

Water-Data Report 2011

04233300 SIXMILE CREEK AT BETHEL GROVE, NYOswego Basin
Seneca Subbasin

LOCATION.--Lat 42°24'11", long 76°26'07" referenced to North American Datum of 1927, Tompkins County, NY, Hydrologic Unit 04140201, on left bank at bridge on German Cross Road, 3.4 mi southeast of Ithaca, at Bethel Grove.

DRAINAGE AREA.--39.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 700 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,200 ft³/s, Jan. 19, 1996, gage height, 9.78 ft, from rating curve extended above 2,700 ft³/s on basis of slope-area measurement at gage height 8.32 ft; minimum discharge, 1.5 ft³/s, Aug. 2, 1995.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 1	1245	2,810	6.31
Mar 11	0430	1,740	4.89
Apr 16	2145	1,160	3.80
Apr 25	2345	1,050	3.56
Apr 28	0600	1,250	3.98
Sep 8	0315	*5,080	*8.98

Minimum discharge, 6.6 ft³/s, Aug. 2, gage height, -0.52 ft.

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04233300 SIXMILE CREEK AT BETHEL GROVE, NY—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

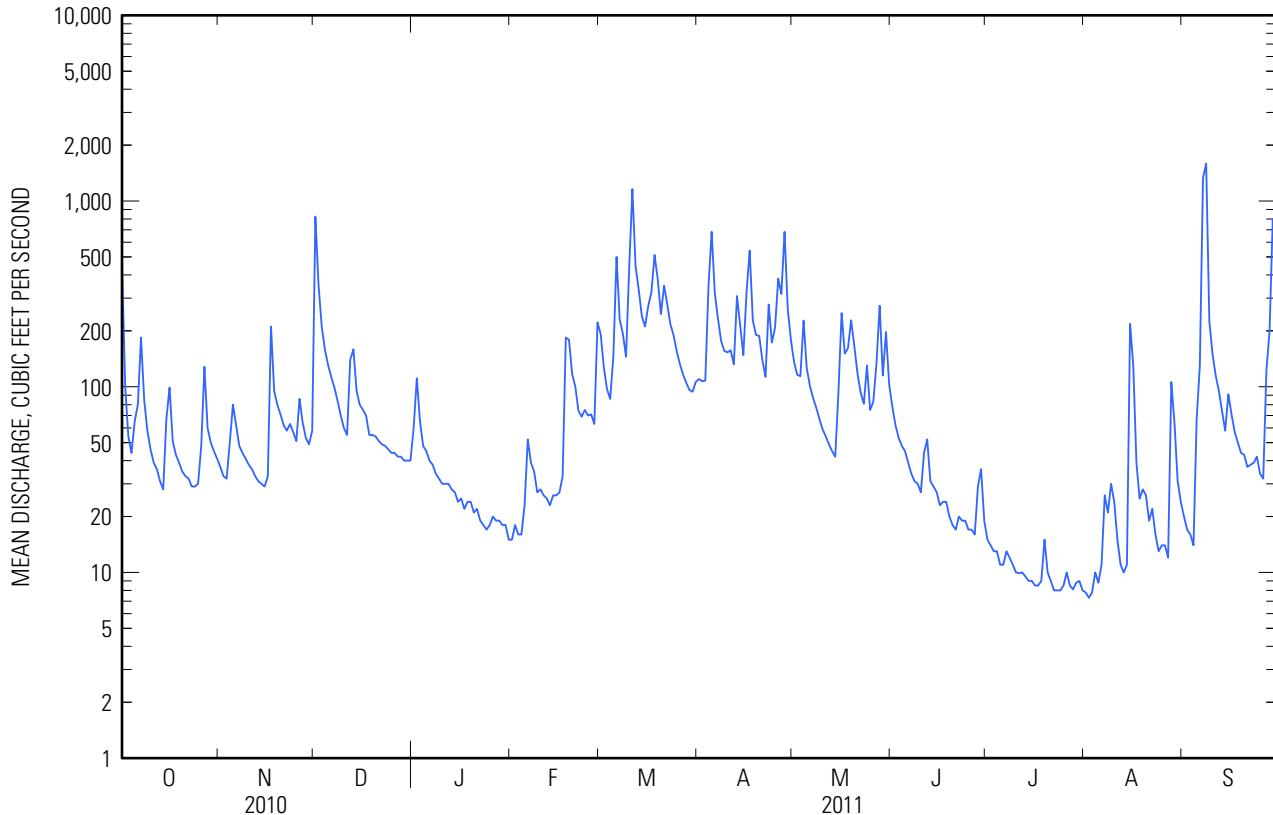
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	471	37	824	60	e15	192	110	136	78	15	7.8	20
2	101	33	353	111	e18	127	107	116	62	14	7.3	17
3	54	32	211	65	e16	97	108	114	53	13	7.8	16
4	44	50	159	e48	e16	86	345	227	48	13	10	14
5	65	80	131	e45	e23	146	683	126	45	11	8.8	67
6	80	62	113	e40	e52	e500	319	101	39	11	11	130
7	184	48	99	e38	e39	e230	232	87	34	13	26	1,330
8	85	44	84	e34	e35	193	176	77	31	12	21	1,590
9	58	41	e70	e32	e27	145	156	67	30	11	30	e225
10	46	38	e60	e30	e28	440	153	59	27	10	24	e150
11	39	36	e55	e30	e26	1,160	157	54	44	9.9	15	e115
12	36	33	e140	e30	e25	445	132	49	52	e10	11	e95
