



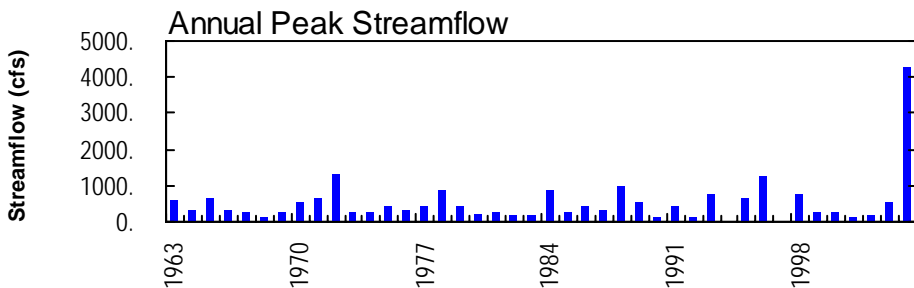
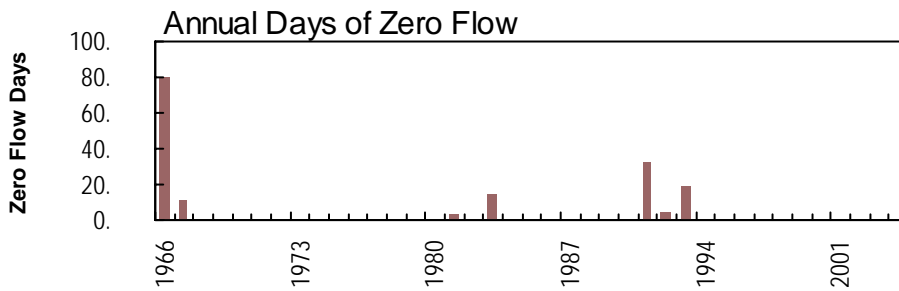
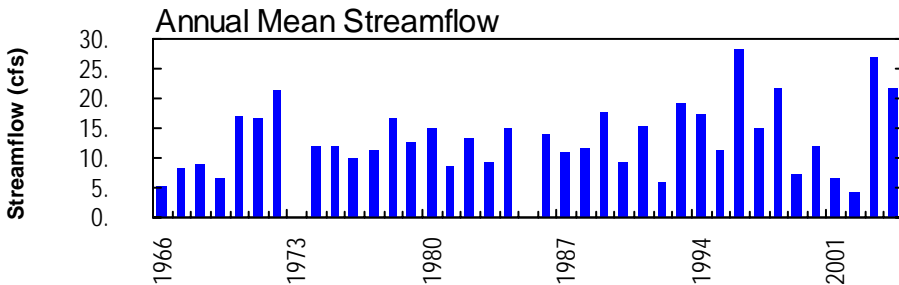
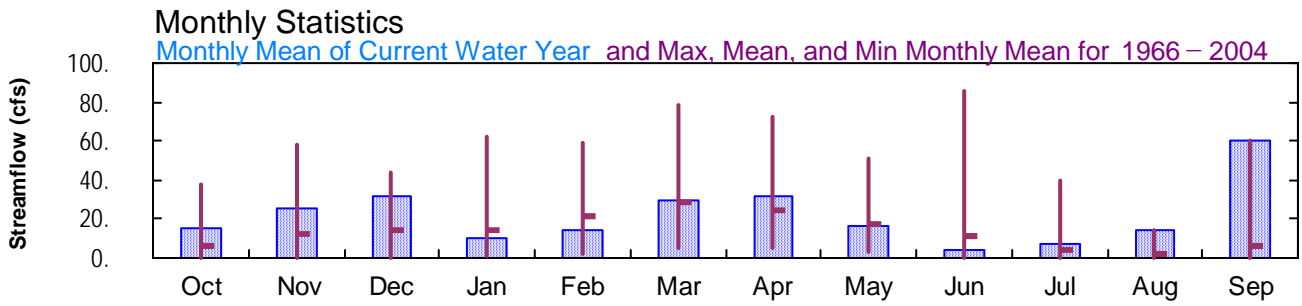
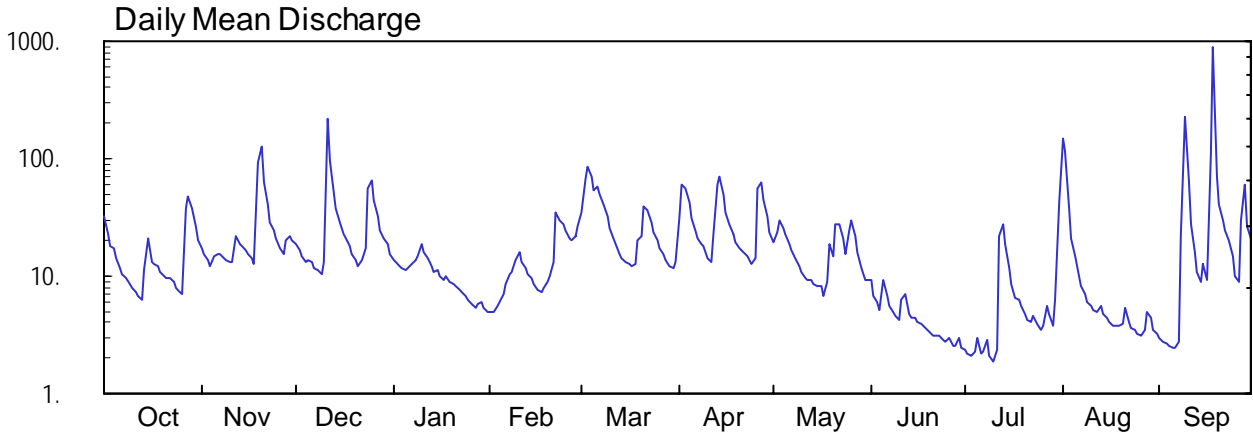
# 2004 Water Year TONOLOWAY CREEK BASIN

