CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA

LOCATION.--Lat 39°59'53", Long 76°15'55", Lancaster County, Hydrologic Unit 02050306, on left bank 300 ft upstream of Long Rifle Road bridge near the intersection with Gypsy Hill Road, and 1.5 mi northeast of Willow Street.

DRAINAGE AREA.--1.77 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1993 to July 2001 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 292.16 ft above sea level.

REMARKS.--No estimated daily discharges. Records fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
June 22	1945	*515	*8.24

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.2	1.1	1.8	3.7	2.4	3.7	2.2	2.4	2.3	---	---
2	1.7	1.2	1.1	1.8	3.3	2.4	3.5	2.2	2.1	2.0	---	---
3	1.6	1.2	1.0	1.7	2.8	2.4	3.2	2.1	1.7	1.9	---	---
4	1.6	1.2	1.0	1.7	2.7	2.9	3.1	2.1	1.6	2.0	---	---
5	1.7	1.2	1.1	1.7	3.0	3.5	3.0	2.0	1.6	3.3	---	---
6	1.6	1.1	1.0	1.8	2.9	2.8	3.2	2.0	1.6	2.1	---	---
7	1.6	1.1	1.0	1.7	2.9	3.2	3.0	1.9	1.5	1.9	---	---
8	1.5	1.1	1.0	1.8	2.7	3.0	2.9	1.9	1.5	2.1	---	---
9	1.7	1.1	1.0	1.7	4.4	2.8	3.2	2.0	1.4	3.3	---	---
10	1.6	2.6	1.0	1.5	7.5	2.7	3.2	1.9	1.4	3.3	---	---
11	1.5	1.2	1.0	1.5	3.1	2.6	3.6	1.8	1.4	2.1	---	---
12	1.5	1.2	1.0	1.5	2.8	2.5	3.3	1.8	1.4	1.8	---	---
13	1.4	1.2	.97	1.5	2.8	6.0	3.0	1.7	1.4	1.8	---	---
14	1.4	1.7	7.3	1.5	2.8	3.2	2.9	1.7	1.4	1.7	---	---
15	1.4	1.2	1.9	2.5	2.8	3.0	2.9	1.6	1.4	1.7	---	---
16	1.3	1.2	2.1	1.9	3.1	3.3	4.4	1.6	2.6	1.6	---	---
17	1.6	1.1	20	1.7	3.7	3.7	3.4	1.5	1.8	1.6	---	---
18	1.9	1.1	3.5	1.7	2.7	3.5	4.7	1.6	1.4	1.6	---	---
19	1.5	1.1	2.7	12	2.6	3.3	3.4	1.6	1.3	1.6	---	---
20	1.5	1.1	2.5	6.8	2.6	3.3	3.1	1.5	2.9	1.5	---	---
21	1.5	1.1	2.2	3.2	2.5	6.9	3.0	3.1	1.7	1.5	---	---
22	1.4	1.1	2.2	2.7	2.4	3.9	3.0	2.2	40	1.4	---	---
23	1.4	1.1	2.0	2.6	2.6	3.2	3.2	2.2	5.6	1.4	---	---
24	1.4	1.1	2.1	2.4	2.5	2.9	3.1	1.6	2.7	1.4	---	---
25	1.3	1.0	2.0	2.3	3.2	2.8	2.5	1.8	2.3	1.4	---	---
26	1.3	2.9	1.9	2.2	3.0	2.7	2.4	4.7	2.1	1.4	---	---
27	1.3	1.3	2.0	2.2	2.7	2.6	2.4	3.3	2.1	1.2	---	---
28	1.3	1.2	1.9	2.1	2.5	2.6	2.4	2.1	2.0	1.1	---	---
29	1.2	1.4	1.9	2.0	---	3.7	2.3	1.8	2.0	1.1	---	---
30	1.2	1.3	1.9	8.4	---	17	2.3	1.7	2.0	1.1	---	---
31	1.2	---	1.8	6.7	---	4.3	---	1.6	---	1.0	---	---
TOTAL	45.8	38.6	75.17	86.6	86.3	115.1	93.3	62.8	96.3	55.2	---	---
MEAN	1.48	1.29	2.42	2.79	3.08	3.71	3.11	2.03	3.21	1.78	---	---
MAX	1.9	2.9	20	12	7.5	17	4.7	4.7	40	3.3	---	---
MIN	1.2	1.0	.97	1.5	2.4	2.4	2.3	1.5	1.3	1.0	---	---
CFSM	.83	.73	1.37	1.58	1.74	2.10	1.76	1.14	1.81	1.01	---	---
IN.	.96	.81	1.58	1.82	1.81	2.42	1.96	1.32	2.02	1.16	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2001, BY WATER YEAR (WY)

