

**Quarterly Communications Meeting on the
Long-Term Plan for Achieving Water Quality Goals for
Everglades Protection Area Tributary Basins**

August 25, 2011

**WY2011 STORMWATER
TREATMENT AREA
Performance Summary**

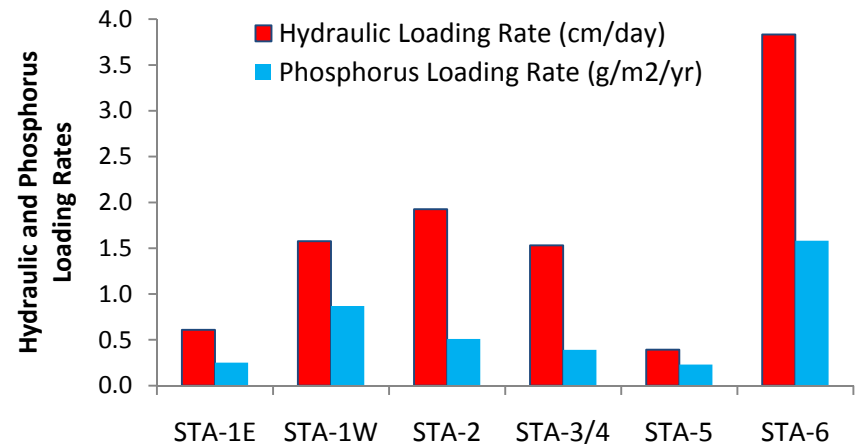
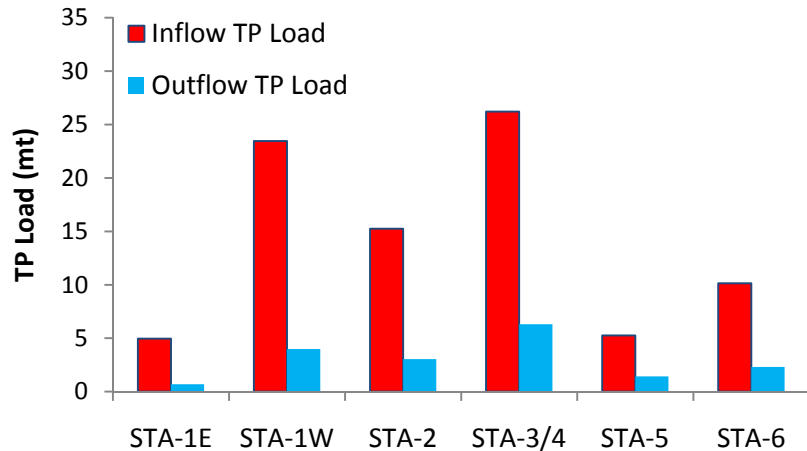
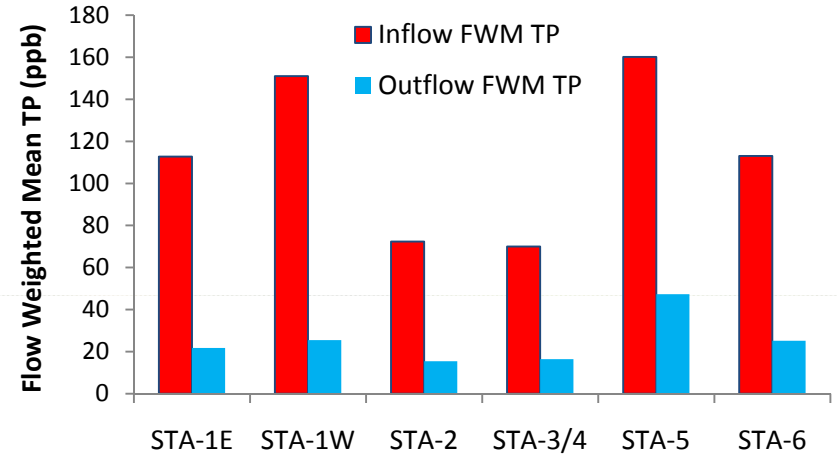
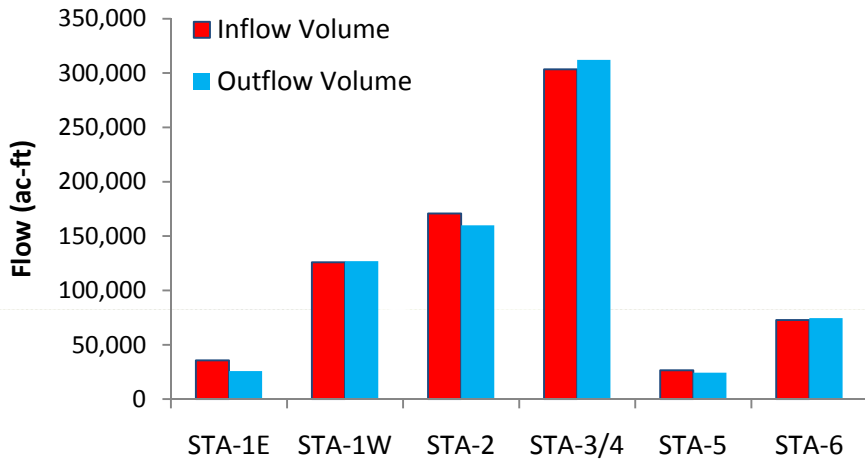
Delia Ivanoff

