

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°28'42", long 77°07'46", Perry County, Hydrologic Unit 02050304, on right bank at downstream side of bridge on State Highway 34 at Newport, and 1,000 ft upstream from Little Buffalo Creek.

DRAINAGE AREA.--3,354 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1899 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1902(M). WSP 1302: 1915-17. WSP 1502: 1899-1908, 1914, 1924, 1936. WSP 1722: 1916.

GAGE.--Water-stage recorder. Datum of gage is 363.93 ft above National Geodetic Vertical Datum of 1929. Prior to July 16, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since October 1972 by Raystown Dam (station 01563100) about 75 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 35.9 ft, from floodmarks, discharge, about 209,000 ft³/s, from rating curve extended above 100,000 ft³/s.

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	1390	6630	2870	5100	e2100	e4850	7640	3460	9000	2800	1270	4020
2	1130	e6300	2620	23400	e2150	e4700	7030	3940	8950	2690	1820	4000
3	832	e5200	2430	36300	e2150	e4600	7170	3820	7290	2650	2970	6030
4	797	e4200	2180	26500	e2300	e4450	7190	3030	17400	2350	8180	8870
5	765	3100	1940	18100	e3150	e4400	7390	2850	34800	2100	6840	11000
6	715	3240	1930	12100	e2850	5380	11300	3220	27200	1970	5280	8390
7	690	3110	1930	9600	e2350	8110	12400	3950	21100	1960	4160	6160
8	674	4160	e1900	8840	e2250	9900	12200	4210	23900	2190	3670	4840
9	655	3960	e1900	8800	e2200	11400	11800	6030	22800	2230	3400	4250
10	655	2850	e1900	8970	e2200	14600	11800	7330	17900	2010	8410	3400
11	1020	2710	e1950	8460	e2200	12600	13600	9900	12500	2660	8580	3060
12	2190	2970	e3500	7290	e2250	11400	14900	12900	9630	3660	8900	2750
13	2770	4970	5200	6470	e2700	13100	14100	12500	8680	3430	7550	2590
14	2750	5840	7850	5940	e3100	18900	12400	11000	7800	2380	5420	2880
15	1920	5180	11800	e5500	e3150	18900	10300	7730	7610	2040	3820	2570
16	2340	4600	11900	e5100	e3100	18000	8830	7240	6410	1910	3410	2660
17	4850	5450	10200	e4850	e3100	20200	7870	15500	5420	1710	4110	3410
18	4540	9270	8340	e4350	e3400	23800	6630	17500	5340	1720	3770	4090
19	3430	10100	7090	e3450	e3750	23800	6230	17300	6120	1730	3180	6600
20	2310	8730	7000	e2350	e4450	22900	5800	15000	6500	1540	3160	13000
21	1800	7140	7300	e2200	e5050	31500	5920	10300	6510	1550	2610	11700
22	1540	5820	7190	e2100	e6450	24000	5590	10800	6350	2160	2200	9060
23	1330	5700	6340	e2100	e7850	16500	5080	8690	7600	2690	2010	17900
24	1170	5080	5820	e2100	e9350	12900	4280	9180	7220	2310	1810	21100
25	1110	4180	5540	e2150	e9000	12700	3830	10600	6240	2050	1660	14800
26	1510	3580	5350	e2050	e6700	11300	4290	9370	4660	1640	1600	11100
27	1960	3400	4970	e2000	e5700	9710	4070	9240	4270	1450	1690	8570
28	2820	3260	4600	e2000	e5250	9030	3890	9340	3710	1360	2230	10300
29	2230	3120	4330	e2050	---	7810	3800	9460	3210	1290	2480	23300
30	2370	2980	4270	e2050	---	6840	3330	8470	2960	1220	2600	14500
31	4190	---	4160	e2100	---	7460	---	7620	---	1180	2610	---
TOTAL	58453	146830	156300	234370	110250	405740	240660	271480	319080	64630	121400	246900
MEAN	1886	4894	5042	7560	3938	13090	8022	8757	10640	2085	3916	8230
MAX	4850	10100	11900	36300	9350	31500	14900	17500	34800	3660	8900	23300
MIN	655	2710	1900	2000	2100	4400	3330	2850	2960	1180	1270	2570

e Estimated.

