

# RED RIVER OF THE NORTH BASIN

## 05030500 OTTER TAIL RIVER NEAR ELIZABETH, MN

LOCATION.--Lat 46 22'10", long 9601'02", in SW 1 / 4 SE 1 / 4 sec. 31, T.134 N., R.42 W., Ottertail County, Hydrologic Unit 09020103, on right bank, 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. 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. Flow regulated by power plant upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

### DAILY MEAN VALUES

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	285	335	390	e370	e360	387	539	506	492	651	777	547
2	281	333	396	373	e355	388	548	534	503	628	768	530
3	277	332	386	e380	e350	390	554	538	491	606	724	526
4	275	338	381	e380	e340	394	555	540	486	648	726	512
5	273	343	375	e380	e320	399	558	519	482	652	738	503
6	261	345	374	e380	e320	404	561	510	476	672	736	499
7	260	346	376	e380	e320	410	564	508	472	685	730	488
8	264	347	376	e380	e325	415	567	532	459	683	722	470
9	265	345	376	e370	e320	406	565	544	446	676	715	464
10	265	359	376	e360	e325	417	566	543	448	673	675	446
11	300	365	376	e355	e330	433	572	558	464	669	672	434

12	310	348	378	e350	e335	463	581	574	471	656	675	439
13	336	346	372	e350	e340	475	583	547	475	654	672	433
14	355	351	371	e350	e345	470	582	548	478	685	670	406
15	354	349	371	e350	353	477	585	566	477	848	663	408
16	355	343	366	e350	353	494	585	588	481	907	649	410
17	356	336	371	e350	355	497	584	583	485	968	654	410
18	357	329	368	e350	356	496	589	576	495	923	619	410
19	356	326	370	e350	357	497	591	567	521	922	611	404
20	360	324	378	e350	357	497	594	561	534	938	615	392
21	364	327	370	e355	359	500	591	558	523	919	613	374
22	367	330	370	e360	362	501	586	553	517	855	623	366
23	370	338	370	e365	364	503	583	547	521	846	621	366
24	370	360	369	e370	364	505	584	539	503	850	610	364
25	365	352	369	e375	372	506	584	533	580	844	600	352
26	364	351	369	e375	386	519	579	527	561	832	591	346
27	365	353	380	e375	387	519	573	518	675	804	562	341
28	346	379	367	e375	386	515	562	508	635	799	558	335
29	340	389	367	e370	---	521	627	505	540	797	560	321
30	356	381	373	e365	---	528	555	498	642	793	552	306
31	343	---	e375	e365	---	530	---	513	---	785	554	---
TOTAL	10095	10400	11606	11308	9796	14456	17247	16741	15333	23868	20255	12602
MEAN	326	347	374	365	350	466	575	540	511	770	653	420
MAX	370	389	396	380	387	530	627	588	675	968	777	547
MIN	260	324	366	350	320	387	539	498	446	606	552	306
AC-FT	20020	20630	23020	22430	19430	28670	34210	33210	30410	47340	40180	25000
CFSM	.26	.28	.30	.30	.28	.38	.47	.44	.42	.63	.53	.34
IN.	.31	.31	.35	.34	.30	.44	.52	.51	.46	.72	.61	.38

e Estimated

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	294	301	309	299	320	382	530	701	616	556	420	340
MAX	740	571	489	400	439	466	632	952	754	770	759	817
(WY)	1994	1994	1994	1994	1994	1998	1995	1997	1996	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 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998		
ANNUAL TOTAL	175806		173707				
ANNUAL MEAN	482		476		427		
HIGHEST ANNUAL MEAN					495		1994
LOWEST ANNUAL MEAN					349		1995
HIGHEST DAILY MEAN	989	May 11	968	Jul 17	989	May 11	1997
LOWEST DAILY MEAN	260	Oct 7	260	Oct 7	99	Oct 15	1996
ANNUAL SEVEN-DAY MINIMUM	266	Oct 4	266	Oct 4	101	Oct 10	1996
INSTANTANEOUS PEAK FLOW			1010	Jul 17	1010	Jul 17	1998
INSTANTANEOUS PEAK STAGE			8.54	Jul 17	8.54	Jul 17	1998
INSTANTANEOUS LOW FLOW			253	Oct 6	61	Aug 9	1996
ANNUAL RUNOFF (AC-FT)	348700		344500		309600		
ANNUAL RUNOFF (CFSM)	.39		.39		.35		
ANNUAL RUNOFF (INCHES)	5.32		5.25		4.72		
10 PERCENT EXCEEDS	851		672		736		

50 PERCENT EXCEEDS	378		446		367		
90 PERCENT EXCEEDS	309		340		177		

