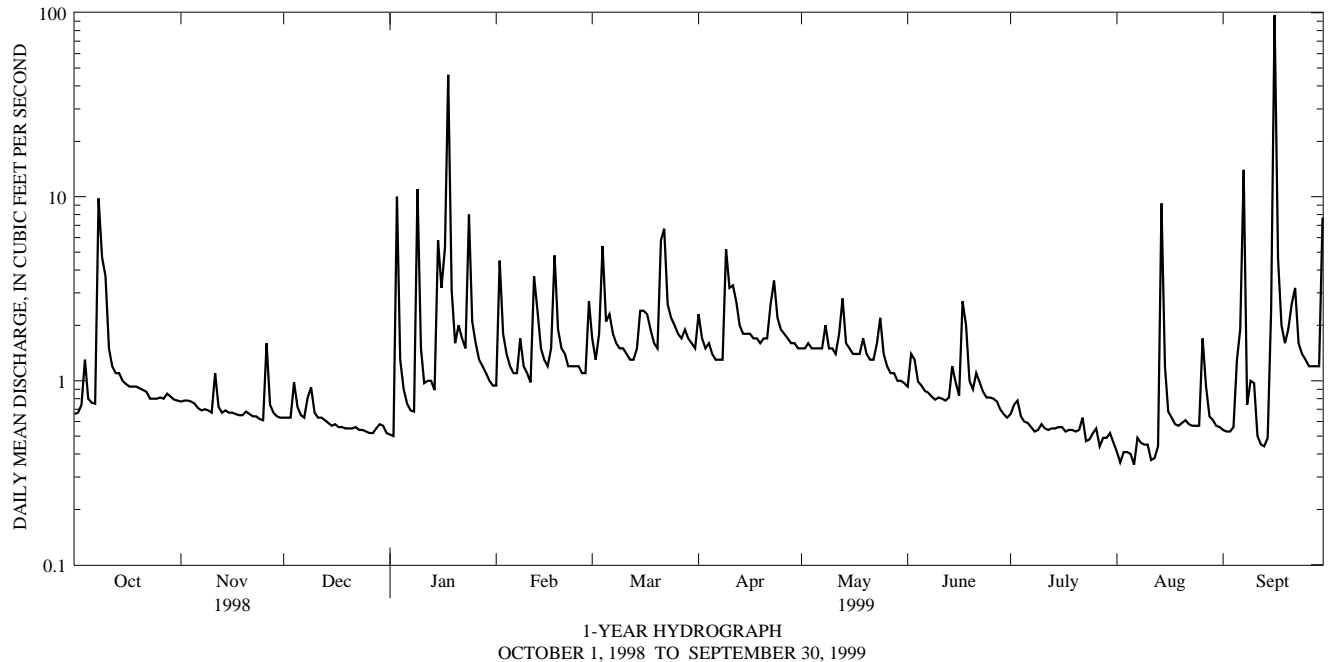


CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1994 - 1999	
ANNUAL TOTAL	839.66		656.67			
ANNUAL MEAN	2.30		1.80		2.96	
HIGHEST ANNUAL MEAN					4.21	
LOWEST ANNUAL MEAN					1.80	
HIGHEST DAILY MEAN	25	Mar 21	97	Sep 16	97	Sep 16 1999
LOWEST DAILY MEAN	.52	Dec 26	.35	Aug 6	.35	Aug 6 1999
ANNUAL SEVEN-DAY MINIMUM	.54	Dec 21	.40	Jul 31	.40	Jul 31 1999
INSTANTANEOUS PEAK FLOW			a392	Sep 16	a392	Sep 16 1999
INSTANTANEOUS PEAK STAGE			7.67	Sep 16	7.67	Sep 16 1999
INSTANTANEOUS LOW FLOW			.15	Aug 8b	.15	Aug 8 1999b
ANNUAL RUNOFF (CFSM)	1.30		1.02		1.67	
ANNUAL RUNOFF (INCHES)	17.65		13.80		22.75	
10 PERCENT EXCEEDS	4.1		2.4		4.5	
50 PERCENT EXCEEDS	1.7		.98		2.0	
90 PERCENT EXCEEDS	.66		.54		.67	

a From rating curve extended above 100 ft³/s on basis of step-backwater computation, at gage height 7.30 ft and at peak flow.
 b Also Aug. 11-13.



CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1993 to current year.

INSTRUMENTATION.--Automatic pumping sampler for stormflow, nutrient, and sediment samples since December 1993.

