

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 mi² (includes that of Monocacy Creek). At site used prior to Oct. 1, 1928, 1,229 mi².

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 National Geodetic Vertical Datum of 1929. 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 fair except those for estimated daily discharges, which are poor. 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 and landline 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 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6600	2160	14300	3380	e2400	2340	10700	2980	1350	986	626	607
2	4640	2080	11700	3230	e2450	2330	15300	2760	1280	1090	628	601
3	4380	2030	11500	3130	e2350	2170	35900	2650	1250	1220	606	567
4	3780	2050	8910	3400	2290	1970	18100	2490	1370	1160	569	543
5	3150	2290	7560	4190	2210	1880	16800	2400	1340	852	544	517
6	2790	2100	6580	5250	2190	1860	14500	2230	1580	896	534	473
7	2670	1980	5010	5890	2170	1960	13800	2170	1760	898	544	500
8	2630	1930	5140	6590	2020	3000	13500	2100	1520	1660	682	518
9	2610	1910	4900	7300	2110	2890	10700	1980	1310	1600	773	512
10	2470	1840	6200	6090	2480	2700	9860	1950	1340	1250	693	510
11	2270	1780	8370	5370	2690	2630	8770	1880	1420	1030	606	492
12	2160	2040	7240	5400	2440	2470	6640	1840	1610	920	564	539
13	2010	2420	6510	5370	2300	2380	5190	1800	1410	958	541	519
14	2100	2060	6320	13600	2440	2280	4230	1930	1150	1100	593	493
15	2510	1970	5010	14200	4920	2170	3700	2200	1090	1030	709	584
16	3530	2030	4340	11300	4810	2180	3250	1950	1110	1000	702	475
17	2800	2040	4070	10300	4870	2180	3180	1710	1060	1270	662	699
18	2770	2000	3780	8950	4240	2170	3020	1610	988	1450	628	519
19	3300	1940	3640	7960	3660	2100	2660	1540	955	1060	641	449
20	3460	1890	3330	7380	3190	2130	2470	1580	912	935	605	430
21	3140	1960	2810	6490	3200	2270	2350	1690	867	861	609	439
22	3190	1870	2710	4360	3070	2590	2230	1560	822	824	596	466
23	2910	1810	3760	e3450	2980	3090	2850	1500	798	780	569	455
24	2800	1840	8720	e3350	2830	4260	4360	1420	774	1010	542	483
25	2580	2630	7790	e3400	2570	4230	3210	1420	752	e1200	524	503
26	2350	2770	6790	e3200	2430	3960	2890	1400	1010	e900	519	509
27	2240	2690	6100	e2800	2350	3780	3060	1350	815	768	507	530
28	2200	14100	4820	e2600	2300	6870	3080	1330	761	786	631	521
29	2160	15500	4220	e2500	---	20300	2890	1760	1050	757	689	538
30	2360	13000	3850	e2450	---	16100	2840	1620	1110	698	628	531
31	2330	---	3490	e2350	---	13100	---	1300	---	636	595	---
TOTAL	90890	98710	189470	175230	79960	126340	232030	58100	34564	31585	18859	15522
MEAN	2932	3290	6112	5653	2856	4075	7734	1874	1152	1019	608	517
MAX	6600	15500	14300	14200	4920	20300	35900	2980	1760	1660	773	699
MIN	2010	1780	2710	2350	2020	1860	2230	1300	752	636	507	430
CFSM	2.29	2.57	4.78	4.42	2.23	3.19	6.05	1.47	0.90	0.80	0.48	0.40
IN.	2.64	2.87	5.51	5.10	2.33	3.67	6.75	1.69	1.01	0.92	0.55	0.45

e Estimated.

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1636	2339	2980	2709	2737	3845	3921	3021	2150	1602	1354	1477
MAX (WY)	5778	5294	9067	7898	5820	7708	10180	7041	8199	6362	6192	6907
MIN (WY)	1956	1952	1997	1979	1951	1977	1993	1989	2003	1945	1955	1987
MIN (WY)	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 2004 CALENDAR YEAR FOR 2005 WATER YEAR WATER YEARS 1941 - 2005

ANNUAL TOTAL	1150935	1151260	
ANNUAL MEAN	3145	3154	2479
HIGHEST ANNUAL MEAN			3973
LOWEST ANNUAL MEAN			1165
HIGHEST DAILY MEAN	e33500	Sep 18	35900
LOWEST DAILY MEAN	794	Jul 11	430
ANNUAL SEVEN-DAY MINIMUM	886	Jul 5	461
MAXIMUM PEAK FLOW			42600
MAXIMUM PEAK STAGE			16.06
ANNUAL RUNOFF (CFSM)	2.46		2.47
ANNUAL RUNOFF (INCHES)	33.48		33.48
10 PERCENT EXCEEDS	5170	6700	4880
50 PERCENT EXCEEDS	2290	2170	1790
90 PERCENT EXCEEDS	1500	569	690

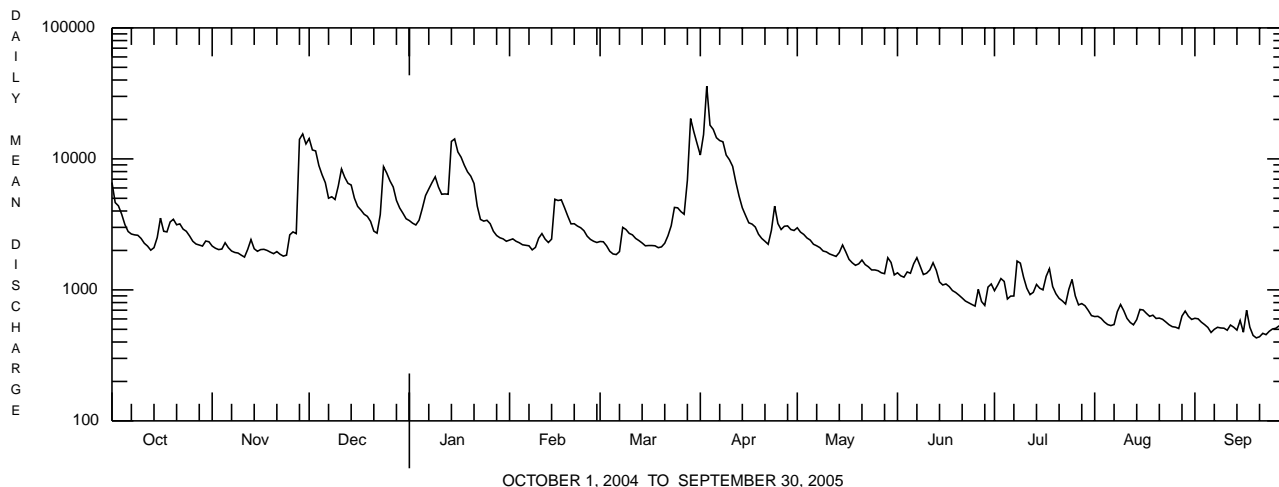
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903-1904, 1909-1940, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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 (WY)	4808	5660	5287	5287	5913	11920	7547	3681	4255	5182	4599	6407
MIN (WY)	1903	1927	1939	1915	1915	1936	1940	1924	1928	1935	1933	1933
MIN (WY)	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
MAXIMUM PEAK FLOW	64800
MAXIMUM 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 ft³/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.
- e Estimated.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005