

Water-Data Report 2011

04233286 SIXMILE CREEK AT BROOKTONDALE, NY

 Oswego Basin
 Seneca Subbasin

LOCATION.--Lat 42°22'53", long 76°23'41" referenced to North American Datum of 1927, Tompkins County, NY, Hydrologic Unit 04140201, on left bank 1,000 ft upstream of bridge on Valley Road in Brooktondale and 6.5 mi southeast of Ithaca.

DRAINAGE AREA.--27.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 900 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, 4,470 ft³/s, Sept. 8, 2011, gage height, 5.38 ft, from rating curve extended above 930 ft³/s on basis of slope-area measurement at gage height 4.16 ft; minimum discharge, 3.3 ft³/s, Oct. 1, 2, 3, 4, 6, 2005, gage height, 0.29 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 1	1200	a2,540	3.71
Mar 11	0415	1,560	2.68
Apr 28	0515	1,200	2.25
Sep 8	0230	a*4,470	*5.38
Sep 29	0045	1,700	2.94

a From rating curve extended as explained above.

Minimum discharge, 3.8 ft³/s, Jan. 23, gage height, 0.29 ft, result of freeze up.

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

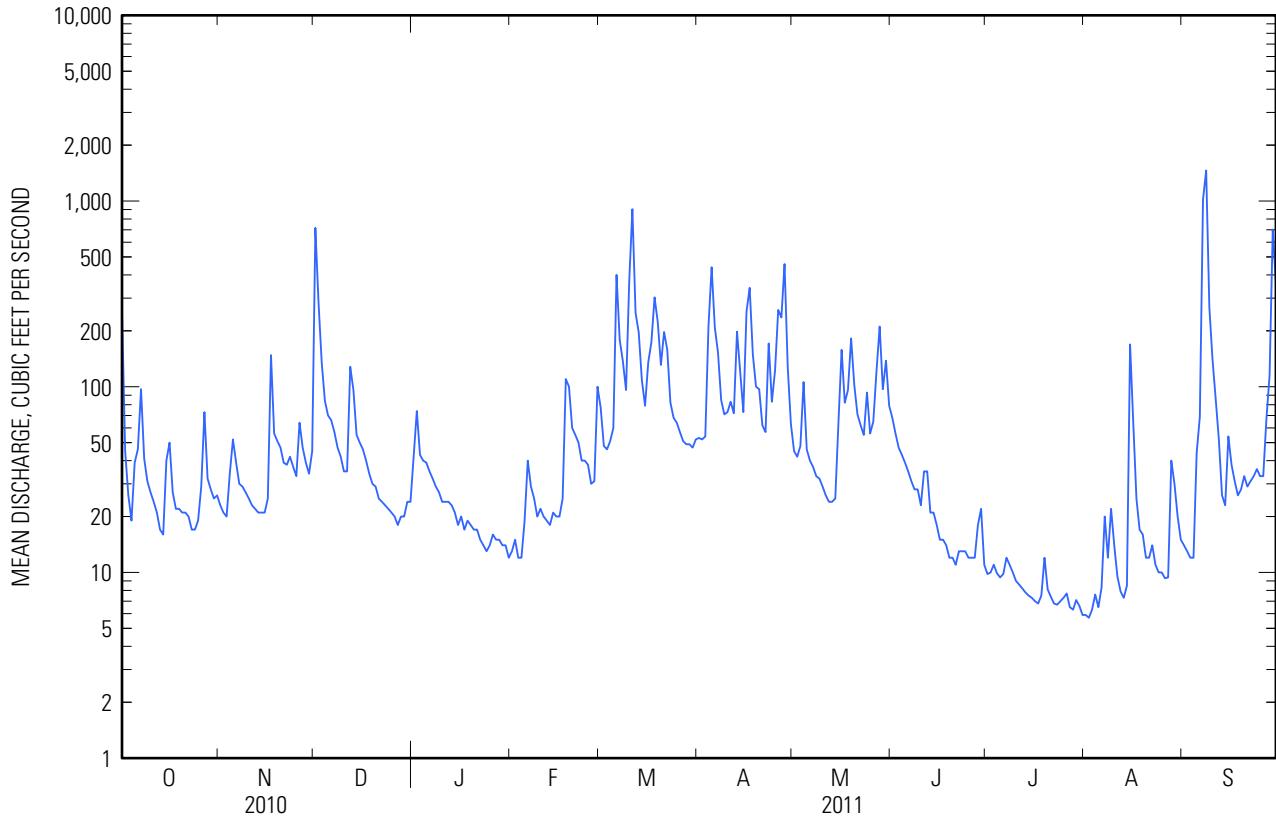
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	258	23	717	42	13	77	53	45	68	9.8	5.9	14
2	45	21	283	74	15	48	52	42	56	10	5.7	13
3	26	20	135	43	e12	e46	54	48	47	11	6.3	12
4	19	34	84	40	e12	51	211	106	43	9.9	7.6	12
5	39	52	70	39	19	e60	440	46	39	9.4	6.5	44
6	46	39	66	35	40	e400	209	40	35	9.8	8.3	69
7	97	30	57	32	29	179	153	37	31	12	20	1,020
8	41	29	47	29	e25	137	85	33	28	11	12	1,460
9	31	27	e42	27	e20	96	71	32	28	10	22	268
10	27	25	e35	24	e22	369	73	29	23	9.0	14	140
11	24	23	35	24	e20	904	83	26	35	8.6	9.5	86
