Appendix 5-6: Water Budgets, Total Phosphorus Budgets and Treatment Performance in STA Treatment Cells and Flow-ways

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As mandated by the Long-Term Plan for Achieving Water Quality Goals in the Everglades Protection Area, this appendix presents the individual annual (water year) and period-of-record (POR) water and total phosphorus mass balance budgets (budgets) for individual Stormwater Treatment Area (STA) treatment cells and flow-ways (**Tables 1A-F** and **2A-F)**. The District conducts the field sampling and laboratory analyses associated with this effort under the Everglades Construction Project Operations Monitoring Project. The assumptions and methods used in the computation of budgets in this appendix are provided in the 2008 and 2009 South Florida Environmental Reports – Volume I, Chapter 5. Budgets were prepared for the following cells and flow-ways; alterations to these budgets were necessitated by various infrastructure changes in the STAs over the years:

- **STA-1E.** Cells 3, 4N, 4S, 5, 6, and 7 starting in WY2007. Budgets were not prepared for Cells 1 and 2 as their operations were restricted by the Periphyton Stormwater Treatment Area Demonstration Project being conducted in this flow-way.
- **STA-1W.** Cells 1, 1A, 2, 3, 1B+3, and 4, and the Western and Northern flow-ways. Budgets were initially prepared for Cells 1, 2, 3, and 4 and the North Flow-way (Cells 5A and 5B) starting in WY2001. Flow monitoring was effectively discontinued at the G-253 levee separating Cells 1 and 3 in WY2006 and G-254 levee separating Cells 2 and 4 in WY2004. A new levee (G-248) subsequently was built that divided Cell 1 into Cells 1A and 1B. Starting in WY2009, budgets were prepared for Cells 1A, 1B, 3 combined (1B+3), the Western Flow-way (Cells 2 and 4 combined), and the North Flow-way.
- **STA-2.** Cells 1, 2, and 3 starting in WY2003 and Cell 4 starting in WY2009.
- **STA-3/4.** Cells 1A, 1B, 2A, 2B, and 3 starting in WY2006 and Cells 3A and 3B starting in WY2009. Cell 3 was divided into two cells (3A and 3B) by constructing a new levee (G-384) several years after STA-3/4 started operation.
- **STA-5.** The Northern and Central flow-ways starting in WY2001 and Cells 1A, 1B, 2A, 2B, 3A, and 3B starting in WY2009. Flow monitoring was initiated at the G-343 levee in WY2009, which enabled the calculation of separate budgets for Cells 1A, 1B, 2A, and 2B rather than combined budgets for the North and Center flow-ways as in previous years. Note that the cells which now comprise the Center Flow-way (Cells 2A and 2B) were referred to as the Southern Flow-way in SFERs published before Cells 3A and 3B were constructed.
- **STA-6.** Cells 3 and 5 starting in WY2003 and Section 2 starting in WY2009.

Table 1A. Annual and period of record water budgets for treatment cells in Stormwater Treatment Area 1 East (STA-1E).[a]

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-1E, Cell 3											
WY2007	30.3	0.0	2.1	32.4	51.7	0.0	3.1	54.8	-0.8	21.7	49.8%
WY2008	120.1	0.0	2.7	122.8	155.6	0.0	3.1	158.8	1.3	37.2	26.4%
WY2009	73.3	0.0	2.7	76.0	115.2	0.0	3.1	118.3	-1.2	41.0	42.2%
WY2010	28.6	0.0	3.8	32.4	34.2	0.0	3.0	37.2	1.0	5.8	16.6%
POR	252.3	0.0	11.3	263.6	356.7	0.0	12.3	369.1	0.3	105.7	33.4%
%In	95.7%	0.0%	4.3%	*% Out*	96.7%	0.0%	3.3%		0.1%		
STA-1E, Cell 4N											
WY2007	51.7	0.0	2.3	54.0	58.8	0.0	3.4	62.2	-0.1	8.1	14.0%
WY2008	155.6	0.0	2.9	158.6	175.1	0.0	3.4	178.5	0.7	20.7	12.3%
WY2009	115.2	0.0	3.0	118.2	111.8	0.0	3.4	115.2	-1.2	-4.2	-3.6%
WY2010	34.2	0.0	4.2	38.4	37.1	0.0	3.2	40.3	0.9	2.9	7.3%
POR	356.7	0.0	12.4	369.1	382.8	0.0	13.5	396.3	0.3	27.6	7.2%
%In	96.6%	0.0%	3.4%	*% Out*	96.6%	0.0%	3.4%		0.1%		
STA-1E, Cell 4S											
WY2007	64.4	0.0	2.7	67.0	48.2	0.0	4.0	52.2	0.1	-14.7	-24.7%
WY2008	184.1	0.0	3.4	187.5	146.8	0.0	4.0	150.8	0.7	-36.0	-21.3%
WY2009	118.6	0.0	3.5	122.1	100.1	0.0	4.0	104.1	-0.5	-18.5	-16.4%
WY2010	42.5	0.0	4.8	47.3	37.7	0.0	3.8	41.5	-0.4	-6.3	-14.1%
POR	409.5	0.0	14.4	424.0	332.8	0.0	15.8	348.5	-0.1	-75.6	-19.6%
%In	96.6%	0.0%	3.4%	*% Out*	95.5%	0.0%	4.5%		-0.03%		
STA-1E, Cell 5											
WY2007	45.3	0.0	2.0	47.4	28.3	0.0	3.0	31.3	0.0	-16.0	-40.7%
WY2008	7.5	0.0	2.6	10.2	11.9	0.0	3.0	14.9	1.1	5.9	47.2%
WY2009	52.6	0.0	2.7	55.3	67.8	0.0	3.0	70.8	-0.9	14.7	23.3%
WY2010	24.2	0.0	3.7	27.9	29.2	0.0	2.9	32.1	-0.2	3.9	13.1%
POR	129.7	0.0	11.0	140.7	137.2	0.0	12.0	149.1	0.1	8.5	5.9%
%In	92.2%	0.0%	7.8%	*% Out*	92.0%	0.0%	8.0%		0.04%		
STA-1E, Cell 6											
WY2007	66.7	0.0	3.7	70.4	64.3	0.0	5.6	69.9	0.0	-0.6	-0.8%
WY2008	19.6	0.0	4.8	24.4	30.3	0.0	5.6	35.9	0.4	12.0	39.8%
WY2009	117.1	0.0	4.9	121.9	95.9	0.0	5.5	101.4	-0.5	-21.0	-18.8%
WY2010	73.5	0.0	6.8	80.3	56.2	0.0	5.3	61.4	-1.3	-20.2	-28.4%
POR	276.9	0.0	20.2	297.1	246.7	0.0	22.0	268.7	-1.4	-29.8	-10.5%
%In	93.2%	0.0%	6.8%	*% Out*	91.8%	0.0%	8.2%		-0.5%		
STA-1E, Cell 7											
WY2007	31.6	0.0	1.5	33.0	38.4	0.0	2.2	40.7	-0.1	7.5	20.3%
WY2008	13.0	0.0	1.9	14.9	7.7	0.0	2.2	9.9	0.3	-4.7	-37.9%
WY2009	37.8	0.0	1.9	39.8	49.3	0.0	2.2	51.5	0.0	11.7	25.7%
WY2010	31.1	0.0	2.7	33.8	44.3	0.0	2.1	46.4	0.1	12.7	31.8%
POR	113.4	0.0	8.0	121.5	139.7	0.0	8.8	148.5	0.2	27.2	20.2%
%In	93.4%	0.0%	6.6%	*% Out*	94.1%	0.0%	5.9%		0.2%		

[a] All water budget terms expressed as hm^3 (= 1,000,000 m^3); 1 $hm^3 \approx 810.7$ acre-ft

[b] I_s = surface water inflow; I_g = groundwater inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; ET = evapotranspiration; ΔS = change in storage volume; r = water budget residual: (Σoutflow +ΔS)- Σinflow; ε = water budget error: r ÷ [(Σinflow+Σoutflow)/2]

Table 1B. Annual and period of record water budgets for treatment cells and flow-ways in Stormwater Treatment Area 1 West (STA-1W).[a]

