REDBANK CREEK BASIN

03032500 REDBANK CREEK AT ST. CHARLES, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°59'40", long 79°23'40", Armstrong County, Hydrologic Unit 05010006, on left bank 400 ft downstream from highway bridge on SR 1005 at St. Charles, 0.3 mi downstream from Leatherwood Creek, and 3 mi west of New Bethlehem.

DRAINAGE AREA.--528 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Annual maximums, water years 1910-18. October 1918 to current year. Monthly discharge only for some periods, published in WSP 1305. Figures of daily discharge for November 1920 to June 1921, published in WSP 523, are unreliable and should not be used.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1385: 1919, 1936-39. WDR PA-72-1: 1923 (M), 1926 (M), 1928 (M), 1936, 1937 (M), 1938 (M), 1943, 1945 (P), 1952 (M), 1953 (M), 1955 (M), 1956 (P), 1958 (M), 1959 (M), 1964, 1966 (M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 973.14 ft above National Geodetic Vertical Datum of 1929. Prior to July 10, 1940, nonrecording gage at site 500 ft upstream at datum 3.10 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 7,000 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 2	--	--	Ice jam
July 28	0645	*17,900	*13.66
Sept. 2	1400	9,110	10.34

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	232	409	e439	e3670	e341	e635	736	306	1720	240	3550	943
2	174	394	e357	e7580	332	e589	853	373	1290	223	3700	5790
3	142	358	e304	5320	345	e600	878	463	892	205	2990	4520
4	126	315	e250	e3010	e649	e624	776	373	879	196	1970	5030
5	129	287	e245	e1790	e908	e630	3190	358	876	204	1900	3530
6	128	409	e240	e1360	e521	e829	3610	479	823	224	1600	2450
7	115	642	e230	e1050	e370	e630	2480	502	842	390	1190	1690
8	98	560	e222	e888	e347	e664	1890	650	1130	424	997	1250
9	84	454	e216	e745	e337	e1970	1570	868	1900	343	1070	1000
10	76	402	221	e602	e331	e1660	1310	1190	1430	326	1640	838
11	71	570	e227	e500	e323	1330	1140	1090	1060	437	1100	710
12	69	740	e254	e419	e312	1320	1130	1010	984	461	888	620
13	73	626	e623	e378	e302	e1840	979	990	1470	346	711	553
14	77	537	1590	e357	e291	e2140	826	876	1420	264	600	511
15	76	474	2150	e341	e278	e1880	739	741	1270	220	514	595
16	89	481	1750	e323	e270	e3120	682	686	971	198	459	871
17	125	1640	1230	e321	e268	5010	629	693	775	183	435	691
18	145	2010	e895	e324	e268	5160	576	636	798	175	401	529
19	181	1310	e859	e329	e266	4430	541	562	774	751	349	538
20	299	1190	e2100	e334	e268	3920	508	510	665	440	310	765
21	320	1040	4070	e359	e287	4980	514	2130	597	331	287	686
22	235	1300	2850	e390	e287	3710	530	1880	601	4020	268	556
23	178	1240	e1830	e372	e914	2600	505	1190	526	3410	252	1170
24	149	1010	e1360	e357	2050	1870	450	1070	433	3450	234	1090
25	132	844	e1090	e359	1310	1450	411	952	373	1980	217	811
26	399	756	e949	e359	1010	1220	389	786	331	1120	1000	760
27	768	686	e827	e357	e821	1080	378	680	298	1410	2090	678
28	523	623	739	e357	e658	940	355	738	276	11600	1140	719
29	375	568	713	e351	---	838	340	698	254	4740	720	940
30	338	e503	654	e337	---	813	326	584	246	2520	1600	752
31	382	---	e676	e337	---	776	---	669	---	1340	1310	---
TOTAL	6308	22378	30160	33576	14664	59258	29241	24733	25904	42171	35492	41586
MEAN	203	746	973	1083	524	1912	975	798	863	1360	1145	1386
MAX	768	2010	4070	7580	2050	5160	3610	2130	1900	11600	3700	5790
MIN	69	287	216	321	266	589	326	306	246	175	217	511
CFSM	0.39	1.41	1.84	2.05	0.99	3.62	1.85	1.51	1.64	2.58	2.17	2.63
IN.	0.44	1.58	2.12	2.37	1.03	4.17	2.06	1.74	1.83	2.97	2.50	2.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2003, BY WATER YEAR (WY)

MEAN	374	740	1071	1124	1208	1798	1499	1068	687	423	288	296
MAX	1385	2806	3151	4616	2707	5016	3337	2603	3887	2238	1498	2091
(WY)	1927	1922	1928	1937	1990	1936	1940	1919	1972	1996	1956	1996
MIN	40.3	50.9	75.9	96.8	179	358	367	180	123	61.1	33.5	29.2
(WY)	1931	1931	1961	1931	1934	1969	1925	1926	1936	1966	1930	1939

e Estimated.

