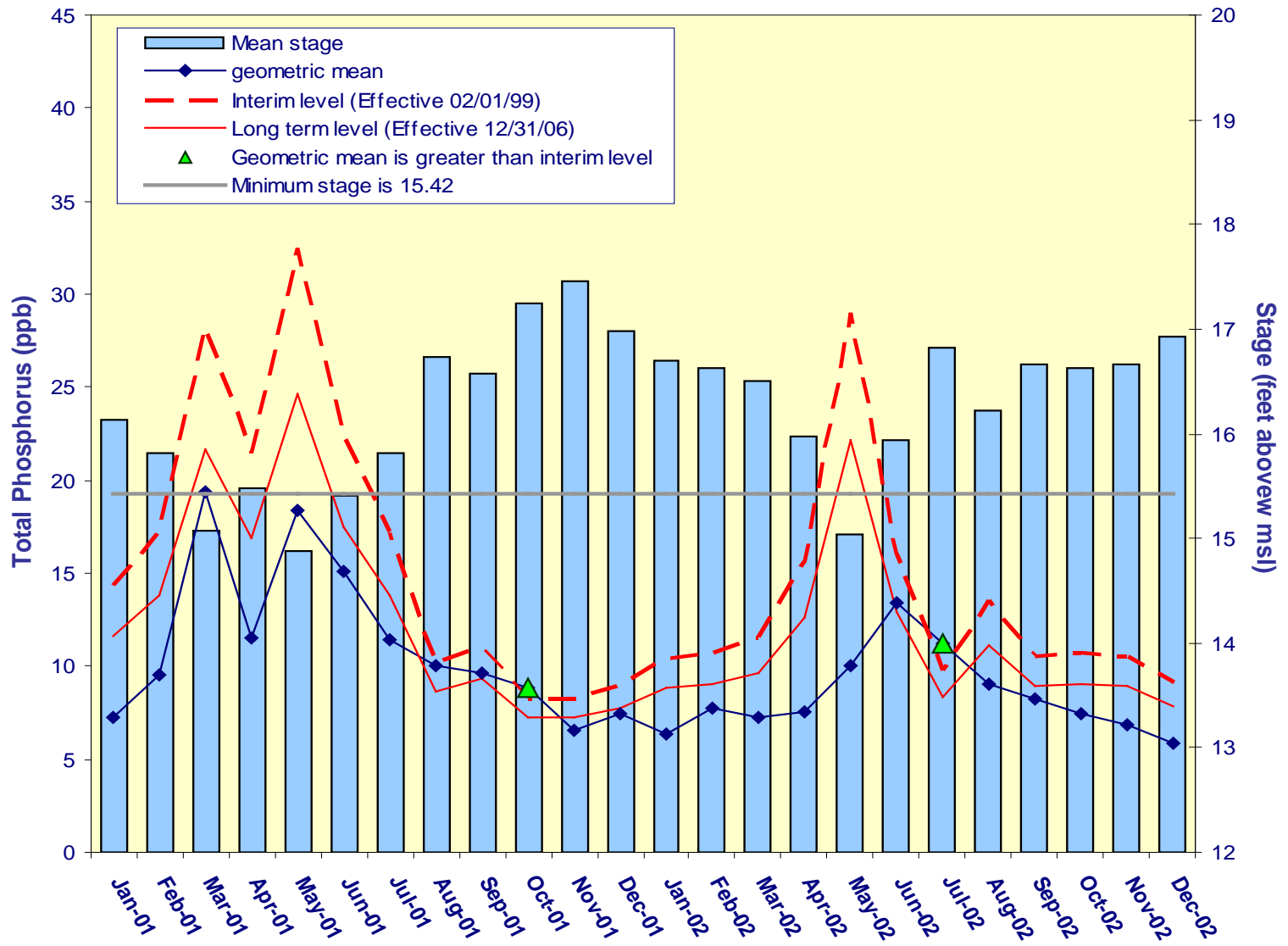


# Settlement Agreement

October - December 2002



**Figure 1.** Monthly total phosphorus geometric mean concentrations for the A.R.M. Loxahatchee National Wildlife Refuge compared to the interim and long-term levels. The calculated level concentrations are adjusted for fluctuations in stage.

