2004 Water Year

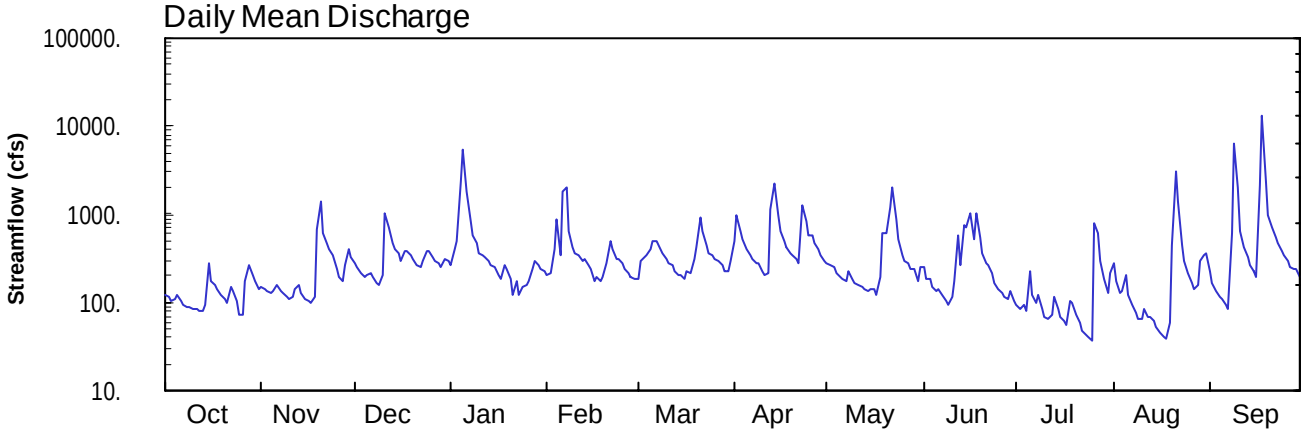
RACCOON CREEK BASIN

03108000 Raccoon Creek at Moffatts Mill, PA

Latitude: 40°37'40" Longitude: 080°20'16" Hydrologic Unit Code: 05030101

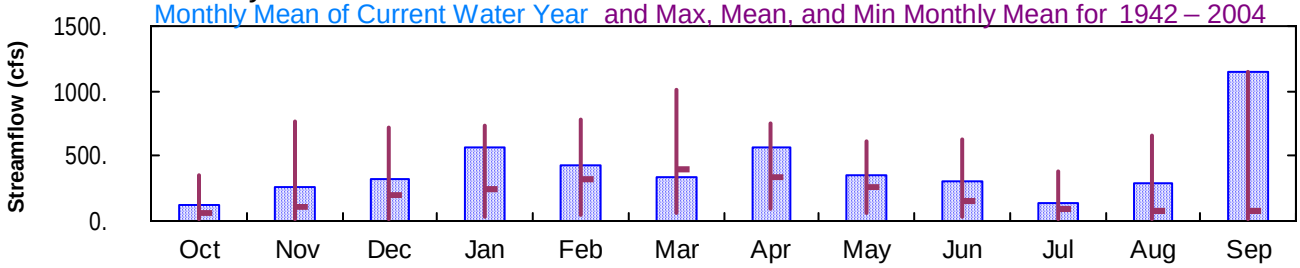
Beaver County Datum: 719.16 feet Drainage Area: 178. mi²

