



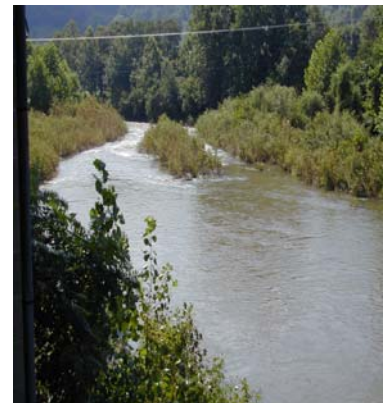
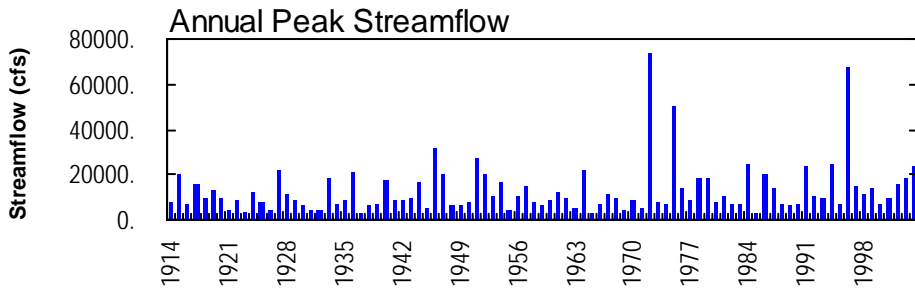
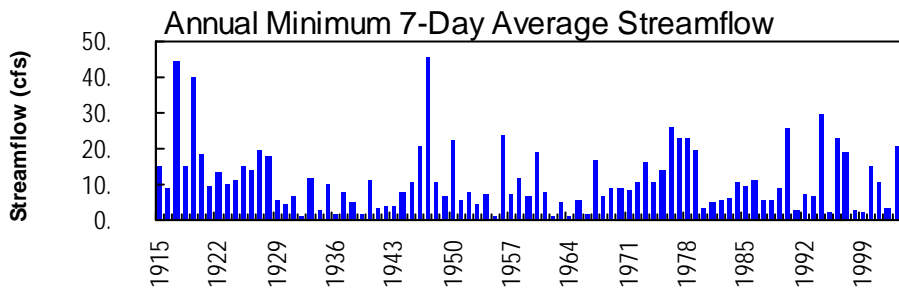