12	21	22	128	24	19	250	72	24	35	8.2	7.9	52
13	17	21	96	23	18	196	198	24	21	7.8	7.3	26
14	16	21	e55	21	21	108	121	25	21	7.5	8.5	23
15	40	21	e50	e18	20	79	73	64	18	7.3	169	54
16	50	25	46	20	20	135	254	158	15	7.0	64	38
17	27	148	40	e17	25	174	341	82	15	6.8	25	31
18	22	56	34	19	e110	303	149	96	14	7.5	17	26
19	22	51	e30	18	e100	223	100	182	12	12	16	28
20	21	47	29	17	e60	131	97	102	12	8.1	12	33
21	21	39	e25	17	e55	197	62	71	11	7.4	12	29
22	20	38	e24	e15	e50	158	57	62	13	6.8	14	31
23	17	42	e23	e14	e40	82	171	55	13	6.7	11	33
24	17	37	e22	e13	e40	68	83	93	13	7.0	10	36
25	19	33	e21	e14	38	64	122	56	12	7.3	10	33
26	29	64	e20	16	e30	57	259	65	12	7.7	9.3	33
27	73	47	e18	15	31	51	236	121	12	6.5	9.4	67
28	32	39	e20	15	e100	49	458	211	18	6.3	40	115
29	28	34	e20	14	---	49	128	97	22	7.1	e30	703
30	25	45	24	14	---	47	63	138	11	6.6	e20	359
31	26	---	24	12	---	52	---	79	---	5.9	15	---
Total	1,196	1,153	2,320	745	1,004	4,840	4,528	2,289	733	258.0	625.2	4,888
Mean	38.6	38.4	74.8	24.0	35.9	156	151	73.8	24.4	8.32	20.2	163
Max	258	148	717	74	110	904	458	211	68	12	169	1,460
Min	16	20	18	12	12	46	52	24	11	5.9	5.7	12
Cfsm	1.43	1.42	2.77	0.89	1.33	5.78	5.59	2.73	0.90	0.31	0.75	6.03
In.	1.65	1.59	3.20	1.03	1.38	6.67	6.24	3.15	1.01	0.36	0.86	6.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	29.5	49.7	66.5	54.4	47.1	114	90.1	38.1	35.2	24.6	22.7	38.9
Max	42.7	67.9	115	96.1	85.2	156	185	73.8	114	56.5	62.5	163
(WY)	(2004)	(2004)	(2004)	(2006)	(2008)	(2011)	(2005)	(2011)	(2006)	(2004)	(2004)	(2011)
Min	14.9	31.1	29.9	24.0	16.0	73.3	38.0	21.5	12.1	8.32	7.52	7.19
(WY)	(2009)	(2010)	(2007)	(2011)	(2007)	(2009)	(2006)	(2006)	(2007)	(2011)	(2010)	(2005)