Daily Mean Discharge

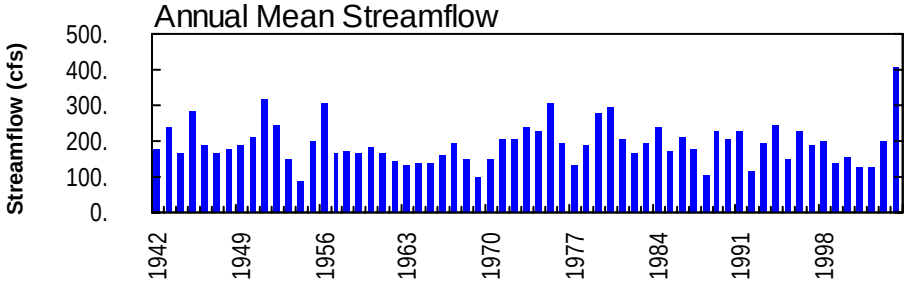


Monthly Statistics

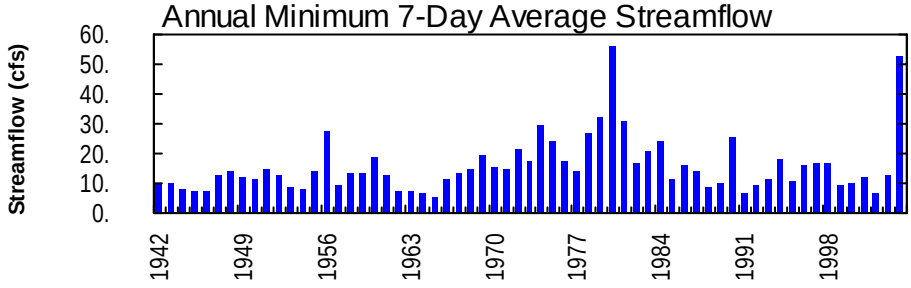
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1942 – 2004



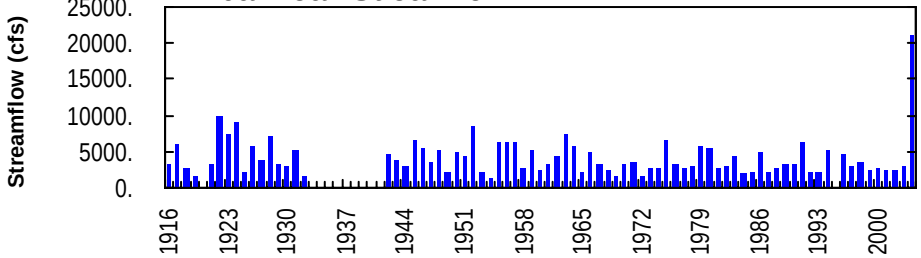
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



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)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 20	0245	2,160	4.81	May 21	2215	2,460	5.09
Jan. 5	1215	5,920	7.87	June 16	0315	2,030	4.68
Feb. 7	0130	3,640	6.07	Aug. 21	2245	4,140	6.48
Apr. 14	0430	2,960	5.50	Sept. 9	1415	7,990	9.26
Apr. 23	1130	1,980	4.63	Sept. 18	0730	*21,200	*14.29

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	152	276	259	e201	188	494	285	248	94	279	229
2	115	142	246	406	e214	295	965	265	181	86	174	170
3	103	136	218	492	e408	322	632	253	182	93	125	136
4	108	128	198	2370	e882	343	518	214	146	81	132	118
5	121	135	199	5360	345	401	413	193	138	232	206	108
6	102	154	220	1830	1850	499	341	181	139	123	124	95
7	93	138	189	826	2070	487	306	178	119	96	92	85
8	90	130	167	580	627	438	285	225	104	120	76	626
9	88	116	160	479	427	363	286	184	95	85	66	6400
10	86	109	200	367	354	311	232	163	115	69	66	2030
11	84	114	1000	342	339	277	208	157	179	67	87	646
12	82	143	695	325	298	264	217	149	590	72	69	433
13	82	155	471	298	317	225	1160	139	267	114	68	327
14	95	125	408	266	e261	207	2180	132	748	85	63	266
15	283	108	369	251	e239	203	950	141	695	70	52	227
16	179	102	289	202	e176	188	638	143	1020	61	45	198
17	155	98	390	e180	e196	230	494	120	518	57	40	2080
18	143	113	391	e262	e176	213	434	197	1040	105	39	13400
19	122	680	340	e240	e190	303	366	595	553	98	60	2360
20	108	1400	305	e188	e284	420	346	596	362	74	443	972
21	100	603	264	e121	502	917	309	1170	273	57	3070	695
22	147	477	252	e171	396	629	278	1990	264	47	1390	560
23	134	397	293	e123	315	456	1280	876	214	44	452	462
24	104	337	378	e153	304	367	825	509	167	41	295	389
25	72	245	381	e159	282	339	588	350	141	37	211	339
26	71	196	332	e173	243	311	567	296	129	792	164	294
27	177	175	298	e239	217	287	463	274	114	617	145	257
28	268	264	273	e287	197	260	411	237	107	294	159	243
29	204	404	254	e263	186	232	341	238	134	180	298	235
30	173	323	309	e242	---	230	299	177	104	127	352	198
31	143	---	297	e222	---	292	---	253	---	213	357	---
TOTAL	3955	7799	10062	17676	12496	10497	16826	10880	9086	4331	9199	34578
MEAN	128	260	325	570	431	339	561	351	303	140	297	1153
MAX	283	1400	1000	5360	2070	917	2180	1990	1040	792	3070	13400
MIN	71	98	160	121	176	188	208	120	95	37	39	85
CFSM	0.72	1.46	1.82	3.20	2.42	1.90	3.15	1.97	1.70	0.78	1.67	6.48
IN.	0.83	1.63	2.10	3.69	2.61	2.19	3.52	2.27	1.90	0.91	1.92	7.23

e Estimated.

