



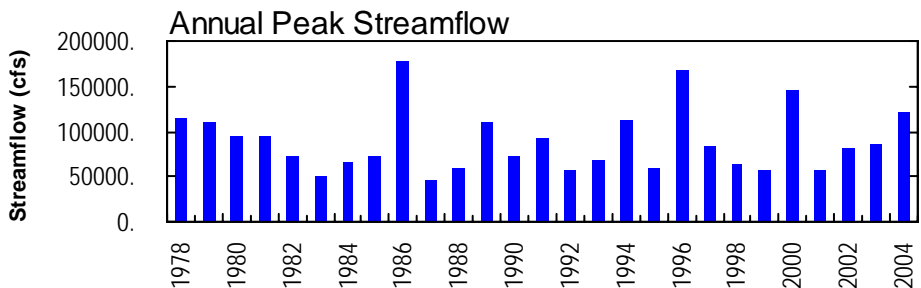
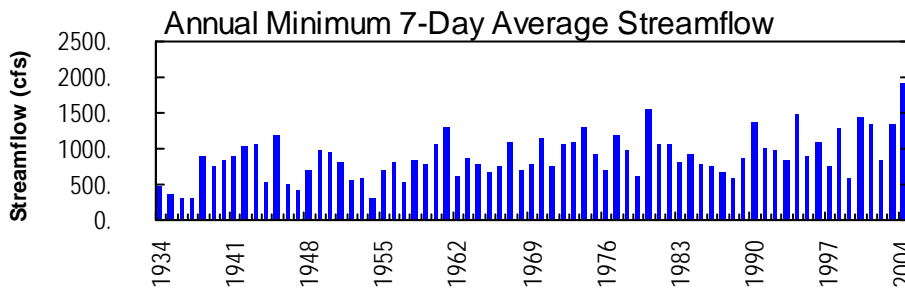
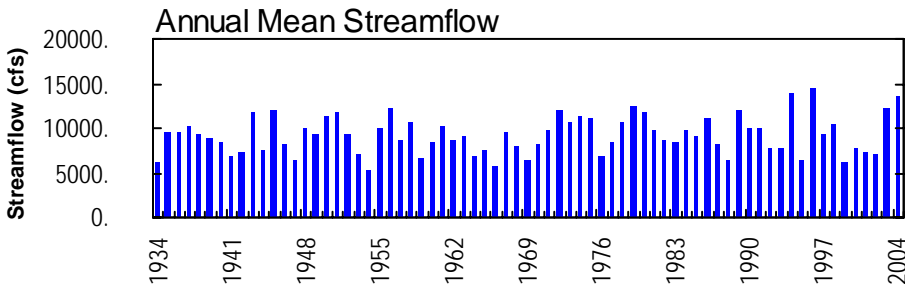
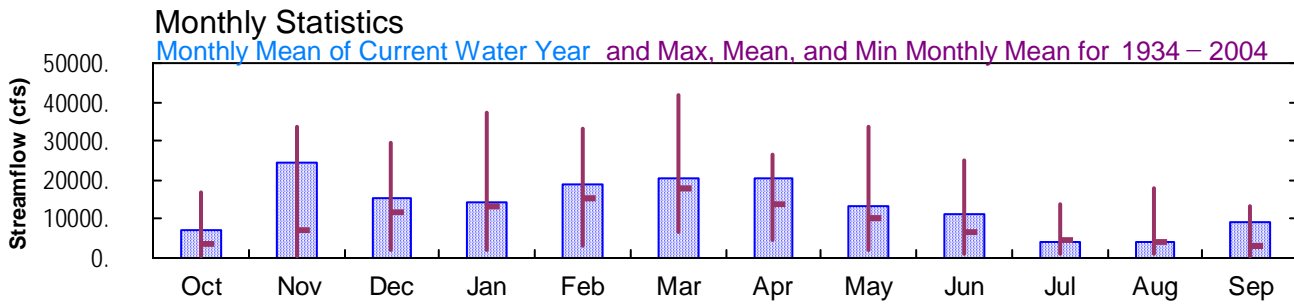
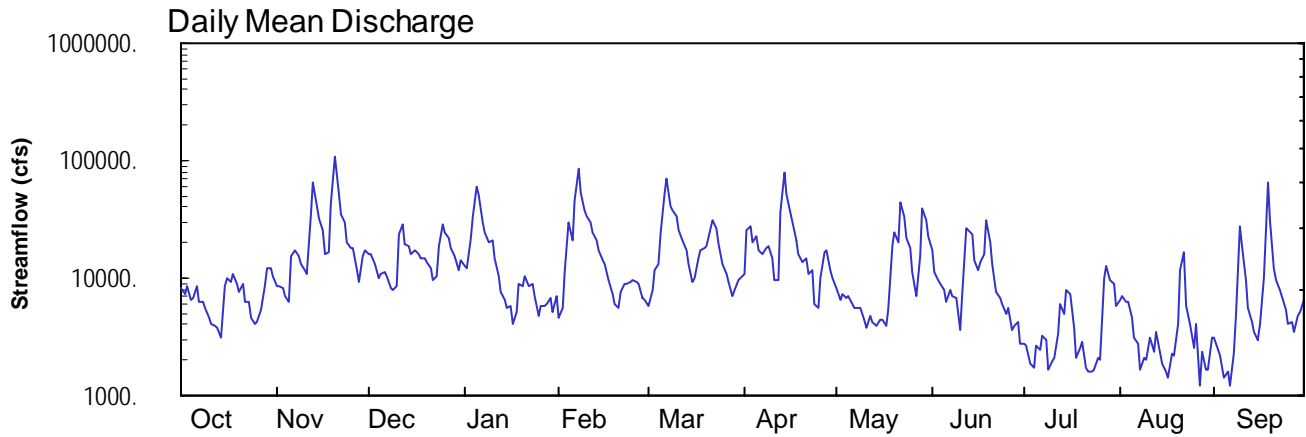
2004 Water Year MONONGAHELA RIVER BASIN