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2003, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2549	3562	4904	4777	6094	8702	8186	5636	3585	2146	1538	2023
MAX (WY)	11610	10850	13770	15810	15070	23500	25780	13940	10640	12080	3916	13220
MIN (WY)	1977	1998	1973	1996	1984	1994	1993	1978	2003	1989	2003	1996
MIN (WY)	657	789	1045	495	1498	2576	2898	2258	1084	864	674	586
(WY)	2002	2002	1999	1981	2002	1990	1995	2001	1991	1988	2002	1986

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1973 - 2003

ANNUAL TOTAL	1095254		2376093			
ANNUAL MEAN	3001		6510		4464	
HIGHEST ANNUAL MEAN					7166 1996	
LOWEST ANNUAL MEAN					2241 2002	
HIGHEST DAILY MEAN	23700	May 19	36300	Jan 3	92300	Jan 20 1996
LOWEST DAILY MEAN	e 499	Sep 17	655	Oct 9, 10	450	Jan 13 1981
ANNUAL SEVEN-DAY MINIMUM	a 527	Sep 15	707	Oct 4	461	Jan 9 1981
MAXIMUM PEAK FLOW			39200	Jan 3	b 103000	Jan 20 1996
MAXIMUM PEAK STAGE			14.75	Jan 3	24.69	Jan 20 1996
10 PERCENT EXCEEDS	6670		12900		10000	
50 PERCENT EXCEEDS	1750		4600		2640	
90 PERCENT EXCEEDS	654		1900		836	

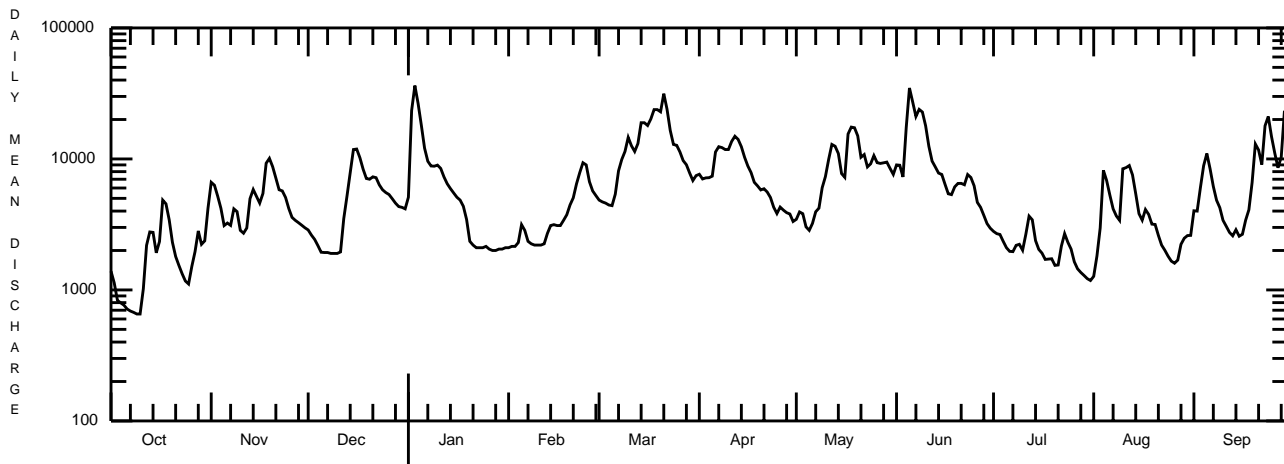
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1820	2658	3649	4621	5570	9856	8097	5797	3612	2072	1563	1419
MAX (WY)	8108	10880	11310	13300	16160	33600	17160	14870	25050	7865	4605	6890
MIN (WY)	1928	1951	1902	1937	1915	1936	1940	1908	1972	1972	1905	1911
MIN (WY)	351	418	471	841	943	2340	2026	1319	890	455	327	370
(WY)	1964	1931	1931	1931	1934	1931	1915	1941	1965	1966	1966	1964

