

2008 NUTRIENT AND SUSPENDED- SEDIMENT LOADS AND YIELDS

Loads and yields represent two methods for describing nutrient and SS amounts within a basin. Loads refer to the actual amount of the constituent being transported in the water column past a given point over a specific duration of time and are expressed in pounds. Yields compare the transported load with the acreage of the watershed and are expressed in lbs/acre. This allows for easy watershed comparisons. This project reports loads and yields for the constituents listed in Table 6 as computed by the Minimum Variance Unbiased Estimator (ESTIMATOR) described by Cohn and others (1989). This estimator relates the constituent concentration to water discharge, seasonal effects, and long-term trends, and computes the best-fit regression equation. Daily loads of the constituents then were calculated from the daily mean water discharge records. The loads were reported along with the estimates of accuracy.

Identifying sites where the percentage of LTM for a constituent was different than the percentage of LTM for discharge may show potential areas where improvements or degradations have occurred for that particular constituent. One item to note is that nutrients and SS increase with increased flow (Ott and others, 1991; Takita, 1996, 1998). This increase, however, is not as linear at higher

flows as at lower ones. Individual high flow events tend to produce higher loads, especially for TP and SS, than would be predicted by a simple comparison with the LTM.

Tables 7-19 show the loads and yields for the Group A monitoring stations, as well as an associated error value. They also show the average annual concentration for each constituent. Comparisons have been made to the LTMs for all constituents. Seasonal loads and yields for all parameters and all sites are listed in Table 20 for loads and Table 21 for yields. For the purposes of this project, January through March is winter, April through June is spring, July through September is summer, and October through December is fall. Monthly loads and yields for TN, TP, and SS at all long-term sites are listed in Tables 22 through 25.

2008 SUMMARY STATISTICS FOR ALL SITES

Load and trend analyses were unable to be completed at Group B sites because samples have not been collected at the stations for a sufficient number of years. Therefore, summary statistics have been calculated for these sites, as well as the long-term sites for comparison. Summary statistics are listed in Tables 26 through 30 and include minimum, maximum, median, mean, and standard deviation values taken from the raw 2008 dataset.

Table 6. List of Analyzed Parameters, Abbreviations, and STORET Codes

Parameter	Abbreviation	STORET Code
Discharge	Q	00060
Total Nitrogen as N	TN	00600
Dissolved Nitrogen as N	DN	00602
Total Organic Nitrogen as N *	TON	00605
Dissolved Organic Nitrogen as N *	DON	00607
Total Ammonia as N	TNH ₃	00610
Dissolved Ammonia as N	DNH ₃	00608
Total Nitrate + Nitrite as N	TNO _x	00630
Dissolved Nitrate + Nitrite as N	DNO _x	00631
Total Phosphorus as P	TP	00665
Dissolved Phosphorus as P	DP	00666
Dissolved Orthophosphate as P	DOP	00671
Total Organic Carbon	TOC	00680
Suspended sediment (fine)	SSF	70331
Suspended sediment (sand)	SSS	70335
Suspended Sediment (total)	SS	80154

* These are calculated values and not directly analyzed.

Table 7. Annual Water Discharges, Annual Loads, Yields, and Average Concentration of Total Nitrogen, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	21,826	77.9	3.07	4.37	5.61	0.98	81.2
Danville	17,620	106.4	36,150	82.8	3.31	5.03	6.08	1.04	77.8
Lewisburg	10,108	93.2	17,932	76.1	4.61	4.09	5.38	0.90	81.7
Newport	4,851	110.3	16,461	101.1	3.50	7.67	7.59	1.72	91.7
Marietta	41,023	104.9	116,588	89.5	4.03	7.01	7.83	1.44	85.4
Conestoga	635	93.7	7,896	76.3	3.34	26.25	34.41	6.32	81.4

Table 8. Annual Water Discharges and Annual Loads and Yields of Total Phosphorus, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	2,468	103.7	8.47	0.495	0.477	0.110	108.1
Danville	17,620	106.4	3,626	100.2	9.37	0.505	0.504	0.105	94.1
Lewisburg	10,108	93.2	1,082	84.9	12.41	0.247	0.291	0.054	91.1
Newport	4,851	110.3	815	102.3	10.79	0.379	0.374	0.085	92.8
Marietta	41,023	104.9	6,117	79.3	7.57	0.368	0.464	0.076	75.7
Conestoga	635	93.7	264	39.4	8.90	0.883	2.239	0.213	42.1

Table 9. Annual Water Discharges and Annual Loads and Yields of Total Suspended Sediment, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	1,300,977	43.1	14.25	260.7	604.5	58.2	45.0
Danville	17,620	106.4	1,926,319	58.4	12.14	268.3	459.3	55.5	54.9
Lewisburg	10,108	93.2	498,883	42.2	16.44	113.9	269.6	25.1	45.3
Newport	4,851	110.3	386,635	74.5	19.82	180.1	241.8	40.5	67.6
Marietta	41,023	104.9	5,296,206	78.8	15.04	318.4	404.1	65.6	75.2
Conestoga	635	93.7	80,638	22.3	19.82	268.1	1,200.8	64.5	23.8

Table 10. Annual Water Discharges and Annual Loads and Yields of Total Ammonia, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	1,211	85.8	11.99	0.243	0.283	0.054	89.5
Danville	17,620	106.4	1,741	79.5	11.97	0.242	0.305	0.050	74.7
Lewisburg	10,108	93.2	802	74.8	12.56	0.183	0.245	0.040	80.2
Newport	4,851	110.3	434	112.1	14.69	0.202	0.180	0.045	101.7
Marietta	41,023	104.9	4,408	94.1	13.03	0.265	0.282	0.055	89.8
Conestoga	635	93.7	153	58.4	14.65	0.508	0.871	0.122	62.3

Table 11. Annual Water Discharges and Annual Loads and Yields of Total NOx Nitrogen, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	12,739	76.8	3.79	2.55	3.33	0.570	80.0
Danville	17,620	106.4	20,340	79.2	4.35	2.83	3.58	0.586	74.5
Lewisburg	10,108	93.2	12,576	82.8	4.37	2.87	3.47	0.632	88.9
Newport	4,851	110.3	12,263	101.6	3.61	5.71	5.62	1.284	92.2
Marietta	41,023	104.9	84,056	91.5	4.75	5.05	5.52	1.041	87.3
Conestoga	635	93.7	6,886	82.7	4.78	22.89	27.69	5.508	88.2

