

Supporting Information

Phosphorus and Water Budgets in an Agricultural Basin

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This Supporting Information has a total number of pages of 9 with 3 Tables and 4 Figures.

Figure Legends

Figure S1. Everglades Agricultural Area flow control structures for WYs 2006-2012.

EAA is the Everglades Agricultural Area, STA stands for the Stormwater Treatment Area,

WCA stands for Water Conservation Area, part of the Everglades Protection Area (EvPA).

SSDD, ESWCD, EBWCD and SFCD represent the South Shore Drainage District, the East

Shore Water Control District, the East Beach Water Control District, and the South Florida

Conservancy District, respectively.

Figure S2. Everglades Agricultural Area flow control structures for WY 2005.

EAA is the Everglades Agricultural Area, STA stands for the Stormwater Treatment Area,

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Figure S3. Relationship between canal P attenuation (ΔS_c) and P inputs from drainage for the four canals during the eight water years. Slope is significantly different from zero with $p < 0.0001$.

Figure S4. Percentage contribution of the surface inflow, atmospheric deposition and net import to the total P load into the Everglades Agricultural Area.

28 Table S1. Site names, structures and period of record used for the P load calculations.

Sub-Basin	Site Name	Flow Data Sources				Water Quality Station
		DBKEY	Recorder	Type	Period of Record	
S-5A	EBPS3	LX274	PREF	Pump	7/1/2001-4/30/2013	EBEACH
	S5A+S5AW	15031	PREF	Pump	7/1/1999-4/30/2013	S5A
	HGS5X	15068	PREF	Spillway	1/1/1963-4/30/2013	S352
S-2/S-6	S6	15034	PREF	Pump	1/1/1963-4/30/2013	S6
	G328	J0718	PREF	Pump	4/1/2000-4/30/2013	G328
	S2	15021	PREF	Pump	1/1/1963-4/30/2013	S2
	ESPS	LX273	PREF	Pump	12/20/2001-4/30/2012	ESHORE2
S-2/S-7	G370	TA438	PREF	Pump	10/1/2003-4/30/2013	G370
	S7	15037	PREF	Culvert	01/1/1963-3/31/2013	S7
	S150	15041	PREF	Culvert	01/1/1969-3/31/2013	S150
	G376B	TA582	PREF	Culvert	10/1/2003-3/31/2013	G376B
	G376E	TA583				G376E
	G379B	TA584	PREF	Culvert	10/1/2003-3/31/2013	G379B
	G379D	TA585				G379D
S-3/S-8	G371	TS261	PREF	Spillway	2/1/2006-4/30/2013	G371
	S3	15018	PREF	Pump	1/1/1963-4/30/2013	S3
	G410	LX270	PREF	Pump	7/17/2001-3/31/2013	G410
	G372	TA437	PREF	Pump	10/1/2003-4/30/2013	G372
	G373	TS260	PREF	Spillway	2/15/2006-4/30/2013	G373
	G200A	15736	PREF	Pump	1/1/1965-6/30/2008	G2001
	S8	15040	PREF	Pump	1/1/1963-4/30/2013	S8
	G404	LX269	PREF	Pump	5/6/2000-12/31/2012	G404
	G357	LX263	PREF	Culvert	1/3/2001-12/31/2012	G357
	G600	GG955	PREF	Culvert	3/6/1997-7/30/2010	G600
	G349B	JA353	PREF	Pump	10/1/1999-3/31/2013	G349B
	G350B	JA352	PREF	Pump	10/1/1999-3/31/2013	G350B
	G507	SJ382	PREF	Pump	2/24/2001-12/31/2012	G507
	G373BC					
	G381B	TA586	PREF	Culvert	10/1/2003-3/31/2013	G381B
	G381E	TA587				G381E
	G402A	LX264	PREF	Culvert	7/20/2001-3/31/2013	G402A
	G402B	LX265				G402B
	G402C	LX266				G402C

	G344A G344B G344C G344D	J0719 J0720 J0721 J0722	PREF	Culvert	10/1/1999-3/31/2013	G344A G344B G344C G344D
	SSDDMC	TA459	PREF	Pump	6/1/2004-4/30/2012	SSDDMC
	G136	15195	PREF	Culvert	10/1/1978-4/30/2012	G136
	SFCD5E_P	TR998	PREF	Pump	12/17/2004- 6/30/2012	SFCD5E

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30 Table S2. EAA P net imports per land use for WYs 2005 – 2012.