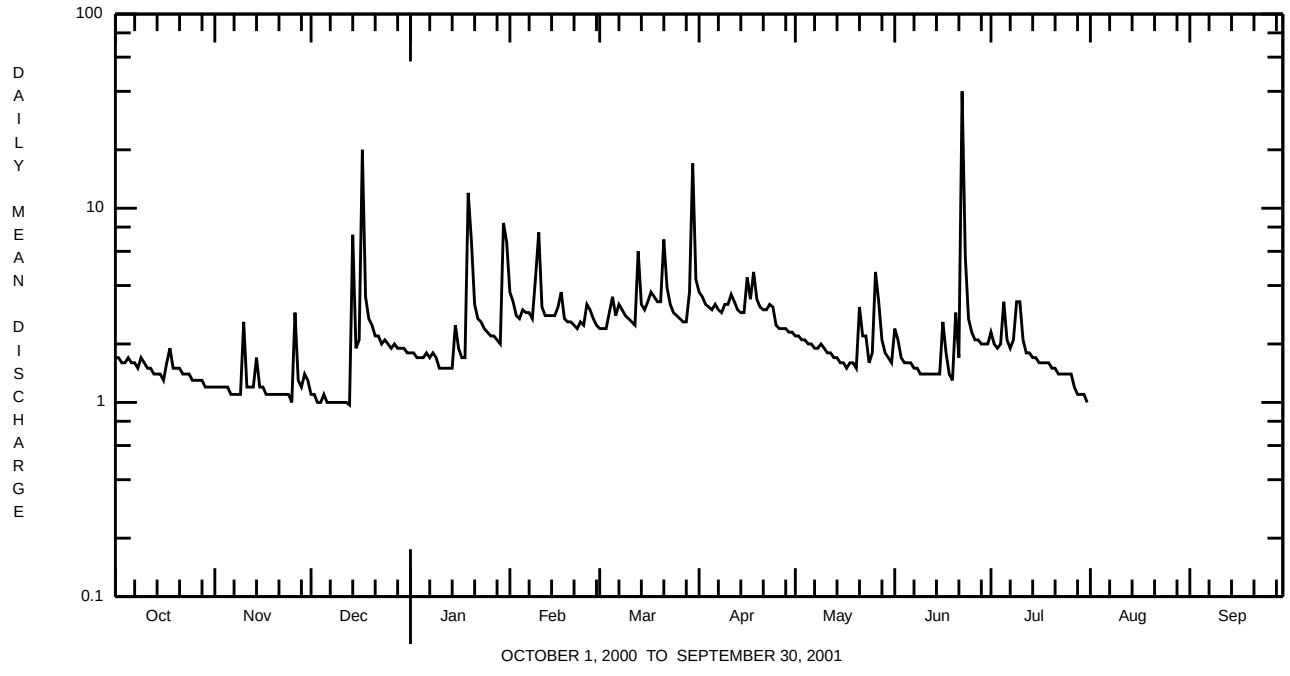
MEAN	2.24	2.47	2.94	3.72	3.15	4.83	3.23	2.81	2.51	2.15	1.80	2.38
MAX	5.66	4.92	7.08	7.96	5.00	12.1	4.98	4.08	4.02	4.79	4.75	5.20
(WY)	1997	1997	1997	1996	1994	1994	1996	1996	1996	1996	1996	1999
MIN	.63	.73	.62	1.77	1.71	2.20	2.03	1.49	1.00	.56	.75	.64
(WY)	1998	1999	1999	2000	1999	1999	1999	1999	1999	1999	1997	1997

