



2005 Water Year  
RACCOON CREEK BASIN  
03108000 Raccoon Creek at Moffatts Mill, PA

Latitude: 40° 37 ' 40"

Longitude: 080° 20 ' 16"

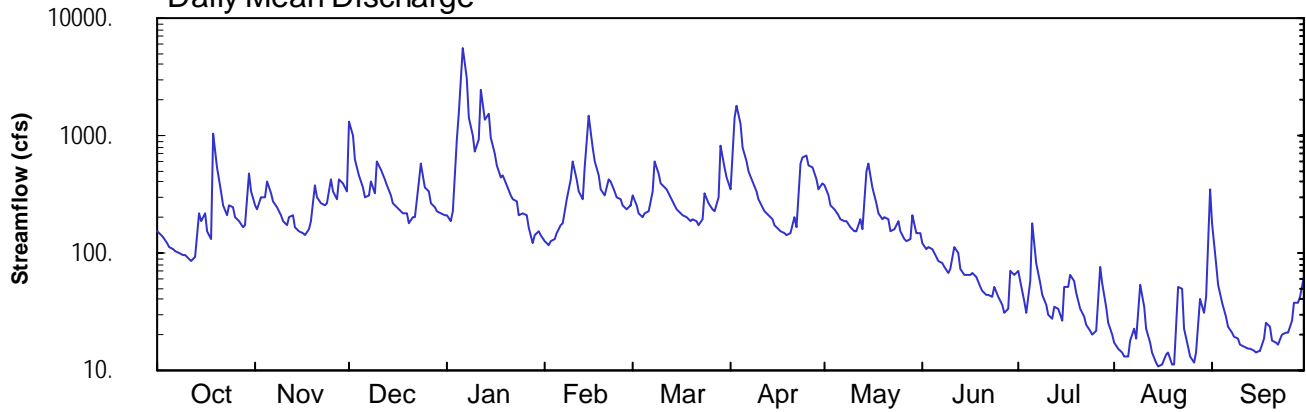
Hydrologic Unit Code: 05030101

Beaver County

Datum: 719.16 feet

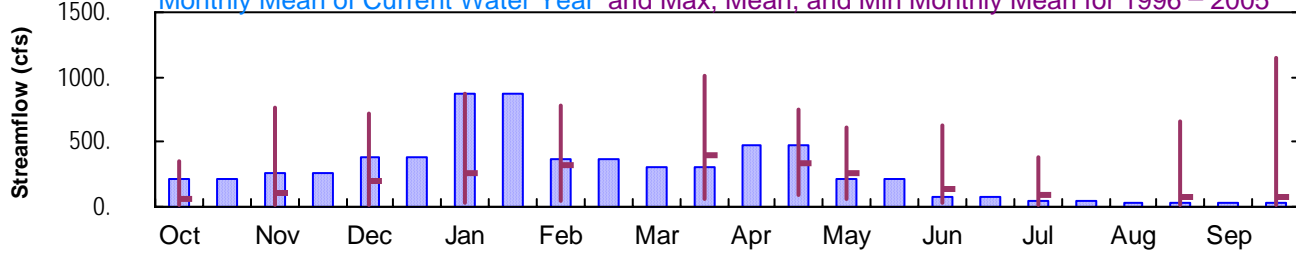
Drainage Area: 178. mi<sup>2</sup>

### Daily Mean Discharge



### Monthly Statistics

Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1996 – 2005



### 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<sup>2</sup>.

#### 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<sup>3</sup>/s at the close of 1957 to 6.8 ft<sup>3</sup>/s for the present year; diversion began with 2.0 ft<sup>3</sup>/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<sup>3</sup>/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<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Dec. 1	1715	2,130	4.86	Jan. 14	1300	1,880	4.63
Jan. 6	1830	*6,850	*8.50	Feb. 15	0330	1,970	4.71
Jan. 12	1345	2,710	5.34	Apr. 2	2000	2,460	5.15

