

## LEHIGH RIVER BASIN

## 01453000 LEHIGH RIVER AT BETHLEHEM, PA

**LOCATION.**--Lat 40°36'55", long 75°22'45", Lehigh County, Hydrologic Unit 02040106, on left bank 110 ft upstream from bridge on New Street at Bethlehem, and 1,800 ft upstream from Monocacy Creek. Records include flow of Monocacy Creek.

**DRAINAGE AREA.**--1,279 mi<sup>2</sup> (includes that of Monocacy Creek). At site used prior to Oct. 1, 1928, 1,229 mi<sup>2</sup>.

**PERIOD OF RECORD.**--October 1902 to January 1905, May 1909 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at South Bethlehem" prior to October 1913.

**REVISED RECORDS.**--WSP 261: 1903-5. WSP 321: 1910-11. WSP 1051: Drainage area. WSP 1141: 1929-34(M). WSP 1302: 1914(M), 1916(M), 1918, 1921, 1927-28. WSP 1432: 1903, 1919(M), 1920-21, 1929, 1933.

**GAGE.**--Water-stage recorder and crest-stage gage. Datum of gage is 210.94 ft above sea level. Prior to October 1928, nonrecording gage at New Street bridge 120 ft downstream at same datum. Oct. 1, 1928, to Sept. 30, 1962, water-stage recorder at site 4,250 ft downstream at datum 2.49 ft lower. Oct. 1, 1963, to Dec. 14, 1975, water-stage recorder at site 40 ft downstream at same datum.

**REMARKS.**--Records good. Flow regulated by Wild Creek Reservoir (station 01449700) since January 1941, Penn Forest Reservoir (station 01449400) since October 1958, Francis E. Walter Reservoir (station 01447780) since February 1961, and Beltzville Lake (station 01449790) since February 1971. Satellite telemetry at station.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Flood of Feb. 28, 1902 reached a stage of 24.9 ft, from floodmark, present site and datum, discharge, about 88,000 ft<sup>3</sup>/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3790	1240	4320	1820	1370	8310	3510	2300	2520	2860	5760	1030
2	3370	1500	2990	1770	1340	6780	3290	2290	2360	2560	7040	1140
3	3160	3710	2520	1770	1260	5260	3200	2220	2250	2290	5060	1040
4	3260	4050	2340	1790	1290	4540	3720	2090	2130	2100	4260	990
5	3170	3310	2220	1910	1320	4190	3890	2060	2010	2020	3350	941
6	2710	2720	2410	1820	1260	3830	3490	2050	2810	1870	2770	884
7	2530	2530	2490	1780	1240	3190	3100	1940	3740	1730	2530	816
8	2260	2390	2250	1690	1170	2920	2850	1730	4080	1630	2320	833
9	2490	1910	2110	1630	1060	2940	3560	1580	3440	1530	2130	812
10	3240	1770	2070	1860	1080	3000	3720	1580	2850	1410	1960	753
11	3470	1730	2030	2970	1130	3160	3670	2690	2610	1320	1770	740
12	2980	1660	1870	2880	1090	5590	3840	3140	3480	1250	1850	740
13	3940	1640	1820	2760	1170	4930	3660	3160	4520	1190	1790	1150
14	3750	1590	2350	2410	1610	5550	3430	3440	4530	1200	1760	1080
15	3000	1560	3610	1890	2520	4930	3010	2780	4310	1310	1590	1300
16	2770	1520	3560	1910	2490	3730	2980	2550	3940	1630	1380	1190
17	2680	1450	3550	1560	2360	4620	2940	2170	3260	1680	1290	1280
18	2610	1370	3110	e1360	2080	4830	3280	2050	2930	1770	1260	1010
19	2450	1300	2880	1750	2080	4580	3350	3880	2800	1610	1250	1170
20	2330	1310	2890	1860	1990	4320	2920	4000	2810	1370	1140	1510
21	2210	1330	3330	1650	1880	3900	3350	3820	2740	1240	995	1130
22	1970	1310	3090	1460	1810	8650	3990	3630	4060	1270	971	978
23	1830	1170	2930	1590	1860	7020	4130	3830	3620	1230	971	911
24	1650	992	2670	1660	2060	5280	3810	5350	3200	1070	1110	925
25	1560	1070	2480	1530	2640	4420	3610	6540	2890	1040	1080	910
26	1430	1220	2420	1450	3820	4010	3280	5590	3840	1130	1040	1050
27	1370	5070	2360	1410	4430	3660	2990	4410	3680	1300	1150	1030
28	1330	4240	1990	1240	8260	5550	2850	3970	3480	1150	1090	911
29	1290	5100	1800	1340	10100	5670	2760	3460	3350	1070	1060	838
30	1280	4930	1750	1310	---	5110	2530	3180	3310	1630	988	812
31	1250	---	1810	1300	---	4030	---	2830	---	2990	979	---
TOTAL	77130	66692	80020	55130	67770	148500	100710	96310	97550	49450	63694	29904
MEAN	2488	2223	2581	1778	2337	4790	3357	3107	3252	1595	2055	997
MAX	3940	5100	4320	2970	10100	8650	4130	6540	4530	2990	7040	1510
MIN	1250	992	1750	1240	1060	2920	2530	1580	2010	1040	971	740
CFSM	1.95	1.74	2.02	1.39	1.83	3.75	2.62	2.43	2.54	1.25	1.61	.78
IN.	2.24	1.94	2.33	1.60	1.97	4.32	2.93	2.80	2.84	1.44	1.85	.87