REMARKS.--Fixed-time, base flow, and stormflow samples collected at streamflow control. Constituent values for stormflow water quality are for discharge-weighted composited samples. Samples with two dates are composited samples; sample time is the composite start time, discharge is the mean for the composited period. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter and some values for dissolved ortho-phosphorus exceed the values for dissolved phosphorus. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER)	AGENCY COLLECTING SAMPLE (CODE NUMBER)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, AM- MONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 1998												
07...	0820	80020	1028	--	.76	8.7	7.6	658	12.8	.045	.21	.15
OCT												
08-08	0922	80020	1028	24	--	--	--	--	--	.217	.87	1.4
OCT												
09-10	2037	80020	1028	15	--	--	--	--	--	.520	1.4	2.3
15...	0940	80020	1028	--	1.0	11.0	7.8	633	11.4	.031	.13	.22
27...	0820	80020	1028	--	.76	11.9	7.8	625	12.3	.033	<.10	.26
NOV												
05...	0945	80020	1028	--	.82	13.3	8.0	599	8.8	.033	.15	<.10
DEC												
15...	0945	80020	1028	--	.59	14.4	7.8	665	6.5	.049	.12	<.10
JAN 1999												
03-03	0622	80020	1028	32	--	--	--	--	--	.880	2.3	6.6
JAN												
09-09	1053	80020	1028	32	--	--	--	--	--	.755	2.2	4.7
13...	0935	80020	1028	--	.97	--	7.7	719	8.1	.047	.24	.30
JAN												
24-24	0652	80020	1028	16	--	--	--	--	--	.439	1.2	3.5
FEB												
02-02	0722	80020	1028	10	--	--	--	--	--	.348	.99	2.3
09...	0850	80020	1028	--	1.2	13.2	7.8	751	6.0	.020	.16	.21
FEB												
18-18	0737	80020	1028	10	--	--	--	--	--	.371	1.1	2.4
MAR												
03-04	2237	80020	1028	12	--	--	--	--	--	.218	.65	3.9
09...	0935	80020	1028	--	1.5	16.5	7.9	754	5.4	<.020	.14	.21
MAR												
21-22	2022	80020	1028	17	--	--	--	--	--	<.020	1.2	4.2
APR												
08...	1135	80020	1028	--	1.3	15.2	8.2	662	15.6	<.020	.27	.29
APR												
09-09	1407	80020	1028	11	--	--	--	--	--	.268	.75	2.8
APR												
09-10	2022	80020	1028	14	--	--	--	--	--	.253	.92	2.9
APR												
09-10	2023	80020	1028	14	--	--	--	--	--	.247	.93	3.7
APR												
11-11	1837	80020	1028	9.8	--	--	--	--	--	.214	.68	2.0
20...	0905	80020	1028	--	1.9	10.9	7.9	668	9.3	.036	.16	.21
APR												
22-22	0452	80020	1028	7.1	--	--	--	--	--	<.020	.62	--
29...	1045	80020	1028	--	1.6	15.4	8.3	625	14.3	<.020	.19	.32
MAY												
11...	0815	80020	1028	--	1.4	11.1	7.6	715	11.7	.078	.26	.72
11...	0920	80020	1028	--	1.4	--	--	--	--	--	--	--
MAY												
12-13	2322	80020	1028	8.2	--	--	--	--	--	.558	1.2	3.5
MAY												
13-13	0222	80020	1028	7.6	--	--	--	--	--	.272	.82	1.8
19...	0755	80020	1028	--	1.5	11.1	7.6	707	14.2	.146	.24	.32
28...	0830	80020	1028	--	1.1	10.0	7.7	706	12.3	.040	.38	.35
JUN												
10...	0845	80020	1028	--	.82	9.4	7.6	676	15.1	.067	.29	.24
JUN												
17-18	2037	80020	1028	11	--	--	--	--	--	.225	1.1	2.2
18...	1010	80020	1028	--	1.6	17.2	7.8	636	16.7	.063	.49	.54
28...	1025	80020	1028	--	.76	11.9	7.9	681	20.4	.031	.11	.81
JUL												
07...	0830	80020	1028	--	.63	--	7.6	671	17.6	<.020	.45	.79
20...	0745	80020	1028	--	.54	7.3	6.7	673	16.5	.046	.34	.30
28...	0835	80020	1028	--	.49	8.7	6.8	674	16.4	.020	.21	.24
AUG												
04...	0655	80020	1028	--	.49	7.6	6.5	698	14.2	.037	.12	.17
AUG												
14-14	1607	80020	1028	49	--	--	--	--	--	.401	1.5	3.8
17...	1050	80020	1028	--	.67	9.2	7.3	686	19.6	.058	1.5	1.2
27...	0910	80020	1028	--	.82	8.3	7.4	605	18.1	.033	.38	.57

