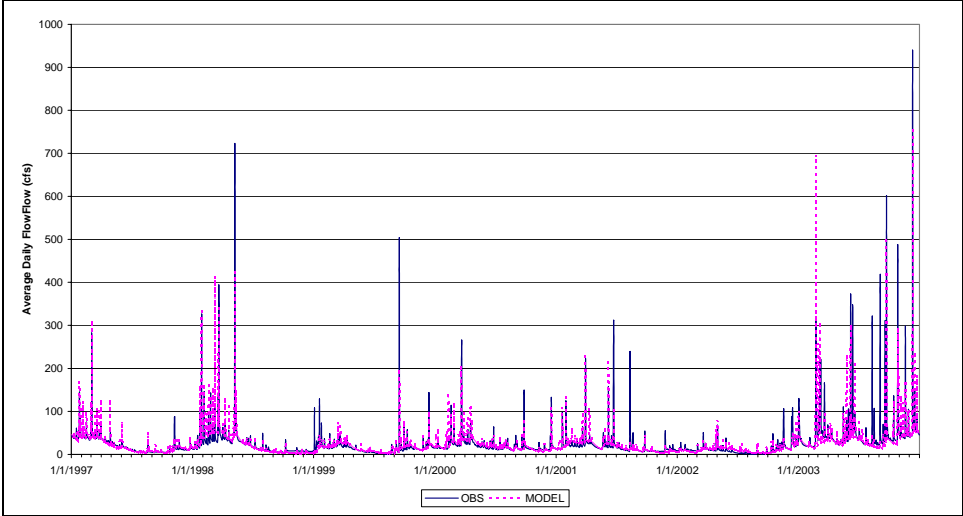
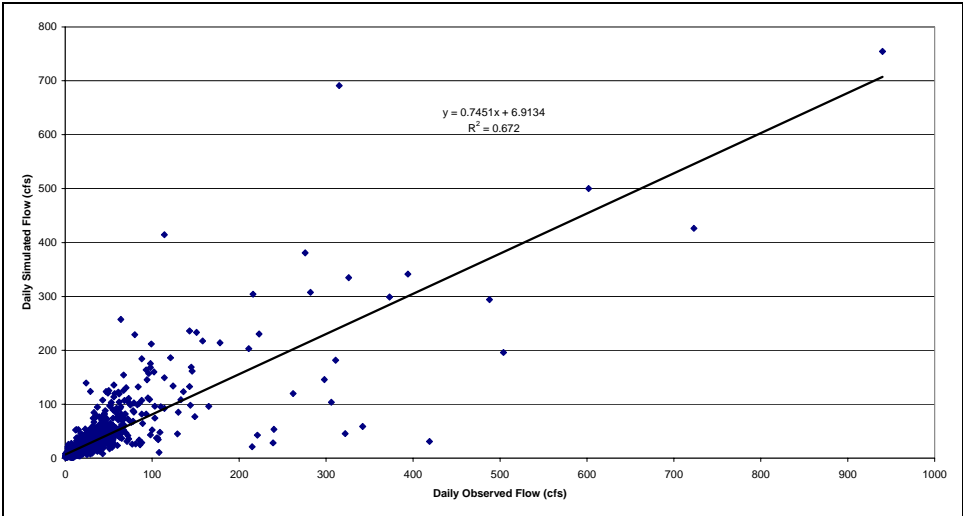


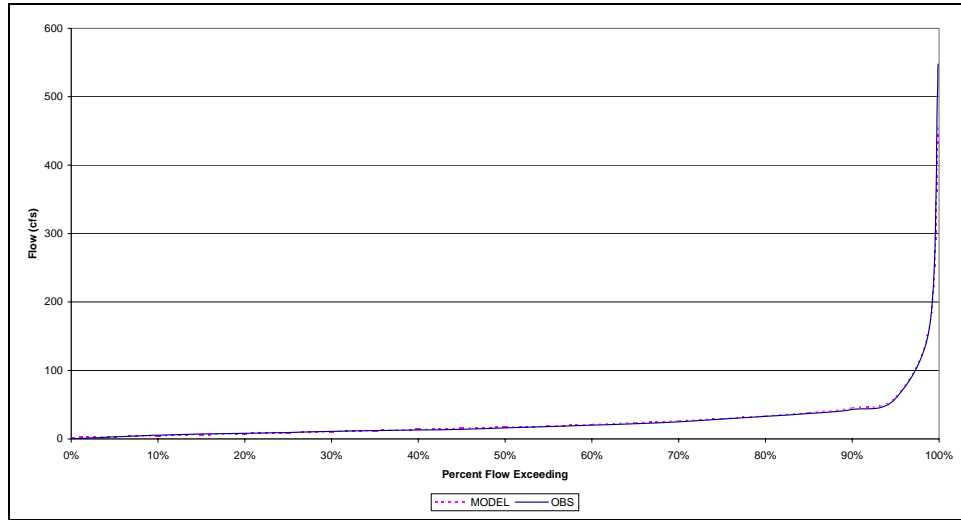
**Figure A.1 Daily Observed and Simulated Flows, Cattail Creek**



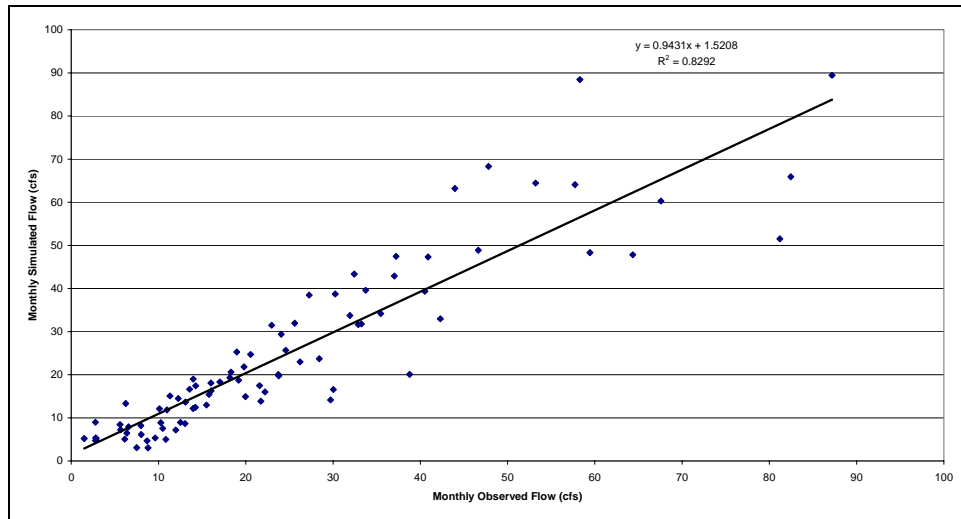
**Figure A.2 Observed vs. Simulated Daily Flows, Cattail Creek**



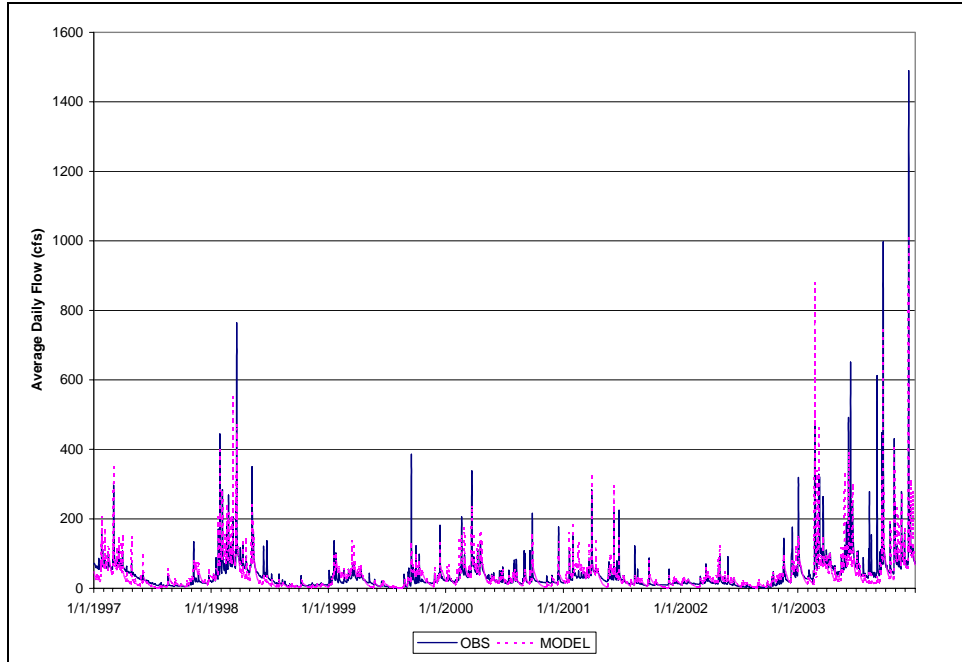
**Figure A.3 Cumulative Distribution of Observed and Simulated Flows, Cattail Creek**



