



2004 Water Year  
BROKENSTRAW CREEK BASIN

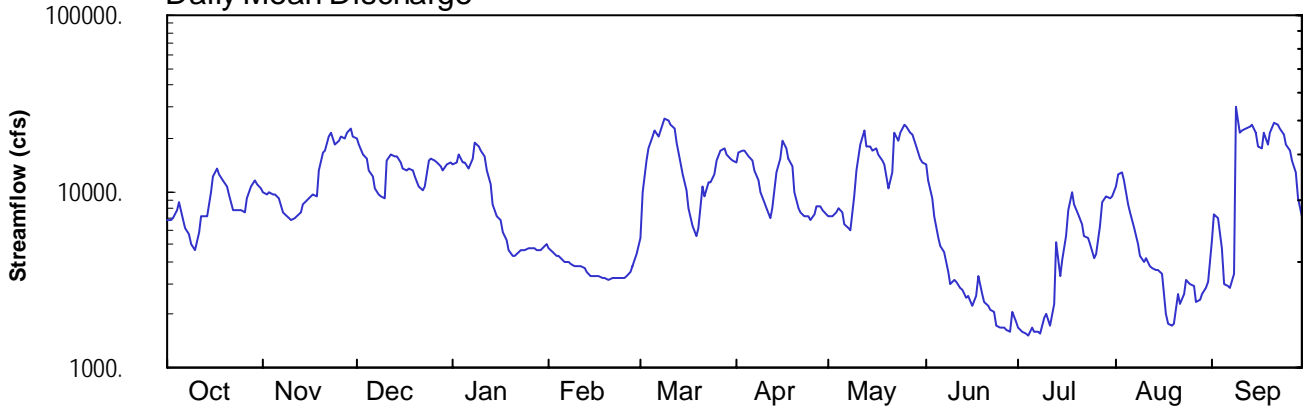
**03016000 Allegheny River at West Hickory, PA**

Latitude: 41° 34' 15"  
Forest County

Longitude: 079° 24' 29"  
Datum: 1059.90 feet

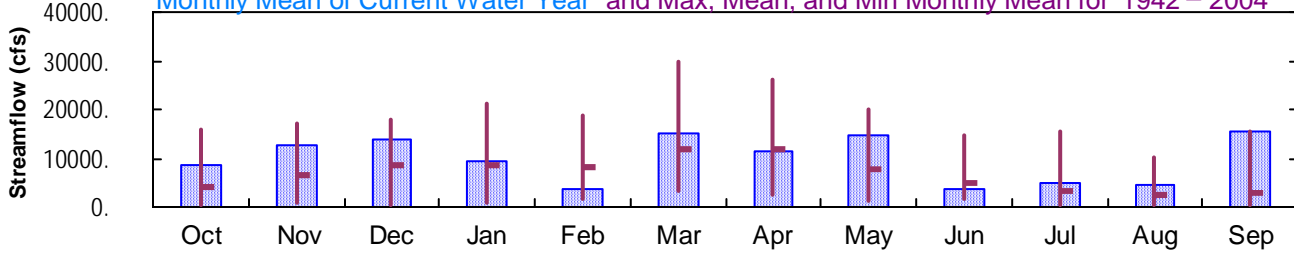
Hydrologic Unit Code: 05010003  
Drainage Area: 3660. mi<sup>2</sup>