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	TUR- BID- ITY (NTU) (00076)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER (31673)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)
OCT 1998												
07...	10.7	.025	<.050	.028	<.050	2.0	1400	--	--	--	--	12
OCT 08-08	1.35	.033	.345	.315	.490	--	--	--	--	--	--	555
OCT 09-10	1.95	.067	.503	.476	.965	--	--	--	--	--	--	401
15...	11.5	.012	E.045	.087	.052	6.0	--	--	--	--	--	5
27...	10.9	.031	.054	.060	.097	10	--	--	--	--	--	7
NOV 05...	10.5	.015	<.050	--	.153	4.0	2500	--	--	--	--	3
DEC 15...	10.3	.013	<.050	--	E.031	1.0	110	--	--	--	--	5
JAN 1999												
03-03	2.09	.066	.694	.621	2.85	--	--	--	--	--	--	1470
JAN 09-09	1.50	.064	1.02	.917	1.78	--	--	--	--	--	--	564
13...	9.31	.010	.059	--	.072	3.5	1200	--	--	--	--	8
JAN 24-24	3.14	.054	.357	.331	1.58	--	--	--	--	--	--	699
FEB 02-02	2.46	.041	.188	.156	.698	--	--	--	--	--	--	12
09...	8.69	<.010	.022	--	.036	4.0	70	--	--	--	--	319
FEB 18-18	3.14	.039	.322	.179	.685	--	--	--	--	--	--	249
MAR 03-04	2.47	.037	.155	.129	1.70	--	--	--	--	--	--	1170
09...	8.05	.013	.014	--	.031	7.5	100	--	--	--	--	20
MAR 21-22	2.27	.074	.155	.011	1.57	--	--	--	--	--	--	1050
APR 08...	9.30	.027	.012	--	.021	1.0	--	--	--	--	--	2
APR 09-09	2.51	.049	.049	.038	.767	--	--	--	--	--	--	523
APR 09-10	2.67	.047	.144	.105	1.12	--	--	--	--	--	--	702
APR 09-10	2.62	.048	.142	.106	1.22	--	--	--	--	--	--	717
APR 11-11	3.43	.024	.089	.065	.484	--	--	--	--	--	--	206
20...	8.11	.019	.011	--	.014	1.5	720	--	--	--	--	10
APR 22-22	4.04	.034	.037	.011	.355	--	--	--	--	--	--	192
29...	8.06	.027	.011	--	.028	4.0	--	--	--	--	--	14
MAY 11...	7.82	.030	.035	--	.134	18	--	--	--	--	--	57
11...	--	--	--	--	--	--	--	74.9	1.60	571.8	603.4	--
MAY 12-13	3.51	.096	.056	.033	<.050	--	--	--	--	--	--	340
MAY 13-13	3.28	.088	.061	.040	<.050	--	--	--	--	--	--	127
19...	8.71	.061	.014	--	.033	2.5	950	--	--	--	--	5
28...	9.26	.041	.028	--	.067	9.0	--	--	--	--	--	50
JUN 10...	11.9	.056	.029	--	.035	2.0	1800	--	--	--	--	17
JUN 17-18	1.86	.064	.134	.098	.514	63	--	--	--	--	--	220
18...	7.30	.044	.053	--	.075	3.5	--	--	--	--	--	27
28...	10.7	.057	.018	--	.022	1.5	--	--	--	--	--	8
JUL 07...	9.40	.096	.025	--	.079	6.5	3800	--	--	--	--	58
20...	9.83	.057	.020	--	.039	2.0	--	--	--	--	--	29
28...	9.66	.057	.019	--	.033	3.6	--	--	--	--	--	17
AUG 04...	8.93	.047	.020	--	.034	2.7	3200	--	--	--	--	17
AUG 14-14	2.12	.084	.295	.250	1.62	150	--	--	--	--	--	1300
17...	9.15	.032	.058	--	.031	.80	--	--	--	--	--	11
27...	7.66	.044	.030	--	.039	1.8	--	--	--	--	--	4

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	
SEP 1999													
07-07	0252	80020	1028	45	--	--	--	--	--	.193	.85	3.8	
08...	0815	80020	1028	--	.76	7.6	7.4	671	17.1	.029	.30	.29	
08...	0900	80020	1028	--	.82	--	--	--	--	--	--	--	
SEP													
16-17	0540	80020	1028	101	--	--	--	--	--	.133	.71	2.7	
22...	0940	80020	1028	--	3.2	9.4	7.1	498	13.9	.117	.62	1.2	
28...	0855	80020	1028	--	1.1	9.8	7.1	756	14.9	<.020	.18	.15	
SEP													
30-30	0237	80020	1028	21	--	--	--	--	--	.049	1.1	2.4	
SEP													
30-30	0238	80020	1028	21	--	--	--	--	--	<.020	.85	1.0	
DATE		NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	TUR-BID-ITY (NTU) (00076)	STREP-TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M ²) (70958)	PERI-PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT (G/SQ M) (00573)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
SEP 1999													
07-07	1.27	.047	.382	.385	1.49	--	--	--	--	--	--	--	843
08...	8.33	.031	.057	--	.068	1.7	--	--	--	--	--	--	3
08...	--	--	--	--	--	--	--	15.1	1.50	359.9	370.3	--	--
SEP													
16-17	2.69	.029	.579	.553	1.42	160	--	--	--	--	--	--	624
22...	4.46	.040	.179	--	.233	9.0	60000	--	--	--	--	--	3
28...	7.53	.016	.018	--	.023	1.1	--	--	--	--	--	--	1
SEP													
30-30	1.68	.106	.228	.129	.827	89	--	--	--	--	--	--	229
SEP													
30-30	2.30	.085	.280	.242	.868	89	--	--	--	--	--	--	229