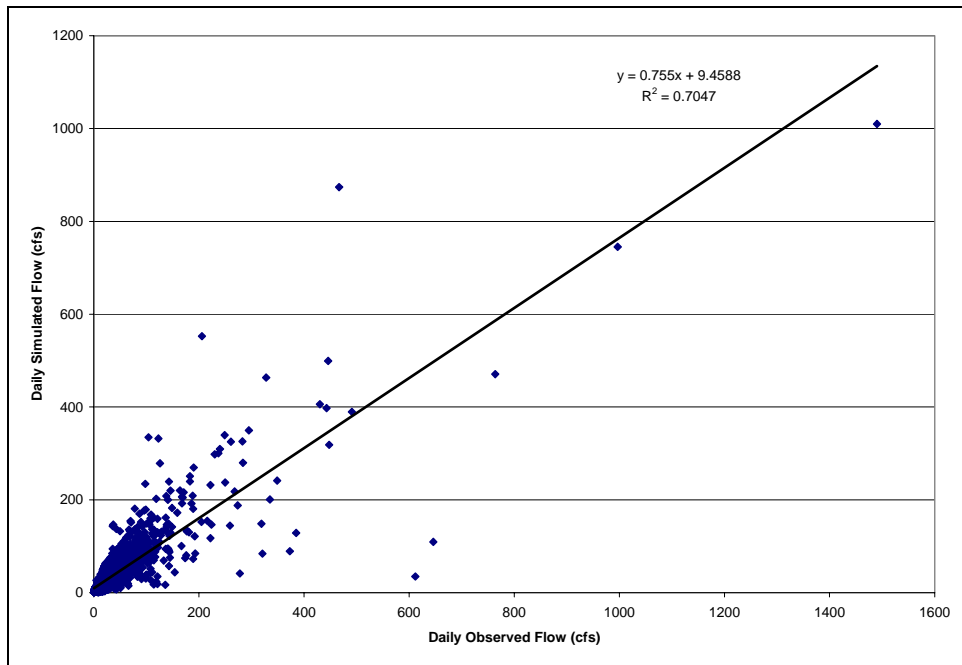
**Figure A.4 Observed vs. Simulated Monthly Flows, Cattail Creek**



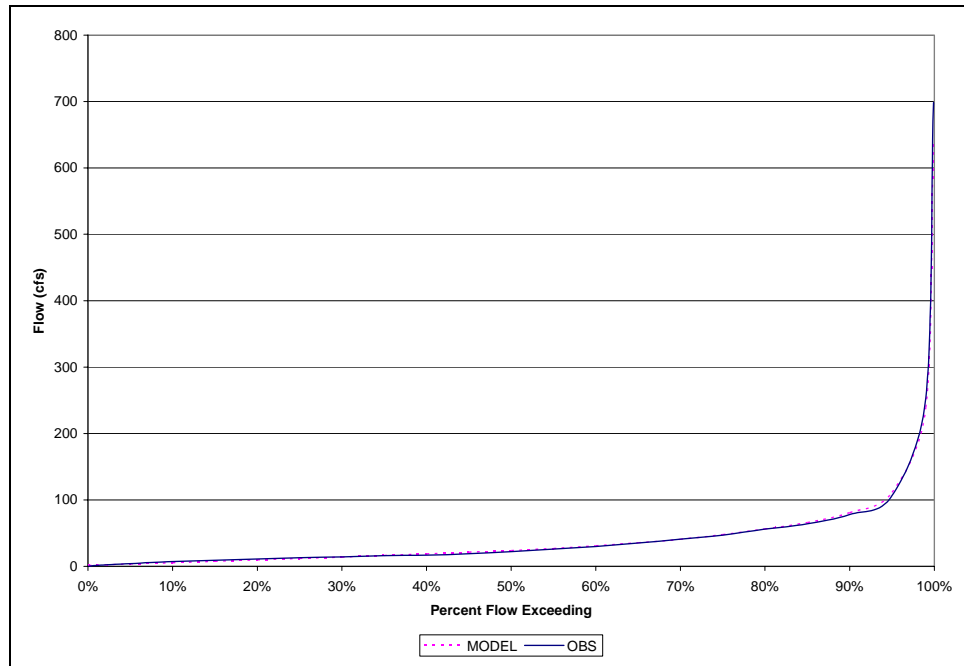
**Figure A.5 Daily Observed and Simulated Flows, Patuxent River near Unity**



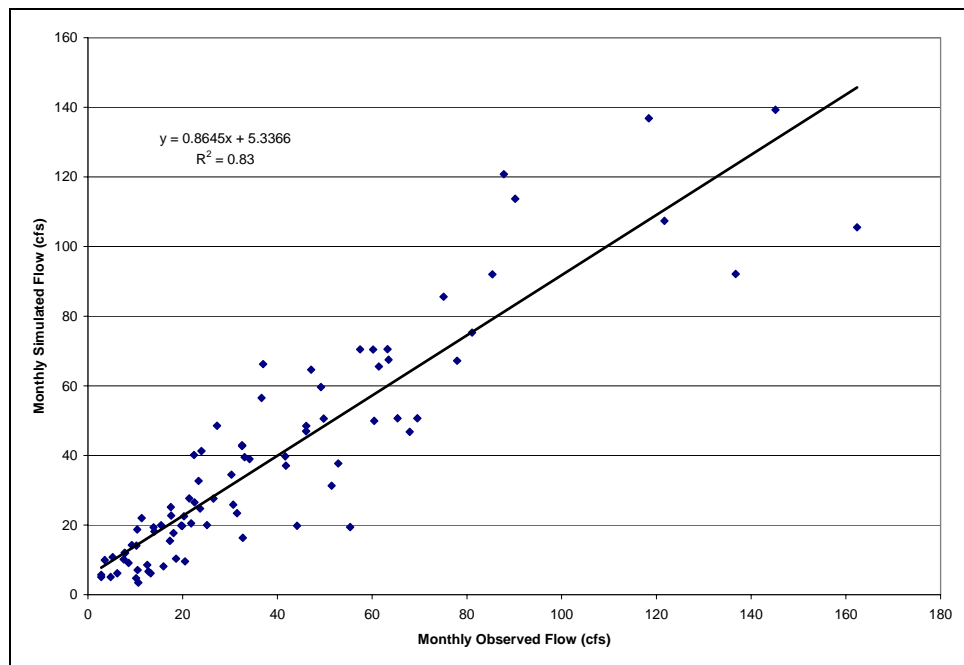
**Figure A.6 Observed vs. Simulated Daily Flows, Patuxent River near Unity**



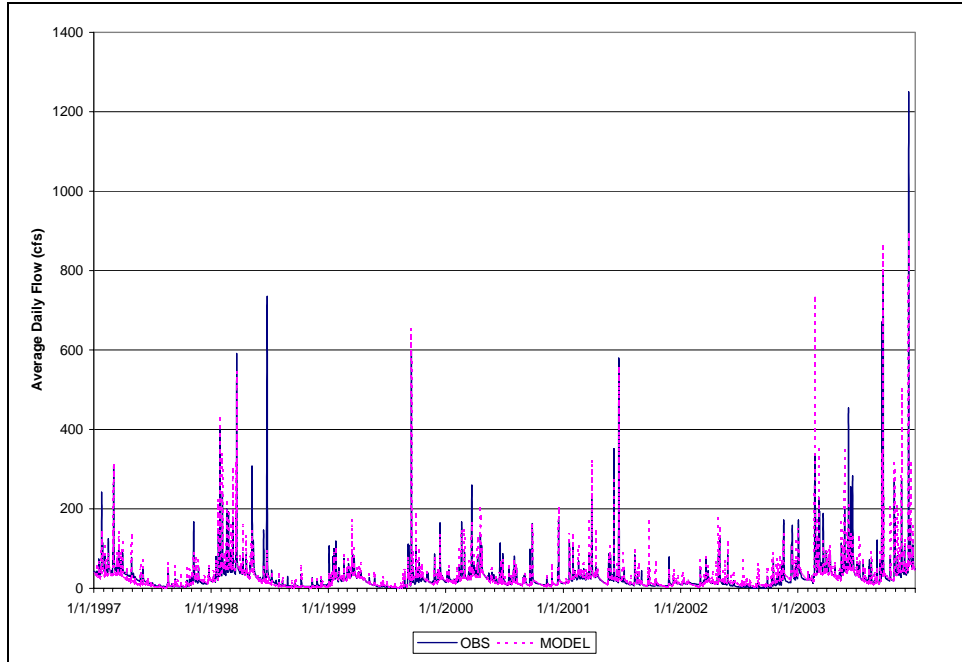
**Figure A.7 Cumulative Distribution of Observed and Simulated Flows, Patuxent River near Unity**



