05078000 CLEARWATER RIVER AT PLUMMER, MN

Lower Red Basin
Clearwater Subbasin

LOCATION.--Lat 47°55′24″, long 96°02′46″ referenced to North American Datum of 1927, in SE ¼ SW ¼ sec.4, T.151 N., R.42 W., Red Lake County, MN, 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^2.

SURFACE-WATER RECORDS

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

REVISED RECORDS.--1968(M).

GAGE.--Water-stage recorder. Datum of gage is 1,098.57 ft above sea level (NGVD of 1929, levels by U.S. Army Corps of Engineers). Prior to Nov. 10, 1939, non-recording 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^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 24	(daily)	e3,300	--
May 27	0000	680	5.75
Jun 27	1830	812	6.23

Minimum discharge, 32 ft^3/s, Oct. 2, gage height, 2.55 ft

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	37	116	e134	e96	e77	e70	2,550	522	350	198	77	76
2	35	104	e134	e95	e77	e67	2,410	540	337	149	92	67
3	48	102	e132	e94	e78	e67	2,120	502	330	111	90	69
4	50	108	e128	e94	e77	e77	1,890	455	314	88	89	65
5	45	127	e125	e92	e77	e87	1,760	406	292	78	87	57
6	53	156	e119	e91	e78	e84	1,640	363	260	61	87	53
7	78	347	e113	e90	e78	e82	1,490	353	235	66	93	52
8	102	424	e109	e89	e78	e80	1,350	359	220	70	101	52
9	100	398	e106	e88	e81	e84	1,280	354	219	72	105	67
10	85	342	e106	e88	e84	e84	1,160	347	226	61	99	74
11	67	296	e105	e87	e85	e87	1,060	334	222	57	111	84
12	191	266	e105	e87	e84	e87	998	286	213	60	127	83
13	474	253	e104	e86	e83	e97	972	304	199	57	116	87
14	508	267	e102	e85	e82	e102	945	371	187	56	96	82
15	410	267	e101	e85	e81	e112	889	401	184	74	128	73
16	290	250	e101	e85	e79	e117	843	403	160	88	215	66
17	226	225	e100	e85	e78	e146	827	396	141	90	298	67
18	184	e212	e100	e85	e77	e188	813	376	153	96	292	59
19	169	e204	e99	e85	e77	e220	805	339	149	84	227	51
20	160	e198	e99	e84	e76	e343	788	313	151	63	197	47
21	138	e171	e99	e84	e75	e721	750	304	156	52	205	50
22	121	e161	e98	e83	e74	e1,140	683	303	154	54	184	48
23	122	e163	e98	e83	e73	e2,350	626	309	134	57	159	48
24	144	e159	e98	e83	e72	e3,300	546	285	110	94	141	48
25	148	e156	e98	e82	e70	e3,100	504	257	95	116	128	46
26	163	e150	e98	e82	e72	e2,840	503	547	83	108	119	46
27	161	e146	e97	e81	e72	e2,730	495	630	576	98	112	49
28	149	e142	e97	e80	e72	e2,650	497	502	639	95	123	45
29	132	e140	e97	e79	---	e2,580	462	446	392	87	106	45
30	124	e136	e97	e78	---	e2,530	472	405	267	81	99	43
31	121	---	e96	e78	---	2,460	---	363	---	80	89	---
Total	4,835	6,186	3,295	2,664	2,167	28,682	32,128	12,075	7,148	2,601	4,192	1,799
Mean	156	206	106	85.9	77.4	925	1,071	390	238	83.9	135	60.0
Max	508	424	134	96	85	3,300	2,550	630	639	198	298	87
Min	35	102	96	78	70	67	462	257	83	52	77	43
Ac-ft	9,590	12,270	6,540	5,280	4,300	56,890	63,730	23,950	14,180	5,160	8,310	3,570
Cfsm	0.28	0.37	0.19	0.15	0.14	1.67	1.93	0.70	0.43	0.15	0.24	0.11
In.	0.32	0.41	0.22	0.18	0.15	1.92	2.15	0.81	0.48	0.17	0.28	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	113	103	67.7	55.1	52.7	131	530	352	276	222	123	110
Max	483	617	211	125	184	925	1,472	1,974	1,140	1,072	507	666
(WY)	(1972)	(2001)	(2001)	(2001)	(1998)	(2009)	(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)