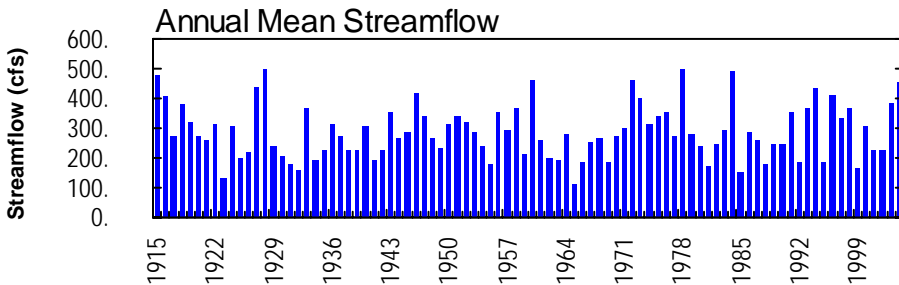
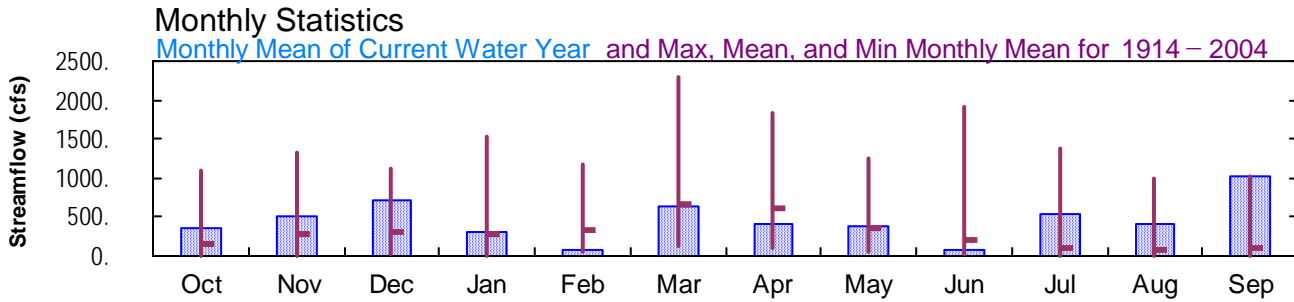
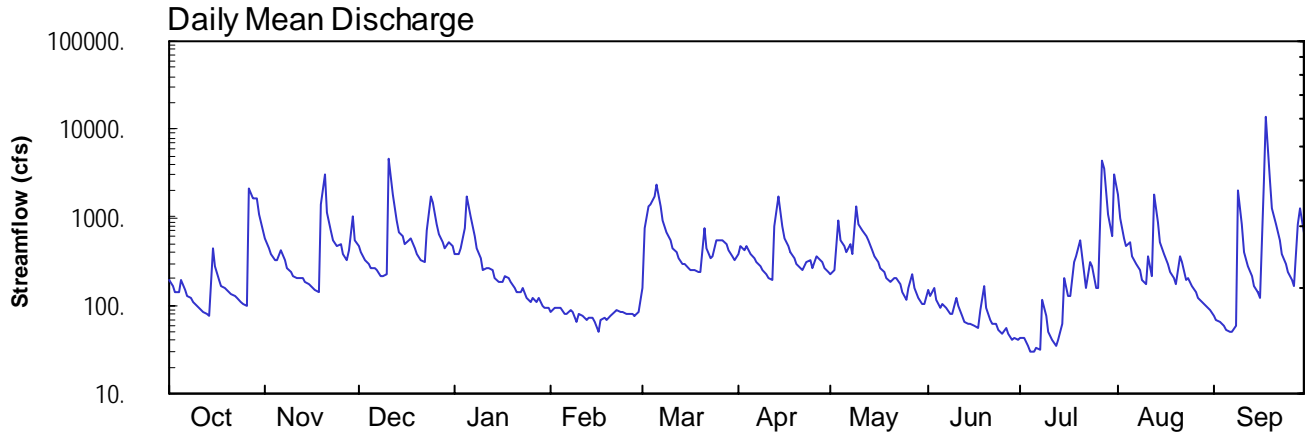
# 2004 Water Year TOWANDA CREEK BASIN

