RACCOON CREEK BASIN

03108000 RACCOON CREEK AT MOFFATTS MILL, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°37'40", long 80°20'16", Beaver County, Hydrologic Unit 05030101, on left bank at downstream side of highway bridge at Moffatts Mill, 1.4 mi downstream from Gums Run, 4 mi south of Vanport, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--178 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1941 to current year. May 1915 to July 1932 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: 1941-43.

GAGE.--Water-stage recorder. Datum of gage is 719.16 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). May 27, 1915 to July 31, 1932, and Sept. 2 to Dec. 3, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Normally, no regulation from Raccoon Creek Lake. Diversion out of the basin from Cherry Valley and Service Creek Reservoirs upstream increased from an average of 4.0 ft^3/s at the close of 1957 to 6.8 ft^3/s for the present year; diversion began with 2.0 ft^3/s for September 1957. Published records do not include diversion. Records of diversion furnished by Western Pennsylvania Water Company and Ambridge Water Authority. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1922, reached a stage of 9.80 ft, discharge, 10,000 ft^3/s. Flood of Mar. 5, 1920, also reached a stage of 9.80 ft, backwater from ice.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,800 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)
May 11	0500	*2,910	*5.46
May 24	1000	1,840	4.48
July 8	2200	2,120	4.77

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	19	61	50	596	e94	263	134	110	251	69	116	160
2	15	45	44	1040	e91	318	128	106	178	66	113	261
3	16	38	41	535	e98	339	118	99	179	65	266	258
4	26	33	37	461	e213	295	112	92	267	65	378	290
5	22	33	e32	343	467	435	360	125	218	180	256	192
6	21	43	e24	282	265	578	371	188	179	90	176	143
7	16	65	e23	225	228	406	402	121	198	74	154	118
8	13	58	e22	207	159	437	659	158	252	902	149	103
9	12	51	e22	225	153	764	473	475	289	1000	208	100
10	12	46	e27	211	149	597	378	1390	226	494	817	126
11	11	84	e37	181	119	429	321	1540	195	782	466	106
12	12	117	e51	153	109	365	302	556	209	405	291	89
13	14	73	e91	141	101	448	249	439	521	268	204	79
14	16	58	e171	e135	95	564	211	327	354	198	153	72
15	17	51	360	e124	e80	473	194	270	270	166	123	75
16	23	56	233	e120	e80	454	177	303	221	155	108	91
17	96	103	160	e106	e81	444	162	260	208	129	101	74
18	50	136	122	e97	e86	400	147	232	365	118	89	62
19	38	102	106	e93	e93	351	136	202	284	241	78	354
20	41	103	233	e84	e91	307	128	202	226	138	71	397
21	35	91	246	e82	e90	287	181	428	189	111	66	222
22	26	83	182	e81	e105	275	179	334	166	322	66	185
23	22	87	152	e80	808	231	146	292	138	336	67	450
24	20	76	121	e76	666	206	125	1200	120	382	57	296
25	20	67	132	e76	379	191	120	680	106	287	50	221
26	59	60	174	e78	297	196	120	454	96	199	48	189
27	72	57	132	e84	271	174	117	337	91	165	84	168
28	44	55	113	e160	227	155	107	291	85	264	93	200
29	36	52	109	e86	---	154	109	245	78	192	66	161
30	55	51	96	e90	---	152	110	209	73	145	366	135
31	80	---	129	e91	---	136	---	204	---	124	260	---
TOTAL	959	2035	3472	6343	5695	10824	6476	11869	6232	8132	5540	5377
MEAN	30.9	67.8	112	205	203	349	216	383	208	262	179	179
MAX	96	136	360	1040	808	764	659	1540	521	1000	817	450
MIN	11	33	22	76	80	136	107	92	73	65	48	62
CFSM	0.17	0.38	0.63	1.15	1.14	1.96	1.21	2.15	1.17	1.47	1.00	1.01
IN.	0.20	0.43	0.73	1.33	1.19	2.26	1.35	2.48	1.30	1.70	1.16	1.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

MEAN	61.1	109	189	246	314	400	339	264	143	87.8	71.2	55.6
MAX	359	764	717	737	788	1010	757	618	632	389	651	453
(WY)	1955	1986	1991	1952	1956	1945	1957	1983	1989	1990	1980	1975
MIN	7.98	14.8	15.1	34.5	47.7	56.3	94.7	65.6	26.3	15.6	10.2	9.73
(WY)	1964	1964	1964	1967	1964	1969	1946	1986	1988	1965	1965	1964