13	31	31	159	e28	e23	333	308	45	31	e9.5	10	74
14	28	30	e95	e27	e26	239	214	42	29	e9.0	11	58
15	67	29	e80	e24	e26	211	148	94	27	e9.0	218	91
16	99	33	e75	e25	e27	272	321	249	23	e8.5	130	71
17	51	211	e70	e22	e33	323	541	151	24	e8.5	39	57
18	43	95	e55	e24	184	512	227	161	24	e9.0	25	50
19	39	80	e55	e24	179	379	190	228	20	e15	28	44
20	35	71	54	e21	117	246	188	166	18	e10	26	43
21	33	62	51	e22	100	350	139	118	17	e9.0	19	37
22	32	58	49	e19	74	278	113	93	20	e8.0	22	38
23	29	63	48	e18	69	217	277	81	19	e8.0	16	39
24	29	57	46	e17	75	189	173	130	19	e8.0	13	42
25	30	51	44	e18	70	155	208	75	17	e8.5	14	34
26	48	86	e44	e20	71	132	382	83	17	10	14	32
27	128	64	e42	e19	63	116	316	134	16	8.5	12	122
28	60	53	e42	e19	222	105	683	273	29	8.1	106	e200
29	50	49	e40	e18	---	96	263	115	36	8.8	64	e800
30	45	58	e40	e18	---	94	179	197	19	9.0	31	e450
31	41	---	40	e15	---	106	---	103	---	8.0	24	---
Total	2,181	1,715	3,428	961	1,679	8,114	7,548	3,751	948	315.3	1,001.7	6,051
Mean	70.4	57.2	111	31.0	60.0	262	252	121	31.6	10.2	32.3	202
Max	471	211	824	111	222	1,160	683	273	78	15	218	1,590
Min	28	29	40	15	15	86	107	42	16	8.0	7.3	14
Cfsm	1.80	1.47	2.84	0.79	1.54	6.71	6.45	3.10	0.81	0.26	0.83	5.17
In.	2.08	1.64	3.27	0.92	1.60	7.74	7.20	3.58	0.90	0.30	0.96	5.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	32.9	57.8	78.7	79.2	76.3	134	116	64.1	51.1	26.5	21.7	33.3
Max	70.4	125	184	186	134	262	252	165	175	66.4	88.1	202
(WY)	(2011)	(1997)	(1997)	(1996)	(2000)	(2011)	(2011)	(1996)	(2006)	(2004)	(2004)	(2011)
Min	9.19	11.5	14.8	26.5	21.0	60.6	48.6	19.5	6.77	4.10	3.93	4.38
(WY)	(1998)	(1999)	(1999)	(2001)	(2007)	(2002)	(2006)	(1999)	(1999)	(1999)	(1999)	(1995)