Table 12. Annual Water Discharges and Annual Loads and Yields of Total Organic Nitrogen, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	7,244	70.8	6.64	1.45	2.05	0.324	73.8
Danville	17,620	106.4	11,995	74.2	6.51	1.67	2.25	0.346	69.8
Lewisburg	10,108	93.2	5,010	66.7	12.02	1.14	1.72	0.252	71.5
Newport	4,851	110.3	4,191	104.3	12.99	1.95	1.87	0.439	94.6
Marietta	41,023	104.9	29,734	85.6	8.96	1.79	2.09	0.368	81.6
Conestoga	635	93.7	875	45.8	10.84	2.91	6.35	0.699	48.9

Table 13. Annual Water Discharges and Annual Loads and Yields of Dissolved Phosphorus, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	1,142	138.1	10.16	0.229	0.166	0.051	144.0
Danville	17,620	106.4	1,387	131.7	12.66	0.193	0.147	0.040	123.7
Lewisburg	10,108	93.2	609	124.1	17.87	0.139	0.112	0.031	133.2
Newport	4,851	110.3	329	87.1	10.38	0.153	0.176	0.034	79.0
Marietta	41,023	104.9	1,616	69.4	8.72	0.097	0.140	0.020	66.2
Conestoga	635	93.7	156	60.9	7.21	0.520	0.854	0.125	65.0

Table 14. Annual Water Discharges and Annual Loads and Yields of Dissolved Orthophosphate, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	893	198.7	12.08	0.179	0.090	0.040	207.1
Danville	17,620	106.4	1,021	179.6	16.61	0.142	0.079	0.029	168.8
Lewisburg	10,108	93.2	486	209.8	21.04	0.111	0.053	0.024	225.1
Newport	4,851	110.3	235	108.0	12.02	0.110	0.102	0.025	97.9
Marietta	41,023	104.9	1,089	86.4	9.82	0.065	0.076	0.014	82.4
Conestoga	635	93.7	133	62.6	7.44	0.442	0.707	0.106	66.8

Table 15. Annual Water Discharges and Annual Loads and Yields of Dissolved Ammonia, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	1,063	96.0	10.69	0.213	0.222	0.0475	100.0
Danville	17,620	106.4	1,679	87.7	12.30	0.234	0.267	0.048	82.4
Lewisburg	10,108	93.2	804	86.6	11.61	0.183	0.212	0.040	92.9
Newport	4,851	110.3	347	103.6	14.60	0.162	0.156	0.036	94.0
Marietta	41,023	104.9	4,014	98.7	12.75	0.241	0.244	0.050	94.2
Conestoga	635	93.7	151	63.6	14.87	0.504	0.792	0.121	68.0

Table 16. Annual Water Discharges and Annual Loads and Yields of Dissolved Nitrogen, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	20,316	82.9	3.52	4.07	4.91	0.909	86.5
Danville	17,620	106.4	32,181	86.5	3.53	4.48	5.18	0.928	81.3
Lewisburg	10,108	93.2	17,054	81.7	4.36	3.89	4.76	0.857	87.7
Newport	4,851	110.3	14,846	100.8	3.27	6.92	6.86	1.555	91.4
Marietta	41,023	104.9	100,408	88.3	4.34	6.04	6.84	1.243	84.2
Conestoga	635	93.7	7,621	80.1	3.80	25.34	31.64	6.097	85.5

Table 17. Annual Water Discharges and Annual Loads and Yields of Dissolved NO_x Nitrogen, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	12,721	77.4	4.02	2.55	3.29	0.569	80.7
Danville	17,620	106.4	20,355	80.0	4.33	2.84	3.54	0.587	75.2
Lewisburg	10,108	93.2	12,564	83.4	4.37	2.87	3.44	0.631	89.5
Newport	4,851	110.3	12,312	102.8	3.61	5.74	5.58	1.289	93.2
Marietta	41,023	104.9	84,014	92.0	4.80	5.05	5.49	1.040	87.8
Conestoga	635	93.7	6,728	82.3	4.76	22.37	27.16	5.383	87.9

Table 18. Annual Water Discharges and Annual Loads and Yields of Dissolved Organic Nitrogen, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	5,885	81.4	7.21	1.18	1.45	0.263	85.0
Danville	17,620	106.4	8,395	82.9	5.98	1.17	1.41	0.242	77.9
Lewisburg	10,108	93.2	4,166	81.9	9.98	0.95	1.16	0.209	87.9
Newport	4,851	110.3	2,276	89.2	9.86	1.06	1.19	0.238	80.9
Marietta	41,023	104.9	14,738	75.2	9.83	0.89	1.18	0.183	71.7
Conestoga	635	93.7	689	59.1	9.96	2.29	3.88	0.551	63.0

Table 19. Annual Water Discharges and Annual Loads and Yields of Total Organic Carbon, Calendar Year 2008

Site	2008 Discharge cfs	Discharge % of LTM	2008 Load thousands of lbs	Load % of LTM	Prediction Error %	2008 Yield lbs/ac/yr	LTM Yield lb/ac/yr	2008 Ave. Conc. mg/l	Conc. % of LTM
Towanda	11,359	95.9	70,868	85.4	2.90	14.2	16.6	3.17	89.0
Danville	17,620	106.4	111,352	96.4	2.83	15.5	16.1	3.21	90.6
Lewisburg	10,108	93.2	43,462	95.0	4.22	9.9	10.4	2.18	101.9
Newport	4,851	110.3	33,207	117.2	5.00	15.5	13.2	3.48	106.3
Marietta	41,023	104.9	242,060	101.3	3.43	14.6	14.4	3.00	96.6
Conestoga	635	93.7	5,225	68.7	5.11	17.4	25.3	4.18	73.3

Table 20. Seasonal Mean Water Discharges and Loads of Nutrients and Suspended Sediment, Calendar Year 2008