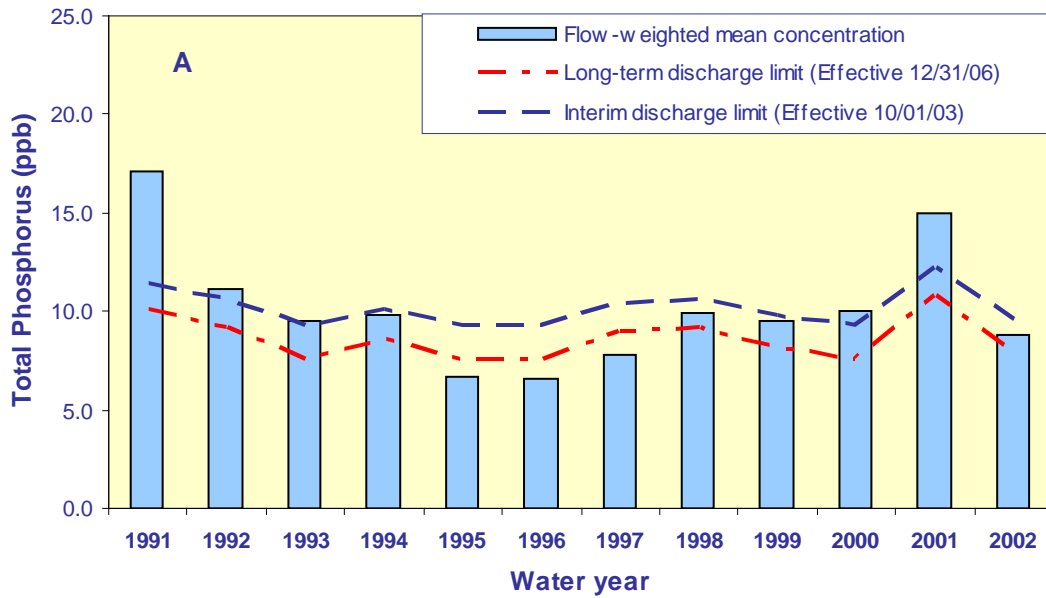
**Table 1.** Loxahatchee National Wildlife Refuge Total Phosphorus Compliance Tracking.

Month - Year	Geometric Mean Concentration	Interim Level (ppb)	Long Term Level (ppb)	Average Stage	Number of TP Samples	Number of Stage Measurements
	(ppb)	Effective 2/1/99	Effective 12/31/06	(ft,NGVD)		
Jan-2001	7.2	14.3	11.7	16.13	8	3
Feb-2001	9.6	17.2	13.8	15.82	9	3
Mar-2001	19.3	0.0	0.0	15.08	2	3
Apr-2001	11.5	21.4	16.9	15.48	6	3
May-2001	18.3	0.0	0.0	14.88	2	3
Jun-2001	15.1	0.0	0.0	15.42	9	3
Jul-2001	11.4	17.2	13.8	15.82	11	3
Aug-2001	10.0	10.1	8.6	16.74	14	3
Sep-2001	9.6	11.1	9.3	16.57	14	3
Oct-2001	8.8	8.3	7.2	17.24	14	3
Nov-2001	6.6	8.3	7.2	17.46	14	3
Dec-2001	7.5	8.9	7.7	16.99	14	3
Jan-2002	6.4	10.4	8.8	16.69	14	3
Feb-2002	7.8	10.7	9.1	16.63	14	3
Mar-2002	7.3	11.5	9.7	16.50	14	3
Apr-2002	7.5	15.6	12.7	15.98	11	3
May-2002	10.0	0.0	0.0	15.04	3	3
Jun-2002	13.4	16.0	12.9	15.94	10	3
Jul-2002	11.2	9.7	8.3	16.82	14	3
Aug-2002	9.0	13.5	11.1	16.22	12	3
Sep-2002	8.2	10.6	8.9	16.66	12	3
Oct-2002	7.5	10.7	9.0	16.64	12	3
Nov-2002	6.9	10.5	8.9	16.66	12	3
Dec-2002	5.9	9.2	7.9	16.93	14	3

Notes:

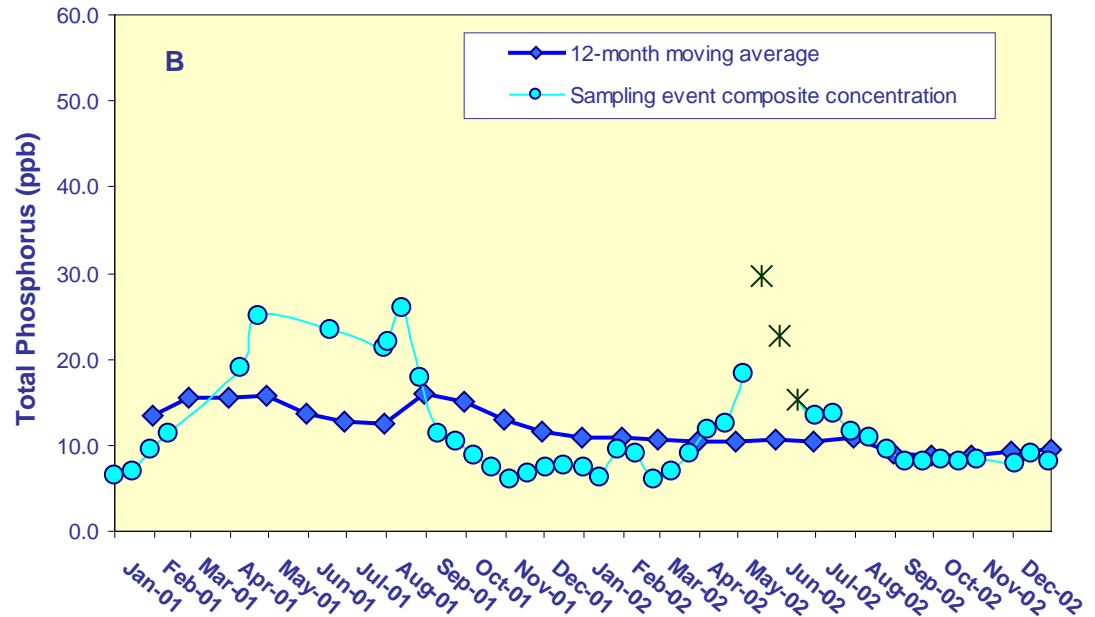
(1) Average Stage is calculated using stage elevations at three stations on the sampling date

(2) Highlighted values indicate months when exceedances occurred



**Figure 2.** Total phosphorus flow-weighted mean concentrations (fwmc) in inflows to Everglades National Park through Shark River Slough. **A.** The 12-month moving average fwmc at the end of each water year compared to the total phosphorus interim and long-term limits.

**B.** The 12-month moving average fwmc at the end of each month and the composite total phosphorus concentration for each sampling event. \* (star): denotes arithmetic average for May-02 and June-02 samples as there was no flow on these sampling dates.

