

RED RIVER OF THE NORTH BASIN

05030500 OTTER TAIL RIVER NEAR ELIZABETH, MN

LOCATION.--Lat 46°22'10", long 96°01'02", in SW¹/₄SE¹/₄ 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. 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	251	279	e345	e301	286	305	453	525	409	486	352
2	273	251	279	e345	303	287	308	449	519	413	485	393
3	266	251	280	e345	e305	286	306	451	504	420	475	410
4	265	251	293	e350	e305	286	307	452	490	406	460	397
5	259	251	313	e350	e305	287	309	452	488	418	476	394
6	256	251	335	e345	303	289	314	453	487	404	475	412
7	252	251	349	e345	303	289	316	455	488	398	465	394
8	253	251	346	350	304	291	318	480	461	470	438	387
9	254	252	347	344	305	293	323	527	428	456	413	366
10	252	251	348	343	e303	293	347	518	432	539	458	355
11	258	251	352	342	300	291	363	527	434	589	444	358
12	258	251	351	340	298	305	361	534	433	562	419	358
13	259	251	352	340	298	313	362	536	422	544	438	357
14	258	251	352	337	298	313	365	545	404	558	421	352
15	258	251	351	333	296	311	374	556	416	548	412	349
16	258	251	350	e325	294	309	402	553	405	533	401	337
17	258	251	351	e324	295	309	401	554	395	541	398	330
18	255	251	368	e326	294	308	403	555	389	536	395	330
19	255	251	356	e324	294	307	400	556	392	534	375	320
20	255	251	355	e325	294	307	401	558	386	537	380	296
21	253	251	359	324	294	303	407	560	382	517	379	287
22	252	252	359	326	294	298	412	564	377	536	370	287
23	243	253	352	e325	294	300	418	554	383	523	366	287
24	242	254	336	e320	294	301	418	542	395	522	364	287
25	241	261	331	318	291	302	412	537	396	480	360	286
26	235	316	338	316	283	300	415	535	395	537	352	282
27	248	315	345	317	279	302	438	534	409	519	372	265
28	240	279	e350	e310	284	302	462	534	414	485	375	255
29	240	264	e350	e310	---	303	452	536	413	497	375	254
30	245	277	e345	e305	---	303	453	530	415	463	375	249
31	251	---	e345	e305	---	302	---	525	---	430	374	---
TOTAL	7865	7743	10517	10254	8311	9276	11272	16115	12877	15324	12776	9986
MEAN	254	258	339	331	297	299	376	520	429	494	412	333
MAX	273	316	368	350	305	313	462	564	525	589	486	412
MIN	235	251	279	305	279	286	305	449	377	398	352	249
AC-FT	15600	15360	20860	20340	16480	18400	22360	31960	25540	30400	25340	19810
CFSM	0.21	0.21	0.28	0.27	0.24	0.24	0.31	0.42	0.35	0.40	0.34	0.27
IN.	0.24	0.23	0.32	0.31	0.25	0.28	0.34	0.49	0.39	0.46	0.39	0.30

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	311	337	346	335	350	393	550	729	659	583	433	353
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	299	357	453	429	358	218	134
(WY)	1997	1993	1993	1993	1993	2002	1993	1993	2002	1995	1996	1996

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1992 - 2002

ANNUAL TOTAL	194160	132316	
ANNUAL MEAN	532	363	452
HIGHEST ANNUAL MEAN			593 1999
LOWEST ANNUAL MEAN			349 1995
HIGHEST DAILY MEAN	1110	May 23	589 Jul 11 1110 May 23 2001
LOWEST DAILY MEAN	235	Oct 26	235 Oct 26 99 Oct 15 1996
ANNUAL SEVEN-DAY MINIMUM	241	Oct 23	241 Oct 23 101 Oct 10 1996
MAXIMUM PEAK FLOW			663 Jul 10 1170 May 23 2001
MAXIMUM PEAK STAGE			7.33 Jul 10 9.37 May 23 2001
INSTANTANEOUS LOW FLOW			175a Oct 26 61a Aug 9 1996
ANNUAL RUNOFF (AC-FT)	385100	262400	327200
ANNUAL RUNOFF (CFSM)	0.43	0.29	0.37
ANNUAL RUNOFF (INCHES)	5.87	4.00	4.99
10 PERCENT EXCEEDS	1020	524	746
50 PERCENT EXCEEDS	435	345	416
90 PERCENT EXCEEDS	253	253	217

a Result of regulation.
e Estimated.

