

RED RIVER OF THE NORTH BASIN--Continued

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND

LOCATION.--Lat 48°34'20", long 97°08'50", in SE¹/₄SE¹/₄SE¹/₄ sec.24, T.159 N., R.51 W., Pembina County, Hydrologic Unit 09020311, on downstream side of bridge on North Dakota State Highway 66, at the North Dakota-Minnesota border, 1.5 mi northeast of Drayton, and at mile 206.7.

DRAINAGE AREA.--34,800 mi² (approximately) includes 3,800 mi² 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1640	4260	5140	e1800	e1800	e2300	36700	15400	13900	11500	5040	5300
2	1610	4160	5250	e1800	e1700	e2300	40000	13700	12800	11000	4910	4630
3	1610	4070	5360	e1800	e1700	e2300	45300	12000	12200	10300	4790	4470
4	1630	3980	5570	e1800	e1700	e2400	50500	10600	11900	9700	4660	4650
5	1680	3900	6030	e1800	e1700	e2450	53500	9700	11900	8750	4540	6620
6	1740	3810	6390	e1800	e1700	e2500	55600	9390	11800	7980	4510	10500
7	1790	3720	6600	e1800	e1700	e2600	57400	9550	11900	8010	4490	14200
8	1840	3630	6600	e1800	e1700	e2750	58900	9940	12200	8900	4480	17300
9	1870	3550	6260	e1800	e1700	e2900	59100	10100	12400	9620	4480	19700
10	1880	3460	5660	e1800	e1700	e3200	57700	11100	13000	9720	4470	21400
11	1890	3350	5020	e1800	e1700	e3500	55600	13700	13800	9600	4470	22500
12	1890	3230	4560	e1800	e1700	e3800	53300	16800	14700	9610	4450	22700
13	1890	3130	4380	e1900	e1700	e4000	49900	20300	15500	9740	4440	21600
14	1890	3020	4400	e2000	e1700	e4000	44600	23600	15800	9930	4490	19800
15	1920	2920	4500	e2000	e1700	e4000	41100	26200	15500	10000	5290	17700
16	1990	2820	4620	e2100	e1800	e3900	38900	28200	14800	9920	6560	16400
17	2080	2750	4710	e2100	e1900	e3700	37200	29500	13800	9530	7370	15300
18	2380	2310	4550	e2100	e1900	e3600	35900	30500	12700	8770	7710	14300
19	3240	2020	4140	e2100	e2000	e3600	34600	31200	11700	7980	8230	13400
20	4670	2020	3630	e2100	e2000	e3500	33300	31600	11000	7440	8620	12500
21	6660	2270	3270	e2100	e2100	e4100	31900	30900	10500	7070	8510	11400
22	7930	2570	2910	e2100	e2100	e5500	30400	29700	10100	6650	7950	10400
23	8180	2760	2640	e2000	e2100	e8000	28800	28100	9720	6220	7310	9260
24	7720	2960	2520	e2000	e2200	e11000	27000	26300	9820	5920	6950	8210
25	6940	3300	e2400	e2000	e2200	e14000	25100	25200	10000	5840	7290	7480
26	6180	3700	e2300	e1900	e2300	e17000	23000	23900	10400	5710	8520	7040
27	5400	4050	e2200	e1900	e2300	e20000	21000	22400	10900	5480	9430	6660
28	4820	4400	e2000	e1900	e2300	e23000	19900	20700	11300	5240	9320	6380
29	4500	4740	e1900	e1900	---	e25000	18600	18900	11500	5080	8600	6260
30	4420	5010	e1900	e1900	---	e28000	17100	17100	11700	5110	7590	6180
31	4350	---	e1800	e1800	---	e33000	---	15400	---	5120	6410	---
TOTAL	108230	101870	129210	59500	52800	251900	1181900	621680	369240	251440	195880	364240
MEAN	3491	3396	4168	1919	1886	8126	39400	20050	12310	8111	6319	12140
MAX	8180	5010	6600	2100	2300	33000	59100	31600	15800	11500	9430	22700
MIN	1610	2020	1800	1800	1700	2300	17100	9390	9720	5080	4440	4470
AC-FT	214700	202100	256300	118000	104700	499600	2344000	1233000	732400	498700	388500	722500