e Estimated

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2000, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1590	2337	2898	2709	2796	3868	3919	3070	2066	1617	1327	1368
MAX	5778	5294	9067	7898	5820	7708	10180	7041	7272	6362	6192	6907
(WY)	1956	1952	1997	1979	1951	1977	1993	1989	1972	1945	1955	1987
MIN	406	474	514	286	1132	1632	1428	1053	681	366	405	334
(WY)	1964	1965	1981	1981	1980	1981	1985	1941	1965	1965	1964	1964

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1941 - 2000
ANNUAL TOTAL	792887	932860	
ANNUAL MEAN	2172	2549	2462
HIGHEST ANNUAL MEAN			3973
LOWEST ANNUAL MEAN			1165
HIGHEST DAILY MEAN	16700	Sep 17	10100
LOWEST DAILY MEAN	449	Sep 1	740
ANNUAL SEVEN-DAY MINIMUM	487	Aug 28	797
INSTANTANEOUS PEAK FLOW			11100
INSTANTANEOUS PEAK STAGE			6.01
ANNUAL RUNOFF (CFSM)	1.70		1.99
ANNUAL RUNOFF (INCHES)	23.06		27.13
10 PERCENT EXCEEDS	3880	4280	4850
50 PERCENT EXCEEDS	1830	2260	1780
90 PERCENT EXCEEDS	578	1080	685

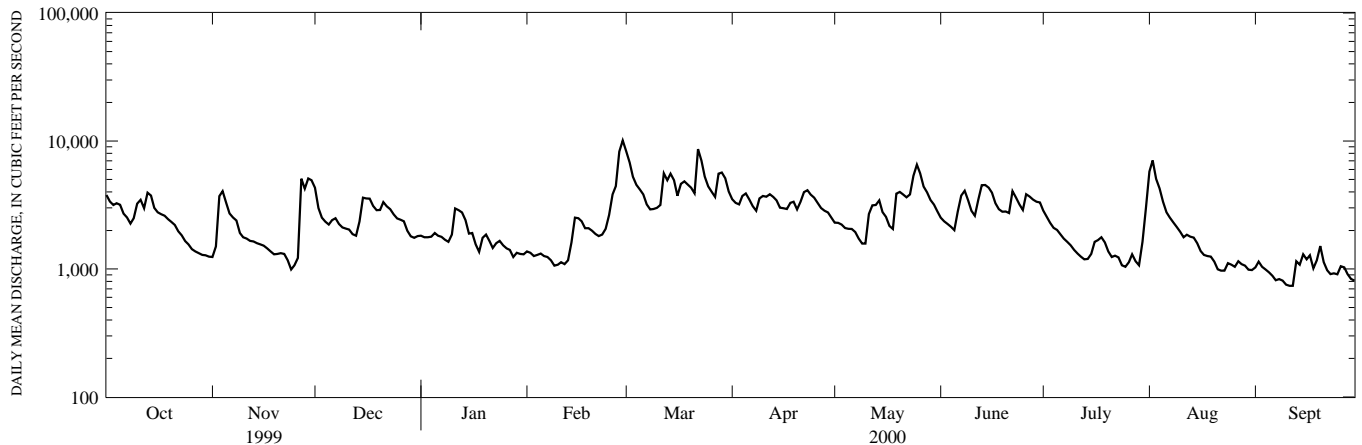
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903-1904, 1909-1940, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1532	1827	2184	2346	2430	4134	3815	2280	1753	1530	1239	1214
MAX	4808	5660	5287	5287	5913	11920	7547	3681	4255	5182	4599	6407
(WY)	1903	1927	1939	1915	1915	1936	1940	1924	1928	1935	1933	1933
MIN	308	370	470	677	668	1887	1499	1020	832	572	428	374
(WY)	1911	1910	1931	1925	1934	1911	1915	1926	1921	1912	1910	1932

SUMMARY STATISTICS WATER YEARS 1903 - 1904  
1909 - 1940

ANNUAL MEAN	2189
HIGHEST ANNUAL MEAN	3600
LOWEST ANNUAL MEAN	1262
HIGHEST DAILY MEAN	47900
LOWEST DAILY MEAN	160
ANNUAL SEVEN-DAY MINIMUM	260
INSTANTANEOUS PEAK FLOW	64800
INSTANTANEOUS PEAK STAGE	18.70
INSTANTANEOUS LOW FLOW	160
ANNUAL RUNOFF (CFSM)	1.71
ANNUAL RUNOFF (INCHES)	23.25
10 PERCENT EXCEEDS	4420
50 PERCENT EXCEEDS	1500
90 PERCENT EXCEEDS	548

- a From rating curve extended above 58,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height, 20.02 ft at present site and datum.
- b From floodmark, present site and datum.



1-YEAR HYDROGRAPH  
OCTOBER 1, 1999 TO SEPTEMBER 30, 2000