Water-Data Report 2013

01361000 KINDERHOOK CREEK AT ROSSMAN, NY

Upper Hudson Basin
Middle Hudson Subbasin

LOCATION.--Lat 42°19′50″, long 73°44′38″ referenced to North American Datum of 1983, Columbia County, NY, Hydrologic Unit 02020006, on right bank just downstream from Rossman Road bridge, 1.0 mi upstream from Claverack Creek, and 2.25 mi downstream from Stuyvesant Falls, in Rossman.

DRAINAGE AREA.--329 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1906 to June 1911, July 1911 to May 1914 (fragmentary, monthly discharge only for some periods, published in WSP 1302), July 1928 to September 1968, annual maximum only--1984, 1988-2011, August 2011 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 24.78 ft above NGVD of 1929. Prior to May 1914, at same site at different datum, and 1928-1962 water years, at same site at datum 1.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diurnal fluctuation and considerable regulation at low and medium flow caused by power plant above station. Telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,800 ft^3/s, Dec. 31, 1948, gage height, 20.8 ft, present datum, from floodmarks; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 31	1930	4,230	6.34
Mar 13	0515	5,140	6.91
May 30	0830	4,420	6.46
Jun 12	0400	4,220	6.33
Jun 14	1445	5,390	7.06
Sep 13	1000	*5,500	*7.13

Minimum discharge, 0.28 ft^3/s, Aug. 2, gage height, 0.98 ft.

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 01361000, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/01361000.2013.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	308	531	205	426	2,110	751	515	373	1,250	620	127	579
2	307	478	200	381	1,190	614	614	340	859	593	93	1,770
3	294	419	212	379	929	595	547	316	1,110	484	110	1,520
4	299	383	224	382	744	480	471	291	865	403	96	954
5	339	349	224	361	540	437	438	273	660	346	92	680
6	353	321	260	325	518	429	421	252	548	307	85	487
7	370	295	243	314	442	402	405	238	546	287	79	332
8	268	283	284	297	405	407	391	231	1,700	312	76	284
9	260	271	403	288	353	384	405	239	1,310	264	418	250
10	245	259	395	283	e350	425	473	254	1,010	261	958	234
11	230	250	482	284	e350	638	591	256	2,390	292	488	261
12	221	240	526	325	e370	1,290	683	313	3,360	241	305	326
13	211	400	456	503	373	3,910	825	283	2,400	217	556	3,700
14	203	661	420	742	352	2,280	700	251	4,710	185	1,380	1,940
15	279	498	392	779	344	1,570	591	218	3,000	180	793	1,240
16	401	460	368	675	367	1,260	519	209	1,970	152	510	862
17	399	423	366	612	333	1,020	546	195	1,510	144	411	620
18	347	383	586	523	277	866	524	170	1,200	134	277	528
19	487	340	825	463	e310	811	469	162	1,110	128	217	441
20	1,430	324	712	482	333	747	1,310	165	867	113	199	385
21	995	309	947	461	306	590	1,300	176	707	107	195	334
22	701	281	1,610	396	276	557	1,020	539	579	99	172	409
23	572	271	1,110	393	284	527	784	748	464	244	130	472
24	490	263	894	339	280	494	705	1,100	405	761	133	372
25	527	252	757	e300	294	490	694	1,980	480	547	124	310
26	497	238	621	e260	283	478	639	3,270	528	267	117	301
27	445	228	585	e220	383	467	546	2,410	631	220	377	267
28	422	228	550	e214	774	473	484	1,520	1,100	230	333	245
29	412	220	519	e210	---	471	418	1,190	824	155	270	221
30	666	211	529	340	---	459	402	3,200	601	144	219	209
31	629	---	473	1,940	---	455	---	1,870	---	137	204	---
Total	13,607	10,069	16,378	13,897	13,870	24,777	18,430	23,032	38,694	8,574	9,544	20,533
Mean	439	336	528	448	495	799	614	743	1,290	277	308	684
Max	1,430	661	1,610	1,940	2,110	3,910	1,310	3,270	4,710	761	1,380	3,700
Min	203	211	200	210	276	384	391	162	405	99	76	209
Cfsm	1.33	1.02	1.61	1.36	1.51	2.43	1.87	2.26	3.92	0.84	0.94	2.08
In.	1.54	1.14	1.85	1.57	1.57	2.80	2.08	2.60	4.38	0.97	1.08	2.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	193	380	443	465	434	924	1,038	562	347	190	134	237
Max	715	1,179	1,139	1,735	1,089	2,594	2,396	1,394	1,290	1,360	809	1,923
(WY)	(2012)	(1956)	(2012)	(1949)	(1951)	(1936)	(1940)	(1943)	(2013)	(1945)	(2011)	(2011)
Min	23.4	16.5	58.9	46.3	20.1	240	250	190	59.8	22.3	10.8	8.65
(WY)	(1965)	(1965)	(1965)	(1931)	(1963)	(1965)	(2012)	(1964)	(1964)	(1964)	(1964)	(1964)

