

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 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 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. Several measurements of water temperature were made during the year. 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 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	769	711	1040	1820	2430	2850	5910	1920	1990	1890	807	947
2	766	708	976	1760	2400	2670	5400	1880	2530	1820	788	885
3	764	713	874	1600	2250	2590	5430	1840	2320	1490	759	738
4	789	719	827	1670	2000	2530	4940	1680	2570	1520	1600	729
5	913	698	879	1470	2090	2610	4730	1590	2680	1670	1810	753
6	869	696	772	1530	2060	2480	4580	1660	2350	1670	1390	808
7	830	698	774	1530	1940	2430	4730	1620	1990	1420	1030	790
8	845	693	787	1470	1800	2450	4460	1500	1640	1500	821	713
9	761	703	761	1440	1720	2420	4390	1380	1650	1570	764	642
10	768	1020	710	1310	2050	2330	4960	1320	1790	1330	903	643
11	772	1080	779	1280	2550	2250	5170	1300	1560	1410	1810	660
12	784	875	802	1300	2380	2240	5090	1270	1330	1510	2830	635
13	772	805	760	1250	2530	3690	4640	1260	1840	1400	2010	625
14	719	890	1130	1250	2550	4290	3480	1200	1320	1370	1600	876
15	671	1040	1250	1310	2690	4190	3150	1180	1230	1340	1420	734
16	667	995	1130	1300	2690	4020	3460	1130	1320	1080	1200	792
17	692	961	e9570	1310	2840	4090	3560	1060	3980	1030	1030	687
18	966	902	12100	1210	2520	4070	3990	1050	3520	1060	982	650
19	1200	783	8940	1380	2380	3790	3680	1070	2930	1030	933	611
20	979	773	7680	1960	2370	3640	3350	1080	2650	972	906	976
21	1010	768	5250	1630	2350	3930	3110	1220	2530	920	873	1870
22	1180	729	4260	1280	2230	5210	3050	2160	3940	935	844	1080
23	845	647	3320	1260	2190	5730	2960	1970	6110	911	890	895
24	819	628	e3070	1260	2190	5460	2820	1610	3940	825	855	827
25	820	640	e2860	1320	2320	5200	2610	1530	2950	870	841	3960
26	810	1000	e2620	1150	2850	4890	2500	1980	2360	1710	823	3260
27	802	1330	e2550	1250	3050	4330	2320	2980	2010	1180	812	2580
28	760	1220	e2480	1170	2990	3800	2090	2760	1810	889	857	2030
29	727	1330	e2340	1060	---	3410	1970	2580	1670	830	785	1520
30	714	1210	2110	1480	---	6110	1940	2420	1530	823	770	1290
31	714	---	1960	2250	---	6720	---	2170	---	856	733	---
TOTAL	25497	25965	85361	44260	66410	116420	114470	51370	72040	38831	34476	34206
MEAN	822	866	2754	1428	2372	3755	3816	1657	2401	1253	1112	1140
MAX	1200	1330	12100	2250	3050	6720	5910	2980	6110	1890	2830	3960
MIN	667	628	710	1060	1720	2240	1940	1050	1230	823	733	611
CFM	.64	.68	2.15	1.12	1.85	2.94	2.98	1.30	1.88	.98	.87	.89
IN.	.74	.76	2.48	1.29	1.93	3.39	3.33	1.49	2.10	1.13	1.00	.99

e Estimated.

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2001, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1578	2312	2896	2688	2789	3866	3917	3047	2072	1611	1323	1365
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 2000 CALENDAR YEAR FOR 2001 WATER YEAR WATER YEARS 1941 - 2001

ANNUAL TOTAL		845841		709306								
ANNUAL MEAN		2311		1943						2453		
HIGHEST ANNUAL MEAN										3973		1952
LOWEST ANNUAL MEAN										1165		1965
HIGHEST DAILY MEAN				12100	Dec 18		12100	Dec 18		70400		Aug 19 1955
LOWEST DAILY MEAN				628	Nov 24		611	Sep 19		210		Jan 31 1981
ANNUAL SEVEN-DAY MINIMUM				703	Nov 3		673	Sep 7		216		Jan 26 1981
MAXIMUM PEAK FLOW							22500	Dec 17		a92000		May 23 1942
MAXIMUM PEAK STAGE							9.84	Dec 17		b25.90		May 23 1942
ANNUAL RUNOFF (CFSM)				1.81			1.52			1.92		
ANNUAL RUNOFF (INCHES)				24.60			20.63			26.06		
10 PERCENT EXCEEDS				4310			3950			4840		
50 PERCENT EXCEEDS				1770			1440			1770		
90 PERCENT EXCEEDS				773			760			687		

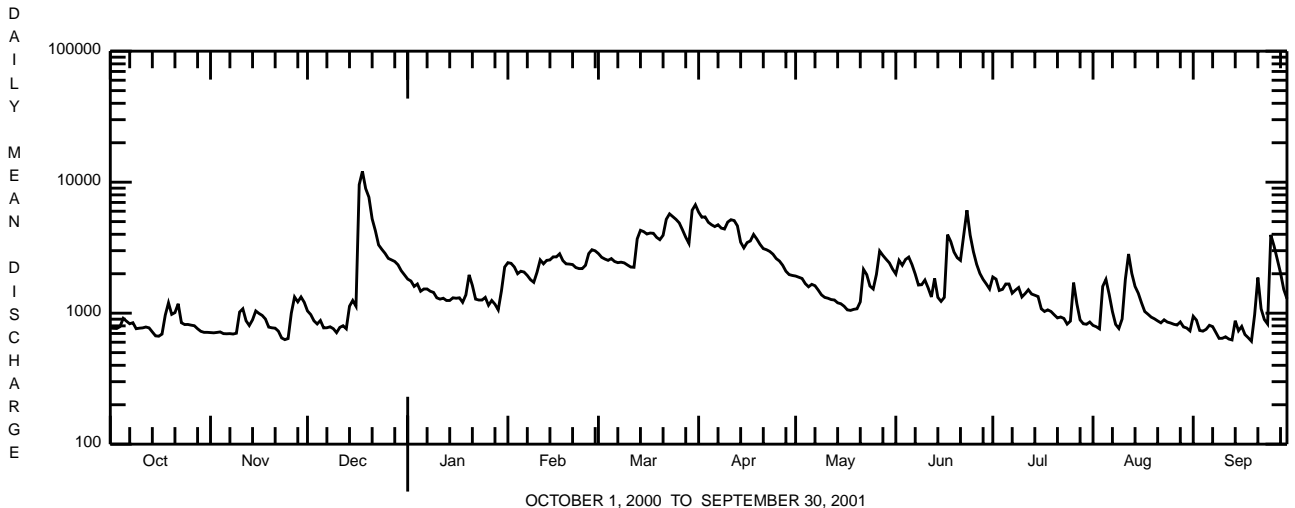
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903-1904, 1909-1940, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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	1928
LOWEST ANNUAL MEAN	1262	1931
HIGHEST DAILY MEAN	47900	Aug 24 1933
LOWEST DAILY MEAN	160	Oct 15 1910
ANNUAL SEVEN-DAY MINIMUM	260	Oct 13 1910
MAXIMUM PEAK FLOW	64800	Aug 24 1933
MAXIMUM PEAK STAGE	18.70	Aug 24 1933
INSTANTANEOUS LOW FLOW	160	Oct 15 1910
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.



OCTOBER 1, 2000 TO SEPTEMBER 30, 2001