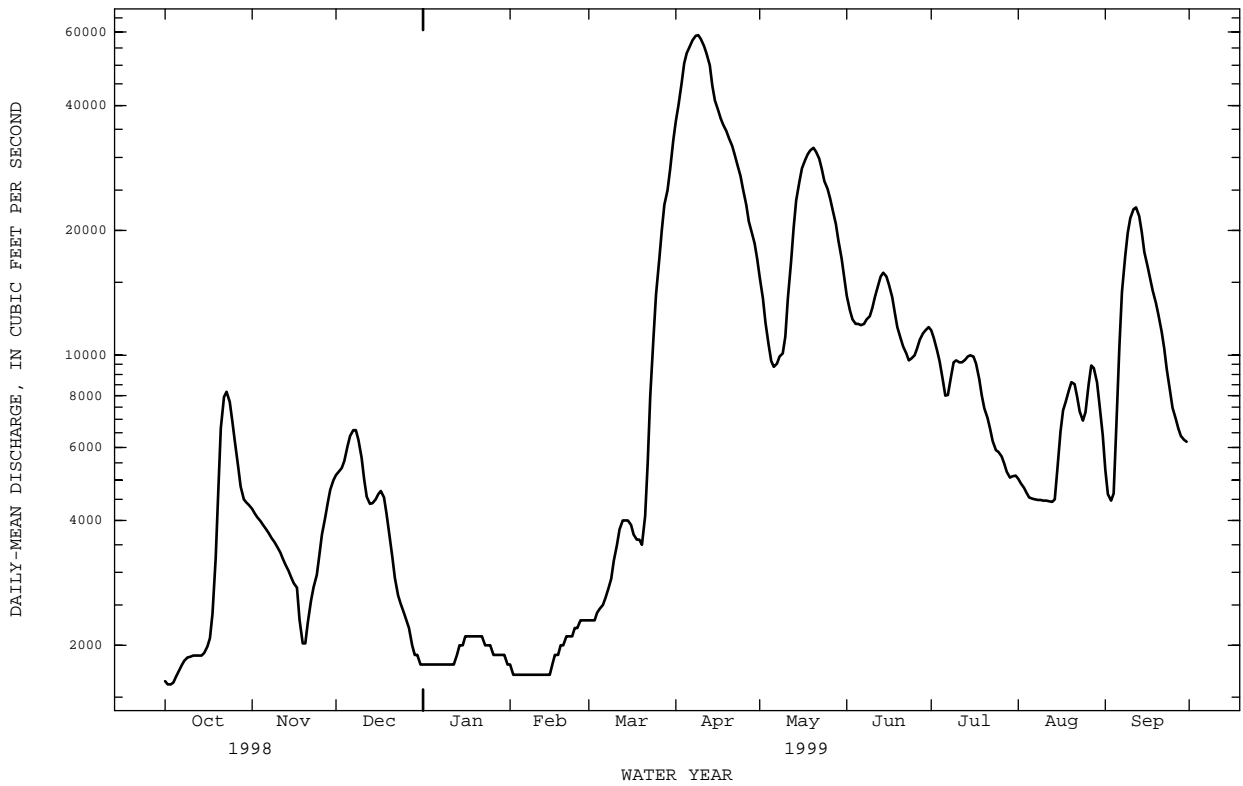
e Estimated

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1904	1633	1349	1135	1111	3311	15430	9554	5600	5077	2551	2064
MAX	5194	5653	4168	2255	2598	16290	54710	58890	23420	28240	21580	12140
(WY)	1995	1972	1999	1998	1998	1998	1997	1950	1962	1975	1993	1999
MIN	317	277	149	174	201	280	1275	938	676	348	243	329
(WY)	1991	1977	1977	1990	1977	1962	1981	1977	1977	1988	1977	1988

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1949 - 1999
ANNUAL TOTAL	2700520	3687890	
ANNUAL MEAN	7399	10100	4249
HIGHEST ANNUAL MEAN			11280 1997
LOWEST ANNUAL MEAN			536 1977
HIGHEST DAILY MEAN	28200	May 24	124000 Apr 24 1997
LOWEST DAILY MEAN	1610	Oct 2	110 Dec 23 1989
ANNUAL SEVEN-DAY MINIMUM	1660	Sep 30	118 Dec 28 1989
INSTANTANEOUS PEAK FLOW			59500 Apr 9 124000 Apr 24 1997
INSTANTANEOUS PEAK STAGE			41.66 Apr 9 45.55 Apr 24 1997
INSTANTANEOUS LOW FLOW			7.7 Oct 16 1936
ANNUAL RUNOFF (AC-FT)	5356000	7315000	3078000
10 PERCENT EXCEEDS	19200	25600	9800
50 PERCENT EXCEEDS	4500	5480	1840
90 PERCENT EXCEEDS	2050	1800	480



RED RIVER OF THE NORTH BASIN--Continued

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	SPE-CIFIC CONDUCTANCE LAB (US/CM) (90095)	SPE-CIFIC CONDUCTANCE LAB (US/CM) (00095)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)
JAN 21...	1300	2120	--	--	--	740	-3.0	.5	--	--	--
APR 07...	1600	55500	8.2	--	394	388	13.0	5.5	160	39	16
MAY 24...	1050	26200	--	--	--	811	22.5	17.0	--	--	--
JUL 01...	0930	11500	--	--	--	646	22.5	22.0	--	--	--
AUG 17...	1300	7640	8.3	8.1	544	548	23.5	20.0	240	53	26

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORPTION RATIO (00931)	SODIUM PERCENT (00932)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
JAN 21...	--	--	--	--	--	--	--	--	--	--
APR 07...	5.7	.4	14	13	122	12	.20	63	37600	251
MAY 24...	--	--	--	--	--	--	--	--	--	--
JUL 01...	--	--	--	--	--	--	--	--	--	--
AUG 17...	4.9	.6	16	21	200	14	.20	78	7010	340

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)
JAN 21...	--	--	--	--	--	--	--	--	--	--
APR 07...	222	4	90	1.0	20	20	<.1	<1.0	<1	190
MAY 24...	--	--	--	--	--	--	--	--	--	--
JUL 01...	--	--	--	--	--	--	--	--	--	--
AUG 17...	317	5	80	<1.0	20	10	<.1	1.0	<1	260