Senior Supervising Environmental Scientist

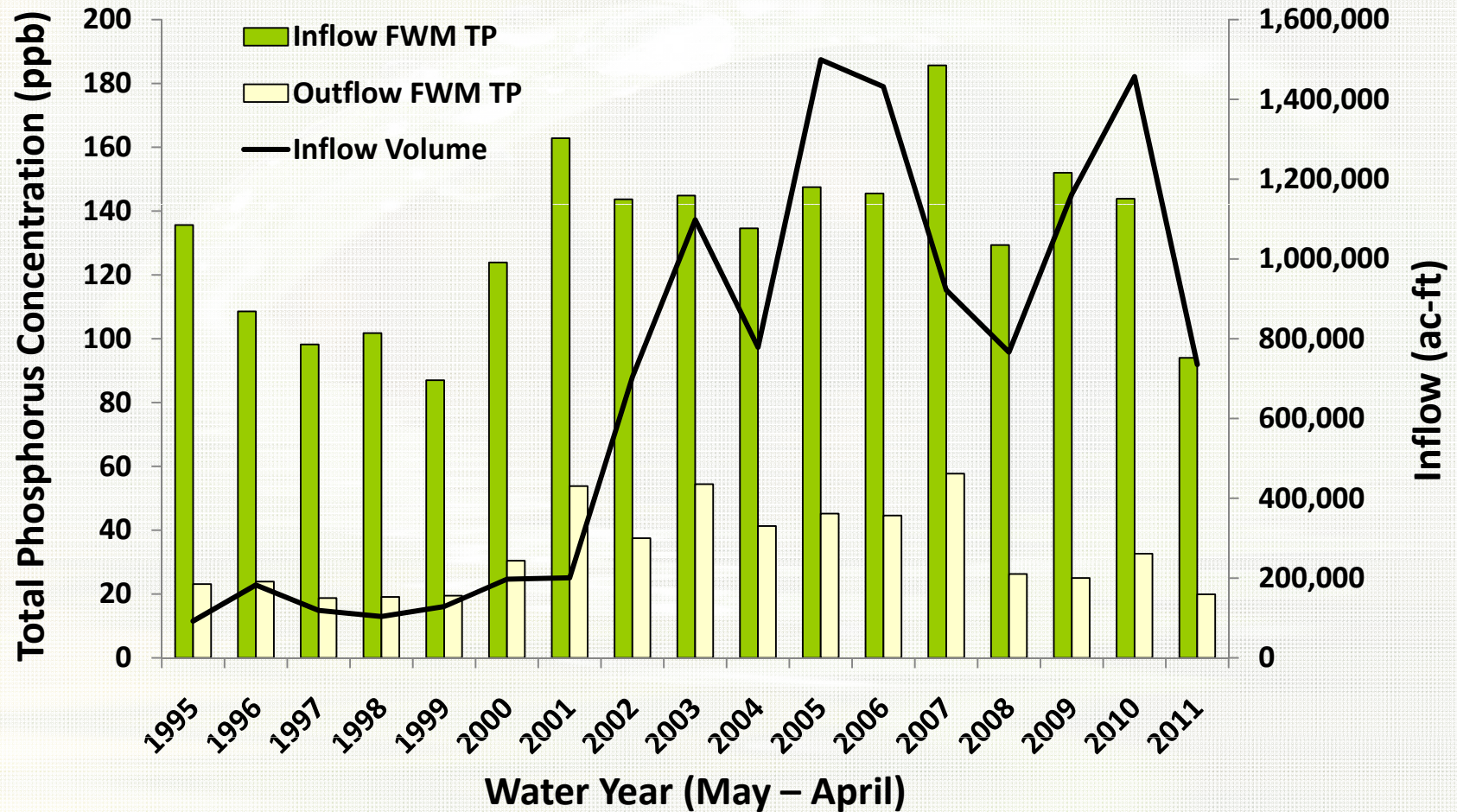
Applied Sciences Bureau

Water Resources Division

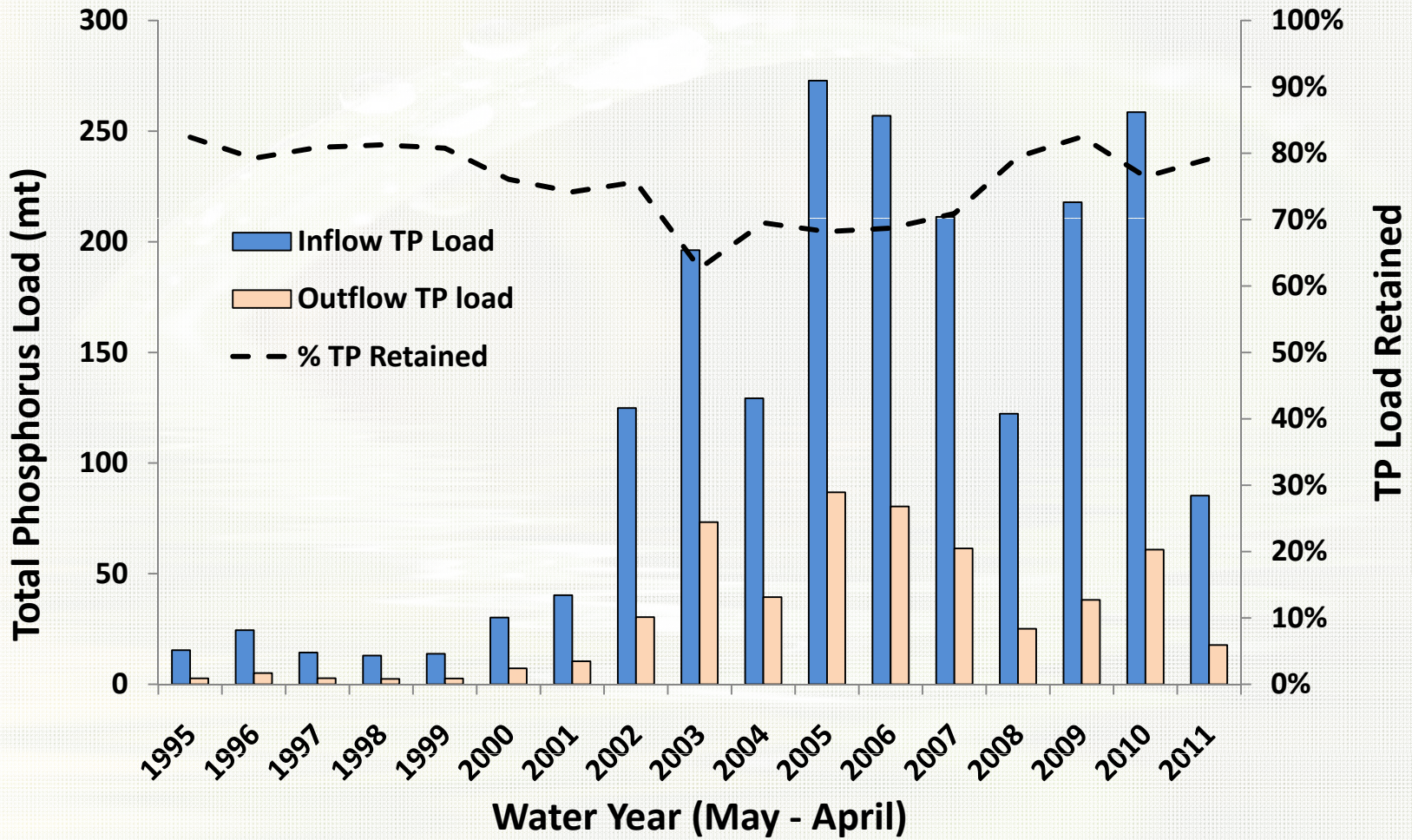
WY2011 STA Performance Summary



Period of Record Flow vs. Concentration

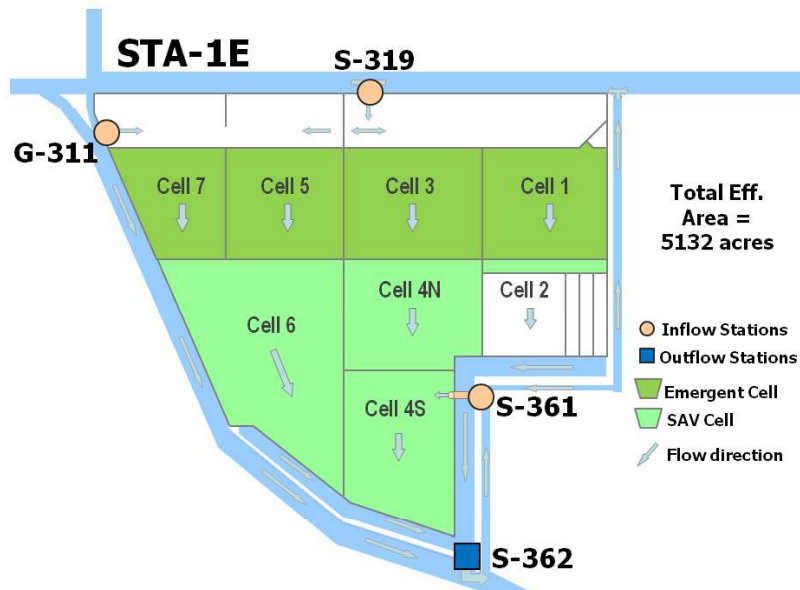


Period of Record TP Load vs. TP Retention



STA-1E Flow-Ways

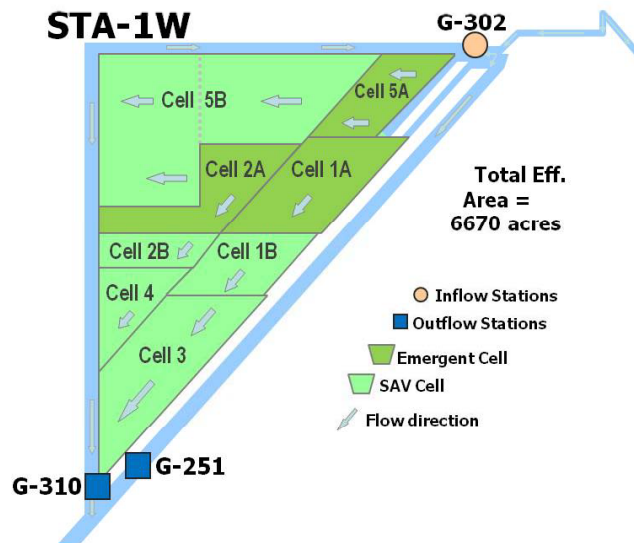