04233300 SIXMILE CREEK AT BETHEL GROVE, NY—Continued**SUMMARY STATISTICS**

	Calendar Year 2010	Water Year 2011		Water Years 1995 - 2011	
Annual total	21,470.0	37,693.0			
Annual mean	58.8	103		65.3	
Highest annual mean				103	2011
Lowest annual mean				38.1	1999
Highest daily mean	1,130	Jan 25	1,590	Sep 8	2,700 Jan 19, 1996
Lowest daily mean	5.3	Aug 21	7.3	Aug 2	1.9 Sep 2, 1999
Annual seven-day minimum	6.0	Aug 15	8.1	Jul 28	2.0 Aug 31, 1999
Annual runoff (cfsm)	1.51		2.65		1.67
Annual runoff (inches)	20.48		35.95		22.74
10 percent exceeds	117		227		134
50 percent exceeds	36		49		37
90 percent exceeds	7.1		13		9.2



04233300 SIXMILE CREEK AT BETHEL GROVE, NY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1996 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SOLIDS CONCENTRATION: October 1996 to September 1998.

SUSPENDED-SOLIDS DISCHARGE: October 1996 to September 1998.

SUSPENDED-SEDIMENT CONCENTRATION: December 1998 to current year.

SUSPENDED-SEDIMENT DISCHARGE: December 1998 to current year.

INSTRUMENTATION.--Automatic water sampler since 1995.

COOPERATION.--Periodic water-quality samples were collected by personnel from the City of Ithaca Water Treatment Plant and Tomkins County Soil and Water. Samples were analyzed by personnel from the City of Ithaca Water Treatment Plant.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SOLIDS CONCENTRATION: Maximum daily mean, 1,480 mg/L, Nov. 8, 1996; minimum daily mean, 1 mg/L, many days during the 1998 water year.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 7,050 tons, Nov. 8, 1996; minimum daily, 0.02 tons, several days in October 1997 and September 1998.

SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 7,190 mg/L, June 27, 2006; minimum daily mean, 1 mg/L on many days in 2004, 2005, 2007, 2008 and 2009.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 17,200 tons, June 27, 2006; minimum daily, 0.02 tons on several days in 2008, 2009.

04233300 SIXMILE CREEK AT BETHEL GROVE, NY—Continued

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Day	Mean concentration (mg/L)	Sediment discharge (tons/day)										
October		November		December		January		February		March		
1	931	1,430	19	1.9	1,660	8,050	44	6.8	9	0.37	338	185
2	192	57	16	1.5	262	263	96	26	10	0.48	74	26
3	66	9.9	13	1.1	84	45	30	4.6	11	0.47	46	12
4	21	2.5	41	6.9	59	23	19	2.4	12	0.51	58	13
5	59	11	35	7.6	47	15	19	2.4	13	0.79	185	94
6	62	14	22	3.7	35	9.6	20	2.2	14	1.9	458	617
7	172	104	17	2.2	30	6.9	21	2.2	15	1.5	153	96
8	38	9.0	14	1.7	26	5.2	19	1.8	16	1.5	102	53
9	16	2.5	14	1.5	25	4.0	17	1.5	16	1.2	56	22
10	13	1.6	14	1.4	23	3.1	16	1.3	17	1.3	394	924
11	12	1.3	13	1.3	21	2.8	14	1.1	18	1.3	922	3,280
12	11	1.1	13	1.2	226	79	12	0.98	19	1.3	227	280
13	11	0.89	13	1.1	163	74	12	0.91	20	1.3	137	125
14	10	0.79	13	1.0	58	13	12	0.87	21	1.5	61	40
15	39	15	12	0.96	56	9.9	12	0.78	22	1.5	44	25
16	45	15	14	1.3	53	7.8	12	0.81	23	1.7	87	70
17	18	2.5	239	176	39	5.2	12	0.71	44	4.0	140	144
18	14	1.6	25	5.8	24	3.0	12	0.78	198	104	226	342
19	10	1.1	21	3.9	26	3.2	12	0.78	113	59	82	86
20	14	1.3	21	3.5	32	3.8	12	0.68	21	6.4	52	35
21	19	1.7	21	2.9	37	4.2	12	0.70	20	5.1	184	200
22	19	1.6	20	2.6	43	4.6	12	0.59	19	3.7	86	66
23	18	1.4	20	2.8	48	5.1	11	0.55	19	3.4	58	34
24	16	1.3	19	2.4	49	4.9	11	0.51	19	3.6	40	20
25	32	3.1	18	2.0	49	4.7	11	0.52	19	3.4	23	9.9
26	97	13	30	6.3	49	4.6	11	0.57	18	3.3	20	7.3
27	141	65	18	2.6	49	4.2	10	0.53	18	2.9	20	6.2
28	33	5.4	15	1.7	49	4.2	10	0.51	496	386	19	5.4
29	29	3.9	11	1.2	46	3.9	10	0.47	---	---	19	4.8
30	26	3.1	11	1.4	42	3.6	10	0.46	---	---	18	4.6
31	22	2.5	---	---	36	3.2	9	0.38	---	---	17	4.9
Total	---	1,784.08	---	251.46	---	8,673.7	---	65.39	---	603.42	---	6,832.1

