

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)
Dec. 17	1245	*589	*4.12	No other peak greater than base discharge.			

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	29	27	24	e25	e40	69	101	37	57	55	32	29
2	29	27	25	e24	46	64	92	35	87	46	31	27
3	32	26	24	e24	47	60	85	35	64	44	31	27
4	32	26	24	e25	44	58	77	34	60	44	30	27
5	33	24	25	e24	42	58	72	33	55	45	29	27
6	33	24	23	e25	46	56	73	32	51	48	28	27
7	32	27	24	e24	42	54	71	32	47	42	30	26
8	31	27	24	e24	39	55	64	32	46	43	29	26
9	30	26	23	e24	37	57	63	31	43	42	29	25
10	31	37	22	e23	46	55	62	31	40	41	32	25
11	31	27	23	e24	52	54	61	33	39	45	40	25
12	30	24	22	e24	47	55	64	32	40	41	32	24
13	30	24	22	e23	48	102	59	30	53	39	31	25
14	30	26	37	e23	48	105	56	29	39	39	29	39
15	30	28	29	e23	53	97	55	31	38	35	28	26
16	29	27	27	e23	57	88	61	32	43	34	28	25
17	28	e25	302	e24	67	87	57	32	78	44	27	24
18	38	e24	187	e24	60	82	64	32	43	47	27	24
19	33	e24	e90	35	57	75	56	33	41	38	27	24
20	29	e23	e60	37	54	71	54	28	39	37	27	39
21	27	e23	e40	31	55	87	50	35	38	36	28	41
22	26	e23	e34	27	50	108	49	73	85	33	28	27
23	25	e23	e31	e26	48	91	47	47	102	32	30	26
24	28	e23	e30	e25	47	83	44	39	69	34	29	26
25	28	e23	e29	e24	53	77	43	35	60	35	28	58
26	28	34	e28	e24	68	71	41	58	56	44	28	28
27	27	30	e28	e23	76	66	40	94	51	35	31	25
28	25	26	e27	e23	75	63	39	82	48	33	29	24
29	24	26	e26	e23	---	61	39	72	46	32	27	24
30	24	27	e26	e35	---	132	37	66	45	31	27	24
31	27	---	e25	e38	---	108	---	59	---	32	28	---
TOTAL	909	781	1361	801	1444	2349	1776	1304	1603	1226	910	844
MEAN	29.3	26.0	43.9	25.8	51.6	75.8	59.2	42.1	53.4	39.5	29.4	28.1
MAX	38	37	302	38	76	132	101	94	102	55	40	58
MIN	24	23	22	23	37	54	37	28	38	31	27	24
CFSM	.66	.59	.99	.58	1.16	1.70	1.33	.95	1.20	.89	.66	.63
IN.	.76	.65	1.14	.67	1.21	1.96	1.48	1.09	1.34	1.02	.76	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001, BY WATER YEAR (WY)

MEAN	38.8	45.2	54.9	58.3	64.7	75.1	74.4	58.7	50.9	44.1	40.2	38.9
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 2000 CALENDAR YEAR			FOR 2001 WATER YEAR			WATER YEARS 1949 - 2001		
ANNUAL TOTAL	17791			15308					
ANNUAL MEAN	48.6			41.9			53.6		
HIGHEST ANNUAL MEAN							89.7		
LOWEST ANNUAL MEAN							15.5		
HIGHEST DAILY MEAN	302	Dec 17		302	Dec 17		1200	Jan 26 1978	
LOWEST DAILY MEAN	18	Feb 8,9		22	Dec 10,12,13		5.2	Jan 1 1966	
ANNUAL SEVEN-DAY MINIMUM	19	Feb 3		23	Dec 7		5.9	Dec 27 1965	
MAXIMUM PEAK FLOW				a589	Dec 17		a3490	Jan 25 1979	
MAXIMUM PEAK STAGE				4.12	Dec 17		8.19	Jan 25 1979	
INSTANTANEOUS LOW FLOW				20	Dec 12		3.0	Jan 9 1966	
ANNUAL RUNOFF (CFSM)	1.09			.94			1.20		
ANNUAL RUNOFF (INCHES)	14.87			12.80			16.37		
10 PERCENT EXCEEDS	79			70			97		
50 PERCENT EXCEEDS	40			33			41		
90 PERCENT EXCEEDS	24			24			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.