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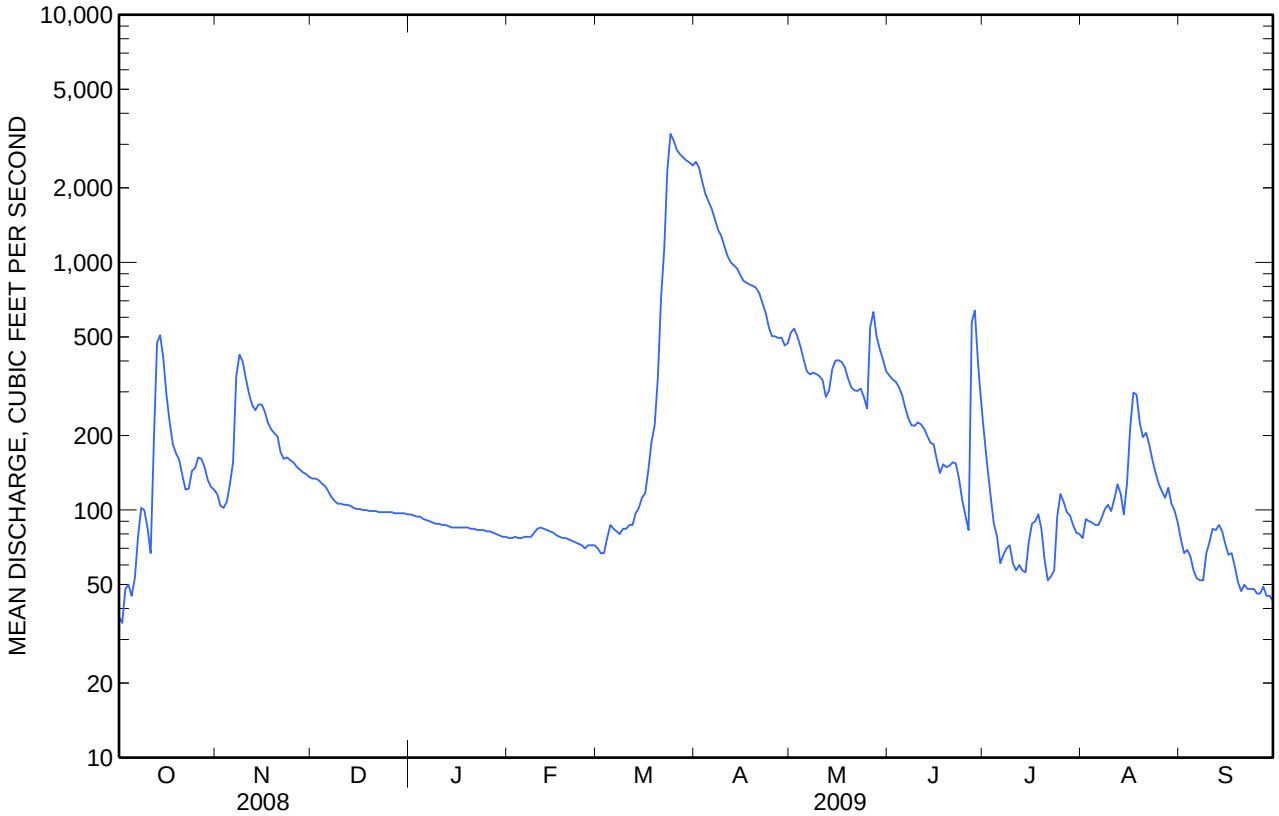
SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1939 - 2009	
Annual total	51,457		107,772			
Annual mean	141		295		[a]179	
Highest annual mean					354	1950
Lowest annual mean					57.0	1990
Highest daily mean	620	Jun 14	[b]3,300	Mar 24	3,840	Apr 25, 1979
Lowest daily mean	34	Sep 1	35	Oct 2	2.6	May 16, 1977
Annual seven-day minimum	38	Mar 1	46	Sep 24	2.9	May 10, 1977
Maximum peak flow			[b]3,300	Mar 24	[c]3,940	Apr 25, 1979
Maximum peak stage			[d]13.23	Mar 24	[d]13.23	Mar 24, 2009
Instantaneous low flow			32	Oct 2	2.5	May 16, 1977
Annual runoff (ac-ft)	102,100		213,800		129,500	
Annual runoff (cfsm)	0.253		0.532		0.322	
Annual runoff (inches)	3.45		7.22		4.37	
10 percent exceeds	331		596		411	
50 percent exceeds	98		108		79	
90 percent exceeds	41		67		35	

[a] Median of annual-mean discharges is 170 ft³/s.

[b] Estimated daily-mean discharge, backwater from ice.

[c] Gage-height, 12.31 ft.

[d] Backwater from ice.