

## RED RIVER OF THE NORTH BASIN

05030500 OTTER TAIL RIVER NEAR ELIZABETH, MN

LOCATION.--Lat 46°22'10", long 96°01'02", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 31, T.134 N., R.42 W., Ottertail County, Hydrologic Unit 09020103, on right bank at County Highway 10, 2.5 miles below Taplin Gorge Dam, 5.0 miles above the Diversion Dam, 5.7 miles east of Elizabeth and 6.6 miles northeast of Fergus Falls.

DRAINAGE AREA.--1,230 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.--May 1904 to September 1917, monthly discharge only, published as "at German Church near Fergus Falls" in WSP 1308. July 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,250 ft above sea level (from topographic map). Nonrecording gage at same site Nov. 1913 to September 1917 at elevation 1,265 ft (from topographic map).

REMARKS.--Records good except those for estimated daily discharge, which are fair. Flow regulated by power plant upstream.

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	257	253	e450	e435	e435	e430	379	970	1060	923	653	358
2	240	281	e460	e430	e435	e425	370	996	1040	930	601	379
3	250	288	e455	e430	e435	e425	379	1000	1020	905	610	368
4	258	287	e455	e430	e440	e420	378	1000	1010	904	587	360
5	255	287	e455	e435	e440	e420	381	1010	975	896	597	343
6	245	311	e445	e440	e435	e420	387	1040	997	893	566	335
7	245	343	e450	e435	e435	e420	481	1050	1010	884	553	352
8	245	358	e460	e435	e435	e430	512	1070	968	872	519	359
9	217	364	e455	e440	e435	e440	508	1060	960	845	470	358
10	200	370	e450	e440	e440	e430	522	1070	967	806	489	355
11	212	378	e445	e445	e440	e430	528	1100	986	794	488	352
12	213	394	e445	e445	e440	e425	560	1090	1010	760	474	346
13	213	424	e450	e450	e440	e425	570	1090	1000	731	465	366
14	211	437	e450	e450	e440	e425	579	1090	1010	705	437	347
15	215	436	e455	e445	e440	e425	594	1080	953	745	420	331
16	205	434	e440	e450	e440	e425	631	1040	1020	753	416	331
17	235	433	e440	e450	e440	e425	639	1040	1040	706	434	329
18	240	438	e440	e450	e435	e420	656	1070	1050	712	436	317
19	230	444	e435	e450	e430	e420	682	1080	1070	748	433	298
20	210	451	e435	e450	e430	e420	697	1080	1060	735	419	294
21	212	e425	e435	e450	e435	417	711	1070	1060	699	419	298
22	212	e405	e440	e450	e440	423	730	1090	1040	728	421	301
23	213	e410	e435	e450	e445	411	855	1110	1030	716	373	302
24	213	e420	e435	e450	e440	e410	885	1110	993	699	342	301
25	215	e440	e435	e450	e435	388	853	1060	1010	643	352	300
26	217	e445	e440	e445	e435	315	892	1050	983	598	369	298
27	218	e445	e435	e445	e435	322	945	1050	951	579	343	297
28	222	e450	e435	e445	e430	369	963	1060	935	605	343	280
29	225	e450	e430	e440	---	374	962	1020	934	620	366	271
30	244	e450	e430	e440	---	e385	965	1050	952	615	386	272
31	255	---	e435	e440	---	e385	---	1040	---	630	379	---
TOTAL	7042	11751	13755	13740	12235	12699	19194	32736	30094	23379	14160	9798
MEAN	227	392	444	443	437	410	640	1056	1003	754	457	327
MAX	258	451	460	450	445	440	965	1110	1070	930	653	379
MIN	200	253	430	430	430	315	370	970	934	579	342	271
AC-FT	13970	23310	27280	27250	24270	25190	38070	64930	59690	46370	28090	19430
CFSM	.18	.32	.36	.36	.36	.33	.52	.86	.82	.61	.37	.27
IN.	.21	.36	.42	.42	.37	.38	.58	.99	.91	.71	.43	.30

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	317	346	347	335	356	403	570	752	685	593	436	355
MAX	740	571	529	479	523	477	725	1056	1003	770	759	817
(WY)	1994	1994	1999	1999	1999	1999	1999	2001	2001	1998	1993	1993
MIN	112	143	141	181	209	314	357	453	454	358	218	134
(WY)	1997	1993	1993	1993	1993	1993	1993	1993	1995	1995	1996	1996

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1992 - 2001
ANNUAL TOTAL	160158	200583	
ANNUAL MEAN	438	550	462
HIGHEST ANNUAL MEAN			593
LOWEST ANNUAL MEAN			349
HIGHEST DAILY MEAN	633	Jun 21	1110
LOWEST DAILY MEAN	200	Oct 10	200
ANNUAL SEVEN-DAY MINIMUM	210	Oct 10	210
MAXIMUM PEAK FLOW			1170
MAXIMUM PEAK STAGE			9.37
INSTANTANEOUS LOW FLOW			115a
ANNUAL RUNOFF (AC-FT)	317700	397900	334400
ANNUAL RUNOFF (CFSM)	.36	.45	.38
ANNUAL RUNOFF (INCHES)	4.84	6.07	5.10
10 PERCENT EXCEEDS	605	1020	757
50 PERCENT EXCEEDS	440	440	428
90 PERCENT EXCEEDS	260	285	204

a Result of regulation.  
e Estimated.