Station	Season	Mean Q cfs	Thousands of pounds													SS
			TN	TNOx	TON	TNH ₃	DN	DNOx	DON	DNH ₃	TP	DP	DOP	TOC		
Towanda	Winter	25,694	13,096	7,823	4,132	752	12,010	7,798	3,182	651	1,532	592	466	39,150	1,025,754	
	Spring	9,373	4,267	2,360	1,540	198	3,938	2,358	1,282	188	455	226	172	14,240	182,115	
	Summer	2,474	891	396	498	42	771	391	389	39	116	81	61	4,804	12,563	
	Fall	8,028	3,572	2,160	1,074	219	3,597	2,174	1,032	185	365	243	194	12,674	80,545	
Danville	Winter	39,563	21,831	12,637	6,948	1,122	19,192	12,612	4,675	1,078	2,396	796	589	61,510	1,530,299	
	Spring	14,682	6,742	3,508	2,481	281	5,988	3,516	1,726	266	584	260	187	22,069	215,948	
	Summer	3,916	1,385	577	767	53	1,137	578	508	50	119	67	46	7,423	19,801	
	Fall	12,526	6,192	3,618	1,799	285	5,864	3,649	1,486	285	527	264	199	20,350	160,271	
Lewisburg	Winter	22,425	10,281	7,190	2,906	459	9,579	7,180	2,214	465	672	305	239	23,988	387,145	
	Spring	10,215	4,065	2,796	1,151	171	3,901	2,784	1,015	171	231	160	134	10,103	66,576	
	Summer	1,950	845	559	270	36	819	558	251	34	35	35	27	2,428	3,897	
	Fall	5,977	2,741	2,031	683	136	2,755	2,042	686	134	144	109	86	6,943	41,265	
Newport	Winter	6,017	7,937	6,006	1,960	189	7,120	6,027	986	150	351	126	90	14,129	214,612	
	Spring	3,602	5,327	3,867	1,501	165	4,755	3,881	803	133	311	119	84	11,802	139,141	
	Summer	1,270	672	477	196	27	630	474	142	21	39	25	18	2,087	4,089	
	Fall	2,342	2,525	1,913	534	53	2,341	1,930	345	43	114	59	43	5,189	28,793	
Marietta	Winter	87,436	65,856	47,702	16,853	2,686	56,166	47,544	7,770	2,425	3,957	827	553	126,003	4,195,698	
	Spring	41,176	25,445	18,313	6,590	795	21,810	18,259	3,422	731	1,093	338	228	57,873	589,154	
	Summer	9,209	4,830	3,051	1,678	166	4,201	3,066	977	151	201	101	69	16,023	44,009	
	Fall	26,777	20,457	14,990	4,613	761	18,231	15,145	2,569	707	866	350	239	42,161	467,345	
Conestoga	Winter	1,059	3,441	2,903	439	72	3,275	2,839	324	71	100	49	41	2,093	39,788	
	Spring	616	1,888	1,675	194	27	1,862	1,638	177	27	51	31	26	1,218	11,078	
	Summer	334	970	903	79	13	964	881	75	13	40	32	28	741	5,229	
	Fall	535	1,597	1,405	163	41	1,520	1,370	113	40	73	44	38	1,173	24,543	

Table 21. Seasonal Mean Water Discharges and Yields of Nutrients and Suspended Sediment, Calendar Year 2008

Station	Season	Mean Q cfs	Lbs/acre												
			TN	TNOx	TON	TNH ₃	DN	DNOx	DON	DNH ₃	TP	DP	DOP	TOC	SS
Towanda	Winter	25,694	2,625	1,568	0.828	0.151	2,407	1,563	0.638	0.130	0.307	0.119	0.093	7,845	205.56
	Spring	9,373	0,855	0,473	0,309	0,040	0,789	0,473	0,257	0,038	0,091	0,045	0,035	2,854	36.50
	Summer	2,474	0,179	0,079	0,100	0,008	0,154	0,078	0,078	0,008	0,023	0,016	0,012	0,963	2.52
	Fall	8,028	0,716	0,433	0,215	0,044	0,721	0,436	0,207	0,037	0,073	0,049	0,039	2,540	16.14
Danville	Winter	39,563	3,040	1,760	0,967	0,156	2,673	1,760	0,651	0,150	0,334	0,111	0,082	8,566	213.11
	Spring	14,682	0,939	0,489	0,346	0,039	0,834	0,490	0,240	0,037	0,081	0,036	0,026	3,073	30.07
	Summer	3,916	0,193	0,080	0,107	0,007	0,158	0,081	0,071	0,007	0,016	0,009	0,006	1,034	2.76
	Fall	12,526	0,862	0,504	0,251	0,040	0,817	0,508	0,207	0,040	0,073	0,037	0,028	2,834	22.32
Lewisburg	Winter	22,425	2,430	1,701	0,666	0,116	0,102	1,696	0,496	0,117	0,156	0,067	0,052	5,526	92.22
	Spring	10,215	0,947	0,653	0,262	0,042	0,044	0,649	0,228	0,041	0,054	0,036	0,029	2,324	15.70
	Summer	1,950	0,200	0,133	0,062	0,009	0,010	0,132	0,057	0,008	0,008	0,008	0,006	0,561	0.92
	Fall	5,977	0,679	0,505	0,162	0,037	0,038	0,506	0,156	0,036	0,036	0,025	0,019	1,621	10.60
Newport	Winter	6,017	3,698	2,798	0,913	0,088	3,317	2,808	0,459	0,070	0,163	0,059	0,042	6,582	99.98
	Spring	3,602	2,482	1,802	0,699	0,077	2,215	1,808	0,374	0,062	0,145	0,056	0,039	5,498	64.82
	Summer	1,270	0,312	0,222	0,091	0,012	0,294	0,221	0,066	0,010	0,018	0,012	0,008	0,972	1.91
	Fall	2,342	1,177	0,891	0,249	0,025	1,090	0,899	0,161	0,020	0,053	0,028	0,020	2,418	13.41
Marietta	Winter	87,436	3,959	2,868	1,013	0,161	3,377	2,858	0,467	0,146	0,238	0,050	0,033	7,575	252.24
	Spring	41,176	1,530	1,101	0,396	0,048	1,311	1,098	0,206	0,044	0,066	0,020	0,014	3,479	35.42
	Summer	9,209	0,290	0,183	0,101	0,010	0,253	0,184	0,059	0,009	0,012	0,006	0,004	0,963	2.65
	Fall	26,777	1,230	0,901	0,277	0,046	1,096	0,911	0,154	0,043	0,052	0,021	0,014	2,535	28.10
Conestoga	Winter	1,059	11,442	9,651	1,460	0,238	10,887	9,439	1,075	0,237	0,333	0,164	0,137	6,957	132.27
	Spring	616	6,278	5,567	0,644	0,089	6,189	5,446	0,588	0,089	0,169	0,104	0,086	4,048	36.83
	Summer	334	3,224	3,001	0,261	0,044	3,206	2,929	0,251	0,043	0,135	0,107	0,093	2,462	17.38
	Fall	535	5,307	4,670	0,541	0,136	5,054	4,553	0,376	0,135	0,246	0,146	0,125	3,899	81.59