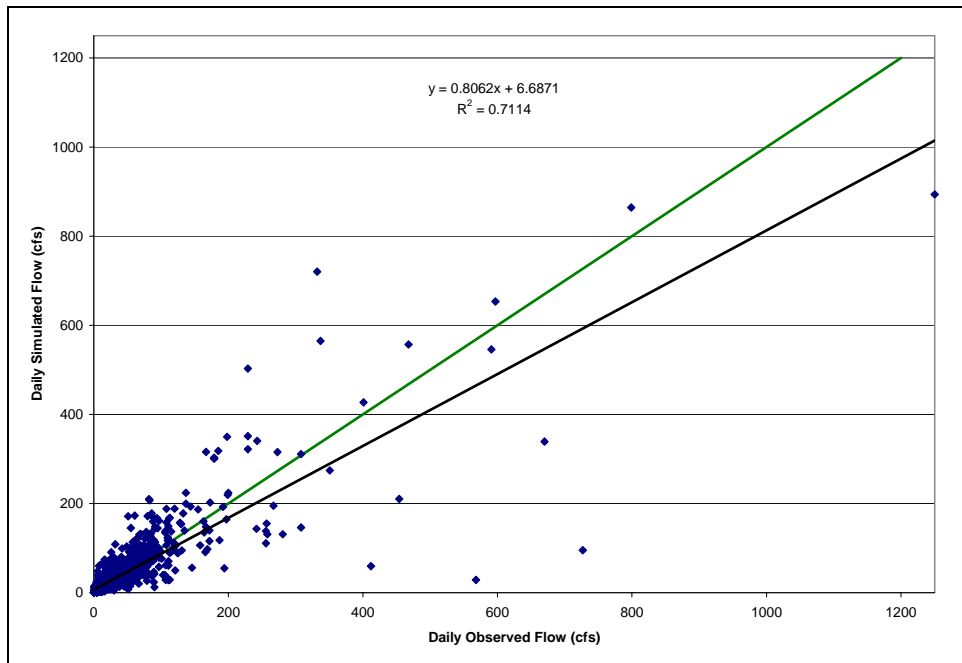
**Figure A.8 Observed vs. Simulated Monthly Flows, Patuxent River near Unity**



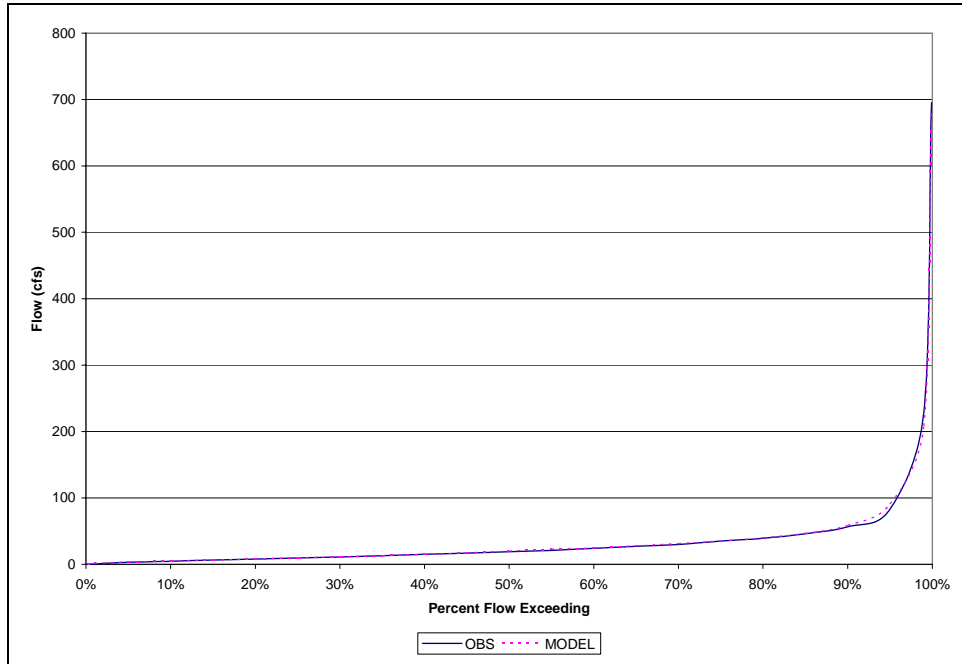
**Figure A.9 Daily Observed and Simulated Flows, Hawlings River**



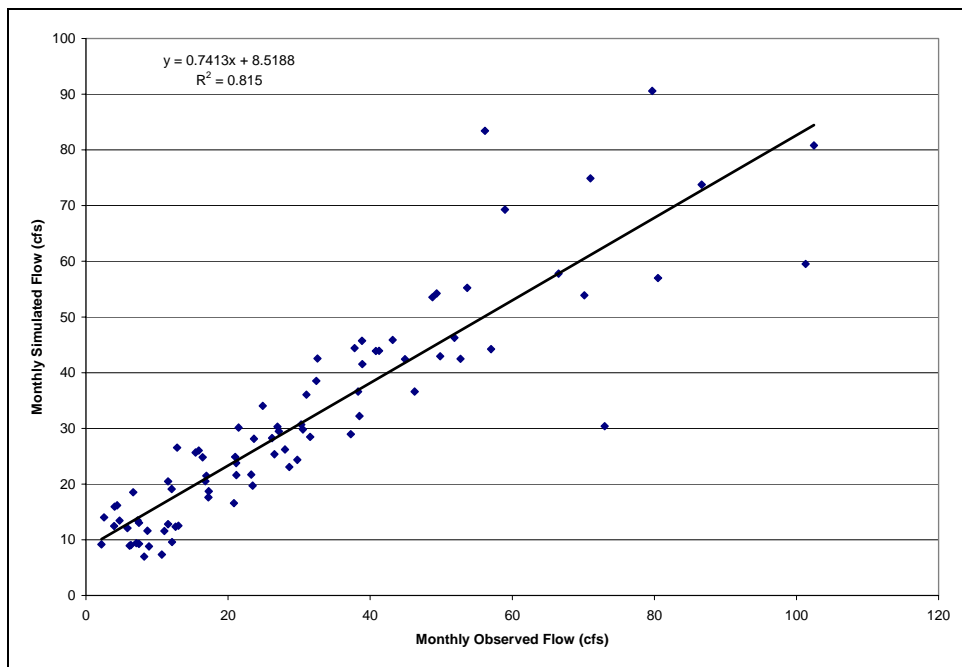
**Figure A.10 Observed vs. Simulated Daily Flows, Hawlings River**



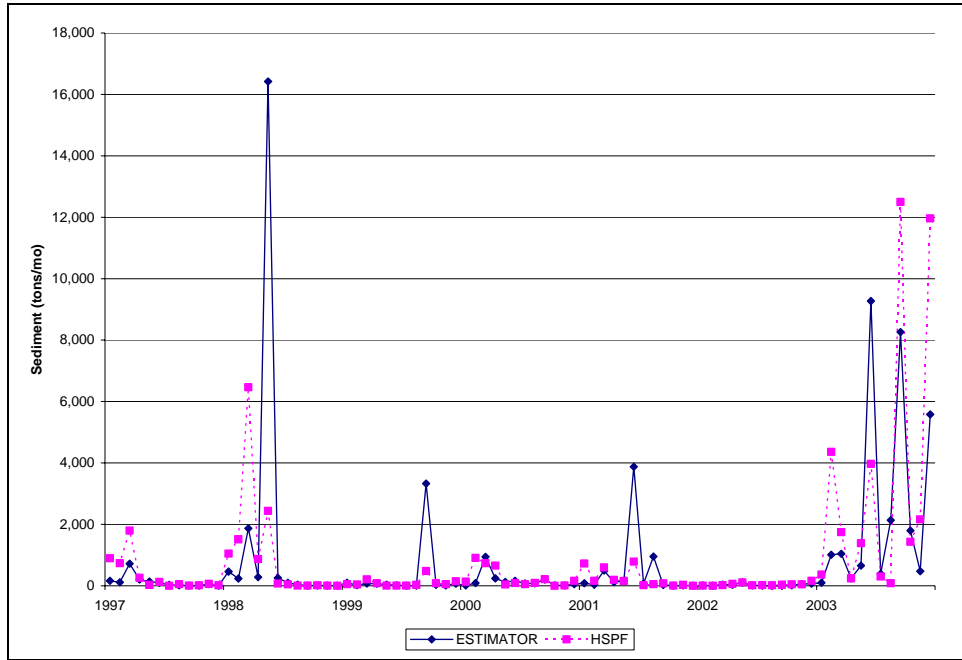
**Figure A.11 Cumulative Distribution of Observed and Simulated Flows, Hawlings River**