Flow-way	Water Year	PLR g/m ² /yr	HLR cm/day	Total Inflow ac-ft	Inflow FWM TP ppb	Total Outflow ac-ft	Outflow FWM TP ppb	P Retention %	k m/yr
Central FW	2010	0.894	0.975	23186	251	30570	55	71%	6.2
	2011	0.126	0.288	6859	120	10594	45	42%	1.3
Western FW	2010	1.598	1.839	44871	238	42686	312	-24%	-1.8
	2011	0.016	0.057	1390	77	472	142	37%	-



- Structural issues
- Eastern Flow-way restrictions
- Elevation issues → poor vegetation establishment
- Impacts from hydrilla die off in WY2010

STA-1W Flow-Ways

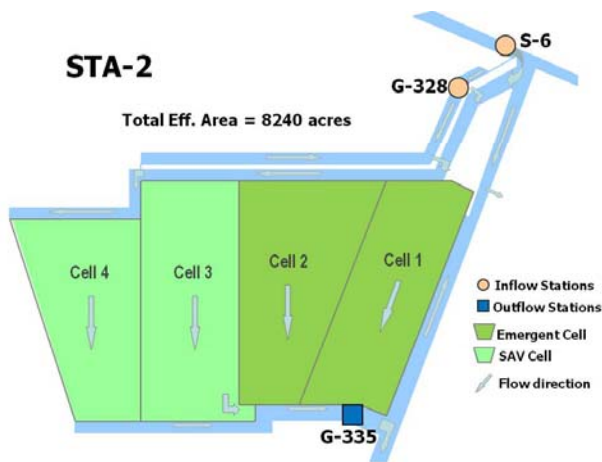
Flow-way	Water Year	PLR g/m ² /yr	HLR cm/day	Total Inflow ac-ft	Inflow FWM TP ppb	Total Outflow ac-ft	Outflow FWM TP ppb	P Retention %	k m/yr
Northern FW	2010	2.277	2.535	86664	246	106653	37	82%	19.6
	2011	1.101	2.040	69759	148	75898	21	85%	15.4
Western FW	2010	3.492	4.581	71262	209	52595	58	80%	18.6
	2011	1.134	2.095	32590	148	24890	25	87%	11.9
Eastern FW	2010	3.175	4.146	120645	210	65306	36	91%	20.5
	2011	1.092	2.182	63486	137	34267	24	91%	10.8



