



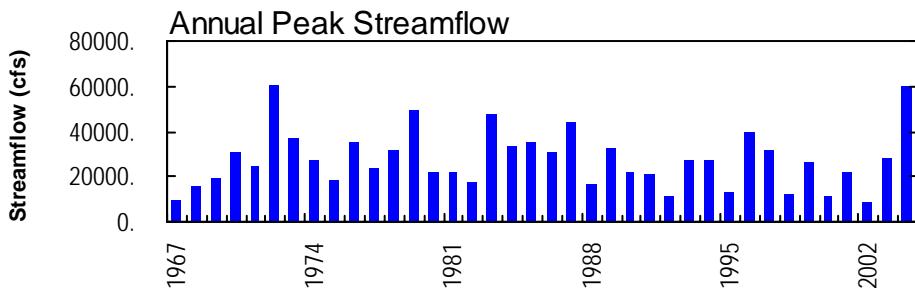
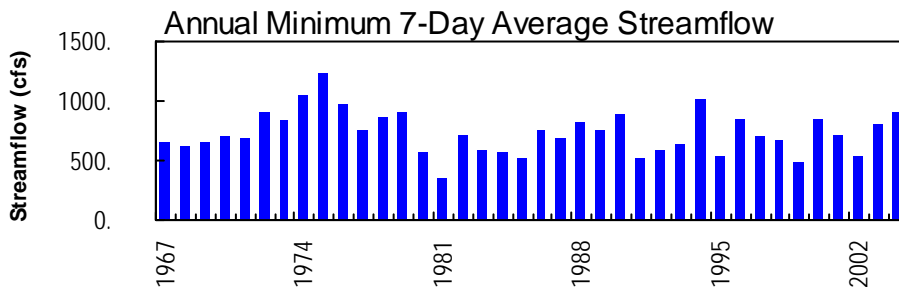
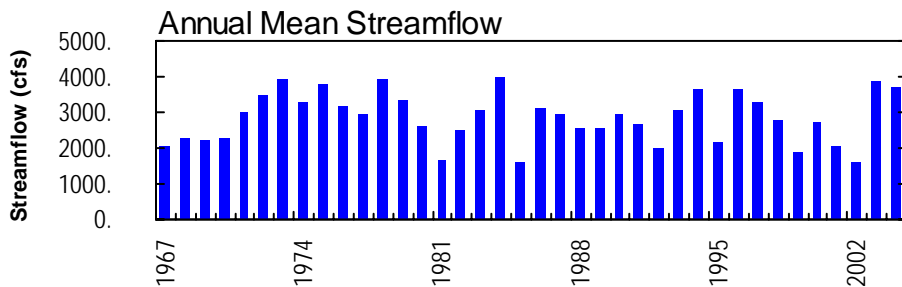