03075070 Monongahela River at Elizabeth, PA

Latitude: 40° 15 ' 44"
Allegheny County

Longitude: 079° 54 ' 05"
Datum: 717.90 feet

Hydrologic Unit Code: 05020005
Drainage Area: 5340. mi²



MONONGAHELA RIVER BASIN

**03075070 MONONGAHELA RIVER AT ELIZABETH, PA
(Pennsylvania Water-Quality Network Station)**

LOCATION.--Lat 40°15'44", long 79°54'05", Allegheny County, Hydrologic Unit 05020005, on right bank 30 ft landward from upstream end of guide wall, 1,050 ft upstream from dam at lock 3 at Elizabeth, 0.4 mi downstream from Lobbs Creek, at mile 24.0.

DRAINAGE AREA.--5,340 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year. Published as "*at Charleroi*" (station 03075000) October 1933 to September 1976. Monthly discharge prior to 1940, adjusted for reservoir contents, published in WSP 1305. Records for March 1886 to March 1905 (high-water periods, only), published in WSP 169, are unreliable and should not be used (peak discharge of July 11, 1888, as published in WSP 183, is still considered reliable).

REVISED RECORDS.--WSP 758: Drainage area. WSP 783: 1888 (M). WSP 1435: 1934, 1936. See also "*PERIOD OF RECORD.*"

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 717.90 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). From Oct. 1, 1967 to Sept. 30, 1976, at site 17.5 mi upstream at datum 15.70 ft higher. Prior to Oct. 1, 1967, water-stage recorder at site 17.9 mi upstream at datum 17.43 ft higher. Oct. 1, 1965 to Sept. 30, 1967, auxiliary staff gage, Apr. 14, 1966 to Sept. 30, 1967, auxiliary water-stage recorder and Oct. 1, 1967 to Nov. 4, 1990, water-stage recorder at present site at datum 7.60 ft higher.