Daily Mean Discharge

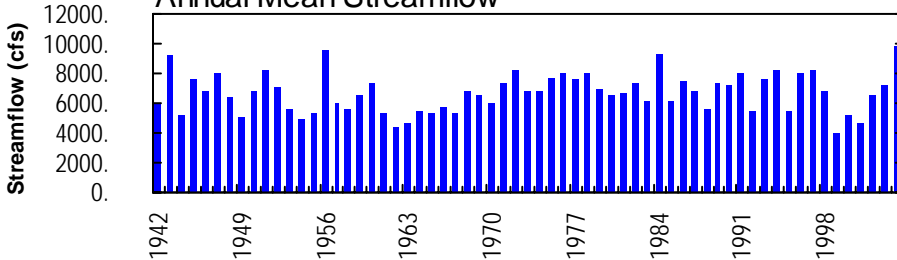


Monthly Statistics

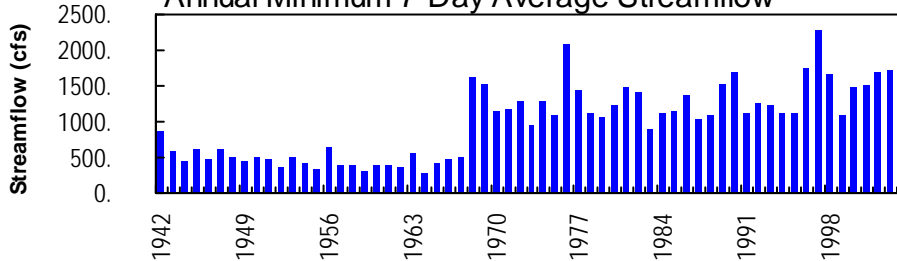
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1942 – 2004



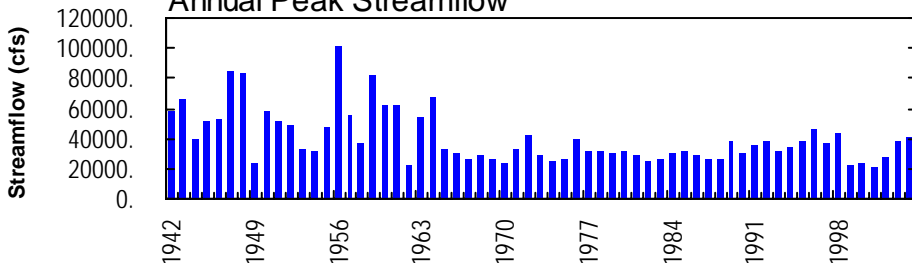
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



**OHIO RIVER MAIN STEM**

**03016000 ALLEGHENY RIVER AT WEST HICKORY, PA  
(Pennsylvania Water-Quality Network Station)**

**LOCATION.**--Lat 41°34'15", long 79°24'29", Forest County, Hydrologic Unit 05010003, on right bank at downstream side of bridge on State Highway 127 at West Hickory, 0.6 mi upstream from Siggins Run, 0.8 mi downstream from East Hickory Creek, at mile 158.9.