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-1W, Cell 1											
WY2001	137.1	0.0	5.4	142.4	92.0	0.0	8.6	100.6	-2.4	-44.2	-36.4%
WY2002	173.4	0.0	8.1	181.4	151.2	0.0	8.1	159.3	1.1	-21.1	-12.4%
WY2003	364.3	0.0	6.5	370.8	315.5	0.0	7.8	323.3	3.8	-43.7	-12.6%
WY2004	224.6	0.0	5.2	229.8	191.6	0.0	7.8	199.4	-4.0	-34.4	-16.0%
WY2005	232.0	0.0	6.4	238.5	270.7	0.0	7.8	278.5	-0.1	39.9	15.5%
WY2006	139.3	0.0	6.7	146.0	132.5	0.0	7.9	140.5	0.9	-4.6	-3.2%
POR	1270.7	0.0	38.2	1308.9	1153.5	0.0	48.0	1201.5	-0.8	-108.2	-8.6%
%In	97.1%	0.0%	2.9%	*% Out*	96.0%	0.0%	4.0%		-0.1%		
STA-1W, Cell 1A											
WY2009	131.6	0.0	2.0	133.5	397.7	0.0	2.0	399.6	-1.3	264.8	99.3%
WY2010	148.8	0.0	2.2	151.0	490.6	0.0	1.9	492.5	0.2	341.7	106.2%
POR	280.4	0.0	4.2	284.6	888.3	0.0	3.8	892.1	-1.1	606.5	103.1%
%In	98.5%	0.0%	1.5%	*% Out*	99.6%	0.0%	0.4%		-0.4%		
STA-1W, Cell 2											
WY2001	37.6	0.0	3.4	40.9	47.1	0.0	5.4	52.6	-1.7	9.9	21.1%
WY2002	66.1	0.0	5.1	71.2	62.6	0.0	5.1	67.7	0.8	-2.8	-4.0%
WY2003	146.7	0.0	4.1	150.8	151.8	0.0	4.9	156.7	1.5	7.4	4.8%
WY2004	74.9	0.0	3.3	78.2	135.3	0.0	4.9	140.2	-2.1	59.9	54.9%
POR	325.2	0.0	15.9	341.1	396.8	0.0	20.4	417.2	-1.6	74.5	19.6%
%In	95.3%	0.0%	4.7%	*% Out*	95.1%	0.0%	4.9%		-0.5%		
STA-1W, Cell 3											
WY2001	88.0	0.0	3.7	91.7	80.6	0.0	5.9	86.5	-0.8	-6.1	-6.9%
WY2002	139.7	0.0	5.5	145.3	127.8	0.0	5.6	133.4	0.8	-11.2	-8.0%
WY2003	255.4	0.0	4.5	259.9	205.3	0.0	5.4	210.7	1.5	-47.6	-20.2%
WY2004	159.0	0.0	3.6	162.6	131.9	0.0	5.4	137.3	-2.0	-27.3	-18.2%
WY2005	180.3	0.0	4.4	184.7	161.5	0.0	5.3	166.8	0.2	-17.7	-10.1%
WY2006	132.5	0.0	4.6	137.2	113.6	0.0	5.5	119.0	0.3	-17.8	-13.9%
POR	955.0	0.0	26.3	981.4	820.6	0.0	33.0	853.6	0.0	-127.8	-13.9%
%In	97.3%	0.0%	2.7%	*% Out*	96.1%	0.0%	3.9%		0.00%		
STA-1W, Cells 1B+3											
WY2009	279.1	0.0	11.3	290.4	74.7	0.0	11.3	85.9	-3.2	-207.7	-110.4%
WY2010	401.9	0.0	12.8	414.7	80.6	0.0	10.8	91.3	1.5	-321.8	-127.2%
POR	681.0	0.0	24.1	705.1	155.2	0.0	22.1	177.3	-1.7	-529.5	-120.0%
%In	96.6%	0.0%	3.4%	*% Out*	87.6%	0.0%	12.4%		-0.2%		
STA-1W, Cell 4											
WY2001	47.1	0.0	1.3	48.4	37.5	0.0	2.1	39.6	-0.5	-9.3	-21.2%
WY2002	62.6	0.0	1.9	64.5	79.7	0.0	1.9	81.6	0.3	17.3	23.7%
WY2003	151.8	0.0	1.6	153.3	194.2	0.0	1.9	196.0	0.3	43.0	24.6%
WY2004	135.3	0.0	1.3	136.5	124.5	0.0	1.9	126.3	-0.7	-10.9	-8.3%
POR	396.8	0.0	6.0	402.8	435.8	0.0	7.8	443.6	-0.6	40.1	9.5%
%In	98.5%	0.0%	1.5%	*% Out*	98.2%	0.0%	1.8%		-0.2%		
STA-1W, West FW											
WY2009	72.6	0.0	6.8	79.4	58.8	0.0	6.8	65.6	-1.5	-15.3	-21.1%
WY2010	88.7	0.0	7.7	96.5	67.4	0.0	6.5	73.9	1.4	-21.1	-24.8%
POR	161.3	0.0	14.6	175.9	126.2	0.0	13.4	139.6	0.0	-36.4	-23.1%
%In	91.7%	0.0%	8.3%	*% Out*	90.4%	0.0%	9.6%		0.0%		

Table 1B. Continued.

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-1W, North FW											
WY2001	30.6	0.0	10.9	41.5	17.7	0.0	17.5	35.2	-5.4	-11.8	-30.7%
WY2002	124.3	0.0	16.4	140.7	197.9	0.0	16.4	214.3	2.2	75.8	42.7%
WY2003	416.9	0.0	13.2	430.0	427.9	0.0	15.9	443.8	-0.7	13.1	3.0%
WY2004	155.6	0.0	10.6	166.2	130.0	0.0	15.9	146.0	1.7	-18.6	-11.9%
WY2005	211.6	0.0	13.1	224.7	232.4	0.0	15.8	248.1	-2.8	20.7	8.7%
WY2006	40.4	0.0	13.7	54.1	51.8	0.0	16.1	67.9	-2.3	11.5	18.9%
WY2007	1.9	0.0	11.9	13.8	35.5	0.0	16.2	51.7	0.6	38.5	117.7%
WY2008	48.5	0.0	14.6	63.0	118.7	0.0	16.2	134.9	3.7	75.5	76.3%
WY2009	87.4	0.0	15.1	102.5	97.0	0.0	15.0	112.0	0.9	10.5	9.7%
WY2010	106.9	0.0	17.0	123.9	131.5	0.0	14.4	145.9	0.6	22.6	16.7%
POR	1224.0	0.0	136.4	1360.4	1440.4	0.0	159.4	1599.9	-1.6	237.8	16.1%
%In	90.0%	0.0%	10.0%	*% Out*	90.0%	0.0%	10.0%		-0.1%		

[a] All water budget terms expressed as hm^3 (= 1,000,000 m^3); 1 $hm^3 \approx 810.7$ acre-ft

[b] I_s = surface water inflow; I_g = groundwater inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; ET = evapotranspiration; ΔS = change in storage volume; r = water budget residual: (Σoutflow +ΔS)- Σinflow; ε = water budget error: r ÷ [(Σinflow+Σoutflow)/2]

Table 1C. Annual and period of record water budgets for treatment cells in Stormwater Treatment Area 2 (STA-2).[a]

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-2, Cell 1											
WY2003	57.2	0.3	9.3	66.8	38.2	0.3	9.5	48.0	5.1	-13.7	-23.8%
WY2004	78.1	0.0	8.5	86.5	57.8	0.4	9.6	67.9	-1.9	-20.6	-26.7%
WY2005	73.1	0.0	8.1	81.2	67.3	0.4	9.1	76.8	0.4	-3.9	1.0%
WY2006	78.9	0.0	9.4	88.3	67.1	0.4	9.8	77.3	-0.2	-11.2	-13.5%
WY2007	73.5	0.0	8.0	81.5	54.8	0.6	9.4	64.7	-2.3	-19.1	-26.1%
WY2008	94.0	0.0	9.8	103.8	68.8	0.5	9.4	78.8	2.3	-22.8	-24.9%
WY2009	58.4	0.0	8.6	67.1	62.5	0.4	9.8	72.7	-3.4	2.2	3.1%
WY2010	72.5	0.0	10.9	83.4	84.6	0.5	9.9	95.0	5.1	16.6	18.7%
POR	585.6	0.4	72.6	658.6	501.0	3.5	76.6	581.1	5.2	-72.4	-11.7%
%In	88.9%	0.1%	11.0%	*% Out*	86.2%	0.6%	13.2%		0.8%		
STA-2, Cell 2											
WY2003	149.3	0.3	11.8	161.4	123.8	0.4	12.0	136.2	4.1	-21.1	-14.2%
WY2004	111.6	0.1	10.7	122.4	110.8	0.6	12.2	123.5	-2.1	-1.0	-0.8%
WY2005	178.3	0.1	10.2	188.6	164.3	0.9	11.5	176.6	-1.7	-13.8	-7.5%
WY2006	173.4	0.0	11.9	185.3	121.6	0.8	12.4	134.8	0.2	-50.3	-31.4%
WY2007	155.7	0.1	10.1	165.9	145.6	1.0	11.8	158.4	-2.2	-9.6	-5.9%
WY2008	74.2	0.2	12.3	86.7	76.0	0.2	11.9	88.1	2.5	3.9	4.5%
WY2009	126.5	0.3	10.9	137.7	138.0	0.5	12.4	150.9	-2.4	10.8	7.5%
WY2010	151.9	0.1	13.8	165.8	153.2	0.5	12.5	166.2	5.0	5.4	3.3%
POR	1120.9	1.3	91.6	1213.8	1033.3	4.8	96.6	1134.7	3.5	-75.6	-6.4%
%In	92.3%	0.1%	7.5%	*% Out*	91.1%	0.4%	8.5%		0.3%		
STA-2, Cell 3											
WY2003	178.7	0.0	11.8	190.5	144.7	17.1	12.0	173.8	2.1	-14.5	-8.0%
WY2004	137.8	0.0	10.7	148.5	129.3	14.0	12.2	155.5	-3.7	3.3	2.2%
WY2005	173.2	0.0	10.2	183.3	155.9	10.0	11.5	177.4	-0.4	-6.4	-3.5%
WY2006	150.8	0.0	11.9	162.7	133.0	10.0	12.4	155.4	-0.8	-8.0	-5.0%
WY2007	75.4	0.0	10.1	85.4	86.2	9.2	11.8	107.2	-0.1	21.7	22.5%
WY2008	109.0	0.0	12.3	121.3	116.6	10.9	11.9	139.4	1.8	20.0	15.3%
WY2009	82.1	0.0	10.9	93.0	73.2	8.9	12.4	94.5	-1.0	0.5	0.6%
WY2010	78.8	0.6	11.6	90.9	153.7	9.3	12.5	175.4	3.4	87.9	66.0%
POR	985.7	0.6	89.4	1075.6	992.7	89.5	96.6	1178.8	1.4	104.5	9.3%
%In	91.6%	0.1%	8.3%	*% Out*	84.2%	7.6%	8.2%		0.1%		
STA-2, Cell 4											
WY2009	65.9	1.5	9.1	76.6	69.2	0.5	10.4	80.0	-1.9	1.5	1.9%
WY2010	78.8	0.3	8.7	87.8	81.3	0.9	10.4	92.7	1.2	6.0	6.7%
POR	144.7	1.8	17.9	164.4	150.5	1.4	20.8	172.7	-0.8	7.5	4.5%
%In	88.0%	1.1%	10.9%	*% Out*	87.1%	0.8%	12.0%		-0.5%		

