

LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA

LOCATION.--Lat 40°38'28", long 75°22'47", Northampton County, Hydrologic Unit 02040106, on right bank 40 ft downstream from highway bridge at entrance to Monocacy Park at Bethlehem, and 2.1 mi upstream from mouth.

DRAINAGE AREA.--44.5 mi².

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since July 17, 1969. Datum of gage is 247.24 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to May 15, 1962, nonrecording gage at site 40 ft upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation at low flow since April 1954 by mill upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1945, reached a stage of 9.74 ft, from floodmarks, discharge, about 5,200 ft³/s, by slope-area measurement.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Jan. 3	1100	307	3.45	Aug. 26	0500	345	3.55
Jan. 18	2400	*1,270	*5.34	Sept. 16	1730	1,210	5.26

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	26	21	18	38	51	46	34	26	17	15	15
2	26	24	21	18	89	41	44	32	25	17	15	15
3	26	25	22	132	86	39	42	32	27	17	16	15
4	26	25	22	57	74	58	43	32	25	17	16	15
5	25	25	21	e24	66	46	40	31	25	16	15	15
6	25	25	20	e20	60	e42	38	30	24	16	15	15
7	25	25	20	e19	54	e44	38	29	24	16	15	15
8	77	25	22	e18	52	e40	35	43	25	16	16	15
9	59	25	21	75	48	e36	38	34	23	16	16	22
10	81	25	22	77	46	e35	48	29	23	16	15	34
11	41	30	20	39	42	e34	38	29	23	16	14	17
12	36	24	21	30	42	e33	40	26	23	16	14	16
13	33	23	22	e26	49	e33	36	26	23	16	16	16
14	36	23	21	e25	41	41	35	26	23	16	42	15
15	32	23	20	e30	40	49	33	25	24	16	17	39
16	31	23	20	33	40	46	42	25	22	16	16	511
17	30	23	20	30	39	43	49	25	23	16	16	357
18	29	23	20	418	54	40	40	24	24	16	15	120
19	27	23	20	322	48	38	40	28	22	16	15	77
20	28	23	20	100	e42	36	45	30	21	16	17	52
21	28	23	20	77	e37	45	44	27	21	16	16	45
22	28	22	19	95	e34	119	43	26	21	16	15	41
23	29	21	18	87	e32	102	47	30	21	16	15	33
24	30	22	18	159	e31	90	49	55	18	16	15	28
25	28	22	19	123	e30	79	43	39	18	16	14	25
26	26	37	19	89	e29	69	42	33	18	15	80	22
27	27	25	19	73	e29	62	40	30	18	15	23	23
28	27	23	19	62	e39	61	38	28	18	15	18	24
29	27	22	20	54	---	52	37	28	19	15	17	24
30	25	21	20	47	---	52	36	27	18	15	16	66
31	25	---	19	42	---	47	---	27	---	15	16	---
TOTAL	1019	726	626	2419	1311	1603	1229	940	665	494	581	1727
MEAN	32.9	24.2	20.2	78.0	46.8	51.7	41.0	30.3	22.2	15.9	18.7	57.6
MAX	81	37	22	418	89	119	49	55	27	17	80	511
MIN	25	21	18	18	29	33	33	24	18	15	14	15
CFSM	.74	.54	.45	1.75	1.05	1.16	.92	.68	.50	.36	.42	1.29
IN.	.85	.61	.52	2.02	1.10	1.34	1.03	.79	.56	.41	.49	1.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

MEAN	39.2	45.9	55.5	59.6	65.6	75.3	74.9	58.7	50.7	44.2	39.7	39.1
MAX	101	110	191	201	163	216	181	129	142	141	88.2	106
(WY)	1997	1973	1997	1979	1979	1994	1994	1984	1972	1984	1984	1987
MIN	8.90	10.0	6.88	7.14	21.0	21.3	18.6	16.2	15.0	11.6	10.6	9.51
(WY)	1966	1966	1966	1966	1992	1965	1966	1965	1965	1966	1965	1965