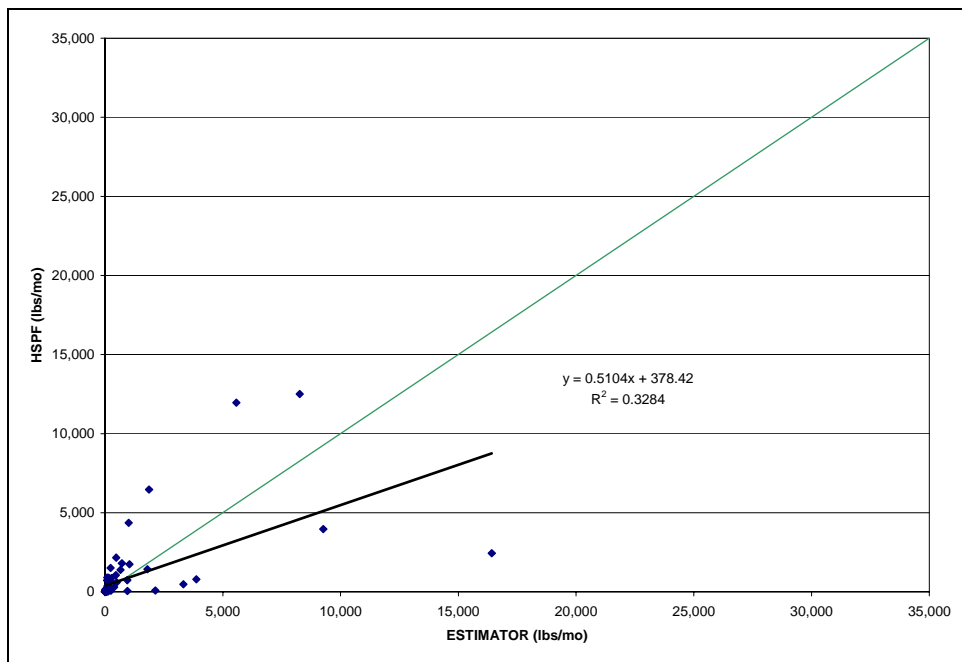
**Figure A.12 Observed vs. Simulated Monthly Flows, Hawlings River**



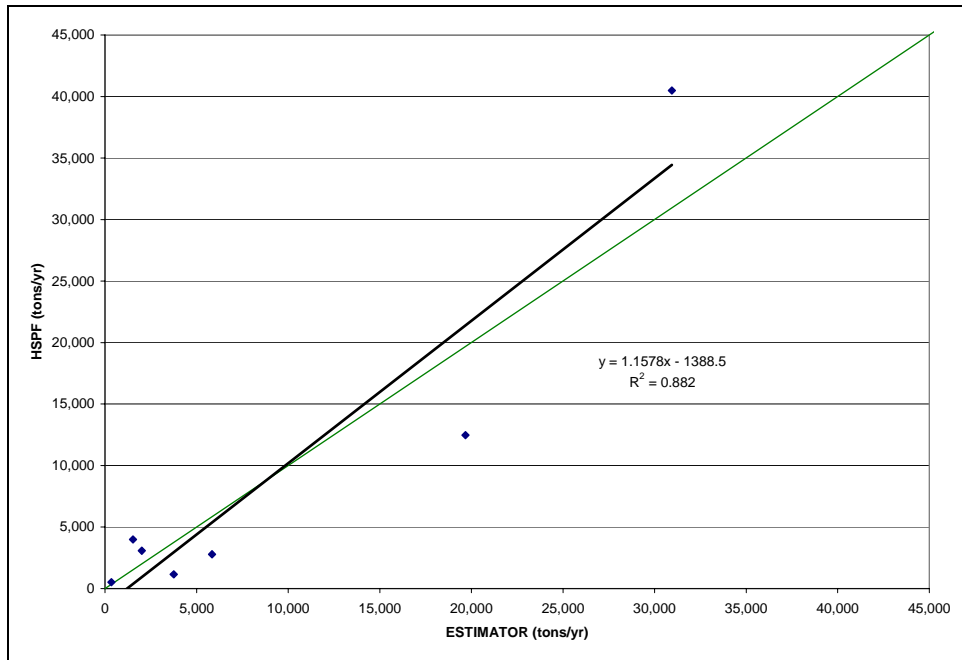
**Figure A.13 Time Series of ESTIMATOR and HSPF Monthly Sediment Loads, Cattail Creek**



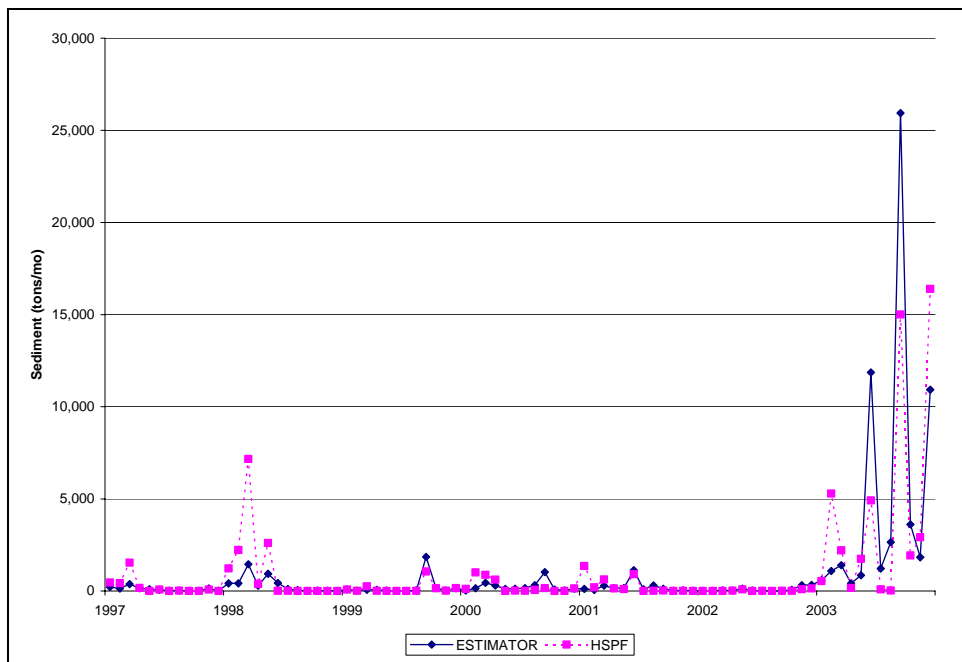
**Figure A.14 Scatter Plot, ESTIMATOR and HSPF Monthly Sediment Loads, Cattail Creek**



