



2005 Water Year  
CLARION RIVER BASIN  
03029500 Clarion River at Cooksburg, PA

Latitude: 41° 19' 50"

Longitude: 079° 12' 33"

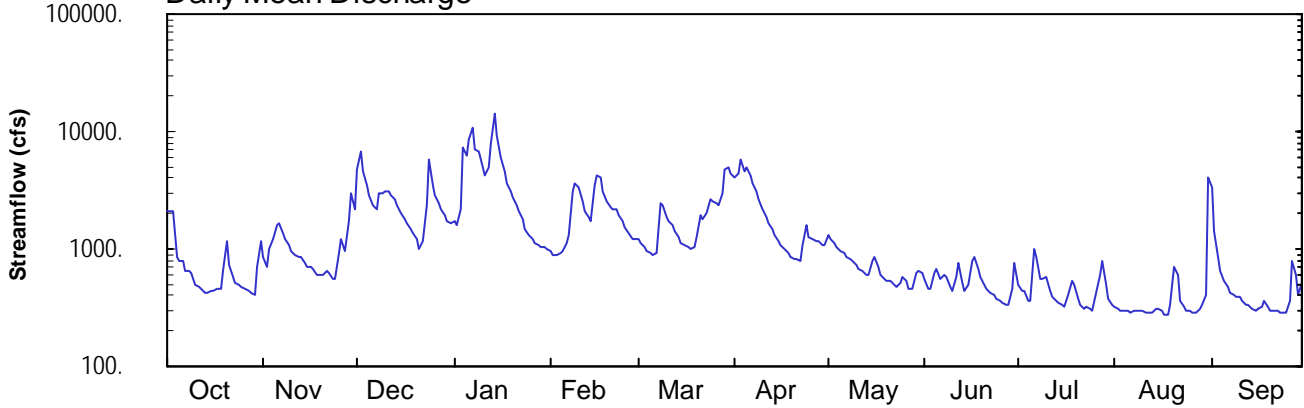
Hydrologic Unit Code: 05010005

Jefferson County

Datum: 1147.00 feet

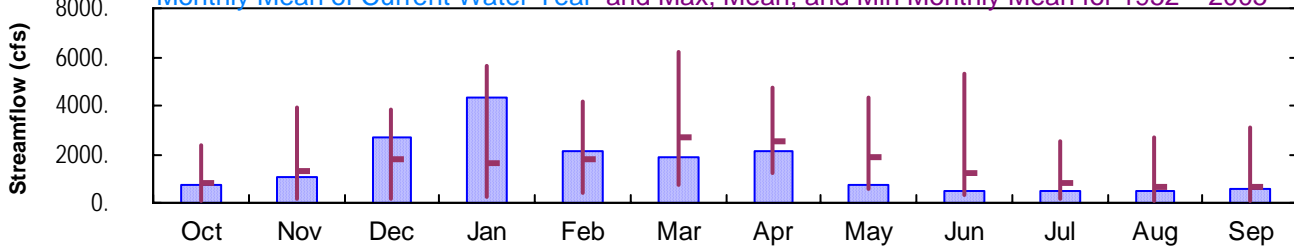
Drainage Area: 807. mi<sup>2</sup>

### Daily Mean Discharge

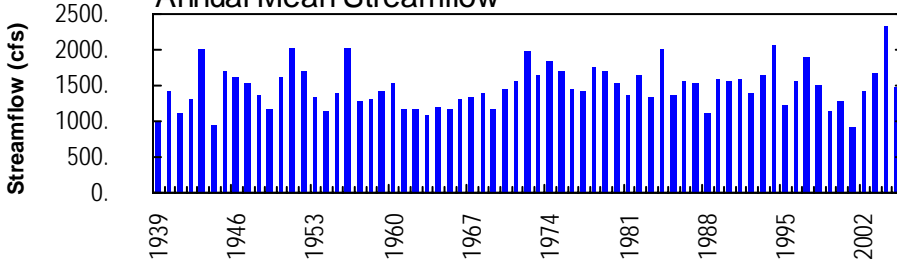


### Monthly Statistics

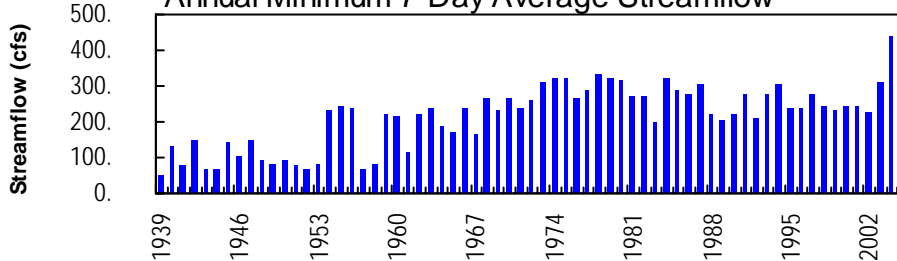
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1952 – 2005



