

RED RIVER OF THE NORTH BASIN

05051500 RED RIVER OF THE NORTH AT WAHPETON, ND

LOCATION.--Lat 46°15'55", long 96°35'40", in NE $\frac{1}{4}$ sec.8, T.132 N., R.47 W., Richland County, Hydrologic Unit 09020104, on left bank in Wahpeton, 800 ft downstream from confluence of Bois de Sioux and Otter Tail Rivers, and at mile 548.6.

DRAINAGE AREA.--4,010 mi² (approximately).

PERIOD OF RECORD.--April to October 1942, March 1943 to current year. Gage-height records collected in this vicinity since 1917 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder and concrete and wooden dam. Datum of gage is 942.97 ft above sea level. Prior to Aug. 6, 1943, National Weather Service non-recording gage 800 ft upstream, converted to present datum. Aug. 6, 1943, to Oct. 27, 1950, nonrecording gage at present site and datum.

REMARKS.--Records fair. Flow regulated by Orwell Reservoir, capacity, 14,100 acre-ft at elevation 1,070 ft above adjustment of 1912; Lake Traverse, capacity, 137,000 acre-ft, available for flood control; numerous other controlled lakes and ponds and several powerplants.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 17.0 ft, discharge, 10,500 ft³/s, occurred in the spring of 1897.

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	516	726	1100	e540	e750	e740	1340	1330	1450	1490	815	776
2	510	708	1290	e520	e720	e760	1300	1300	1470	1520	789	834
3	485	722	1290	e500	e700	e780	1330	1290	1440	1580	574	922
4	459	704	1390	e500	e670	e800	1510	1300	1380	1530	330	1140
5	476	706	1420	e500	e660	e840	1710	1320	1820	1470	293	1200
6	461	756	1420	e490	e660	e900	1570	1320	3130	1430	279	1150
7	463	865	1410	e490	e650	e1000	1370	1330	4090	1410	442	1080
8	552	957	1440	e500	e640	e1150	1250	1350	3880	1460	697	1120
9	679	945	1560	e500	e620	e1300	1200	1380	2880	1450	779	1290
10	635	611	1600	e500	e620	e1400	1190	1430	2180	1470	939	1310
11	553	537	1480	e500	e620	e1500	1170	1490	2240	1430	900	1320
12	543	e500	1280	e500	e600	e1400	1160	1630	2310	1340	1160	1390
13	544	e520	1190	e510	e600	e1300	1220	1690	2260	1300	2560	1350
14	544	e580	1170	e520	e600	1350	1350	1640	2210	1410	3160	1320
15	529	e640	1140	e540	e600	1380	1380	1680	2170	1430	2940	1290
16	589	e620	1080	e560	e600	1500	1420	1760	2130	1420	2180	1250
17	687	e560	e920	e600	e600	1810	1400	1760	1990	1370	1600	1220
18	806	e520	e800	e630	e600	1910	1340	1740	1830	1380	1500	1200
19	899	e480	e710	e660	e600	1900	1320	1710	1790	1380	1510	1170
20	890	e450	e600	e680	e600	1840	1330	1650	1780	1340	1440	1150
21	858	e500	e520	e700	e590	1600	1360	1580	1780	1240	1350	1080
22	809	e600	e500	e740	e590	1470	1380	1470	1940	1090	1280	973
23	776	e700	e500	e760	e600	1370	1380	1330	2150	1000	1370	925
24	755	e760	e500	e800	e620	1260	1370	1310	2180	985	1260	860
25	740	e820	e500	e810	e640	1240	1370	1300	1980	962	1060	843
26	737	887	e510	e820	e660	1170	1360	1300	1700	943	876	825
27	732	909	e520	e840	e700	1100	1370	1290	1550	960	827	797
28	796	929	e520	e830	e740	1230	1360	1260	1520	1080	734	798
29	916	951	e540	e820	---	1890	1350	1180	1510	996	648	815
30	923	984	e540	e810	---	1810	1340	1170	1500	932	659	824
31	852	---	e540	e800	---	1440	---	1290	---	892	696	---
TOTAL	20714	21147	29980	19470	17850	41140	40500	44580	62240	39690	35647	32222
MEAN	668	705	967	628	638	1327	1350	1438	2075	1280	1150	1074
MAX	923	984	1600	840	750	1910	1710	1760	4090	1580	3160	1390
MIN	459	450	500	490	590	740	1160	1170	1380	892	279	776
AC-FT	41090	41950	59470	38620	35410	81600	80330	88420	123500	78730	70710	63910

e Estimated

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	339	318	293	278	300	693	1418	1124	1074	802	443	350
MAX	1599	952	967	678	868	2629	8717	3344	2675	2787	2496	2148
(WY)	1994	1987	1999	1986	1998	1995	1997	1997	1962	1993	1993	1993
MIN	5.72	7.40	6.60	8.81	18.0	84.3	138	22.5	90.0	65.6	53.5	2.18
(WY)	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1976

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1942 - 1999
ANNUAL TOTAL	357039	405180	
ANNUAL MEAN	978	1110	616
HIGHEST ANNUAL MEAN			1600
LOWEST ANNUAL MEAN			54.0
HIGHEST DAILY MEAN	4170	4090	12700
LOWEST DAILY MEAN	175	279	1.7
ANNUAL SEVEN-DAY MINIMUM	350	481	1.7
INSTANTANEOUS PEAK FLOW		4220	12800
INSTANTANEOUS PEAK STAGE		11.02	19.42 ^a
INSTANTANEOUS LOW FLOW			1.7
ANNUAL RUNOFF (AC-FT)	708200	803700	446400
10 PERCENT EXCEEDS	1590	1700	1460
50 PERCENT EXCEEDS	887	1080	382
90 PERCENT EXCEEDS	450	520	108

a Backwater from ice; from floodmark.