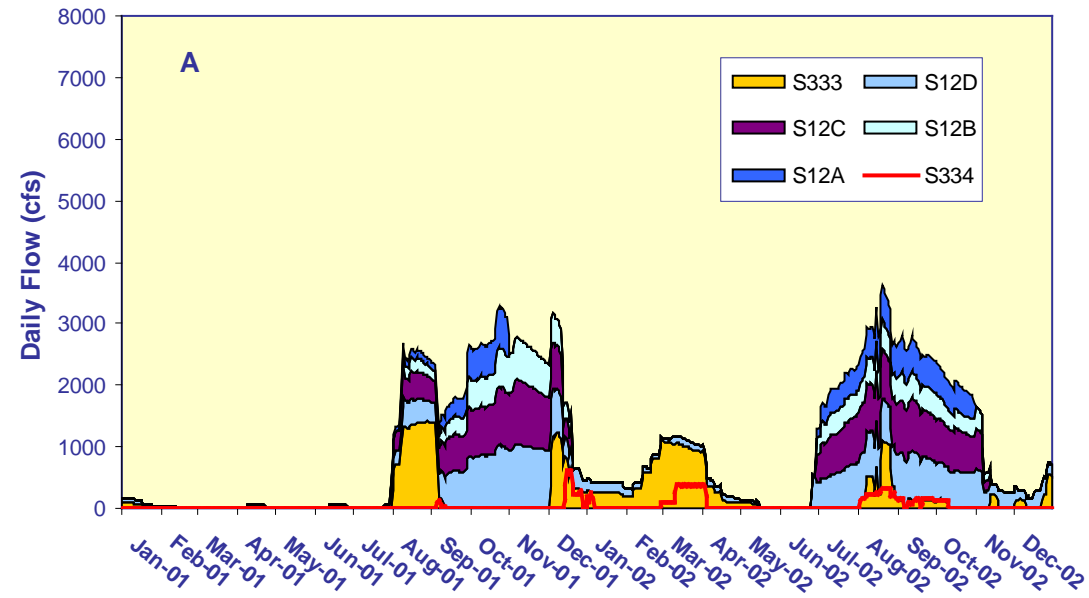


**Table 2.** Shark River Slough  
Total Phosphorus  
Concentration Compliance  
Tracking

12-Month Period Ending On	Total Period Flow	Flow Weighted Mean Total Phosphorus	Interim Limit (ppb)	Long Term Limit (ppb)	Percent of Sampling Events Greater than 10 ppb	
			Effective	Effective	( <i>%</i> )	
	(Kac-ft)	(ppb)	10/1/2003	12/31/2006	Guideline	Observed
31-Jan-01	367.0	13.5	12.5	11.3	59.8	<i>80.0</i>
28-Feb-01	298.4	15.5	12.9	11.7	62.2	<i>85.7</i>
31-Mar-01	275.9	15.6	13.0	11.9	63.1	<i>84.6</i>
30-Apr-01	250.4	15.8	13.2	12.0	64.0	<i>84.6</i>
31-May-01	230.9	13.7	13.3	12.1	64.7	<i>81.8</i>
30-Jun-01	221.0	12.8	13.3	12.2	65.1	<i>80.0</i>
31-Jul-01	212.8	12.5	13.4	12.2	65.4	<i>78.9</i>
31-Aug-01	324.0	16.0	12.8	11.6	61.3	<i>78.9</i>
30-Sep-01	419.7	15.0	12.2	11.0	57.9	<i>78.9</i>
31-Oct-01	502.4	13.0	11.8	10.5	55.2	<i>68.4</i>
30-Nov-01	599.2	11.5	11.3	10.0	52.1	<i>57.9</i>
31-Dec-01	677.9	11.0	10.9	9.6	49.8	<i>52.6</i>
31-Jan-02	695.1	10.9	10.8	9.5	49.3	<i>52.6</i>
28-Feb-02	728.3	10.7	10.7	9.3	48.3	45.0
31-Mar-02	779.2	10.5	10.5	9.0	46.9	40.9
30-Apr-02	797.1	10.5	10.4	8.9	46.4	40.9
31-May-02	800.7	10.6	10.4	8.9	46.3	43.5
30-Jun-02	806.8	10.5	10.4	8.9	46.2	40.9
31-Jul-02	925.7	10.9	9.9	8.3	43.2	<i>45.8</i>
31-Aug-02	956.7	9.1	9.7	8.1	42.5	39.1
30-Sep-02	996.3	8.8	9.6	7.9	41.6	30.4
31-Oct-02	945.7	8.9	9.8	8.2	42.7	30.4
30-Nov-02	830.3	9.3	10.3	8.8	45.6	31.8
31-Dec-02	758.0	9.5	10.6	9.1	47.5	30.4