**Figure A.15 Scatter Plot, ESTIMATOR and HSPF Annual Sediment Loads, Cattail Creek**

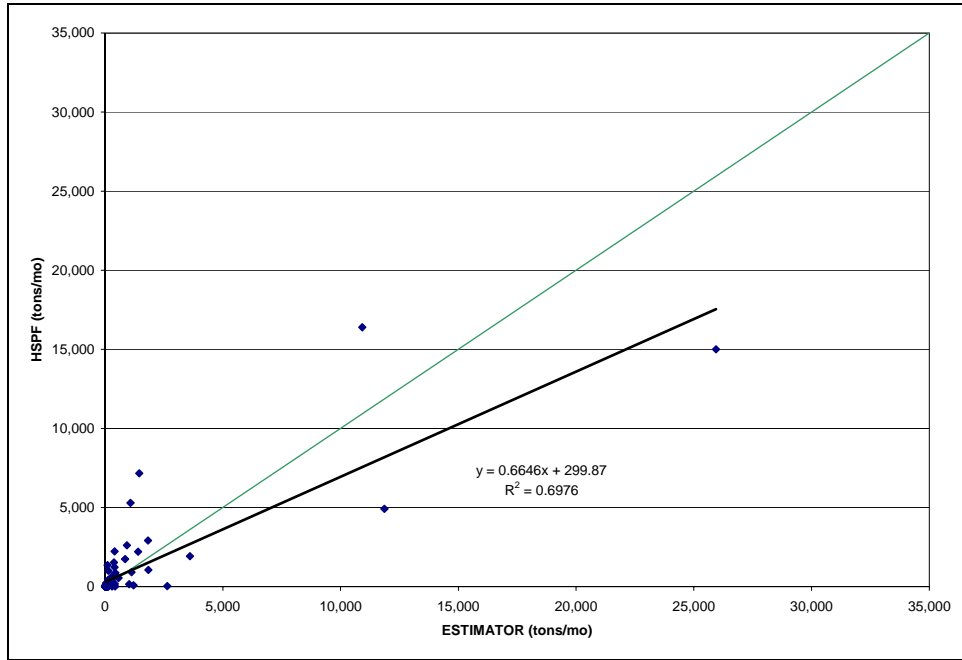


**Figure A.16 Time Series of ESTIMATOR and HSPF Monthly Sediment Loads, Patuxent River near Unity**

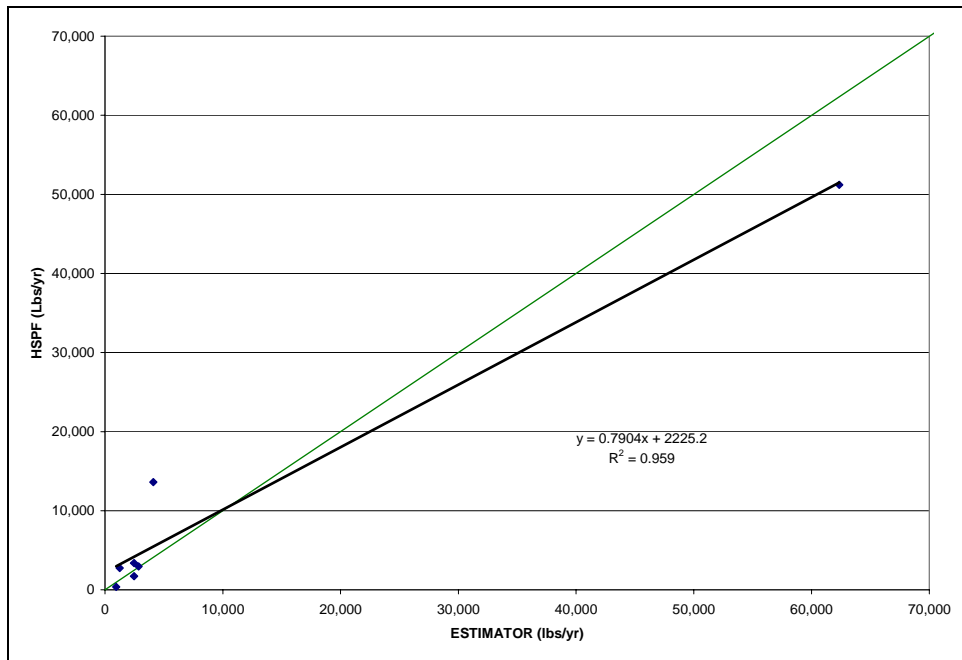




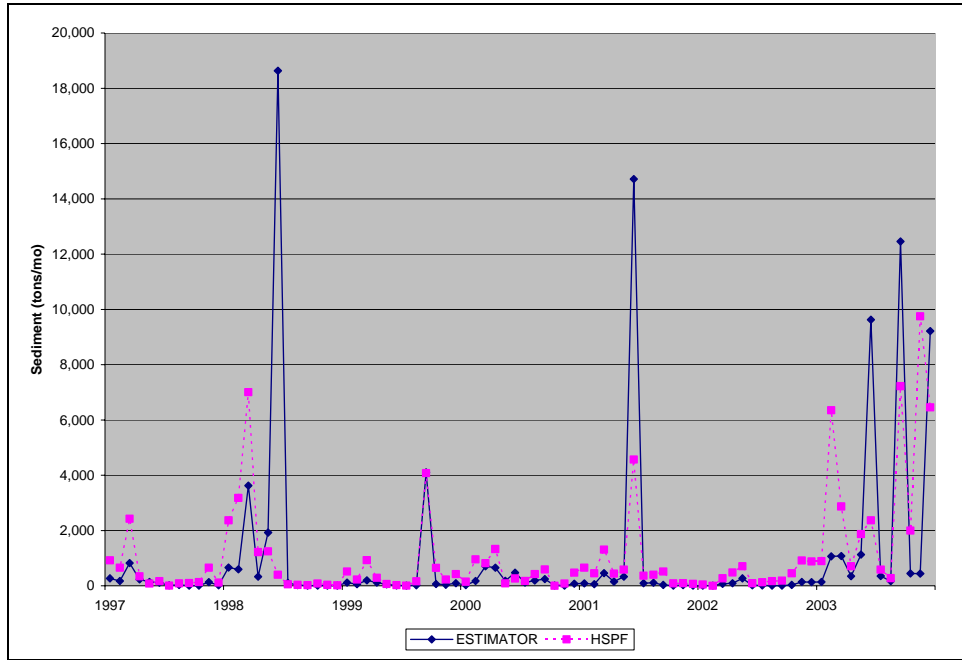
**Figure A.17 Scatter Plot, ESTIMATOR and HSPF Monthly Sediment Loads, Patuxent River near Unity**



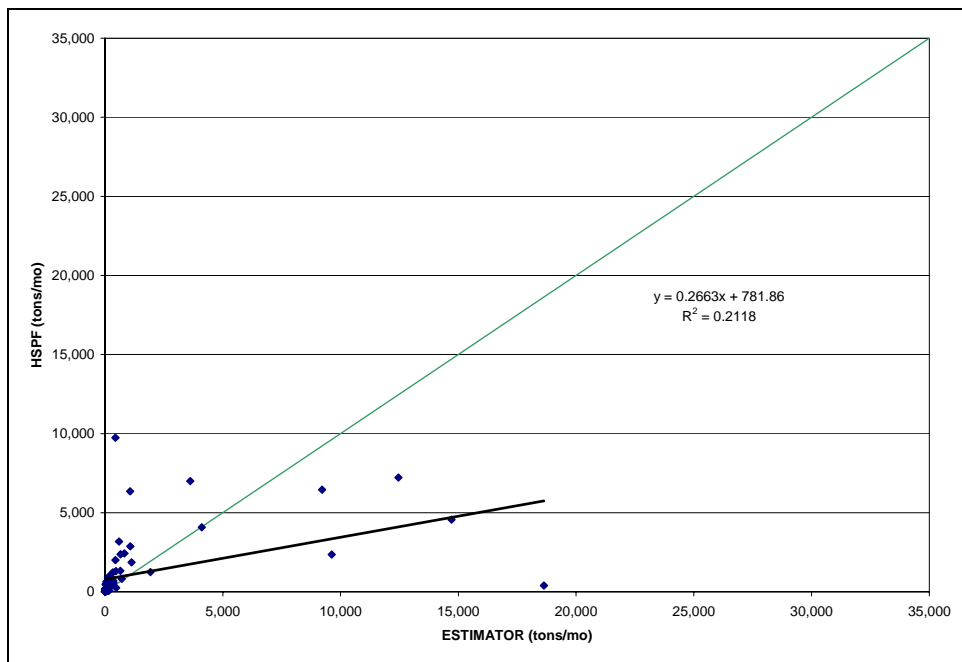
**Figure A.18 Scatter Plot, ESTIMATOR and HSPF Annual Sediment Loads, Patuxent River near Unity**



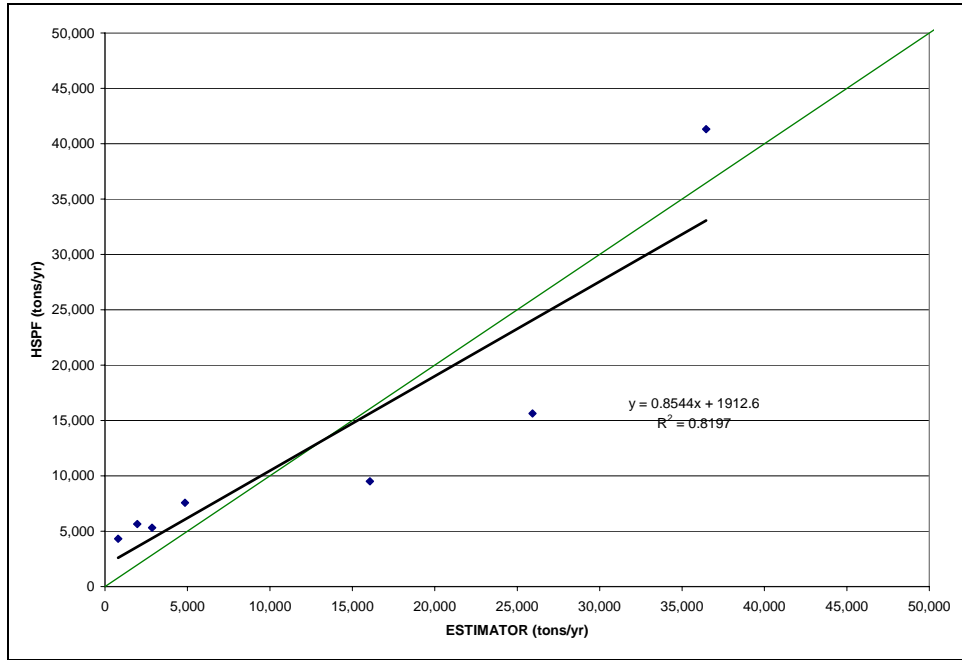
**Figure A.19 Time Series of ESTIMATOR and HSPF Monthly Sediment Loads, Hawlings River**