Table 22. 2008 Monthly Flow in CFS and TN, TP, and SS in Thousands of Pounds at Susquehanna River Sites: Towanda, Danville, and Marietta

Month	Towanda				Danville				Marietta			
	Q	TN	TP	SS	Q	TN	TP	SS	Q	TN	TP	SS
January	15,827	2,685	212	68,767	25,319	4,726	387	139,131	50,887	14,142	483	270,937
February	24,777	4,093	465	339,785	38,986	6,991	719	429,119	85,393	21,158	1,033	893,907
March	36,418	6,318	855	617,202	54,345	10,114	1,290	962,049	125,897	30,556	2,441	3,030,854
April	19,918	3,112	353	169,565	27,221	4,413	416	182,338	58,970	12,719	530	313,150
May	5,963	856	71	10,034	12,188	1,754	128	28,141	49,319	10,149	470	250,974
June	2,350	299	31	2,516	4,720	575	40	5,469	14,967	2,577	93	25,030
July	3,240	394	51	7,026	5,167	619	55	11,084	11,626	2,021	84	20,525
August	2,827	338	43	4,266	4,305	508	44	6,749	8,224	1,412	60	11,926
September	1,318	159	22	1,271	2,220	258	20	1,968	7,729	1,397	57	11,558
October	2,093	278	31	2,751	3,211	436	32	4,732	8,038	1,629	56	10,852
November	5,573	755	66	7,042	8,825	1,297	90	14,762	14,273	3,227	92	21,467
December	16,341	2,539	268	70,752	25,422	4,459	405	140,777	57,616	15,601	718	435,026
Annual [#]	11,387	21,826	2,468	1,300,977	17,661	36,150	3,626	1,926,319	41,078	116,588	6,117	5,296,206

Table 23. 2008 Monthly Flow in CFS and TN, TP, and SS in Thousands of Pounds at Susquehanna River Tributary Sites: Lewisburg, Newport, and Conestoga

Month	Lewisburg				Newport				Conestoga			
	Q	TN	TP	SS	Q	TN	TP	SS	Q	TN	TP	SS
January	12,567	2,088	97	29,398	4,528	1,473	37	8,870	577	700	13	1,821
February	20,970	3,160	193	109,052	8,442	2,522	80	30,107	1,405	1,421	51	24,095
March	33,643	5,033	382	248,695	13,609	3,942	234	175,635	1,218	1,320	36	13,872
April	13,780	1,904	105	32,491	7,408	1,953	103	51,172	683	719	16	3,899
May	13,024	1,667	104	31,028	10,659	2,922	188	84,955	656	679	19	4,228
June	3,749	494	22	3,057	2,053	452	20	3,014	506	490	16	2,951
July	2,793	378	17	2,166	1,206	245	13	1,386	382	374	14	1,762
August	1,382	215	8	761	765	141	9	694	220	216	8	412
September	1,667	252	10	970	1,235	286	17	2,009	404	380	18	3,055
October	1,681	283	10	976	1,012	231	11	919	264	272	9	642
November	2,361	397	13	1,236	1,151	271	10	793	256	266	7	390
December	13,774	2,061	121	39,053	6,131	2,023	93	27,081	1,076	1,059	57	23,511
Annual [#]	10,116	17,932	1,082	498,883	4,850	16,461	815	386,635	637	7,896	264	80,638

Table 24. 2008 Monthly Flow in CFS and TN, TP, and SS Yields in lbs/acre at Susquehanna River Sites: Towanda, Danville, and Marietta

Month	Towanda				Danville				Marietta			
	Q	TN	TP	SS	Q	TN	TP	SS	Q	TN	TP	SS
January	15,827	0.54	0.043	13.78	25,319	0.66	0.054	19.38	50,887	0.85	0.029	16.29
February	24,777	0.82	0.093	68.09	38,986	0.97	0.100	59.76	85,393	1.27	0.062	53.74
March	36,418	1.27	0.171	123.69	54,345	1.41	0.180	133.98	125,897	1.84	0.147	182.21
April	19,918	0.62	0.071	33.98	27,221	0.62	0.058	25.39	58,970	0.77	0.032	18.83
May	5,963	0.17	0.014	2.01	12,188	0.24	0.018	3.92	49,319	0.61	0.028	15.09
June	2,350	0.06	0.006	0.50	4,720	0.08	0.006	0.76	14,967	0.16	0.006	1.51
July	3,240	0.08	0.010	1.41	5,167	0.09	0.008	1.54	11,626	0.12	0.005	1.23
August	2,827	0.07	0.009	0.86	4,305	0.07	0.006	0.94	8,224	0.09	0.004	0.72
September	1,318	0.03	0.004	0.26	2,220	0.04	0.003	0.27	7,729	0.08	0.003	0.70
October	2,093	0.06	0.006	0.55	3,211	0.06	0.005	0.66	8,038	0.10	0.003	0.65
November	5,573	0.15	0.013	1.41	8,825	0.18	0.013	2.06	14,273	0.19	0.006	1.29
December	16,341	0.51	0.054	14.18	25,422	0.62	0.056	19.61	57,616	0.94	0.043	26.15
Annual [#]	11,387	4.43	0.465	354.06	17,661	4.67	0.519	234.28	41,078	6.17	0.209	144.91

Table 25. 2008 Monthly Flow in CFS and TN, TP, and SS Yields in lbs/acre at Susquehanna River Tributary Sites: Lewisburg, Newport, and Conestoga

