

## 05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND

LOCATION.--Lat 47°55'37", long 97°01'44", in sec.3, T.151 N., R.50 W., Grand Forks County, Hydrologic Unit 09020301, on left bank 50 ft downstream from the DeMers Avenue bridge, 0.4 mi downstream from Red Lake River, and at mile 297.6.

DRAINAGE AREA.--30,100 mi<sup>2</sup>, approximately, including 3,800 mi<sup>2</sup> in closed basins.

PERIOD OF RECORD.--April 1882 to current year. Prior to January 1904 monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 855: 1936(M). WSP 1115: 1942. WSP 1175: 1897(M). WSP 1388: 1904, 1914-15, 1917-19, 1921-22, 1927, 1950. WSP 1728: Drainage area. WRD-ND-81-1: 1882, 1897 (M).

GAGE.--Water stage recorder. Datum of gage is 779.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1983, to Sept. 30, 1986, datum of gage was 780.00 ft at same site. Apr. 14, 1965, to Sept. 30, 1983, water-stage recorder 1.9 mi downstream at a datum of 778.35 ft. Nov. 3, 1933, to Apr. 13, 1965, water-stage recorder 0.3 mi upstream at 778.35 ft datum. See WSP 1728 or 1913 for history of changes prior to Nov. 3, 1933.

REMARKS.--Records good except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6,260	17,800	3,330	e1,910	e2,120	e2,150	e20,400	5,450	8,620	12,500	5,420	6,490
2	5,800	e21,900	2,910	e1,850	e2,220	e2,170	e25,100	5,370	8,340	13,600	5,200	5,560
3	5,270	e23,800	2,840	e1,800	e2,310	e2,200	e30,100	5,310	7,880	15,100	4,920	4,930
4	4,940	24,100	2,930	e1,740	e2,300	e2,220	e29,900	5,200	7,470	16,000	4,600	4,560
5	4,640	23,100	e3,100	e1,690	e2,270	e2,250	28,300	4,940	7,400	16,700	4,370	4,350
6	4,440	21,400	e3,170	e1,620	e2,200	e2,280	24,800	4,780	7,970	17,100	4,170	4,540
7	4,350	19,400	3,180	e1,620	e2,110	e2,280	21,900	4,540	10,200	17,200	4,240	6,810
8	4,280	16,900	3,450	e1,630	e2,100	e2,280	19,200	4,370	14,100	16,900	4,720	9,150
9	4,140	14,100	3,900	e1,640	e2,100	e2,290	16,500	4,480	16,700	16,300	5,070	9,180
10	3,990	11,900	4,000	e1,600	e2,100	e2,360	14,000	5,010	18,400	15,600	5,080	8,410
11	3,950	10,400	4,020	e1,610	e2,120	e2,380	11,700	6,160	19,900	14,700	4,780	7,990
12	3,920	9,630	3,930	e1,620	e2,120	e2,380	10,000	6,620	22,500	13,500	4,400	7,530
13	3,840	8,770	3,860	e1,580	e2,120	e2,380	9,490	6,820	25,800	12,200	4,180	6,740
14	3,840	8,180	3,510	e1,520	e2,120	e2,390	10,500	6,690	29,500	11,100	4,170	5,650
15	3,640	7,710	3,020	e1,480	e2,100	e2,400	12,100	6,540	33,400	e10,300	4,090	4,800
16	3,420	7,410	2,790	e1,460	e2,030	e2,420	12,300	6,460	36,300	9,850	3,850	4,220
17	3,460	7,130	2,720	e1,450	e1,980	e2,490	11,900	6,460	37,900	9,660	4,180	3,800
18	3,470	6,710	2,660	e1,480	e1,940	e2,580	11,500	6,480	37,900	9,590	e4,490	3,460
19	3,320	6,430	2,470	e1,490	e1,890	e2,650	10,900	6,490	36,000	9,530	5,320	3,310
20	3,340	6,270	2,400	e1,500	e1,880	e2,750	9,890	6,480	33,900	9,090	7,230	3,310
21	3,320	6,140	2,340	e1,500	e1,880	e2,850	8,830	6,620	31,700	8,350	7,400	3,240
22	3,280	5,940	e2,260	e1,480	e1,900	e2,940	7,990	7,040	29,500	8,030	6,590	3,180
23	3,260	5,790	e2,190	e1,460	e1,920	e3,020	7,420	7,300	27,300	8,140	6,130	3,120
24	3,190	5,630	e2,130	e1,470	e1,980	e3,060	6,830	7,670	25,400	7,870	6,130	3,080
25	3,230	5,410	e2,100	e1,530	e2,040	e3,090	6,540	7,730	23,300	7,490	6,070	2,970
26	3,480	4,820	e2,090	e1,620	e2,090	e3,300	6,340	7,410	21,100	7,210	5,770	2,880
27	4,410	4,190	e2,090	e1,640	e2,120	e3,910	6,160	7,070	18,900	6,810	6,390	2,790
28	5,570	3,860	e2,040	e1,670	e2,130	e4,700	5,980	7,090	16,600	6,500	7,920	2,700
29	6,880	3,440	e2,020	e1,730	---	e7,400	5,800	7,680	14,200	5,910	8,600	2,650
30	7,750	3,450	e2,010	e1,820	---	e11,400	5,630	8,310	12,800	5,580	8,460	2,540
31	11,100	---	e1,990	e1,990	---	e16,100	---	8,640	---	5,500	7,600	---
TOTAL	139,780	321,710	87,450	50,200	58,190	109,070	408,000	197,210	640,980	343,910	171,540	143,940
MEAN	4,509	10,720	2,821	1,619	2,078	3,518	13,600	6,362	21,370	11,090	5,534	4,798
MAX	11,100	24,100	4,020	1,990	2,310	16,100	30,100	8,640	37,900	17,200	8,600	9,180
MIN	3,190	3,440	1,990	1,450	1,880	2,150	5,630	4,370	7,400	5,500	3,850	2,540
AC-FT	277,300	638,100	173,500	99,570	115,400	216,300	809,300	391,200	1,271,000	682,100	340,200	285,500