- Lower HLR and PLR than WY2010
- Enhancements in the Eastern FW
 - Flow improvements in Cell 3
- Additional bulrush planting in Cell 5A open areas

STA-2 Flow-Ways

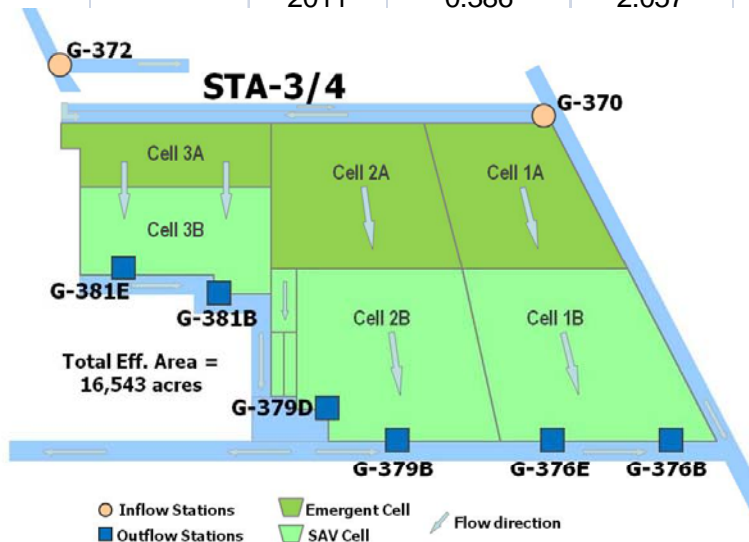
Flow-way	Water Year	PLR g/m ² /yr	HLR cm/day	Total Inflow ac-ft	Inflow FWM				
					TP ppb	Total Outflow ac-ft	FWM TP ppb	Retained %	k m/yr
Cell 1	2010	1.175	2.729	58750	118	66938	39	62%	11.7
Cell 1	2011	0.398	1.236	26605	88	32269	12	84%	10.0
Cell 2	2010	2.204	4.531	123175	133	141294	62	47%	13.6
Cell 2	2011	0.890	2.417	65697	101	68712	19	81%	15.2
Cell 3	2010	1.888	4.708	127972	110	124505	17	85%	31.2
Cell 3	2011	0.757	2.571	69891	81	67747	15	82%	15.5
Cell 4	2010	1.088	2.772	63130	108	58908	25	78%	14.1
Cell 4	2011	0.008	0.051	1168	44	12071	35	-	-



- STA-2 Cell 2 Conversion
- Cell 1 intermittent dryout
- Cell 4 – online with restrictions part of WY2011, then offline for Compartment B construction