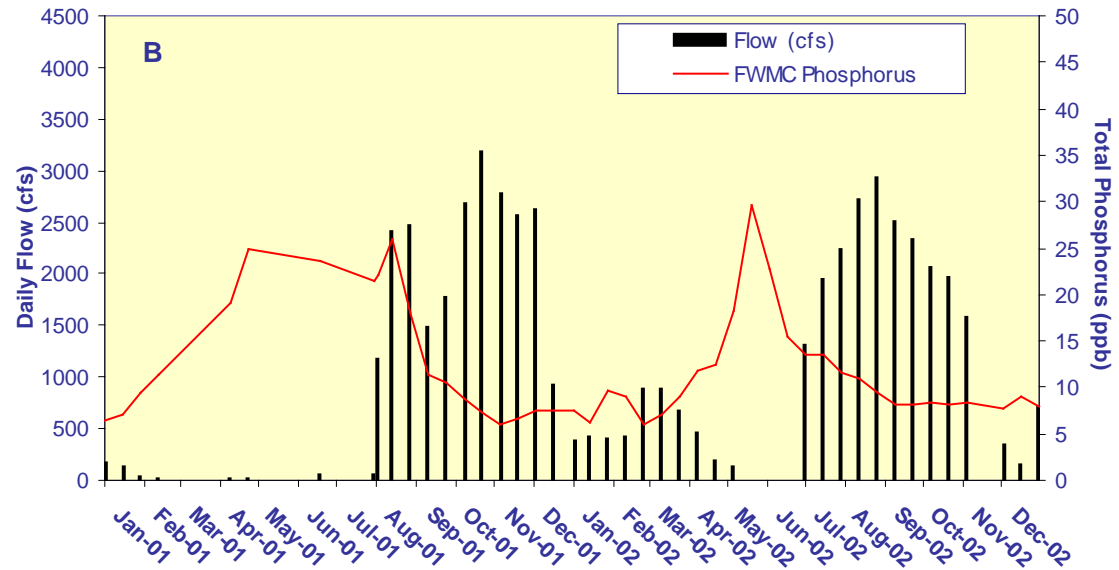
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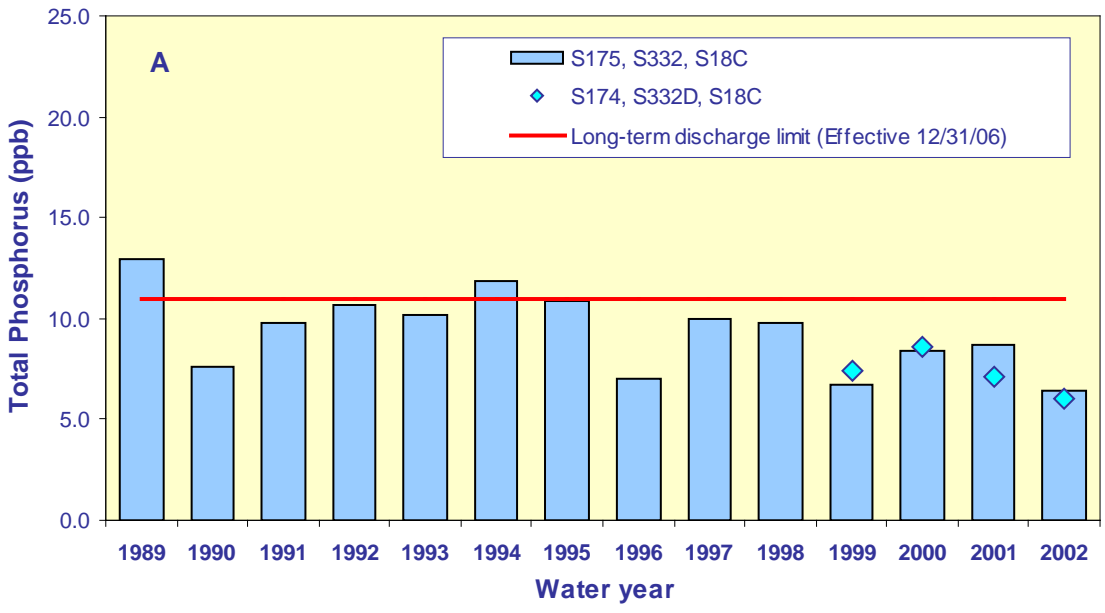
*Italicized values exceeded allowed percentage*



**Figure 3.A.** Daily flows into Shark River Slough by structure.

**Figure 3.B.** The relationship between daily flow at Shark River Slough structures and the corresponding flow-weighted mean total phosphorus concentrations for individual sampling events.

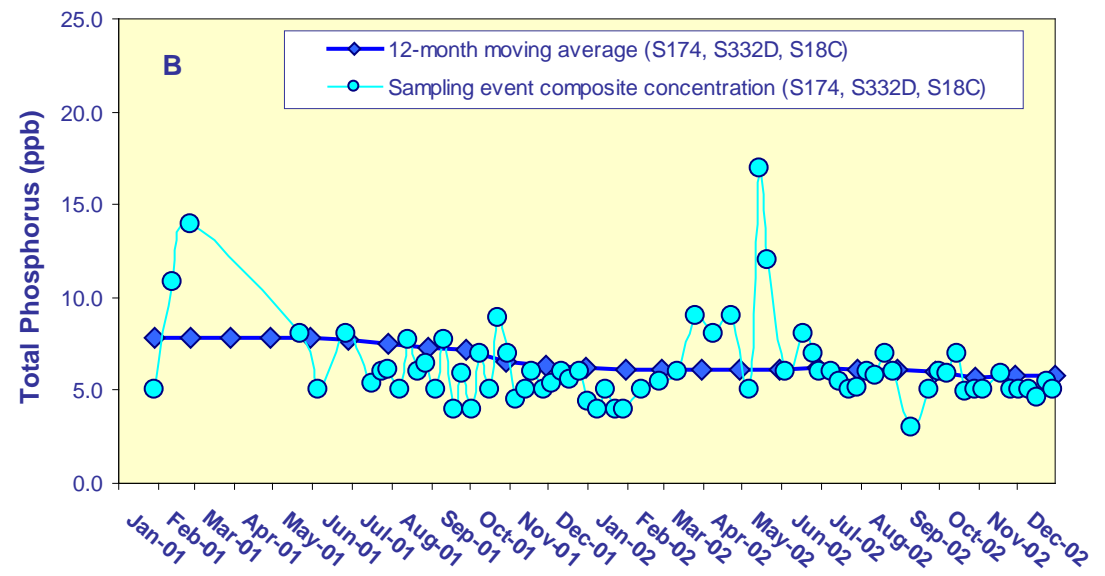




**Figure 4.** Total phosphorus flow-weighted mean concentrations (fwmc) in inflows to Everglades National Park through Taylor Slough and the Coastal Basins.

