

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 mi².

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 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Jan. 1	2345	5,280	11.10	June 1	1045	*18,200	*14.48
Mar. 21	0045	10,600	12.78	June 21	0715	5,770	11.29

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	144	186	1410	59	204	605	157	7800	122	180	48
2	30	132	154	2120	60	223	1270	890	1950	104	230	462
3	27	119	124	731	60	226	1020	323	975	91	137	250
4	24	105	e91	564	e310	173	780	224	840	82	503	826
5	25	96	e110	450	e330	232	1180	183	756	75	728	876
6	23	120	e91	387	e160	305	864	172	560	66	666	371
7	21	136	e80	340	e120	155	682	159	603	58	343	243
8	18	113	e87	328	e110	e190	629	255	661	58	237	178
9	17	101	e66	496	e90	307	621	212	451	58	212	143
10	17	95	e80	578	e80	265	641	173	360	64	294	117
11	25	116	e100	379	e76	156	842	189	313	94	203	97
12	434	165	136	301	e76	166	1180	252	305	85	211	84
13	278	273	186	239	e74	237	780	213	363	60	167	77
14	178	224	e1000	e180	e74	158	620	183	300	50	131	97
15	123	193	866	e160	e67	278	523	165	235	44	105	92
16	756	205	583	e120	e70	868	451	188	187	44	90	139
17	1430	1650	371	e100	e87	1700	372	397	158	41	92	109
18	577	1310	253	e90	e120	2000	321	291	184	43	79	83
19	361	808	e270	e88	e90	1550	322	226	185	51	66	85
20	274	590	2100	e97	e66	2400	305	190	257	43	57	166
21	201	484	1440	e91	e63	4970	263	190	4330	39	51	125
22	158	470	811	e90	e70	2390	278	174	2290	396	46	95
23	129	570	592	e80	e1000	1470	269	151	1080	206	42	1080
24	107	418	444	e77	766	1090	234	388	631	571	38	561
25	95	356	384	e74	476	899	201	554	428	223	36	351
26	336	298	339	e71	e280	836	218	393	318	127	34	301
27	322	268	282	e91	e260	768	251	343	246	94	34	267
28	230	231	243	e85	246	610	200	298	196	104	33	482
29	191	208	228	e80	---	598	175	296	157	83	33	311
30	168	201	195	e64	---	690	158	242	142	66	40	233
31	154	---	298	e60	---	641	---	270	---	56	37	---
TOTAL	6765	10199	12190	10021	5340	26755	16255	8341	27261	3298	5155	8349
MEAN	218	340	393	323	191	863	542	269	909	106	166	278
MAX	1430	1650	2100	2120	1000	4970	1270	890	7800	571	728	1080
MIN	17	95	66	60	59	155	158	151	142	39	33	48
CFM	1.02	1.58	1.83	1.50	0.89	4.01	2.52	1.25	4.23	0.49	0.77	1.29
IN.	1.17	1.76	2.11	1.73	0.92	4.63	2.81	1.44	4.72	0.57	0.89	1.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2003, BY WATER YEAR (WY)

MEAN	148	273	311	287	344	656	622	368	193	93.9	80.9	87.3
MAX	1092	1326	1117	1542	1169	2287	1838	1262	1922	1376	986	950
(WY)	1991	1927	1997	1996	1984	1936	1993	1946	1972	1915	1915	1975
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.

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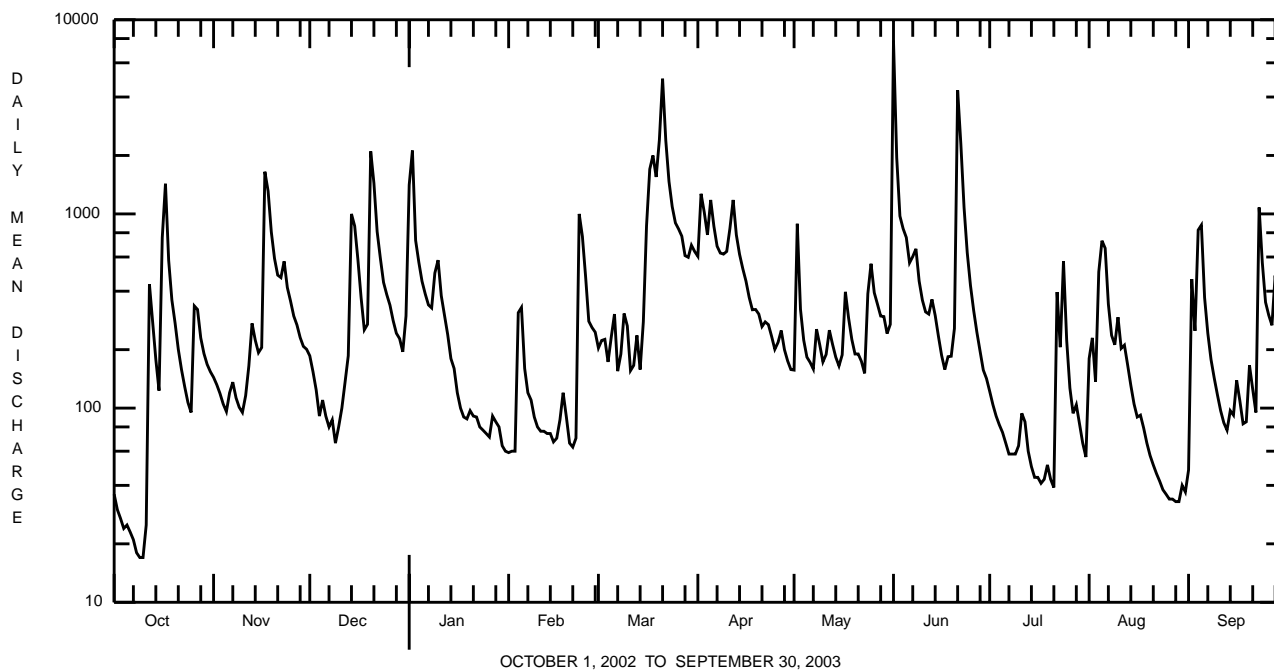
SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1914 - 2003	
ANNUAL TOTAL	96135.5		139929			
ANNUAL MEAN	263		383		288	
HIGHEST ANNUAL MEAN					502	
LOWEST ANNUAL MEAN					111	
HIGHEST DAILY MEAN	4210 Mar 26		7800 Jun 1		28700 Jun 22 1972	
LOWEST DAILY MEAN	e3.1 Sep 14		17 Oct 9,10		0.70 Sep 21 1932	
ANNUAL SEVEN-DAY MINIMUM	a3.5 Sep 8		21 Oct 4		0.87 Sep 16 1932	
MAXIMUM PEAK FLOW			18200 Jun 1		74000 Jun 22 1972	
MAXIMUM PEAK STAGE			14.48 Jun 1		b20.86 Jan 19 1996	
INSTANTANEOUS LOW FLOW					0.70 Sep 15 1932c	
ANNUAL RUNOFF (CFSM)	1.23		1.78		1.34	
ANNUAL RUNOFF (INCHES)	16.63		24.21		18.19	
10 PERCENT EXCEEDS	579		838		655	
50 PERCENT EXCEEDS	165		204		116	
90 PERCENT EXCEEDS	7.6		59		14	