#### 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	151	255	1310	209	e129	315	347	375	123	70	17	179
2	139	234	1000	184	e116	260	1440	306	107	57	16	82
3	136	293	622	226	e127	221	1800	260	110	39	14	53
4	123	304	454	922	e133	202	1260	232	109	31	13	38
5	114	403	365	1510	e149	220	802	207	94	58	13	29
6	107	326	303	5650	170	224	608	194	85	181	18	24
7	103	281	313	3090	182	342	490	186	83	84	23	21
8	99	243	405	1400	292	612	411	186	75	56	19	20
9	97	207	317	981	432	482	334	163	69	45	54	19
10	95	185	603	723	603	392	285	153	74	36	35	17
11	89	173	509	909	416	357	247	151	111	30	23	16
12	86	206	427	2450	336	344	224	197	99	28	17	15
13	92	208	374	1360	283	297	210	162	74	35	14	15
14	220	168	314	1540	534	251	191	500	64	34	12	15
15	186	155	269	972	1470	232	175	584	64	26	11	14
16	215	147	243	712	799	220	161	357	65	52	11	15
17	153	145	238	567	597	212	151	261	67	51	14	19
18	129	159	222	446	451	202	145	218	62	66	14	25
19	1060	185	220	462	343	189	141	190	52	59	11	23
20	532	371	181	383	310	191	145	198	48	45	11	18
21	330	302	199	316	425	187	203	192	45	33	52	17
22	251	270	199	e289	415	172	163	155	44	28	49	16
23	209	260	409	e275	338	192	576	157	43	25	23	20
24	253	260	568	e208	302	321	662	184	52	22	16	21
25	243	423	357	e218	290	262	669	152	43	20	13	21
26	204	335	335	e207	259	240	550	133	36	22	12	27
27	186	289	270	e166	239	224	528	124	31	75	14	38
28	168	430	242	e121	253	298	422	134	33	55	41	37
29	171	395	230	e140	---	830	355	212	72	35	31	42
30	475	339	216	e155	---	542	388	145	66	25	43	63
31	339	---	214	e144	---	432	---	147	---	20	347	---
TOTAL	6755	7951	11928	26935	10393	9465	14083	6815	2100	1443	1001	959
MEAN	218	265	385	869	371	305	469	220	70.0	46.5	32.3	32.0
MAX	1060	430	1310	5650	1470	830	1800	584	123	181	347	179
MIN	86	145	181	121	116	172	141	124	31	20	11	14
CFSM	1.22	1.49	2.16	4.88	2.09	1.72	2.64	1.24	0.39	0.26	0.18	0.18
IN.	1.41	1.66	2.49	5.63	2.17	1.98	2.94	1.42	0.44	0.30	0.21	0.20

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2005, BY WATER YEAR (WY)

MEAN	64.6	113	195	261	317	398	344	264	144	87.9	74.1	72.4
MAX	359	764	717	869	788	1010	757	618	632	389	651	1153
(WY)	1955	1986	1991	2005	1956	1945	1957	1983	1989	1990	1980	2004
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

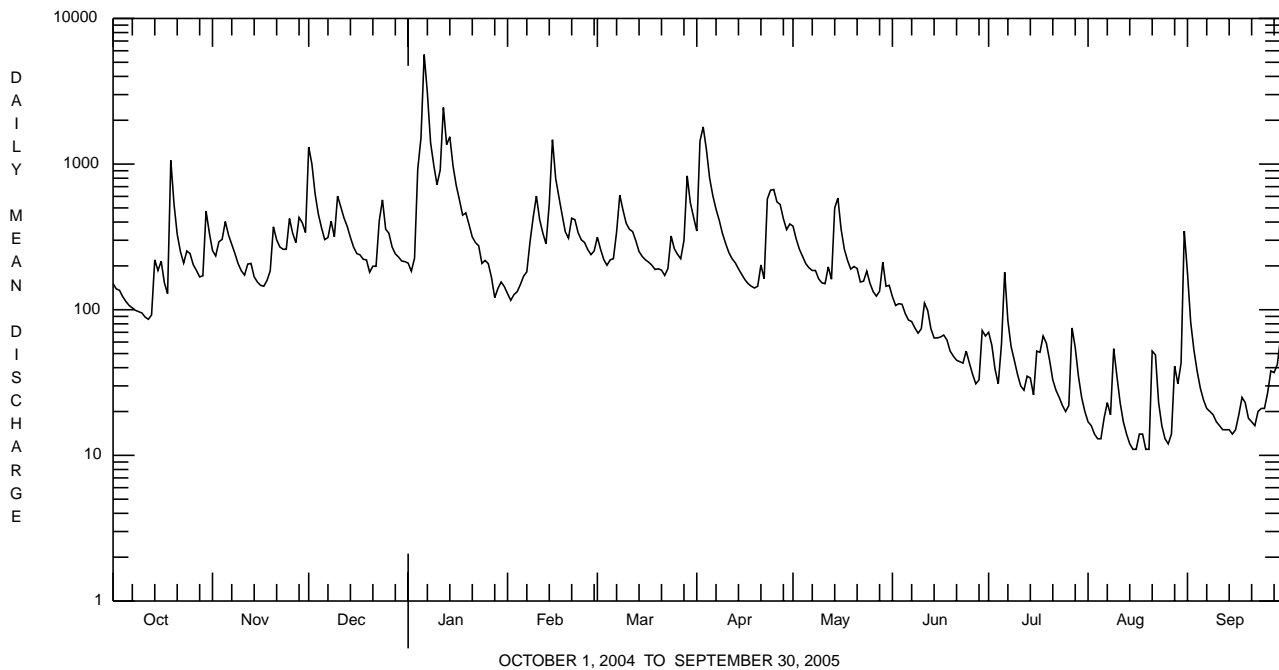
e Estimated.