**A.** The 12-month moving average fwmc at the end of each water year compared to the 11 ppb long-term total phosphorus limit.

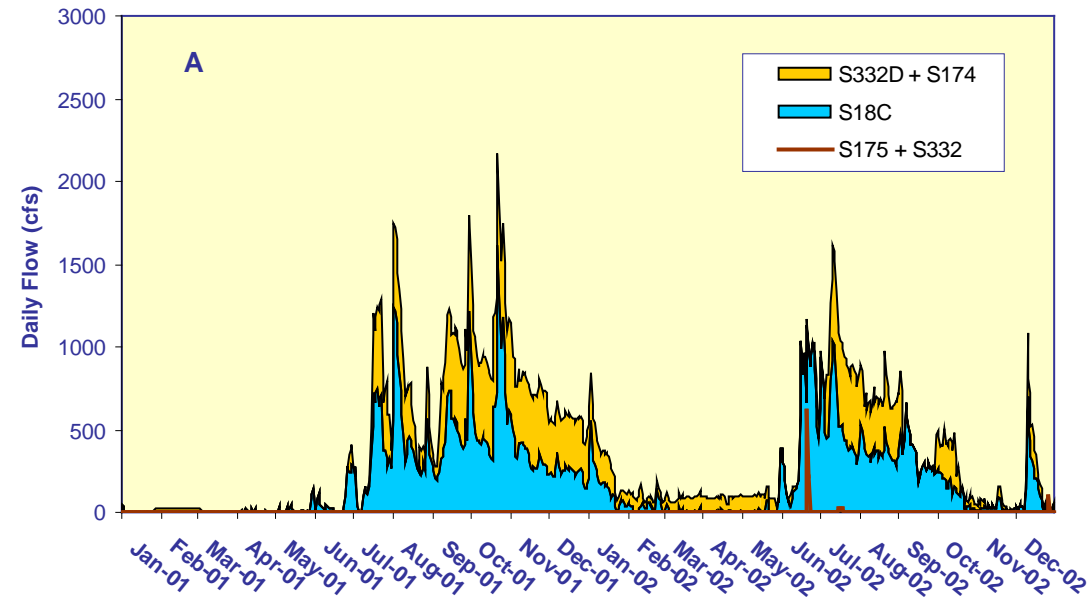
**B.** The 12-month moving average fwmc at the end of each month and the composite total phosphorus concentration for each sampling event.



