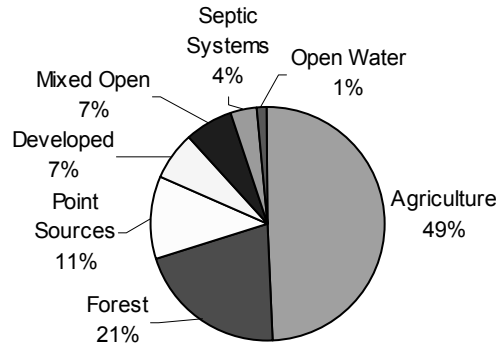


**Table 3.B.
Nutrient and Sediment Loads Based on 2002 Implementation**

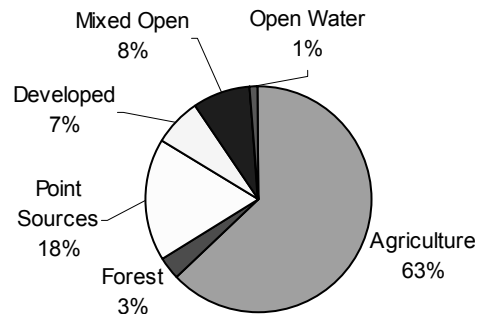
Total Nitrogen in Pounds per Year

Land Use	Delivered Load
Agriculture	53,663,000
Forest	22,659,000
Point Sources	12,487,000
Developed	7,538,000
Mixed Open	7,272,000
Septic Systems	4,023,000
Open Water	1,567,000
Total	109,209,000



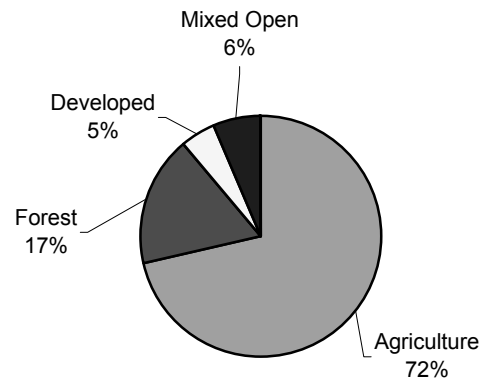
Total Phosphorus in Pounds per Year

Land Use	Delivered Load
Agriculture	2,249,000
Forest	117,200
Point Sources	630,200
Developed	245,100
Mixed Open	298,100
Septic Systems	0
Open Water	40,400
Total	3,580,000



Sediment in Tons per Year

Land Use	Delivered Load
Agriculture	794,200
Forest	193,900
Point Sources	0
Developed	52,500
Mixed Open	71,300
Septic Systems	0
Open Water	0
Total	1,111,900



