

# RED RIVER OF THE NORTH BASIN

## 05064500 RED RIVER OF THE NORTH AT HALSTAD, MN

LOCATION.--Lat 4721'10", long 9650'50", on line between secs.24 and 25, T.145 N., R.49 W., Trail County, Hydrologic Unit 09020107, on left bank on upstream side of highway bridge, 0.5 mi west of Halstad, 2.5 mi downstream from Wild Rice River, and at mile 375.2.

DRAINAGE AREA.--21,800 mi<sup>2</sup>, approximately, including 3,800 mi<sup>2</sup> in closed basins.

PERIOD OF RECORD.--April 1936 to June 1937 (no winter records), April 1942 to September 1960 (spring and summer months only), May 1961 to current year.

REVISED RECORDS.--WSP 1388: 1936, 1950. WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 826.65 ft above sea level. Prior to July 17, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods of estimated discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1897 reached a stage of about 38.5 ft.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

### DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	1240	e1260	e950	e900	e16500	9760	3190	4470	14700	2530	1300
2	998	1250	e1240	e950	e910	e18000	9970	3140	4330	15200	2450	1280
3	983	1230	e1200	e930	e920	e19000	9960	3060	4200	15500	2390	1260
4	983	1130	e1130	e950	e920	e18000	9670	2970	4030	15300	2330	1260
5	987	1150	e1110	e950	e930	e14500	9110	2840	3810	14200	2280	1230
6	996	1170	e1110	e940	e930	e12200	8570	2710	3590	12600	2230	1190
7	994	1180	e1100	e930	e930	e10100	8310	2630	3390	11500	2180	1170
8	996	1170	e1050	e930	e930	e8500	8270	2570	3200	11800	2130	1150
9	1020	1210	e1020	e930	e920	e7400	8080	2610	2990	12700	2040	1130
10	1090	1300	e990	e940	e920	e6500	7730	2630	2780	13200	1870	1120

11	1160	1340	e1040	e940	e950	e6000	7290	2620	2640	13200	1750	1110
12	1140	1240	e1150	e950	e960	e6000	6800	3130	2690	12700	1740	1100
13	1240	e1200	e1200	e970	e980	e5900	6360	7280	2680	11800	1730	1100
14	1700	e1170	e1230	e970	e1000	e5900	6110	9960	2720	10500	1700	1120
15	2090	e1150	e1250	e950	e1000	e6000	6040	10700	2860	9150	1700	1130
16	2190	e1150	e1300	e930	e1000	e6500	5750	12800	2940	8060	1690	1060
17	2300	e1150	e1300	e930	e1020	6850	5360	15600	3010	6860	1670	1040
18	2340	e1150	e1300	e930	e1050	6510	5010	17400	3030	5800	1640	1020
19	2320	e1140	e1300	e920	e1100	6080	4690	18600	4590	5100	1630	1000
20	2240	e1120	e1280	e910	e1200	5800	4420	19200	9060	4700	1590	968
21	2130	e1100	e1230	e910	e1300	5640	4150	19100	11100	4450	1540	896
22	2010	e1090	e1180	e910	e1500	6310	3900	18200	11100	4260	1480	826
23	1910	e1100	e1120	e910	e1800	7340	3690	16400	10000	4100	1500	851
24	1860	e1130	e1060	e910	e2300	7580	3530	14200	8670	3880	1460	935
25	e1700	e1150	e1050	e920	e3200	7400	3370	11900	7580	3670	1300	904
26	e1550	e1160	e1000	e920	e4900	7200	3240	9470	6920	3450	1310	768
27	e1450	e1170	e1000	e920	e7700	7110	3140	7210	6980	3180	1370	658
28	1340	e1200	e1020	e920	e12500	7280	3140	5700	9390	2900	1410	743
29	1320	e1250	e1000	e910	---	7490	3220	5010	11900	2760	1400	752
30	1270	e1280	e1000	e900	---	8060	3230	4680	13600	2690	1370	819
31	1240	---	e970	e900	---	9170	---	4560	---	2610	1340	---
TOTAL	46557	35470	35190	28830	54670	272820	181870	262070	170250	262520	54750	30890
MEAN	1502	1182	1135	930	1953	8801	6062	8454	5675	8468	1766	1030
MAX	2340	1340	1300	970	12500	19000	9970	19200	13600	15500	2530	1300
MIN	983	1090	970	900	900	5640	3140	2570	2640	2610	1300	658
AC-FT	92350	70350	69800	57180	108400	541100	360700	519800	337700	520700	108600	61270
CFSM	.08	.07	.06	.05	.11	.49	.34	.47	.32	.47	.10	.06
IN.	.10	.07	.07	.06	.11	.56	.38	.54	.35	.54	.11	.06

**e Estimated**

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	810	727	567	478	529	2471	7821	3810	2714	2787	1141	730
MAX	2875	1843	1253	1023	1953	9444	38460	15570	10310	20060	11700	3360
(WY)	1995	1995	1987	1987	1998	1995	1997	1997	1962	1975	1993	1993
MIN	61.5	92.3	51.2	32.1	45.9	249	705	449	242	153	59.5	38.4
(WY)	1977	1977	1977	1977	1977	1962	1981	1977	1977	1988	1977	1976

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1961 - 1998		
ANNUAL TOTAL	2255145		1435887				
ANNUAL MEAN	6178		3934		2063		
HIGHEST ANNUAL MEAN					6028		1997
LOWEST ANNUAL MEAN					214		1977
HIGHEST DAILY MEAN	69900		Apr 19	19200	May 20	69900	Apr 19 1997
LOWEST DAILY MEAN	660		Jan 12	658	Sep 27	10	Sep 2 1976
ANNUAL SEVEN-DAY MINIMUM	691		Jan 11	797	Sep 24	17	Aug 28 1976
INSTANTANEOUS PEAK FLOW				19200	May 20	71500	Apr 19 1997
INSTANTANEOUS PEAK STAGE				28.30	Mar 2	40.74	Apr 19 1997
INSTANTANEOUS LOW FLOW						5.4	Oct 8 1936
ANNUAL RUNOFF (AC-FT)	4473000		2848000		1495000		
ANNUAL RUNOFF (CFSM)	.34		.22		.11		
ANNUAL RUNOFF (INCHES)	4.66		2.97		1.56		
10 PERCENT	17800		10300		4550		

EXCEEDS							
50 PERCENT EXCEEDS	1550		1700		810		
90 PERCENT EXCEEDS	992		930		217		