## 01613050 Tonoloway Creek near Needmore, PA

Latitude: 39° 53 ' 54"  
Fulton County

Longitude: 078° 07 ' 57"  
Datum: 688.94 feet

Hydrologic Unit Code: 02070004  
Drainage Area: 10.7 mi<sup>2</sup>



POTOMAC RIVER BASIN

TONOLOWAY CREEK BASIN

01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA

**LOCATION.**--Lat 39°53'54", long 78°07'57", Fulton County, Hydrologic Unit 02070004, on left bank 10 ft downstream from bridge on SR 3008, 0.2 mi upstream from Foster Creek, and 3.5 mi north of Needmore.

**DRAINAGE AREA.**--10.7 mi<sup>2</sup>.

**PERIOD OF RECORD.**--Occasional discharge measurements and annual maximums, water years 1963-65. October 1965 to current year.

**REVISED RECORDS.**--WSP 2103: 1966-68(M).

**GAGE.**--Water-stage recorder and crest-stage gage. Datum of gage is 688.94 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 2, 1965, crest-stage gage at same site at datum 2.0 ft higher.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 150 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)
Nov. 19	1430	194	4.89	Aug. 2	0000	611	6.75
Dec. 11	0715	311	5.46	Sept. 9	0045	497	6.23
Aug. 1	0445	309	5.45	Sept. 18	0400	*4,280	*a11.94