[a] All water budget terms expressed as hm^3 (= 1,000,000 m^3); 1 $hm^3 \approx 810.7$ acre-ft

[b] I_s = surface water inflow; I_g = groundwater inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; ET = evapotranspiration; ΔS = change in storage volume; r = water budget residual: (Σoutflow +ΔS)- Σinflow; ε = water budget error: r ÷ [(Σinflow+Σoutflow)/2]

Table 1D. Annual and period of record water budgets for treatment cells in Stormwater Treatment Area 3/4 (STA-3/4).[a]

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-3/4, Cell 1A											
WY2006	284.0	0.0	16.9	300.9	548.8	0.0	16.5	565.4	-8.6	255.9	59.1%
WY2007	207.0	0.0	12.8	219.9	26.3	0.0	16.4	42.7	-1.5	-178.7	-136.1%
WY2008	155.5	0.0	14.4	169.9	223.5	0.0	16.6	240.1	4.8	75.0	36.6%
WY2009	224.6	0.0	15.0	239.6	237.6	0.0	17.0	254.6	-3.8	11.2	4.5%
WY2010	248.3	0.0	18.9	267.2	413.3	0.0	16.7	430.0	3.4	166.2	47.7%
POR	1119.5	0.0	78.1	1197.6	1449.5	0.0	83.2	1532.7	-5.6	329.6	24.1%
%In	93.5%	0.0%	6.5%	*% Out*	94.6%	0.0%	5.4%		-0.5%		
STA-3/4, Cell 1B											
WY2006	548.6	0.0	19.4	568.0	467.2	0.0	19.0	486.1	-5.7	-87.6	-16.6%
WY2007	28.9	0.0	14.7	43.6	189.6	0.0	18.8	208.4	-0.5	164.3	130.4%
WY2008	223.5	0.0	16.6	240.1	158.7	0.0	19.0	177.7	3.7	-58.7	-28.1%
WY2009	237.5	0.0	17.2	254.7	247.0	0.0	19.5	266.5	-2.8	9.0	3.4%
WY2010	413.3	0.0	21.7	435.0	281.2	0.0	19.1	300.3	-0.2	-134.8	-36.7%
POR	1451.9	0.0	89.6	1541.5	1343.6	0.0	95.5	1439.1	-5.5	-107.8	-7.2%
%In	94.2%	0.0%	5.8%	*% Out*	93.4%	0.0%	6.6%		-0.4%		
STA-3/4, Cell 2A											
WY2006	261.7	0.0	14.1	275.9	399.6	0.0	13.8	413.5	-4.8	132.8	38.5%
WY2007	121.8	0.0	10.7	132.6	49.3	0.0	13.7	63.0	-3.2	-72.8	-74.5%
WY2008	98.1	0.0	12.1	110.1	-79.0	0.0	13.9	-65.1	5.8	-169.5	-753.3%
WY2009	149.0	0.0	12.5	161.5	118.1	0.0	14.2	132.4	-3.8	-32.9	-22.4%
WY2010	227.9	0.0	15.8	243.7	56.2	0.0	14.0	70.2	4.9	-168.6	-107.4%
POR	858.5	0.0	65.3	923.7	544.3	0.0	69.6	613.9	-1.1	-311.0	-40.4%
%In	92.9%	0.0%	7.1%	*% Out*	88.7%	0.0%	11.3%		-0.1%		
STA-3/4, Cell 2B											
WY2006	399.6	0.0	16.1	415.7	323.5	0.0	15.7	339.2	-1.7	-78.2	-20.7%
WY2007	49.3	0.0	12.2	61.5	147.7	0.0	15.6	163.3	-2.1	99.7	88.7%
WY2008	-79.0	0.0	13.8	-65.3	94.0	0.0	15.8	109.8	3.9	179.0	803.8%
WY2009	118.1	0.0	14.3	132.4	160.3	0.0	16.2	176.5	-2.0	42.2	27.3%
WY2010	56.2	0.0	18.0	74.2	243.2	0.0	15.9	259.1	0.6	185.5	111.3%
POR	544.3	0.0	74.3	618.6	968.8	0.0	79.3	1048.1	-1.2	428.3	51.4%
%In	88.0%	0.0%	12.0%	*% Out*	92.4%	0.0%	7.6%		-0.2%		
STA-3/4, Cell 3											
WY2006	94.6	0.0	25.5	120.1	117.7	0.0	24.9	142.6	-3.7	18.8	14.3%
WY2007	102.2	0.0	19.4	121.6	101.1	0.0	24.7	125.8	-0.2	4.0	3.2%
WY2008	151.0	0.0	21.8	172.8	112.6	0.0	25.0	137.6	7.0	-28.2	-18.1%
POR	347.9	0.0	66.6	414.4	331.4	0.0	74.6	406.0	3.1	-5.4	-1.3%
%In	83.9%	0.0%	16.1%	*% Out*	81.6%	0.0%	18.4%		0.7%		
STA-3/4, Cell 3A											
WY2009	208.4	0.0	10.6	219.0	205.0	0.0	12.1	217.0	-2.9	-4.9	-2.2%
WY2010	270.7	0.0	13.4	284.0	442.3	0.0	11.8	454.1	4.8	174.9	47.4%
POR	479.0	0.0	24.0	503.0	647.3	0.0	23.9	671.2	1.8	170.0	29.0%
%In	95.2%	0.0%	4.8%	*% Out*	96.4%	0.0%	3.6%		0.4%		

Table 1D. Continued.

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-3/4, Cell 3B											
WY2009	205.0	0.0	12.0	216.9	159.0	0.0	13.6	172.6	-2.1	-46.4	-23.8%
WY2010	442.3	0.0	15.1	457.4	263.5	0.0	13.3	276.8	1.5	-179.1	-48.8%
POR	647.3	0.0	27.1	674.4	422.5	0.0	26.9	449.5	-0.6	-225.5	-40.1%
%In	96.0%	0.0%	4.0%	*% Out*	94.0%	0.0%	6.0%		-0.1%		

[a] All water budget terms expressed as hm^3 (= 1,000,000 m^3); 1 $hm^3 \approx$ 810.7 acre-ft

[b] I_s = surface water inflow; I_g = groundwater inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; ET = evapotranspiration; ΔS = change in storage volume; r = water budget residual: (Σoutflow +ΔS)- Σinflow; ε = water budget error: r ÷ [(Σinflow+Σoutflow)/2]

Table 1E. Annual and period of record water budgets for treatment cells and flow-ways in Stormwater Treatment Area 5 (STA-5).[a]

