

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°57'09", long 77°06'56", Tioga County, Hydrologic Unit 02050104, on left bank 0.3 mi upstream from bridge on Township Route 722 at Tioga Junction, 3.3 mi downstream from Crooked Creek, and 5.0 mi downstream from Tioga and Hammond Dams.

DRAINAGE AREA.--446 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 990.43 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since November 1979 by Tioga Dam (station 01517900) and Hammond Dam (station 01518498). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of September 1975 reached a stage of about 22.1 ft, from floodmarks, discharge, about 48,000 ft³/s.

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	82	132	208	1020	161	385	1120	237	3000	246	1760	184
2	43	119	207	2860	186	365	2850	231	2890	198	942	2810
3	44	105	216	1230	215	328	2700	270	1340	180	581	1290
4	43	105	194	1060	284	299	1860	288	1110	155	545	1360
5	42	116	173	645	290	329	3700	288	1100	130	1120	1800
6	42	136	200	662	272	421	2550	267	808	131	1200	1100
7	42	107	198	625	241	e360	1610	208	568	129	631	565
8	43	105	180	579	e200	352	1360	208	1230	128	553	418
9	42	99	e180	630	185	465	1220	214	644	135	1800	338
10	43	99	e160	795	184	492	1130	214	574	133	4080	292
11	43	100	152	727	e180	546	1170	221	478	189	1600	246
12	43	126	210	583	162	564	1270	270	568	200	1890	171
13	43	201	236	483	e140	613	1150	277	839	157	856	155
14	43	201	626	384	e140	588	e760	241	715	141	577	212
15	66	201	1190	320	152	692	644	241	492	79	429	300
16	122	203	711	319	e160	1770	640	249	356	79	377	503
17	436	552	500	e290	e150	4280	620	358	299	77	371	615
18	384	766	358	e260	e140	5220	575	462	337	107	316	328
19	212	495	297	e250	160	5140	443	403	367	123	272	204
20	183	372	2070	254	180	4510	396	327	331	109	212	140
21	132	332	2090	e220	180	2440	403	309	4850	219	157	319
22	132	336	784	e180	185	1590	411	303	5370	2570	154	237
23	132	359	801	e150	656	4530	485	277	2490	720	151	1710
24	120	372	691	e150	784	6220	428	310	1040	1790	148	1220
25	108	405	602	e150	627	6330	245	435	644	1130	137	470
26	188	416	566	e150	429	5230	296	506	627	468	97	515
27	299	381	514	e140	363	2340	295	546	498	393	96	564
28	196	330	418	e130	398	1320	293	535	328	466	94	2460
29	170	275	376	e150	---	1220	281	447	321	309	87	1120
30	132	241	417	e150	---	1380	259	408	284	215	65	725
31	132	---	460	e150	---	1330	---	419	---	179	69	---
TOTAL	3782	7787	15985	15696	7404	61649	31164	9969	34498	11285	21367	22371
MEAN	122	260	516	506	264	1989	1039	322	1150	364	689	746
MAX	436	766	2090	2860	784	6330	3700	546	5370	2570	4080	2810
MIN	42	99	152	130	140	299	245	208	284	77	65	140

e Estimated.

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	241	401	513	490	646	984	1294	596	466	182	190	143
MAX (WY)	1515	1626	1632	1975	1837	2009	5667	1723	1619	697	1836	746
MIN (WY)	1991	1997	1997	1996	1981	1994	1993	1989	1989	1994	1994	2003
MIN (WY)	41.4	49.0	41.5	29.5	1.27	259	352	151	51.4	38.4	29.6	26.3
(WY)	1992	1981	1999	1981	1989	1981	1988	2001	1980	1991	1980	1980

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1980 - 2003

ANNUAL TOTAL	165096	242957	
ANNUAL MEAN	452	666	510
HIGHEST ANNUAL MEAN			842
LOWEST ANNUAL MEAN			297
HIGHEST DAILY MEAN	5920	Jun 7	6330
LOWEST DAILY MEAN	32	Sep 20,21	42
ANNUAL SEVEN-DAY MINIMUM	33	Sep 18	42
MAXIMUM PEAK FLOW			a6480
MAXIMUM PEAK STAGE			13.50
10 PERCENT EXCEEDS	966	1590	1190
50 PERCENT EXCEEDS	263	328	201
90 PERCENT EXCEEDS	36	120	49