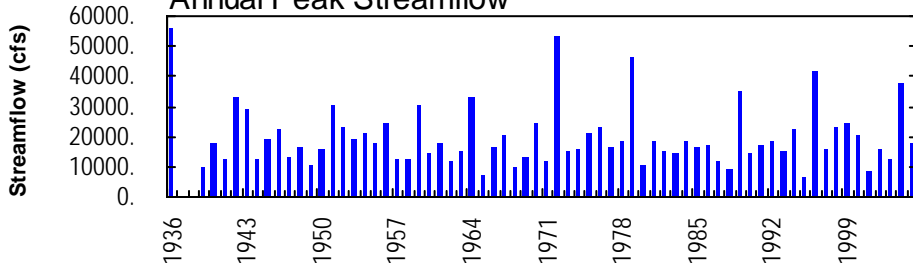
### Annual Mean Streamflow



### Annual Minimum 7-Day Average Streamflow



### Annual Peak Streamflow



## CLARION RIVER BASIN

03029500 CLARION RIVER AT COOKSBURG, PA  
(Pennsylvania Water-Quality Network Station)

**LOCATION.**--Lat 41°19'50", long 79°12'33", Clarion County, Hydrologic Unit 05010005, on right bank at downstream side of bridge on State Highway 36 at Cooksburg, 300 ft downstream from Toms Run, and 2.7 mi upstream from Cathers Run.

**DRAINAGE AREA.**--807 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--October 1938 to current year. Monthly discharge only for October, November 1938, published in WSP 1305.

**REVISED RECORDS.**--WSP 1305: 1939 (M). WDR PA-85-3: 1979 (M).

**GAGE.**--Water-stage recorder. Datum of gage is 1,147.00 ft above National Geodetic Vertical Datum of 1929. Prior to May 17, 1939, nonrecording gage at same site and datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated since June 1952 by East Branch Clarion River Lake (station 03027000) and at low flow by industrial plants above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Maximum stage since 1935, 19 ft, Mar. 17, 1936, from floodmarks, discharge, about 56,000 ft<sup>3</sup>/s.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 10,000 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)
Jan. 7	0145	13,400	10.71	Jan. 14	1500	*17,700	*12.05

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	2080	864	4820	1730	e950	1200	4070	1330	553	499	324	3340
2	2080	717	6790	1590	e900	1140	4360	1240	467	438	310	1410
3	2060	1000	4550	2220	e890	1020	5870	1130	465	449	299	862
4	846	1220	3550	7440	e930	950	4500	1040	636	366	296	644
5	804	1630	2870	6240	e980	922	4920	970	675	360	293	544
6	e777	1650	2400	8610	e1110	895	4230	911	549	989	286	470
7	e650	1360	2220	10600	e1300	921	3620	871	613	866	298	426
8	e645	1200	3040	7160	e3120	2410	3140	832	587	560	295	406
9	e635	1060	3000	6640	e3630	2320	2610	781	476	547	297	390
10	e500	955	3120	4980	e3310	1880	2200	727	438	572	294	387
11	e475	886	3130	4210	2540	1740	1900	689	588	449	290	360
12	e450	858	2910	4970	2120	1580	1650	649	760	398	285	337
13	e425	853	2650	7810	1840	1440	1460	591	508	368	286	338
14	e425	769	2370	14300	1760	1260	1320	611	441	349	306	308
15	e435	715	2040	9390	3500	1140	1180	796	498	333	313	298
16	e440	694	1800	6090	4230	1090	1070	859	779	327	296	310
17	e450	679	1650	4630	4090	1020	982	708	862	405	281	317
18	e458	612	1460	3660	3160	1020	923	599	669	532	275	366
19	646	595	1380	3120	2570	1030	872	549	570	497	329	322
20	1160	591	1230	2800	2240	1280	826	528	499	376	706	304
21	738	646	1000	2400	2150	1920	821	531	452	335	607	302
22	586	622	1180	2070	2190	1780	794	503	420	316	365	294
23	525	567	2390	e1780	1910	2010	1070	484	408	318	317	291
24	497	561	5850	e1480	1700	2670	1580	520	374	304	297	291
25	486	913	3500	e1330	1510	2550	1260	582	357	e298	295	287
26	464	1190	2900	e1220	1380	2460	1210	543	353	e429	287	357
27	440	973	2460	e1130	1230	2360	1160	464	339	600	288	795
28	425	1690	2150	e1090	1200	2930	1150	460	330	791	307	600
29	403	2990	1970	e1050	---	4680	1090	617	466	500	329	413
30	702	2170	1730	e1030	---	4920	1090	640	754	375	413	512
31	1170	---	1630	e1010	---	4380	---	624	---	330	4060	---
TOTAL	22877	31230	83740	133780	58440	58918	62928	22379	15886	14276	13924	16281
MEAN	738	1041	2701	4315	2087	1901	2098	722	530	461	449	543
MAX	2080	2990	6790	14300	4230	4920	5870	1330	862	989	4060	3340
MIN	403	561	1000	1010	890	895	794	460	330	298	275	287
CFSM	0.91	1.29	3.35	5.35	2.59	2.36	2.60	0.89	0.66	0.57	0.56	0.67
IN.	1.05	1.44	3.86	6.17	2.69	2.72	2.90	1.03	0.73	0.66	0.64	0.75

