

RED RIVER OF THE NORTH BASIN--Continued

05046000 OTTER TAIL RIVER BELOW ORWELL DAM, NEAR FERGUS FALLS, MN

LOCATION.--Lat 46°12'35", long 96°11'05", in NE¹/₄ sec. 34, T.132 N., R.44 W., Otter Tail County, Hydrologic Unit 09020103, on left bank 0.7 mi downstream from Orwell Dam on County Highway 15, 6.1 mi downstream from Dayton Hollow Dam, 8 mi southwest of Fergus Falls, and 11.1 mi downstream from Pelican River.

DRAINAGE AREA.--1,740 mi².

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1952, published as "Otter Tail River below Pelican River, near Fergus Falls". Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 785: 1934(M). WSP 1208: 1947(M). WSP 1308: 1931(M).

GAGE.--Water-stage recorder. Datum of gage is 1,029.65 ft above sea level, (adjustment of 1912, levels by U.S. Army Corps of Engineers). Oct. 11, 1930 to Nov. 17, 1933, at same site at datum 2.00 ft higher; Nov. 18, 1933 to Mar. 21, 1953, at site 6.1 mi upstream at datum 40.30 ft higher.

REMARKS.--Records good. Flow regulated at Orwell Lake (station 05045950) beginning Mar. 21, 1953, and by power plant upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	655	641	523	477	458	856	835	809	859	814	801	510
2	617	609	523	477	442	915	839	807	986	808	796	506
3	622	612	523	521	427	772	840	777	974	800	772	502
4	675	612	523	551	426	629	837	777	960	793	715	497
5	712	614	523	526	426	628	801	779	960	802	698	489
6	713	612	519	486	425	628	758	783	962	817	700	481
7	735	612	516	454	440	629	783	778	953	826	703	440
8	766	612	497	433	452	629	821	777	936	835	693	428
9	784	615	477	433	452	629	821	773	938	845	636	421
10	784	618	477	433	452	658	821	772	932	827	603	433
11	783	617	477	434	452	681	821	825	906	842	607	435
12	783	615	472	433	447	680	821	862	882	890	611	448
13	783	617	471	439	446	654	821	858	858	933	610	452
14	780	618	471	436	446	629	825	853	839	758	599	452
15	762	618	475	440	446	629	825	826	849	560	595	403
16	747	618	476	438	446	629	827	808	866	619	555	377
17	747	588	471	437	446	607	831	807	850	695	562	377
18	724	561	464	455	446	590	873	804	837	882	587	340
19	704	531	464	471	445	595	898	802	919	909	589	312
20	705	498	432	471	441	640	898	802	954	801	581	374
21	705	502	397	470	440	724	920	803	956	780	582	382
22	690	524	397	471	440	783	932	803	941	797	635	377
23	681	544	377	469	440	749	929	802	960	788	301	393
24	682	557	351	467	441	760	904	802	942	805	135	310
25	685	573	357	465	512	802	884	773	897	859	437	88
26	687	573	360	465	569	802	882	753	892	937	719	159
27	686	573	368	461	572	898	830	760	902	936	688	534
28	688	573	426	458	642	925	795	759	817	895	638	599
29	687	548	477	458	764	829	791	759	796	868	560	525
30	682	524	477	458	---	787	791	759	817	844	521	459
31	677	---	477	458	---	813	---	759	---	820	517	---
TOTAL	22131	17529	14238	14345	13681	22179	25254	24611	27140	25385	18746	12503
MEAN	714	584	459	463	472	715	842	794	905	819	605	417
MAX	784	641	523	551	764	925	932	862	986	937	801	599
MIN	617	498	351	433	425	590	758	753	796	560	135	88
AC-FT	43900	34770	28240	28450	27140	43990	50090	48820	53830	50350	37180	24800
CFSM	.41	.34	.26	.27	.27	.41	.48	.46	.52	.47	.35	.24
IN.	.47	.37	.30	.31	.29	.47	.54	.53	.58	.54	.40	.27

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2000, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	253	262	252	243	249	334	499	601	585	441	301	252
MAX	973	831	740	737	742	785	1199	1427	1425	1246	1080	1026
(WY)	1994	1986	1999	1999	1999	1999	1997	1986	1986	1953	1985	1993
MIN	9.15	8.42	8.10	15.1	10.8	23.5	39.5	14.1	14.2	12.8	11.5	7.99
(WY)	1977	1977	1977	1937	1935	1937	1934	1977	1934	1936	1934	1934

SUMMARY STATISTICS	FOR 1999 CALENDAR YEAR	FOR 2000 WATER YEAR	WATER YEARS 1931 - 2000
ANNUAL TOTAL	301180	237742	
ANNUAL MEAN	825	650	356
HIGHEST ANNUAL MEAN			846
LOWEST ANNUAL MEAN			20.4
HIGHEST DAILY MEAN	1300	Jun 8	1670
LOWEST DAILY MEAN	280	Aug 5	1.6
ANNUAL SEVEN-DAY MINIMUM	372	Dec 21	5.9
INSTANTANEOUS PEAK FLOW			1710
INSTANTANEOUS PEAK STAGE			3.93
INSTANTANEOUS LOW FLOW			53 ^a
ANNUAL RUNOFF (AC-FT)	597400	471600	258100
ANNUAL RUNOFF (CFSM)	.47	.37	.20
ANNUAL RUNOFF (INCHES)	6.44	5.08	2.78
10 PERCENT EXCEEDS	1170	882	783
50 PERCENT EXCEEDS	765	636	283
90 PERCENT EXCEEDS	501	436	36

^a Result of regulation.