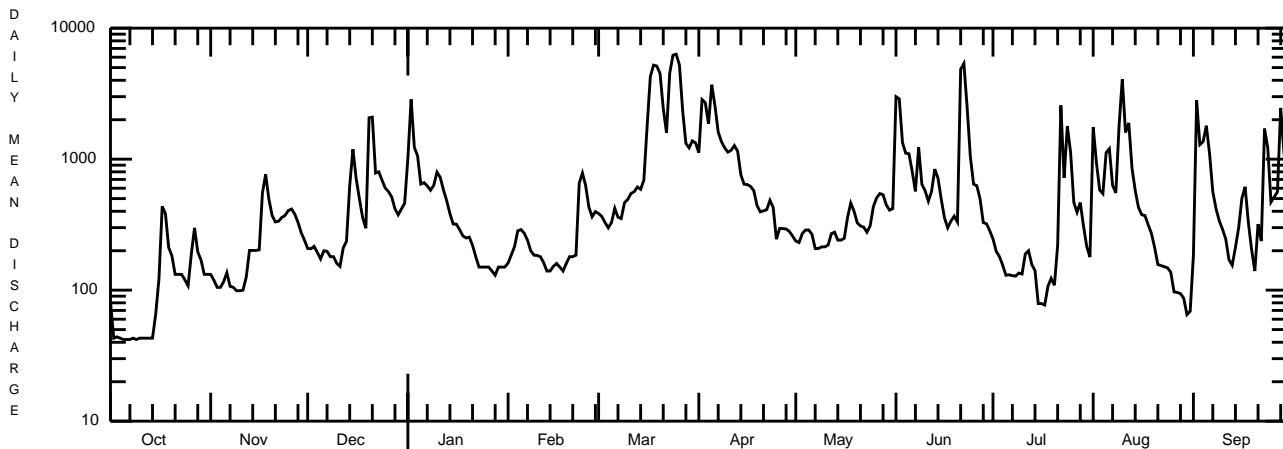
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	581	746	635	963	453	1993	1010	663	210	123	177	160
MAX (WY)	838	1764	1324	1484	597	2355	1404	1365	318	181	288	278
MIN (WY)	1978	1978	1978	1979	1977	1979	1978	1978	1978	1976	1976	1977
MIN (WY)	198	181	229	97.2	380	1478	807	311	153	78.3	65.2	80.3
(WY)	1979	1979	1977	1977	1978	1977	1979	1979	1977	1979	1979	1976

SUMMARY STATISTICS WATER YEARS 1976 - 1979

ANNUAL MEAN	643	
HIGHEST ANNUAL MEAN	955	1978
LOWEST ANNUAL MEAN	429	1977
HIGHEST DAILY MEAN	8510	Jan 9 1978
LOWEST DAILY MEAN	28	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	32	Sep 7 1977
MAXIMUM PEAK FLOW	bc17900	Feb 25 1977
MAXIMUM PEAK STAGE	d17.20	Jan 26 1978
INSTANTANEOUS LOW FLOW	26	Feb 13, Sep 12, 1977; Feb 3, 1979.
ANNUAL RUNOFF (CFSM)	1.44	
ANNUAL RUNOFF (INCHES)	19.59	
10 PERCENT EXCEEDS	1520	
50 PERCENT EXCEEDS	232	
90 PERCENT EXCEEDS	69	

- a From rating curve extended above 6,000 ft³/s.
- b From rating curve extended above 4,000 ft³/s.
- c Gage height 16.70 ft.
- d Backwater from ice.



OCTOBER 1, 2002 TO SEPTEMBER 30, 2003

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued
(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, 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)	
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	19...	67.4	174	<2	<.020	.35	<.040	<.01	.013	.60	1.6	<200	<10	110
JAN 2003	14...	27.9	128	6	.050	.89	<.040	.02	.017	1.3	3.0	300	<10	340
MAR	13...	30.7	146	14	.050	.86	<.040	.03	.027	1.2	3.0	300	<10	330
MAY	15...	43.0	130	<2	<.020	.35	<.040	.01	.010	.62	1.7	<200	<10	150
JUL	22...	33.6	106	24	.050	.26	<.040	.02	.038	.57	3.8	900	<10	1160
SEP	15...	31.7	66	<2	<.020	.29	<.040	.01	.021	.26	3.3	<200	<10	310
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	19...					<1.0	660	<50	<10					
JAN 2003	14...					<1.0	330	<50	<10					
MAR	13...					<1.0	430	<50	30					
MAY	15...					<1.0	550	<50	20					
JUL	22...					<1.0	810	<50	30					
SEP	15...					<1.0	300	<50	20					

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

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 µm. Samples represent counts per 100 (approximate) subsamples.

Date	8/18/02
Benthic Macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	3
Lymnaeidae	
<u>Pseudosuccinea</u> sp	
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
<u>Corbicula fluminea</u>	1
Sphaeriidae	
<u>Musiculum</u> sp	9
Oligochaeta (AQUATIC EARTHWORMS)	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	
Lebertiidae	
<u>Lebertia</u> sp	3
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	6
Caenidae	
<u>Caenis</u> sp	3
Heptageniidae	
<u>Stenonema</u> sp	31
Isonychiidae	
<u>Isonychia</u> sp	6
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	36
<u>Hydropsyche</u> sp	18
Hydroptilidae	
<u>Hydroptila</u> sp	14
Leptoceridae	
<u>Oecetis</u> sp	1
<u>Setodes</u> sp	3
Polycentropodidae	2
<u>Cernotina</u> sp	1
Psychomyiidae	
<u>Psychomyia</u> sp	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	2
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	77
Total Organisms	220