

## 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 mi<sup>2</sup>.

**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.**--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 ft<sup>3</sup>/s, by slope-area measurement.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Aug. 2	0830	*392	*3.67	Aug. 3	0415	372	3.62

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	23	25	28	20	79	62	55	61	55	134	56
2	31	47	25	27	19	68	59	56	57	52	236	62
3	30	48	25	25	19	59	56	52	53	48	225	48
4	33	32	26	26	19	51	65	49	49	48	176	46
5	47	28	25	28	19	46	58	47	47	44	130	40
6	36	27	30	29	19	41	55	45	78	44	108	41
7	34	26	28	28	19	38	51	43	59	44	99	40
8	33	25	26	27	18	37	49	42	52	42	84	39
9	32	25	26	27	18	35	55	42	48	40	76	38
10	46	25	27	32	19	31	51	40	45	39	69	36
11	38	24	27	34	20	46	50	41	52	40	64	34
12	35	23	26	28	20	94	51	39	89	40	61	37
13	34	25	26	28	20	76	47	50	78	38	59	45
14	34	25	49	26	36	69	45	70	60	39	56	37
15	33	23	54	25	47	64	42	42	57	42	58	55
16	32	22	43	26	41	60	45	41	55	40	53	35
17	32	22	44	23	43	106	43	40	53	39	51	33
18	29	22	39	24	38	78	62	40	57	38	49	32
19	30	22	36	25	36	75	50	173	54	38	48	38
20	34	22	38	26	32	67	47	167	48	37	44	40
21	31	22	52	25	31	66	98	129	54	37	42	36
22	27	22	41	23	30	108	120	107	87	36	43	35
23	29	22	40	24	32	84	111	101	60	35	42	32
24	27	22	39	24	38	78	96	149	55	34	52	32
25	26	24	35	25	53	72	84	149	51	34	43	31
26	26	24	34	22	74	66	76	126	61	39	40	44
27	27	51	33	21	70	61	71	107	66	67	39	39
28	27	29	31	20	109	100	67	92	68	42	41	35
29	27	27	30	20	92	75	64	80	63	36	48	33
30	26	26	29	20	---	70	59	72	60	34	41	30
31	24	---	29	20	---	66	---	66	---	49	39	---
TOTAL	983	805	1038	786	1051	2066	1889	2352	1777	1290	2350	1179
MEAN	31.7	26.8	33.5	25.4	36.2	66.6	63.0	75.9	59.2	41.6	75.8	39.3
MAX	47	51	54	34	109	108	120	173	89	67	236	62
MIN	24	22	25	20	18	31	42	39	45	34	39	30
CFSM	.71	.60	.75	.57	.81	1.50	1.41	1.70	1.33	.94	1.70	.88
IN.	.82	.67	.87	.66	.88	1.73	1.58	1.97	1.49	1.08	1.96	.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2000, BY WATER YEAR (WY)

MEAN	39.0	45.6	55.1	58.9	65.0	75.1	74.7	59.1	50.8	44.2	40.4	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

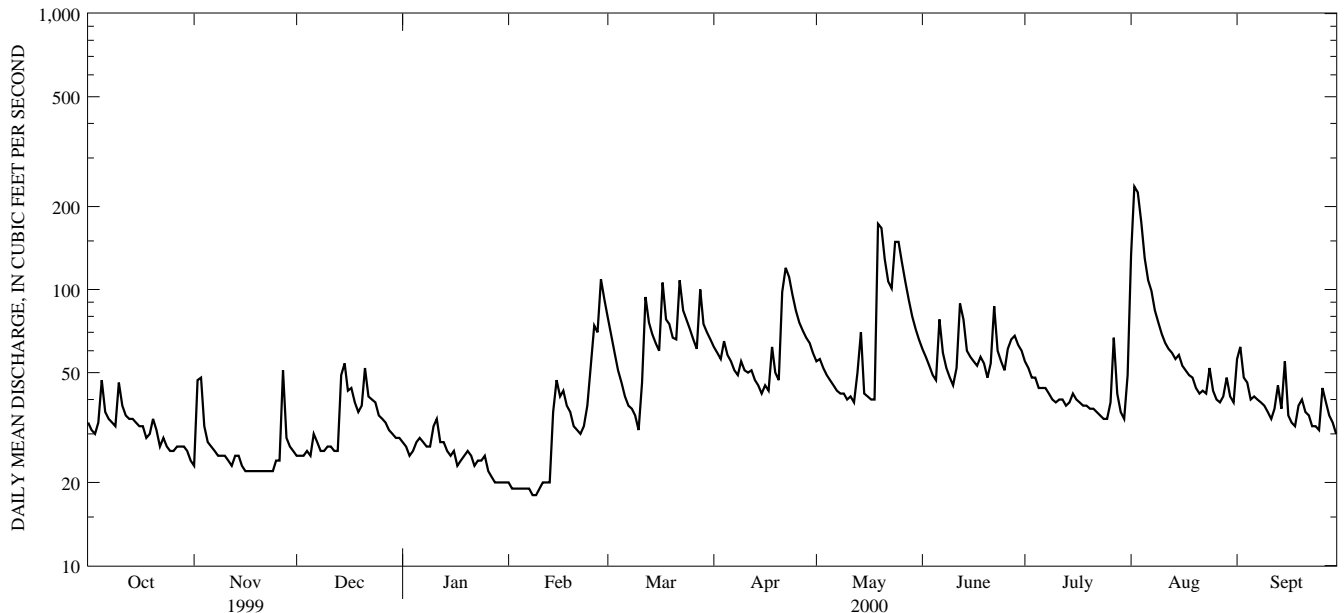
e Estimated.

LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA--Continued

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1949 - 2000	
ANNUAL TOTAL	13795		17566			
ANNUAL MEAN	37.8		48.0		53.8	
HIGHEST ANNUAL MEAN					89.7	1984
LOWEST ANNUAL MEAN					15.5	1966
HIGHEST DAILY MEAN	511	Sep 16	236	Aug 2	1200	Jan 26 1978
LOWEST DAILY MEAN	14	Aug 11,12,25	18	Feb 8,9	5.2	Jan 1 1966
ANNUAL SEVEN-DAY MINIMUM	15	Jul 26	19	Feb 3	5.9	Dec 27 1965
INSTANTANEOUS PEAK FLOW			392	Aug 2	a3490	Jan 25 1979
INSTANTANEOUS PEAK STAGE			3.67	Aug 2	8.19	Jan 25 1979
INSTANTANEOUS LOW FLOW			18	Feb 5-11	3.0	Jan 9 1966
ANNUAL RUNOFF (CFSM)	.85		1.08		1.21	
ANNUAL RUNOFF (INCHES)	11.53		14.68		16.44	
10 PERCENT EXCEEDS	54		78		98	
50 PERCENT EXCEEDS	29		40		42	
90 PERCENT EXCEEDS	16		24		21	

a From rating curve extended above 440 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 5.47 and at peak flow.



1-YEAR HYDROGRAPH  
OCTOBER 1, 1999 TO SEPTEMBER 30, 2000