

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 good except those above 500 ft³/s, which are fair and those for estimated daily discharges, which are poor. 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)
Nov. 28	0845	1,690	8.18	Apr. 2	1915	*2,310	*9.32
Jan. 14	1115	868	6.21				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	22	131	26	e25	33	34	58	17	13	8.6	8.2
2	29	21	45	25	e26	32	726	33	17	15	8.3	6.9
3	26	21	36	25	28	29	229	31	43	11	7.7	6.5
4	24	106	32	27	29	28	76	29	43	11	7.4	6.2
5	22	60	31	54	31	28	61	28	22	12	7.1	6.1
6	21	28	29	71	33	29	55	27	29	16	6.8	6.4
7	21	24	78	39	35	46	51	27	60	12	6.7	6.4
8	20	22	46	59	39	59	87	26	21	105	7.3	6.3
9	19	21	46	38	50	33	51	25	19	22	9.2	6.2
10	18	20	118	31	56	29	45	24	18	14	8.2	6.3
11	17	21	60	31	35	30	42	24	17	12	7.4	6.0
12	18	73	39	50	30	32	40	23	16	11	6.8	5.6
13	18	86	35	33	29	28	39	22	16	11	6.4	5.4
14	50	32	32	307	81	26	37	22	16	11	6.8	5.4
15	28	26	29	59	89	25	35	22	15	15	22	27
16	28	24	29	45	42	25	34	21	15	17	10	8.8
17	20	23	29	40	39	24	34	21	14	35	12	6.7
18	18	21	28	34	32	24	33	21	14	34	8.1	11
19	55	21	e25	e32	29	24	32	20	14	14	8.4	6.2
20	27	21	e22	e29	28	27	32	35	14	12	8.7	5.5
21	30	25	e23	e27	32	27	31	26	14	11	8.4	5.3
22	24	22	25	e25	39	24	31	22	13	11	7.3	4.9
23	21	21	131	e23	39	111	93	21	13	10	7.0	4.9
24	21	25	57	e21	33	59	78	21	12	9.3	7.3	4.4
25	20	41	33	e23	32	33	37	21	12	10	7.2	4.3
26	19	23	28	e25	30	29	33	22	12	9.9	7.1	4.8
27	19	22	27	e22	31	28	39	20	14	9.5	7.4	5.9
28	18	495	25	e21	31	215	32	19	15	9.6	9.4	4.5
29	18	53	26	e22	---	78	30	19	14	8.9	11	4.5
30	56	37	27	e23	---	42	41	18	13	8.7	9.5	4.7
31	25	---	27	e24	---	37	---	18	---	8.5	8.7	---
TOTAL	784	1457	1349	1311	1053	1294	2218	766	572	509.4	264.2	201.3
MEAN	25.3	48.6	43.5	42.3	37.6	41.7	73.9	24.7	19.1	16.4	8.52	6.71
MAX	56	495	131	307	89	215	726	58	60	105	22	27
MIN	17	20	22	21	25	24	30	18	12	8.5	6.4	4.3
CFSM	1.60	3.07	2.75	2.68	2.38	2.64	4.68	1.56	1.21	1.04	0.54	0.42
IN.	1.85	3.43	3.18	3.09	2.48	3.05	5.22	1.80	1.35	1.20	0.62	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2005, BY WATER YEAR (WY)

MEAN	15.8	22.0	27.6	27.0	28.9	37.4	34.3	25.3	19.9	16.0	12.9	17.5
MAX	53.4	48.6	92.6	63.0	49.3	95.0	76.8	58.9	55.8	36.2	29.9	74.6
(WY)	1997	2005	1997	1996	2004	1994	1983	1984	2003	1989	2004	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

