-0.001	0.00	288	1.000	0.6%	0.130	2.96	60	0.019

Sub-watershed Indian Prairie - 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
C-40 Basin	39.6%	-0.059	-2	441	0.371	40.5%	0.104	6	408	0.218	38.7%	-0.043	-3	421	0.615

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-40 BASIN - MONTHLY DATA AND SKT TRENDS