CONESTOGA RIVER BASIN

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

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1994 - 2001	
ANNUAL TOTAL	927.42					
ANNUAL MEAN	2.53				2.92	
HIGHEST ANNUAL MEAN					4.21	1996
LOWEST ANNUAL MEAN					1.80	1999
HIGHEST DAILY MEAN	41	Mar 21	40	Jun 22	97	Sep 16 1999
LOWEST DAILY MEAN	.97	Aug 26	.97	Dec 13	.35	Aug 6 1999
ANNUAL SEVEN-DAY MINIMUM	1.0	Dec 7	1.0	Dec 7	.40	Jul 31 1999
MAXIMUM PEAK FLOW			**a**515	Jun 22	**a**515	Jun 22 2001
MAXIMUM PEAK STAGE			8.24	Jun 22	8.24	Jun 22 2001
INSTANTANEOUS LOW FLOW			.80	Aug 8	.15	Aug 8 1999**b**
ANNUAL RUNOFF (CFSM)	1.43				1.65	
ANNUAL RUNOFF (INCHES)	19.49				22.38	
10 PERCENT EXCEEDS	3.7		3.3		4.4	
50 PERCENT EXCEEDS	1.9		2.0		2.0	
90 PERCENT EXCEEDS	1.1		1.2		.76	

a From rating curve extended above 100 ft^3/s on basis of step-backwater computation.
b Also Aug. 11-13, 1999.



CONESTOGA RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1993 to July 2001 (discontinued).

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 values for dissolved phosphorus. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	DISCHARGE, IN CUBIC FEET PER SECOND (00060)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)
OCT 2000												
04...	0850	80020	1028	--	1.6	2.0	10.6	7.9	746	13.2	<.020	.20
16...	0940	80020	1028	--	1.4	1.6	9.0	7.6	748	12.3	<.041	.17
24...	0825	80020	1028	--	1.4	6.1	9.9	7.6	752	10.5	<.041	.16
NOV												
02...	0755	80020	1028	--	1.2	1.1	11.9	7.6	737	9.0	<.041	.11
14...	0915	80020	1028	--	1.2	--	10.2	7.4	716	11.2	E.022	.17
DEC												
12...	0835	80020	1028	--	1.0	1.7	12.1	8.5	726	7.9	<.041	.16
JAN 2001												
09...	0835	80020	1028	--	1.8	4.0	12.5	--	885	4.9	<.041	.16
JAN												
30-30	1137	80020	1028	15	--	--	--	--	--	--	.668	1.6
FEB												
13...	0845	80020	1028	--	2.8	6.3	13.9	8.0	806	7.6	<.041	E.08
MAR												
12...	0830	80020	1028	--	2.5	7.0	12.6	7.7	810	6.3	<.041	.19
MAR												
13-13	0022	80020	1028	13	--	--	--	--	--	--	.100	.48
MAR												
21-21	1322	80020	1028	13	--	--	--	--	--	--	.089	.72
29...	0900	80020	1028	--	2.5	22	13.1	8.0	769	7.5	<.041	.15
MAR												
29-30	2222	80020	1028	27	--	--	--	--	--	--	.185	.90
APR												
10...	0900	80020	1028	--	3.1	10	10.3	7.9	742	11.6	E.022	.19
19...	0850	80020	1028	--	3.4	8.7	12.1	7.5	748	7.5	<.041	.22
MAY												
01...	0845	80020	1028	--	2.3	8.5	10.4	7.2	755	11.2	E.029	.14
09...	0745	80020	1028	--	2.0	13	9.3	7.2	749	12.2	.047	.22
09...	0930	80020	1028	--	--	--	--	--	--	--	--	--
16...	1105	80020	1028	--	1.6	11	11.5	7.6	750	15.3	E.023	.17
MAY												
22-23	2307	80020	1028	6.5	--	--	--	--	--	--	.163	.60
MAY												
26-26	0652	80020	1028	9.0	--	--	--	--	--	--	.136	.80
29...	0915	80020	1028	--	1.9	11	10.2	7.5	765	13.8	E.029	.21
JUN												
01-01	2037	80020	1028	7.6	--	--	--	--	--	--	E.023	.48
07...	0845	80020	1028	--	1.6	7.2	9.1	7.4	751	13.9	<.040	.15
19...	0845	80020	1028	--	1.4	9.5	9.5	7.8	734	14.8	E.021	.22
JUN												
20-20	1937	80020	1028	12	--	--	--	--	--	--	.152	1.4
JUN												
22-23	1822	80020	1028	81	--	--	--	--	--	--	.106	.96
JUL												
03...	0900	80020	1028	--	1.9	5.5	12.2	7.7	738	14.2	E.031	.16