Month	Lewisburg				Newport				Conestoga			
	Q	TN	TP	SS	Q	TN	TP	SS	Q	TN	TP	SS
January	12,567	0.48	0.022	6.71	4,528	0.69	0.017	4.13	577	2.33	0.043	6.05
February	20,970	0.72	0.044	24.89	8,442	1.18	0.037	14.03	1,405	4.73	0.169	80.10
March	33,643	1.15	0.087	56.75	13,609	1.84	0.109	81.82	1,218	4.39	0.121	46.12
April	13,780	0.43	0.024	7.41	7,408	0.91	0.048	23.84	683	2.39	0.054	12.96
May	13,024	0.38	0.024	7.08	10,659	1.36	0.087	39.58	656	2.26	0.062	14.06
June	3,749	0.11	0.005	0.70	2,053	0.21	0.009	1.40	506	1.63	0.053	9.81
July	2,793	0.09	0.004	0.49	1,206	0.11	0.006	0.65	382	1.25	0.046	5.86
August	1,382	0.05	0.002	0.17	765	0.07	0.004	0.32	220	0.72	0.027	1.37
September	1,667	0.06	0.002	0.22	1,235	0.13	0.008	0.94	404	1.26	0.061	10.16
October	1,681	0.07	0.002	0.22	1,012	0.11	0.005	0.43	264	0.90	0.031	2.13
November	2,361	0.09	0.003	0.28	1,151	0.13	0.004	0.37	256	0.88	0.024	1.30
December	13,774	0.47	0.028	8.91	6,131	0.94	0.044	12.62	1,076	3.52	0.190	78.16
Annual [#]	10,116	3.54	0.240	98.67	4,850	5.15	0.135	54.72	637	30.65	0.781	310.27

Table 26. Temperature, Dissolved Oxygen, Conductivity, and pH Summary Statistics of Samples Collected During 2008

Station	Temperature (C°)				Dissolved Oxygen (mg/L)				Conductivity (umhos/cm)				pH (S.U.)							
	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD
Chemung	0.30	26.20	3.20	8.52	8.17	6.01	12.95	10.97	10.32	2.13	118	566	219	280	146	6.15	8.18	6.95	7.22	0.80
Cohocton	0.20	23.60	6.65	8.93	8.18	7.54	13.32	10.04	10.42	1.57	121	855	415	444	246	6.10	8.45	7.00	7.13	0.74
Conklin	1.10	25.90	2.40	9.05	8.88	7.34	12.75	10.45	10.11	1.84	88	262	130	161	64	6.15	8.25	6.70	6.87	0.63
Smithboro	1.20	24.43	6.51	9.55	8.49	6.33	12.15	10.84	10.21	1.62	101	351	140	188	87	6.00	8.37	7.07	7.10	0.80
Unadilla	1.10	24.50	8.90	9.43	8.65	7.92	12.87	10.25	10.26	1.68	93	322	172	210	82	6.05	8.00	6.85	6.98	0.64
Castanea	1.40	22.40	4.50	8.81	7.22	8.07	9.68	8.39	8.55	0.49	116	426	236	271	103	5.85	8.00	6.95	6.99	0.61
Conestoga	3.29	26.34	13.41	14.25	8.07	6.99	15.64	11.35	11.17	2.22	316	800	585	577	137	7.10	8.52	7.91	7.80	0.38
Danville	0.40	26.50	6.85	10.57	9.18	8.02	9.31	8.47	8.49	0.33	132	396	234	243	85	6.05	8.00	7.08	7.09	0.64
Dromgold	2.61	23.90	15.02	13.35	7.36	8.55	15.00	11.95	11.62	1.86	95	259	157	173	53	6.87	8.60	7.71	7.71	0.52
Hershey	3.55	26.54	9.38	13.19	8.16	8.44	13.82	11.74	11.58	1.83	131	489	288	299	117	6.77	9.07	7.56	7.57	0.61
Hogestown	3.43	26.80	16.40	14.76	8.43	8.57	14.10	11.98	11.47	1.81	191	521	325	362	125	6.80	8.50	7.83	7.71	0.53
Jersey Shore	0.40	25.10	5.05	9.26	8.44	8.06	9.44	8.44	8.58	0.43	110	500	180	246	137	5.85	7.95	6.20	6.65	0.78
Karthauss	1.50	24.40	4.30	8.54	7.45	7.39	9.34	8.36	8.43	0.50	175	740	343	370	172	5.50	7.90	5.90	6.22	0.64
Lewisburg	0.20	24.20	6.50	10.45	8.42	8.11	9.91	8.33	8.57	0.54	108	444	180	230	108	5.70	8.50	6.60	6.75	0.69
Manchester	2.09	29.21	12.76	13.51	8.43	8.44	14.85	11.33	11.52	1.81	128	356	277	249	68	6.60	8.32	7.88	7.59	0.56
Marietta	2.72	28.89	9.68	13.64	9.28	8.85	13.80	11.79	11.70	1.59	133	378	254	246	80	6.90	8.69	7.77	7.76	0.48
Martic Forge	2.40	25.33	14.71	13.86	7.99	8.03	15.14	11.94	11.35	1.98	264	560	470	446	85	6.80	8.58	7.80	7.77	0.46
Newport	3.01	29.25	13.27	14.02	8.97	8.02	16.41	11.43	11.58	2.22	151	355	246	254	62	6.91	9.38	7.86	7.94	0.64
Penns Creek	0.10	24.80	5.10	9.34	8.22	8.17	9.83	9.07	9.01	0.54	109	264	173	186	43	6.40	8.75	7.95	7.74	0.72
Saxton	3.66	29.43	15.23	16.13	9.31	9.05	13.28	10.84	10.89	1.51	138	412	232	264	102	6.87	8.58	7.67	7.64	0.54
Towanda	0.20	27.10	8.60	10.36	9.14	6.93	12.67	10.12	10.00	1.91	105	401	225	229	97	6.10	8.50	7.15	7.07	0.62
Wilkes-Barre	1.30	26.10	4.85	9.83	8.64	8.14	13.01	9.30	9.71	1.61	110	427	157	227	113	6.20	8.20	6.85	6.88	0.52
Richardsmere	1.97	28.59	15.85	14.76	8.72	8.07	14.58	11.47	11.16	1.71	234	285	252	254	14	6.90	9.20	7.54	7.73	0.77

Table 27. Total Nitrogen Species Summary Statistics of Samples Collected During 2008, in mg/L

