

## CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA  
(Pennsylvania Water-Quality Network Station)

**LOCATION.**--Lat 41°59'48", long 77°08'25", Tioga County, Hydrologic Unit 02050104, on left bank on SR 4022, 0.5 mi downstream from Cowanesque Dam, 0.8 mi upstream from highway bridge on U.S. Route 15 in Lawrenceville, and 1.4 mi upstream from mouth.

**DRAINAGE AREA.**--298 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--June 1951 to current year. Prior to October 1951 monthly discharge only, published in WSP 1722.

**REVISED RECORDS.**--WDR PA-72-1: 1971(M).

**GAGE.**--Water-stage recorder. Datum of gage is 983.96 ft above National Geodetic Vertical Datum of 1929. Prior to July 1976 at site 1.1 mi upstream at datum 14.07 ft higher.

**REMARKS.**--No estimated daily discharges. Records good. Flow regulated since December 1979 by Cowanesque Dam (station 01519995). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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	22	20	87	510	59	245	706	99	1800	110	2800	223
2	22	20	75	843	59	197	2200	106	972	111	2600	2880
3	22	20	55	532	59	146	1240	120	676	76	1300	875
4	22	20	54	437	80	149	923	120	683	49	1420	817
5	22	20	50	398	73	212	2720	120	666	49	1380	564
6	22	25	47	293	112	255	1520	120	571	55	901	401
7	22	27	47	223	147	216	955	110	536	65	664	264
8	22	20	47	342	121	304	838	99	436	70	1090	178
9	21	22	56	366	91	366	748	82	390	125	1310	139
10	22	23	61	361	82	546	751	92	363	129	3710	144
11	22	23	62	362	82	643	777	106	315	132	1400	144
12	22	23	94	303	66	640	630	106	396	119	1040	144
13	22	22	120	210	54	640	463	106	642	78	691	144
14	22	22	121	139	54	640	421	106	428	44	532	144
15	22	22	487	144	54	675	408	106	348	31	385	184
16	24	23	493	139	54	1750	370	124	214	32	277	397
17	22	25	193	141	70	3740	273	236	128	37	277	320
18	22	193	223	130	78	3760	263	209	161	89	230	211
19	22	254	203	76	78	3320	263	161	251	120	191	163
20	22	119	655	71	78	2690	263	173	261	135	147	97
21	22	125	975	109	78	1230	239	180	3500	717	125	108
22	22	172	540	86	81	1130	219	181	1940	4770	125	170
23	22	144	374	66	125	4420	219	181	899	2320	85	708
24	23	130	282	69	399	4490	192	260	566	4630	67	531
25	24	120	343	75	470	2420	162	501	393	2390	71	300
26	23	106	199	59	341	1400	150	424	305	819	91	330
27	22	99	141	51	318	1100	116	367	280	621	91	382
28	22	99	161	51	301	845	99	344	218	581	70	3460
29	22	93	161	56	---	742	99	302	132	435	57	1510
30	22	87	175	59	---	796	99	236	109	286	99	662
31	20	---	195	59	---	728	---	330	---	250	97	---
TOTAL	685	2118	6776	6760	3664	40435	18326	5807	18579	19475	23323	16594
MEAN	22.1	70.6	219	218	131	1304	611	187	619	628	752	553
MAX	24	254	975	843	470	4490	2720	501	3500	4770	3710	3460
MIN	20	20	47	51	54	146	99	82	109	31	57	97

CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, 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	140	255	307	292	387	626	736	371	295	114	122	90.9
MAX (WY)	1122	1114	864	1198	1027	1527	2773	1115	1222	628	889	553
MIN (WY)	1991	1997	1991	1996	1981	1994	1993	1996	1989	2003	1994	2003
MIN (WY)	13.9	14.3	19.1	23.3	57.6	158	231	48.9	17.4	14.1	11.9	5.09
(WY)	1989	1992	1999	1981	1980	1981	1997	1985	1991	1991	1983	1980

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

ANNUAL TOTAL	97328	162542	
ANNUAL MEAN	267	445	310
HIGHEST ANNUAL MEAN			498
LOWEST ANNUAL MEAN			165
HIGHEST DAILY MEAN	5580	Jun 7	4770
LOWEST DAILY MEAN	18	Sep 7	20
ANNUAL SEVEN-DAY MINIMUM	19	Sep 5	20
MAXIMUM PEAK FLOW			6320
MAXIMUM PEAK STAGE			12.31
10 PERCENT EXCEEDS	586	1000	751
50 PERCENT EXCEEDS	120	161	104
90 PERCENT EXCEEDS	22	22	17