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	Calendar Year 2010	Water Year 2011		Water Years 2003 - 2011	
Annual total	15,112.2	24,579.2			
Annual mean	41.4	67.3		51.0	
Highest annual mean				67.3	2011
Lowest annual mean				36.7	2009
Highest daily mean	937	Jan 25	1,460	Sep 8	1,460 Sep 8, 2011
Lowest daily mean	4.3	Aug 31	5.7	Aug 2	3.7 Oct 2, 2005
Annual seven-day minimum	5.0	Aug 31	6.3	Jul 28	4.2 Sep 30, 2005
Annual runoff (cfsm)	1.53		2.49		1.89
Annual runoff (inches)	20.82		33.86		25.68
10 percent exceeds	84		143		99
50 percent exceeds	25		31		29
90 percent exceeds	6.1		9.9		8.5



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 2003 to current year.

CHEMICAL DATA: Water years 2003 to 2005 (b).

NUTRIENT DATA: Water years 2003 to 2005 (b).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATION: Water years 2003 to current year.

SUSPENDED-SEDIMENT DISCHARGE: Water years 2003 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-SEDIMENT CONCENTRATION: Maximum daily mean, 3,230 mg/L, June 27, 2006; minimum daily mean, 1 mg/L on many days in 2003-09.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 15,200 tons, June 27, 2006; minimum daily, 0.01 tons on many days in 2005-08.

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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	254	313	2	0.16	1,210	5,690	7	0.86	2	0.06	66	15
2	24	3.1	2	0.13	119	104	13	3.0	2	0.08	22	2.7
3	12	0.88	3	0.15	36	15	2	0.24	2	0.07	21	2.6
4	5	0.24	5	0.66	23	5.2	2	0.24	2	0.08	19	2.5
5	16	1.9	7	1.1	15	2.9	3	0.25	3	0.12	16	2.5
6	20	2.9	6	0.69	8	1.4	3	0.25	3	0.27	476	515
7	51	20	5	0.40	7	0.95	3	0.24	3	0.20	33	19
8	10	1.2	3	0.25	6	0.73	3	0.19	3	0.19	16	6.8
9	6	0.46	2	0.16	6	0.62	2	0.15	3	0.16	14	3.7
10	5	0.33	2	0.14	5	0.47	2	0.11	3	0.19	427	1,030
11	3	0.21	2	0.13	4	0.39	1	0.08	3	0.18	552	1,720
12	2	0.13	2	0.12	115	70	1	0.06	3	0.16	63	47
13	2	0.09	2	0.12	22	9.4	1	0.06	4	0.16	36	21
14	2	0.09	2	0.12	10	1.4	1	0.06	4	0.19	18	6.5
15	23	4.6	2	0.12	9	1.3	1	0.07	4	0.19	18	4.8
16	15	2.3	7	0.87	9	1.1	2	0.10	4	0.20	22	9.3
17	4	0.31	100	62	8	0.82	2	0.11	16	1.3	33	19
18	3	0.16	4	0.62	7	0.61	3	0.14	82	24	129	134
19	1	0.08	2	0.26	6	0.49	3	0.16	51	14	48	32
20	1	0.06	1	0.13	5	0.37	4	0.16	13	2.2	36	15
21	1	0.06	1	0.11	4	0.29	3	0.15	3	0.43	41	24
22	1	0.08	1	0.11	4	0.25	3	0.11	2	0.25	30	14
23	2	0.09	1	0.12	3	0.19	2	0.08	2	0.18	23	6.2
24	2	0.11	1	0.11	4	0.21	2	0.06	2	0.16	16	3.7
25	3	0.14	1	0.09	4	0.24	1	0.04	1	0.13	15	3.1
26	7	0.73	7	1.4	5	0.26	1	0.05	1	0.10	14	2.7
27	48	16	2	0.25	5	0.26	1	0.05	29	2.3	14	2.3
28	5	0.48	1	0.16	6	0.32	1	0.05	209	56	13	2.2
29	4	0.29	1	0.10	6	0.35	2	0.06	---	---	13	2.1
30	3	0.24	3	0.58	7	0.41	2	0.06	---	---	12	1.9
31	3	0.21	---	---	6	0.35	2	0.06	---	---	12	2.0
Total	---	370.47	---	71.36	---	5,910.28	---	7.30	---	103.55	---	3,672.6

