

## 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., Otter Tail 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 Sept. 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.

REVISIONS.--Minimum instantaneous discharges for the 2000 and 2001 water years have been revised to 80 ft<sup>3</sup>/s, September 20, 2000, and 38 ft<sup>3</sup>/s, November 1, 2000.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234	215	221	234	e210	e190	238	382	434	507	475	133
2	224	215	221	235	e210	e190	244	379	440	497	464	133
3	192	214	222	e234	e210	e190	245	377	436	496	454	133
4	176	214	222	233	e210	e180	245	380	428	493	426	133
5	177	209	222	233	e210	e180	245	384	405	458	407	129
6	184	196	222	233	e210	e181	246	390	400	458	410	121
7	227	192	222	233	e210	e182	247	394	404	496	395	121
8	251	192	223	232	e210	e183	249	406	399	504	373	121
9	246	192	230	233	e210	e183	250	447	391	525	378	114
10	240	192	235	e232	e210	e185	251	456	400	592	370	108
11	238	192	235	e231	e195	e186	252	451	425	601	378	108
12	235	204	235	e231	e180	e186	255	449	430	599	366	101
13	234	214	235	e230	e180	e186	257	451	401	594	354	95
14	234	221	235	e230	e180	e186	263	475	405	592	334	94
15	224	222	235	e229	e180	e193	253	479	405	587	318	89
16	207	219	231	e229	e180	e220	303	472	407	584	306	82
17	201	219	213	e228	e180	272	347	467	435	579	304	79
18	215	219	205	e228	e180	307	346	465	450	574	283	80
19	224	219	215	e230	e213	301	401	469	444	569	265	80
20	223	223	226	e230	e210	290	396	452	437	565	251	80
21	222	230	226	e230	e209	278	413	476	431	557	222	80
22	218	234	226	e220	e208	275	413	473	444	554	227	80
23	209	234	e226	e212	e207	272	405	471	444	556	201	80
24	206	233	e226	e212	e206	254	400	468	444	512	167	80
25	206	221	e226	e212	e205	231	395	465	479	504	209	80
26	206	218	e226	e211	e190	222	392	469	478	508	233	80
27	206	222	e226	e211	e190	222	388	468	481	504	230	80
28	208	222	226	e211	e190	222	384	465	516	497	195	80
29	208	222	226	e210	---	222	377	458	531	489	152	81
30	211	221	e230	e210	---	224	386	436	516	475	131	78
31	215	---	e230	e210	---	227	---	432	---	483	132	---
TOTAL	6,701	6,440	6,999	6,977	5,583	6,820	9,486	13,706	13,140	16,509	9,410	2,933
MEAN	216	215	226	225	199	220	316	442	438	533	304	97.8
MAX	251	234	235	235	213	307	413	479	531	601	475	133
MIN	176	192	205	210	180	180	238	377	391	458	131	78
AC-FT	13,290	12,770	13,880	13,840	11,070	13,530	18,820	27,190	26,060	32,750	18,660	5,820
CFSM	0.18	0.17	0.18	0.18	0.16	0.18	0.26	0.36	0.36	0.43	0.25	0.08
IN.	0.20	0.19	0.21	0.21	0.17	0.21	0.29	0.41	0.40	0.50	0.28	0.09

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

MEAN	302	326	335	325	337	377	529	703	639	578	423	332
MAX	740	571	529	479	523	477	725	1,056	1,003	770	759	817
(WY)	(1994)	(1994)	(1999)	(1999)	(1999)	(1999)	(1999)	(2001)	(2001)	(1998)	(1993)	(1993)
MIN	112	143	141	181	199	220	316	442	429	358	218	97.8
(WY)	(1997)	(1993)	(1993)	(1993)	(2003)	(2003)	(2003)	(2003)	(2002)	(1995)	(1996)	(2003)

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1992 - 2003	
ANNUAL TOTAL	126,331		104,704			
ANNUAL MEAN	346		287		437	
HIGHEST ANNUAL MEAN					593 1999	
LOWEST ANNUAL MEAN					287 2003	
HIGHEST DAILY MEAN	589	Jul 11	601	Jul 11	1,110	May 23, 2001
LOWEST DAILY MEAN	176	Oct 4	78	Sep 30	78	Sep 30, 2003
ANNUAL SEVEN-DAY MINIMUM	194	Nov 6	80	Sep 17	80	Sep 17, 2003
MAXIMUM PEAK FLOW			611	Jul 11	1,170	May 23, 2001
MAXIMUM PEAK STAGE			7.10	Jul 11	9.37	May 23, 2001
INSTANTANEOUS LOW FLOW			a30	Aug 23	a30	Aug 23, 2003
ANNUAL RUNOFF (AC-FT)	250,600		207,700		316,400	
ANNUAL RUNOFF (CFSM)	0.28		0.23		0.36	
ANNUAL RUNOFF (INCHES)	3.82		3.17		4.82	
10 PERCENT EXCEEDS	524		475		732	
50 PERCENT EXCEEDS	324		230		400	
90 PERCENT EXCEEDS	219		179		207	

a Result of regulation.  
 e Estimated.

