

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°56'47", long 76°22'05", Lancaster County, Hydrologic Unit 02050306, on left bank on SR 3030, 1,500 ft downstream from Little Conestoga Creek, 1.0 mi west of Conestoga, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--470 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to current year.

REVISED RECORDS.--WDR PA-86-2: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 180.45 ft above National Geodetic Vertical Datum of 1929.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Jan. 2	0430	5,930	6.67	June 4	2115	5,210	6.21
Feb. 23	1000	5,980	6.70	June 21	1630	12,400	10.24
Mar. 6	2215	5,580	6.45	Sept. 16	0615	5,820	6.60
Mar. 21	1330	6,200	6.84	Sept. 24	0130	*13,400	*10.92

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	152	918	622	1660	559	854	1240	667	702	926	421	393
2	127	674	572	4290	575	1020	1130	649	1110	880	418	2170
3	113	582	539	2390	576	3010	1070	630	726	848	400	1050
4	159	517	518	2530	636	1480	1020	595	2790	835	401	969
5	153	479	521	1900	822	1230	989	580	2810	811	437	851
6	133	613	542	1660	601	3710	971	573	1550	863	668	582
7	116	713	507	1550	e550	2780	925	576	1670	916	697	484
8	98	504	481	1430	e510	1500	998	625	2910	810	460	437
9	92	458	470	1460	e480	2290	1060	671	1670	744	412	406
10	92	434	448	1370	e490	2870	1310	647	1410	701	452	379
11	872	413	844	1210	e480	1480	1610	598	1220	690	608	363
12	1810	513	2920	1080	e460	1320	2270	558	1130	661	490	343
13	597	1070	2010	1020	e430	1690	1460	524	1060	622	411	401
14	361	704	3140	953	e410	1990	1220	497	1030	583	373	631
15	284	541	2490	914	e400	1610	1140	479	1060	544	346	696
16	1140	616	1660	856	e330	1570	1080	540	920	524	763	2870
17	2510	2680	1350	845	e220	1600	1010	568	847	506	924	791
18	776	2570	1170	807	e300	1520	954	513	884	485	510	593
19	529	1500	1060	768	e350	1300	937	486	907	477	410	1770
20	449	1100	1160	762	e400	1490	894	462	1610	480	373	1230
21	395	994	1420	729	e450	4760	853	495	9020	461	350	758
22	342	1150	1070	694	e1300	2410	865	494	3710	1020	373	641
23	305	1130	958	643	5320	1760	829	468	2340	1060	416	7090
24	288	905	887	571	4140	1500	764	583	1760	1040	315	5860
25	286	799	1150	677	2080	1350	728	731	1510	672	300	1660
26	447	743	1870	618	1420	1280	980	1220	1340	529	298	1540
27	578	756	1290	617	1060	1470	1120	1410	1230	485	307	1310
28	380	780	1130	607	930	1240	826	883	1130	470	315	1210
29	342	678	1050	573	---	1140	740	761	1040	441	288	1110
30	633	658	1010	575	---	1400	711	667	980	416	347	937
31	1380	---	994	557	---	1690	---	613	---	424	330	---
TOTAL	15939	26192	35853	36316	26279	56314	31704	19763	52076	20924	13613	39525
MEAN	514	873	1157	1171	939	1817	1057	638	1736	675	439	1318
MAX	2510	2680	3140	4290	5320	4760	2270	1410	9020	1060	924	7090
MIN	92	413	448	557	220	854	711	462	702	416	288	343
CFM	1.09	1.86	2.46	2.49	2.00	3.87	2.25	1.36	3.69	1.44	0.93	2.80
IN.	1.26	2.07	2.84	2.87	2.08	4.46	2.51	1.56	4.12	1.66	1.08	3.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2003, BY WATER YEAR (WY)

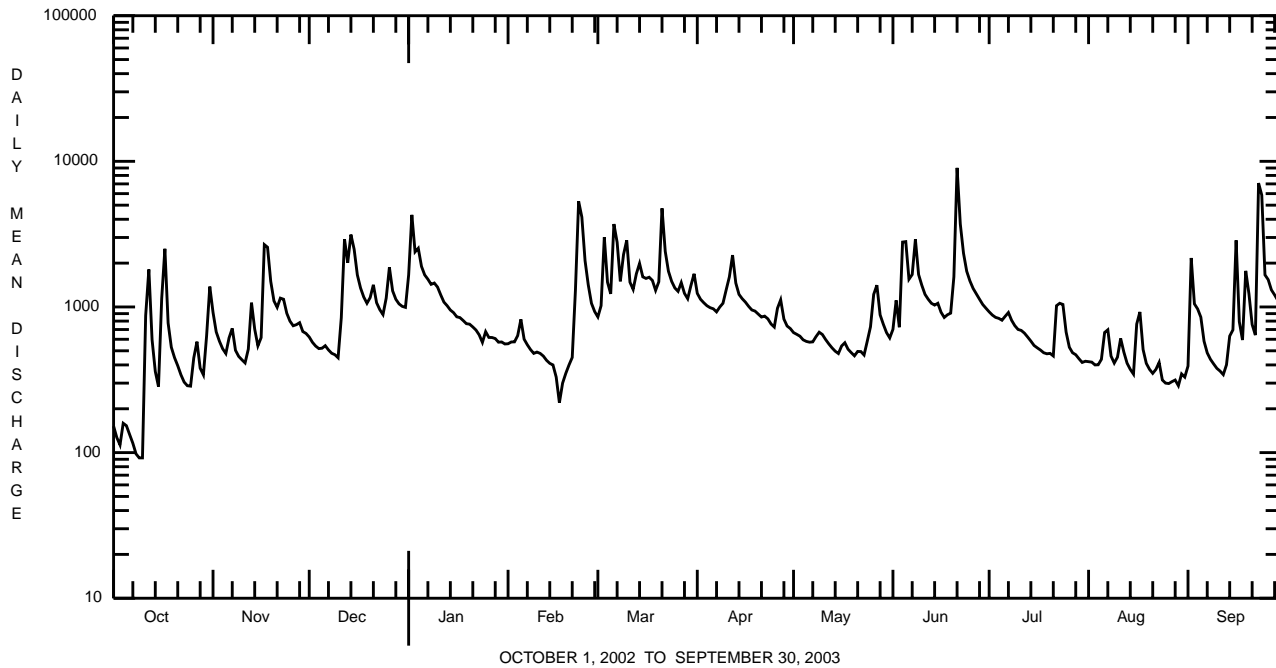
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	394	529	703	766	774	1103	845	724	568	467	333	456							
MAX	1183	1348	2339	1887	1264	3145	2508	2148	1736	1202	659	1318							
(WY)	1997	1997	1997	1996	1986	1994	1993	1989	2003	1988	1986	2003							
MIN	118	110	130	192	144	261	274	308	203	107	102	132							
(WY)	2002	2002	2002	2002	2002	2002	1985	1999	1999	1999	2002	2002							

