

RED RIVER OF THE NORTH BASIN--Continued

05078000 CLEARWATER RIVER AT PLUMMER, MN

LOCATION.--Lat 47°55'24", long 96°02'46", in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec. 4, T.151 N., R.42 W., Red Lake County, Hydrologic Unit 09020305, on right bank 200 ft downstream from Soo Line Railroad bridge, 300 ft downstream from bridge on U.S. Highway 59, 0.9 mi northwest of railroad depot in Plummer, and 8 mi upstream from Hill River.

DRAINAGE AREA.--555 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1939 to September 1979, March 1982 to current year. Annual maximums only, October 1979 to February 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,098.57 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Nov. 10, 1939, nonrecording gage at site 100 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Since 1968, undetermined amounts of water diverted for the flooding of wild rice paddies upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 630 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr 1	0930	*2,380	10.57	May 13	1700	1,960	9.34
Apr 6	0330	2,060	9.52	Sep 6	0300	2,090	9.57

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	49	e100	e70	e72	e79	2300	150	251	172	240	190
2	36	55	e104	e69	e72	e80	1920	149	218	165	201	543
3	35	51	e106	e69	e72	e81	1490	140	195	159	194	682
4	34	48	e106	e68	e72	e82	1350	132	185	154	207	978
5	54	50	e107	e68	e72	e83	1750	149	189	266	190	1650
6	50	57	e105	e68	e72	e84	1990	149	290	307	160	1990
7	33	47	e103	e68	e72	e85	1800	182	422	346	155	1580
8	44	47	e103	e68	e72	e87	1680	302	438	305	167	1220
9	43	51	e103	e68	e72	e88	1550	357	425	328	149	979
10	35	63	e100	e68	e73	e90	1410	601	555	484	159	781
11	40	45	e98	e68	e73	e91	1260	1050	614	588	161	628
12	42	e45	e96	e68	e73	e93	1120	1590	597	611	182	584
13	44	e48	e95	e68	e73	e95	986	1890	579	550	348	606
14	36	e51	e93	e68	e73	e98	859	1850	515	470	407	654
15	29	e50	e91	e69	e73	e101	763	1660	437	415	330	687
16	67	e49	e91	e69	e73	e105	640	1510	377	399	279	647
17	99	e47	e91	e69	e73	e110	585	1360	329	439	261	571
18	171	e46	e91	e70	e73	e117	581	1210	288	410	242	506
19	158	e45	e90	e71	e73	e127	534	1050	250	338	231	455
20	121	e44	e89	e71	e73	e140	450	931	227	306	207	417
21	88	e46	e87	e72	e73	e160	385	821	198	294	196	378
22	70	e49	e85	e72	e73	e175	339	714	169	270	189	348
23	71	e54	e84	e72	e74	e205	310	613	163	279	259	318
24	69	e59	e82	e72	e75	e250	300	536	175	275	391	291
25	70	e65	e81	e72	e76	e330	298	471	166	261	316	267
26	73	e70	e78	e72	e76	e450	290	409	161	280	259	258
27	69	e75	e77	e73	e77	e750	237	366	161	382	224	290
28	57	e82	e75	e73	e78	e1100	188	321	156	407	199	310
29	49	e88	e73	e73	---	e1750	165	271	149	375	183	289
30	47	e94	e72	e73	---	e1950	142	232	155	303	171	276
31	46	---	e71	e72	---	e2000	---	235	---	265	162	---
TOTAL	1916	1670	2827	2171	2053	11036	27672	21401	9034	10603	7019	19373
MEAN	61.8	55.7	91.2	70.0	73.3	356	922	690	301	342	226	646
MAX	171	94	107	73	78	2000	2300	1890	614	611	407	1990
MIN	29	44	71	68	72	79	142	132	149	154	149	190
AC-FT	3800	3310	5610	4310	4070	21890	54890	42450	17920	21030	13920	38430
CFSM	.11	.10	.16	.13	.13	.64	1.66	1.24	.54	.62	.41	1.16
IN.	.13	.11	.19	.15	.14	.74	1.85	1.43	.61	.71	.47	1.30

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	115	91.6	65.2	52.8	51.1	121	542	365	253	226	124	114
MAX	483	503	140	90.1	184	445	1472	1974	1140	1072	507	666
(WY)	1972	1972	1978	1952	1998	1995	1997	1950	1962	1997	1985	1973
MIN	21.5	23.8	24.4	18.4	19.0	22.8	26.8	7.52	30.1	16.0	13.3	14.1
(WY)	1941	1991	1990	1940	1940	1940	1977	1977	1991	1940	1940	1940

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1939 - 1999
ANNUAL TOTAL	63930	116775	
ANNUAL MEAN	175	320	178 <sup>a</sup>
HIGHEST ANNUAL MEAN			354
LOWEST ANNUAL MEAN			57.0
HIGHEST DAILY MEAN	2860	May 17	2300
LOWEST DAILY MEAN	29	Oct 15	29
ANNUAL SEVEN-DAY MINIMUM	37	Sep 7	38
INSTANTANEOUS PEAK FLOW			2380
INSTANTANEOUS PEAK STAGE			11.59 <sup>c</sup>
INSTANTANEOUS LOW FLOW			26
ANNUAL RUNOFF (AC-FT)	126800	231600	128700
ANNUAL RUNOFF (CFSM)	.32	.58	.32
ANNUAL RUNOFF (INCHES)	4.29	7.83	4.35
10 PERCENT EXCEEDS	338	770	415
50 PERCENT EXCEEDS	88	158	77
90 PERCENT EXCEEDS	42	53	33

a Median of annual mean discharges is 176 ft<sup>3</sup>/s.  
 b Gage-height, 12.31 ft.  
 c Backwater from ice