**Table 3.** Taylor Slough and the Coastal Basins Total Phosphorus Concentration Compliance Tracking

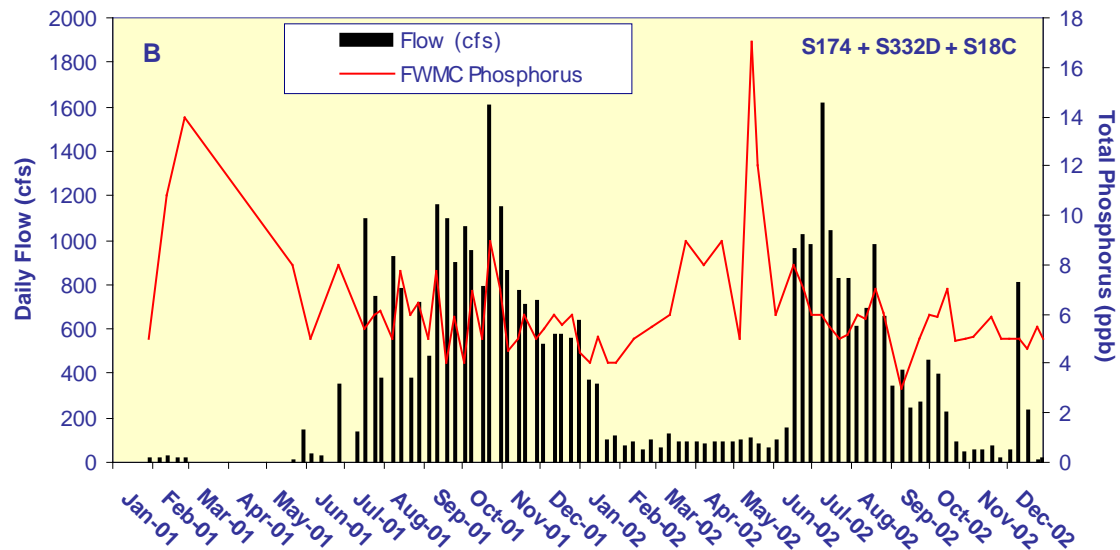
12-Month Period Ending On	Total Period Flow	Flow Weighted Mean Total Phosphorus	Limit (Effective 12/31/06)	Percent of Sampling Events Greater than 10 ppb	
			(ppb)	(%)	
	(Kac-ft)	(ppb)	Long Term	Guideline	Observed
31-Jan-01	307.9	7.8	11.0	53.1	15.4
28-Feb-01	281.6	7.9	11.0	53.1	21.6
31-Mar-01	269.5	7.9	11.0	53.1	22.9
30-Apr-01	260.1	7.9	11.0	53.1	20.6
31-May-01	254.1	7.8	11.0	53.1	12.9
30-Jun-01	249.0	7.8	11.0	53.1	10.0
31-Jul-01	243.0	7.5	11.0	53.1	10.7
31-Aug-01	237.1	7.3	11.0	53.1	11.5
30-Sep-01	235.1	7.2	11.0	53.1	11.5
31-Oct-01	235.2	6.5	11.0	53.1	8.0
30-Nov-01	269.7	6.3	11.0	53.1	7.4
31-Dec-01	296.5	6.2	11.0	53.1	6.7
31-Jan-02	316.0	6.1	11.0	53.1	5.9
28-Feb-02	320.6	6.1	11.0	53.1	0.0
31-Mar-02	325.9	6.1	11.0	53.1	0.0
30-Apr-02	331.1	6.1	11.0	53.1	0.0
31-May-02	336.4	6.1	11.0	53.1	5.0
30-Jun-02	364.3	6.2	11.0	53.1	4.9
31-Jul-02	392.1	6.1	11.0	53.1	4.7
31-Aug-02	388.3	6.1	11.0	53.1	4.7
30-Sep-02	357.1	6.0	11.0	53.1	4.9
31-Oct-02	301.2	5.7	11.0	53.1	4.8
30-Nov-02	256.9	5.8	11.0	53.1	5.0
31-Dec-02	235.1	5.8	11.0	53.1	4.9

