

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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 15, 1962, nonrecording gage at site 40 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. 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)
June 6	2315	*226	*3.22	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	20	17	15	16	12	25	41	25	33	18	24
2	23	20	16	15	18	12	20	75	22	30	18	18
3	23	20	16	14	16	26	20	65	21	28	17	17
4	22	20	16	14	16	17	20	55	20	27	17	16
5	22	20	16	14	15	16	21	48	19	26	17	16
6	23	21	16	15	15	16	20	40	42	25	17	16
7	24	20	17	15	15	15	20	34	97	24	17	16
8	24	20	18	14	14	15	19	32	46	24	17	15
9	23	20	21	14	14	15	18	39	40	23	17	15
10	24	20	17	14	13	16	19	37	35	23	17	15
11	24	19	17	16	13	15	18	29	31	21	16	15
12	23	19	17	16	13	15	18	31	63	19	16	14
13	23	20	17	15	13	16	18	47	45	19	16	14
14	23	20	18	15	13	16	18	63	46	19	16	14
15	27	20	18	15	13	16	42	49	45	19	16	23
16	24	20	17	14	13	15	24	43	39	18	16	23
17	23	20	17	14	13	15	22	39	34	18	16	16
18	22	20	21	14	13	20	21	95	34	18	15	16
19	22	19	19	14	13	19	21	69	37	21	15	15
20	21	19	18	14	13	29	21	61	32	20	16	15
21	20	18	17	14	13	33	20	52	29	18	16	15
22	20	18	17	13	13	26	20	46	28	18	15	14
23	20	18	17	14	13	25	19	40	27	19	15	14
24	20	18	19	16	13	23	18	36	26	19	17	14
25	20	22	18	17	12	21	20	32	25	18	17	14
26	20	19	17	16	12	22	20	29	26	18	15	15
27	20	17	16	16	12	34	18	27	35	18	15	31
28	20	17	15	15	12	23	42	30	76	18	15	18
29	19	17	15	15	---	24	56	36	44	18	26	17
30	20	17	15	15	---	24	44	26	37	18	17	16
31	20	---	15	15	---	23	---	24	---	18	16	---
TOTAL	682	578	530	457	382	614	702	1370	1126	655	514	501
MEAN	22.0	19.3	17.1	14.7	13.6	19.8	23.4	44.2	37.5	21.1	16.6	16.7
MAX	27	22	21	17	18	34	56	95	97	33	26	31
MIN	19	17	15	13	12	12	18	24	19	18	15	14
CFSM	0.49	0.43	0.38	0.33	0.31	0.45	0.53	0.99	0.84	0.47	0.37	0.38
IN.	0.57	0.48	0.44	0.38	0.32	0.51	0.59	1.15	0.94	0.55	0.43	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

MEAN	38.5	44.7	54.2	57.5	63.8	74.1	73.5	58.5	50.6	43.7	39.8	38.5
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	13.6	19.8	18.6	16.2	15.0	11.6	10.6	9.51
(WY)	1966	1966	1966	1966	2002	2002	1966	1965	1965	1966	1965	1965

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01452500 MONOCACY CREEK AT BETHLEHEM, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1949 - 2002	
ANNUAL TOTAL	14047		8111			
ANNUAL MEAN	38.5		22.2		53.0	
HIGHEST ANNUAL MEAN					89.7	1984
LOWEST ANNUAL MEAN					15.5	1966
HIGHEST DAILY MEAN	132	Mar 30	97	Jun 7	1200	Jan 26 1978
LOWEST DAILY MEAN	15	Dec 28	12	Feb 25 ^a	5.2	Jan 1 1966
ANNUAL SEVEN-DAY MINIMUM	16	Dec 25-31	12	Feb 24	5.9	Dec 27 1965
MAXIMUM PEAK FLOW			226	Jun 6	b 3490	Jan 25 1979
MAXIMUM PEAK STAGE			3.22	Jun 6	8.19	Jan 25 1979
INSTANTANEOUS LOW FLOW			11	Feb 28	3.0	Jan 9 1966
ANNUAL RUNOFF (CFSM)	0.86		0.50		1.19	
ANNUAL RUNOFF (INCHES)	11.74		6.78		16.19	
10 PERCENT EXCEEDS	67		36		96	
50 PERCENT EXCEEDS	32		18		41	
90 PERCENT EXCEEDS	19		14		20	

^a Also Feb. 26-28, Mar. 1, 2.

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