REMARKS.--No estimated daily discharges. Records good, except those below 2,500 ft³/s, which are poor. Flow regulated by locks above station, since 1938 by Tygart Lake (station 03055500), since May 1926 by Lake Lynn, and since April 1989 by Stonewall Jackson Lake, combined capacity, 432,000 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

**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	8180	8610	15800	12700	4500	5750	10900	8290	17200	2710	6440	3080
2	7240	8650	15700	12300	5670	7800	25400	6620	11100	2650	7070	2470
3	8670	8120	13100	20800	11400	11700	27100	7460	9550	1830	6240	2210
4	6560	6980	9900	34100	30300	13400	20400	6770	8930	1740	6240	1440
5	6780	6250	11000	59900	21300	24100	22500	7000	7840	2620	4520	1570
6	8480	15200	11100	50900	46000	51800	17000	5960	6290	2410	3050	1200
7	6270	17400	10400	29700	86400	70200	15700	5660	7830	3230	2800	2230
8	6260	15200	8320	24600	53400	41100	18200	5670	7050	2950	1690	4940
9	5670	13200	7830	20300	37700	37300	18400	5510	6740	1680	2110	28000
10	4570	11900	8500	21000	33000	33300	15000	4360	3560	1920	2040	19600
11	4110	10900	23600	14700	29500	25800	9610	3700	6960	2090	3150	9440
12	3910	35000	28200	10300	24200	20900	9500	4690	26600	3340	2320	5630
13	3700	65300	19800	7580	20900	17400	36600	4310	26000	5990	3470	4270
14	3080	40200	19000	6460	17500	12900	79100	3960	23200	4980	2390	3460
15	8500	31800	16200	5610	14200	9110	50600	4330	14300	7990	1860	2950
16	9870	25700	17400	5840	13000	9950	36600	4490	11800	7450	1580	4070
17	9090	16200	16000	4120	9680	14900	30000	3970	13600	3760	1420	9840
18	10700	16600	15000	5060	7440	17000	21400	5330	16300	2110	2270	65800
19	8990	42000	14800	8950	5960	17900	15800	18400	31100	2520	2210	30900
20	7680	109000	13400	8520	5560	19000	13600	24400	19900	2820	4050	12300
21	8890	52800	12300	10500	7680	26300	14900	20300	13200	1690	11700	9790
22	6360	34700	9770	8650	9000	31500	10900	44300	7540	1630	16700	7960
23	6230	29600	10400	8750	8750	26900	11500	33600	6900	1620	5770	6940
24	4670	20200	18900	7050	9140	19400	5970	21700	6080	1650	4070	5370
25	4000	17900	29200	4750	9610	12900	5580	17700	4970	2060	2510	4150
26	4270	17900	24700	5870	9100	10900	9820	11100	5670	1990	4020	4190
27	5370	11500	21500	5770	8740	9410	16500	6940	3690	10100	1220	3540
28	8460	9140	18100	6080	6860	6990	17100	15500	3930	12400	2370	4820
29	12100	15400	15500	6830	6530	7980	11500	38500	4230	9530	1660	5220
30	11900	17500	11700	5240	---	9590	10100	31400	2770	8850	1640	6490
31	10400	---	14000	7050	---	9910	---	23000	---	5800	3060	---
TOTAL	220960	730850	481120	439980	553020	633090	607280	404920	334830	124110	121640	273870
MEAN	7128	24360	15520	14190	19070	20420	20240	13060	11160	4004	3924	9129
MAX	12100	109000	29200	59900	86400	70200	79100	44300	31100	12400	16700	65800
MIN	3080	6250	7830	4120	4500	5750	5580	3700	2770	1620	1220	1200
(†)	-518	-276	-50	-97	+119	-74	+1440	+249	-222	+127	-287	+188