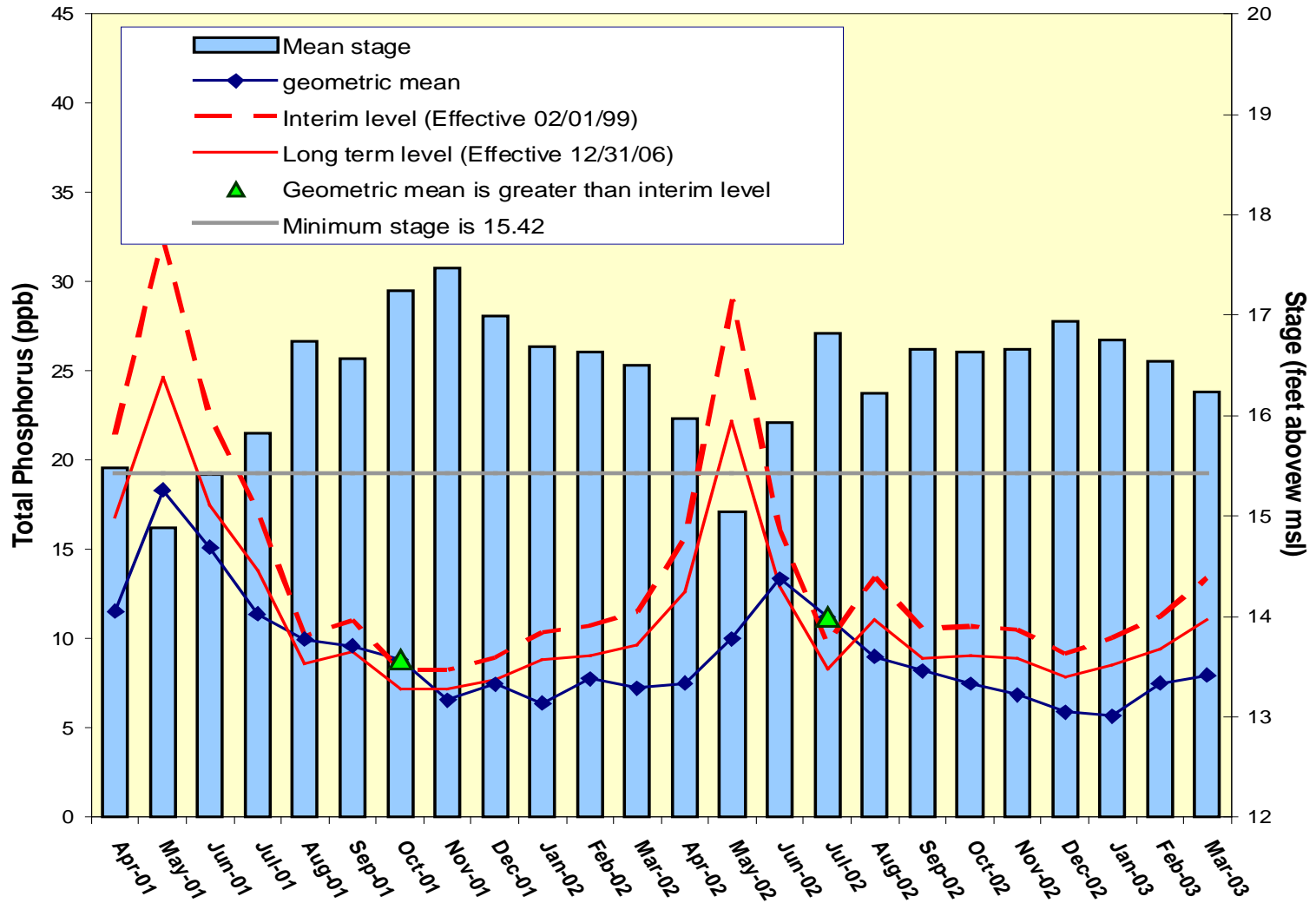




**Figure 5. A.** Daily flows into Everglades National Park through Taylor Slough and S18C.

**B.** The relationship between daily flows at Taylor Slough structures and S18C and the corresponding flow-weighted mean total phosphorus concentrations for individual sampling events.





**Figure 6.** Monthly total phosphorus geometric mean concentrations for the A.R.M. Loxahatchee National Wildlife Refuge compared to the interim and long-term levels. The calculated level concentrations are adjusted for fluctuations in stage.

**Table 4.** Loxahatchee National Wildlife Refuge Total Phosphorus Compliance Tracking.

Month - Year	Geometric Mean Concentration (ppb)	Interim Level (ppb)	Long Term Level (ppb)	Average Stage (ft,NGVD)	Number of TP Samples	Number of Stage Measurements
		Effective 2/1/99	Effective 12/31/06			
Apr-2001	11.5	21.4	16.9	15.48	6	3
May-2001	18.3	0.0	0.0	14.88	2	3
Jun-2001	15.1	0.0	0.0	15.42	9	3
Jul-2001	11.4	17.2	13.8	15.82	11	3
Aug-2001	10.0	10.1	8.6	16.74	14	3
Sep-2001	9.6	11.1	9.3	16.57	14	3
Oct-2001	8.8	8.3	7.2	17.24	14	3
Nov-2001	6.6	8.3	7.2	17.46	14	3
Dec-2001	7.5	8.9	7.7	16.99	14	3
Jan-2002	6.4	10.4	8.8	16.69	14	3
Feb-2002	7.8	10.7	9.1	16.63	14	3
Mar-2002	7.3	11.5	9.7	16.50	14	3
Apr-2002	7.5	15.6	12.7	15.98	11	3
May-2002	10.0	0.0	0.0	15.04	3	3
Jun-2002	13.4	16.0	12.9	15.94	10	3
Jul-2002	11.2	9.7	8.3	16.82	14	3
Aug-2002	9.0	13.5	11.1	16.22	12	3
Sep-2002	8.2	10.6	8.9	16.66	12	3
Oct-2002	7.5	10.7	9.0	16.64	12	3
Nov-2002	6.9	10.5	8.9	16.66	12	3
Dec-2002	5.9	9.2	7.9	16.93	14	3
Jan-2003	5.7	10.0	8.5	16.76	13	3
Feb-2003	7.5	11.3	9.5	16.54	11	3
Mar-2003	8.0	13.4	11.0	16.23	9	3

Notes:

(1) Average Stage is calculated using stage elevations at three stations on the sampling date

(2) Highlighted values indicate months when exceedances occurred