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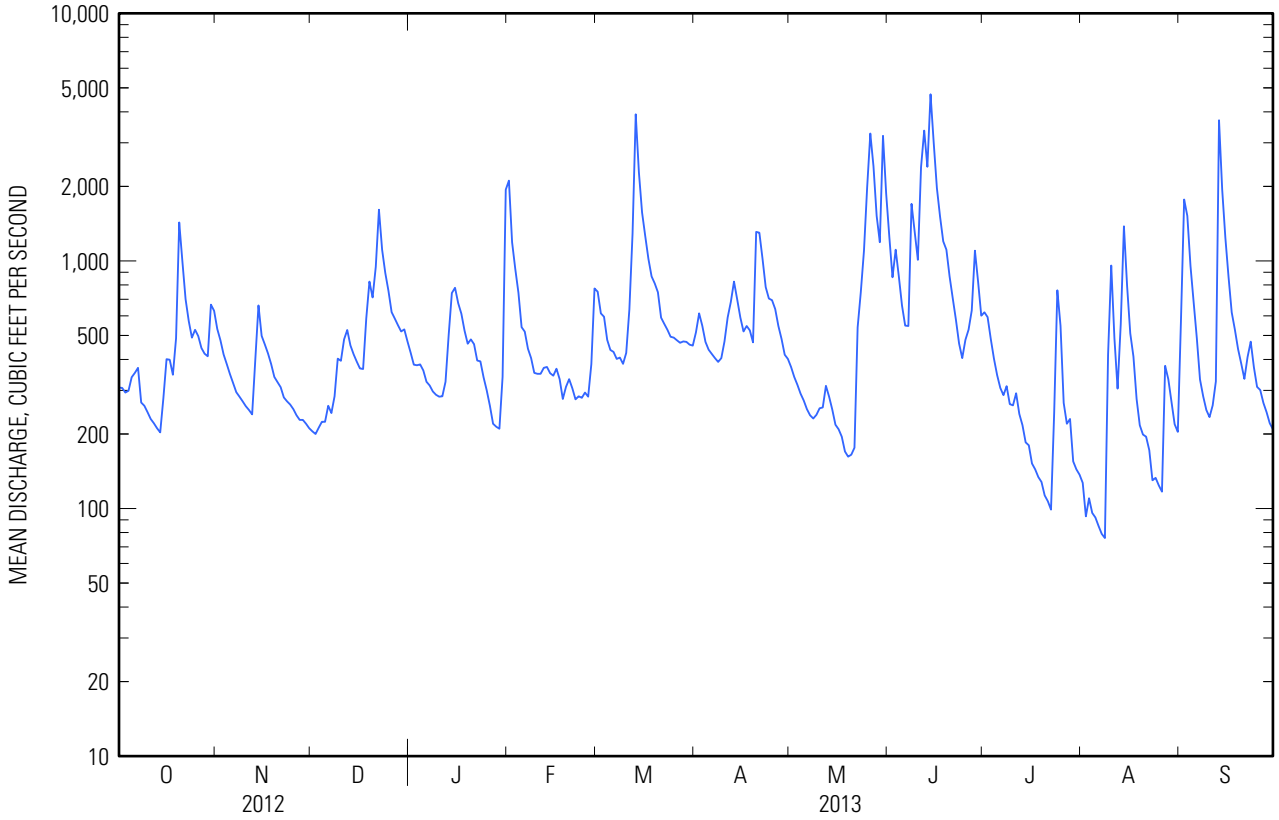
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1929 - 2013	
Annual total	127,476		211,405			
Annual mean	348		579		440	
Highest annual mean					698	1945
Lowest annual mean					155	1965
Highest daily mean	1,710	Aug 12	4,710	Jun 14	18,500	Dec 31, 1948
Lowest daily mean	38	Jul 22	76	Aug 8	1.0	Sep 16, 1962
Annual seven-day minimum	42	Jul 17	90	Aug 2	4.4	Sep 22, 1964
Annual runoff (cfsm)	1.06		1.76		1.34	
Annual runoff (inches)	14.41		23.90		18.19	
10 percent exceeds	632		1,140		1,020	
50 percent exceeds	294		405		248	
90 percent exceeds	68		207		48	



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--
SEDIMENT DATA: 2011-13 (e).

