

RED RIVER OF THE NORTH BASIN--Continued

05078500 CLEARWATER RIVER AT RED LAKE FALLS, MN

LOCATION.--Lat 47°53'15", long 96°16'25", in NW¹/₄NE¹/₄ sec. 22, T.151 N., R.44 W., Red Lake County, Hydrologic Unit 09020305, on left bank 40 ft downstream from Great Northern Railroad 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 discharge only for October, November, 1934, published in WSP 1308. October 1981 to February 1982, operated as a high-flow partial-record station.

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 fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	612	265	e115	e120	e100	e350	215	353	231	859	211	192
2	571	263	e138	e119	e99	e315	220	357	222	777	212	225
3	541	274	e160	e119	e99	e290	236	325	229	700	192	297
4	509	244	e150	e118	e98	e275	232	302	253	642	200	329
5	491	236	e147	e118	e98	e280	277	302	246	633	184	336
6	460	240	e143	e117	e97	e290	317	292	241	647	192	327
7	434	264	e141	e116	e96	e300	373	276	262	697	190	341
8	410	252	e140	e115	e95	e300	393	298	218	1280	208	393
9	400	255	e139	e115	e95	e280	399	324	184	1470	201	380
10	402	262	e139	e114	e95	e265	384	370	163	1380	197	314
11	390	261	e138	e114	e95	e245	358	343	171	1090	170	278
12	382	260	e135	e113	e95	e220	342	330	170	921	155	259
13	365	258	e132	e112	e95	e213	333	337	145	855	146	238
14	342	253	e140	e112	e94	e195	326	367	193	755	185	213
15	323	244	e145	e111	e94	e190	320	378	254	641	196	191
16	320	246	e140	e110	e94	e168	359	357	291	556	292	176
17	315	245	e133	e109	e94	e167	392	310	327	500	395	171
18	340	237	e130	e108	e94	e160	402	289	347	435	367	165
19	326	218	e157	e108	e94	e162	373	265	359	411	339	156
20	319	190	e150	e107	e96	191	360	248	1200	369	318	149
21	316	e185	e145	e107	e98	211	350	249	2910	340	306	143
22	323	e195	e140	e106	e100	e217	329	244	3350	314	295	158
23	344	e205	e137	e106	e104	197	333	242	3240	290	292	173
24	331	e165	e134	e105	e120	227	340	250	2960	264	265	245
25	315	e135	e132	e104	e200	318	338	259	2590	255	237	318
26	307	e145	e130	e104	e350	352	322	251	2140	288	225	314
27	294	e152	e129	e103	e500	328	327	237	1790	275	230	290
28	274	e110	e127	e103	e430	309	333	230	1480	285	218	259
29	278	e80	e125	e102	e364	275	324	235	1190	261	207	229
30	267	e95	e124	e101	---	254	340	245	986	245	205	218
31	265	---	e122	e100	---	229	---	242	---	235	200	---
TOTAL	11566	6434	4257	3416	4183	7773	9947	9107	28342	18670	7230	7477
MEAN	373	214	137	110	144	251	332	294	945	602	233	249
MAX	612	274	160	120	500	352	402	378	3350	1470	395	393
MIN	265	80	115	100	94	160	215	230	145	235	146	143
AC-FT	22940	12760	8440	6780	8300	15420	19730	18060	56220	37030	14340	14830
CFSM	.27	.16	.10	.08	.10	.18	.24	.21	.68	.44	.17	.18
IN.	.31	.17	.11	.09	.11	.21	.27	.25	.76	.50	.19	.20