a Computed using estimated daily discharges.

b From floodmark.

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

e Estimated.



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(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Other data for the Water-Quality Network can be found on pages 368-434.

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 2002 TO SEPTEMBER 2003

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd recover mg/L (00916)	Magnesium, water, unfltrd recover mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002	05...	1028	9813	94	30	13.5	8.1	102	6.1	40	11.9	2.4	20
JAN 2003	08...	1028	9813	328	30	13.6	7.6	112	1.1	40	11.7	2.6	21
MAR 05...	1030	1028	9813	169	30	14.2	7.2	120	.9	40	11.6	2.6	20
MAY 07...	1215	1028	9813	153	30	11.9	7.6	96	13.9	42	11.9	2.9	30
JUL 09...	1100	1028	9813	57	30	9.8	7.9	134	21.7	49	14.6	3.0	33
SEP 09...	1200	1028	9813	142	30	10.3	7.9	111	17.1	43	13.1	2.4	31

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC, wat flt 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 mg/L (01105)	Copper, water, unfltrd recover mg/L (01042)	Iron, water, unfltrd recover mg/L (01045)
NOV 2002	16.2	<2	<2	<.020	.25	<.040	<.01	<.010	.48	1.5	<200	<10	40
JAN 2003	15.2	100	<2	<.020	1.18	<.040	.01	.021	1.3	2.5	<200	<10	110
MAR 05...	13.8	82	<2	<.020	.92	<.040	.02	.020	.98	2.3	<200	<10	140
MAY 07...	13.7	108	2	<.020	.29	<.040	.02	.011	.46	2.3	<200	<10	170
JUL 09...	15.3	122	<2	<.020	.40	<.040	.01	.025	.53	2.0	<200	<10	50
SEP 09...	11.5	102	2	<.020	.34	<.040	.01	.026	.30	2.2	<200	<10	100

Date	Lead, water, unfltrd recover mg/L (01051)	Manganese, water, unfltrd recover mg/L (01055)	Nickel, water, unfltrd recover mg/L (01067)	Zinc, water, unfltrd recover mg/L (01092)
NOV 2002				
05...	<1.0	20	<50	<10
JAN 2003				
08...	<1.0	60	<50	<10
MAR 05...	<1.0	50	<50	10
MAY 07...	<1.0	20	<50	40
JUL 09...	<1.0	20	<50	<10
SEP 09...	<1.0	20	<50	10

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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using rapid bioassessment protocols for benthic macroinvertebrates using a D-Frame net with a mesh size of 500 μ m. Samples represent counts per 100 (approximate) subsamples.

Date	8/9/02
Benthic Macroinvertebrate	Count
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	5
<u>Procladius</u> sp	1
Caenidae	
<u>Caenis</u> sp	5
Heptageniidae	
<u>Leucrocuta</u> sp	45
<u>Stenacron</u> sp	13
<u>Stenonema</u> sp	60
Isonychiidae	
<u>Isonychia</u> sp	11
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	7
<u>Hydropsyche</u> sp	14
Hydroptilidae	
<u>Leucotrichia</u> sp	3
Philopotamidae	
<u>Chimarra</u> sp	2
Psychomyiidae	
<u>Psychomyia</u> sp	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Stenelmis</u> sp	1
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	20
Diptera (TRUE FLIES)	
Athericidae	
<u>Atherix</u> sp	4
Chironomidae (MIDGES)	
	7
Total Organisms	199