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-5, North Flow-way											
WY2001	45.5	0.0	8.1	53.6	25.4	10.5	11.9	47.7	-2.4	-8.3	-16.3%
WY2002	122.7	0.0	7.5	130.2	103.3	11.4	11.2	125.9	2.4	-1.9	-1.5%
WY2003	127.6	0.0	10.1	137.7	124.5	9.3	10.8	144.6	-0.1	6.8	4.8%
WY2004	139.5	0.0	9.6	149.1	124.6	10.6	10.8	146.0	1.2	-1.9	-1.3%
WY2005	114.6	2.0	8.9	125.4	90.4	7.8	10.7	108.9	-3.4	-19.9	-17.0%
WY2006	171.8	0.5	8.5	180.8	139.1	12.7	10.9	162.7	0.0	-18.1	-10.5%
WY2007	70.2	0.0	8.9	79.1	79.8	8.8	11.1	99.7	0.1	20.6	23.0%
WY2008	15.2	1.2	9.5	25.9	4.8	2.9	10.9	18.5	1.8	-5.6	-25.2%
POR	807.1	3.6	71.1	881.9	691.9	73.8	88.3	854.0	-0.4	-28.3	-3.3%
%In	91.5%	0.4%	8.1%	*% Out*	81.0%	8.6%	10.3%		-0.1%		
STA-5 Cell 1A											
WY2009	64.2	3.7	3.7	71.6	138.4	1.9	4.6	144.9	-0.2	73.1	67.5%
WY2010	30.5	0.6	5.4	36.5	53.7	2.9	4.4	60.9	1.7	26.2	53.7%
POR	94.7	4.3	9.1	108.1	192.1	4.8	9.0	205.9	1.5	99.3	63.3%
%In	87.6%	4.0%	8.4%	*% Out*	93.3%	2.3%	4.4%		1.4%		
STA-5 Cell 1B											
WY2009	151.2	0.0	5.4	156.6	86.6	7.7	6.7	101.1	-0.8	-56.3	-43.7%
WY2010	60.5	0.0	7.9	68.3	31.5	4.7	6.4	42.6	0.3	-25.4	-45.9%
POR	211.6	0.0	13.3	224.9	118.1	12.4	13.2	143.7	-0.5	-81.7	-44.3%
%In	94.1%	0.0%	5.9%	*% Out*	82.2%	8.7%	9.2%		-0.2%		
STA-5, Center Flow-way											
WY2001	57.4	1.3	8.1	66.8	23.9	25.5	11.9	61.3	-2.6	-8.2	-12.8%
WY2002	114.7	0.4	7.5	122.6	52.3	23.3	11.2	86.8	2.1	-33.8	-32.2%
WY2003	119.6	0.0	10.1	129.7	73.5	33.4	10.8	117.7	-0.3	-12.3	-9.9%
WY2004	92.1	0.0	9.6	101.8	46.7	27.9	10.8	85.4	1.5	-15.0	-16.0%
WY2005	68.4	0.0	8.9	77.3	59.6	33.8	10.7	104.1	-1.1	25.8	28.4%
WY2006	123.4	18.2	8.5	150.1	109.0	19.7	10.9	139.7	-3.2	-13.7	-9.5%
WY2007	36.6	5.8	8.9	51.3	3.9	4.0	11.1	18.9	0.7	-31.7	-90.3%
WY2008	9.8	7.1	9.5	26.4	4.0	0.7	10.9	15.5	1.1	-9.8	-46.7%
POR	622.0	32.9	71.1	726.1	372.8	168.1	88.3	629.2	-1.8	-98.6	-14.6%
%In	85.7%	4.5%	9.8%	*% Out*	59.2%	26.7%	14.0%		-0.2%		
STA-5 Cell 2A											
WY2009	47.0	1.2	3.7	51.9	32.4	2.8	4.6	39.8	0.0	-12.1	-26.4%
WY2010	87.6	0.0	5.4	93.0	94.3	0.9	4.4	99.6	1.6	8.3	8.6%
POR	134.6	1.2	9.1	144.8	126.7	3.7	9.0	139.4	1.6	-3.8	-2.7%
%In	92.9%	0.8%	6.3%	*% Out*	90.9%	2.6%	6.5%		1.1%		
STA-5 Cell 2B											
WY2009	38.4	1.5	5.4	45.3	46.5	4.5	6.7	57.7	0.4	12.9	25.0%
WY2010	93.5	0.4	7.9	101.7	82.4	4.1	6.4	92.9	0.3	-8.5	-8.8%
POR	131.9	1.9	13.3	147.0	128.9	8.6	13.2	150.6	0.8	4.4	2.9%
%In	89.7%	1.3%	9.0%	*% Out*	85.6%	5.7%	8.7%		0.5%		
STA-5 Cell 3A											
WY2009	14.6	0.9	4.4	20.0	4.1	7.9	5.5	17.5	-0.1	-2.5	-13.5%
WY2010	22.6	1.7	6.5	30.8	19.1	11.3	5.3	35.7	0.7	5.6	16.9%
POR	37.3	2.6	10.9	50.7	23.2	19.2	10.8	53.2	0.6	3.1	5.9%
%In	73.5%	5.1%	21.5%	*% Out*	43.5%	36.2%	20.3%		1.2%		

Table 1E. Continued.

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-5 Cell 3B											
WY2009	4.1	1.2	4.3	9.6	4.0	4.1	5.4	13.5	-0.1	3.8	32.4%
WY2010	19.1	2.6	6.4	28.1	4.4	8.8	5.2	18.4	0.3	-9.4	-40.3%
POR	23.2	3.9	10.7	37.7	8.5	12.9	10.6	31.9	0.2	-5.6	-16.1%
%In	61.4%	10.2%	28.3%	*% Out*	26.5%	40.3%	33.2%		0.4%		

[a] All water budget terms expressed as hm^3 (= 1,000,000 m^3); 1 hm^3 ≈ 810.7 acre-ft

[b] I_s = surface water inflow; I_g = groundwater inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; ET = evapotranspiration; ΔS = change in storage volume; r = water budget residual: (Σoutflow +ΔS)- Σinflow; ε = water budget error: r ÷ [(Σinflow+Σoutflow)/2]

Table 1F. Annual and period of record water budgets for treatment cells in Stormwater Treatment Area 6 (STA-6).[a]

	Inflows[b]				Outflow[b]						
	I_s	I_g	P	∑inflow	O_s	O_g	ET	∑outflow	ΔS	r	ε
STA-6, Cell 3											
WY2003	26.3	0.8	1.2	28.3	12.7	9.5	1.3	23.5	0.4	-4.4	-17.1%
WY2004	19.7	0.0	1.4	21.2	15.4	12.9	1.3	29.6	-0.4	8.0	31.6%
WY2005	19.3	0.3	1.3	20.8	8.5	9.4	1.3	19.2	0.2	-1.4	-6.9%
WY2006	16.8	1.1	1.1	19.0	13.8	5.7	1.3	20.8	-0.1	1.7	8.5%
WY2007	15.5	1.2	0.7	17.4	6.5	9.8	1.3	17.6	-0.1	0.0	0.1%
WY2008	2.8	2.7	1.1	6.6	0.7	5.8	1.3	7.8	0.3	1.5	20.7%
WY2009	2.3	0.3	1.1	3.7	2.5	0.3	1.4	4.2	-0.3	0.2	5.8%
WY2010	11.0	0.4	1.6	13.0	4.2	0.0	1.3	5.6	0.5	-7.0	-75.4%
POR	113.7	6.7	9.6	130.1	64.2	53.4	10.7	128.3	0.5	-1.4	-1.1%
%In	87.4%	5.2%	7.4%	*% Out*	50.0%	41.6%	8.3%		0.4%		
STA-6, Cell 5											
WY2003	30.0	0.0	3.1	33.2	19.5	5.4	3.4	28.3	0.7	-4.1	-13.5%
WY2004	17.3	0.0	3.5	20.9	20.5	4.2	3.4	28.0	-0.8	6.4	26.1%
WY2005	14.6	0.1	3.2	18.0	11.6	3.8	3.4	18.8	0.0	0.8	4.6%
WY2006	8.0	1.0	2.9	11.9	14.9	2.0	3.4	20.3	0.0	8.4	52.2%
WY2007	14.1	0.3	1.8	16.2	7.8	4.9	3.4	16.0	0.0	-0.2	-1.4%
WY2008	4.4	1.2	2.9	8.4	1.3	1.9	3.4	6.7	0.2	-1.5	-19.8%
WY2009	4.7	2.6	2.9	10.1	6.0	0.4	3.5	9.9	-0.2	-0.4	-4.2%
WY2010	25.0	1.9	4.2	31.0	13.6	0.8	3.4	17.9	1.2	-12.0	-49.0%
POR	118.0	7.2	24.5	149.7	95.2	23.4	27.3	145.9	1.2	-2.6	-1.8%
%In	78.8%	4.8%	16.4%	*% Out*	65.3%	16.0%	18.7%		0.8%		
STA-6, Section 2											
WY2009	63.6	1.3	6.3	71.3	43.7	13.4	7.8	64.8	-1.6	-8.1	-11.9%
WY2010	91.9	2.5	9.2	103.6	74.5	35.2	7.6	117.3	3.7	17.4	15.7%
POR	155.5	3.9	15.6	174.9	118.2	48.6	15.4	182.1	2.0	9.3	5.2%
%In	88.9%	2.2%	8.9%	*% Out*	64.9%	26.7%	8.4%		1.2%		

[a] All water budget terms expressed as hm^3 (= 1,000,000 m^3); 1 $hm^3 \approx 810.7$ acre-ft

[b] I_s = surface water inflow; I_g = groundwater inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; ET = evapotranspiration; ΔS = change in storage volume; r = water budget residual: (Σoutflow +ΔS)- Σinflow; ε = water budget error: r ÷ [(Σinflow+Σoutflow)/2]

Table 2A. Annual and period of record total phosphorus budgets for treatment cells in STA-1E.[a]

