

05078500 CLEARWATER RIVER AT RED LAKE FALLS, MN

LOCATION.--Lat 47°53'15", long 96°16'25", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T.151 N., R.44 W., Red Lake County, 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 mi².

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.

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, nonrecording gage at site 0.5 mi upstream, and Sept. 12, 1911 to Sept. 30, 1917, nonrecording gage at site 40 ft upstream at different datum.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	4,460	e240	e98	e114	e107	3,500	356	1,320	1,030	142	175
2	201	3,520	e218	e97	e115	e107	3,590	364	1,170	1,160	126	162
3	187	2,820	e190	e97	e117	e107	2,930	361	992	1,060	150	155
4	214	2,360	e167	e97	e118	e107	2,210	336	917	969	171	145
5	205	2,010	e152	e96	e120	e108	2,050	315	938	851	171	156
6	171	1,670	e140	e96	e119	e110	1,910	294	1,520	751	153	255
7	151	1,410	e133	e96	e117	e112	1,640	284	2,150	667	126	264
8	133	1,220	e132	e96	e114	e112	1,440	307	2,800	581	102	229
9	118	1,110	e131	e96	e113	e111	1,270	327	3,250	514	89	212
10	119	1,040	e130	e95	e112	e111	1,160	370	3,080	462	71	208
11	132	980	e128	e95	e114	e110	1,140	426	2,710	420	91	210
12	110	917	e127	e95	e116	e109	1,410	483	3,160	390	73	209
13	121	853	e126	e95	e117	e108	1,780	486	3,290	372	65	196
14	110	818	e125	e94	e118	e108	1,560	494	3,450	353	69	180
15	114	795	e124	e94	e117	e107	1,310	530	3,340	324	67	177
16	116	754	e121	e94	e114	e108	1,150	581	2,900	295	70	164
17	107	713	e119	e95	e112	e108	1,060	562	2,360	283	81	155
18	112	671	e118	e96	e111	e109	959	520	1,940	280	113	134
19	116	637	e116	e97	e110	e111	880	479	1,580	265	132	123
20	108	619	e113	e99	e109	e113	812	445	1,290	241	184	116
21	113	609	e109	e101	e109	e117	716	434	1,060	232	207	107
22	121	585	e106	e103	e108	e120	667	444	921	229	179	95
23	134	536	e104	e104	e108	e127	616	496	821	234	154	88
24	265	e400	e102	e105	e108	e140	612	536	727	227	140	86
25	556	e370	e101	e106	e107	e170	542	531	651	214	146	79
26	593	e345	e100	e107	e107	e340	502	526	567	202	153	78
27	543	e323	e99	e108	e107	e680	493	928	513	196	154	76
28	485	e305	e99	e110	e107	e1,300	455	1,280	549	208	227	76
29	600	e285	e98	e111	---	e2,400	402	1,480	624	186	218	87
30	3,040	e270	e98	e112	---	e3,000	364	1,520	701	164	201	91
31	4,900	---	e98	e113	---	3,570	---	1,450	---	153	185	---
TOTAL	14,216	33,405	3,964	3,098	3,158	14,147	39,130	17,945	51,291	13,513	4,210	4,488
MEAN	459	1,114	128	99.9	113	456	1,304	579	1,710	436	136	150
MAX	4,900	4,460	240	113	120	3,570	3,590	1,520	3,450	1,160	227	264
MIN	107	270	98	94	107	107	364	284	513	153	65	76
AC-FT	28,200	66,260	7,860	6,140	6,260	28,060	77,610	35,590	101,700	26,800	8,350	8,900
CFSM	0.33	0.81	0.09	0.07	0.08	0.33	0.95	0.42	1.24	0.32	0.10	0.11
IN.	0.38	0.90	0.11	0.08	0.09	0.38	1.05	0.48	1.38	0.36	0.11	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2005, BY WATER YEAR (WY)

MEAN	194	167	97.2	77.4	74.5	253	1,164	695	525	411	214	201
MAX	1,350	1,233	321	221	385	1,136	3,507	5,059	3,042	2,389	1,686	1,599
(WY)	(1972)	(1972)	(2001)	(1998)	(1998)	(1995)	(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	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1909 - 2005	
ANNUAL TOTAL	136,800		202,565			
ANNUAL MEAN	374		555		a337	
HIGHEST ANNUAL MEAN					855 1950	
LOWEST ANNUAL MEAN					64.4 1939	
HIGHEST DAILY MEAN	4,900	Oct 31	4,900	Oct 31	9,930	Apr 25, 1979
LOWEST DAILY MEAN	70	Feb 4	65	Aug 13	0.10	Sep 15, 1936
ANNUAL SEVEN-DAY MINIMUM	71	Jan 31	72	Aug 10	0.24	Sep 12, 1936
MAXIMUM PEAK FLOW			5,740	Mar 31	b10,300	Apr 25, 1979
MAXIMUM PEAK STAGE			c12.95	Mar 29	d15.85	Mar 6, 1983
INSTANTANEOUS LOW FLOW			60	Aug 13	f0.00	Sep 15, 1936
ANNUAL RUNOFF (AC-FT)	271,300		401,800		244,100	
ANNUAL RUNOFF (CFSM)	0.271		0.402		0.244	
ANNUAL RUNOFF (INCHES)	3.69		5.46		3.32	
10 PERCENT EXCEEDS	903		1,460		800	
50 PERCENT EXCEEDS	171		187		120	
90 PERCENT EXCEEDS	79		98		39	

- a Median of annual mean discharges is 290 ft³/s.
- b Gage-height, 12.38 ft.
- c Backwater from ice.
- d From highwater mark, backwater from ice.
- e Estimated.
- f Also occurred Sep. 14, 1939, and Aug. 19-22, 1940.