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

BIOLOGICAL DATA, MAY AND SEPTEMBER 1999
BENTHIC MACROINVERTEBRATES

REMARKS.--Rapid bioassessments for benthic macroinvertebrates were conducted in May and September 1999. Samples represent counts per 200-organism (approximate) subsamples.

Benthic Macroinvertebrate	May 1999	Sept. 1999
Platyhelminthes	--	--
Turbellaria (FLATWORMS)	--	--
Tricladida	--	--
Planariidae	--	20
Annelida	--	--
Oligochaeta (AQUATIC EARTHWORMS)	--	--
Haplotaxida	--	--
Enchytraeidae	--	1
Tubificidae	--	20
<u>Limnodrilus hoffmeisteri</u>	--	2
Naididae	--	--
<u>Nais bretscheri</u>	130	--
<u>Nais elinguis</u>	25	--
<u>Nais sp</u>	--	3
<u>Ophidonais serpentina</u>	8	--
<u>Pristinella jenkinsae</u>	--	1
<u>Specaria sp</u>	32	--
Hirudinea (LEECHES)	--	--
Pharyngobdellida	--	--
Erpobdellidae	--	--
<u>Erpobdella punctata</u>	--	1
Mollusca	--	--
Gastropoda (SNAILS)	--	--
Basommatophora	--	--
Planorbidae	--	--
<u>Gyraulus sp</u>	--	1
Pelecypoda (CLAMS)	--	--
Veneroida	--	--
Sphaeriidae	--	--
<u>Pisidium sp</u>	--	2
Arthropoda	--	--
Arachnoidea	--	--
Hydracarina (WATER MITES)	--	--
Lebertiidae	--	--
<u>Lebertia sp</u>	--	2
Insecta	--	--
Ephemeroptera (MAYFLIES)	--	--
Baetidae	--	--
<u>Baetis flavistriga</u>	--	1
Odonata	--	--
Coenagrionidae (DAMSELFLIES)	--	--
<u>Enallagma sp</u>	--	2
Hemiptera (TRUE BUGS)	--	--
Corixidae (WATER BOATMEN)	--	13
<u>Palmacorixa sp</u>	--	4
<u>Sigara sp</u>	--	2
Trichoptera (CADDIS FLIES)	--	--
Hydropsychidae	--	1
<u>Cheumatopsyche sp</u>	--	4
Hydroptilidae	--	--
<u>Hydroptila sp</u>	--	2
Diptera	--	--
Tipulidae (CRANE FLIES)	--	--
<u>Tipula sp</u>	--	1
Simuliidae (BLACK FLIES)	--	--
<u>Simulium sp</u>	2	5
Chironomidae (MIDGES)	--	--
Tanypodinae	--	--
<u>Thienemannimyia gr</u>	--	1
Orthoclaadiinae	--	--
<u>Cricotopus bicinctus</u>	--	1
<u>Cricotopus trifascia gr</u>	--	1
<u>Cricotopus sp</u>	2	2
<u>Orthocladus sp</u>	--	3
<u>Parametrioctenus sp</u>	--	3
<u>Thienemanniella sp</u>	--	2
<u>Tvetenia bavarica gr</u>	--	2

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

BIOLOGICAL DATA, MAY AND SEPTEMBER 1999
BENTHIC MACROINVERTEBRATES--Continued

Benthic Macroinvertebrate	May 1999	Sept. 1999
Chironominae	--	--
<u>Cryptochironomus</u> sp	--	2
<u>Dicrotendipes</u> sp	--	30
<u>Microspectra</u> sp	--	11
<u>Paratendipes albimanus</u>	--	13
<u>Phaenopsectra</u> sp	--	1
<u>Polypedilum convictum</u>	--	6
<u>Rheotanytarsus</u> sp	--	23
<u>Stictochironomus</u> sp	--	1
<u>Tanytarsus glabrescens</u> gr	--	10
<u>Tanytarsus</u> sp	--	21
Total organisms	199	221