05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND

LOCATION.--Lat 47°55'38", long 97°01'34", in sec.2, T.151 N., R.50 W., Grand Forks County, Hydrologic Unit 09020301, on right bank 200 ft upstream from the DeMers Avenue bridge, 0.4 mi downstream from Red Lake River, and at mile 297.6.

DRAINAGE AREA.--30,100 mi^2 (approximately), including 3,800 mi^2 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.--Acoustic-doppler velocity meter and water-stage recorder. Datum of gage is 779.00 ft above sea level, 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 periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2850	e4300	e5250	e2800	e2600	e2450	e7250	27000	10800	6920	5820	2800
2	e2700	e5000	e5200	e2800	e2550	e2450	e8500	25200	10700	6580	7590	2810
3	e2400	e6750	e5100	e2750	e2550	e2450	e9500	23500	10600	6500	9420	2820
4	e2420	e8250	e5000	e2700	e2500	e2450	e11500	21900	10700	6360	9660	2800
5	e2500	e9500	e4900	e2700	e2500	e2450	e14000	20200	10500	5990	9000	2830
6	e2500	e9800	e4800	e2700	e2500	e2450	17600	19100	10000	5910	7980	2830
7	e2380	11300	e4600	e2700	e2500	e2450	21700	18700	9350	5950	6840	3020
8	e2200	14000	e4400	e2700	e2500	e2450	29500	19100	8920	5970	6320	3280
9	e2100	17400	e4500	e2700	e2500	e2450	40600	19300	8560	5870	6120	3340
10	e2100	19400	e4400	e2700	e2500	e2450	51100	18900	8370	5720	6300	3330
11	e2050	20500	e4250	e2700	e2500	e2450	55300	18200	7940	5480	6850	3270
12	e2000	20100	e4100	e2700	e2500	e2450	56800	17200	7690	5300	7380	3220
13	e1930	17600	e4000	e2700	e2500	e2450	57200	15700	7790	5170	6920	3010
14	e1930	15400	e3900	e2700	e2500	e2450	57300	14400	8360	5230	6330	2760
15	e1930	13300	e3800	e2650	e2500	e2500	56200	13200	8980	5040	6020	2670
16	e1950	11400	e3700	e2650	e2500	e2500	54800	12100	9330	4840	5700	2610
17	e2000	10400	e3600	e2600	e2500	e2600	53000	11200	10000	4830	5490	2530
18	e2600	9550	e3500	e2600	e2500	e2730	51300	10600	10300	4790	5300	2410
19	e3300	8660	e3400	e2600	e2500	e2950	50200	10100	10300	5190	5010	2280
20	e3400	7680	e3350	e2600	e2500	e3100	47900	9650	9900	5390	4520	2300
21	e3400	7020	e3300	e2600	e2500	e3300	46000	9270	9630	5460	4070	2240
22	e3300	6320	e3200	e2600	e2500	e3520	44200	8900	9530	5710	3860	2220
23	e3100	6100	e3150	e2600	e2500	e3700	42700	8720	9550	6120	3620	2290
24	e2900	e5950	e3100	e2600	e2500	e3900	41300	8780	9420	6320	3640	2280
25	e2800	e5800	e3000	e2600	e2500	e4200	38700	9290	9210	6200	3660	2250
26	e2800	e5700	e3000	e2600	e2500	e4400	36200	10200	8940	5890	3510	2240
27	e2900	e5600	e2950	e2600	e2450	e4700	34200	10700	8490	5750	3370	2260
28	e3050	e5500	e2900	e2600	e2450	e5000	32500	10900	8130	5390	3090	2230
29	e3250	e5500	e2850	e2600	---	e5500	30600	10900	7750	4910	2970	2210
30	e3480	e5350	e2800	e2600	---	e6000	28500	11300	7300	4810	2950	2210
31	e3800	---	e2800	e2600	---	e6750	---	11100	---	5160	2870	---
TOTAL	82020	299130	118800	82350	70100	101650	1126150	455310	277040	174750	172180	79350
MEAN	2646	9971	3832	2656	2504	3279	37540	14690	9235	5637	5554	2645
MAX	3800	20500	5250	2800	2600	6750	57300	27000	10800	6920	9660	3340
MIN	1930	4300	2800	2600	2450	2450	7250	8720	7300	4790	2870	2210
AC-FT	162700	593300	235600	163300	139000	201600	2234000	903100	549500	346600	341500	157400
CFSM	.10	.38	.15	.10	.10	.12	1.43	.56	.35	.21	.21	.10
IN.	.12	.42	.17	.12	.10	.14	1.59	.64	.39	.25	.24	.11

05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1467	1334	1036	870	854	2703	10190	5486	4129	3577	1825	1471
MAX	5127	9971	3832	2656	3520	15370	56210	36500	19250	25230	17050	6251
(WY)	1995	2001	2001	2001	1998	1995	1997	1950	1962	1975	1993	1993
MIN	12.1	30.5	17.8	18.8	2.87	42.1	954	373	151	88.5	30.6	20.3
(WY)	1937	1937	1937	1937	1937	1937	1938	1934	1934	1936	1934	1936

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	1993690		3038830			
ANNUAL MEAN	5447		8326		2896	
HIGHEST ANNUAL MEAN					10070	1997
LOWEST ANNUAL MEAN					244	1934
HIGHEST DAILY MEAN	31400	Jun 26	57300	Apr 14	127000	Apr 18 1997
LOWEST DAILY MEAN	1680	Feb 16	1930	Oct 13,14,15	1.8	Sep 2 1977
ANNUAL SEVEN-DAY MINIMUM	1680	Feb 15	1970	Oct 11	2.5	Feb 12 1937
MAXIMUM PEAK FLOW			57800	Apr 14	137000a	Apr 18 1997
MAXIMUM PEAK STAGE			44.87	Apr 14	54.35b	Apr 22 1997
ANNUAL RUNOFF (AC-FT)	3954000		6028000		2098000	
ANNUAL RUNOFF (CFSM)	.21		.32		.11	
ANNUAL RUNOFF (INCHES)	2.82		4.30		1.50	
10 PERCENT EXCEEDS	10400		18800		6300	
50 PERCENT EXCEEDS	3720		4520		1400	
90 PERCENT EXCEEDS	1930		2450		280	

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.