04233300 SIXMILE CREEK AT BETHEL GROVE, NY—Continued
**SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Day	Mean concentration (mg/L)	Sediment discharge (tons/day)										
April		May		June		July		August		September		
1	17	5.0	29	11	20	4.3	3	0.13	1	0.02	3	0.18
2	16	4.6	23	7.3	11	1.8	3	0.10	1	0.02	3	0.14
3	15	4.5	38	16	9	1.4	2	0.08	1	0.03	3	0.13
4	297	364	77	61	8	1.1	2	0.06	1	0.04	3	0.12
5	414	851	23	8.0	7	0.84	1	0.04	2	0.04	66	23
6	85	74	18	4.9	6	0.59	1	0.03	2	0.05	143	65
7	69	43	15	3.6	4	0.40	1	0.04	21	2.8	1,570	7,190
8	64	30	13	2.7	3	0.26	1	0.03	1	0.06	1,600	14,500
9	59	25	11	2.0	3	0.24	1	0.03	87	13	324	401
10	53	22	9	1.5	3	0.22	1	0.03	5	0.30	149	81
11	48	20	7	1.1	91	22	1	0.03	4	0.18	67	25
12	43	15	8	1.0	9	1.7	1	0.03	4	0.12	54	14
13	277	260	8	1.0	5	0.39	1	0.03	4	0.10	40	8.1
14	48	30	9	1.0	4	0.34	1	0.02	3	0.09	28	4.4
15	29	12	93	50	4	0.30	1	0.02	824	758	44	12
16	281	681	278	268	4	0.24	1	0.02	165	67	24	4.6
17	277	593	57	24	4	0.24	1	0.02	28	3.5	23	3.5
18	39	24	62	28	3	0.23	1	0.02	7	0.48	22	2.9
19	87	48	169	107	3	0.17	1	0.05	4	0.32	20	2.4
20	42	21	82	38	3	0.14	1	0.03	4	0.27	19	2.2
21	38	14	30	9.8	3	0.12	1	0.02	4	0.19	16	1.6
22	36	11	23	5.8	2	0.13	1	0.02	3	0.20	13	1.3
23	125	147	18	3.9	2	0.11	1	0.03	3	0.13	10	1.0
24	32	15	87	39	2	0.10	1	0.03	3	0.11	10	1.1
25	164	328	20	4.1	2	0.09	2	0.04	3	0.14	10	0.94
26	360	648	32	7.6	2	0.09	2	0.05	4	0.15	11	0.95
27	150	152	266	305	2	0.09	2	0.04	4	0.13	34	19
28	1,090	2,650	289	311	44	10	1	0.03	74	31	435	235
29	116	89	77	25	13	2.1	1	0.02	25	5.3	655	1,380
30	35	17	181	119	4	0.19	1	0.02	10	0.82	93	113
31	---	---	64	18	---	---	1	0.02	6	0.40	---	---
Total	---	7,198.1	---	1,485.3	---	49.92	---	1.16	---	884.99	---	24,093.56

Total suspended sediment discharge (tons)	
Year	51,923.18