Station	Total Nitrogen				Total Ammonium				Total Nitrate plus Nitrite				Total Organic Nitrogen							
	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD
Chemung	0.51	1.97	0.86	0.95	0.39	0.01	0.12	0.04	0.04	0.03	0.26	0.98	0.52	0.55	0.17	0.16	1.40	0.32	0.42	0.35
Cohocton	0.92	2.72	1.46	1.60	0.54	0.01	0.31	0.04	0.06	0.07	0.46	1.50	0.87	0.93	0.29	0.06	1.91	0.41	0.61	0.46
Conklin	0.40	2.29	0.75	0.80	0.48	0.02	0.12	0.04	0.05	0.03	0.03	0.54	0.39	0.35	0.17	0.09	1.85	0.31	0.43	0.45
Smithboro	0.64	1.94	0.86	0.96	0.36	0.01	0.11	0.04	0.04	0.03	0.20	1.12	0.48	0.52	0.21	0.12	0.76	0.37	0.40	0.18
Unadilla	0.47	1.80	0.99	1.06	0.46	0.01	0.15	0.04	0.05	0.03	0.10	0.80	0.50	0.46	0.21	0.08	1.12	0.36	0.55	0.37
Castanea	0.82	1.93	1.40	1.36	0.27	0.02	0.10	0.03	0.03	0.02	0.62	1.42	1.07	1.04	0.25	0.09	0.83	0.22	0.29	0.20
Conestoga	3.36	8.73	6.36	6.32	1.43	0.02	0.41	0.11	0.13	0.11	2.10	8.64	5.84	5.64	1.75	0.02	2.66	0.47	0.62	0.65
Danville	0.62	1.61	0.85	0.92	0.25	0.02	0.10	0.03	0.04	0.02	0.18	1.32	0.52	0.51	0.25	0.08	0.86	0.35	0.36	0.17
Dromgold	1.14	3.15	1.85	1.87	0.54	0.02	0.12	0.03	0.04	0.03	1.06	2.09	1.52	1.54	0.35	0.01	1.69	0.19	0.29	0.41
Hershey	2.50	6.49	3.74	3.94	0.96	0.02	0.24	0.05	0.07	0.06	1.60	6.44	3.53	3.50	1.19	0.01	1.30	0.33	0.43	0.35
Hogestown	2.91	4.63	4.12	4.02	0.46	0.02	0.10	0.03	0.04	0.03	2.06	4.44	3.89	3.58	0.75	0.00	1.66	0.27	0.40	0.40
Jersey Shore	0.40	1.38	0.66	0.71	0.22	0.02	0.10	0.02	0.03	0.02	0.29	0.70	0.47	0.48	0.10	0.02	0.75	0.15	0.20	0.16
Karthus	0.38	1.93	0.73	0.75	0.34	0.02	0.10	0.03	0.04	0.02	0.21	1.40	0.50	0.49	0.26	0.11	0.51	0.17	0.22	0.12
Lewisburg	0.59	1.89	1.00	1.03	0.28	0.02	0.12	0.03	0.04	0.02	0.34	1.36	0.71	0.77	0.24	0.01	0.45	0.21	0.22	0.09
Manchester	1.07	3.81	2.47	2.45	0.84	0.02	0.22	0.05	0.06	0.05	0.62	3.51	1.67	1.78	0.74	0.16	2.08	0.42	0.61	0.50
Marietta	0.77	2.48	1.20	1.30	0.39	0.02	0.10	0.04	0.04	0.02	0.32	1.65	0.88	0.92	0.30	0.03	1.04	0.27	0.34	0.22
Martic Forge	4.55	9.39	7.10	7.26	1.42	0.02	0.45	0.02	0.08	0.12	2.94	9.04	6.58	6.39	1.87	0.18	3.52	0.45	0.86	0.94
Newport	0.71	3.14	1.57	1.63	0.51	0.02	0.09	0.03	0.04	0.02	0.44	1.99	1.28	1.27	0.32	0.07	1.64	0.26	0.32	0.31
Penns Creek	0.78	3.01	1.38	1.48	0.54	0.02	0.11	0.02	0.03	0.03	0.59	1.43	1.12	1.05	0.26	0.11	2.03	0.22	0.39	0.46
Saxton	1.39	3.92	2.01	2.12	0.59	0.02	0.09	0.03	0.04	0.02	1.13	2.40	1.52	1.66	0.36	0.13	2.49	0.24	0.45	0.58
Towanda	0.61	1.23	0.84	0.86	0.16	0.02	0.08	0.04	0.04	0.02	0.19	1.10	0.48	0.48	0.20	0.07	0.70	0.35	0.33	0.15
Wilkes-Barre	0.63	1.29	0.83	0.83	0.18	0.02	0.07	0.04	0.04	0.02	0.08	0.62	0.49	0.43	0.15	0.14	0.75	0.31	0.37	0.17
Richardsmere	4.78	8.10	6.22	6.39	1.26	0.02	0.26	0.04	0.07	0.07	3.29	7.52	5.51	5.63	1.38	0.31	2.88	0.54	0.76	0.70

Table 28. Dissolved Nitrogen Species Summary Statistics of Samples Collected During 2008, in mg/L