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2005, BY WATER YEAR (WY)

MEAN	1,525	1,468	1,095	898	881	2,820	10,260	5,598	4,545	3,853	1,924	1,654
MAX	5,127	10,720	3,832	2,656	3,520	15,370	56,210	36,510	21,370	25,270	17,050	11,340
(WY)	(1995)	(2005)	(2001)	(2001)	(1998)	(1995)	(1997)	(1950)	(2005)	(1975)	(1993)	(1999)
MIN	12.1	30.5	17.8	18.8	2.87	42.1	954	373	151	88.8	30.6	20.3
(WY)	(1937)	(1937)	(1937)	(1937)	(1937)	(1937)	(1938)	(1934)	(1934)	(1936)	(1934)	(1936)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1904 - 2005	
ANNUAL TOTAL	1,864,516		2,671,980		3,029	
ANNUAL MEAN	5,094		7,320		244	
HIGHEST ANNUAL MEAN					10,070	1997
LOWEST ANNUAL MEAN					244	1934
HIGHEST DAILY MEAN	32,900	Mar 31	37,900	Jun 17	127,000	Apr 18, 1997
LOWEST DAILY MEAN	430	Feb 1	1,450	Jan 17	1.80	Sep 2, 1977
ANNUAL SEVEN-DAY MINIMUM	440	Jan 28	1,480	Jan 15	2.5	Feb 12, 1937
MAXIMUM PEAK FLOW			38,300	Jun 18	a137,000	Apr 18, 1997
MAXIMUM PEAK STAGE			40.11	Jun 18	b54.35	Apr 22, 1997
ANNUAL RUNOFF (AC-FT)	3,698,000		5,300,000		2,194,000	
10 PERCENT EXCEEDS	12,000		16,900		6,650	
50 PERCENT EXCEEDS	3,320		4,920		1,460	
90 PERCENT EXCEEDS	497		1,960		295	

- a Maximum observed, affected by breakout flow from Red River of the North about 20 miles upstream of gage, that entered Red Lake River about 2 miles from the confluence with Red River of the North.
- b From floodmark.
- e Estimated.

