

RED RIVER OF THE NORTH BASIN

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND

LOCATION.--Lat 48 o 34'20", long 97 o 08'50", in SE 1 / 4 SE 1 / 4 SE 1 / 4 sec. 24, T.159 N., R.51 W., Pembina County, Hydrologic Unit 09020311, on downstream side of bridge on North Dakota State Highway 11, at the North Dakota-Minnesota border, 1.5 mi northeast of Drayton, and at mile 206.7.

DRAINAGE AREA.--34,800 mi 2 , approximately, includes 3,800 mi 2 in closed basins.

PERIOD OF RECORD.--April 1936 to June 1937, April 1941 to current year (fragmentary prior to April 1949).

REVISED RECORDS.--WSP 1388 1949-50. WSP 1728: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 755.00 ft above sea level (Minnesota highway bench mark). Prior to Nov. 30, 1954, nonrecording gage at site 1.5 mi upstream at datum 1.59 ft higher.

REMARKS.--Records fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1897 reached a stage of about 41 ft, at site and datum in use prior to Nov. 30, 1954.

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	2450	3430	3380	2770	e2300	e11000	e20000	5400	12800	e20000	4910	2580
2	2460	3410	3320	2700	e2350	e14500	e19500	5290	10200	e21500	4670	2730
3	2440	3380	3270	2620	e2350	e19000	e19000	5200	9400	e22000	4610	2860
4	2430	3400	3260	2550	e2350	e23000	e18700	5070	8400	e22500	4600	2890
5	2430	3410	3220	e2400	e2350	e26500	e18300	4880	7500	e23000	4580	2850
6	2400	3390	3210	e2300	e2350	e27500	e17900	4690	6900	e23000	4560	2720
7	2400	3310	3190	e2200	e2350	e28000	e17200	4590	6500	e22800	4510	2580
8	2410	3300	3120	e2100	e2350	e28000	e16300	4460	6100	e22500	4400	2460
9	2470	3310	3050	e2050	e2300	e27500	e15500	4330	5720	e22400	4210	2350
10	2670	3330	3040	e2050	e2300	e25500	e14500	4240	5380	e22000	3980	2290

11	2820	3300	3040	e2100	e2300	e22500	e14000	4230	5140	e21500	3780	2240
12	2980	3000	3020	e2100	e2300	e20000	e13500	4220	4970	e21000	3600	2190
13	3200	2980	3030	e2100	e2300	e17000	e13000	4240	4800	e20500	3420	2150
14	3270	2830	3100	e2100	e2300	e14500	e12600	4500	4640	e20000	3260	2120
15	3340	2470	3180	e2050	e2350	e12800	e12000	6470	4580	e18500	3120	2100
16	3760	2240	3240	e2000	e2350	e11100	e11600	10200	4610	e17500	3020	2090
17	4380	2340	3310	e2000	e2350	e10000	e11100	13100	4800	e16000	2940	2090
18	4850	2680	3330	e2100	e2300	e9400	e10700	15800	5000	e15000	2900	2070
19	4990	2870	3330	e2200	e2300	e9000	e10200	18600	5140	e13500	2890	2040
20	4890	2980	3310	e2250	e2300	e8800	e9600	21500	5430	e12100	2890	2000
21	4700	3100	3270	e2300	e2350	e8700	e9000	24100	6620	e10500	2880	1950
22	4520	3200	3260	e2300	e2400	e8800	e8500	26100	9860	e9500	2870	1920
23	4320	3210	3230	e2300	e2500	e9000	e8000	27500	13300	e9000	2830	1900
24	4170	3190	3130	e2300	e2600	e9400	e7600	28200	15600	8430	2800	1870
25	4030	3100	3060	e2300	e2800	e10000	e7000	27500	16900	7970	2770	1820
26	3880	3100	3010	e2300	e3000	e11000	e6600	26300	17400	7530	2720	1770
27	3780	3100	2930	e2300	e3900	e12500	e6300	24600	18100	7100	2700	1760
28	3660	3200	2880	e2250	e6700	e14500	e6000	22700	18200	6610	2630	1770
29	3550	3330	2850	e2250	---	e17000	e5800	21000	e18500	6100	2540	1760
30	3490	3390	2850	e2250	---	e18500	5650	18600	e19000	5600	2480	1700
31	3480	---	2830	e2300	---	e20000	---	15800	---	5210	2480	---
TOTAL	106620	93280	97250	69890	72750	505000	365650	413410	281490	480850	106550	65620
MEAN	3439	3109	3137	2255	2598	16290	12190	13340	9383	15510	3437	2187
MAX	4990	3430	3380	2770	6700	28000	20000	28200	19000	23000	4910	2890
MIN	2400	2240	2830	2000	2300	8700	5650	4220	4580	5210	2480	1700
AC-FT	211500	185000	192900	138600	144300	1002000	725300	820000	558300	953800	211300	130200
CFSM	.11	.10	.10	.07	.08	.53	.39	.43	.30	.50	.11	.07
IN.	.13	.11	.12	.08	.09	.61	.44	.50	.34	.58	.13	.08

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1835	1597	1292	1119	1096	3212	14450	9009	5260	4873	2415	1827
MAX	5194	5653	3137	2255	2598	16290	54710	58890	23420	28240	21580	7912
(WY)	1995	1972	1998	1998	1998	1998	1997	1950	1962	1975	1993	1993
MIN	13.8	277	149	174	201	280	1275	938	399	118	50.1	27.4
(WY)	1937	1977	1977	1990	1977	1962	1981	1977	1936	1936	1936	1936

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1936 - 1998		
ANNUAL TOTAL	4217330		2658360				
ANNUAL MEAN	11550		7283		4129		
HIGHEST ANNUAL MEAN					11280		1997
LOWEST ANNUAL MEAN					536		1977
HIGHEST DAILY MEAN	124000	Apr 24	28200	May 24	124000	Apr 24	1997
LOWEST DAILY MEAN	1700	Feb 8	1700	Sep 30	7.7	Oct 16	1936
ANNUAL SEVEN-DAY MINIMUM	1750	Feb 5	1780	Sep 24	9.9	Oct 11	1936
INSTANTANEOUS PEAK FLOW			28400	May 24	124000	Apr 24	1997
INSTANTANEOUS PEAK STAGE			36.00a	May 10	45.55	Apr 24	1997
INSTANTANEOUS LOW FLOW					7.7	Oct 16	1936
ANNUAL RUNOFF (AC-FT)	8365000		5273000		2992000		
ANNUAL RUNOFF (CFSM)	.37		.23		.13		
ANNUAL RUNOFF (INCHES)	5.06		3.19		1.81		
10 PERCENT	32200		19200		9900		

EXCEEDS							
50 PERCENT EXCEEDS	3240		3480		1840		
90 PERCENT EXCEEDS	1950		2250		464		

a From floodmark in well.