03108000 RACCOON CREEK AT MOFFATTS MILL, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2004, BY WATER YEAR (WY)

MEAN	62.2	111	191	251	316	399	342	265	146	88.6	74.7	73.1
MAX	359	764	717	737	788	1010	757	618	632	389	651	1153
(WY)	1955	1986	1991	1952	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

SUMMARY STATISTICS	**FOR 2003 CALENDAR YEAR**		**FOR 2004 WATER YEAR**		**WATER YEARS 1942 - 2004**	
ANNUAL TOTAL	88304		147385			
ANNUAL MEAN	242		403		193	
HIGHEST ANNUAL MEAN					403	2004
LOWEST ANNUAL MEAN					90.9	1954
HIGHEST DAILY MEAN	1540	May 11	13400	Sep 18	13400	Sep 18 2004
LOWEST DAILY MEAN	48	Aug 26	37	Jul 25	4.8	Sep 8 1945
ANNUAL SEVEN-DAY MINIMUM	61	Aug 20	52	Aug 13	5.6	Aug 20 1965
MAXIMUM PEAK FLOW			**a**21200	Sep 18	**a**21200	Sep 18 2004
MAXIMUM PEAK STAGE			14.29	Sep 18	14.29	Sep 18 2004
INSTANTANEOUS LOW FLOW			33	Jul 26	4.5	Aug 24 1965
ANNUAL RUNOFF (CFSM)	1.36		2.26		1.08	
ANNUAL RUNOFF (INCHES)	18.45		30.80		14.71	
10 PERCENT EXCEEDS	452		640		445	
50 PERCENT EXCEEDS	180		236		99	
90 PERCENT EXCEEDS	84		89		20	

a From rating curve extended above 19,600 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.

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 2003 TO SEPTEMBER 2004

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 unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd recoverable, mg/L (00927)
OCT 2003													
01...	0815	1028	9813	124	9.1	7.3	7.8	731	726	12.5	330	85.2	27.5
DEC													
01...	0835	1028	9813	285	9.7	6.9	7.6	619	621	5.0	280	76.4	22.9
FEB 2004													
09...	0900	1028	9813	405	7.2	6.1	7.7	569	567	.0	250	64.7	20.8
APR													
01...	0810	1028	9813	385	6.5	7.5	7.8	724	697	8.5	320	81.8	27.0
JUN													
01...	1030	1028	9813	245	8.5	7.9	8.1	836	808	18.0	430	110	37.4
AUG													
02...	0900	1028	9813	180	8.3	7.7	7.6	655	653	21.5	280	72.1	24.1

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	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)
OCT 2003													
01...	84	244	836	2	<.020	.70	<.040	.01	.020	.98	2.5	<200	<10
DEC													
01...	84	196	228	<2	<.020	1.20	<.040	.02	.015	1.4	1.8	<200	<10
FEB 2004													
09...	45	176	376	32	.070	1.29	<.040	.03	.032	1.6	1.7	1400	<10
APR													
01...	64	233	156	2	.020	1.10	<.040	.02	.051	1.4	1.9	1600	<10
JUN													
01...	74	337	680	24	<.020	.80	<.040	.01	.026	.82	2.2	1200	<10
AUG													
02...	69	201	572	16	<.020	.85	<.040	.02	.040	1.0	2.6	600	<10

Date	Iron, water, unfltrd recoverable, µg/L (01045)	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)
OCT 2003					
01...	230	<1.0	60	<50	20
DEC					
01...	410	<1.0	210	<50	20
FEB 2004					
09...	2820	2.9	440	<50	80
APR					
01...	2720	2.7	380	<50	70
JUN					
01...	1790	2.2	330	<50	60
AUG					
02...	910	1.4	130	<50	10

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	09/09/03
Benthic Macroinvertebrate	Count
Mollusca	
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Tubificidae	10
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	7
Tricorythidae	
Tricorythodes	4
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
Corydalus	1
Nigronia	1
Trichoptera (CADDISFLIES)	
Helicopsychidae	
Helicopsyche	1
Hydropsychidae	
Cheumatopsyche	36
Hydropsyche	86
Psychomyiidae	
Psychomyia	7
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Stenelmis	9
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	18
Total Organisms	181
Total Taxa	12