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: August 2011 to current year.

REMARKS.--Point samples are collected using an automatic sampler with teflon-lined sample tubing. Tubing is housed in a 2 inch diameter galvanized steel pipe extending 25 ft from the right bank. Sample intake tubing is 18 inches above channel bottom. A sampling method code of "SS Pumping" indicates suspended sediment sampling using a pumping mechanism. Turbidity data are collected every 15 minutes using an in situ turbidity probe located near the downstream end of the central bridge pier directly across from the gage. Daily suspended-sediment load and concentration are derived from a regression equation relating turbidity to suspended-sediment concentration.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 1,070 mg/L, Aug. 28, 2011; minimum daily mean, 1 mg/L, Nov. 26, Dec. 1, 2, 2012.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 27,900 tons, Aug. 29, 2011; minimum daily, 0.44 tons, July 4, Aug. 9, 2012.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 561 mg/L, Mar. 13; minimum daily mean, 1 mg/L, Nov. 26, Dec. 1, 2.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 6,430 tons, Mar. 13; minimum daily, 0.59 tons, Dec. 1.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
[mg/L, milligrams per liter]

Date	Sample start time	Sampling method (82398)	Suspended sediment concen-tration, mg/L (80154)
03-13-2013	**1845**	SS Pumping	90
03-14-2013	**0810**	SS Pumping	86
03-14-2013	**1835**	SS Pumping	57
03-15-2013	**0715**	SS Pumping	36
05-24-2013	**0015**	SS Pumping	21
05-25-2013	**1345**	SS Pumping	62
05-26-2013	**0215**	SS Pumping	185
05-27-2013	**0315**	SS Pumping	58
05-29-2013	**0815**	SS Pumping	14
05-30-2013	**0825**	SS Pumping	322
05-30-2013	**0945**	SS Pumping	278
05-30-2013	**1200**	SS Pumping	192
06-02-2013	**0745**	SS Pumping	29
09-13-2013	**0801**	SS Pumping	672

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SUSPENDED SEDIMENT CONCENTRATION, WATER, UNFILTERED, ESTIMATED BY REGRESSION EQUATION, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

[e, estimated]

Day	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)
	October		November		December		January		February		March	
1	5	4.4	5	7.5	1	0.59	4	4.8	e159	e1,050	46	96
2	5	4.4	4	4.8	1	0.71	e5	e5.0	e37	e123	20	33
3	4	3.5	3	3.3	2	1.2	e5	e5.5	e23	e59	14	22
4	7	5.9	2	2.4	3	1.6	e4	e4.6	16	33	11	14
5	6	5.6	2	2.1	3	1.9	4	3.9	13	18	8	9.6
6	6	6.1	2	1.4	3	2.2	4	3.2	10	14	10	12
7	9	8.8	2	1.4	2	1.5	4	3.0	e11	e13	9	10
8	6	4.3	2	1.2	4	3.2	4	2.9	7	8.0	8	8.8
9	3	2.0	2	1.4	5	5.1	7	5.4	e10	e9.1	8	8.5
10	3	2.0	2	1.3	5	4.9	4	3.1	e8	e8.7	18	21
11	3	1.9	2	1.4	10	13	3	2.7	e6	e7.4	20	34
12	2	1.4	3	1.8	7	9.6	7	6.7	10	e10	166	865
13	2	0.97	25	24	3	4.2	13	18	8	8.5	561	6,430
14	2	1.1	13	24	3	2.9	18	37	8	7.9	101	642
15	3	2.1	4	5.5	3	2.9	16	34	11	10	48	205
16	5	5.1	3	3.2	2	2.5	7	14	10	10	29	100
17	5	5.3	2	2.6	3	3.1	6	9.1	e8	e7.4	20	56
18	3	2.8	2	2.1	25	37	6	8.5	e5	e3.4	16	38
19	36	52	2	1.6	21	47	5	5.8	e6	e4.9	13	29
20	81	330	2	1.7	9	17	4	5.6	5	4.7	11	22
21	21	58	2	1.7	57	197	9	11	8	6.7	10	16
22	11	21	2	1.5	111	529	4	4.6	8	6.1	10	15
23	6	9.9	2	1.5	19	60	e5	e5.8	e4	e3.0	8	12
24	5	6.5	2	1.4	13	31	e5	e4.7	e7	e5.2	8	10
25	6	8.7	2	1.1	8	16	e4	e3.6	10	7.8	8	11
26	6	8.2	1	0.87	6	11	e3	e2.8	11	8.4	7	9.1
27	6	6.8	2	1.2	6	9.1	e3	e2.7	31	33	7	9.3
28	5	5.7	2	1.4	7	11	5	e3.7	84	176	7	9.0
29	8	9.8	2	1.0	6	8.1	3	e2.2	---	---	7	8.8
30	14	27	2	1.0	6	8.0	7	6.7	---	---	7	8.6
31	12	21	---	---	e5	e6.1	366	2,740	---	---	7	8.4
Total	---	632.27	---	107.37	---	1,048.40	---	2,970.6	---	1,656.2	---	8,773.1