CONESTOGA RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	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)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	PHEO-PHYTIN A, PERI-PHYTON (MG/M^2) (62359)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M^2) (70957)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT 2000												
04...	.23	8.19	.015	.009	--	.016	--	--	--	--	--	3
16...	.39	8.96	.019	.012	--	.020	--	--	--	--	--	50
24...	.21	9.36	.014	.020	--	.036	--	--	--	470k	--	12
NOV												
02...	.20	9.47	.015	.009	--	.015	--	--	--	--	--	20
14...	.18	5.63	.018	.021	--	.024	--	--	--	850	--	14
DEC												
12...	.14	8.89	.018	.019	--	.022	--	--	--	150	--	8
JAN 2001												
09...	.14	8.93	.011	.017	--	.019	--	--	--	130	--	14
JAN												
30-30	2.8	2.76	.034	.446	.394	.828	--	--	--	--	--	226
FEB												
13...	.19	8.68	.009	.026	--	.036	--	--	--	72	--	12
MAR												
12...	.20	8.30	.017	.013	E.011	.024	--	--	--	35k	--	7
MAR												
13-13	2.2	3.23	.027	.069	.059	.729	--	--	--	--	--	497
MAR												
21-21	2.1	3.62	.028	.145	.121	.995	--	--	--	--	--	569
29...	.26	8.86	.012	.010	--	.038	--	--	--	--	--	29
MAR												
29-30	.90	3.08	.030	.182	.218	1.65	--	--	--	--	--	1040
APR												
10...	.25	8.18	.020	.015	--	.029	--	--	--	--	--	17
19...	.28	8.38	.017	.024	--	.040	--	--	--	--	--	10
MAY												
01...	.21	10.1	.035	.015	--	.028	--	--	--	150	--	19
09...	.31	9.11	.049	.024	--	.041	--	--	--	--	--	16
09...	--	--	--	--	--	--	669.6	701.3	27	--	49.8	--
16...	.23	9.70	.046	.022	--	.036	--	--	--	--	--	16
MAY												
22-23	1.7	4.10	.073	.069	.051	.396	--	--	--	--	--	219
MAY												
26-26	1.7	2.75	.104	.106	.070	.378	--	--	--	--	--	185
29...	.35	9.38	.057	.041	--	.057	--	--	--	440	--	16
JUN												
01-01	2.8	3.60	.073	.080	.040	.403	--	--	--	--	--	216
07...	.20	9.19	.033	.028	--	.044	--	--	--	--	--	12
19...	.28	9.36	.028	.031	.023	.042	--	--	--	980	--	65
JUN												
20-20	2.6	2.70	.062	.104	<.020	.547	--	--	--	--	--	260
JUN												
22-23	6.9	2.60	.120	.381	.230	3.66	--	--	--	--	--	1930
JUL												
03...	.20	9.08	.022	.013	<.020	.024	--	--	--	--	--	3

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

BIOLOGICAL DATA, MAY 2000 TO MAY 2001
BENTHIC MACROINVERTEBRATES

REMARKS.--Rapid bioassessments for benthic macroinvertebrates were conducted in May 2000 to May 2001. Samples represent counts per 200-organism (approximate) subsamples. Two subsamples were identified in May 2000 and May 2001