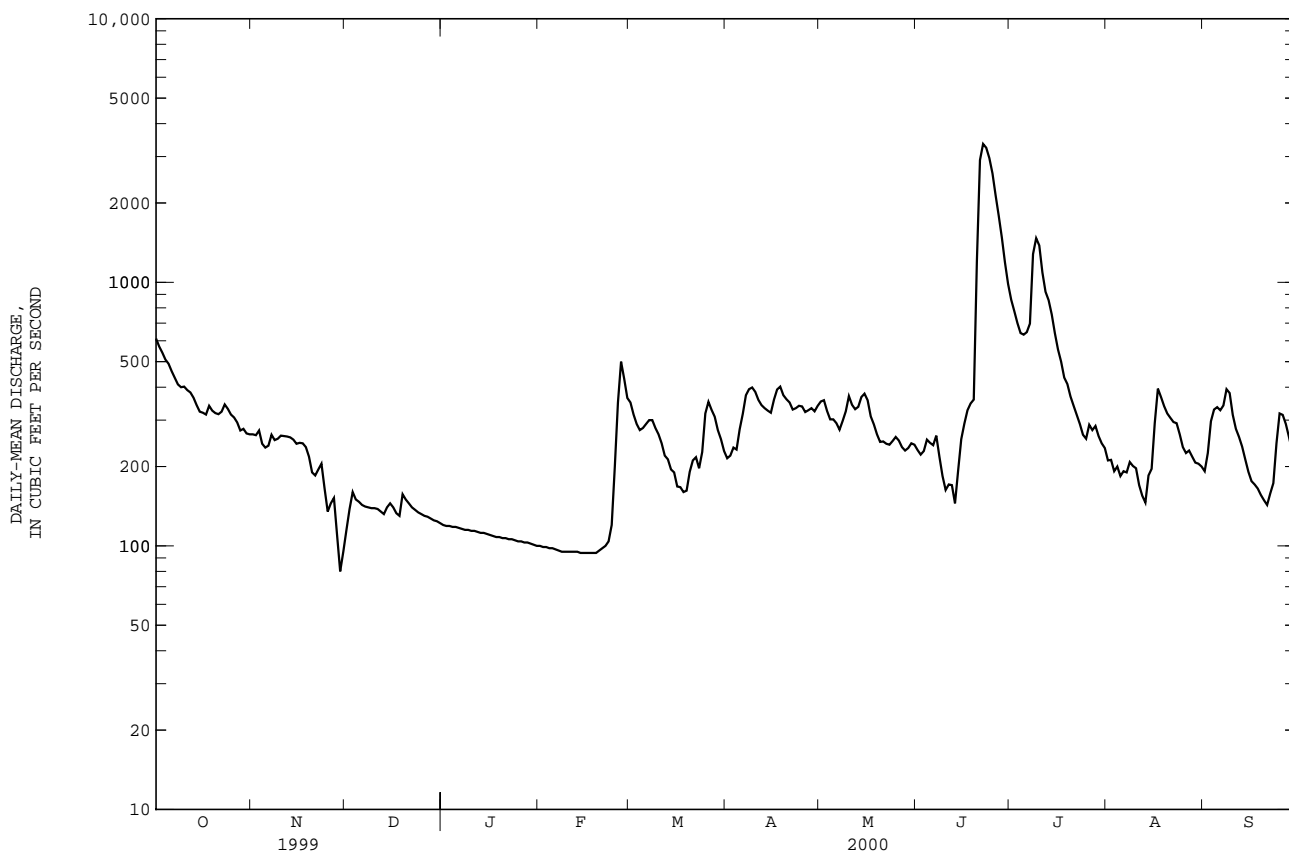
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	191	142	93.5	74.5	72.1	251	1173	699	494	407	210	197
MAX	1350	1233	260	221	385	1136	3507	5059	3042	2389	1686	1599
(WY)	1972	1972	1910	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 1999 CALENDAR YEAR		FOR 2000 WATER YEAR		WATER YEARS 1909 - 2000	
ANNUAL TOTAL	275422		118402		331 ^a	
ANNUAL MEAN	755		324		855	
HIGHEST ANNUAL MEAN					64.4	
LOWEST ANNUAL MEAN					1939	
HIGHEST DAILY MEAN	5680	Mar 31	3350	Jun 22	9930	Apr 25 1979
LOWEST DAILY MEAN	80	Nov 29	80 ^b	Nov 29	.10	Sep 15 1936
ANNUAL SEVEN-DAY MINIMUM	119	Nov 25	94	Feb 13	.24	Sep 12 1936
INSTANTANEOUS PEAK FLOW			3410	Jun 22	10300 ^c	Apr 25 1979
INSTANTANEOUS PEAK STAGE			7.47	Jun 22	15.85 ^d	Mar 6 1983
INSTANTANEOUS LOW FLOW					.00 ^e	Sep 15 1936
ANNUAL RUNOFF (AC-FT)	546300		234900		239800	
ANNUAL RUNOFF (CFSM)	.55		.23		.24	
ANNUAL RUNOFF (INCHES)	7.42		3.19		3.26	
10 PERCENT EXCEEDS	1780		434		801	
50 PERCENT EXCEEDS	375		246		115	
90 PERCENT EXCEEDS	128		107		38	

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



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1963-66, 1979, 1992, 1995, 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)
SEP 28...	1150	264	551	8.0	9.1	6.5	11.1