

## MINNESOTA RIVER BASIN--Continued

05304500 CHIPPEWA RIVER NEAR MILAN, MN

LOCATION.--Lat 45°06'39", long 95°47'57", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 21, T.119 N., R.41 W., Chippewa County, Hydrologic Unit 07020005, on right bank 20 ft downstream from bridge on State Highway 40, 2.0 mi upstream from small tributary, and 5.5 mi east of Milan.

DRAINAGE AREA.--1,880 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1937 to current year.

REVISED RECORDS.--WSP 1145: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 959.69 ft above sea level (NGVD of 1929). Prior to June 15, 1942, nonrecording gage on bridge 800 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor. Flow may be influenced by regulation from several small lakes upstream from gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr 5	0900	1,060	3.27	Jun 23	0400	*1,490	*4.00
Apr 17	2200	1,110	3.38	Aug 5	2200	740	2.77
May 13	1100	1,070	3.33				

Minimum discharge, 99 ft<sup>3</sup>/s, Nov. 28, 29, gage height, 1.18 ft.

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	189	194	e262	e158	e153	e191	e894	877	552	608	569	509
2	184	189	e285	e155	e152	e181	e853	848	533	539	571	494
3	180	185	e285	e155	e151	e173	847	823	514	529	592	477
4	175	183	e270	e154	e150	e165	881	781	505	502	667	450
5	169	186	e259	e153	e150	e160	920	754	483	471	720	422
6	166	199	e248	e153	e150	e158	819	735	458	407	730	381
7	166	188	e242	e152	e151	e157	681	720	442	361	713	353
8	168	179	e239	e157	e156	e155	742	774	426	362	707	332
9	170	178	e239	e161	e163	e154	779	904	417	370	697	313
10	174	187	e238	e167	e172	e152	822	992	409	351	697	303
11	173	186	e239	e169	e185	e150	903	985	411	340	679	304
12	176	186	e239	e173	e195	e159	948	1040	425	393	663	304
13	188	185	e237	e177	e201	e205	987	1060	437	387	628	299
14	188	186	e233	e179	e205	e254	988	1060	421	379	578	291
15	189	188	e232	e177	e208	e267	976	1040	393	360	547	281
16	185	187	e228	e173	e208	e263	963	1010	369	333	523	272
17	186	187	e225	e171	e209	e256	1050	958	354	311	500	265
18	191	186	e222	e171	e213	e249	1100	907	337	308	489	257
19	195	181	e220	e169	e218	e241	1060	861	333	294	464	248
20	190	204	e217	e166	e223	e233	1030	818	319	316	443	241
21	187	191	e213	e165	e232	e232	1000	783	420	339	476	231
22	186	192	e208	e162	e244	e231	997	755	1210	372	501	221
23	187	191	e202	e160	e240	e227	990	727	1430	380	528	213
24	185	208	e194	e157	e230	e224	958	701	1310	397	519	208
25	177	243	e189	e159	e220	e219	915	674	1230	431	502	207
26	186	273	e183	e160	e210	e229	874	658	1170	468	482	210
27	179	e160	e176	e161	e200	e242	851	641	1070	483	450	213
28	186	e109	e171	e160	e195	e265	870	628	963	494	430	213
29	193	e142	e168	e157	---	e385	904	614	840	540	428	215
30	190	e215	e164	e155	---	e780	909	609	713	569	447	216
31	191	---	e161	e154	---	e918	---	588	---	568	498	---
TOTAL	5649	5668	6888	5040	5384	7875	27511	25325	18894	12962	17438	8943
MEAN	182	189	222	163	192	254	917	817	630	418	563	298
MAX	195	273	285	179	244	918	1100	1060	1430	608	730	509
MIN	166	109	161	152	150	150	681	588	319	294	428	207
AC-FT	11200	11240	13660	10000	10680	15620	54570	50230	37480	25710	34590	17740
CFSM	0.10	0.10	0.12	0.09	0.10	0.14	0.49	0.43	0.34	0.22	0.30	0.16
IN.	0.11	0.11	0.14	0.10	0.11	0.16	0.54	0.50	0.37	0.26	0.35	0.18

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	235	201	127	74.8	79.1	405	1134	708	599	480	281	223
MAX	1996	1318	655	425	432	2141	6606	2462	2248	2507	2183	2273
(WY)	1985	1985	1985	1987	1998	1985	1997	1986	1984	1995	1993	1986
MIN	5.51	8.67	4.77	0.094	0.000	2.92	90.9	81.6	36.8	15.1	6.19	3.50
(WY)	1977	1977	1977	1940	1940	1965	1959	1939	1940	1940	1976	1976

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1938 - 2002
ANNUAL TOTAL	350185	147577	
ANNUAL MEAN	959	404	379a
HIGHEST ANNUAL MEAN			1307
LOWEST ANNUAL MEAN			45.4
HIGHEST DAILY MEAN	11500	Apr 10	13400
LOWEST DAILY MEAN	54	Jan 2	0.00b
ANNUAL SEVEN-DAY MINIMUM	56	Jan 1	0.00
MAXIMUM PEAK FLOW			14400
MAXIMUM PEAK STAGE			4.54c
INSTANTANEOUS LOW FLOW			99f
ANNUAL RUNOFF (AC-FT)	694600	292700	274900
ANNUAL RUNOFF (CFMS)	0.51	0.22	0.20
ANNUAL RUNOFF (INCHES)	6.93	2.92	2.74
10 PERCENT EXCEEDS	2440	898	995
50 PERCENT EXCEEDS	216	257	149
90 PERCENT EXCEEDS	64	161	17

- a Median of annual mean discharges is 322 ft<sup>3</sup>/s.
- b Many days in 1940.
- c Backwater from ice.
- d From highwater mark.
- e Estimated.
- f Measured flow, result of freezeup.