e Estimated.

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1985 - 2003	
ANNUAL TOTAL	146300		374498			
ANNUAL MEAN	401		1026		638	
HIGHEST ANNUAL MEAN					1026	2003
LOWEST ANNUAL MEAN					217	2002
HIGHEST DAILY MEAN	4520	May 14	9020	Jun 21	14100	Sep 17 1999
LOWEST DAILY MEAN	59	Sep 14	92	Oct 9,10	58	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	65	Sep 9	120	Oct 4	65	Sep 9 2002
MAXIMUM PEAK FLOW			13400	Sep 24	19000	Sep 9 1987
MAXIMUM PEAK STAGE			10.92	Sep 24	14.37	Sep 9 1987
INSTANTANEOUS LOW FLOW			81	Oct 9	52	Aug 7 1999
ANNUAL RUNOFF (CFSM)	0.85		2.18		1.36	
ANNUAL RUNOFF (INCHES)	11.58		29.64		18.44	
10 PERCENT EXCEEDS	979		1760		1210	
50 PERCENT EXCEEDS	220		764		435	
90 PERCENT EXCEEDS	89		377		171	



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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 -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...	1430	1028	9813	1390	40	10.5	7.4	420	7.6	190	52.9	14.9	128
JAN 2003 23...	1530	1028	9813	655	40	16.4	7.6	703	.1	300	80.1	24.0	193
MAR 24...	1440	1028	9813	1500	40	12.5	8.0	508	12.5	210	57.9	16.6	143
MAY 12...	1650	1028	9813	549	40	8.7	7.8	449	17.6	250	66.8	20.9	173
JUL 28...	1300	1028	9813	466	40	7.8	8.1	673	25.1	260	68.7	20.4	184
SEP 11...	1415	1028	9813	357	40	11.1	8.4	588	21.8	260	70.3	21.7	198

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, μ g/L (01105)	Copper, water, unfltrd recover -able, μ g/L (01042)	Iron, water, unfltrd recover -able, μ g/L (01045)
NOV 2002 19...	33.2	304	50	.080	6.60	<.040	.23	.324	7.3	6.3	1300	<10	1590
JAN 2003 23...	46.9	462	16	.030	12.5	<.200	.05	.074	13	2.7	<200	<10	190
MAR 24...	32.6	362	8	<.020	8.15	<.040	.06	.091	8.5	3.1	300	<10	450
MAY 12...	38.6	368	54	.040	7.78	<.040	.13	.162	8.6	3.4	200	<10	330
JUL 28...	42.2	432	6	<.020	9.20	.070	.15	.175	9.6	3.7	200	<10	310
SEP 11...	45.1	480	20	.030	9.07	<.200	.15	.172	9.1	3.5	<200	<10	140

Date	Lead, water, unfltrd recover -able, μ g/L (01051)	Manganese, water, unfltrd recover -able, μ g/L (01055)	Nickel, water, unfltrd recover -able, μ g/L (01067)	Zinc, water, unfltrd recover -able, μ g/L (01092)
NOV 2002 19...	2.1	80	<50	<10
JAN 2003 23...	<1.0	30	<50	<10
MAR 24...	1.0	40	<50	50
MAY 12...	<1.0	40	<50	30
JUL 28...	<1.0	20	<50	10
SEP 11...	<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 µm. Samples represent counts per 100 (approximate) subsamples.

Date	8/26/02
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	6
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	1
Physidae	
<u>Physa</u> sp	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
<u>Corbicula fluminea</u>	1
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	3
<u>Baetis</u> sp	28
<u>Plauditus</u> sp	1
Caenidae	
<u>Caenis</u> sp	1
Heptageniidae	
<u>Leucrocuta</u> sp	1
<u>Stenonema</u> sp	13
Tricorythidae	
<u>Tricorythodes</u> sp	10
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	34
<u>Hydropsyche</u> sp	3
Hydroptilidae	
<u>Hydroptila</u> sp	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	3
<u>Stenelmis</u> sp	53
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	13
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	17
Total Organisms	191