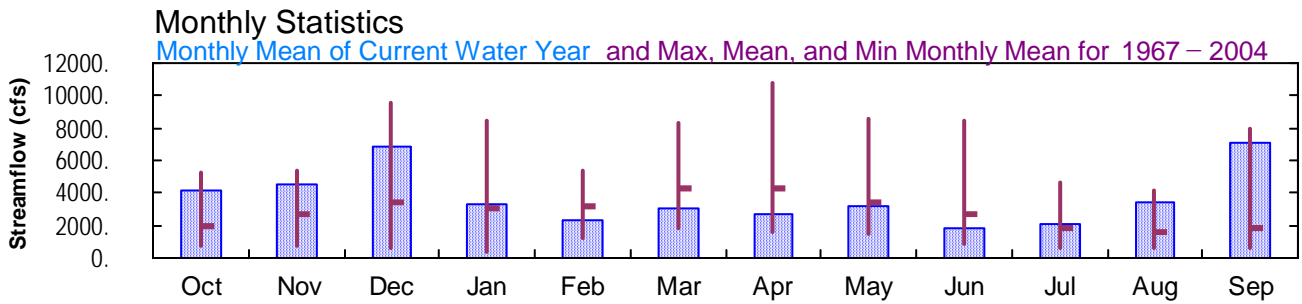
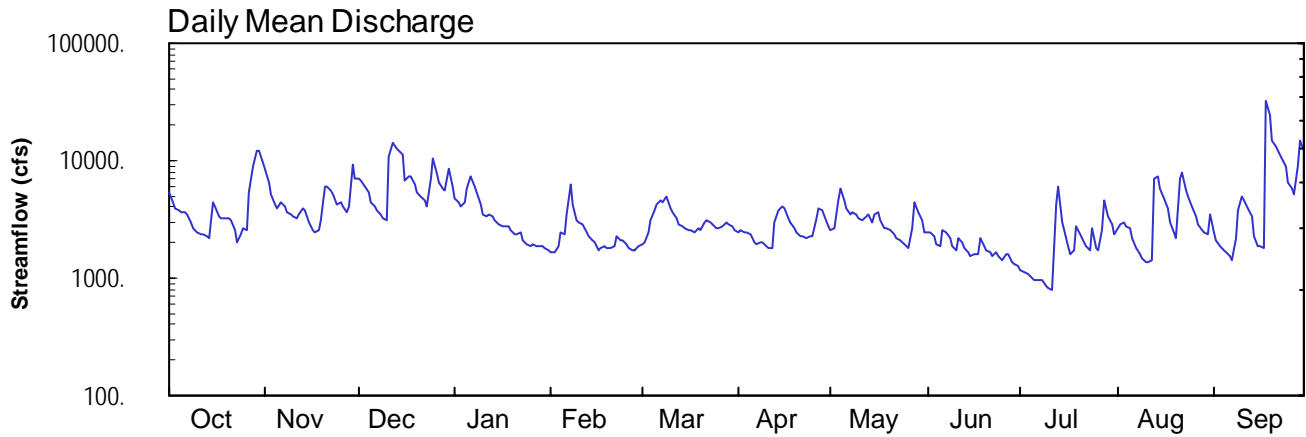
# 2004 Water Year LEHIGH RIVER BASIN