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-1E, Cell 3								
WY2007	5.124	0.008	5.132	3.272	0.000	3.272	1.860	36.2%
WY2008	15.642	0.011	15.653	15.929	0.000	15.929	-0.276	-1.8%
WY2009	10.670	0.011	10.681	15.322	0.000	15.322	-4.641	-43.4%
WY2010	7.189	0.015	7.204	5.197	0.000	5.197	2.007	27.9%
POR	38.625	0.045	38.670	39.719	0.000	39.719	-1.049	-2.7%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1E, Cell 4N								
WY2007	3.272	0.009	3.281	1.864	0.000	1.864	1.417	43.2%
WY2008	15.929	0.012	15.940	4.752	0.000	4.752	11.189	70.2%
WY2009	15.322	0.012	15.334	3.643	0.000	3.643	11.691	76.2%
WY2010	5.197	0.017	5.213	4.070	0.000	4.070	1.144	21.9%
POR	39.719	0.050	39.769	14.328	0.000	14.328	25.440	64.0%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1E, Cell 4S								
WY2007	2.892	0.011	2.902	1.110	0.000	1.110	1.792	61.7%
WY2008	6.061	0.014	6.074	2.724	0.000	2.724	3.350	55.2%
WY2009	4.568	0.014	4.582	1.532	0.000	1.532	3.050	66.6%
WY2010	5.791	0.019	5.810	2.080	0.000	2.080	3.731	64.2%
POR	19.311	0.058	19.369	7.446	0.000	7.446	11.923	61.6%
%In	99.7%	0.3%	*% Out*	100.0%	0.0%			
STA-1E, Cell 5								
WY2007	12.846	0.008	12.854	7.492	0.000	7.492	5.362	41.7%
WY2008	1.099	0.010	1.110	1.558	0.000	1.558	-0.448	-40.4%
WY2009	10.395	0.011	10.406	22.116	0.000	22.116	-11.710	-112.5%
WY2010	5.709	0.015	5.724	7.011	0.000	7.011	-1.287	-22.5%
POR	30.049	0.044	30.093	38.176	0.000	38.176	-8.083	-26.9%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1E, Cell 6								
WY2007	14.782	0.015	14.797	10.341	0.000	10.341	4.456	30.1%
WY2008	3.130	0.019	3.149	1.466	0.000	1.466	1.684	53.5%
WY2009	31.835	0.020	31.855	4.460	0.000	4.460	27.395	86.0%
WY2010	16.707	0.027	16.734	16.452	0.000	16.452	0.283	1.7%
POR	66.455	0.081	66.535	32.719	0.000	32.719	33.817	50.8%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1E, Cell 7								
WY2007	8.283	0.006	8.289	7.290	0.000	7.290	0.998	12.0%
WY2008	1.759	0.008	1.767	1.572	0.000	1.572	0.194	11.0%
WY2009	9.005	0.008	9.013	9.719	0.000	9.719	-0.707	-7.8%
WY2010	7.478	0.011	7.489	9.697	0.000	9.697	-2.208	-29.5%
POR	26.524	0.032	26.557	28.278	0.000	28.278	-1.722	-6.5%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			

[a] All budget terms expressed as metric tonnes of phosphorus

[b] I_s = surface water inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; R = total phosphorus retained: Σinflow – Σoutflow; %R = % total phosphorus retained: (retained/Σinflow)*100.

Table 2B. Annual and period of record total phosphorus budgets for treatment cells and flow-ways in STA- 1W.[a]

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-1W, Cell 1								
WY2001	14.885	0.021	14.906	6.287	0.000	6.287	8.619	57.8%
WY2002	19.548	0.032	19.580	9.856	0.000	9.856	9.725	49.7%
WY2003	57.336	0.026	57.361	34.662	0.000	34.662	22.699	39.6%
WY2004	27.610	0.021	27.631	22.459	0.000	22.459	5.172	18.7%
WY2005	51.343	0.026	51.369	64.154	0.000	64.154	-12.785	-24.9%
WY2006	29.405	0.027	29.432	26.685	0.000	26.685	2.747	9.3%
POR	200.126	0.153	200.279	164.103	0.000	164.103	36.177	18.1%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1W, Cell 1A								
WY2009	27.170	0.008	27.178	110.682	0.000	110.682	-83.505	-307.3%
WY2010	31.226	0.009	31.234	44.026	0.000	44.026	-12.791	-41.0%
POR	58.395	0.017	58.412	154.708	0.000	154.708	-96.296	-164.9%
%In	100.0%	0.03%	*% Out*	100.0%	0.0%			
STA-1W, Cell 2								
WY2001	4.340	0.014	4.354	3.678	0.000	3.678	0.676	15.5%
WY2002	6.682	0.020	6.702	4.677	0.000	4.677	2.026	30.2%
WY2003	25.958	0.016	25.975	32.540	0.000	32.540	-6.565	-25.3%
WY2004	10.606	0.013	10.619	21.553	0.000	21.553	-10.934	-103.0%
POR	47.587	0.063	47.651	62.448	0.000	62.448	-14.797	-31.1%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1W, Cell 3								
WY2001	2.741	0.015	2.756	2.147	0.000	2.147	0.609	22.1%
WY2002	4.327	0.022	4.350	3.340	0.000	3.340	1.009	23.2%
WY2003	13.245	0.018	13.262	8.418	0.000	8.418	4.845	36.5%
WY2004	14.184	0.014	14.198	6.527	0.000	6.527	7.671	54.0%
WY2005	36.259	0.018	36.276	18.529	0.000	18.529	17.747	48.9%
WY2006	26.685	0.018	26.704	14.534	0.000	14.534	12.170	45.6%
POR	97.440	0.105	97.546	53.495	0.000	53.495	44.051	45.2%
%In	99.9%	0.1%	*% Out*	100.0%	0.0%			
STA-1W, Cells 1B+3								
WY2009	114.383	0.045	114.428	2.830	0.000	2.830	111.598	97.5%
WY2010	44.026	0.051	44.077	2.906	0.000	2.906	41.171	93.4%
POR	158.408	0.096	158.505	5.736	0.000	5.736	152.769	96.4%
%In	99.9%	0.06%	*% Out*	100.0%	0.0%			
STA-1W, Cell 4								
WY2001	3.695	0.005	3.700	1.033	0.000	1.033	2.667	72.1%
WY2002	4.678	0.008	4.686	2.254	0.000	2.254	2.432	51.9%
WY2003	32.650	0.006	32.656	13.537	0.000	13.537	19.119	58.5%
WY2004	21.579	0.005	21.584	9.425	0.000	9.425	12.159	56.3%
POR	62.602	0.024	62.626	26.250	0.000	26.250	36.377	58.1%
%In		0.000	*% Out*	1.000	0.000			
STA-1W, West FW								
WY2009	15.005	0.027	15.033	1.400	0.000	1.400	13.633	90.7%
WY2010	18.601	0.031	18.632	3.886	0.000	3.886	14.746	79.1%
POR	33.606	0.058	33.664	5.286	0.000	5.286	28.379	84.3%
%In	0.998	0.002	*% Out*	1.000	0.000			

Table 2B. Continued.

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-1W, North FW								
WY2001	7.271	0.044	7.315	1.494	0.000	1.494	5.821	79.6%
WY2002	36.545	0.066	36.611	18.949	0.000	18.949	17.662	48.2%
WY2003	66.551	0.053	66.604	34.351	0.000	34.351	32.252	48.4%
WY2004	22.135	0.042	22.178	5.935	0.000	5.935	16.243	73.2%
WY2005	55.664	0.052	55.717	42.728	0.000	42.728	12.989	23.3%
WY2006	8.387	0.055	8.442	17.140	0.000	17.140	-8.698	-103.0%
WY2007	0.410	0.048	0.457	1.428	0.000	1.428	-0.971	-212.3%
WY2008	23.129	0.058	23.187	3.729	0.000	3.729	19.459	83.9%
WY2009	23.698	0.060	23.759	2.147	0.000	2.147	21.612	91.0%
WY2010	26.309	0.068	26.377	4.972	0.000	4.972	21.405	81.1%
POR	270.101	0.546	270.646	132.873	0.000	132.873	137.773	50.9%
%In	99.8%	0.2%	*% Out*	100.0%	0.0%			

[a] All budget terms expressed as metric tonnes of phosphorus

[b] I_s = surface water inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; R = total phosphorus retained: Σinflow – Σoutflow; %R = % total phosphorus retained: (retained/Σinflow)*100.

Table 2C. Annual and period of record total phosphorus budgets for treatment cells in STA-2.[a]

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-2, Cell 1								
WY2003	3.048	0.037	3.085	0.561	0.008	0.569	2.516	81.6%
WY2004	6.056	0.034	6.090	0.785	0.014	0.799	5.291	86.9%
WY2005	8.056	0.032	8.088	0.677	0.014	0.691	7.396	91.5%
WY2006	7.718	0.038	7.756	0.480	0.011	0.490	7.266	93.7%
WY2007	11.107	0.032	11.139	0.485	0.021	0.506	10.633	95.5%
WY2008	8.415	0.039	8.454	0.809	0.018	0.827	7.627	90.2%
WY2009	6.928	0.035	6.963	0.612	0.012	0.624	6.339	91.0%
WY2010	8.553	0.044	8.597	3.245	0.034	3.279	5.318	61.9%
POR	59.882	0.290	60.172	7.654	0.132	7.786	52.387	87.1%
%In	99.5%	0.5%	*% Out*	98.3%	1.7%			
STA-2, Cell 2								
WY2003	9.790	0.047	9.837	2.522	0.013	2.535	7.302	74.2%
WY2004	10.413	0.043	10.456	1.754	0.022	1.776	8.680	83.0%
WY2005	19.600	0.041	19.640	6.354	0.057	6.410	13.230	67.4%
WY2006	19.217	0.048	19.265	3.418	0.046	3.463	15.801	82.0%
WY2007	27.975	0.040	28.015	7.979	0.101	8.080	19.935	71.2%
WY2008	9.234	0.049	9.284	2.759	0.013	2.772	6.512	70.1%
WY2009	15.731	0.044	15.775	2.710	0.022	2.733	13.042	82.7%
WY2010	20.241	0.055	20.296	9.460	0.048	9.509	10.788	53.2%
POR	132.202	0.367	132.568	36.956	0.322	37.278	95.290	71.9%
%In	99.7%	0.3%	*% Out*	99.1%	0.9%			
STA-2, Cell 3								
WY2003	9.905	0.047	9.952	2.261	0.504	2.765	7.187	72.2%
WY2004	11.196	0.043	11.239	1.765	0.468	2.232	9.007	80.1%
WY2005	20.414	0.041	20.455	2.830	0.463	3.293	17.163	83.9%
WY2006	13.806	0.048	13.853	2.527	0.419	2.946	10.908	78.7%
WY2007	10.762	0.040	10.802	2.222	0.559	2.780	8.022	74.3%
WY2008	12.295	0.049	12.344	1.968	0.474	2.442	9.902	80.2%
WY2009	14.177	0.044	14.221	2.094	0.625	2.719	11.501	80.9%
WY2010	17.371	0.046	17.417	2.675	0.576	3.251	14.166	81.3%
POR	109.926	0.358	110.283	18.342	4.086	22.428	87.855	79.7%
%In	99.7%	0.3%	*% Out*	81.8%	18.2%			
STA-2, Cell 4								
WY2009	8.296	0.037	8.333	1.402	0.025	1.428	6.905	82.9%
WY2010	8.377	0.035	8.412	2.059	0.047	2.105	6.306	75.0%
POR	16.673	0.072	16.744	3.461	0.072	3.533	13.211	78.9%
%In	99.6%	0.4%	*% Out*	98.0%	2.0%			