**DRAINAGE AREA.**--3,660 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

**PERIOD OF RECORD.**--October 1941 to current year.

**REVISED RECORDS.**--WDR PA-96-3: 1995(M).

**GAGE.**--Water-stage recorder. Datum of gage is 1,059.90 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1941, nonrecording gage at same site and datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated since November 1949 by Chautauqua Lake (station 03013946), since October 1965 by Allegheny Reservoir (station 03012520) 39 mi upstream. 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	6870	9910	19800	14200	e4800	5470	14600	7300	14200	1680	10800	5290
2	6910	9700	18500	14800	e4470	9940	16400	7220	11600	1600	12600	7420
3	7110	9770	16300	16100	e4250	15000	17000	7680	9190	1540	12900	6960
4	7810	9700	15200	14500	e4250	17400	17000	7950	7140	1510	11600	4800
5	8660	9600	13000	14500	e4050	20200	15900	7670	5440	1680	8360	2990
6	6900	9150	12000	13600	e4010	22100	14800	6500	4880	1610	7640	2900
7	6250	7580	10400	15500	e3980	20600	13100	6250	4510	1600	6130	2860
8	5670	7360	9710	19200	e3900	22000	11500	6000	3450	1560	5040	3390
9	5000	7050	9480	18100	e3790	26000	9960	9290	2970	1920	4300	30100
10	4620	6890	9110	16900	e3740	25000	8650	13300	3130	2000	3950	21500
11	5870	6970	14900	15600	e3740	24100	8060	18300	3060	1740	4130	21900
12	7320	7240	16300	13100	e3630	22700	7040	22300	2860	2330	3810	22800
13	7220	7620	15900	10900	e3520	18900	7980	17800	2740	5100	3690	23200
14	7180	8500	15800	8520	e3350	14700	12700	18000	2510	3300	3610	23800
15	9880	8830	14700	7150	e3350	12500	15200	17200	2580	4030	3540	21800
16	12000	9310	13500	6870	e3350	10200	19200	17300	2240	5540	3420	18000
17	13300	9590	13100	5930	e3350	8060	17600	16200	2550	7880	2040	17400
18	12400	9420	13600	5270	e3190	6310	15400	15100	3290	9800	1770	21800
19	11500	13000	13100	4610	e3240	5550	13900	14400	2590	8540	1730	18300
20	10700	16500	12200	e4260	e3130	6160	9810	10400	2370	7420	1760	21500
21	9590	16800	10700	e4300	e3190	10800	8110	12900	2230	6570	2630	24800
22	7870	20500	10300	e4540	e3190	9490	7520	21400	2140	5570	2320	23900
23	7780	21300	10700	e4620	e3240	11200	7190	19200	2070	5400	2640	22800
24	7910	18400	14900	e4620	e3190	11300	7230	21600	1720	5060	3110	21000
25	7800	19300	15500	e4770	e3190	12600	6810	24000	1680	4160	3000	18300
26	7710	20600	15100	e4770	e3300	14900	7470	23000	1680	4390	2920	17100
27	9160	20100	14600	e4770	e3520	16900	8180	21500	1620	6380	2370	14900
28	10700	21500	13900	e4700	e3740	17600	8310	21100	1600	8640	2440	12800
29	11600	22500	13200	e4700	e4390	16300	7840	18100	2080	9420	2590	9200
30	10900	20600	14300	e4770	---	15200	7500	15400	1820	9240	2870	7170
31	10300	---	14600	e4990	---	14900	---	14700	---	9400	3080	---
TOTAL	264490	385290	424400	291160	106040	464080	341960	459060	111940	146610	142790	470680
MEAN	8532	12840	13690	9392	3657	14970	11400	14810	3731	4729	4606	15690
MAX	13300	22500	19800	19200	4800	26000	19200	24000	14200	9800	12900	30100
MIN	4620	6890	9110	4260	3130	5470	6810	6000	1600	1510	1730	2860
CFSM	2.33	3.51	3.74	2.57	1.00	4.09	3.11	4.05	1.02	1.29	1.26	4.29
IN.	2.69	3.92	4.31	2.96	1.08	4.72	3.48	4.67	1.14	1.49	1.45	4.78

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

MEAN	4100	6531	8618	8454	8087	11920	11740	7668	4823	3140	2427	2941
MAX	15890	17070	17950	21260	18970	29740	25970	20020	14730	15430	10160	15690
(WY)	1991	1993	1978	1952	1990	1945	1947	1943	1989	1972	1977	2004
MIN	324	659	581	844	1725	3378	2255	1333	1430	597	490	449
(WY)	1964	1961	1961	1961	1963	1969	1946	1985	1949	1955	1954	1955

e Estimated.

**OHIO RIVER MAIN STEM**

**03016000 ALLEGHENY RIVER AT WEST HICKORY, PA--Continued**

<b>SUMMARY STATISTICS</b>	<b>FOR 2003 CALENDAR YEAR</b>		<b>FOR 2004 WATER YEAR</b>		<b>WATER YEARS 1942 - 2004</b>	
ANNUAL TOTAL	3232500		3608500			
ANNUAL MEAN	8856		9859		6696	
HIGHEST ANNUAL MEAN					9859	
LOWEST ANNUAL MEAN					3963	
HIGHEST DAILY MEAN	27600	Jul 28	30100	Sep 9	90800	Mar 8 1956
LOWEST DAILY MEAN	1640	Jul 9	1510	Jul 4	272	Oct 15 1963
ANNUAL SEVEN-DAY MINIMUM	1870	Jul 4	1590	Jul 2	276	Oct 14 1963
MAXIMUM PEAK FLOW			40600	Sep 9	<b>a</b> 101000	Mar 8 1956
MAXIMUM PEAK STAGE			10.88	Sep 9	<b>b</b> 17.20	Mar 8 1956
ANNUAL RUNOFF (CFSM)	2.42		2.69		1.83	
ANNUAL RUNOFF (INCHES)	32.85		36.68		24.86	
10 PERCENT EXCEEDS	19000		19400		15500	
50 PERCENT EXCEEDS	6960		8240		4360	
90 PERCENT EXCEEDS	2470		2620		1130	