## 01454700 Lehigh River at Glendon, PA

Latitude: 40° 40' 09"  
Northampton County

Longitude: 075° 14' 12"  
Datum: 164.30 feet

Hydrologic Unit Code: 02040106  
Drainage Area: 1359. mi<sup>2</sup>



01454700-Lehigh River at Glendon

**LEHIGH RIVER BASIN**

**01454700 LEHIGH RIVER AT GLENDON, PA  
(Pennsylvania Water-Quality Network Station)**

**LOCATION.**--Lat 40°40'09", long 75°14'12", Northampton County, Hydrologic Unit 02040106, on right bank 140 ft upstream from highway bridge in Hugh Moore Parkway at Glendon, 2.3 mi upstream from mouth, and 2.0 mi southwest of Easton.

**DRAINAGE AREA.**--1,359 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

**PERIOD OF RECORD.**--October 1966 to current year.

**REVISED RECORDS.**--WDR PA-72-1: 1971(M).

**GAGE.**--Water-stage recorder and crest-stage gage. Datum of gage is 164.30 ft above National Geodetic Vertical Datum of 1929.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Flow regulated by Francis E. Walter Reservoir (station 01447780), Penn Forest Reservoir (station 01449400), Wild Creek Reservoir (station 01449700), and since February 1971, by Beltzville Lake (station 01449790) about 60 mi upstream. Flows above 10,000 ft<sup>3</sup>/s may be affected by backwater from the Delaware River. Several measurements of water temperature were made during the year. 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	5330	8420	6960	4700	1630	1930	2440	2550	2480	1170	2700	2450
2	4440	6420	6830	4440	1650	2030	2590	2620	2480	1140	2840	2070
3	3950	5210	6140	4140	1850	2480	2490	4500	2240	1080	2970	1840
4	3730	4270	5370	4330	2420	3060	2420	5780	1940	1030	2730	1730
5	3650	3910	4470	5900	2350	3810	2330	4610	1830	971	2610	1650
6	3580	4440	4040	7400	3540	4190	2030	3980	2570	959	2200	1560
7	3430	4050	3700	6120	6240	4550	1930	3510	2450	946	1820	1440
8	3030	3680	3480	5320	4240	4420	2000	3630	2170	949	1630	2160
9	2670	3450	3160	4300	3080	4910	2040	3540	1900	860	1470	3830
10	2460	3330	3070	e3500	3020	3850	1860	3260	1730	812	1370	4890
11	2360	3290	10600	e3400	2810	3610	1770	3120	2160	795	1360	4570
12	2350	3510	14000	e3500	2430	3240	1790	3350	2010	4300	1420	3850
13	2240	3870	12600	e3300	2240	2900	3040	3460	1820	5920	7120	3300
14	2220	3720	12100	3140	2120	2710	3740	2960	1660	2950	7440	2290
15	4450	3010	11100	e2900	2000	2640	4080	3460	1530	2560	5680	1890
16	4040	2530	6700	e2800	1750	2560	3880	3670	1610	1890	4750	1850
17	3350	2460	7280	2780	1780	2510	3190	3070	1590	1630	3940	1790
18	3260	2510	7370	2740	1850	2450	2940	2640	2180	1700	3010	e32000
19	3220	3110	6260	2530	1770	2610	2670	2660	1860	2770	2420	e25000
20	3200	5990	5420	2380	1800	2580	2420	2580	1730	2400	2200	e15000
21	3070	6110	4950	2400	1870	3010	2310	2370	1640	2050	7040	e13200
22	2530	5680	4620	2470	2230	3090	2240	2180	1530	1840	7770	11100
23	2060	5230	4100	2070	2070	2930	2200	2070	1680	1700	5530	10300
24	2360	4280	6930	1960	2080	2850	2310	2010	1550	2630	4870	8970
25	2650	4330	10500	1870	1950	2700	2250	1890	1440	1810	4070	6580
26	2580	4040	7810	1930	1790	2680	3220	1760	1600	1700	3340	5820
27	5360	3600	6530	1860	1750	2800	3920	2620	1590	2550	2820	5070
28	8850	4130	5800	1870	1750	3000	3730	4450	1370	4640	2580	8810
29	12000	9190	5480	1840	1830	2920	3370	3680	1300	3410	2450	14800
30	11900	7140	8410	1800	---	2730	2730	3110	1280	2840	2370	12300
31	9600	---	6010	1720	---	2540	---	2470	---	2400	3550	---
TOTAL	129920	134910	211790	101410	67890	94290	79930	97560	54920	64402	108070	212110
MEAN	4191	4497	6832	3271	2341	3042	2664	3147	1831	2077	3486	7070
MAX	12000	9190	14000	7400	6240	4910	4080	5780	2570	5920	7770	32000
MIN	2060	2460	3070	1720	1630	1930	1770	1760	1280	795	1360	1440
CFSM	3.08	3.31	5.03	2.41	1.72	2.24	1.96	2.32	1.35	1.53	2.57	5.20
IN.	3.56	3.69	5.80	2.78	1.86	2.58	2.19	2.67	1.50	1.76	2.96	5.81

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)**

MEAN	2005	2675	3463	3042	3149	4267	4346	3374	2671	1833	1559	1876
MAX	5272	5438	9593	8414	5385	8344	10810	8542	8502	4641	4179	7920
(WY)	1977	1971	1997	1996	1976	1977	1993	1989	2003	1984	1969	1987
MIN	771	704	633	405	1278	1805	1639	1502	906	630	607	660
(WY)	1981	2002	1981	1981	1980	1981	1985	1995	1999	1999	1999	1983

e Estimated.