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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	11	2.0	8	1.2	5	1.0	1	0.03	1	0.02	1	0.04
2	11	1.9	7	1.0	4	0.60	1	0.03	1	0.02	1	0.03
3	10	1.9	8	2.1	3	0.46	1	0.04	1	0.02	1	0.03
4	173	114	20	11	3	0.39	2	0.05	1	0.03	1	0.03
5	210	293	4	0.61	3	0.32	2	0.05	1	0.02	19	3.8
6	25	16	3	0.41	3	0.26	2	0.05	2	0.05	14	3.3
7	10	4.9	3	0.33	2	0.21	2	0.05	45	4.7	915	4,200
8	10	2.8	2	0.26	2	0.18	1	0.03	2	0.08	1,140	8,710
9	10	2.4	2	0.20	3	0.27	1	0.03	59	8.1	121	98
10	10	2.4	1	0.14	5	0.30	1	0.02	5	0.16	37	14
11	10	2.7	1	0.10	66	11	1	0.02	4	0.10	21	5.0
12	10	2.4	1	0.08	4	0.46	1	0.02	3	0.07	10	1.4
13	107	70	1	0.08	3	0.20	1	0.02	3	0.05	7	0.48
14	14	5.5	1	0.09	2	0.13	1	0.02	14	0.79	4	0.25
15	12	3.0	55	26	2	0.10	1	0.02	211	196	11	1.8
16	258	547	95	81	2	0.08	1	0.02	10	2.8	5	0.49
17	124	193	10	3.0	2	0.07	1	0.02	4	0.28	5	0.38
18	19	9.0	12	4.3	2	0.07	1	0.02	4	0.16	4	0.30
19	38	16	39	24	2	0.05	1	0.03	3	0.13	4	0.30
20	11	3.5	8	2.8	1	0.05	1	0.02	3	0.09	4	0.34
21	10	2.1	6	1.4	1	0.04	1	0.02	3	0.08	4	0.28
22	10	1.9	6	1.2	1	0.05	1	0.02	2	0.09	3	0.28
23	34	28	5	0.97	1	0.04	1	0.02	2	0.07	3	0.27
24	7	2.0	13	5.1	1	0.04	2	0.03	2	0.06	3	0.27
25	157	301	5	0.89	1	0.04	2	0.03	2	0.06	3	0.23
26	154	183	6	1.3	1	0.03	2	0.04	2	0.05	2	0.20
27	44	35	279	315	1	0.03	2	0.03	1	0.04	25	8.9
28	453	1,030	82	81	29	2.7	1	0.02	27	3.9	130	321
29	27	12	15	4.1	6	0.51	1	0.02	3	0.29	404	936
30	9	1.9	53	28	2	0.07	1	0.02	2	0.13	55	47
31	---	---	12	2.7	---	---	1	0.02	2	0.07	---	---
Total	---	2,890.3	---	600.36	---	19.75	---	0.86	---	218.51	---	14,354.40

Total suspended sediment discharge (tons)	
Year	28,219.74