STA-3/4 Flow-Ways

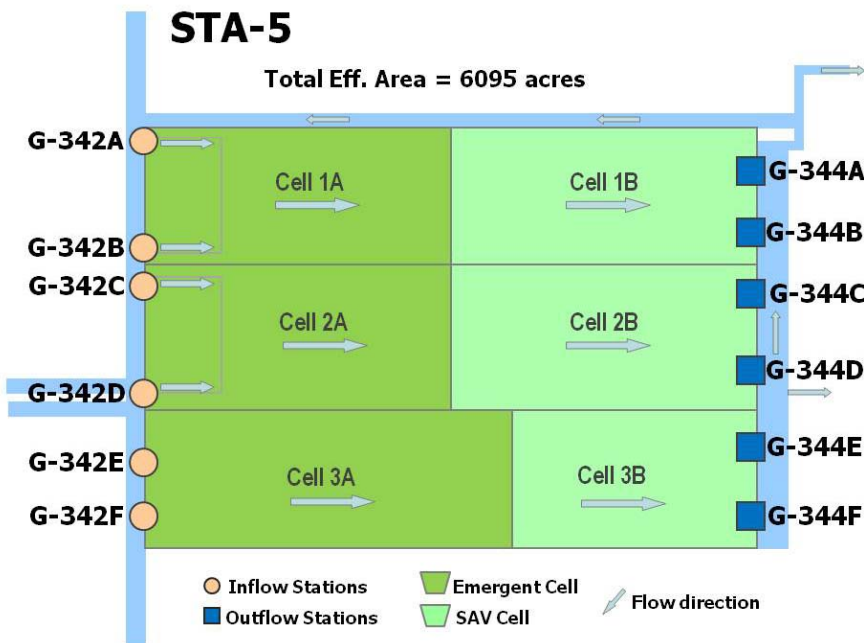
Flow-way	Water Year	PLR g/m ² /yr	HLR cm/day	Total Inflow ac-ft	Inflow FWM TP ppb	Total Outflow ac-ft	Outflow FWM TP ppb	P Retention %	k m/yr
Eastern FW	2010	2.057	5.524	201018	102	227948	13	85%	20.3
	2011	0.793	2.574	93679	84	102716	17	79%	7.5
Central FW	2010	1.633	5.827	212059	77	197200	17	80%	17.5
	2011	0.506	2.629	95680	53	90663	21	62%	4.8
Western FW	2010	1.017	4.003	219526	70	337879	41	10%	9.9
	2011	0.386	2.057	112832	51	143704	27	33%	5.5



- High HLRs – WY11 < WY10
- Chronic deep water impacts on Cell 1A and Cell 2A vegetation
 - Cell 1A dewatered
- Cell 2A water levels naturally receded due to drought
- PSTA Implementation

STA-5 Flow-Ways

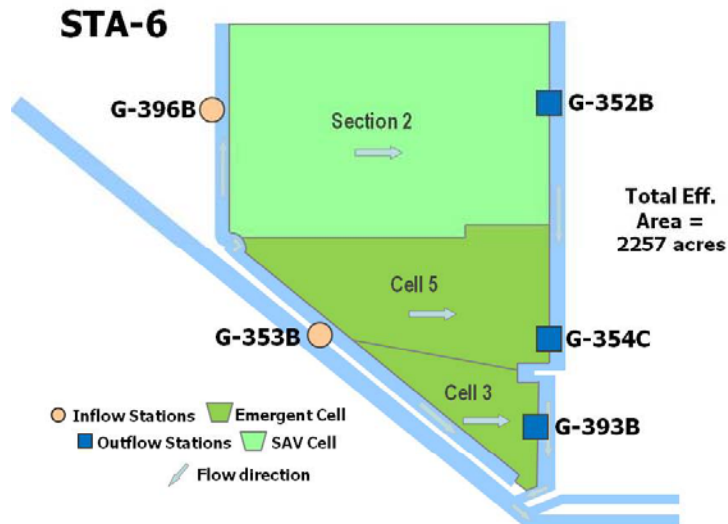
Flow-way	Water Year	PLR	HLR	Total Inflow ac-ft	Inflow FWM TP ppb	Total Outflow ac-ft	Outflow FWM TP ppb	P Retention %	k m/yr
		g/m ² /yr	cm/day						
FW 1	2010	0.552	1.235	30386	122	28596	56	57%	3.4
	2011	0.418	1.361	33483	84	16926	41	76%	2.7
FW 2	2010	1.829	2.920	71846	172	67742	48	74%	13.2
	2011	0.207	0.381	9381	149	4618	54	82%	1.1



- FW3 – offline part of WY2011 and online with restrictions the remainder of WY2011
- Kite nesting – April to October 2010
 - Impacted operation of both STA-5 and STA-6
- Dryout – repeated cycles of dry and wet condition; Cells 1A, 2A, and FW 3 dried out in WY2011

