

# RED RIVER OF THE NORTH BASIN

## 05051300 BOIS DE SIOUX RIVER NEAR DORAN, MN

LOCATION.--Lat 4609'08", long 9634'44", in NE 1 / 4 NE 1 / 4 sec. 21, T.131 N., R.47 W., Wilken County, MN, Hydrologic Unit 09020101, on right bank, 10 ft downstream from bridge on County Highway 6, 3 miles downstream from Rabbit River, 4.3 mi southwest of Doran, MN.

DRAINAGE AREA.--1,880 mi 2, (approximately).

PERIOD OF RECORD.--October 12, 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is 943.90 ft above mean sea level (elevation data obtained from Wilkin County Highway Engineer).

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Traverse-Boise de Sioux Flood Control and Water Conservation project near White Rock, S.D.

## 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	.87	.57	5.8	e2.3	e2.2	e950	485	299	289	924	e18	e.15
2	.74	.76	6.0	e2.2	e2.3	e830	408	294	286	648	e8.1	e.13
3	.57	1.2	6.1	e2.2	e2.3	888	517	287	229	559	e3.5	e.12
4	.47	1.5	5.8	e2.1	e2.2	1120	790	286	173	543	e2.1	e.11
5	.39	1.8	e6.1	e2.1	e2.2	1250	763	281	151	559	e2.1	e.10
6	.30	2.2	e6.3	e2.0	e2.3	1060	667	277	110	852	e2.3	e.09
7	.23	2.4	e6.7	e2.0	e2.3	1020	582	430	62	935	e2.5	e.09
8	.17	3.1	e6.8	e2.0	e2.4	992	564	486	45	789	e2.9	e.09
9	.31	3.2	e6.7	e2.0	e2.5	981	556	234	50	622	e3.0	e.09
10	.19	2.6	e6.5	e2.0	e2.6	e940	540	81	54	565	e2.6	e.09
11	.00	1.9	e5.6	e2.0	e2.7	e920	527	55	58	551	e2.5	e.10
12	.06	3.5	e4.4	e1.9	e2.8	e880	509	67	61	541	e2.3	e.13
13	.65	36	e4.2	e1.8	e3.0	e840	488	154	66	535	e2.1	e.18

14	1.6	20	e4.1	e1.8	e3.2	e800	459	454	68	527	e1.9	e.21
15	1.6	8.0	e4.1	e1.8	e4.2	757	378	530	71	455	e1.7	e.14
16	2.3	6.3	e4.0	e1.8	e5.6	694	269	801	78	409	e1.5	e.09
17	2.5	2.8	e4.0	e1.8	e7.6	652	220	912	84	333	e1.4	e.06
18	1.7	2.6	e4.0	e1.9	e11	620	192	710	91	259	e1.2	e.04
19	.94	3.0	e3.9	e2.0	e18	544	180	581	95	234	e.80	e.02
20	1.0	5.2	e3.9	e2.0	e30	507	169	552	174	229	e.35	e.02
21	.66	6.5	e3.9	e2.0	e55	464	186	537	336	209	e.23	e.02
22	.53	3.9	e3.8	e2.0	e90	458	202	515	405	163	e.21	e.02
23	.49	3.2	e3.7	e2.0	e140	389	199	386	368	e118	e.28	e.01
24	.76	3.0	e3.6	e1.9	e250	341	198	337	314	e85	e.35	e.01
25	1.1	3.1	e3.4	e1.9	e400	308	284	330	303	59	e.60	e.01
26	1.4	3.1	e3.2	e1.9	e700	346	318	327	416	52	e.45	e.01
27	2.0	3.4	e3.0	e2.0	e1400	331	319	319	1620	47	e.35	e.01
28	2.8	5.2	e2.8	e2.1	e1200	263	313	309	2540	44	e.28	e.01
29	1.2	6.2	e2.6	e2.1	---	243	305	299	2280	45	e.22	e.01
30	.51	5.8	e2.5	e2.2	---	530	303	299	1520	44	e.19	e.01
1.2	---	e2.4	e2.2	---	558	---	289	---	31	e.17	---	
TOTAL	29.24	152.03	139.9	62.0	4346.4	21476	11890	11718	12397	11966	66.18	2.17
MEAN	.94	5.07	4.51	2.00	155	693	396	378	413	386	2.13	.072
MAX	2.8	36	6.8	2.3	1400	1250	790	912	2540	935	18	.21
MIN	.00	.57	2.4	1.8	2.2	243	169	55	45	31	.17	.01
AC-FT	58	302	277	123	8620	42600	23580	23240	24590	23730	131	4.3
CFSM	.00	.00	.00	.00	.08	.37	.21	.20	.22	.21	.00	.00
IN.	.00	.00	.00	.00	.09	.42	.24	.23	.25	.24	.00	.00

e Estimated

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	121	57.9	8.15	8.19	38.1	505	1370	746	396	460	211	188
MAX	592	465	25.6	43.9	155	1757	5936	1893	749	1477	1486	1244
(WY)	1994	1996	1996	1997	1998	1995	1997	1997	1995	1993	1993	1993
MIN	.026	1.97	.65	.077	.000	25.5	12.6	11.8	12.6	4.37	.000	.000
(WY)	1991	1991	1991	1991	1990	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1990 - 1998		
ANNUAL TOTAL	275021.24		74244.92				
ANNUAL MEAN	753		203		343		
HIGHEST ANNUAL MEAN					754		1997
LOWEST ANNUAL MEAN					8.77		1990
HIGHEST DAILY MEAN	11500		Apr 16	2540	Jun 28	11500	Apr 16 1997
LOWEST DAILY MEAN	.00		Oct 11	.00	Oct 11	.00a	Jan 7 1990
ANNUAL SEVEN-DAY MINIMUM	.18		Oct 6	.01	Sep 23	.00	Jan 7 1990
INSTANTANEOUS PEAK FLOW			2580		Jun 28	12300	Apr 16 1997
INSTANTANEOUS PEAK STAGE			18.15		Jun 28	24.42	Apr 16 1997
INSTANTANEOUS LOW FLOW			.00		Oct 10	.00	Jan 7 1990
ANNUAL RUNOFF (AC-FT)	545500		147300		248400		
ANNUAL RUNOFF (CFSM)	.40		.11		.18		
ANNUAL RUNOFF (INCHES)	5.44		1.47		2.48		
10 PERCENT EXCEEDS	1860		621		1220		
50 PERCENT EXCEEDS	36		5.8		11		
90 PERCENT EXCEEDS	1.7		.21		.26		

a Many days, several years; result of regulation.