RACCOON CREEK BASIN

03108000 RACCOON CREEK AT MOFFATTS MILL, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1942 - 2005	
ANNUAL TOTAL	152203		99828		194	
ANNUAL MEAN	416		274		403	
HIGHEST ANNUAL MEAN					90.9	2004
LOWEST ANNUAL MEAN					1954	
HIGHEST DAILY MEAN	13400	Sep 18	5650	Jan 6	13400	Sep 18 2004
LOWEST DAILY MEAN	37	Jul 25	11	Aug 15 <sup>a</sup>	4.8	Sep 8 1945
ANNUAL SEVEN-DAY MINIMUM	52	Aug 13	12	Aug 14	5.6	Aug 20 1965
MAXIMUM PEAK FLOW			6850	Jan 6	<sup>b</sup> 21200	Sep 18 2004
MAXIMUM PEAK STAGE			8.50	Jan 6	14.29	Sep 18 2004
INSTANTANEOUS LOW FLOW			10	Aug 15 <sup>c</sup>	4.5	Aug 24 1965
ANNUAL RUNOFF (CFSM)	2.34		1.54		1.09	
ANNUAL RUNOFF (INCHES)	31.81		20.86		14.81	
10 PERCENT EXCEEDS	634		545		446	
50 PERCENT EXCEEDS	250		186		100	
90 PERCENT EXCEEDS	95		21		20	

- <sup>a</sup> Also Aug. 16, 19, 20.
- <sup>b</sup> From rating curve extended above 19,600 ft<sup>3</sup>/s.
- <sup>c</sup> Also Aug. 20.



## RACCOON CREEK BASIN

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

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 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 unfltrd lab, $\mu$ S/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, $\mu$ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)
NOV 2004 01...	0815	1028	9813	262	9.8	7.5	7.5	681	665	11.0	320	82.1	26.7
JAN 2005 03...	1200	1028	9813	197	11.0	7.3	7.9	803	823	8.5	360	92.1	30.9
MAR 02...	1430	1028	9813	249	14.9	7.4	7.6	879	890	1.9	370	95.3	31.7
MAY 02...	0910	1028	9813	308	10.5	7.6	7.9	642	653	10.0	290	72.6	25.6
JUL 05...	0900	1028	9813	34	8.0	7.8	7.9	1290	1310	24.0	630	158	57.6
SEP 01...	0840	1028	9813	197	8.6	7.6	7.8	811	835	20.5	370	97.3	31.1

Date	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC, wat fltrd, 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)	Ortho-phosphate, 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 recover -able, $\mu$ g/L (01105)	Copper, water, unfltrd recover -able, $\mu$ g/L (01042)
NOV 2004 01...	54	253	516	10	<.020	.73	<.040	.01	.017	.97	2.1	580	<10
JAN 2005 03...	64	318	582	12	.070	1.02	<.040	.01	.013	1.2	1.5	940	<10
MAR 02...	59	299	608	20	.140	1.03	<.040	<.01	.018	1.1	1.4	2400	<10
MAY 02...	62	239	476	2	.040	.79	<.040	<.01	.013	.89	--	440	<10
JUL 05...	60	683	1150	8	<.020	.34	<.040	<.01	.018	.56	--	<200	<10
SEP 01...	67	322	552	100	.050	.81	<.040	<.01	.096	1.2	--	2000	<10

Date	Iron, water, unfltrd recover -able, $\mu$ g/L (01045)	Lead, water, unfltrd recover -able, $\mu$ g/L (01051)	Manganese, water, unfltrd recover -able, $\mu$ g/L (01055)	Nickel, water, unfltrd recover -able, $\mu$ g/L (01067)	Zinc, water, unfltrd recover -able, $\mu$ g/L (01092)
NOV 2004 01...	1030	<1.0	540	<50	40
JAN 2005 03...	1850	<1.0	580	<50	50
MAR 02...	4070	2.0	710	<50	90
MAY 02...	820	<1.0	390	<50	30
JUL 05...	250	<1.0	70	<50	30
SEP 01...	6100	14	520	<50	140

**RACCOON CREEK BASIN**

**03108000 RACCOON CREEK AT MOFFATTS MILL, PA--Continued**

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES

**REMARKS.**--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/03/04
Benthic macroinvertebrate	Count
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Baetis</i>	27
Heptageniidae	1
<i>Stenacron</i>	1
<i>Stenonema</i>	2
Plecoptera (STONEFLIES)	
Chloroperlidae	
<i>Sweltsa</i>	1
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<i>Corydalis</i>	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	6
<i>Cheumatopsyche</i>	21
<i>Hydropsyche</i>	77
Psychomyiidae	
<i>Psychomyia</i>	10
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Stenelmis</i>	8
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	2
Diptera (TRUE FLIES)	
Athericidae	
<i>Atherix</i>	2
Chironomidae (MIDGES)	15
Total Organisms	174
Total Taxa	14