Water-Data Report 2013

05078500 CLEARWATER RIVER AT RED LAKE FALLS, MN

Lower Red Basin
Clearwater Subbasin

LOCATION.--Lat 47°53′15″, long 96°16′25″ referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.22, T.151 N., R.44 W., Red Lake County, MN, Hydrologic Unit 09020305, on left bank 900 ft downstream from U.S. highway 59 bridge in Red Lake Falls, 1.4 mi upstream from mouth, and 3 mi downstream from Badger Creek.

DRAINAGE AREA.--1,380 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1909 to September 1917, October 1934 to September 1981, March 1982 to current year. Monthly-mean discharge only for October, November, 1934, published in WSP 1308.

REVISED RECORDS.--WSP 355: 1911-12. WSP 1438: 1910-11, 1917(M). WDR MN-84-1:1983. Unpublished (2009): 1960 (M).

GAGE.--Water-stage recorder. Datum of gage is 948.94 ft above sea level (NGVD of 1929, levels by U.S. Army Corps of Engineers). Prior to Sept. 12, 1911, non-recording gage at site 0.5 mi upstream, and Sept. 12, 1911 to Sept. 30, 1917, non-recording gage at site 40 ft upstream at different datum.

REMARKS.--Records good to fair, except those for estimated daily discharges, which are poor.

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 05078500, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/05078500.2013.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	29	64	e74	e57	e54	e55	e62	3,010	953	245	101	44
2	28	68	e75	e57	e54	e55	e62	2,390	812	230	93	44
3	26	68	e74	e57	e54	e55	e63	2,040	727	221	92	38
4	36	66	e73	e57	e54	e55	e63	1,840	657	207	86	39
5	45	65	e71	e57	e54	e56	e63	1,760	663	189	87	36
6	43	68	e69	e57	e54	e56	e63	1,740	699	169	98	33
7	40	81	e67	e58	e54	e56	e63	1,710	704	156	126	27
8	54	86	e64	e57	e54	e56	e63	1,630	830	136	142	28
9	57	89	e62	e57	e54	e57	e63	1,490	645	134	123	38
10	55	93	e61	e58	e54	e57	e63	1,330	578	142	104	39
11	47	94	e60	e58	e54	e57	e63	1,180	530	134	103	38
12	47	67	e60	e57	e54	e57	e63	1,040	511	120	100	40
13	50	64	e60	e56	e54	e57	e63	917	464	137	84	44
14	46	70	e61	e56	e54	e58	e64	817	405	137	75	44
15	53	90	e61	e56	e54	e59	e64	723	360	141	71	41
16	58	87	e61	e56	e54	e59	e64	638	315	128	65	35
17	56	113	e61	e56	e54	e58	e64	591	282	127	58	33
18	62	93	e61	e56	e54	e58	e64	533	262	124	57	33
19	68	91	e61	e56	e54	e59	e64	881	235	127	52	37
20	72	81	e61	e55	e53	e59	e64	1,650	212	113	49	39
21	74	104	e61	e55	e53	e59	e67	2,430	199	98	44	39
22	62	82	e61	e55	e53	e60	e77	2,010	208	91	38	39
23	67	e37	e61	e55	e53	e60	e115	1,680	241	86	34	36
24	74	e58	e61	e55	e53	e60	e215	1,410	231	82	36	38
25	68	e65	e60	e55	e53	e60	e504	1,230	215	82	42	36
26	70	e70	e60	e55	e54	e61	e2,210	1,120	247	84	40	34
27	65	e71	e59	e55	e54	e60	4,820	1,030	248	107	37	37
28	59	e71	e59	e56	e55	e61	4,420	941	285	110	35	54
29	61	e72	e59	e56	---	e61	3,660	834	281	121	38	60
30	65	e73	e59	e56	---	e61	3,290	989	256	122	39	61
31	63	---	e58	e55	---	e62	---	1,110	---	108	38	---
Total	1,700	2,301	1,955	1,742	1,507	1,804	20,643	42,694	13,255	4,208	2,187	1,184
Mean	54.8	76.7	63.1	56.2	53.8	58.2	688	1,377	442	136	70.5	39.5
Max	74	113	75	58	55	62	4,820	3,010	953	245	142	61
Min	26	37	58	55	53	55	62	533	199	82	34	27
Ac-ft	3,370	4,560	3,880	3,460	2,990	3,580	40,950	84,680	26,290	8,350	4,340	2,350
Cfsm	0.04	0.06	0.05	0.04	0.04	0.04	0.50	1.00	0.32	0.10	0.05	0.03
In.	0.05	0.06	0.05	0.05	0.04	0.05	0.56	1.15	0.36	0.11	0.06	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	199	175	99.9	80.6	76.9	306	1,175	704	544	402	208	201
Max	1,350	1,233	321	231	385	2,510	3,507	5,059	3,042	2,389	1,686	1,599
(WY)	(1972)	(1972)	(2001)	(2011)	(1998)	(2009)	(1997)	(1950)	(1962)	(1997)	(1985)	(1999)
Min	10.0	19.0	21.4	21.4	19.1	13.6	61.0	32.2	26.5	8.34	1.49	2.92
(WY)	(1935)	(1935)	(1937)	(1940)	(1937)	(1937)	(1981)	(1977)	(1980)	(1936)	(1936)	(1936)