[a] All budget terms expressed as metric tonnes of phosphorus

[b] I_s = surface water inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; R = total phosphorus retained: Σinflow – Σoutflow; %R = % total phosphorus retained: (retained/Σinflow)*100.

Table 2D. Annual and period of record total phosphorus budgets for treatment cells in STA-3/4.[a]

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-3/4, Cell 1A								
WY2006	43.034	0.068	43.102	33.756	0.000	33.756	9.346	21.7%
WY2007	28.917	0.051	28.968	9.191	0.000	9.191	19.777	68.3%
WY2008	13.945	0.058	14.003	9.932	0.000	9.932	4.071	29.1%
WY2009	16.712	0.060	16.772	4.026	0.000	4.026	12.746	76.0%
WY2010	25.304	0.076	25.380	17.012	0.000	17.012	8.367	33.0%
POR	127.912	0.312	128.224	73.917	0.000	73.917	54.307	42.4%
%In	99.8%	0.2%	*% Out*	100.0%	0.0%			
STA-3/4, Cell 1B								
WY2006	33.739	0.078	33.817	10.621	0.000	10.621	23.196	68.6%
WY2007	9.217	0.059	9.276	4.220	0.000	4.220	5.056	54.5%
WY2008	9.932	0.066	9.999	3.071	0.000	3.071	6.928	69.3%
WY2009	4.025	0.069	4.094	3.169	0.000	3.169	0.926	22.6%
WY2010	17.012	0.087	17.099	3.781	0.000	3.781	13.318	77.9%
POR	73.926	0.358	74.285	24.861	0.000	24.861	49.424	66.5%
%In	99.5%	0.5%	*% Out*	100.0%	0.0%			
STA-3/4, Cell 2A								
WY2006	39.037	0.057	39.094	25.442	0.000	25.442	13.651	34.9%
WY2007	13.880	0.043	13.923	4.250	0.000	4.250	9.673	69.5%
WY2008	5.178	0.048	5.227	1.864	0.000	1.864	3.363	64.3%
WY2009	10.913	0.050	10.963	1.871	0.000	1.871	9.091	82.9%
WY2010	17.505	0.063	17.568	3.650	0.000	3.650	13.918	79.2%
POR	86.513	0.261	86.774	37.078	0.000	37.078	49.697	57.3%
%In	99.7%	0.3%	*% Out*	100.0%	0.0%			
STA-3/4, Cell 2B								
WY2006	25.990	0.064	26.054	8.327	0.000	8.327	17.727	68.0%
WY2007	4.154	0.049	4.203	3.282	0.000	3.282	0.921	21.9%
WY2008	1.867	0.055	1.922	2.250	0.000	2.250	-0.328	-17.1%
WY2009	1.873	0.057	1.930	2.210	0.000	2.210	-0.280	-14.5%
WY2010	3.650	0.072	3.722	4.074	0.000	4.074	-0.352	-9.5%
POR	37.534	0.297	37.831	20.143	0.000	20.143	17.688	46.8%
%In	99.2%	0.8%	*% Out*	100.0%	0.0%			
STA-3/4, Cell 3								
WY2006	9.150	0.102	9.252	3.062	0.000	3.062	6.190	66.9%
WY2007	11.510	0.077	11.588	2.596	0.000	2.596	8.992	77.6%
WY2008	8.449	0.087	8.536	2.356	0.000	2.356	6.180	72.4%
POR	29.109	0.266	29.376	8.013	0.000	8.013	21.362	72.7%
%In	99.1%	0.9%	*% Out*	100.0%	0.0%			
STA-3/4, Cell 3A								
WY2009	17.631	0.042	17.673	4.188	0.000	4.188	13.485	76.3%
WY2010	18.846	0.054	18.899	15.642	0.000	15.642	3.258	17.2%
POR	36.476	0.096	36.572	19.830	0.000	19.830	16.743	45.8%

Table 2D. Continued.

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-3/4, Cell 3B								
WY2009	4.188	0.048	4.236	2.046	0.000	2.046	2.190	51.7%
WY2010	15.642	0.060	15.702	3.922	0.000	3.922	11.780	75.0%
POR	19.830	0.108	19.938	5.968	0.000	5.968	13.970	70.1%
%In	99.5%	0.5%	*% Out*	100.0%	0.0%			

[a] All budget terms expressed as metric tonnes of phosphorus

[b] I_s = surface water inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; R = total phosphorus retained: Σinflow – Σoutflow; %R = % total phosphorus retained: (retained/Σinflow)*100.

Table 2E. Annual and period of record total phosphorus budgets for treatment cells and flow-ways in STA-5.[a]

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-5, North FW								
WY2001	5.648	0.033	5.680	3.656	1.407	5.064	0.617	10.9%
WY2002	23.791	0.030	23.821	8.764	1.462	10.226	13.596	57.1%
WY2003	23.431	0.040	23.472	18.124	1.514	19.638	3.834	16.3%
WY2004	21.185	0.039	21.224	8.561	1.079	9.640	11.583	54.6%
WY2005	15.116	0.036	15.152	5.672	0.706	6.378	8.774	57.9%
WY2006	28.797	0.034	28.831	12.486	1.555	14.041	14.790	51.3%
WY2007	19.347	0.036	19.383	14.159	1.948	16.106	3.276	16.9%
WY2008	1.445	0.038	1.483	0.428	0.263	0.691	0.793	53.4%
POR	138.762	0.285	139.046	71.850	9.935	81.784	57.262	41.2%
%In	99.8%	0.2%	*% Out*	87.9%	12.1%			
STA-5, Cell 1A								
WY2009	14.740	0.015	14.755	22.386	0.366	22.752	-7.998	-54.2%
WY2010	4.444	0.022	4.466	9.859	0.468	10.328	-5.862	-131.3%
POR	19.184	0.036	19.220	32.246	0.835	33.080	-13.860	-72.1%
%In	99.8%	0.2%	*% Out*	97.5%	2.5%			
STA-5, Cell 1B								
WY2009	23.553	0.021	23.574	3.946	0.652	4.598	18.976	80.5%
WY2010	10.386	0.032	10.417	2.123	0.506	2.629	7.788	74.8%
POR	33.938	0.053	33.991	6.070	1.158	7.228	26.764	78.7%
%In	99.8%	0.2%	*% Out*	84.0%	16.0%			
STA-5, Center FW								
WY2001	10.883	0.033	10.915	1.291	2.574	3.864	7.051	64.6%
WY2002	26.164	0.030	26.194	4.333	3.203	7.536	18.659	71.2%
WY2003	35.291	0.040	35.331	8.490	6.159	14.649	20.682	58.5%
WY2004	28.506	0.039	28.544	8.005	6.425	14.430	14.115	49.4%
WY2005	11.009	0.036	11.045	6.561	4.493	11.054	-0.009	-0.1%
WY2006	25.447	0.034	25.481	11.253	2.881	14.133	11.348	44.5%
WY2007	5.872	0.036	5.908	0.920	0.772	1.692	4.216	71.4%
WY2008	1.041	0.038	1.080	0.405	0.069	0.474	0.606	56.1%
POR	144.214	0.285	144.498	41.258	26.574	67.832	76.667	53.1%
%In	99.8%	0.2%	*% Out*	60.8%	39.2%			
STA-5, Cell 2A								
WY2009	11.648	0.015	11.663	4.166	0.504	4.670	6.993	60.0%
WY2010	15.807	0.022	15.828	8.128	0.108	8.236	7.592	48.0%
POR	27.455	0.036	27.491	12.294	0.612	12.907	14.584	53.1%
%In	99.9%	0.1%	*% Out*	95.3%	4.7%			
STA-5, Cell 2B								
WY2009	4.353	0.021	4.375	3.383	0.412	3.795	0.580	13.3%
WY2010	8.243	0.032	8.275	4.254	0.275	4.530	3.745	45.3%
POR	12.597	0.053	12.650	7.638	0.687	8.324	4.325	34.2%
%In	99.6%	0.4%	*% Out*	91.8%	8.2%			
STA-5, Cell 3A								
WY2009	7.596	0.018	7.613	0.553	2.094	2.648	4.966	65.2%
WY2010	4.227	0.026	4.253	1.114	1.183	2.297	1.956	46.0%
POR	11.823	0.044	11.867	1.667	3.277	4.945	6.922	58.3%
%In	99.6%	0.4%	*% Out*	33.7%	66.3%			

Table 2E. Continued.