e Estimated.

CLARION RIVER BASIN

03029500 CLARION RIVER AT COOKSBURG, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	776	1321	1797	1659	1761	2734	2571	1877	1195	797	651	683
MAX (WY)	1991	1986	1978	1952	1976	1979	1994	2002	1972	1992	1994	2004
MIN (WY)	1952	1961	1961	1961	1987	1969	1976	1985	1999	1952	1952	1952

SUMMARY STATISTICS FOR 2004 CALENDAR YEAR FOR 2005 WATER YEAR WATER YEARS 1952 - 2005

ANNUAL TOTAL	785560	534659	
ANNUAL MEAN	2146	1465	1483
HIGHEST ANNUAL MEAN			2341
LOWEST ANNUAL MEAN			912
HIGHEST DAILY MEAN	15100	Mar 6	14300
LOWEST DAILY MEAN	361	Jul 4	275
ANNUAL SEVEN-DAY MINIMUM	440	Jun 28	292
MAXIMUM PEAK FLOW			17700
MAXIMUM PEAK STAGE			12.05
INSTANTANEOUS LOW FLOW			272
ANNUAL RUNOFF (CFSM)	2.66	1.82	1.84
ANNUAL RUNOFF (INCHES)	36.21	24.65	24.98
10 PERCENT EXCEEDS	4490	3400	3230
50 PERCENT EXCEEDS	1510	862	916
90 PERCENT EXCEEDS	587	318	298

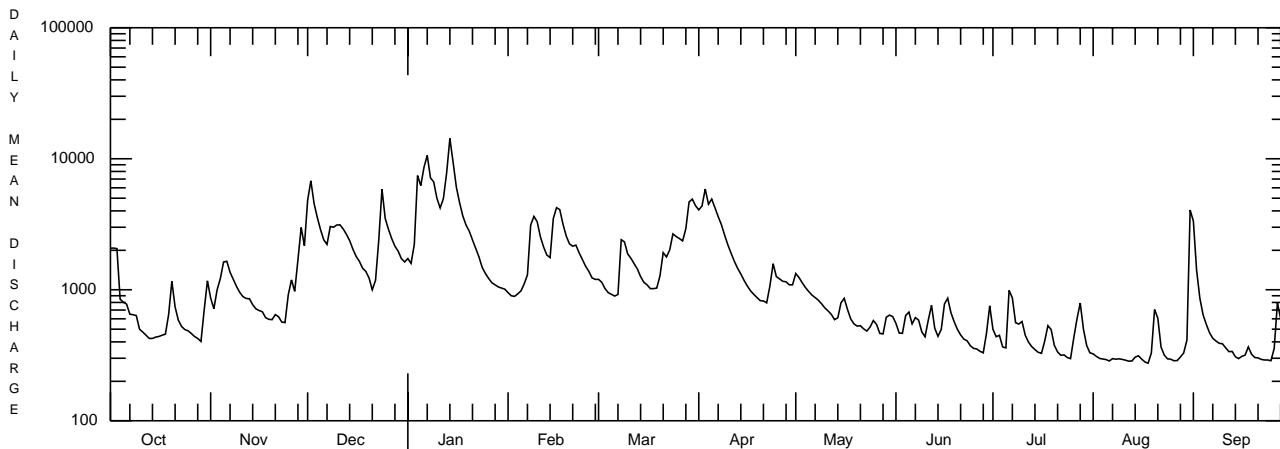
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1951, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	590	1085	1475	1891	1961	3055	2969	1971	1154	579	288	348
MAX (WY)	1946	1951	1941	1950	1951	1945	1940	1943	1946	1942	1950	1945
MIN (WY)	1950	1950	1944	1944	1941	1949	1946	1941	1939	1949	1944	1943