REDBANK CREEK BASIN

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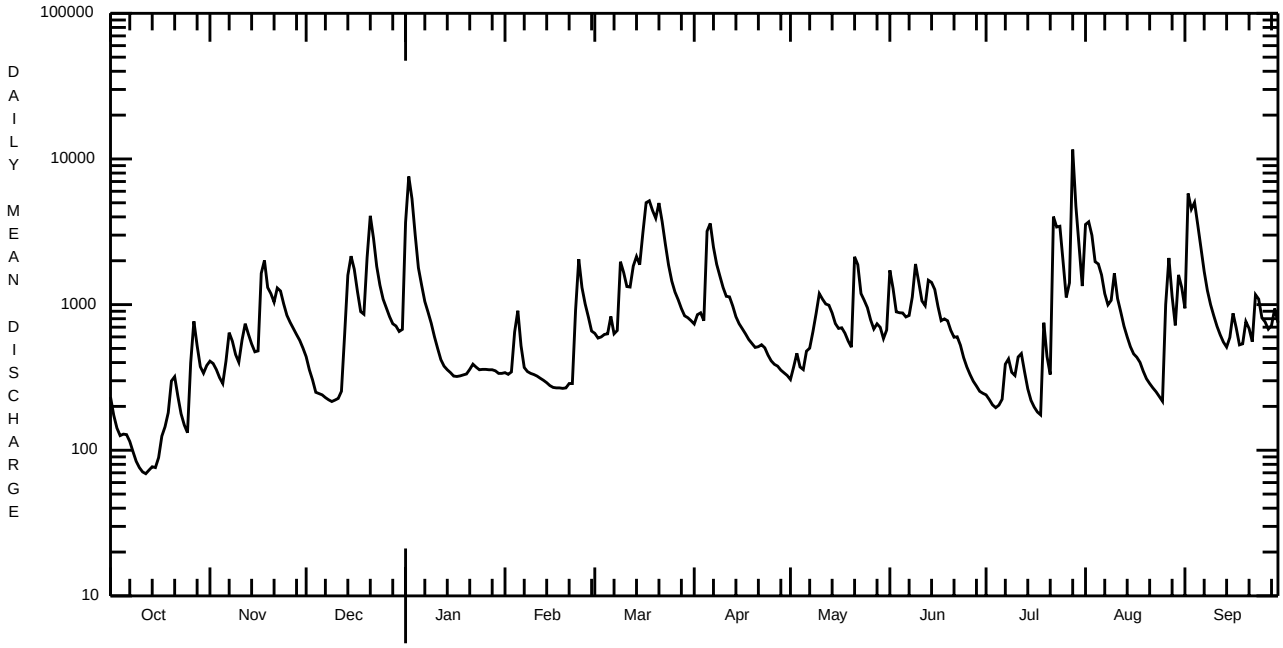
SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1919 - 2003	
ANNUAL TOTAL	349354		365471			
ANNUAL MEAN	957		1001		879	
HIGHEST ANNUAL MEAN					1333	1996
LOWEST ANNUAL MEAN					430	1934
HIGHEST DAILY MEAN	9030	May 13	11600	Jul 28	28100	Jul 19 1996
LOWEST DAILY MEAN	39	Sep 13,14	69	Oct 12	20	Sep 28 1922
ANNUAL SEVEN-DAY MINIMUM	45	Sep 8	75	Oct 9	24	Aug 30 1939
MAXIMUM PEAK FLOW			17900	Jul 28	**a**66300	Jul 19 1996
MAXIMUM PEAK STAGE			13.66	Jul 28	**b**23.90	Jul 19 1996
INSTANTANEOUS LOW FLOW			67	Oct 13	**c**19	Oct 1 1918
ANNUAL RUNOFF (CFSM)	1.81		1.90		1.66	
ANNUAL RUNOFF (INCHES)	24.61		25.75		22.62	
10 PERCENT EXCEEDS	2050		2070		2100	
50 PERCENT EXCEEDS	615		642		465	
90 PERCENT EXCEEDS	99		231		84	

a From rating curve extended above 35,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Minimum observed.



OCTOBER 1, 2002 TO SEPTEMBER 30, 2003

03032500 REDBANK CREEK AT ST. CHARLES, PA--Continued
(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 242-289.

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)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002													
25...	1230	1028	9813	842	40	13.2	7.7	214	4.4	92	23.0	8.5	18
MAR 2003													
26...	1200	1028	9813	1200	40	11.5	7.3	258	9.0	100	24.2	9.6	12
JUN													
11...	1120	1028	9813	1060	40	9.6	7.6	241	17.0	87	21.0	8.3	19
JUL													
17...	0825	1028	9813	187	40	7.8	7.7	463	--	200	49.8	19.0	34
SEP													
18...	0800	1028	9813	542	40	9.2	7.4	362	17.0	140	33.1	13.9	25

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)	Orthophosphate, 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 recoverable, µg/L (01105)	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)
NOV 2002													
25...	68.3	198	<2	<.020	.84	<.040	<.01	.011	1.1	1.8	<200	<10	420
MAR 2003													
26...	82.2	226	2	<.020	.58	<.040	<.01	.014	.77	1.4	400	<10	760
JUN													
11...	63.1	178	6	<.020	.44	<.040	.02	.028	.63	2.2	500	<10	1070
JUL													
17...	145	400	10	<.020	.33	<.040	.01	.012	.54	2.2	<200	<10	220
SEP													
18...	108	302	2	<.020	.43	<.040	<.01	.012	.72	2.1	<200	<10	320

Date	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2002				
25...	<1.0	250	<50	<10
MAR 2003				
26...	<1.0	380	<50	90
JUN				
11...	<1.0	270	<50	110
JUL				
17...	<1.0	100	<50	10
SEP				
18...	<1.0	140	<50	<10

03032500 REDBANK CREEK AT ST. CHARLES, PA--Continued

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	9/25/02
Benthic Macroinvertebrate	Count
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella sp	1
Baetis sp	1
Caenidae	
Caenis sp	1
Heptageniidae	
Stenonema sp	12
Isonychiidae	
Isonychia sp	12
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
Corydalus sp	2
Trichoptera (CADDISFLIES)	
Brachycentridae	
Brachycentrus sp	5
Hydropsychidae	
Cheumatopsyche sp	1
Hydropsyche sp	9
Hydroptilidae	
Hydroptila sp	1
Philopotamidae	
Chimarra sp	5
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus sp	8
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	2
Simuliidae (BLACK FLIES)	
Simulium sp	1
Total Organisms	62