**a** From rating curve extended above 99,300 ft<sup>3</sup>/s.

**b** Maximum gage height, 17.83 ft., Jan. 25, 1964 (backwater from ice).

OHIO RIVER MAIN STEM

03016000 ALLEGHENY RIVER AT WEST HICKORY, 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 29...	1030	1028	9813	11500	10.2	7.5	6.8	141	146	10.6	49	14.8	3.0
DEC 30...	1030	1028	9813	14000	13.1	7.5	7.5	139	130	2.3	45	13.6	2.7
APR 2004 13...	0830	1028	9813	7750	11.6	7.4	7.5	150	155	6.2	50	15.2	2.9
JUN 09...	0820	1028	9813	2950	8.8	7.7	7.4	164	167	20.3	60	18.3	3.6
AUG 10...	1130	1028	9813	3850	9.9	8.2	7.8	169	140	20.4	55	16.7	3.3

Date	ANC, wat unfltrd 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, as N, mg/L (00610)	Nitrate, water, unfltrd, as N, mg/L (00620)	Nitrite, water, unfltrd, as N, mg/L (00615)	Ortho-phosphate, water, unfltrd, as P, mg/L (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)
OCT 2003 29...	41	8.8	112	8	<.020	.33	<.040	.02	.026	.63	3.2	300	<10
DEC 30...	33	9.5	78	12	<.020	.52	<.040	.02	.024	.78	2.2	300	<10
APR 2004 13...	36	9.3	98	<2	<.020	.55	<.040	.02	.025	.99	2.2	<200	<10
JUN 09...	45	9.4	100	<2	<.020	.41	<.040	.01	.018	.86	2.7	<200	<10
AUG 10...	47	8.2	108	8	<.020	.30	<.040	.01	.026	.44	2.8	<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)
OCT 2003 29...	590	<1.0	100	<50	<10
DEC 30...	460	<1.0	30	<50	<10
APR 2004 13...	340	<1.0	30	<50	<10
JUN 09...	320	<1.0	40	<50	<10
AUG 10...	220	<1.0	40	<50	30

## OHIO RIVER MAIN STEM

## 03016000 ALLEGHENY RIVER AT WEST HICKORY, 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	10/29/03
Benthic Macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Hydrobiidae	
<i>Ammicola</i>	13
Physidae	
<i>Physa</i>	1
Planorbidae	
<i>Gyraulus</i>	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<i>Sphaerium</i>	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Tubificida	
Naididae	16
Tubificidae	57
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<i>Gammarus</i>	9
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<i>Caecidotea</i>	1
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
<i>Ephemerella</i>	2
<i>Eurylophella</i>	7
Heptageniidae	
<i>Stenonema</i>	1
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Gomphidae	
<i>Dromogomphus</i>	1
<i>Ophiogomphus</i>	1
Plecoptera (STONEFLIES)	
Capniidae	1
Taeniopterygidae	
<i>Taeniopteryx</i>	3
Trichoptera (CADDISFLIES)	
Hydroptilidae	
<i>Hydroptila</i>	3
Leptoceridae	
<i>Oecetis</i>	1
Limnephilidae	
<i>Hydatophylax</i>	11
<i>Pycnopsyche</i>	1
Uenoidae	
<i>Neophylax</i>	5

OHIO RIVER MAIN STEM

03016000 ALLEGHENY RIVER AT WEST HICKORY, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES--Continued

Date	10/29/03
Benthic Macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Dubiraphia</i>	1
<i>Macronychus</i>	1
Hydrophilidae	
<i>Berosus</i>	3
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	3
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	52
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	1
Total Organisms	198
Total Taxa	27