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-5, Cell 3B								
WY2009	0.553	0.017	0.570	0.122	0.261	0.383	0.188	32.9%
WY2010	1.114	0.025	1.139	0.160	0.404	0.565	0.575	50.4%
POR	1.667	0.043	1.710	0.282	0.665	0.947	0.763	44.6%
%In	97.5%	2.5%	*% Out*	29.8%	70.2%			

[a] All budget terms expressed as metric tonnes of phosphorus

[b] I_s = surface water inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; R = total phosphorus retained: Σinflow – Σoutflow; %R = % total phosphorus retained: (retained/Σinflow)*100.

Table 2F. Annual and period of record total phosphorus budgets for treatment cells in STA-6.[a]

	Inflows[b]			Outflows[b]				
	I_s	P	∑inflow	O_s	O_g	∑outflow	R	% R
STA-6, Cell 3								
WY2003	0.347	0.005	0.352	0.079	0.086	0.165	0.187	53.1%
WY2004	0.657	0.006	0.662	0.188	0.260	0.448	0.214	32.4%
WY2005	1.501	0.005	1.506	0.157	0.356	0.512	0.994	66.0%
WY2006	1.272	0.005	1.276	0.464	0.288	0.752	0.524	41.1%
WY2007	0.923	0.003	0.926	0.278	0.498	0.776	0.150	16.2%
WY2008	0.236	0.005	0.241	0.039	0.389	0.428	-0.187	-77.5%
WY2009	0.797	0.004	0.802	0.087	0.033	0.120	0.682	85.1%
WY2010	2.014	0.007	2.020	0.166	0.004	0.170	1.851	91.6%
POR	7.747	0.038	7.785	1.457	1.913	3.370	4.415	56.7%
%In	99.5%	0.5%	*% Out*	43.2%	56.8%			
STA-6, Cell 5								
WY2003	0.465	0.013	0.477	0.078	0.042	0.120	0.357	74.9%
WY2004	0.661	0.014	0.675	0.228	0.086	0.314	0.361	53.4%
WY2005	1.299	0.013	1.312	0.225	0.158	0.383	0.929	70.8%
WY2006	0.816	0.012	0.828	0.366	0.098	0.464	0.364	44.0%
WY2007	3.317	0.007	3.325	0.355	0.507	0.862	2.462	74.1%
WY2008	0.498	0.012	0.510	0.035	0.106	0.142	0.368	72.2%
WY2009	1.602	0.011	1.613	0.143	0.038	0.181	1.432	88.8%
WY2010	2.639	0.017	2.656	0.354	0.042	0.396	2.260	85.1%
POR	11.297	0.098	11.395	1.783	1.078	2.861	8.534	74.9%
%In	99.1%	0.9%	*% Out*	62.3%	37.7%			
STA-6, Section 2								
WY2009	12.571	0.025	12.596	4.644	1.941	6.585	6.011	47.7%
WY2010	11.469	0.037	11.506	4.138	2.931	7.069	4.437	38.6%
POR	24.040	0.062	24.102	8.782	4.872	13.654	10.448	43.3%
%In	99.7%	0.3%	*% Out*	64.3%	35.7%			

[a] All budget terms expressed as metric tonnes of phosphorus

[b] I_s = surface water inflow; P = precipitation; O_s = surface water outflow; O_g = groundwater outflow; R = total phosphorus retained: Σinflow – Σoutflow; %R = % total phosphorus retained: (retained/Σinflow)*100.

Table 3. Annual and period of record hydraulic loading rate (HLR), TP areal loading rate, inflow and outflow flow-weighted mean (FWM) TP concentrations, and TP removal coefficient (k) for STA treatment cells and flow-ways.[a]

				FWM TP conc.		
		HLR	TP Loading	Inflow	Outflow	k[b]
		(cm/d)	(g P/m^2/yr)	(mg/L)	(mg/L)	(m/yr)
STA-1E, Cell 3	WY2007	4.2	2.150	0.140	0.063	14.7
	WY2008	13.8	6.562	0.130	0.102	13.9
	WY2009	8.4	4.477	0.145	0.133	3.5
	WY2010	3.3	3.016	0.251	0.152	6.6
	POR	7.4	4.051	0.149	0.111	9.5
STA-1E, Cell 4N	WY2007	5.4	1.253	0.063	0.032	14.6
	WY2008	16.3	6.102	0.102	0.027	84.1
	WY2009	12.1	5.870	0.133	0.033	61.2
	WY2010	3.6	1.991	0.152	0.110	4.4
	POR	9.4	3.804	0.111	0.037	38.6
STA-1E, Cell 4S	WY2007	6.3	0.950	0.041	0.023	11.9
	WY2008	17.4	1.992	0.031	0.019	29.4
	WY2009	11.3	1.501	0.036	0.015	32.1
	WY2010	4.3	1.903	0.121	0.055	11.0
	POR	9.8	1.586	0.044	0.022	21.7
STA-1E, Cell 5	WY2007	5.4	5.559	0.283	0.265	1.1
	WY2008	0.9	0.476	0.146	0.131	0.4
	WY2009	6.2	4.499	0.197	0.326	-13.1
	WY2010	2.9	2.471	0.235	0.240	-0.2
	POR	3.8	3.251	0.232	0.278	-2.7
STA-1E, Cell 6	WY2007	4.3	3.482	0.221	0.159	5.1
	WY2008	2.1	0.737	0.097	0.051	4.6
	WY2009	7.6	7.499	0.270	0.047	43.5
	WY2010	4.7	3.936	0.227	0.311	-4.7
	POR	4.7	3.914	0.229	0.136	8.2
STA-1E, Cell 7	WY2007	5.1	4.896	0.262	0.189	6.9
	WY2008	2.1	1.040	0.135	0.077	5.6
	WY2009	6.1	5.323	0.238	0.195	5.2
	WY2010	5.0	4.421	0.241	0.219	2.1
	POR	4.6	3.920	0.234	0.184	4.7
STA-1W, Cell 1	WY2001	6.3	2.469	0.108	0.066	9.5
	WY2002	8.0	3.242	0.111	0.062	16.0
	WY2003	16.6	9.509	0.157	0.104	23.7
	WY2004	10.2	4.579	0.123	0.116	2.0
	WY2005	10.7	8.515	0.219	0.235	-3.0
	WY2006	6.6	4.877	0.202	0.195	0.8
	POR	9.7	5.532	0.156	0.138	4.2
STA-1W, Cell 1A	WY2009	12.0	9.012	0.207	0.278	-26.2
	WY2010	13.5	10.357	0.210	0.090	90.1
	POR	12.7	9.684	0.208	0.174	17.3
STA-1W, Cell 2	WY2001	2.8	1.140	0.111	0.078	4.1
	WY2002	5.1	1.755	0.095	0.058	10.0
	WY2003	11.7	6.817	0.159	0.143	5.5
	WY2004	5.4	2.785	0.141	0.134	1.7
	POR	6.2	3.124	0.137	0.121	3.6

Table 3. Continued.

		HLR (cm/d)	TP Loading (g P/m^2/yr)	FWM TP conc. Inflow (mg/L)	FWM TP conc. Outflow (mg/L)	k[b] (m/yr)
STA-1W, Cell 3	WY2001	6.0	0.660	0.030	0.027	2.4
	WY2002	9.6	1.042	0.030	0.026	4.2
	WY2003	17.4	3.190	0.050	0.041	11.5
	WY2004	10.8	3.416	0.086	0.049	19.9
	WY2005	13.0	8.733	0.184	0.115	20.4
	WY2006	9.0	6.427	0.195	0.128	12.7
	POR	11.0	3.911	0.098	0.065	14.7
STA-1W, Cell 1B+Cell 3	WY2009	10.7	15.960	0.410	0.038	58.8
	WY2010	15.4	6.143	0.110	0.036	37.4
	POR	13.0	11.051	0.233	0.037	53.7
STA-1W, Cell 4	WY2001	9.0	2.550	0.078	0.026	32.2
	WY2002	15.4	3.229	0.058	0.027	43.9
	WY2003	43.0	22.536	0.143	0.068	108.9
	WY2004	30.5	14.895	0.134	0.074	59.2
	POR	24.5	10.803	0.121	0.058	60.6
STA-1W, West FW	WY2009	3.8	2.854	0.207	0.024	27.0
	WY2010	4.6	3.538	0.210	0.058	19.2
	POR	4.2	3.196	0.208	0.042	21.9
STA-1W, North FW	WY2001	1.4	0.629	0.123	0.084	1.3
	WY2002	5.8	3.163	0.149	0.096	8.5
	WY2003	10.2	5.760	0.154	0.080	24.3
	WY2004	3.8	1.916	0.137	0.045	13.9
	WY2005	5.1	4.818	0.257	0.176	7.5
	WY2006	0.9	0.726	0.211	0.273	-1.2
	WY2007	0.0	0.035	0.216	0.038	3.0
	WY2008	3.0	2.002	0.180	0.031	18.7
	WY2009	2.1	2.051	0.271	0.022	20.0
	WY2010	2.5	2.277	0.246	0.038	19.3
	POR	3.5	2.338	0.183	0.091	8.9
STA-2, Cell 1	WY2003	2.4	0.419	0.049	0.014	8.5
	WY2004	3.1	0.832	0.073	0.014	16.3
	WY2005	3.1	1.107	0.099	0.010	23.4
	WY2006	3.4	1.157	0.094	0.007	28.0
	WY2007	2.8	1.527	0.151	0.009	25.0
	WY2008	3.5	1.157	0.089	0.012	23.1
	WY2009	2.2	0.952	0.118	0.010	20.7
	WY2010	2.7	1.176	0.118	0.039	11.7
	POR	2.9	1.040	0.099	0.015	17.9
STA-2, Cell 2	WY2003	4.5	1.066	0.064	0.020	17.4
	WY2004	3.5	1.134	0.088	0.016	21.4
	WY2005	5.3	2.134	0.110	0.038	20.0
	WY2006	5.2	2.092	0.110	0.027	22.8
	WY2007	4.6	3.045	0.180	0.055	19.5
	WY2008	2.2	1.005	0.124	0.036	10.1
	WY2009	3.8	1.712	0.124	0.020	26.6
	WY2010	4.5	2.203	0.133	0.062	12.8
	POR	4.2	1.799	0.117	0.036	17.6

Table 3. Continued.