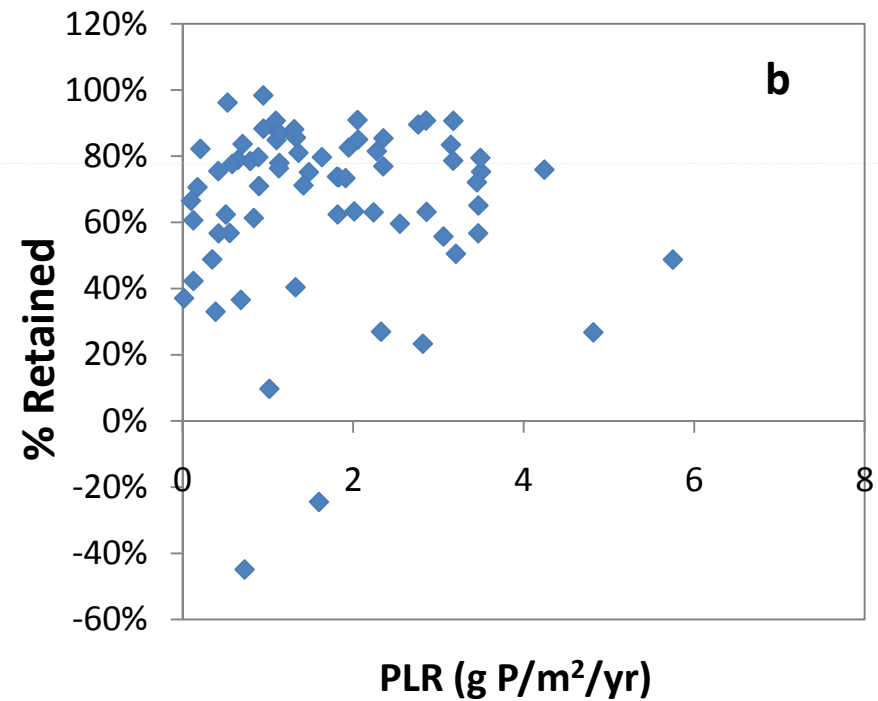
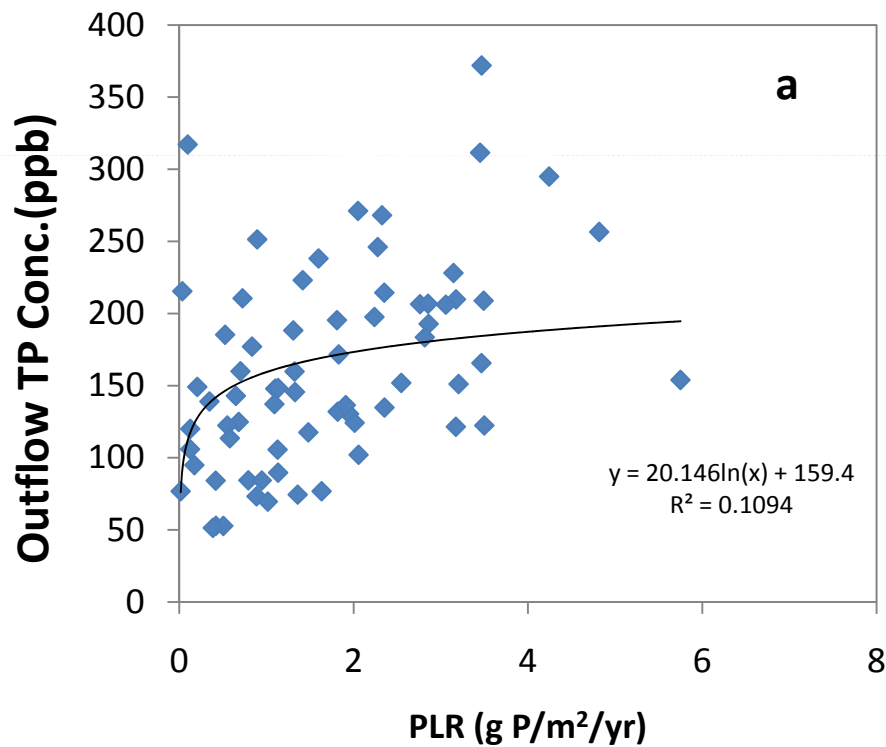
STA-6 Flow-Ways

Flow-way	Water Year	PLR g/m ² /yr	HLR cm/day	Total Inflow ac-ft	Inflow FWM TP ppb	Total Outflow ac-ft	Outflow FWM TP ppb	P Retention %	k m/yr
Cell 3	2010	2.031	5.472	16053	102	3518	43	91%	10.5
	2011	1.199	3.480	10209	94	4496	16	92%	16.2
Cell 5	2010	1.447	3.831	28674	103	11058	26	90%	13.4
	2011	0.635	1.563	11701	111	7863	17	90%	9.0
Section 2	2010	2.012	4.438	73711	124	61261	55	63%	12.1
	2011	1.481	3.448	57274	118	62233	27	75%	19.4

