

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	e112	e78	e74	e64	e59	e240	144	271	892	152	63
2	155	e142	e79	e73	e64	e59	e219	144	290	760	152	61
3	153	e138	e77	e72	e64	e59	150	146	262	661	149	54
4	152	e138	e75	e71	e64	e59	100	164	267	615	148	50
5	148	e137	e74	e71	e63	e58	160	169	262	573	150	48
6	148	e136	e73	e70	e63	e58	173	177	236	530	156	44
7	157	e133	e73	e70	e63	e58	199	179	233	478	164	35
8	158	e128	e74	e70	e63	e57	178	167	255	432	144	36
9	151	e125	e76	e70	e63	e57	199	171	269	397	144	39
10	140	e121	e78	e70	e63	e57	212	229	391	366	141	40
11	145	e112	e79	e69	e63	e58	196	319	691	347	125	47
12	144	e90	e81	e69	e63	e58	168	357	730	333	111	56
13	155	e73	e82	e69	e62	e59	149	337	689	328	108	61
14	148	e69	e83	e68	e62	e64	138	297	606	337	101	54
15	142	e68	e82	e68	e62	e85	147	266	496	347	89	54
16	142	e67	e82	e68	e62	e230	153	241	419	362	82	53
17	140	e72	e81	e68	e62	e430	152	205	374	340	76	57
18	134	e78	e80	e68	e62	e490	163	225	354	322	69	58
19	130	e83	e79	e68	e62	e550	169	278	327	294	65	55
20	132	e86	e77	e67	e62	e540	189	417	292	281	63	65
21	142	e88	e76	e67	e62	e520	246	490	264	267	58	86
22	139	e88	e74	e67	e61	e470	240	459	372	243	56	67
23	139	e86	e73	e66	e61	e410	216	413	801	225	68	58
24	130	e82	e72	e66	e61	e370	201	401	699	226	70	76
25	126	e78	e71	e66	e60	e350	177	372	1,090	206	72	73
26	124	e72	e72	e66	e60	e320	169	334	2,390	198	81	59
27	139	e66	e72	e66	e60	e295	174	300	2,420	207	77	68
28	175	e67	e73	e65	e60	e275	164	286	1,750	179	76	67
29	170	e71	e74	e65	---	e260	150	269	1,300	153	74	61
30	157	e76	e74	e65	---	e245	149	256	1,080	154	70	59
31	e108	---	e75	e65	---	e230	---	249	---	153	70	---
TOTAL	4,476	2,882	2,369	2,117	1,741	6,890	5,340	8,461	19,880	11,206	3,161	1,704
MEAN	144	96.1	76.4	68.3	62.2	222	178	273	663	361	102	56.8
MAX	175	142	83	74	64	550	246	490	2,420	892	164	86
MIN	108	66	71	65	60	57	100	144	233	153	56	35
AC-FT	8,880	5,720	4,700	4,200	3,450	13,670	10,590	16,780	39,430	22,230	6,270	3,380
CFSM	0.10	0.07	0.06	0.05	0.05	0.16	0.13	0.20	0.48	0.26	0.07	0.04
IN.	0.12	0.08	0.06	0.06	0.05	0.19	0.14	0.23	0.54	0.30	0.09	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2003, BY WATER YEAR (WY)

MEAN	192	156	96.8	77.1	74.0	248	1,171	696	512	413	216	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1909 - 2003	
ANNUAL TOTAL	165,249		70,227			
ANNUAL MEAN	453		192		a335	
HIGHEST ANNUAL MEAN					855 1950	
LOWEST ANNUAL MEAN					64.4 1939	
HIGHEST DAILY MEAN	5,510	Sep 1	2,420	Jun 27	9,930	Apr 25, 1979
LOWEST DAILY MEAN	66	Nov 27	35	Sep 7	0.10	Sep 15, 1936
ANNUAL SEVEN-DAY MINIMUM	72	Dec 22	41	Sep 5	0.24	Sep 12, 1936
MAXIMUM PEAK FLOW			2,640	Jun 26	b10,300	Apr 25, 1979
MAXIMUM PEAK STAGE			6.67	Jun 26	c15.85	Mar 6, 1983
INSTANTANEOUS LOW FLOW			30	Sep 7	d0.00	Sep 15, 1936
ANNUAL RUNOFF (AC-FT)	327,800		139,300		242,800	
ANNUAL RUNOFF (CFSM)	0.33		0.14		0.24	
ANNUAL RUNOFF (INCHES)	4.45		1.89		3.30	
10 PERCENT EXCEEDS	1,300		381		795	
50 PERCENT EXCEEDS	164		126		119	
90 PERCENT EXCEEDS	80		60		38	

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