SUMMARY STATISTICS WATER YEARS 1899 - 1972

ANNUAL MEAN	4228	
HIGHEST ANNUAL MEAN	7403 1972	
LOWEST ANNUAL MEAN	2166 1969	
HIGHEST DAILY MEAN	172000	Mar 19 1936
LOWEST DAILY MEAN	207	Jul 27 1966
ANNUAL SEVEN-DAY MINIMUM	269	Aug 3 1966
MAXIMUM PEAK FLOW	b 190000	Mar 19 1936
MAXIMUM PEAK STAGE	c 34.24	Mar 19 1936
INSTANTANEOUS LOW FLOW	195	Jul 27 1966
ANNUAL RUNOFF (CFSM)	1.26	
ANNUAL RUNOFF (INCHES)	17.13	
10 PERCENT EXCEEDS	9360	
50 PERCENT EXCEEDS	2300	
90 PERCENT EXCEEDS	680	

- a Computed using estimated daily discharges.
- b From rating curve extended above 100,000 ft³/s, on basis of slope-area measurement of peak flow.
- c From floodmark in gage.
- e Estimated.



OCTOBER 1, 2002 TO SEPTEMBER 30, 2003

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(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 368-434.

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)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002 18...	1330	1028	9813	9730	40	10.3	7.7	206	8.3	85	23.1	6.6	60
JAN 2003 15...	1330	1028	9813	5260	40	13.5	7.4	198	.3	110	28.7	8.3	68
MAR 06...	1415	1028	9813	5650	40	13.8	7.9	254	2.8	93	26.0	6.8	60
MAY 05...	1545	1028	9813	2840	40	9.7	8.5	224	15.7	100	26.4	8.4	71
JUL 08...	1220	1028	9813	2260	40	8.4	8.7	246	26.5	120	32.4	9.2	93
SEP 15...	1000	1028	9813	2570	40	8.1	7.9	280	20.1	120	32.1	8.5	92

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)	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, μ g/L (01105)	Copper, water, unfltrd recover -able, μ g/L (01042)	Iron, water, unfltrd recover -able, μ g/L (01045)
NOV 2002 18...	21.0	246	62	.020	1.53	<.040	.04	.086	2.6	3.5	900	<10	1110
JAN 2003 15...	23.2	160	6	<.020	2.02	<.040	.01	.019	2.1	1.8	<200	<10	100
MAR 06...	22.6	224	16	<.020	1.43	<.040	.02	.029	1.7	2.6	<200	<10	160
MAY 05...	19.8	162	12	<.020	1.02	<.040	.02	.024	1.5	2.7	<200	<10	250
JUL 08...	22.7	216	2	<.020	1.32	<.040	.02	.023	1.6	2.8	<200	<10	140
SEP 15...	20.9	170	8	<.020	1.82	<.040	.04	.051	1.6	2.7	200	<10	300

Date	Lead, water, unfltrd recover -able, μ g/L (01051)	Manganese, water, unfltrd recover -able, μ g/L (01055)	Nickel, water, unfltrd recover -able, μ g/L (01067)	Zinc, water, unfltrd recover -able, μ g/L (01092)
NOV 2002 18...	2.0	80	<50	<10
JAN 2003 15...	<1.0	10	<50	<10
MAR 06...	<1.0	10	<50	<10
MAY 05...	<1.0	40	<50	170
JUL 08...	1.0	30	<50	<10
SEP 15...	<1.0	20	<50	<10

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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	8/22/02
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Hydrobiidae	
<u>Amnicola</u> sp	2
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
<u>Corbicula fluminea</u>	6
Sphaeriidae	
<u>Sphaerium</u> sp	3
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Caenidae	
<u>Caenis</u> sp	21
Heptageniidae	
<u>Leucrocuta</u> sp	15
<u>Stenonema</u> sp	4
Isonychiidae	
<u>Isonychia</u> sp	1
Potamanthidae	
<u>Anthopotamus</u> sp	8
Tricorythidae	
<u>Tricorythodes</u> sp	27
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	5
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Corydalis</u> sp	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Hydropsyche</u> sp	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	4
<u>Stenelmis</u> sp	16
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	1
Total Organisms	119