

RED RIVER OF THE NORTH BASIN

05030500 OTTER TAIL RIVER NEAR ELIZABETH, MN

LOCATION.--Lat 46°22'10", long 96°01'02", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ 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 mi² (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. Datum of gage is 1,250 ft above mean sea level, from topographic map. Nonrecording gage at same site Nov. 1913 to September 1917 at datum 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 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	302	443	573	e460	e540	501	527	852	892	764	543	507
2	310	444	575	e455	e538	495	534	850	890	742	537	505
3	312	457	574	e450	e538	502	545	851	896	735	533	511
4	316	473	577	e450	e537	483	556	864	890	730	525	542
5	360	466	581	e450	e537	479	615	884	947	723	509	549
6	366	467	582	e448	e535	473	614	901	993	705	489	556
7	346	469	586	e447	e535	468	603	900	973	672	491	557
8	337	471	588	e446	e532	469	618	899	911	700	490	548
9	322	475	587	e445	e532	469	650	865	865	707	507	543
10	319	480	585	e443	e530	468	660	926	946	695	509	541
11	320	567	587	e441	e528	466	659	986	943	683	513	551
12	318	527	588	e440	e525	462	683	983	928	664	529	568
13	312	527	590	e440	e522	459	695	963	916	666	532	573
14	306	523	591	e440	e520	458	722	940	914	651	530	574
15	311	528	591	e440	e520	459	737	972	911	593	529	576
16	347	531	594	e443	e518	462	762	960	887	596	520	575
17	359	531	599	e450	e518	465	778	953	871	622	513	574
18	357	546	601	e460	e517	464	781	948	857	629	510	572
19	358	563	576	e475	e516	466	818	952	845	642	452	569
20	362	552	532	e490	e516	467	824	945	833	638	468	562
21	368	555	487	e500	e516	466	825	931	821	625	493	560
22	376	551	e400	e510	e515	466	826	935	813	618	489	562
23	392	556	e350	e520	e514	489	826	930	835	614	494	563
24	397	571	e380	e530	e514	465	829	929	823	607	491	564
25	394	583	e410	e535	e514	454	836	926	814	601	470	566
26	397	584	e440	e540	513	460	842	923	801	587	514	482
27	402	577	e445	e545	512	463	844	919	788	578	498	594
28	423	575	e450	e542	504	491	846	911	781	578	492	596
29	432	573	e455	e540	---	564	846	907	761	574	486	573
30	432	571	e460	e540	---	530	850	908	751	566	485	564
31	437	---	e465	e540	---	508	---	907	---	553	495	---
TOTAL	11090	15736	16399	14855	14656	14791	21751	28520	26096	20058	15636	16677
MEAN	358	525	529	479	523	477	725	920	870	647	504	556
MAX	437	584	601	545	540	564	850	986	993	764	543	596
MIN	302	443	350	440	504	454	527	850	751	553	452	482
AC-FT	22000	31210	32530	29460	29070	29340	43140	56570	51760	39790	31010	33080
CFSM	.29	.43	.43	.39	.43	.39	.59	.75	.71	.53	.41	.45
IN.	.34	.48	.50	.45	.44	.45	.66	.86	.79	.61	.47	.50

e Estimated

05030500 OTTER TAIL RIVER NEAR ELIZABETH, MN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	303	333	340	325	349	396	557	732	652	569	430	367
MAX	740	571	529	479	523	477	725	952	870	770	759	817
(WY)	1994	1994	1999	1999	1999	1999	1999	1997	1999	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 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1992 - 1999
ANNUAL TOTAL	184831	216265	
ANNUAL MEAN	506	593	451
HIGHEST ANNUAL MEAN			593 1999
LOWEST ANNUAL MEAN			349 1995
HIGHEST DAILY MEAN	968	Jul 17	993 Jun 6 1999
LOWEST DAILY MEAN	302	Oct 1	99 Oct 15 1996
ANNUAL SEVEN-DAY MINIMUM	315	Sep 28	315 Oct 9 1996
INSTANTANEOUS PEAK FLOW			1040 May 11 1999
INSTANTANEOUS PEAK STAGE			9.11 May 11 1999
INSTANTANEOUS LOW FLOW			244 Oct 7 1996
ANNUAL RUNOFF (AC-FT)	366600	429000	326700
ANNUAL RUNOFF (CFSM)	.41	.48	.37
ANNUAL RUNOFF (INCHES)	5.59	6.54	4.98
10 PERCENT EXCEEDS	672	894	754
50 PERCENT EXCEEDS	506	541	400
90 PERCENT EXCEEDS	350	440	189