Station	Dissolved Nitrogen				Dissolved Ammonium				Dissolved Nitrate plus Nitrite				Dissolved Organic Nitrogen						
	Min	Max	Med	SD	Min	Max	Med	SD	Min	Max	Med	SD	Min	Max	Med	SD			
Chemung	0.76	0.96	0.90	0.07	0.02	0.11	0.04	0.03	0.03	0.50	0.97	0.60	0.63	0.14	0.16	0.35	0.28	0.25	0.06
Cohocton	0.94	2.51	1.28	1.51	0.47	0.30	0.04	0.06	0.07	0.46	1.51	0.84	0.89	0.30	0.08	0.97	0.53	0.56	0.32
Conklin	0.30	1.02	0.66	0.64	0.23	0.12	0.04	0.05	0.02	0.03	0.56	0.39	0.36	0.17	0.05	0.79	0.23	0.26	0.20
Smithboro	0.63	1.00	0.70	0.77	0.13	0.01	0.10	0.04	0.03	0.40	0.60	0.54	0.51	0.07	0.10	0.34	0.15	0.18	0.08
Unadilla	0.31	1.79	0.84	0.96	0.44	0.01	0.15	0.04	0.03	0.11	0.81	0.50	0.47	0.21	0.08	0.97	0.25	0.44	0.34
Castanea	0.79	1.76	1.28	1.27	0.28	0.02	0.10	0.03	0.02	0.63	1.45	1.06	1.03	0.25	0.08	0.42	0.19	0.21	0.09
Conestoga	2.86	8.66	6.35	6.16	1.55	0.02	0.38	0.10	0.12	2.08	8.35	5.70	5.55	1.65	0.04	2.92	0.43	0.49	0.52
Danville	0.48	1.63	0.81	0.80	0.23	0.02	0.07	0.03	0.04	0.02	1.33	0.51	0.52	0.26	0.09	0.38	0.25	0.25	0.08
Dromgold	1.20	2.46	1.81	1.77	0.40	0.02	0.11	0.03	0.04	1.01	2.10	1.53	1.54	0.35	0.02	0.45	0.17	0.19	0.13
Hershey	1.94	6.52	3.73	3.75	1.13	0.02	0.23	0.04	0.07	1.58	6.17	3.52	3.48	1.14	0.09	0.45	0.22	0.24	0.10
Hogestown	2.52	4.70	4.19	3.88	0.68	0.02	0.09	0.04	0.04	2.03	4.43	3.90	3.58	0.76	0.13	0.49	0.25	0.28	0.10
Jersey Shore	0.42	0.95	0.62	0.65	0.15	0.02	0.10	0.02	0.03	0.30	0.70	0.46	0.48	0.10	0.07	0.33	0.13	0.14	0.07
Karthaus	0.38	1.76	0.68	0.69	0.29	0.02	0.10	0.03	0.04	0.20	1.39	0.51	0.49	0.26	0.08	0.34	0.15	0.16	0.07
Lewisburg	0.57	1.89	0.95	1.01	0.29	0.02	0.12	0.03	0.04	0.34	1.36	0.72	0.77	0.24	0.08	0.46	0.18	0.20	0.08
Manchester	1.02	3.79	2.08	2.18	0.70	0.02	0.17	0.04	0.06	0.63	3.50	1.69	1.77	0.74	0.13	0.72	0.30	0.35	0.17
Marietta	0.55	1.84	1.03	1.11	0.29	0.02	0.08	0.04	0.04	0.32	1.66	0.89	0.93	0.31	0.03	0.34	0.15	0.15	0.07
Martic Forge	3.83	9.31	7.18	7.08	1.63	0.02	0.42	0.03	0.08	2.93	9.07	6.60	6.37	1.87	0.14	3.51	0.51	0.69	0.85
Newport	0.73	2.44	1.55	1.50	0.35	0.02	0.08	0.02	0.03	0.44	2.02	1.30	1.27	0.32	0.01	0.39	0.20	0.20	0.10
Penns Creek	0.76	2.04	1.36	1.37	0.33	0.02	0.10	0.02	0.03	0.59	1.44	1.13	1.05	0.27	0.07	0.72	0.21	0.28	0.18
Saxton	1.29	2.56	1.65	1.83	0.36	0.02	0.07	0.02	0.03	1.13	2.41	1.52	1.66	0.36	0.02	0.27	0.13	0.14	0.06
Towanda	0.57	1.25	0.74	0.78	0.16	0.02	0.08	0.03	0.03	0.20	1.09	0.48	0.48	0.20	0.08	0.53	0.25	0.26	0.10
Wilkes-Barre	0.40	1.10	0.73	0.73	0.14	0.02	0.08	0.04	0.04	0.08	0.61	0.49	0.43	0.15	0.10	0.58	0.24	0.26	0.11
Richardsmere	3.93	8.03	6.26	6.28	1.27	0.02	0.25	0.04	0.06	3.21	7.67	5.52	5.67	1.43	0.11	2.55	0.40	0.65	0.69

Table 29. Phosphorus Species and Total Suspended Solids Summary Statistics of Samples Collected During 2008, in mg/L

Station	Total Phosphorus				Dissolved Phosphorus				Orthophosphorus				Total Suspended Solids						
	Min	Max	Med	SD	Min	Max	Med	SD	Min	Max	Med	SD	Min	Max	Med	SD			
Chemung	0.033	0.437	0.085	0.116	0.023	0.079	0.041	0.042	0.015	0.009	0.089	0.030	0.038	0.024	1	157	5	23	43
Cohocton	0.012	0.486	0.040	0.084	0.008	0.098	0.027	0.034	0.025	0.002	0.049	0.017	0.021	0.015	1	45	11	12	12
Conklin	0.017	0.357	0.050	0.092	0.010	0.087	0.023	0.030	0.022	0.003	0.080	0.014	0.020	0.019	2	376	15	57	114
Smithboro	0.022	0.380	0.078	0.110	0.017	0.058	0.027	0.030	0.012	0.003	0.056	0.016	0.016	0.013	2	358	9	58	104
Unadilla	0.016	0.328	0.044	0.088	0.005	0.084	0.022	0.030	0.025	0.002	0.094	0.019	0.025	0.027	4	203	15	40	63
Castanea	0.010	0.174	0.023	0.039	0.010	0.026	0.010	0.012	0.004	0.010	0.017	0.010	0.010	0.002	2	202	8	30	58
Conestoga	0.034	1.547	0.183	0.279	0.013	0.407	0.147	0.164	0.086	0.010	0.368	0.129	0.144	0.082	2	894	15	70	180
Danville	0.015	0.345	0.043	0.068	0.010	0.058	0.016	0.019	0.010	0.010	0.047	0.010	0.014	0.008	2	366	14	46	77
Dromgold	0.011	0.540	0.043	0.077	0.010	0.111	0.030	0.037	0.029	0.010	0.080	0.021	0.028	0.022	5	430	7	35	105
Hershey	0.024	0.515	0.070	0.128	0.018	0.111	0.053	0.053	0.027	0.013	0.092	0.038	0.040	0.022	2	416	7	60	111
Hogestown	0.010	0.431	0.037	0.085	0.010	0.075	0.026	0.029	0.019	0.010	0.059	0.016	0.021	0.014	5	416	7	50	104
Jersey Shore	0.010	0.175	0.012	0.028	0.010	0.013	0.010	0.010	0.001	0.010	0.010	0.010	0.010	0.000	5	196	8	26	44
Karthauss	0.010	0.066	0.012	0.023	0.010	0.013	0.010	0.010	0.001	0.010	0.010	0.010	0.010	0.000	5	70	10	21	23
Lewisburg	0.010	0.086	0.023	0.029	0.010	0.043	0.010	0.016	0.009	0.010	0.033	0.010	0.013	0.006	2	84	5	14	19
Manchester	0.042	0.771	0.133	0.218	0.027	0.317	0.122	0.121	0.076	0.012	0.285	0.097	0.100	0.070	2	828	9	97	199
Marietta	0.024	0.360	0.039	0.071	0.010	0.034	0.017	0.018	0.007	0.010	0.030	0.011	0.013	0.005	5	384	12	46	82
Martic Forge	0.039	1.567	0.116	0.288	0.032	0.690	0.074	0.184	0.214	0.024	0.650	0.059	0.168	0.205	2	536	14	59	140
Newport	0.012	0.526	0.042	0.086	0.010	0.098	0.031	0.033	0.021	0.010	0.084	0.021	0.024	0.018	2	506	8	34	98
Penns Creek	0.010	0.604	0.023	0.077	0.010	0.181	0.016	0.031	0.042	0.010	0.055	0.010	0.017	0.013	5	456	8	42	103
Saxton	0.010	0.567	0.018	0.078	0.010	0.024	0.012	0.014	0.005	0.010	0.017	0.010	0.011	0.002	5	2,862	11	257	725
Towanda	0.029	0.295	0.060	0.080	0.010	0.069	0.030	0.035	0.016	0.010	0.060	0.023	0.027	0.013	2	330	12	44	78
Wilkes-Barre	0.019	0.303	0.046	0.088	0.010	0.045	0.018	0.023	0.011	0.010	0.040	0.011	0.016	0.009	5	340	26	66	99
Richardsmere	0.037	0.392	0.092	0.125	0.023	0.142	0.071	0.071	0.036	0.013	0.133	0.046	0.055	0.034	4	166	6	29	58