a From floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	17	19	14	e4.9	34	31	20	9.1	2.3	146	2.9
2	23	15	17	13	e5.0	67	60	24	6.8	2.2	115	2.8
3	18	14	15	e12	e5.5	84	56	29	6.0	2.1	38	2.6
4	17	12	13	e11.5	e6.0	70	42	25	5.1	2.3	21	2.5
5	14	14	14	e11.2	e7.0	54	31	22	9.2	3.0	14	2.4
6	12	16	13	e12	e8.5	58	24	19	6.7	2.2	10	2.4
7	10	15	12	e12.5	e10.5	50	21	16	5.5	2.3	8.2	2.7
8	9.5	14	11	e13.8	e11	41	19	14	4.9	2.9	6.9	22
9	8.6	13	10	e15	e13.5	32	18	12	4.5	2.1	6.1	230
10	e8.0	13	13	e19	e16	25	14	11	4.3	1.9	5.6	68
11	7.2	13	218	e16	e13	21	13	9.7	6.2	2.4	5.2	28
12	6.8	22	98	e14	e11.5	18	22	9.2	7.0	22	5.0	16
13	6.4	19	51	e12	e10.5	15	60	9.2	4.9	27	5.6	11
14	11	18	38	e11	e9.5	14	70	8.4	4.5	19	4.7	8.8
15	21	16	29	e11.4	e8.5	13	50	8.1	4.5	12	4.4	13
16	13	15	22	e10	e7.5	13	35	8.2	4.1	8.4	4.1	9.3
17	12	14	21	e9.2	e7.2	12	28	6.8	3.9	6.6	3.8	e110
18	12	12	18	e10	e8.0	13	23	8.9	3.8	6.4	3.7	e900
19	11	91	16	e9.0	e9.0	20	19	19	3.5	5.5	3.7	e70
20	9.8	127	14	e8.5	e10	22	17	15	3.2	4.8	3.9	e40
21	9.6	64	12	e8.2	e13	39	16	28	3.1	4.3	5.4	e30
22	9.7	40	e14	e7.7	34	36	15	27	3.2	4.1	4.2	e25
23	8.9	29	17	e7.2	30	29	15	21	3.1	4.7	3.7	e20
24	8.0	25	56	e6.7	28	23	13	15	2.9	4.0	3.4	e15
25	7.3	21	65	e6.2	24	20	14	25	2.7	3.6	3.2	e10
26	7.1	18	44	e5.7	21	17	55	30	3.0	3.7	3.0	e9.0
27	38	15	32	e5.4	20	15	62	22	2.6	5.5	3.5	e30
28	48	20	25	e5.7	22	14	44	16	2.5	4.8	5.0	e60
29	37	22	21	e6.0	27	12	32	12	3.0	3.8	4.4	27
30	26	20	19	e5.4	---	12	24	9.3	2.4	6.2	3.5	21
31	20	---	15	e5.0	---	13	---	9.2	---	42	3.2	---
TOTAL	481.9	764	982	314.3	401.6	906	943	509.0	136.2	224.1	457.4	1791.4
MEAN	15.5	25.5	31.7	10.1	13.8	29.2	31.4	16.4	4.54	7.23	14.8	59.7
MAX	48	127	218	19	34	84	70	30	9.2	42	146	900
MIN	6.4	12	10	5.0	4.9	12	13	6.8	2.4	1.9	3.0	2.4
CFSM	1.45	2.38	2.96	0.95	1.29	2.73	2.94	1.53	0.42	0.68	1.38	5.58
IN.	1.68	2.66	3.41	1.09	1.40	3.15	3.28	1.77	0.47	0.78	1.59	6.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2004, BY WATER YEAR (WY)

MEAN	6.26	11.7	14.8	14.3	21.0	28.4	24.2	17.6	11.1	4.25	2.38	6.18
MAX	37.7	58.2	43.8	62.1	59.5	78.2	72.4	51.5	85.6	39.7	14.8	59.7
(WY)	1991	1998	1997	1996	1986	1994	1993	1988	1972	1989	2004	2004
MIN	0.13	0.26	0.23	0.54	2.00	5.44	5.19	3.53	0.38	0.06	0.00	0.00
(WY)	1992	1999	1999	1981	2002	1990	1968	1976	1991	1966	1966	1991

e Estimated.

**TONOLOWAY CREEK BASIN**

**01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA--Continued**

<b>SUMMARY STATISTICS</b>	<b>FOR 2003 CALENDAR YEAR</b>		<b>FOR 2004 WATER YEAR</b>		<b>WATER YEARS 1966 - 2004</b>	
ANNUAL TOTAL	10622.06		7910.9			
ANNUAL MEAN	29.1		21.6		13.4	
HIGHEST ANNUAL MEAN					28.3	1996
LOWEST ANNUAL MEAN					4.45	2002
HIGHEST DAILY MEAN	284	Jun 4	e900	Sep 18	e900	Sep 18 2004
LOWEST DAILY MEAN	0.82	Jul 30	1.9	Jul 10	0.00	Jun 25 1966b
ANNUAL SEVEN-DAY MINIMUM	1.0	Jul 25	2.3	Jul 1	0.00	Jul 1 1966
MAXIMUM PEAK FLOW			c4280	Sep 18	c4280	Sep 18 2004
MAXIMUM PEAK STAGE			a11.94	Sep 18	a11.94	Sep 18 2004
INSTANTANEOUS LOW FLOW			1.8	Jul 10	0.00	Jul 18 1991b
ANNUAL RUNOFF (CFSM)	2.72		2.02		1.25	
ANNUAL RUNOFF (INCHES)	36.93		27.50		17.05	
10 PERCENT EXCEEDS	80		40		33	
50 PERCENT EXCEEDS	15		13		5.1	
90 PERCENT EXCEEDS	3.5		3.6		0.30	

**a** From floodmark.

**b** No flow many days throughout period of record.

**c** From rating curve extended above 540 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 9.48 ft., and slope-area measurement of peak flow.

**e** Estimated.