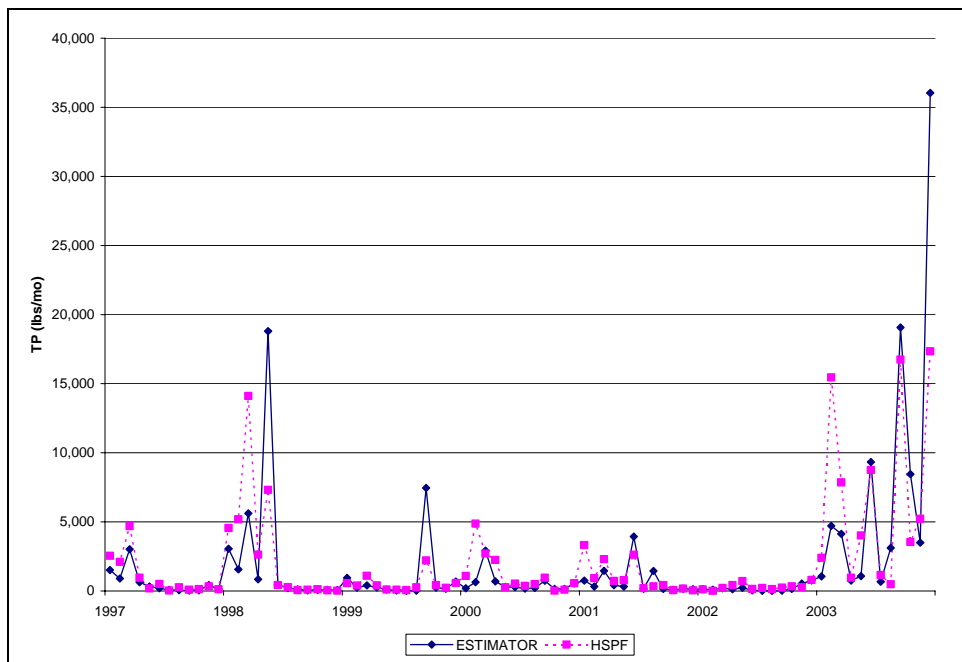
**Figure A.20 Scatter Plot, ESTIMATOR and HSPF Monthly Sediment Loads, Hawlings River**



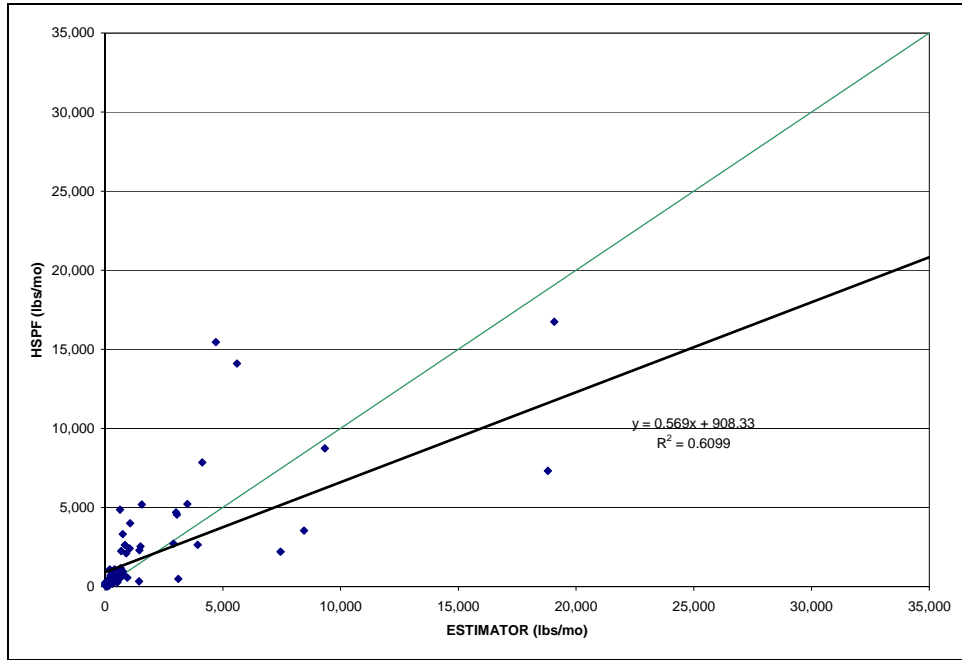
**Figure A.21 Scatter Plot, ESTIMATOR and HSPF Annual Sediment Loads, Hawlings River**



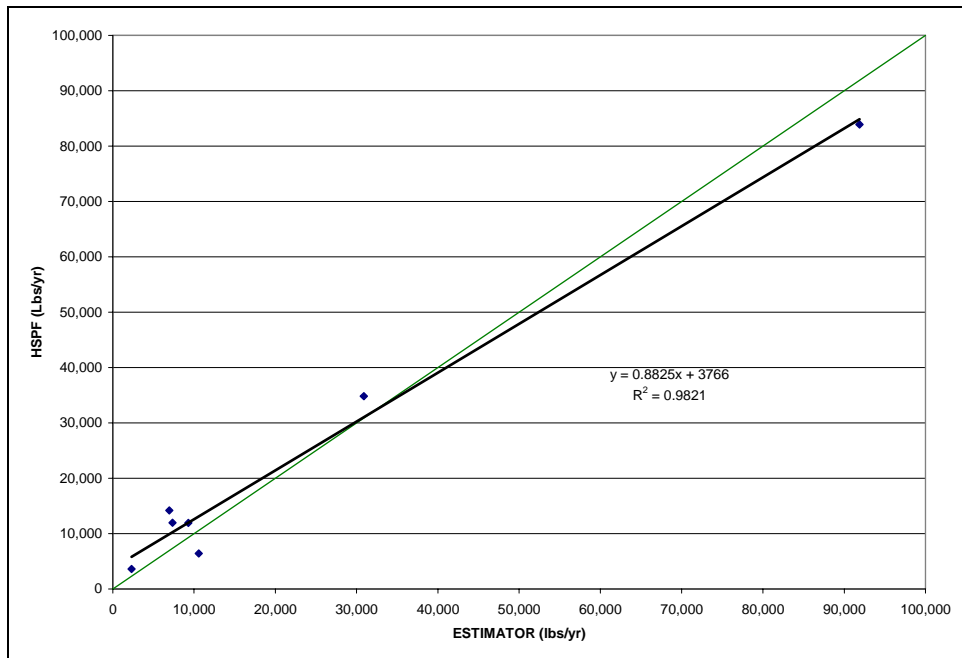
**Figure A.22 Time Series of ESTMATOR and HSPF Monthly TP Loads, Cattail Creek**



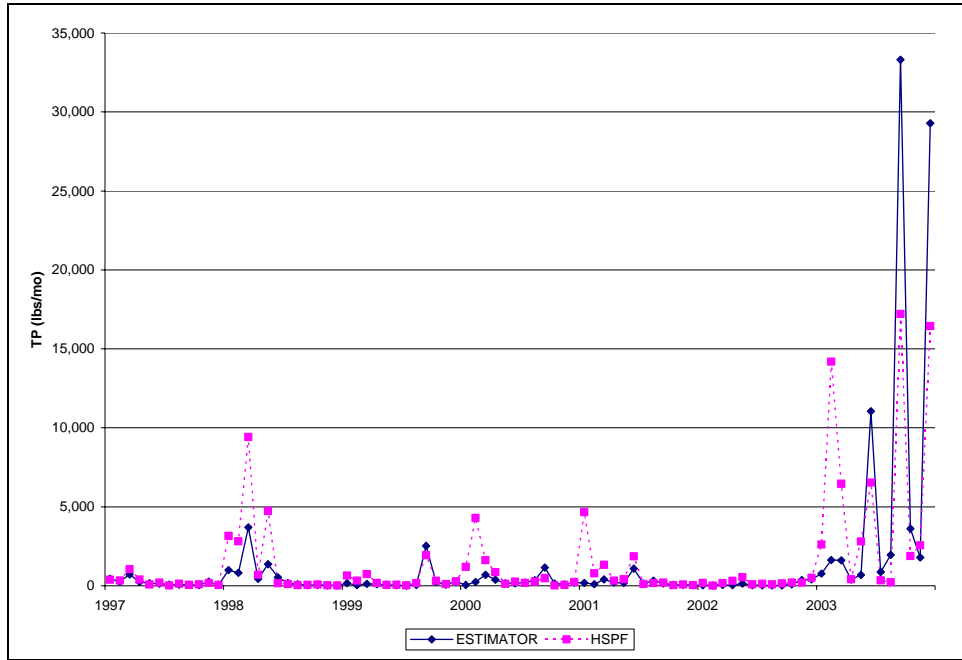
**Figure A.23 Scatter Plot, ESTIMATOR and HSPF Monthly TP Loads, Cattail Creek**