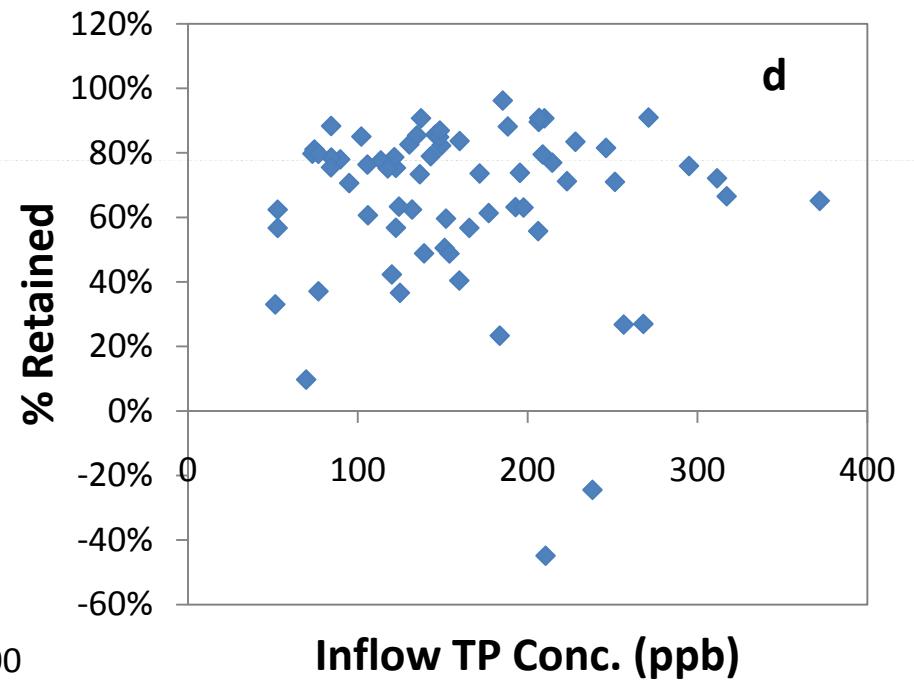
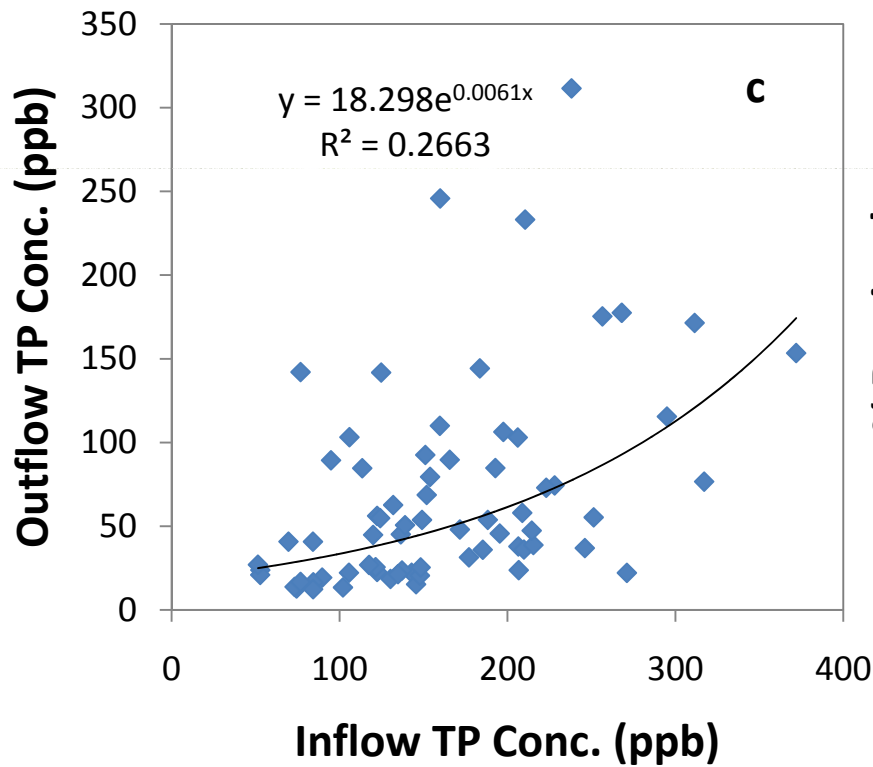


- Received Comp. C dewatering
- Received additional C139 runoff due to STA-5 restrictions
- Section 2 – offline from November 2010
- Dryout – yearly cycles of dryout and reflooding; dried out in WY2011

Effects of Phosphorus Loading Rates



Effects of Inflow TP Concentration



WY2011 STA Performance Summary

Questions?