Appendix E. Pennsylvania Tributary Strategy Cost Table SAIC Estimates

Best Management Practices	Units	2003-2010 Tributary Strategy Units	Capital Unit Cost	Capital Cost	Annualizati on Rate	Annualizati on Term	Annualized Capital (1)	One-time Incentive Payments (2)	O&M Unit Cost	O&M Cost	Annual Incentive Payments (2)	Land Rental (3)	Total Costs (Not including Annualized Capital) (4)
Agriculture													
Forest Buffers	acres	102,258	\$1,284	\$131,299,086	5%	25	\$9,315,993		\$16	\$1,656,577		\$10,982,494	\$12,639,071
Grass Buffers	acres	34,849	\$132	\$4,600,005	5%	10	\$595,722		\$0	\$0		\$3,892,580	\$3,892,580
Wetland Restoration	acres	3,144	\$1,221	\$3,838,284	5%	30	\$249,686		\$37	\$116,689		\$280,405	\$397,094
Land Retirement	acres	260,907	\$132	\$34,439,683	5%	10	\$4,460,096		\$0	\$0		\$23,403,330	\$23,403,330
Tree Planting	acres	0	\$1,284	\$0	5%	25	\$0		\$16	\$0			\$0
Carbon Restoration/Alternative Crops	acres	288,442	\$100	\$28,844,217	5%	10	\$3,735,458		\$0	\$0			\$0
Conservation Tillage	acres	445,716	\$0	\$0	n/a	n/a	n/a		\$3	\$1,212,347			\$1,212,347
No-Till	acres	480c592	\$0	\$0	n/a	n/a	n/a	\$36,044,363	\$3	\$1,441,775			\$1,441,775
Nutrient Management	acres	403,246	\$19	\$7,661,672	5%	3	\$2,813,432		\$0	\$0			\$0
Precision Agriculture	acres	1,186,303	\$0	\$0	n/a	n/a	n/a		\$12.5	\$14,828,789			\$14,828,789
Enhanced Nutrient Management	acres	401,966	\$19	\$7,637,351	5%	3	\$2,804,501		\$0	\$0			\$0
Daily Precision Feeding	# cows	348,258	\$0	\$0	n/a	n/a	n/a		\$102	\$35,318,316			\$35,318,316
Swine Phytase	# swine	1,171,918	\$0	\$0	n/a	n/a	n/a		\$0.40	\$468,767			\$468,767
Ammonia Emission Reduction	# animal units	404,133	\$7.50	\$3,030,998	5%	3	\$1,113,008		\$0	\$0			\$0
Conservation Plans/SCWQP	acres	179,622	\$92	\$108,525,224	5%	10	\$14,054,513		\$5	\$6,016,072			\$6,016,072
Cover Crops – Early	acres	951,577	\$0	\$0	n/a	n/a	\$0		\$27	\$25,692,582			\$25,692,582
Off-Stream Watering w/Fencing	acres	185,655	\$578	\$107,308,373	5%	10	\$13,896,925		\$29	\$5,406,263			\$5,406,263
Off-Stream Watering w/o Fencing	acres	117,723	\$417	\$49,090,518	5%	10	\$6,357,447		\$21	\$2,472,184			\$2,472,184
Off-Stream Watering w/Fencing & Rotational Graze	acres	20,336	\$728	\$14,804,847	5%	10	\$1,917,295		\$37	\$745,937			\$745,937
Precision Grazing	acres	47,197	\$150	\$7,079,494	5%	10	\$916,827		\$15	\$707,949			\$707,949
Animal Waste Management Systems	manure acres	2,163	\$35,398	\$76,560,868	5%	10	\$9,914,983		\$3,602	\$7,790,271			\$7,790,271
Conventional-Till to Pasture	acres	0	\$0	\$0			\$0		\$0	\$0			\$0
Pasture to Mixed Open	acres	0	\$0	\$0			\$0		\$0	\$0			\$0
Stream Restoration	linear feet	33,400	\$240	\$8,016,000	5%	50	\$439,090		\$0	\$0			\$0
Agriculture Subtotal				\$592,736,619			\$72,584,976			\$103,874,518		\$38,558,809	\$142,433,327
Forest													
Stream Restoration	linear feet	11,780	\$240	\$2,827,200	5%	50	\$154,865		\$0	\$0			\$0
Dirt & Gravel Road E & S Control – Forest	feet	2,483,036	\$9	\$22,347,324	5%	50	\$1,224,113		\$0	\$0			\$0
Forest Harvesting Practices		515	\$0	\$0	n/a	n/a	n/a		\$84	\$43,264			\$43,264
Forest Subtotal				\$25,174,524			\$1,378,978			\$43,264			\$43,264
Urban													
Forest Buffers – Mixed Open	acres	10,388	\$1,284	\$13,337,719	5%	25	\$946,344		\$16	\$168,280			\$168,280
Forest Buffers – Pervious	acres	4,295	\$1,284	\$5,514,926	5%	25	\$391,298		\$16	\$69,581			\$69,581
Grass Buffers – Pervious	acres	8,395	\$132	\$1,108,172	5%	10	\$143,513		\$0	\$0			\$0
Tree Planting – Mixed Open	acres	0	\$1,284	\$0	5%	25	\$0		\$16	\$0			\$0
Stormwater Management – Wet Ponds and Wetland	acres	250,891	\$3,363	\$843,743,937	5%	25	\$59,865,706		\$168	\$42,187,197			\$42,187,197
Stormwater Management – Infiltration	acres	250,891	\$5,285	\$1,325,856,522	5%	10	\$171,704,485		\$528	\$132,585,652			\$132,585,652
Stormwater Management – Filtering	acres	250,639	\$12,719	\$3,187,930,217	5%	25	\$226,191,483		\$763	\$191,275,813			\$191,275,813
Stream Restoration – Urban	linear feet	4,000	\$240	\$959,443	5%	50	\$52,555		\$0	\$0			\$0
Stream Restoration – Mixed Open	linear feet	367,070	\$240	\$88,096,800	5%	50	\$4,825,655		\$0	\$0			\$0
Erosion and Sediment Control	acres	17,715	\$0	\$0	n/a	n/a	n/a		\$1,649	\$29,207,295			\$29,207,295
Nutrient Management – Pervious	acres	442,410	\$6	\$2,653,695	5%	3	\$974,460		\$0	\$0			\$0
Nutrient Management – Mixed Open	acres	1,248,943	\$2	\$1,896,243	5%	3	\$696,317		\$0	\$0			\$0
Urban Sprawl Reduction	acres	7,118	\$0	\$0	n/a	n/a	\$0		\$0	\$0			\$0
Street Sweeping – Impervious	acres	29,957	\$9	\$269,612	5%	8	\$41,715		\$15	\$449,354			\$449,354
Horse Pasture Management – Mixed Open	acres	226,128	\$347	\$78,466,454	5%	10	\$10,161,765		\$22	\$4,974,818			\$4,974,818
Abandoned Mine Reclamation	acres	7,073	\$6,180	\$43,712,442	5%	20	\$3,507,599		\$37	\$261,709			\$261,709
Dirt & Gravel E & S Control – Mixed Open	feet	2,857,822	\$9	\$25,720,398	5%	50	\$1,408,879		\$0	\$0			\$0
Urban Subtotal				\$5,619,266,580			\$480,911,773			\$401,179,699			\$401,179,699
Septics													
Denitrification	systems	288,513	\$5,568	\$1,606,297,349	7.4%	20	\$156,368,894		\$519	\$149,821,005			\$149,821,005
Septics Subtotal				\$1,606,297,349			\$156,368,894			\$149,821,005			\$149,821,005
Point Sources													
WWTPs	Tier 2 (8 mg/LTN and 1 mg/L TP for significant)			\$376,379,479	2.5%	20	\$24,143,663			\$9,840,769			\$9,840,769
Point Sources Subtotal				\$376,379,479			\$24,143,663			\$9,840,769			\$9,840,769
Total Tributary Strategy Implementation Cost:				\$8,219,854,552			\$735,388,284	\$36,044,363	\$7,760	\$664,759,254	\$0	\$38,558,809	\$703,318,063

[1] "New" refers to full strategy less existing implementation, except for BMPs implemented on an annual basis (e.g., cover crops).

[2] Annualized over life of practice; represents cost in perpetuity.

[3] Cost paid over and above any offset to capital and o&m costs.

[4] Cost paid to offset opportunity cost for taking land out of production.

[5] Sum of annual payments: o&m, incentive, and land rental.