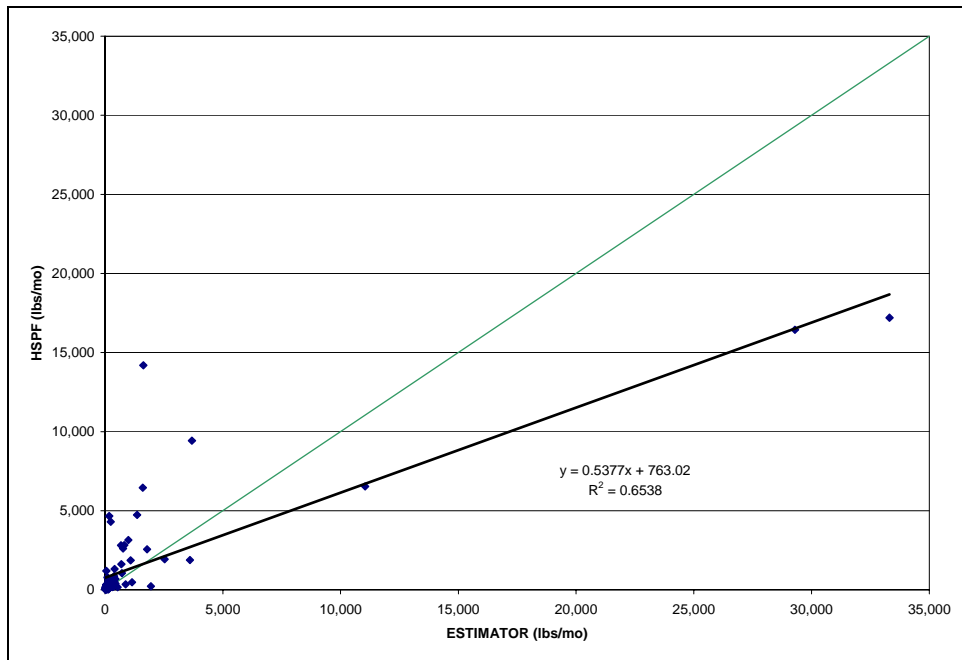
**Figure A.24 Scatter Plot, ESTIMATOR and HSPF Annual TP Loads, Cattail Creek**



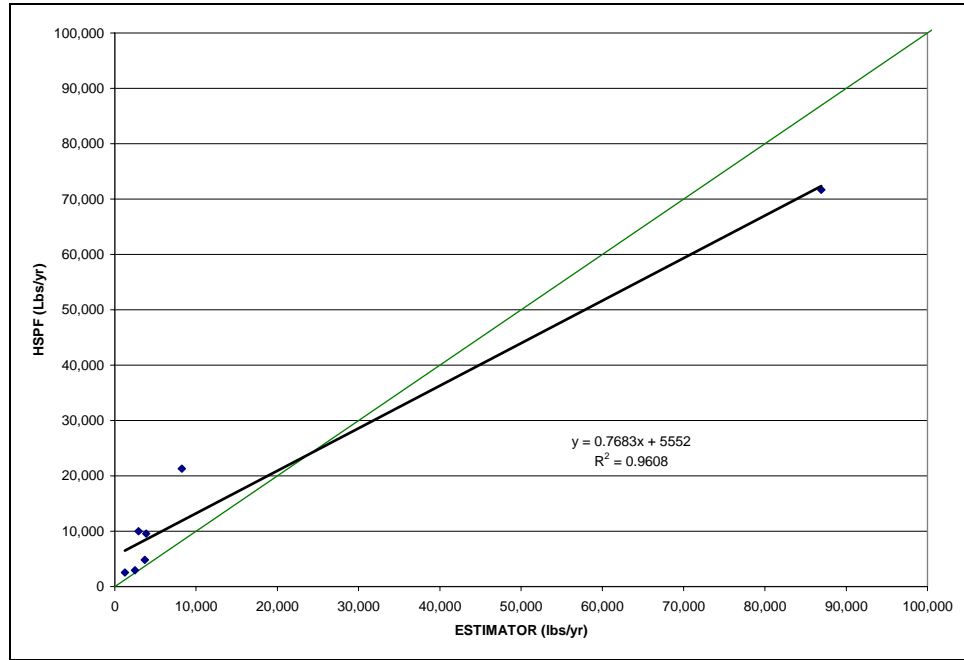
**Figure A.25 Time Series of ESTIMATOR and HSPF Monthly TP Loads, Patuxent River near Unity**



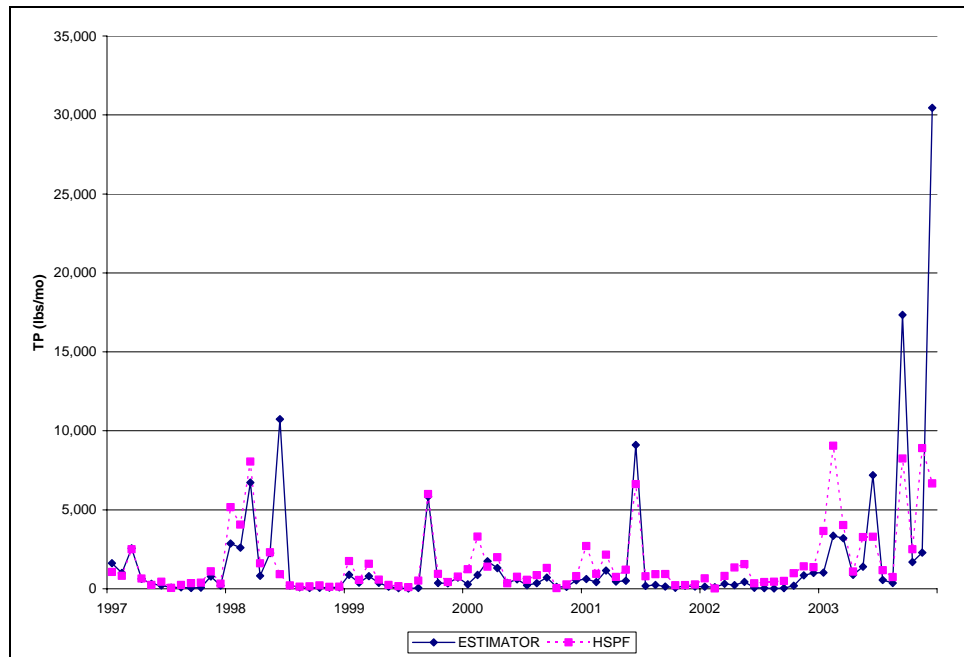
**Figure A.26 Scatter Plot, ESTIMATOR and HSPF Monthly TP Loads, Patuxent River near Unity**



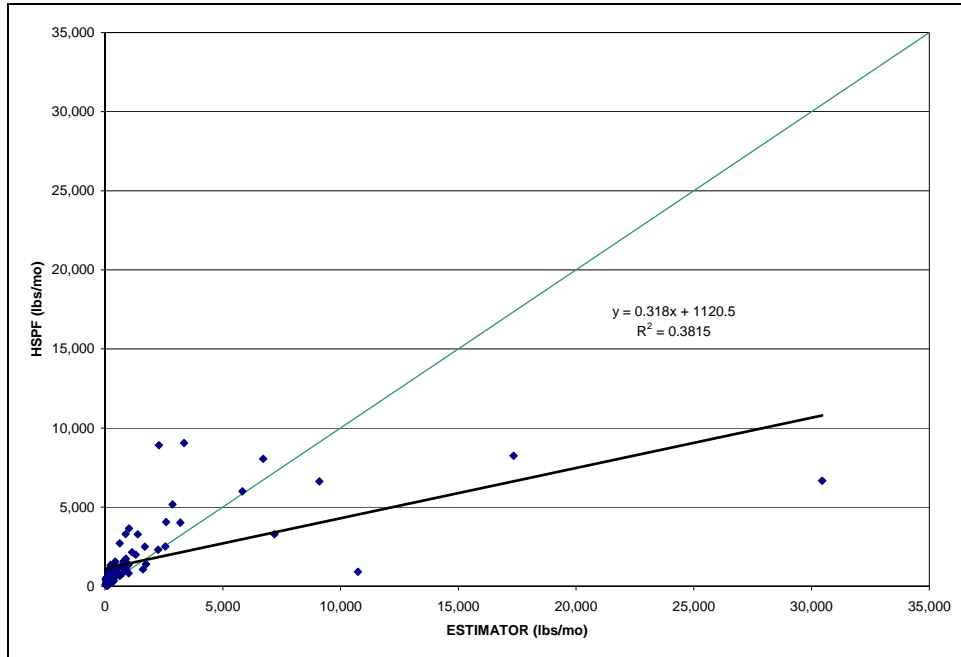
**Figure A.27 Scatter Plot, ESTIMATOR and HSPF Annual TP Loads, Patuxent River near Unity**