## 01532000 Towanda Creek near Monroeton, PA

Latitude: 41° 42' 25"  
Bradford County

Longitude: 076° 29' 06"  
Datum: 765.53 feet

Hydrologic Unit Code: 02050106  
Drainage Area: 215. mi<sup>2</sup>



**TOWANDA CREEK BASIN**

**01532000 TOWANDA CREEK NEAR MONROETON, PA  
(Pennsylvania Water-Quality Network Station)**

**LOCATION.**--Lat 41°42'25", long 76°29'06", Bradford County, Hydrologic Unit 02050106, on left bank on Township Route 406, 0.8 mi southwest of Monroeton, and 1.0 mi upstream from South Branch Towanda Creek.

**DRAINAGE AREA.**--215 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

**PERIOD OF RECORD.**--February 1914 to current year.

**REVISED RECORDS.**--WSP 756: Drainage area. WSP 1051: 1943-44(M). WSP 1302: 1922(M), 1924, 1925-26(M), 1928, 1929(M), 1930-31. WSP 1432: 1921(M), 1932(M), 1933, 1934-35(M), 1936, 1938(M), 1940. WDR PA-78-2: 1972(M). WDR PA-87-2: 1978-79.

**GAGE.**--Water-stage recorder. Datum of gage is 765.53 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1942, nonrecording gage at present site at datum 8.62 ft higher. Water-stage recorder Oct. 1, 1942, to Sept. 25, 1975, 0.6 mi downstream at datum 11.82 ft lower. Nonrecording gage Sept. 26, 1975, to Aug. 26, 1976, at bridge 0.6 mi downstream at datum 11.82 ft lower. Nonrecording gage Aug. 27, 1976, to Oct. 20, 1977, at present site and datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 4,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Oct. 27	1630	4,760	11.34	July 27	1715	8,360	14.00
Nov. 19	2315	5,790	12.13	July 31	1615	5,240	11.70
Dec. 11	1300	8,140	13.87	Sept. 18	0530	*23,900	*18.99

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	564	467	384	e85	e160	375	226	149	44	1790	78
2	164	455	396	386	e91	e770	476	250	127	44	995	68
3	141	385	328	437	e91	1340	417	938	162	34	586	64
4	139	333	294	743	e91	1400	459	564	114	31	476	58
5	198	329	270	1690	e78	1700	386	465	94	31	523	54
6	150	418	266	1030	e78	2390	335	409	102	33	361	50
7	128	324	245	e600	e88	1300	309	493	93	32	300	50
8	121	272	216	e450	e85	940	279	387	82	115	245	57
9	108	233	221	e340	e66	679	257	1360	78	76	197	1970
10	98	213	221	e250	e78	545	228	829	119	50	177	825
11	90	204	4550	e260	e75	454	209	702	97	40	366	399
12	85	203	1860	e270	e69	412	197	622	78	35	211	275
13	80	204	919	e250	e72	343	806	550	66	41	1820	211
14	75	185	687	e200	e72	290	1740	427	61	63	866	168
15	457	171	608	e180	e66	291	792	365	62	203	511	142
16	277	159	500	e180	e50	266	572	315	59	125	374	123
17	194	151	556	e210	e69	256	465	261	56	131	301	2550
18	165	143	581	e200	e73	248	398	233	90	311	240	13900
19	154	1430	452	e180	e69	237	346	208	169	362	201	2550
20	141	3100	387	e160	e76	242	300	181	95	537	176	1290
21	132	1110	334	e140	e84	748	268	205	70	236	370	831
22	127	728	314	e140	e87	451	257	205	63	159	313	553
23	119	561	703	e160	e84	339	312	173	62	318	196	391
24	111	474	1730	e120	e83	364	320	141	53	275	199	295
25	102	494	1450	e110	e79	551	262	117	47	161	165	235
26	96	387	833	e120	e79	562	366	158	55	161	142	197
27	2090	335	633	e110	e79	559	342	224	48	4300	122	167
28	1630	415	514	e120	e74	494	314	156	41	3560	110	823
29	1600	1000	449	e100	e86	414	271	121	44	1100	103	1280
30	1100	563	516	e94	---	361	244	105	40	622	95	666
31	731	---	465	e94	---	329	---	103	---	2990	88	---
TOTAL	10995	15543	21965	9708	2257	19435	12302	11493	2476	16220	12619	30320
MEAN	355	518	709	313	77.8	627	410	371	82.5	523	407	1011
MAX	2090	3100	4550	1690	91	2390	1740	1360	169	4300	1820	13900
MIN	75	143	216	94	50	160	197	103	40	31	88	50
CFSM	1.65	2.41	3.30	1.46	0.36	2.92	1.91	1.72	0.38	2.43	1.89	4.70
IN.	1.90	2.69	3.80	1.68	0.39	3.36	2.13	1.99	0.43	2.81	2.18	5.25

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2004, BY WATER YEAR (WY)**

MEAN	150	276	315	288	341	656	620	368	192	98.6	84.5	97.4
MAX	1092	1326	1117	1542	1169	2287	1838	1262	1922	1376	986	1011
(WY)	1991	1927	1997	1996	1984	1936	1993	1946	1972	1915	1915	2004
MIN	6.46	7.84	16.8	10.1	40.4	135	110	54.5	16.0	7.72	3.71	1.76
(WY)	1965	1931	1932	1931	1931	1965	1946	1926	1991	1955	1966	1964

e Estimated.

TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1914 - 2004	
ANNUAL TOTAL	159278		165333			
ANNUAL MEAN	436		452		290	
HIGHEST ANNUAL MEAN					502	1978
LOWEST ANNUAL MEAN					111	1965
HIGHEST DAILY MEAN	7800	Jun 1	13900	Sep 18	28700	Jun 22 1972
LOWEST DAILY MEAN	33	Aug 28,29	31	Jul 4,5	0.70	Sep 21 1932
ANNUAL SEVEN-DAY MINIMUM	35	Aug 25	36	Jul 1	0.87	Sep 16 1932
MAXIMUM PEAK FLOW			23900	Sep 18	74000	Jun 22 1972
MAXIMUM PEAK STAGE			18.99	Sep 18	a20.86	Jan 19 1996
INSTANTANEOUS LOW FLOW					0.70	Sep 15 1932 <b>b</b>
ANNUAL RUNOFF (CFSM)	2.03		2.10		1.35	
ANNUAL RUNOFF (INCHES)	27.56		28.61		18.30	
10 PERCENT EXCEEDS	894		925		660	
50 PERCENT EXCEEDS	232		236		118	
90 PERCENT EXCEEDS	66		69		14	

a From floodmark.

b Also Sept. 17, 21, 22, 1932.

TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued  
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unfltrd lab, μS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, μS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, unfltrd recover-able, mg/L (00927)
OCT 2003 07...	1230	1028	9813	127	12.3	7.8	7.7	105	101	9.0	41	12.2	2.4
DEC 09...	1030	1028	9813	217	13.2	7.7	6.9	107	110	.3	38	11.3	2.5
APR 2004 08...	1315	1028	9813	276	13.3	8.7	7.3	92	92	7.0	34	10.1	2.1
JUN 03...	1245	1028	9813	174	10.6	8.6	7.8	121	121	18.8	44	13.0	2.8
AUG 03...	1045	1028	9813	598	9.2	6.8	6.7	92	83	18.7	42	12.4	2.6

Date	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC, wat fltrd, mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrate water, unfltrd, mg/L as N (00620)	Nitrite water, unfltrd, mg/L as N (00615)	Ortho-phosphate, water, unfltrd, mg/L as P (70507)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Organic carbon, water, unfltrd, mg/L (00680)	Aluminum, water, unfltrd recover-able, mg/L (01105)	Copper, water, unfltrd recover-able, mg/L (01042)
OCT 2003 07...	28	11.3	68	6	<.020	.21	<.040	<.01	.013	.59	1.8	<200	<10
DEC 09...	25	13.6	68	10	<.020	.72	<.040	.01	.013	.81	1.6	<200	<10
APR 2004 08...	21	12.2	48	<2	<.020	.37	<.040	.01	.014	.51	1.7	<200	<10
JUN 03...	37	11.0	84	10	.020	.31	<.040	.02	.026	.55	2.9	<200	<10
AUG 03...	30	9.7	70	6	.030	.50	<.040	.04	.028	.68	3.4	400	<10

Date	Iron, water, unfltrd recover-able, μg/L (01045)	Lead, water, unfltrd recover-able, μg/L (01051)	Manganese, water, unfltrd recover-able, μg/L (01055)	Nickel, water, unfltrd recover-able, μg/L (01067)	Zinc, water, unfltrd recover-able, μg/L (01092)
OCT 2003 07...	40	<1.0	20	<50	<10
DEC 09...	80	<1.0	40	<50	<10
APR 2004 08...	80	<1.0	40	<50	<10
JUN 03...	240	<1.0	<10	<50	<10
AUG 03...	600	<1.0	60	<50	10

## TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/07/03
Benthic Macroinvertebrate	Count
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Acentrella</i>	1
<i>Baetis</i>	2
Ephemerellidae	
<i>Ephemerella</i>	1
<i>Serratella</i>	6
Heptageniidae	
<i>Epeorus</i>	2
<i>Leucrocuta</i>	21
<i>Stenonema</i>	6
Isonychiidae	
<i>Isonychia</i>	17
Leptophlebiidae	
<i>Paraleptophlebia</i>	1
Plecoptera (STONEFLIES)	
Perlidae	
<i>Acroneuria</i>	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	39
<i>Hydropsyche</i>	29
Hydroptilidae	
<i>Leucotrichia</i>	1
Lepidostomatidae	
<i>Lepidostoma</i>	1
Philopotamidae	
<i>Chimarra</i>	15
Psychomyiidae	
<i>Psychomyia</i>	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	2
<i>Stenelmis</i>	2
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	7
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	12
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	169
Total Taxa	21