

CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA

LOCATION.--Lat 39°58'35", long 75°26'13", Delaware County, Hydrologic Unit 02040202, at Castle Rock bridge on State Highway 3, 0.6 mi upstream from Preston Run, 0.8 mi upstream from Springton Reservoir, and 2.0 mi west of Newtown Square.

DRAINAGE AREA.--15.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1981 to current year. Occasional low-flow measurements, water years 1932, 1949, 1970-1977, and annual maximum 1977-1981.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 207.75 ft above National Geodetic Vertical Datum of 1929.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1030	*487	*5.21	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	3.5	6.0	5.1	14	5.3	16	15	8.7	5.3	2.4	15
2	5.1	3.6	5.5	5.1	12	6.7	12	53	8.0	5.0	2.3	11
3	4.5	4.2	5.4	5.3	9.1	84	12	40	7.3	4.6	2.6	4.8
4	4.0	4.4	5.4	5.3	8.5	17	11	15	7.6	4.4	2.6	3.7
5	4.2	3.9	5.4	5.9	7.3	11	9.9	12	12	4.2	2.2	3.1
6	4.9	3.7	5.4	13	6.9	10	9.6	11	17	3.8	2.1	2.7
7	4.0	3.9	5.4	29	7.4	9.6	9.2	10	40	3.8	2.0	2.4
8	3.3	3.9	8.4	13	7.2	8.6	9.2	9.5	11	3.9	1.8	2.2
9	3.4	3.9	20	9.7	6.7	8.5	9.0	15	8.8	5.0	1.6	2.2
10	3.7	3.9	8.5	9.7	6.9	12	9.7	12	8.2	9.4	1.5	2.3
11	3.9	4.1	7.8	38	8.7	8.8	8.4	9.3	7.4	4.6	1.5	2.4
12	3.8	3.9	7.0	19	6.9	8.4	9.6	12	7.0	3.7	1.4	2.7
13	3.6	3.9	7.7	11	6.7	11	10	39	6.9	3.4	1.4	2.6
14	3.7	4.3	11	8.6	5.9	11	11	24	17	4.0	1.4	3.2
15	7.4	4.5	11	8.6	6.2	9.4	15	14	12	4.2	1.2	3.6
16	4.1	4.4	7.2	7.5	6.4	9.1	10	11	9.0	3.5	1.2	4.7
17	3.6	4.1	7.0	7.2	6.2	9.3	9.3	10	10	3.0	1.2	4.3
18	3.4	3.9	17	6.9	5.8	28	8.3	149	13	2.9	1.1	3.5
19	3.7	3.9	9.8	e6.5	5.7	17	8.5	27	18	11	1.1	3.1
20	3.6	4.6	7.5	e7.5	6.1	75	11	17	11	13	1.6	2.8
21	3.7	4.3	7.6	e7.0	8.6	31	8.8	14	7.8	4.5	1.2	2.7
22	3.5	3.9	6.9	e7.0	6.4	16	16	12	6.8	4.0	1.1	2.7
23	3.4	3.9	6.6	e8.0	6.1	13	11	12	6.4	3.9	1.2	2.6
24	3.4	4.0	17	56	5.8	12	8.7	11	6.3	3.9	3.6	2.4
25	3.2	9.0	9.4	22	5.4	11	9.7	10	6.2	3.5	7.5	2.2
26	3.1	18	7.6	11	5.7	12	11	9.6	5.8	3.2	2.7	6.4
27	3.0	7.8	6.6	9.2	5.7	52	8.4	10	12	3.3	2.0	40
28	3.2	6.6	6.2	8.2	5.4	16	42	11	17	3.8	2.3	28
29	3.2	6.4	6.4	7.8	---	13	18	9.6	6.9	3.5	22	5.9
30	3.6	6.1	5.6	8.1	---	12	12	9.1	5.6	3.0	6.0	3.9
31	3.3	---	5.2	18	---	13	---	8.7	---	2.6	3.5	---
TOTAL	120.0	150.5	253.5	384.2	199.7	560.7	354.3	621.8	320.7	141.9	87.3	179.1
MEAN	3.87	5.02	8.18	12.4	7.13	18.1	11.8	20.1	10.7	4.58	2.82	5.97
MAX	7.4	18	20	56	14	84	42	149	40	13	22	40
MIN	3.0	3.5	5.2	5.1	5.4	5.3	8.3	8.7	5.6	2.6	1.1	2.2
CFSM	0.24	0.32	0.52	0.78	0.45	1.14	0.75	1.27	0.68	0.29	0.18	0.38
IN.	0.28	0.35	0.60	0.90	0.47	1.32	0.83	1.46	0.76	0.33	0.21	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2002, BY WATER YEAR (WY)

MEAN	14.3	19.6	25.1	26.6	27.2	36.7	32.3	25.4	18.4	15.3	11.5	15.0
MAX	53.4	37.3	92.6	63.0	42.7	95.0	76.8	58.9	43.8	36.2	24.3	74.6
(WY)	1997	1987	1997	1996	1984	1994	1983	1984	1982	1989	1996	1999
MIN	3.87	5.02	4.63	7.45	7.13	11.7	9.45	13.2	5.85	4.02	2.82	4.53
(WY)	2002	2002	1999	1985	2002	1985	1985	1999	1985	1999	2002	1998

e Estimated.

