



Water-Data Report 2009

05304500 CHIPPEWA RIVER NEAR MILAN, MN

Minnesota Basin
Chippewa Subbasin

LOCATION.--Lat 45°06'30", long 95°47'55" referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.21, T.119 N., R.41 W., Chippewa County, MN, 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 mi².

SURFACE-WATER RECORDS

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 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 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar 25	0300	*7,820	*11.57

No other peaks above base discharge of 600 ft³/s. Minimum discharge, 59 ft³/s, Oct. 5, gage height, 0.91 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	70	201	e208	e138	e115	e101	3,400	1,360	507	276	134	100
2	67	205	e210	e136	e113	e102	3,210	1,320	479	261	130	94
3	65	205	e187	e134	e111	e107	3,040	1,290	467	253	124	89
4	62	202	e172	e129	e111	e112	2,940	1,250	442	247	122	85
5	61	201	e181	e128	e114	e116	2,820	1,260	435	237	119	81
6	68	209	e178	e131	e115	e117	2,670	1,230	403	227	116	77
7	101	255	e173	e132	e114	e114	2,530	1,190	388	225	e200	74
8	124	342	e169	e128	e112	e114	2,430	1,160	418	222	e183	71
9	146	396	e169	e130	e114	e110	2,360	1,120	438	216	e161	71
10	144	420	e175	e130	e116	e106	2,270	1,090	444	214	e148	72
11	158	443	e168	e129	e114	e101	2,180	1,080	429	205	e136	73
12	162	437	e169	e130	e112	e100	2,100	1,040	411	195	e128	74
13	178	423	e171	e124	e112	e116	2,060	1,030	396	186	e123	77
14	180	410	e161	e119	e114	e140	2,010	982	383	191	e118	78
15	182	398	e159	e118	e112	e216	1,910	944	370	200	e114	76
16	180	387	e155	e119	e115	e304	1,860	921	357	200	e115	74
17	180	378	e155	e121	e115	e481	1,820	915	350	192	e112	70
18	175	355	e154	e123	e112	e645	1,770	876	348	182	108	68
19	173	304	e154	e125	e111	e733	1,730	843	337	177	179	66
20	170	e270	e151	e124	e109	e922	1,690	796	332	174	222	64
21	167	e217	e150	e126	e107	e1,250	1,650	793	326	170	223	64
22	174	e198	e145	e123	e105	e1,790	1,590	763	352	164	253	66
23	197	e234	e149	e121	e106	4,290	1,550	722	371	161	231	70
24	214	e259	e147	e121	e109	7,320	1,520	707	361	156	205	71
25	227	e267	e145	e118	e110	7,630	1,470	672	353	149	187	85
26	219	e257	e150	e117	e107	6,930	1,440	655	339	143	172	81
27	213	e242	e145	e118	e104	6,130	1,440	630	333	137	155	79
28	204	e229	e148	e116	e102	5,340	1,380	603	325	135	142	74
29	207	e219	e144	e116	---	4,640	1,350	580	313	132	129	69
30	209	e214	e142	e114	---	4,060	1,360	554	295	131	117	65
31	203	---	e136	e120	---	3,630	---	528	---	137	109	---
Total	4,880	8,777	5,020	3,858	3,111	57,867	61,550	28,904	11,502	5,895	4,715	2,258
Mean	157	293	162	124	111	1,867	2,052	932	383	190	152	75.3
Max	227	443	210	138	116	7,630	3,400	1,360	507	276	253	100
Min	61	198	136	114	102	100	1,350	528	295	131	108	64
Ac-ft	9,680	17,410	9,960	7,650	6,170	114,800	122,100	57,330	22,810	11,690	9,350	4,480
Cfs/m	0.08	0.16	0.09	0.07	0.06	0.99	1.09	0.50	0.20	0.10	0.08	0.04
In.	0.10	0.17	0.10	0.08	0.06	1.15	1.22	0.57	0.23	0.12	0.09	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	244	210	137	85.0	86.3	423	1,131	721	620	475	275	222
Max	1,996	1,318	707	661	544	2,141	6,606	2,462	2,248	2,507	2,183	2,273
(WY)	(1985)	(1985)	(2006)	(2006)	(2006)	(1985)	(1997)	(1986)	(1984)	(1995)	(1993)	(1986)
Min	5.51	8.67	4.77	0.09	0.00	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)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1938 - 2009	
Annual total	115,582		198,337			
Annual mean	316		543		^a 386	
Highest annual mean					1,307	1986
Lowest annual mean					45.4	1940
Highest daily mean	1,580	Jun 12	7,630	Mar 25	13,400	Apr 6, 1997
Lowest daily mean	59	Feb 24	61	Oct 5	^b 0.00	Jan 4, 1940
Annual seven-day minimum	61	Mar 2	67	Sep 17	0.00	Jan 4, 1940
Maximum peak flow			7,820	Mar 25	14,400	Apr 6, 1997
Maximum peak stage			11.57	Mar 25	^c 18.03	Apr 6, 1997
Instantaneous low flow			59	Oct 5	^b 0.00	Jan 4, 1940
Annual runoff (ac-ft)	229,300		393,400		279,800	
Annual runoff (cfsm)	0.168		0.289		0.205	
Annual runoff (inches)	2.29		3.92		2.79	
10 percent exceeds	799		1,440		1,000	
50 percent exceeds	182		178		158	
90 percent exceeds	66		100		19	

^a Median of annual mean discharges is 340 ft³/s.

^b Many days in 1940.

^c From highwater mark.