Land Use	Net Import Coefficient (Kg P /ha/yr)	Area (ha)	Net Imported Load (mtons/yr)
Residential -Low Density	9.9	195.6	1.9
Residential -Medium Density	22.9	591.0	13.5
Residential -High Density	9.1	148.3	1.4
Other Urban	1.6	3383.9	5.4
Golf Course	32.3	56.3	1.8
Improved Pasture	4.4	746.5	3.3
Truck Crops	32.8	3.5	0.1
Field Crops	6.9	19.0	0.1
Sugarcane	3.4	133478.7	448.5
Citrus	8.0	44.4	0.4
Barren Land	0.0	4352.3	0.0
Tree Nurseries	18.7	105.9	2.0
Rangeland	0.0	383.0	0.0
Forested -Deciduous	0.0	17.7	0.0
Water Bodies	0.0	3178.2	0.0
Sum			478.4

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33 Table S3. P retention in the EAA canals for WYs 2005 -2012.

WY	WPB Canal (mtons/yr)	HLB Canal (mtons/yr)	NNR canal (mtons/yr)	MM canal (mtons/yr)
2005	33.67	38.05	8.34	20.08
2006	36.33	19.49	25.95	21.27
2007	37.29	12.39	-4.23	0.87
2008	31.77	26.78	11.17	-8.07
2009	22.16	19.14	10.45	5.32
2010	45.26	26.58	5.61	1.71
2011	20.69	7.20	5.27	8.43
2012	18.84	3.84	-6.94	13.21

