

RED RIVER OF THE NORTH BASIN

05076000 THIEF RIVER NEAR THIEF RIVER FALLS, MN

LOCATION.--Lat 48° 11'08", long 96° 10'11", in NW¼SW¼ sec. 3, T.154 N., R.43 W., Marshall County, Hydrologic Unit 09020304, on right bank, 0.2 mi upstream from highway bridge, 5 mi north of Thief River Falls, 7 mi upstream from mouth, and 9 mi downstream from Mud Lake National Wildlife Refuge.

DRAINAGE AREA.--959 mi².

PERIOD OF RECORD.--July 1909 to September 1917, April 1920 to September 1921, October 1922 to September 1924, October 1928 to September 1981, March 1982 to current year. Monthly discharge only for some periods, annual maximums for water years 1919, 1922, 1925, 1926, published in WSP 1308. October 1981 to February 1982, operated as a high-flow partial-record station.

REVISED RECORDS.--WSP 925: Drainage area. WSP 1308: 1917(M), 1924(M), 1929(M), 1931-33(M), 1935(M), 1937(M).

GAGE.--Water-stage recorder and control of grouted boulders. Datum of gage is 1,112.33 ft above mean sea level (levels by Minnesota Department of Transportation). Prior to May 4, 1939, nonrecording gages at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Thief and Mud Lakes.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
1	27	214	e60	e25	e4.2	e2.4	e200	2640	1460
450	270	8.0							
2	27	203	e56	e23	e3.9	e2.4	e450	2580	1430
1150	269	5.0							
3	24	216	e53	e22	e3.5	e2.4	e660	2490	1460
2050	266	3.6							
4	20	232	e50	e21	e3.0	e2.5	e900	2420	1430
2320	264	2.6							
5	18	211	e49	e20	e2.7	e2.5	e900	2340	1420
2220	259	2.1							
6	18	243	e47	e19	e2.6	e2.4	e890	2270	1310
2010	151	1.7							
7	18	273	e46	e18	e2.5	e2.3	e880	2220	859
1750	125	1.7							

8	17	302	e45	e17	e2.4	e3.8	e870	2270	747
1530	122	2.8							
9	17	291	e45	e16	e2.3	e4.5	e860	2330	714
1380	120	5.0							
10	13	e250	e44	e14	e2.2	e6.4	e850	2260	694
1240	120	3.3							
11	14	e200	e44	e13	e2.0	e6.0	e900	2180	678
1160	119	2.4							
12	11	e170	e44	e12	e1.9	e5.8	e950	2170	662
886	117	1.8							
13	10	e140	e45	e10	e1.8	e5.5	e1000	2140	650
840	114	1.7							
14	9.6	e130	e45	e9.0	e1.8	e5.0	e1080	2090	637
890	114	1.6							
15	13	e120	e46	e8.2	e1.8	e5.0	e1190	2060	629
973	116	1.7							
16	15	e110	e46	e8.0	e1.7	e10	e1040	2010	626
908	116	2.6							
17	23	e105	e46	e8.0	e1.7	e35	e1200	1950	622
804	114	6.4							
18	31	e100	e47	e8.5	e1.7	e50	e1600	1890	623
736	112	7.3							
19	33	e97	e47	e9.0	e1.7	e87	e2500	1830	620
694	111	4.8							
20	49	e95	e46	e9.2	e1.7	e84	3440	1750	621
664	111	14							
21	51	e92	e44	e9.3	e1.8	e80	3750	1670	615
636	107	22							
22	43	e89	e43	e9.0	e1.9	e78	4080	1670	607
591	39	21							
23	168	e86	e41	e9.0	e1.9	e74	4080	1680	603
354	29	24							
24	198	e82	e38	e8.8	e1.9	e72	4000	1680	565
310	27	24							
25	197	e76	e37	e8.3	e2.0	e70	3870	1640	580
300	26	25							
26	202	e72	e36	e7.4	e2.1	e68	3690	1590	558
299	24	40							
27	203	e70	e36	e7.0	e2.2	e68	3370	1560	508
298	20	15							
28	196	e70	e34	e6.2	e2.3	e70	3040	1480	411
289	16	6.5							
29	150	e66	e31	e5.6	---	e76	2810	1470	429
282	16	4.7							
30	137	e62	e30	e5.0	---	e86	2670	1500	461
277	15	5.1							
31	154	---	e28	e4.7	---	e130	---	1520	---
272	13	---							
TOTAL	2106.6	4467	1349	370.2	63.2	1196.9	57720	61350	23229
28563	3442	267.4							

MEAN	68.0	149	43.5	11.9	2.26	38.6	1924	1979	774
921	111	8.91							
MAX	203	302	60	25	4.2	130	4080	2640	1460
2320	270	40							
MIN	9.6	62	28	4.7	1.7	2.3	200	1470	411
272	13	1.6							
AC-FT	4180	8860	2680	734	125	2370	114500	121700	46070
56650	6830	530							
CFSM	.07	.16	.05	.01	.00	.04	2.01	2.06	.81
.96	.12	.01							
IN.	.08	.17	.05	.01	.00	.05	.24	2.38	.90
1.11	.13	.01							

-
- e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
JUL	AUG	SEP							
MEAN	87.4	67.5	20.3	5.68	3.41	75.8	597	492	297
222	98.0	97.2							
MAX	637	844	206	100	45.0	773	2827	4274	1774
2103	1012	1012							
(WY)	1986	1972	1945	1910	1910	1995	1966	1950	1962
1975	1993	1993							
MIN	.000	.000	.000	.000	.000	.000	7.75	1.83	.032
.000	.000	.000							
(WY)	1911	1911	1911	1911	1911	1930	1981	1990	1980
1932	1932	1929							

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1909 - 1997

ANNUAL TOTAL		176288.4		184124.3		
ANNUAL MEAN		482		504		171a
HIGHEST ANNUAL MEAN						
607		1966				
LOWEST ANNUAL MEAN						
1.28		1939				
HIGHEST DAILY MEAN			3280	Apr 26	4080	Apr 22, 23
May 13	1950					5580
LOWEST DAILY MEAN			1.5	Feb 12	1.6	Sep 14
Oct 1	1910					.00
				to Mar 8		
ANNUAL SEVEN-DAY MINIMUM			1.5	Feb 12	1.7	Feb 14
Oct 1	1910					.00
INSTANTANEOUS PEAK FLOW					4120	Apr 22b
May 13	1950					5610
INSTANTANEOUS PEAK STAGE					16.33	Apr 18c
May 13	1950					17.38
ANNUAL RUNOFF (AC-FT)			349700		365200	124100

ANNUAL RUNOFF (CFSM)	.50	.53	.18
ANNUAL RUNOFF (INCHES)	6.84	7.14	2.43
10 PERCENT EXCEEDS	1680	1750	543
50 PERCENT EXCEEDS	90	76	8.3
90 PERCENT EXCEEDS	1.7	2.5	.00

a Median of annual mean discharges is 122 ft³/s.

b Gage height, 15.20 ft.

c Backwater from ice.