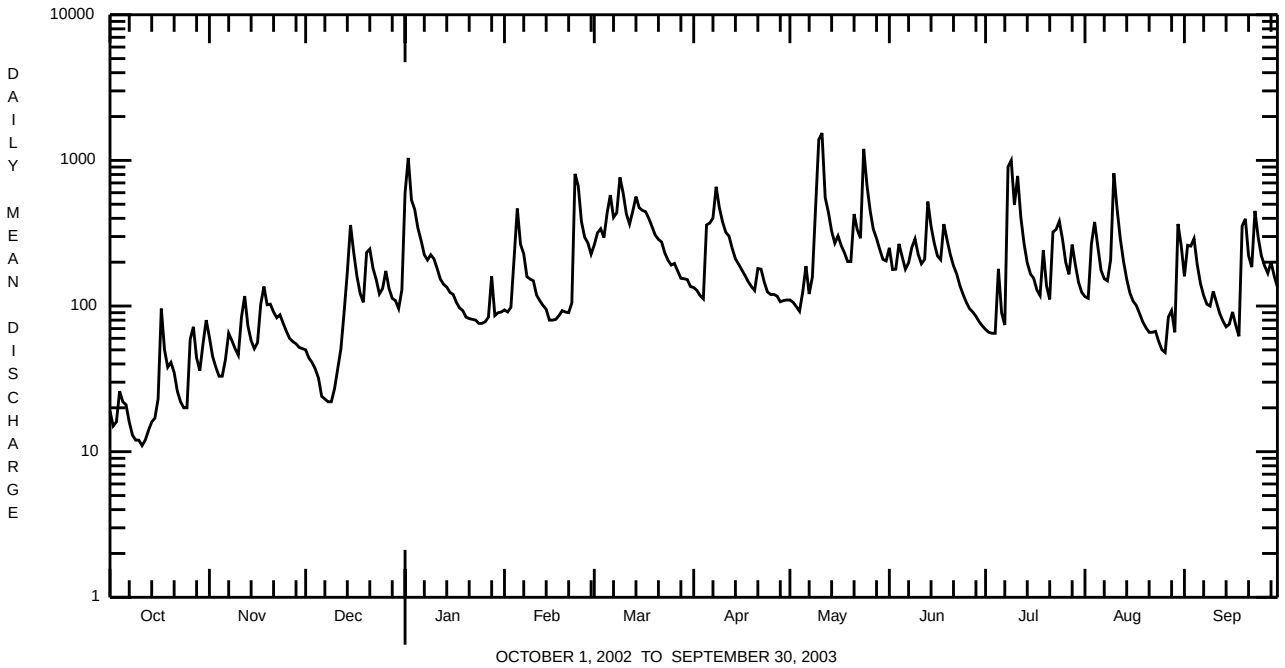
e Estimated.

RACCOON CREEK BASIN

03108000 RACCOON CREEK AT MOFFATTS MILL, PA--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL TOTAL	45921.4		72954			
ANNUAL MEAN	126		200		189	
HIGHEST ANNUAL MEAN					314	1951
LOWEST ANNUAL MEAN					90.9	1954
HIGHEST DAILY MEAN	1720	Mar 27	1540	May 11	6120	Jan 27 1952
LOWEST DAILY MEAN	6.4	Sep 14,24-26	11	Oct 11	4.8	Sep 8 1945
ANNUAL SEVEN-DAY MINIMUM	6.7	Sep 20	13	Oct 7	5.6	Aug 20 1965
MAXIMUM PEAK FLOW			2910	May 11	**a**8590	Jan 27 1952
MAXIMUM PEAK STAGE			5.46	May 11	9.71	Jan 27 1952
INSTANTANEOUS LOW FLOW			11	Oct 9,11,12	4.5	Aug 24 1965
ANNUAL RUNOFF (CFSM)	0.71		1.12		1.06	
ANNUAL RUNOFF (INCHES)	9.60		15.25		14.45	
10 PERCENT EXCEEDS	304		428		441	
50 PERCENT EXCEEDS	78		138		97	
90 PERCENT EXCEEDS	9.3		42		20	

a From rating curve extended above 7,400 ft^3/s.



03108000 RACCOON CREEK AT MOFFATTS MILL, 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													
05...	0815	1028	9813	31	40	11.2	7.5	--	5.3	590	135	61.2	94
JAN 2003													
08...	0830	1028	9813	205	40	15.6	7.8	720	1.6	280	75.7	21.1	76
MAR													
05...	0830	1028	9813	430	40	13.8	7.8	671	2.8	260	69.6	20.7	67
MAY													
19...	1045	1028	9813	205	40	11.3	8.3	694	17.4	330	86.2	27.6	76
JUL													
07...	0835	1028	9813	73	40	7.8	7.2	943	--	480	122	41.5	83
SEP													
02...	1315	1028	9813	290	40	8.4	7.5	738	20.5	320	83.2	26.4	80

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													
05...	552	1060	<2	<.020	.90	<.040	.02	.021	1.3	3.5	<200	<10	160
JAN 2003													
08...	183	542	6	.040	1.94	<.200	.01	.016	2.3	1.9	400	40	710
MAR													
05...	179	552	98	.050	1.62	<.200	.04	.081	1.9	2.3	2600	<10	4970
MAY													
19...	234	596	<2	<.020	.66	<.040	.01	.014	.85	2.0	300	<10	440
JUL													
07...	366	760	40	.020	.82	<.200	.01	.025	1.0	2.8	300	<10	390
SEP													
02...	241	792	74	<.020	.73	<.040	.03	.065	1.1	3.0	1700	<10	2690

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				
05...	<1.0	100	<50	<10
JAN 2003				
08...	1.0	280	<50	50
MAR				
05...	8.6	430	<50	220
MAY				
19...	1.0	150	<50	10
JUL				
07...	<1.0	80	<50	10
SEP				
02...	3.9	240	<50	60

RACCOON CREEK BASIN

03108000 RACCOON CREEK AT MOFFATTS MILL, 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	9/6/02
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia sp	3
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	1
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis sp	11
Caenidae	
Caenis sp	4
Tricorythidae	
Tricorythodes sp	7
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Gomphidae	
Dromogomphus sp	1
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
Corydalus sp	2
Trichoptera (CADDISFLIES)	
Helicopsychidae	
Helicopsyche sp	1
Hydropsychidae	
Cheumatopsyche sp	24
Hydropsyche sp	17
Hydroptilidae	
Hydroptila sp	2
Psychomyiidae	
Psychomyia sp	6
Coleoptera (BEETLES)	
Psephenidae (WATER PENNIES)	
Psephenus sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	41
Total Organisms	122