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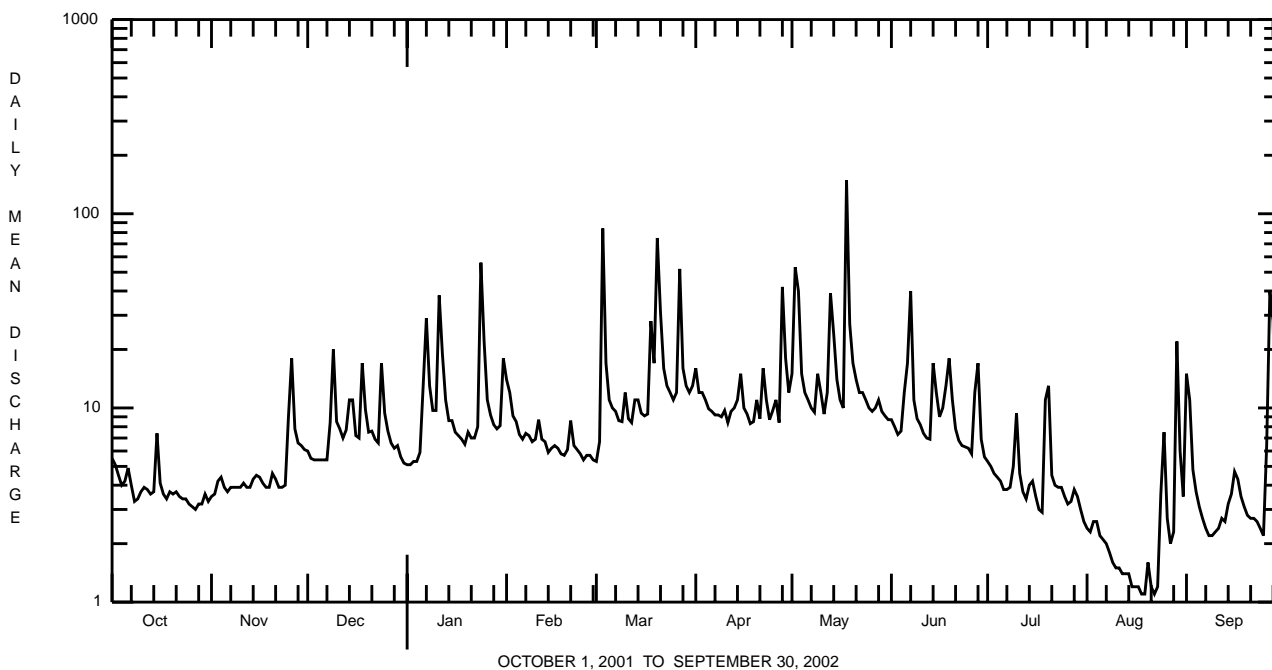
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SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1982 - 2002	
ANNUAL TOTAL	6470.3		3373.7		22.3	
ANNUAL MEAN	17.7		9.24		34.7	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	236	Mar 30	149	May 18	1610	Sep 16 1999
LOWEST DAILY MEAN	3.0	Sep 13 ^a	1.1	Aug 18,19,22	0.64	Aug 8 1991
ANNUAL SEVEN-DAY MINIMUM	3.2	Oct 23	1.2	Aug 16	1.2	Aug 16 2002
MAXIMUM PEAK FLOW			487	May 18	^b 4250	Sep 16 1999
MAXIMUM PEAK STAGE			5.21	May 18	^c 11.99	Sep 16 1999
ANNUAL RUNOFF (CFSM)	1.12		0.59		1.41	
ANNUAL RUNOFF (INCHES)	15.23		7.94		19.13	
10 PERCENT EXCEEDS	34		16		38	
50 PERCENT EXCEEDS	10		6.8		15	
90 PERCENT EXCEEDS	3.8		2.7		5.6	

^a Also Oct. 27.

^b From rating curve extended above 1,300 ft³/s on basis of slope-area measurement at peak flow.

^c From outside floodmark.



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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/16/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	19
Nematoda (NEMATODES)	45
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	6
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	34
Planorbidae	
<u>Gyraulus</u> sp	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	9
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	92
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	43
<u>Pseudocloeon</u> sp	4
Ephemerellidae	
<u>Eurylophella</u> sp	1
<u>Serratella</u> sp	7
Heptageniidae	
<u>Stenonema</u> sp	16
Isonychiidae	
<u>Isonychia</u> sp	49
Leptohyphidae	
<u>Tricorythodes</u> sp	2
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	1
Gomphidae	
<u>Stylogomphus</u> sp	2
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	12
<u>Agnatina</u> sp	1

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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/16/01
Benthic Macroinvertebrate	Count
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Corydalis</u> sp	7
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<u>Glossosoma</u> sp	3
Hydropsychidae	
<u>Cheumatopsyche</u> sp	153
<u>Hydropsyche</u> sp	556
Hydroptilidae	
<u>Hydroptila</u> sp	14
<u>Leucotrichia</u> sp	6
Philopotamidae	
<u>Chimarra</u> sp	171
<u>Dolophilodes</u> sp	3
Psychomyiidae	
<u>Psychomyia</u> sp	3
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	43
<u>Oulimnius</u> sp	62
<u>Stenelmis</u> sp	91
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	407
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	3
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	6
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	18
Total organisms	1897
Total number of taxa	36