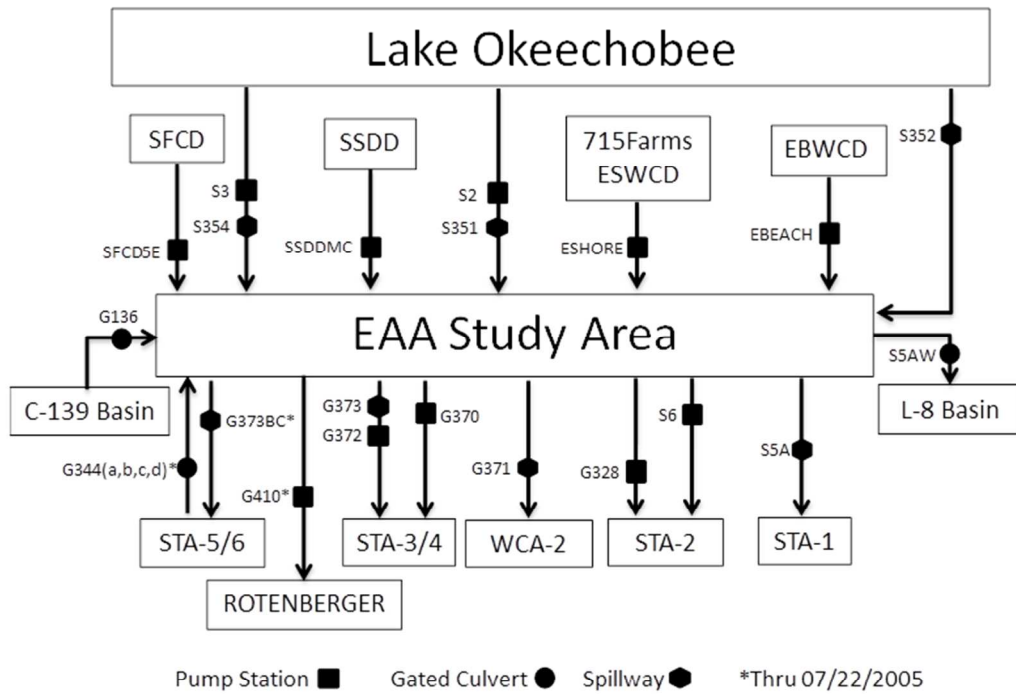


Figure S1

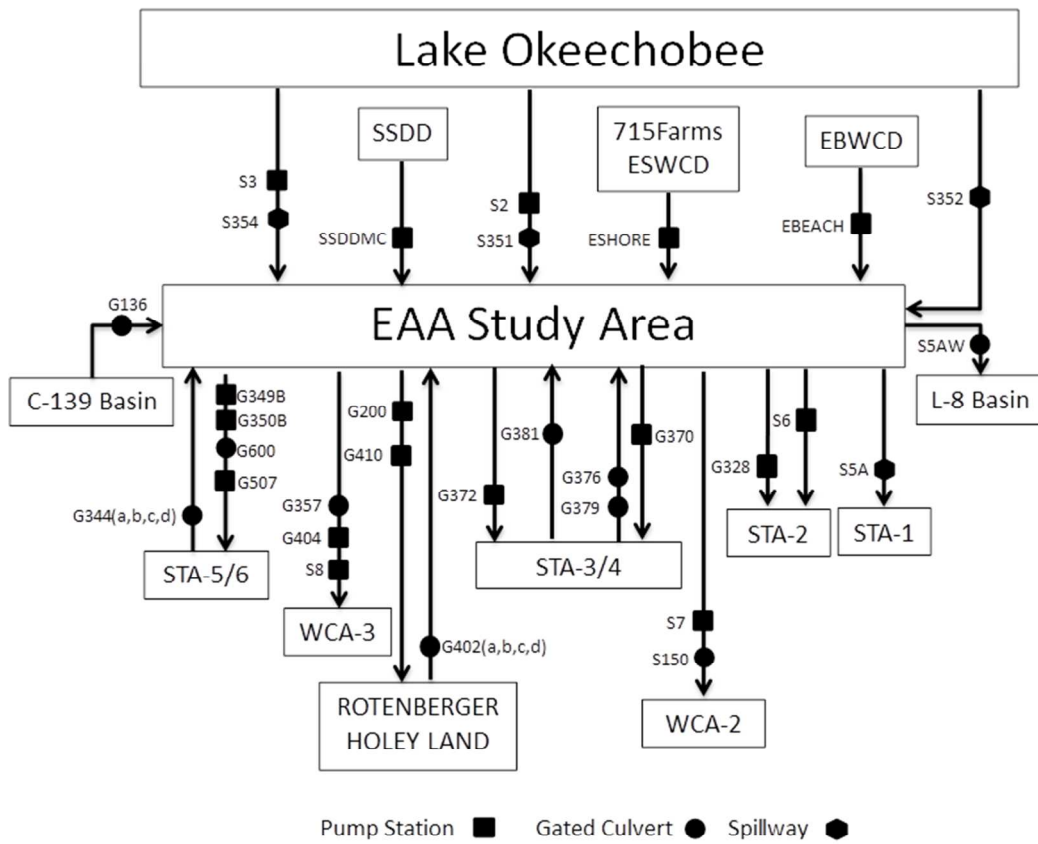


Figure S2

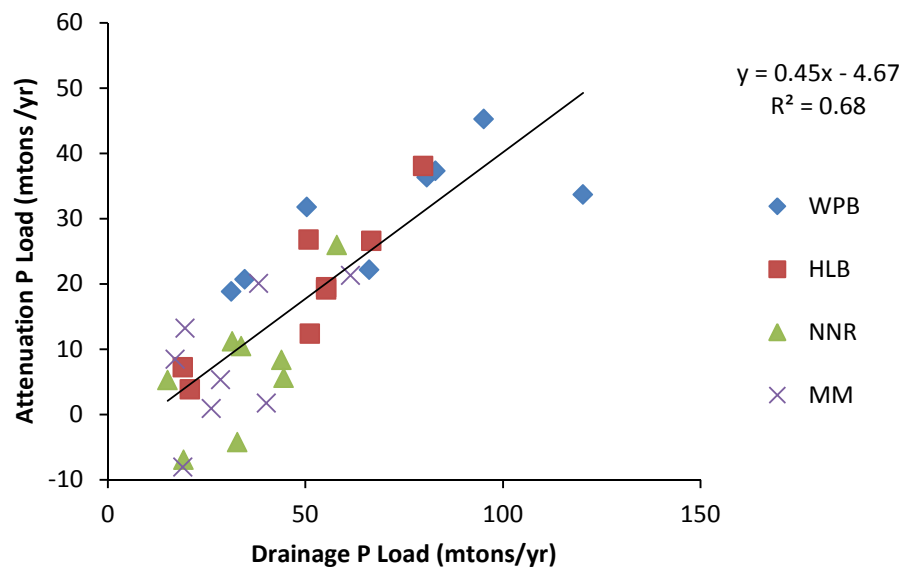


Figure S3

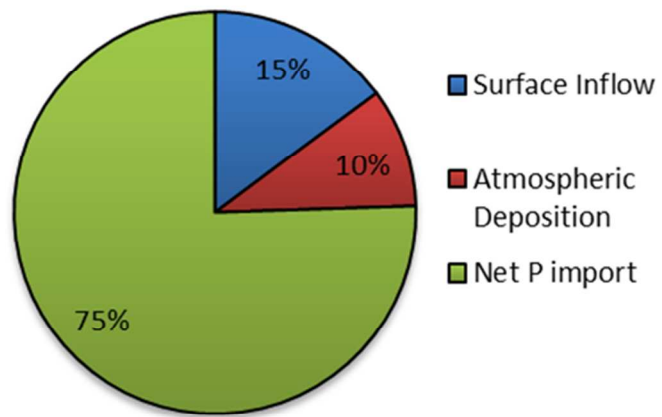


Figure S4

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