		HLR (cm/d)	TP Loading (g P/m^2/yr)	FWM TP conc. Inflow (mg/L)	FWM TP conc. Outflow (mg/L)	k[b] (m/yr)
STA-2, Cell 3	WY2003	5.5	1.078	0.053	0.016	22.3
	WY2004	4.3	1.219	0.077	0.013	26.7
	WY2005	5.3	2.222	0.115	0.016	37.1
	WY2006	4.4	1.503	0.094	0.018	26.6
	WY2007	2.5	1.172	0.129	0.026	15.0
	WY2008	3.2	1.338	0.113	0.017	23.3
	WY2009	2.4	1.543	0.173	0.029	14.9
	WY2010	4.7	1.891	0.110	0.017	31.3
	POR	4.1	1.496	0.101	0.018	24.9
STA-2, Cell 4	WY2009	1.9	1.078	0.152	0.020	16.4
	WY2010	2.8	1.088	0.108	0.025	15.0
	POR	2.4	1.083	0.126	0.023	15.7
STA-34, Cell 1A	WY2006	7.8	3.499	0.122	0.060	26.1
	WY2007	4.8	2.351	0.135	0.056	13.4
	WY2008	3.5	1.134	0.090	0.039	13.9
	WY2009	5.0	1.359	0.074	0.017	27.8
	WY2010	5.5	2.058	0.102	0.041	24.8
	POR	5.3	2.080	0.107	0.045	19.7
STA-34, Cell 1B	WY2006	10.8	2.390	0.060	0.023	35.6
	WY2007	3.2	0.653	0.057	0.021	12.4
	WY2008	4.9	0.704	0.039	0.019	10.3
	WY2009	4.6	0.285	0.017	0.013	4.8
	WY2010	8.1	1.205	0.041	0.013	27.5
	POR	6.3	1.047	0.045	0.018	19.1
STA-34, Cell 2A	WY2006	8.6	3.795	0.121	0.060	25.5
	WY2007	3.5	1.349	0.106	0.034	14.2
	WY2008	2.6	0.503	0.053	0.032	3.8
	WY2009	4.0	1.061	0.073	0.016	20.2
	WY2010	6.1	1.702	0.077	0.024	21.5
	POR	4.9	1.682	0.093	0.042	13.9
STA-34, Cell 2B	WY2006	9.9	2.219	0.061	0.026	28.1
	WY2007	2.9	0.355	0.034	0.022	4.8
	WY2008	1.4	0.159	0.032	0.024	1.9
	WY2009	2.8	0.160	0.016	0.014	1.5
	WY2010	3.6	0.312	0.024	0.017	6.1
	POR	4.1	0.641	0.043	0.021	11.4
STA-34, Cell 3	WY2006	1.4	0.494	0.096	0.021	9.8
	WY2007	1.5	0.621	0.113	0.025	8.3
	WY2008	2.2	0.456	0.056	0.018	8.6
	POR	1.7	0.524	0.083	0.021	9.0
STA-34, Cell 3A	WY2009	6.6	2.023	0.085	0.020	34.0
	WY2010	8.5	2.163	0.070	0.035	27.7
	POR	7.5	2.093	0.076	0.031	29.5
STA-34, Cell 3B	WY2009	5.8	0.426	0.020	0.012	9.4
	WY2010	12.3	1.593	0.035	0.015	30.9
	POR	9.0	1.009	0.031	0.014	21.5

Table 3. Continued.

		HLR (cm/d)	TP Loading (g P/m^2/yr)	FWM TP conc. Inflow (mg/L)	FWM TP conc. Outflow (mg/L)	k[b] (m/yr)
STA-5, North FW	WY2001	1.5	0.679	0.124	0.144	-0.6
	WY2002	4.1	2.861	0.193	0.085	11.2
	WY2003	4.2	2.818	0.184	0.146	3.5
	WY2004	4.6	2.547	0.152	0.069	12.6
	WY2005	3.8	1.818	0.132	0.063	9.2
	WY2006	5.7	3.463	0.165	0.090	11.5
	WY2007	2.4	2.326	0.268	0.178	3.8
	WY2008	0.5	0.174	0.095	0.090	0.1
	POR	3.3	2.086	0.171	0.104	5.6
STA-5, Cell 1A	WY2009	5.2	4.362	0.229	0.157	11.5
	WY2010	2.5	1.315	0.145	0.183	-2.9
	POR	3.8	2.839	0.202	0.164	4.4
STA-5, Cell 1B	WY2009	8.6	4.770	0.152	0.046	29.5
	WY2010	3.7	2.104	0.156	0.057	10.6
	POR	6.1	3.437	0.153	0.049	20.0
STA-5, Center FW	WY2001	1.9	1.309	0.188	0.054	6.1
	WY2002	3.8	3.146	0.228	0.074	11.7
	WY2003	3.9	4.244	0.295	0.116	10.9
	WY2004	3.0	3.428	0.309	0.172	4.9
	WY2005	2.3	1.324	0.160	0.110	2.9
	WY2006	4.1	3.060	0.206	0.103	9.7
	WY2007	1.2	0.706	0.160	0.237	-1.0
	WY2008	0.3	0.125	0.106	0.102	0.0
	POR	2.6	2.168	0.231	0.109	5.7
STA-5, Cell 2A	WY2009	3.8	3.447	0.248	0.091	13.7
	WY2010	7.1	4.678	0.181	0.086	19.9
	POR	5.5	4.062	0.204	0.088	17.1
STA-5, Cell 2B	WY2009	2.9	0.882	0.084	0.073	1.4
	WY2010	5.5	1.670	0.083	0.048	10.3
	POR	4.2	1.276	0.083	0.057	5.6
STA-5, Cell 3A	WY2009	1.0	1.873	0.540	0.112	3.7
	WY2010	1.5	1.042	0.185	0.058	6.1
	POR	1.2	1.458	0.321	0.069	5.8
STA-5, Cell 3B	WY2009	0.3	0.139	0.111	0.030	1.5
	WY2010	1.3	0.280	0.058	0.036	1.4
	POR	0.8	0.210	0.069	0.033	1.5
STA-6, Cell 3	WY2003	5.9	0.600	0.028	0.018	6.8
	WY2004	5.5	0.662	0.033	0.012	17.7
	WY2005	5.3	1.514	0.078	0.018	20.2
	WY2006	4.7	1.283	0.075	0.033	12.8
	WY2007	5.7	1.242	0.060	0.043	4.8
	WY2008	0.9	0.286	0.084	0.054	1.0
	WY2009	1.4	0.804	0.152	0.034	5.9
	WY2010	5.5	2.031	0.102	0.040	11.4
	POR	4.3	1.090	0.069	0.026	11.7

Table 3. Continued.

		HLR (cm/d)	TP Loading (g P/m^2/yr)	FWM TP conc. Inflow (mg/L)	FWM TP conc. Outflow (mg/L)	k[b] (m/yr)
STA-6, Cell 5	WY2003	2.6	0.315	0.033	0.013	6.5
	WY2004	1.9	0.261	0.037	0.011	9.1
	WY2005	1.7	0.513	0.081	0.019	7.8
	WY2006	1.1	0.323	0.079	0.023	6.5
	WY2007	2.0	1.749	0.236	0.046	9.4
	WY2008	0.6	0.236	0.114	0.026	2.0
	WY2009	0.8	0.633	0.210	0.024	5.9
	WY2010	2.8	1.044	0.103	0.026	10.7
	POR	1.7	0.623	0.103	0.022	8.3
STA-6, Section 2	WY2009	3.1	2.240	0.198	0.106	5.9
	WY2010	4.5	2.043	0.125	0.055	12.3
	POR	3.8	2.141	0.155	0.074	9.1

[a] All HLRs and TP loading rates calculated using inflow surface water volumes

[b] $k = \ln(\text{TP conc}_{in}/\text{TP conc}_{out})*(((\text{Flow}_{in}+\text{Flow}_{out})/2)/\text{Cell Area})*(365/\#\text{ days})$