Benthic Macroinvertebrate	May 2000	May 2000	Sept 2000	May 2001	May 2001
Platyhelminthes	--	--	--	--	--
Turbellaria (FLATWORMS)	--	--	--	--	--
Tricladida	--	--	--	--	--
Planariidae	6	2	2	1	--
Annelida	--	--	--	--	--
Oligochaeta (AQUATIC EARTHWORMS)	--	--	--	--	--
Haplotaxida	--	--	--	--	--
Enchytraeidae	--	--	--	1	--
Tubificidae	5	2	--	--	--
Limnodrilus sp	--	--	2	1	1
Naididae	--	--	--	--	--
Nais bretscheri	7	3	--	--	--
Nais sp	3	3	--	10	9
Ophidonais serpentina	--	4	--	--	--
Hirudinea (LEECHES)	--	--	--	--	--
Pharyngobdellida	--	--	--	--	--
Erpobdellidae	--	--	--	--	--
Erpobdella punctata	1	2	--	--	--
Erpobdella sp	--	--	--	--	1
Mollusca	--	--	--	--	--
Pelecypoda (CLAMS)	--	--	2	--	--
Veneroida	--	--	--	--	--
Sphaeriidae	--	--	--	--	--
Sphaerium sp	1	--	--	--	--
Arthropoda	--	--	--	--	--
Crustacea	--	--	--	--	--
Ostracoda (SEED SHRIMP)	--	--	33	1	2
Isopoda (AQUATIC SOWBUGS)	--	--	--	--	--
Asellidae	--	--	--	--	--
Caecidotea sp	1	--	--	--	--
Amphipoda (SCUDS)	--	--	--	--	--
Gammaridae	--	--	--	--	--
Gammarus pseudolimnaeus	12	14	--	65	80
Gammarus sp	--	--	16	--	--
Arachnoidea	--	--	--	--	--
Hydracarina (WATER MITES)	--	--	--	--	--
Hygrobatidae	--	--	--	--	--
Hygrobates sp	--	--	--	1	3
Lebertiidae	--	--	--	--	--
Lebertia sp	--	--	1	--	--
Sperchonidae	--	--	--	--	--
Sperchon sp	--	--	--	1	--
Insecta					
Pterygota	--	--	--	--	--
Ephemeroptera (MAYFLIES)	--	--	--	--	--
Baetidae	--	--	3	3	3
Baetis flavistriga	7	1	6	--	--
Odonata	--	--	--	--	--
Coenagrionidae (DAMSELFLIES)	--	--	--	--	--
Enallagma sp	--	--	2	--	--
Coleoptera (BEETLES)	--	--	--	--	--
Dytiscidae (PREDACEOUS DIVING BEETLES)	--	--	--	--	--
Agabus sp	--	1	1	--	--
Elmidae	--	--	--	--	--
Dubiraphia sp	--	--	3	--	1
Optioservus sp	--	--	1	2	2
Stenelmis sp	--	1	1	--	--

CONESTOGA RIVER BASIN

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

BIOLOGICAL DATA, MAY 2000 to MAY 2001
BENTHIC MACROINVERTEBRATES--Continued

Benthic Macroinvertebrate	May 2000	May 2000	Sept. 2000	May 2001	May 2001
Trichoptera (CADDIS FLIES)	--	--	--	--	--
Hydropsychidae	--	--	7	--	--
Cheumatopsyche sp	4	3	6	4	5
Hydropsyche sp	--	1	--	--	
Hydroptilidae	--	--	--	--	1
Hydroptila sp	--	--	8	--	2
Ochrotrichia sp	--	--	--	--	2
Diptera					
Ceratopogonidae (BITING MIDGES)	--	--	--	--	--
Alluaudomyia sp	--	1	--	--	--
Culicoides sp	--	--	--	--	1
Simuliidae (BLACK FLIES)	--	--	--	--	--
Simulium vittatum complex	111	128	--	--	--
Simulium sp	--	--	33	53	45
Empididae	--	--	--	--	--
Hemerodromia sp	--	--	2	1	2
Chironomidae (MIDGES)	--	--	--	--	--
Tanypodinae	--	--	--	--	--
Thienemannimyia gr sp	--	2	1	--	--
Orthocladiinae	1	--	--	--	--
Cricotopus bicinctus	--	--	--	--	1
Cricotopus trifascia gr	7	6	--	1	--
Cricotopus sp	8	12	--	7	2
Eukiefferiella devonica gr	1	1	--	--	--
Eukiefferiella sp	--	--	--	2	3
Orthocladius sp	10	7	--	26	14
Parakiefferiella sp	--	--	--	16	10
Parametriocnemus sp	--	1	3	2	2
Paratrichocladius sp	--	--	--	1	--
Chironominae	--	1	--	--	--
Cladotanytarsus sp	--	--	2	--	--
Cryptochironomus sp	--	--	2	--	--
Dicrotendipes sp	4	1	27	1	1
Micropsectra sp	5	2	--	5	9
Microtendipes sp	--	--	--	1	--
Paratendipes sp	--	--	7	--	--
Phaenopsectra sp	--	--	1	--	--
Polypedilum flavum	6	4	--	--	--
Polypedilum sp	--	--	--	3	--
Rheotanytarsus sp	--	--	21	3	1
Tanytarsus sp	--	--	10	--	--
Total organisms	200	203	203	212	203