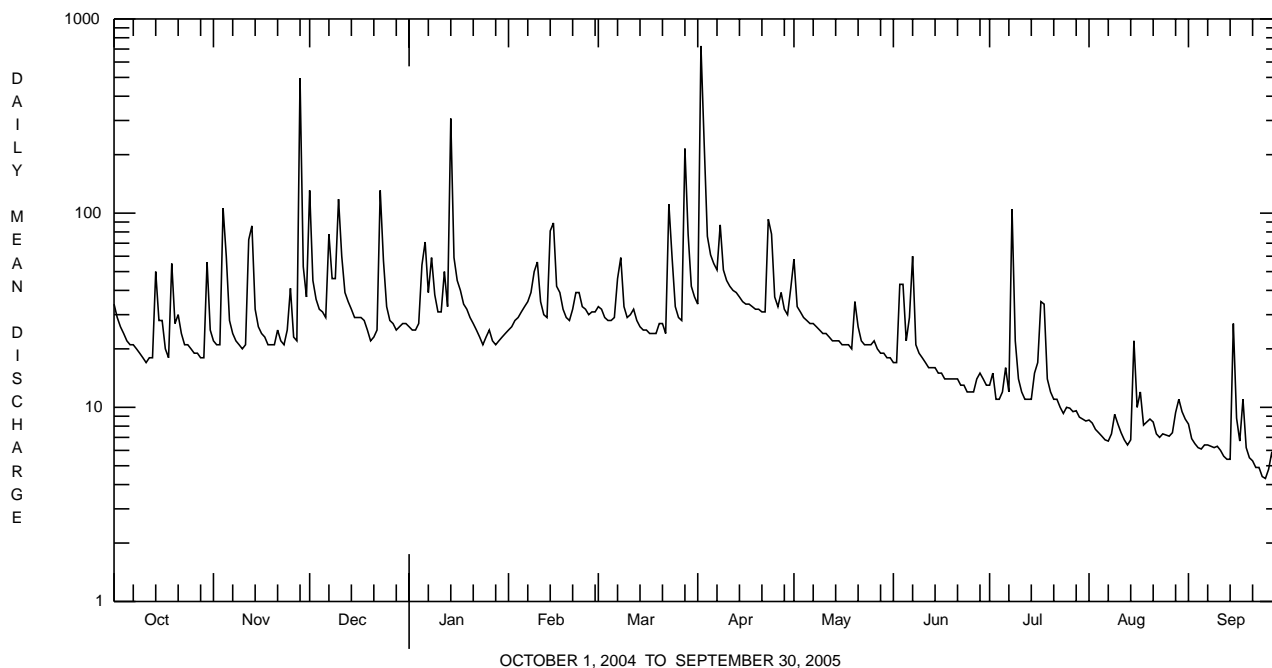
e Estimated.

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1982 - 2005	
ANNUAL TOTAL	13135.9		11778.9			
ANNUAL MEAN	35.9		32.3		23.7	
HIGHEST ANNUAL MEAN					37.5	2004
LOWEST ANNUAL MEAN					9.24	2002
HIGHEST DAILY MEAN	624	Sep 28	726	Apr 2	1610	Sep 16 1999
LOWEST DAILY MEAN	8.0	Jul 11	4.3	Sep 25	0.64	Aug 8 1991
ANNUAL SEVEN-DAY MINIMUM	9.2	Jul 5	4.7	Sep 24	1.2	Aug 16 2002
MAXIMUM PEAK FLOW			a2310	Apr 2	a4250	Sep 16 1999
MAXIMUM PEAK STAGE			9.32	Apr 2	b11.99	Sep 16 1999
ANNUAL RUNOFF (CFSM)	2.27		2.04		1.50	
ANNUAL RUNOFF (INCHES)	30.93		27.73		20.36	
10 PERCENT EXCEEDS	51		54		40	
50 PERCENT EXCEEDS	24		24		15	
90 PERCENT EXCEEDS	12		7.3		5.8	

a From rating curve extended above 1,300 ft³/s on basis of slope-area measurement at peak flow at gage height 11.99 ft.
 b From outside floodmark.



CRUM CREEK BASIN

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975, 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unflab, µS/cm 25 degC (90095)	Specif. conductance, wat unflab, µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	
OCT 2004 08...	1130	1028	80020	20	11.2	7.3	7.7	229	246	13.4	18.7	8.62	2.19	
Date		Sodium, water, fltrd, mg/L (00930)	ANC, wat unfl fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unfl incrm. titr., field, mg/L as CaCO3 (00419)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Boron, water, fltrd, µg/L (01020)	Iron, water, fltrd, µg/L (01046)
OCT 2004 08...	12.2	48	56	30.1	E.1	16.6	14.1	<.04	2.25	<.008	E.01	12	38	

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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 2.4 m².

Date	10/08/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	12
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<i>Prostoma</i>	5
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<i>Ferrissia</i>	3
Planorbidae	
<i>Gyraulus</i>	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	4
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	93
Crustacea	
Decapoda	
Cambaridae (CRAYFISH)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Acentrella</i>	12
<i>Baetis</i>	8
Ephemerellidae	
<i>Serratella</i>	9
Heptageniidae	
<i>Stenonema</i>	54
Isonychiidae	
<i>Isonychia</i>	180
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<i>Argia</i>	1
Plecoptera (STONEFLIES)	
Perlidae	
<i>Acroneuria</i>	3
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<i>Corydalus</i>	2

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BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/08/04
Benthic macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<i>Glossosoma</i>	1
Hydropsychidae	
<i>Cheumatopsyche</i>	62
<i>Hydropsyche</i>	330
Hydroptilidae	
<i>Leucotrichia</i>	8
Philopotamidae	
<i>Chimarra</i>	81
Polycentropodidae	
<i>Polycentropus</i>	1
Rhyacophilidae	
<i>Rhyacophila</i>	6
Lepidoptera	
Pyralididae(MOTHS)	
<i>Petrophila</i>	4
Coleoptera (BEETLES)	
Dryopidae	
<i>Helichus</i>	1
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	15
<i>Oulimnius</i>	15
<i>Stenelmis</i>	26
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	2
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	69
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	9
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	171
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	12
<i>Tipula</i>	1
Total organisms	
	1202
Total number of taxa	
	33