Table 30. Flow, Total Organic Carbon, Total Kjeldahl, and Dissolved Kjeldahl Summary Statistics of Samples Collected During 2008, in mg/L

Station	Flow (cfs)				Total Organic Carbon				Total Kjeldahl Nitrogen				Dissolved Kjeldahl Nitrogen							
	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD	Min	Max	Med	Mn	SD
Chemung	282	42,879	3,618	8,899	11,927	2.51	7.84	3.39	3.88	1.52	0.17	1.46	0.37	0.58	0.39	0.22	1.00	0.39	0.63	0.36
Cohocton	71	9,053	499	1,448	2,413	2.62	12.50	3.89	4.67	2.40	0.31	1.99	0.48	0.68	0.45	0.25	1.00	0.60	0.62	0.29
Conklin	303	24,981	7,358	9,787	9,325	1.88	4.45	2.76	2.97	0.70	0.13	1.90	0.47	0.60	0.45	0.12	1.00	0.32	0.51	0.36
Smithboro	770	58,553	15,504	20,280	19,698	1.96	4.51	2.95	3.16	0.78	0.15	1.00	0.54	0.59	0.30	0.16	1.00	0.34	0.56	0.39
Unadilla	81	8,199	1,624	2,304	2,493	1.81	5.34	3.14	3.19	0.90	0.12	1.18	0.37	0.60	0.38	0.14	1.00	0.34	0.49	0.34
Castanea	157	7,274	1,580	2,412	2,364	1.51	7.50	2.15	2.60	1.44	0.12	0.46	0.22	0.24	0.09	0.12	0.85	0.27	0.33	0.20
Conestoga	164	6,818	572	893	1,287	2.28	17.90	3.48	4.50	3.13	0.04	2.92	0.54	0.75	0.68	0.16	2.95	0.49	0.61	0.52
Danville	1,013	123,346	9,790	29,201	35,849	1.67	6.30	3.28	3.28	0.91	0.14	0.91	0.39	0.40	0.17	0.11	0.43	0.28	0.28	0.08
Dromgold	38	10,263	283	1,061	2,507	1.44	12.60	2.67	3.43	2.72	0.03	1.81	0.22	0.33	0.43	0.04	0.49	0.21	0.23	0.15
Hershey	105	17,257	514	3,145	5,196	1.62	11.10	2.35	3.72	2.77	0.00	1.43	0.36	0.48	0.40	0.15	0.49	0.32	0.31	0.11
Hogestown	150	7,960	713	1,783	2,399	1.74	10.50	2.50	3.75	2.44	0.02	1.76	0.31	0.44	0.42	0.15	0.56	0.34	0.32	0.11
Jersey Shore	546	75,320	19,164	19,539	19,659	1.17	6.13	1.76	2.08	1.16	0.11	0.80	0.17	0.23	0.16	0.09	0.37	0.16	0.17	0.07
Karthauss	281	16,279	4,938	5,565	5,259	1.39	4.97	1.87	2.30	1.02	0.14	0.53	0.20	0.26	0.12	0.10	0.37	0.18	0.20	0.07
Lewisburg	1,070	75,815	10,021	17,966	20,636	1.06	5.30	2.19	2.23	0.82	0.06	0.53	0.24	0.26	0.10	0.13	0.53	0.22	0.24	0.09
Manchester	72	14,790	831	2,863	4,324	3.28	14.40	4.49	6.15	3.03	0.18	2.19	0.46	0.67	0.54	0.15	0.80	0.35	0.41	0.19
Marietta	5,000	351,597	30,499	74,995	90,522	1.74	7.08	2.92	3.10	1.09	0.13	1.09	0.32	0.38	0.23	0.05	0.39	0.18	0.19	0.07
Martic Forge	65	1,025	134	202	238	1.33	14.10	2.54	3.96	3.58	0.20	3.54	0.50	0.94	1.00	0.16	3.53	0.57	0.77	0.85
Newport	629	51,147	2,755	7,522	11,114	2.07	11.20	2.89	3.30	1.85	0.09	1.73	0.30	0.36	0.33	0.03	0.47	0.23	0.23	0.11
Penns Creek	76	9,587	696	1,374	2,250	1.92	14.10	2.24	3.41	2.82	0.13	2.14	0.24	0.43	0.48	0.10	0.77	0.24	0.32	0.19
Saxton	104	18,735	1,061	3,519	5,216	1.84	13.00	2.48	3.70	2.82	0.02	2.58	0.26	0.46	0.59	0.04	0.31	0.16	0.18	0.07
Towanda	1,013	102,162	9,123	22,750	27,945	1.67	6.41	3.15	3.23	0.88	0.11	0.75	0.38	0.37	0.15	0.11	0.55	0.28	0.30	0.10
Wilkes-Barre	1,514	112,626	30,124	39,462	39,360	2.32	6.06	3.21	3.53	1.10	0.16	1.00	0.37	0.44	0.22	0.14	1.00	0.30	0.34	0.20
Richardsmere	41	3,876	194	448	999	2.44	7.88	3.14	3.70	1.52	0.33	2.90	0.58	0.82	0.71	0.08	2.57	0.44	0.66	0.67