

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	93	e79	e97	e71	e94	e1,400	181	1,420	123	164	144
2	52	96	e86	e95	e71	e94	1,250	168	1,070	156	152	131
3	49	e52	e90	e93	e71	e93	1,170	171	890	167	133	127
4	63	e50	e92	e91	e70	e92	1,080	158	725	164	122	121
5	60	e49	e91	e89	e70	e92	956	153	634	181	131	118
6	51	e49	e91	e87	e70	e93	836	148	554	182	132	167
7	49	e90	e90	e86	e71	e95	764	140	469	195	152	294
8	56	e82	e88	e85	e71	e96	702	131	424	225	150	403
9	56	e72	e87	e84	e72	e98	656	136	368	249	193	341
10	53	e77	e86	e83	e73	e100	588	147	332	253	194	300
11	72	e83	e85	e82	e73	e90	535	161	310	263	243	247
12	72	e86	e84	e81	e73	e81	485	1,240	297	306	239	212
13	64	e76	e82	e80	e74	e81	439	2,090	288	391	216	188
14	61	e77	e81	e80	e74	e90	400	1,730	285	342	223	167
15	59	e79	e80	e79	e74	e100	361	1,370	279	310	198	154
16	57	e83	e79	e78	e74	e105	340	1,150	272	298	165	152
17	57	e88	e85	e78	e75	e108	324	1,020	247	285	139	160
18	57	e93	e91	e77	e76	e112	310	888	228	259	126	213
19	60	e83	e95	e77	e77	e113	309	762	226	240	109	204
20	61	e86	e100	e77	e78	e115	302	1,170	216	216	103	201
21	65	e99	e102	e76	e81	e117	282	1,080	206	212	95	218
22	62	e103	e102	e75	e83	e119	242	897	192	205	91	243
23	62	e80	e102	e74	e85	e130	238	803	181	202	89	284
24	64	e68	e101	e73	e88	e160	225	715	172	198	88	399
25	71	e66	e100	e72	e91	e190	212	674	159	201	88	493
26	64	e82	e102	e72	e94	e1,200	210	689	161	194	334	448
27	68	e59	e104	e72	e94	e1,820	216	682	143	168	330	377
28	86	e62	e105	e72	e93	e1,930	203	639	132	161	247	317
29	87	e67	e104	e71	e92	1,760	190	574	128	154	187	274
30	99	e73	e102	e71	---	e1,520	182	852	117	157	155	244
31	95	---	e100	e71	---	e1,420	---	1,600	---	182	151	---
TOTAL	1,990	2,303	2,866	2,478	2,259	12,308	15,407	22,319	11,125	6,839	5,139	7,341
MEAN	64.2	76.8	92.5	79.9	77.9	397	514	720	371	221	166	245
MAX	99	103	105	97	94	1,930	1,400	2,090	1,420	391	334	493
MIN	49	49	79	71	70	81	182	131	117	123	88	118
AC-FT	3,950	4,570	5,680	4,920	4,480	24,410	30,560	44,270	22,070	13,570	10,190	14,560
CFSM	0.05	0.06	0.07	0.06	0.06	0.29	0.37	0.52	0.27	0.16	0.12	0.18
IN.	0.05	0.06	0.08	0.07	0.06	0.33	0.42	0.60	0.30	0.18	0.14	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2004, BY WATER YEAR (WY)

MEAN	191	155	96.8	77.1	74.0	250	1,162	696	510	411	215	202
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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1909 - 2004	
ANNUAL TOTAL	67,659		92,374			
ANNUAL MEAN	185		252		a334	
HIGHEST ANNUAL MEAN					855 1950	
LOWEST ANNUAL MEAN					64.4 1939	
HIGHEST DAILY MEAN	2,420	Jun 27	2,090	May 13	9,930	Apr 25, 1979
LOWEST DAILY MEAN	35	Sep 7	49	Oct 3-7, Nov. 5-6	0.10	Sep 15, 1936
ANNUAL SEVEN-DAY MINIMUM	41	Sep 5	54	Oct 2	0.24	Sep 12, 1936
MAXIMUM PEAK FLOW			b2,210	May 12	c10,300	Apr 25, 1979
MAXIMUM PEAK STAGE			d8.72	Mar 27	f15.85	Mar 6, 1983
INSTANTANEOUS LOW FLOW			g30	Nov 3	h0.00	Sep 15, 1936
ANNUAL RUNOFF (AC-FT)	134,200		183,200		242,000	
ANNUAL RUNOFF (CFSM)	0.134		0.183		0.242	
ANNUAL RUNOFF (INCHES)	1.82		2.49		3.29	
10 PERCENT EXCEEDS	381		661		795	
50 PERCENT EXCEEDS	87		120		119	
90 PERCENT EXCEEDS	58		71		39	

- a Median of annual mean discharges is 290 ft³/s.
- b Gage-height, 6.16 ft.
- c Gage-height, 12.38 ft.
- d Backwater from ice.
- e Estimated.
- f From highwater mark, backwater from ice.
- g Also occurred Sep. 14, 1939, and Aug. 19-22, 1940.