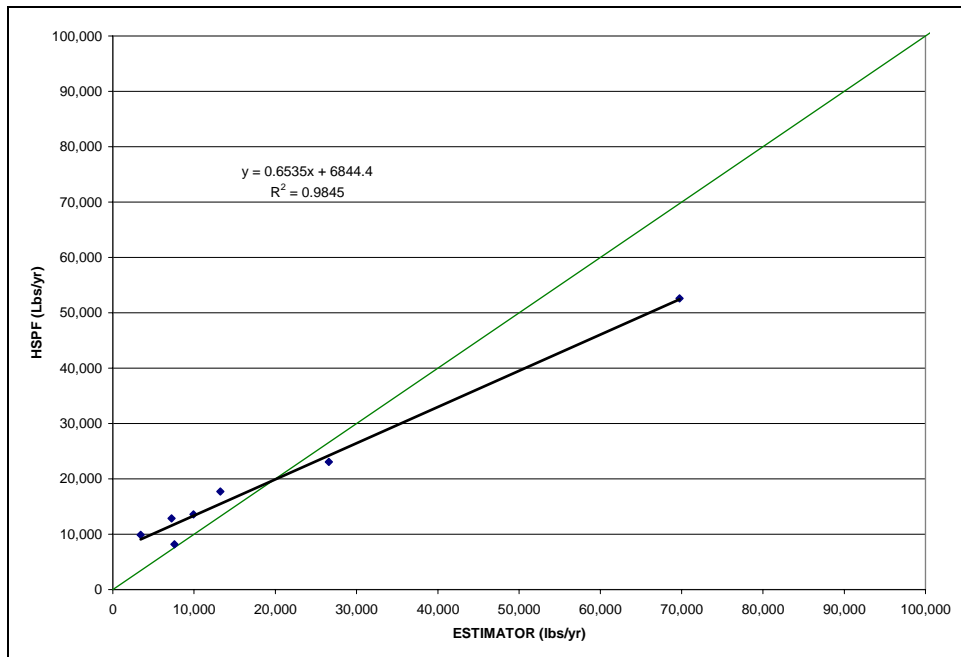
**Figure A.28 Time Series of ESTIMATOR and HSPF Monthly TP Loads, Hawlings River**



**Figure A.29 Scatter Plot, ESTIMATOR and HSPF Monthly TP Loads, Hawlings River**



**Figure A.30 Scatter Plot, ESTIMATOR and HSPF Annual TP Loads, Hawlings River**



**Table A.1 Average Annual Sediment Loads (tons/ac/yr) By Land Use, 1998-2003**

Segment	Developed	Forest	Hay	HiTill	Impervious	LoTill	Pasture
10	0.01	0.06	0.23	1.09	0.27	0.66	0.18
20	0.00	0.06	0.30	1.17	0.26	0.70	0.18
30	0.00	0.08	0.32	1.51	0.26	0.89	0.25
40	0.01	0.06	0.22	1.08	0.28	0.63	0.17
50	0.00	0.12	0.46	2.12	0.26	1.27	0.35
60	0.01	0.11	0.42	1.92	0.27	1.18	0.32

**Table A.2 Average Annual Total Phosphorus Loads (lbs/ac/yr) By Land Use, 1998-2003**

Segment	Developed	Forest	Hay	HiTill	Impervious	LoTill	Pasture
10	0.41	0.12	0.71	2.13	2.74	1.36	0.68
20	0.34	0.12	0.86	2.06	2.61	1.36	0.62
30	0.34	0.18	0.90	2.18	2.61	1.43	0.79
40	0.39	0.11	0.69	2.06	2.77	1.31	0.67
50	0.33	0.24	0.87	2.07	2.61	1.30	1.07
60	0.49	0.23	0.75	2.25	2.74	1.42	1.23

**Table A.3 Average Annual Ammonia-N Loads (lbs/ac/yr) By Land Use, 1998-2003**

Segment	Developed	Forest	Hay	HiTill	Impervious	LoTill	Pasture
10	0.40	0.04	0.26	1.64	1.48	0.98	0.92
20	0.40	0.05	0.28	1.63	0.55	1.06	0.91
30	0.40	0.05	0.25	1.63	0.55	1.07	0.90
40	0.40	0.11	0.25	1.59	1.42	1.06	0.94
50	0.40	0.05	0.25	1.63	0.55	1.07	0.91
60	0.40	0.04	0.21	1.61	1.48	1.04	0.92

**Table A.4 Average Annual Nitrate-N Loads (lbs/ac/yr) By Land Use, 1998-2003**

Segment	Developed	Forest	Hay	HiTill	Impervious	LoTill	Pasture
10	6.53	0.40	5.08	14.94	7.38	16.87	4.98
20	6.51	0.32	5.01	14.80	2.73	16.89	5.02
30	6.55	0.38	5.03	14.80	2.73	16.87	5.04
40	6.56	0.77	5.05	14.46	7.09	16.59	5.00
50	6.51	0.38	5.03	14.80	2.73	16.87	5.06
60	6.49	0.29	5.05	14.57	7.38	16.50	5.00



**Table A.5 Average Annual TP Loads (lbs/yr) By Segment and Land Use, Triadelphia Reservoir**

Segment	Developed	Forest	Hay	HT Crop	Impervious	LT Crop	Pasture	Animal Waste	Scour	Total
10	1,176	584	1,679	4,002	1,669	7,668	1,338	1,033	15,543	34,690
40	510	1,061	1,895	4,505	684	8,574	1,269	968	1,761	21,227
60	284	476	94	223	198	422	510		169	2,377
61	67	28	103	245	71	463	10		144	1,131
62	45	56	125	295	31	559	76	45	181	1,413
63	329	59	49	117	288	221	253	91	89	1,497
64	223	88	56	132	245	249	258	91	103	1,444
65	218	162	151	358	184	678	131	45	244	2,172
Total	2,852	2,514	4,152	9,878	3,369	18,834	3,845	2,273	18,236	65,953

**Table A.6 Average Annual TP Loads (lbs/yr) by Segment and Land Use, Rocky Gorge Reservoir**

Segment	Developed	Forest	Hay	HT Crop	Impervious	LT Crop	Pasture	Animal Waste	Scour	Triadelphia	Point Source	Total
20	1,138	823	1,329	2,541	3,718	4,986	1,194	1,130	5,479		6	22,343
30	530	464	81	155	518	302	474	355	-2,706	15,627		15,800
50	431	761	172	324	791	603	481	253	238			4,055
51	62	103	21	40	185	74	129	51	120			783
52	87	122	53	99	209	185	89	51	186			1,080
53	37	86	27	51	126	95	107	51	111			693
54	38	71	0	0	44	0	138		73			365
55	97	86	49	93	110	172	36		171			813
56	77	35	0	0	75	0	45		79			311
57	114	93	4	8	140	15	165	101	53			693
Total	2,610	2,644	1,737	3,311	5,915	6,433	2,857	1,991	3,804	15,627	6	46,935

**Table A.7 Average Annual Sediment Loads (tons/yr) By Segment and Land Use, Triadelphia Reservoir**

Segment	Developed	Forest	Hay	HT Crop	Impervious	LT Crop	Pasture	Scour	Total
10	29	301	560	2,054	167	3,748	374	5,745	12,978
40	12	562	617	2,354	68	4,128	336	4,130	12,207
60	5	237	53	193	20	355	139	382	1,384
61	1	14	58	212	7	389	3	351	1,036
62	1	28	71	255	3	469	21	463	1,310
63	6	29	28	101	29	186	69	268	717
64	4	44	31	114	25	209	70	304	801
65	4	81	86	310	18	569	36	607	1,710
Total	63	1,296	1,505	5,593	337	10,051	1,047	12,249	32,143