**LEHIGH RIVER BASIN**

**01454700 LEHIGH RIVER AT GLENDON, PA--Continued**

<b>SUMMARY STATISTICS</b>	<b>FOR 2003 CALENDAR YEAR</b>		<b>FOR 2004 WATER YEAR</b>		<b>WATER YEARS 1967 - 2004</b>	
ANNUAL TOTAL	1583780		1357202			
ANNUAL MEAN	4339		3708		2852	
HIGHEST ANNUAL MEAN					3997	1984
LOWEST ANNUAL MEAN					1594	1985
HIGHEST DAILY MEAN	23000	Jun 21	e32000	Sep 18	44300	Jun 23 1972
LOWEST DAILY MEAN	e1100	Feb 17	795	Jul 11	330	Jan 31 1981a
ANNUAL SEVEN-DAY MINIMUM	1320	Feb 11	899	Jul 5	349	Jan 26 1981
MAXIMUM PEAK FLOW			e60000	Sep 18	b60600	Jun 23 1972c
MAXIMUM PEAK STAGE			d26.60	Sep 19	d26.60	Sep 19 2004
ANNUAL RUNOFF (CFSM)	3.19		2.73		2.10	
ANNUAL RUNOFF (INCHES)	43.35		37.15		28.52	
10 PERCENT EXCEEDS	8590		6620		5630	
50 PERCENT EXCEEDS	3370		2800		2090	
90 PERCENT EXCEEDS	1620		1690		863	

a Also Feb. 1, 1981.

b From rating curve extended above 36,000 ft<sup>3</sup>/s.

c Gage height 24.86 ft.

d From floodmarks; backwater from Delaware River.

e Estimated.

LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, 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...	1350	1028	9813	13100	14.3	7.5	6.9	139	136	11.1	47	12.4	3.9
DEC 16...	1150	1028	9813	6540	13.8	7.5	7.4	184	190	3.2	57	14.6	4.9
FEB 2004 23...	1150	1028	9813	2120	14.0	7.9	7.9	288	288	5.0	100	25.5	9.6
APR 27...	1130	1028	9813	4000	11.0	7.6	7.6	214	213	11.5	73	19.5	5.9
JUN 23...	1150	1028	9813	1700	9.3	7.8	7.7	278	274	20.0	98	23.5	9.4
AUG 18...	1020	1028	9813	2950	9.3	7.6	7.2	179	183	19.6	61	14.9	5.7

Date	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (00417)	Fluoride, water, unfltrd mg/L (00951)	Sulfate, 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 29...	30	<.2	12.8	110	40	.020	1.28	<.040	.06	.085	1.8	4.4	900
DEC 16...	30	<.2	16.1	136	8	.030	1.47	<.040	.03	.040	1.7	2.5	300
FEB 2004 23...	65	<.2	27.8	192	2	.100	2.49	<.040	.08	.104	2.9	2.1	<200
APR 27...	43	<.2	19.3	90	6	.130	1.55	<.040	.05	.088	2.1	2.5	200
JUN 23...	63	<.2	25.4	204	4	.070	2.08	<.040	.15	.168	2.4	2.7	<200
AUG 18...	36	<.2	16.6	124	8	.040	1.21	<.040	.07	.084	1.5	3.8	300

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 29...	<10	<1.00	1360	4.0	<10	<50	80	<5
DEC 16...	<10	<1.00	260	<1.0	60	<50	50	<5
FEB 2004 23...	<10	<1.00	150	<1.0	40	<50	160	<5
APR 27...	<10	<1.00	280	1.0	50	<50	50	<5
JUN 23...	<10	<1.00	280	1.0	60	<50	50	<5
AUG 18...	<10	<1.00	330	1.0	70	<50	40	<5

LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, 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	Count
Benthic macroinvertebrate	
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<i>Ferrissia</i>	1
Bivalvia (CLAMS)	
Veneroidea	
Sphaeriidae	
<i>Sphaerium</i>	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	5
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<i>Gammarus</i>	15
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<i>Caecidotea</i>	1
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
<i>Serratella</i>	1
Heptageniidae	
<i>Stenacron</i>	6
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<i>Argia</i>	1
Plecoptera (STONEFLIES)	
Taeniopterygidae	
<i>Taeniopteryx</i>	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<i>Glossosoma</i>	2
<i>Protoptila</i>	1
Hydropsychidae	
<i>Cheumatopsyche</i>	11
<i>Hydropsyche</i>	33
Philopotamidae	
<i>Chimarra</i>	1

LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES--Continued

Date	11/03/03
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	4
<i>Stenelmis</i>	2
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	2
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	12
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	1
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	1
Total Organisms	106
Total Taxa	22