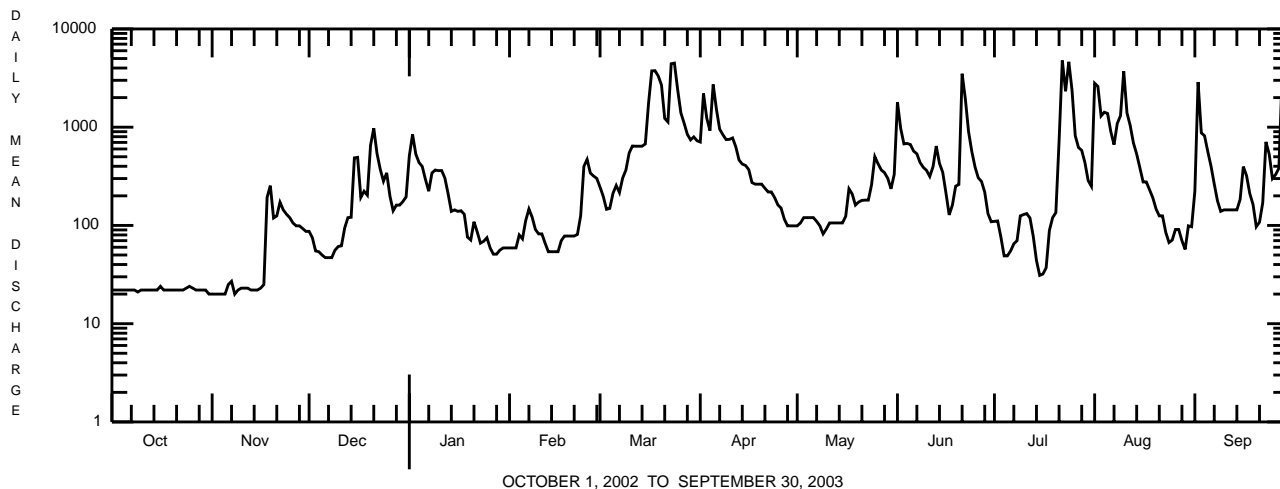
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	121	203	297	288	345	808	707	359	220	61.0	39.1	87.9
MAX (WY)	809	826	860	886	1173	1909	1934	797	1366	223	125	1054
MIN (WY)	1956	1978	1973	1952	1976	1964	1958	1960	1972	1977	1977	1975
MIN (WY)	3.33	7.95	12.2	13.9	45.6	230	167	55.5	13.8	7.00	3.11	2.52
(WY)	1965	1965	1961	1961	1963	1965	1955	1955	1955	1966	1954	1964

SUMMARY STATISTICS WATER YEARS 1952 - 1979

ANNUAL MEAN	294
HIGHEST ANNUAL MEAN	514
LOWEST ANNUAL MEAN	135
HIGHEST DAILY MEAN	21500
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	1.5
MAXIMUM PEAK FLOW	b43700
MAXIMUM PEAK STAGE	c18.13
INSTANTANEOUS LOW FLOW	d0.8
ANNUAL RUNOFF (CFSM)	.99
ANNUAL RUNOFF (INCHES)	13.41
10 PERCENT EXCEEDS	694
50 PERCENT EXCEEDS	95
90 PERCENT EXCEEDS	10

- a Also Nov. 1-5, 8.
- b From rating curve extended above 6,000 ft<sup>3</sup>/s, on basis of slope-area measurement of peak flow.
- c From floodmark; site and datum then in use.
- d No flow Aug. 22, 1978, during dam construction.



OCTOBER 1, 2002 TO SEPTEMBER 30, 2003

## CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, 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 $\mu$ S/cm 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd recover-able, mg/L (00916)	Magnesium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002	19...	1028	9813	176	30	11.8	7.4	187	8.1	75	22.5	4.6	62
JAN 2003	14...	1028	9813	154	30	14.5	7.5	214	1.7	80	23.1	5.3	55
MAR	11...	1028	9813	640	30	13.7	7.3	209	2.1	82	24.3	5.2	50
MAY	22...	1028	9813	183	30	11.1	8.1	158	14.1	58	17.0	3.8	39
JUL	22...	1028	9813	5360	30	11.7	7.3	165	15.1	59	17.4	3.7	48
SEP	16...	1028	9813	406	30	8.7	7.7	164	20.3	64	18.5	4.3	55

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-able, $\mu$ g/L (01105)	Copper, water, unfltrd recover-able, $\mu$ g/L (01042)	Iron, water, unfltrd recover-able, $\mu$ g/L (01045)
NOV 2002	13.8	138	14	.140	.26	<.040	.03	.030	.82	4.6	200	<10	450
JAN 2003	17.9	144	4	.050	.70	<.040	.02	.023	1.0	4.3	500	<10	830
MAR	19.6	170	<2	<.020	1.17	<.040	.02	.015	1.5	3.6	<200	<10	170
MAY	14.0	142	2	<.020	.52	<.040	.01	.018	.78	3.3	<200	<10	140
JUL	11.9	98	4	<.020	.48	<.040	.03	.023	.71	4.7	300	<10	410
SEP	9.9	130	8	.040	.24	<.040	.03	.032	.79	5.3	400	<10	400

Date	Lead, water, unfltrd recover-able, $\mu$ g/L (01051)	Manganese, water, unfltrd recover-able, $\mu$ g/L (01055)	Nickel, water, unfltrd recover-able, $\mu$ g/L (01067)	Zinc, water, unfltrd recover-able, $\mu$ g/L (01092)
NOV 2002	<1.0	450	<50	<10
JAN 2003	<1.0	440	<50	<10
MAR	<1.0	60	<50	40
MAY	<1.0	60	<50	120
JUL	<1.0	130	<50	<10
SEP	<1.0	100	<50	90

## CHEMUNG RIVER BASIN

## 01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, 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	8/15/02
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Dugesiidae	
<u>Dugesia</u> sp	40
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	
Lebertiidae	
<u>Lebertia</u> sp	1
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	4
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<u>Caecidotea</u> sp	72
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	15
Caenidae	
<u>Caenis</u> sp	8
Heptageniidae	
<u>Stenonema</u> sp	17
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	1
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Corydalis</u> sp	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	35
<u>Hydropsyche</u> sp	8
Hydroptilidae	
<u>Hydroptila</u> sp	6
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Stenelmis</u> sp	1
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	2
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	244
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	7
Total Organisms	
	464