



Water-Data Report 2009

01484000 MURDERKILL RIVER NEAR FELTON, DE

Lower Delaware Basin
Broadkill-Smyrna Subbasin

LOCATION.--Lat 38°58'33", long 75°34'03" referenced to North American Datum of 1927, Kent County, DE, Hydrologic Unit 02040207, on left bank 30 ft downstream from northbound lane of bridge on U.S. Route 13, 400 ft downstream from Black Swamp Creek, 1.3 mi upstream from Killen Pond, 2.2 mi south of Felton, and 17.6 mi upstream from mouth.

DRAINAGE AREA.--12.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1931 to October 1933. Monthly discharges only for July to September 1931, published in WSP 1302. Annual maximum, water years 1952-60, and occasional low-flow measurements, water years 1952-53, 1955-57, 1959-60. June 1960 to September 1985. October 1996 to September 1999. April 2007 to December 2008 (discontinued).

REVISED RECORDS.--WSP 1432: 1932.

GAGE.--Water-stage recorder. Datum of gage is 21.87 ft above National Geodetic Vertical Datum of 1929. July 1931 to October 1933, nonrecording gage at bridge 200 ft upstream at datum 2.00 ft higher. March 1951 to May 1960, norecording gage and crest-stage gage at bridge 200 ft upstream at datum 2.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. U.S. Geological Survey gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of August 4, 1967, from information by local residents.

EXTREMES FOR OCTOBER 2008 TO DECEMBER 2008.--Peak discharges greater than base discharge of 130 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 12	1030	*131	*4.14
No other peak greater than base discharge			

Minimum discharge, 1.1 ft³/s, on several days.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e2.8	2.0	12	---	---	---	---	---	---	---	---	---
2	e2.1	2.0	6.3	---	---	---	---	---	---	---	---	---
3	e1.7	2.2	4.0	---	---	---	---	---	---	---	---	---
4	1.6	e2.6	3.1	---	---	---	---	---	---	---	---	---
5	1.6	e4.0	2.8	---	---	---	---	---	---	---	---	---
6	1.6	e6.0	2.2	---	---	---	---	---	---	---	---	---
7	1.5	1.6	2.4	---	---	---	---	---	---	---	---	---
8	1.5	3.5	1.6	---	---	---	---	---	---	---	---	---
9	1.6	8.9	2.0	---	---	---	---	---	---	---	---	---
10	1.5	9.4	3.4	---	---	---	---	---	---	---	---	---
11	1.4	5.7	34	---	---	---	---	---	---	---	---	---
12	1.5	6.7	99	---	---	---	---	---	---	---	---	---
13	1.4	11	26	---	---	---	---	---	---	---	---	---
14	e1.5	11	12	---	---	---	---	---	---	---	---	---
15	e1.4	19	9.6	---	---	---	---	---	---	---	---	---
16	e1.3	18	10	---	---	---	---	---	---	---	---	---
17	1.2	7.7	18	---	---	---	---	---	---	---	---	---
18	1.3	5.1	14	---	---	---	---	---	---	---	---	---
19	1.3	3.1	14	---	---	---	---	---	---	---	---	---
20	1.2	2.6	18	---	---	---	---	---	---	---	---	---
21	1.3	2.1	23	---	---	---	---	---	---	---	---	---
22	1.2	1.8	27	---	---	---	---	---	---	---	---	---
23	1.3	1.6	14	---	---	---	---	---	---	---	---	---
24	1.5	1.9	13	---	---	---	---	---	---	---	---	---
25	3.4	11	12	---	---	---	---	---	---	---	---	---
26	8.2	6.3	10	---	---	---	---	---	---	---	---	---
27	3.4	3.4	9.6	---	---	---	---	---	---	---	---	---
28	7.6	2.7	9.5	---	---	---	---	---	---	---	---	---
29	5.5	2.1	8.7	---	---	---	---	---	---	---	---	---
30	2.5	9.3	8.1	---	---	---	---	---	---	---	---	---
31	2.1	---	7.5	---	---	---	---	---	---	---	---	---
Total	69.0	174.3	436.8	---	---	---	---	---	---	---	---	---
Mean	2.23	5.81	14.1	---	---	---	---	---	---	---	---	---
Max	8.2	19	99	---	---	---	---	---	---	---	---	---
Min	1.2	1.6	1.6	---	---	---	---	---	---	---	---	---
Cfsm	0.17	0.45	1.09	---	---	---	---	---	---	---	---	---
In.	0.20	0.50	1.26	---	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 – 1934, 1960 – 1985, 1997 – 1999, 2007 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8.12	12.2	20.2	25.2	30.3	32.5	26.3	17.9	11.8	9.88	12.8	8.65
Max	34.9	43.4	59.4	72.7	75.6	76.6	66.4	45.6	30.7	71.4	138	39.9
(WY)	(1972)	(1973)	(1997)	(1978)	(1979)	(1978)	(1983)	(1984)	(1979)	(1975)	(1967)	(1960)
Min	2.23	3.58	4.15	3.83	10.5	10.2	7.77	5.05	4.18	1.99	1.64	1.68
(WY)	(2009)	(1966)	(1966)	(1966)	(1966)	(1966)	(1985)	(1977)	(1999)	(2007)	(2008)	(2007)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Years 1931 – 1934, 1960 – 1985, 1997 – 1999, 2007 - 2009	
Annual total	3,984.8			
Annual mean	10.9		18.1	
Highest annual mean			28.3	1972
Lowest annual mean			6.24	1966
Highest daily mean	212	May 13	1,270	Aug 4, 1967
Lowest daily mean	1.0	Sep 2	0.89	Aug 18, 2007
Annual seven-day minimum	1.2	Aug 30	1.0	Aug 13, 2007
Maximum peak flow			^a 2,090	Aug 4, 1967
Maximum peak stage			8.83	Aug 4, 1967
Instantaneous low flow			0.80	Aug 28, 1966 ^b
Annual runoff (cfsm)	0.844		1.40	
Annual runoff (inches)	11.49		19.03	
10 percent exceeds	19		35	
50 percent exceeds	7.8		10	
90 percent exceeds	1.5		3.2	

^a From rating curve extended above 1,040 ft³/s.

^b Aug. 28, Sept. 11, 1966.