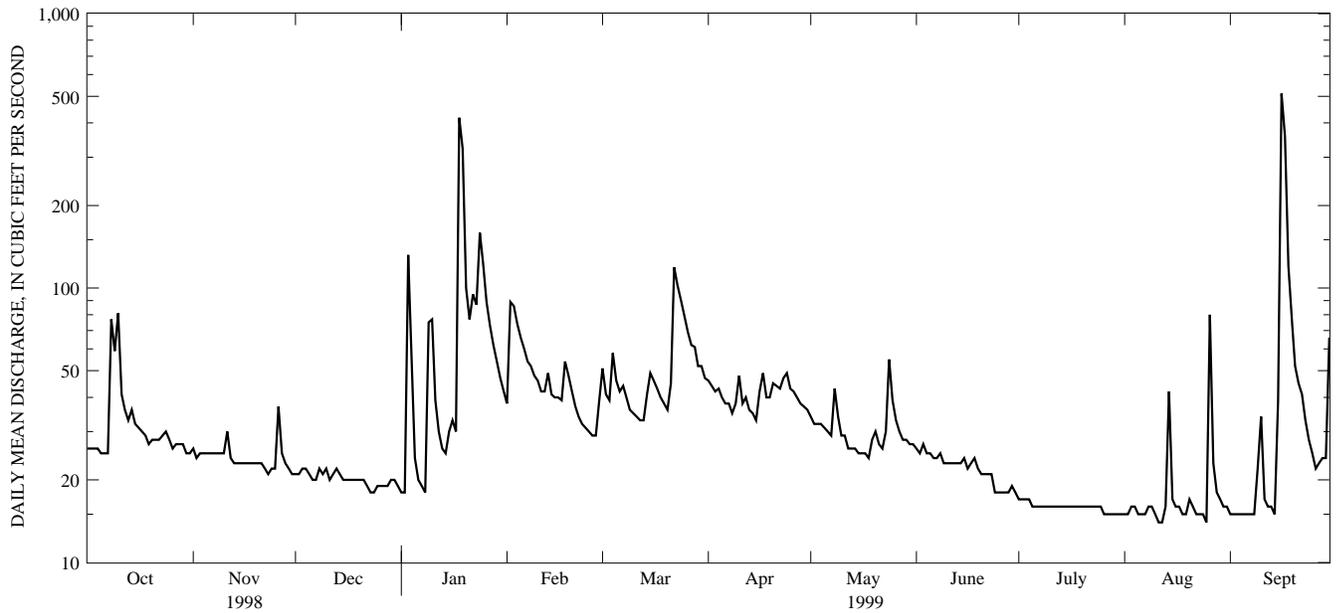
e Estimated.

LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1949 - 1999	
ANNUAL TOTAL	21504		13340			
ANNUAL MEAN	58.9		36.5		54.0	
HIGHEST ANNUAL MEAN					89.7	1984
LOWEST ANNUAL MEAN					15.5	1966
HIGHEST DAILY MEAN	301	Jun 14	511	Sep 16	1200	Jan 26 1978
LOWEST DAILY MEAN	18	Dec 23	14	Aug 11,12,25	5.2	Jan 1 1966
ANNUAL SEVEN-DAY MINIMUM	19	Dec 22	15	Jul 26	5.9	Dec 27 1965
INSTANTANEOUS PEAK FLOW			a1270	Jan 18	a3490	Jan 25 1979
INSTANTANEOUS PEAK STAGE			5.34	Jan 18	8.19	Jan 25 1979
INSTANTANEOUS LOW FLOW			13	Sep 6	3.0	Jan 9 1966
ANNUAL RUNOFF (CFSM)	1.32		.82		1.21	
ANNUAL RUNOFF (INCHES)	17.98		11.15		16.47	
10 PERCENT EXCEEDS	105		57		98	
50 PERCENT EXCEEDS	50		26		42	
90 PERCENT EXCEEDS	22		16		21	

a From rating curve extended above 440 ft³/s on basis of slope-area measurement at gage height 5.47 and at peak flow.



1-YEAR HYDROGRAPH
OCTOBER 1, 1998 TO SEPTEMBER 30, 1999