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SUSPENDED SEDIMENT CONCENTRATION, WATER, UNFILTERED, ESTIMATED BY REGRESSION EQUATION, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

[e, estimated]

Day	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)	Mean concen-tration (mg/L)	Sediment discharge (tons/day)
	April		May		June		July		August		September	
1	7	9.8	e11	e11	32	110	13	21	11	3.7	50	73
2	9	15	11	9.7	25	59	12	19	9	2.6	373	2,400
3	7	10	e12	e10	61	194	11	14	8	2.5	94	402
4	6	7.0	10	7.7	38	91	10	10	8	2.1	39	103
5	5	6.3	e11	e8.0	24	43	9	8.4	8	2.0	26	48
6	5	6.1	e9	e6.2	18	27	8	7.0	7	1.7	18	24
7	6	6.3	8	5.0	21	31	29	24	7	1.4	15	13
8	6	6.8	8	4.8	91	469	9	7.8	7	1.4	13	10
9	6	6.9	9	5.7	40	147	9	6.1	38	78	13	8.5
10	9	11	8	5.4	25	67	10	7.3	84	258	12	7.5
11	11	17	8	5.5	95	668	8	6.1	21	29	11	7.9
12	17	31	8	7.1	162	1,590	7	4.7	16	13	49	58
13	15	33	9	6.6	77	538	7	4.0	135	211	520	5,920
14	9	18	7	4.8	177	2,260	6	3.2	99	385	90	496
15	7	11	8	4.4	65	546	6	2.8	31	69	39	133
16	6	8.6	5	2.8	36	196	6	2.3	20	28	26	62
17	8	11	6	3.0	27	110	5	2.1	17	19	18	30
18	9	13	6	2.8	25	80	6	2.0	14	11	14	21
19	10	13	6	2.5	24	73	6	2.0	12	7.1	11	14
20	84	327	5	2.4	18	42	6	1.9	11	6.1	11	11
21	39	142	19	11	15	29	6	1.8	11	5.7	9	8.5
22	18	51	45	77	13	21	7	1.9	11	5.2	15	16
23	11	24	30	61	11	14	213	160	11	3.9	18	25
24	9	16	55	182	17	19	24	48	10	3.7	7	7.1
25	11	20	91	520	11	14	16	25	9	3.1	7	5.8
26	11	19	146	1,300	9	12	11	7.9	9	2.7	7	5.7
27	10	14	57	377	11	19	10	6.0	45	56	5	3.8
28	9	12	30	127	82	258	11	7.1	29	30	4	2.7
29	12	13	28	93	23	52	12	5.1	24	17	5	2.8
30	11	12	293	2,960	13	21	10	3.9	23	14	5	2.6
31	---	---	57	296	---	---	10	3.6	74	51	---	---
Total	---	890.8	---	6,119.4	---	7,800	---	426.0	---	1,323.9	---	9,921.9

	Total suspended sediment discharge (tons)
Year	41,669.94