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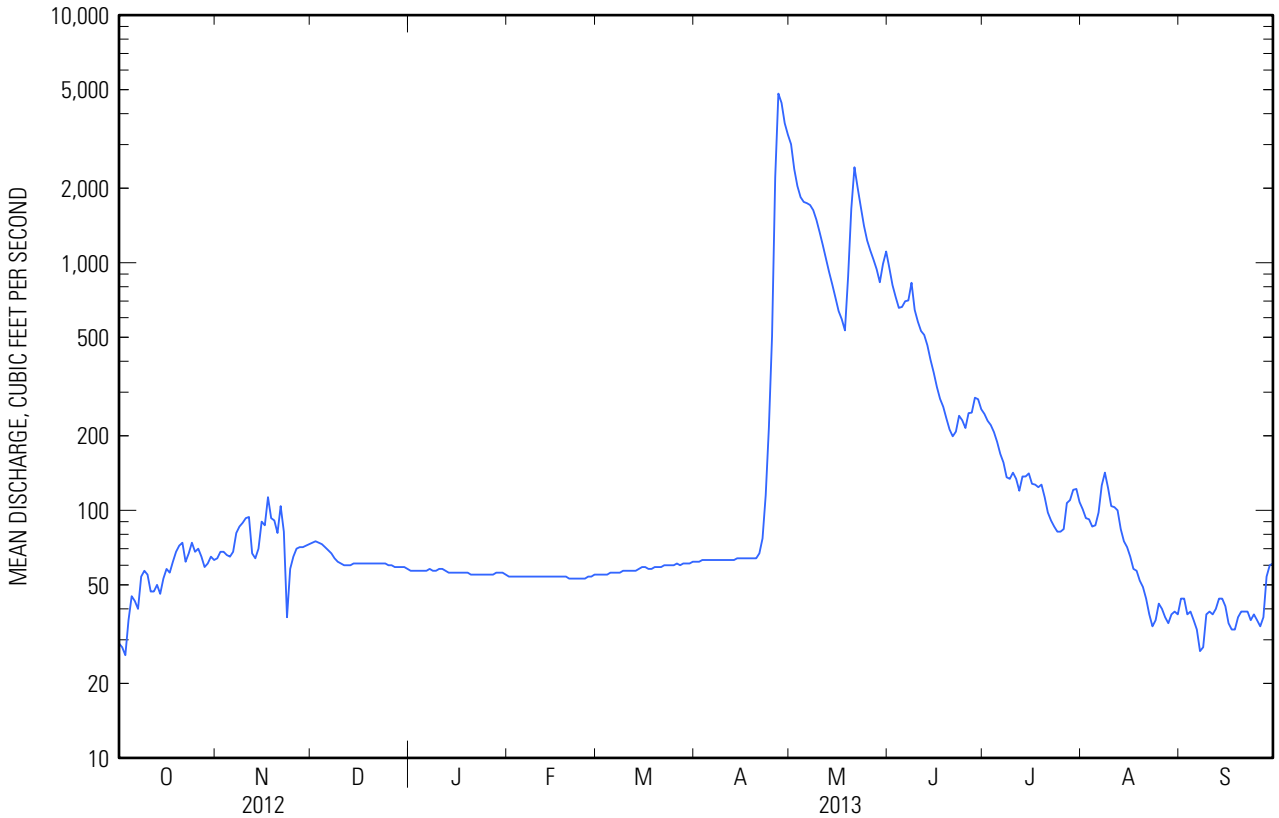
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1909 - 2013	
Annual total	54,757		95,180			
Annual mean	150		261		[a]345	
Highest annual mean					855	1950
Lowest annual mean					64.4	1939
Highest daily mean	1,100	Mar 17	4,820	Apr 27	11,600	Mar 25, 2009
Lowest daily mean	21	Sep 21	26	Oct 3	0.10	Sep 15, 1936
Annual seven-day minimum	22	Sep 17	34	Sep 3	0.24	Sep 12, 1936
Maximum peak flow			5,350	Apr 27	[b]12,400	Mar 25, 2009
Maximum peak stage			9.08	Apr 27	[c]15.85	Mar 6, 1983
Instantaneous low flow			23	Oct 3	[d]0.00	Sep 15, 1936
Annual runoff (ac-ft)	108,600		188,800		250,300	
Annual runoff (cfsm)	0.108		0.189		0.250	
Annual runoff (inches)	1.48		2.57		3.40	
10 percent exceeds	331		725		824	
50 percent exceeds	82		62		120	
90 percent exceeds	30		40		40	

[a] Median of annual-mean discharges is 300 ft³/s.
[b] Gage height, 13.75ft.
[c] From highwater mark, backwater from ice.
[d] Also occurred Sept. 14, 1939, and Aug. 19-22, 1940.