SUMMARY STATISTICS WATER YEARS 1939 - 1951

ANNUAL MEAN	1444
HIGHEST ANNUAL MEAN	2023
LOWEST ANNUAL MEAN	953
HIGHEST DAILY MEAN	24600
LOWEST DAILY MEAN	43
ANNUAL SEVEN-DAY MINIMUM	50
MAXIMUM PEAK FLOW	32700
MAXIMUM PEAK STAGE	14.96
INSTANTANEOUS LOW FLOW	41
ANNUAL RUNOFF (CFSM)	1.79
ANNUAL RUNOFF (INCHES)	24.31
10 PERCENT EXCEEDS	3350
50 PERCENT EXCEEDS	793
90 PERCENT EXCEEDS	140

- a From rating curve extended above 40,000 ft<sup>3</sup>/s.
- b From peak-stage indicator.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

## CLARION RIVER BASIN

03029500 CLARION RIVER AT COOKSBURG, PA--Continued  
(Pennsylvania Water-Quality Network Station)

## WATER-QUALITY RECORDS

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

REMARKS.--Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

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, µS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, µS/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	17...	1028	9813	676	13.4	7.4	6.9	243	248	5.5	56	15.2	4.4
JAN 2005	13...	0930	9813	7960	12.3	6.8	7.2	110	114	5.0	32	8.4	2.8
MAR 22...	0845	1028	9813	1800	12.9	7.0	7.2	200	208	2.9	46	12.4	3.8
MAY 23...	1215	1028	9813	480	8.5	7.3	7.6	326	330	15.5	64	17.3	5.0
JUL 27...	1230	1028	9813	536	7.5	7.5	7.8	344	355	25.0	61	17.3	4.3
SEP 06...	1045	1028	9813	470	10.0	7.2	7.6	278	285	20.0	54	14.8	4.1

Date	ANC, wat unfltrd 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)	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, µg/L (01105)	Copper, water, unfltrd recover-able, µg/L (01042)
NOV 2004	20	64.1	204	12	<.020	.20	<.040	<.01	<.010	.33	3.1	<200	<10
JAN 2005	11	26.7	52	12	<.020	.29	<.040	.02	.021	.41	2.1	660	<10
MAR 22...	13	47.2	130	6	.060	.42	<.040	.01	.019	.59	2.4	280	<10
MAY 23...	27	92.7	206	<2	.070	.29	<.040	<.01	.021	.53	--	<200	<10
JUL 27...	26	95.7	216	2	<.020	.22	<.040	.01	.025	.34	--	<200	<10
SEP 06...	23	75.6	178	6	.030	.44	<.040	.01	.023	.71	--	<200	<10

Date	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, unfltrd recover-able, µg/L (01051)	Manganese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV 2004	160	<1.0	90	<50	<10
JAN 2005	1080	1.9	250	<50	30
MAR 22...	540	<1.0	240	<50	10
MAY 23...	190	<1.0	90	<50	<10
JUL 27...	320	<1.0	150	<50	10
SEP 06...	310	<1.0	90	<50	<10

## CLARION RIVER BASIN

## 03029500 CLARION RIVER AT COOKSBURG, 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	08/09/04
Benthic macroinvertebrate	Count
Nematoda (NEMATODES)	1
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoploneuridae	
Tetrastemmatidae	
<i>Prostoma</i>	1
Mollusca	
Bivalvia (CLAMS)	
Veneroidea	
Sphaeriidae	
<i>Sphaerium</i>	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	3
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Acentrella</i>	3
<i>Baetis</i>	2
<i>Plauditus</i>	4
Ephemerellidae	
<i>Ephemerella</i>	2
<i>Serratella</i>	2
Heptageniidae	
<i>Stenonema</i>	8
Isonychiidae	
<i>Isonychia</i>	6
Tricorythidae	
<i>Tricorythodes</i>	2
Trichoptera (CADDISFLIES)	
Brachycentridae	
<i>Brachycentrus</i>	20
Hydropsychidae	
<i>Cheumatopsyche</i>	19
<i>Hydropsyche</i>	19
<i>Macrostemum</i>	4
Psychomyiidae	
<i>Psychomyia</i>	4

## CLARION RIVER BASIN

03029500 CLARION RIVER AT COOKSBURG, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES

Date	08/09/04
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	7
<i>Oulimnius</i>	1
<i>Stenelmis</i>	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	5
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	1
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	4
Total Organisms	123
Total Taxa	24