

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

LOCATION.--Lat 47°21'10", long 96°50'50", on line between secs.24 and 25, T.145 N., R.49 W., Traill County, ND. Hydrologic Unit 09020107, on left bank on upstream side of highway bridge, 0.5 mi west of Halstad, MN, 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 for periods of estimated discharge, which are poor.

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

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	953	899	e1,060	e785	e555	e495	2,320	1,940	2,640	11,200	1,900	254
2	905	875	e1,090	e780	e560	e490	2,130	1,880	2,480	10,700	1,740	281
3	926	851	e1,100	e775	e565	e490	1,880	1,820	2,330	10,200	1,690	291
4	933	885	e1,090	e760	e570	e490	1,700	1,770	2,170	9,490	1,630	290
5	924	906	e1,080	e750	e565	e490	1,600	1,780	2,020	8,260	1,530	275
6	967	949	e1,070	e755	e560	e475	1,500	1,970	1,900	6,720	1,430	266
7	975	948	e1,060	e760	e560	e465	1,430	2,280	1,870	5,480	1,340	261
8	967	937	e1,040	e765	e555	e460	1,520	2,380	2,260	4,670	1,240	261
9	910	947	e1,030	e765	e550	e455	1,640	2,530	2,220	4,190	1,180	252
10	889	953	e1,020	e765	e540	e455	1,700	3,270	2,020	4,080	1,140	242
11	923	962	e1,030	e750	e535	e450	1,680	3,740	2,050	4,070	1,120	228
12	909	948	e1,030	e750	e530	e450	1,610	3,820	2,250	4,100	1,090	225
13	928	923	e1,030	e745	e530	e450	1,560	3,800	2,420	4,420	1,050	244
14	937	844	e1,020	e735	e525	e445	1,530	3,770	2,470	4,540	1,020	261
15	920	e850	e1,020	e725	e520	e447	1,520	3,730	2,390	4,380	986	353
16	902	e865	e1,010	e705	e520	e478	1,490	3,610	2,180	4,140	956	307
17	897	e920	e1,000	e690	e525	e566	1,480	3,600	2,020	3,850	913	276
18	903	e980	e965	e665	e530	e896	1,590	3,640	1,930	3,560	830	284
19	920	e1,030	e920	e655	e530	e1,380	1,720	3,950	1,820	3,320	741	288
20	941	e1,060	e870	e640	e530	e1,950	2,000	4,230	1,740	3,130	682	329
21	932	e1,090	e825	e630	e530	e2,230	2,350	4,450	1,650	2,930	631	346
22	941	e1,070	e780	e600	e520	e2,250	2,630	4,520	1,560	2,710	556	349
23	941	e1,030	e740	e580	e520	e2,080	2,830	4,210	1,650	2,530	450	358
24	943	e1,020	e700	e565	e510	e1,930	2,800	3,860	3,820	2,430	357	359
25	955	e1,020	e695	e555	e505	e1,960	2,620	3,680	6,440	2,410	313	349
26	962	e990	e705	e555	e500	e2,610	2,440	3,480	8,720	2,390	321	330
27	960	e1,030	e730	e550	e500	e3,380	2,290	3,260	10,100	2,310	345	318
28	958	e1,060	e775	e550	e500	e4,160	2,150	3,140	11,100	2,240	337	307
29	959	e1,050	e800	e550	---	e4,150	2,040	3,050	11,800	2,210	312	297
30	981	e1,060	e800	e545	---	e3,540	1,980	2,930	11,700	2,150	291	281
31	967	---	e795	e545	---	2,780	---	2,790	---	2,050	267	---
TOTAL	29,028	28,952	28,880	20,945	14,940	43,347	57,730	98,880	111,720	140,860	28,388	8,762
MEAN	936	965	932	676	534	1,398	1,924	3,190	3,724	4,544	916	292
MAX	981	1,090	1,100	785	570	4,160	2,830	4,520	11,800	11,200	1,900	359
MIN	889	844	695	545	500	445	1,430	1,770	1,560	2,050	267	225
AC-FT	57,580	57,430	57,280	41,540	29,630	85,980	114,500	196,100	221,600	279,400	56,310	17,380
CFSM	0.05	0.05	0.05	0.04	0.03	0.08	0.11	0.18	0.21	0.25	0.05	0.02
IN.	0.06	0.06	0.06	0.04	0.03	0.09	0.12	0.20	0.23	0.29	0.06	0.02

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

MEAN	866	893	657	523	563	2,484	7,941	3,943	3,119	3,072	1,202	786
MAX	2,875	5,707	2,413	1,240	1,952	9,444	38,460	15,570	10,480	20,060	11,700	3,360
(WY)	(1995)	(2001)	(2001)	(2001)	(1998)	(1995)	(1997)	(1997)	(2000)	(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)

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	882,503		612,432			
ANNUAL MEAN	2,418		1,678		2,186	
HIGHEST ANNUAL MEAN					6,028 1997	
LOWEST ANNUAL MEAN					214 1977	
HIGHEST DAILY MEAN	14,900	Jul 14	11,800	Jun 29	69,900	Apr 19, 1997
LOWEST DAILY MEAN	695	Dec 25	225	Sep 12	10	Sep 2, 1976
ANNUAL SEVEN-DAY MINIMUM	732	Dec 22	245	Sep 7	17	Aug 28, 1976
MAXIMUM PEAK FLOW			11,900	Jun 30	71,500	Apr 19, 1997
MAXIMUM PEAK STAGE			18.62	Jun 30	40.74	Apr 19, 1997
INSTANTANEOUS LOW FLOW					5.4	Oct 8, 1936
ANNUAL RUNOFF (AC-FT)	1,750,000		1,215,000		1,583,000	
ANNUAL RUNOFF (CFSM)	0.13		0.093		0.12	
ANNUAL RUNOFF (INCHES)	1.82		1.27		1.65	
10 PERCENT EXCEEDS	4,950		3,730		4,800	
50 PERCENT EXCEEDS	1,290		967		900	
90 PERCENT EXCEEDS	820		358		230	

e Estimated.