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2004, BY WATER YEAR (WY)

MEAN	3616	6906	11540	13450	15510	18110	13560	10390	6572	4439	4140	3163
MAX	16770	33750	29760	37480	33170	41930	26500	33610	24840	13570	17890	13300
(WY)	1980	1986	1973	1937	1994	1963	1940	1996	1981	1958	1956	1945
MIN	475	400	1991	2249	3210	6636	4478	2128	1009	915	812	581
(WY)	1954	1954	1966	1977	1934	1987	1971	1982	1936	1966	1957	1936

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1934 - 2004	
ANNUAL TOTAL	5120310		4925670			
ANNUAL MEAN	14030	† +12	13460	† +3.8	9255	
HIGHEST ANNUAL MEAN					14400	1996
LOWEST ANNUAL MEAN					5282	1954
HIGHEST DAILY MEAN	109000	Nov 20	109000	Nov 20	158000	Jan 20 1996
LOWEST DAILY MEAN	1430	Jul 28	1200	Sep 6	206	Jun 29 1936
ANNUAL SEVEN-DAY MINIMUM	2820	Jun 30	1920	Jul 20	301	Oct 1 1936
MAXIMUM PEAK FLOW			a121000	Nov 20	a178000	Nov 6 1985
MAXIMUM PEAK STAGE			24.69	Nov 20	b30.39	Jan 20 1996
10 PERCENT EXCEEDS	29300		29600		22400	
50 PERCENT EXCEEDS	9900		9040		5260	
90 PERCENT EXCEEDS	3410		2640		1160	

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

a From rating curve extended above 110,000 ft³/s.

b Gage height 23.60 ft, datum then in use.

MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, 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 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)	
OCT 2003	20...	1130	1028	9813	7000	11.1	6.4	7.0	282	283	14.5	95	27.6	6.4
DEC 03...	1015	1028	9813	13200	10.3	7.1	7.5	262	273	6.5	100	29.2	7.3	
FEB 2004	10...	0950	1028	9813	33900	16.0	6.6	7.3	200	203	2.5	74	21.2	5.1
APR 05...	1035	1028	9813	23400	--	7.3	7.6	284	279	7.5	110	30.3	7.8	
JUN 02...	0945	1028	9813	7760	8.7	7.4	7.3	181	175	19.5	66	18.9	4.5	
AUG 03...	1030	1028	9813	5280	8.3	7.5	7.3	436	456	25.5	150	42.8	10.8	

Date	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (00417)	Fluoride, water, unfltrd mg/L (00951)	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)
OCT 2003	42	<.2	78.0	122	6	.060	.53	<.040	.02	.027	.82	2.0	300
DEC 03...	39	<.2	80.8	194	8	.090	.57	<.040	.02	.017	.74	1.5	500
FEB 2004	26	<.2	50.3	164	68	.060	.87	<.040	.10	.046	1.2	5.4	2500
APR 05...	40	<.2	77.7	226	28	.090	.64	<.040	.03	.027	.87	1.6	1000
JUN 02...	29	<.2	43.8	82	54	.040	.46	<.040	.04	.035	.54	2.4	700
AUG 03...	54	<.2	134	302	10	.030	.55	.040	.01	.020	.77	2.2	200

Date	Copper, water, unfltrd recover -able, µg/L (01042)	Cyanide amenable to chlorination wat unfltrd mg/L (00722)	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)	Phenolic compounds, water, unfltrd µg/L (32730)
OCT 2003	<10	<1.00	530	<1.0	120	<50	30	<5
DEC 03...	<10	<1.00	760	<1.0	180	<50	20	<5
FEB 2004	<10	<1.00	3170	2.4	200	<50	30	<5
APR 05...	<10	<1.00	1440	<1.0	160	<50	20	<5
JUN 02...	<10	<1.00	1290	1.6	60	<50	20	<5
AUG 03...	<10	<1.00	370	<1.0	60	<50	<10	<5