

05317000 COTTONWOOD RIVER NEAR NEW ULM, MN

LOCATION.--Lat 44°17'29", long 94°26'24", in SW¹/₄NE¹/₄ sec. 33, T.110 N., R.30 W., Brown County, Hydrologic Unit 07020008, on left bank 600 ft upstream from highway bridge, 1.8 mi south of New Ulm, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--1,300 mi².

PERIOD OF RECORD.--July 1909 to December 1913, March 1931 to March 1938, August 1938 to current year (winter records incomplete prior to 1936).

REVISED RECORDS.--WSP 355: 1912.

GAGE.--Water-stage recorder. Datum of gage is 796.83 ft above sea level (NGVD of 1929). July 1, 1909 to Dec. 13, 1913, nonrecording gage at site 2.7 mi upstream at different datum. Mar. 15, 1931 to Mar. 31, 1938, nonrecording gage 2.2 mi upstream at datum 11.41 ft higher. Aug. 23, 1938 to June 25, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair to poor.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 1	0915	*6,410	*12.44	Jul 6	0000	1,190	6.61
Jun 13	(daily)	e3,800	--	Jul 13	1600	1,990	7.97

Minimum discharge, 9.3 ft³/s, Nov. 24, gage height, 2.38 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	35	e32	e29	e20	e76	246	129	6,290	531	243	117
2	25	34	e32	e30	e20	e238	223	120	5,980	509	233	109
3	25	38	e33	e30	e20	e264	205	112	5,160	735	221	100
4	24	40	e34	e30	e20	e247	186	107	3,660	811	207	92
5	23	43	e36	e29	e20	e258	173	99	2,760	1,040	192	97
6	24	38	e37	e28	e20	e326	164	95	2,170	1,150	179	114
7	25	31	e38	e28	e20	e374	155	86	1,780	1,000	180	87
8	24	32	e40	e29	e21	e307	144	80	1,460	913	176	93
9	24	42	e32	e30	e21	e300	134	79	2,000	851	184	102
10	24	43	e28	e30	e21	e330	126	84	2,350	775	198	104
11	28	44	e26	e31	e21	e311	117	77	2,140	746	194	96
12	27	44	e25	e32	e21	e297	111	69	e3,200	861	169	85
13	27	42	e25	e31	e21	e370	105	68	e3,800	1,840	149	84
14	26	40	e26	e30	e21	e362	101	62	e3,600	1,700	133	101
15	31	40	e28	e29	e21	e337	97	59	e3,200	1,290	120	206
16	28	42	e27	e28	e21	e341	93	61	2,870	1,040	156	364
17	28	44	e27	e27	e21	e341	88	87	2,300	876	157	543
18	30	44	e26	e26	e21	e333	97	141	2,090	763	149	567
19	30	45	e25	e25	e22	e335	111	204	1,810	701	145	479
20	30	44	e25	e25	e22	e395	133	225	1,530	623	167	396
21	33	43	e25	e24	e23	e350	175	246	1,360	576	142	417
22	31	41	e26	e24	e24	310	167	246	1,220	579	123	444
23	29	31	e28	e24	e23	306	158	256	1,080	557	111	486
24	29	e28	e28	e23	e23	299	155	423	959	478	105	634
25	30	e34	e29	e22	e23	299	178	901	838	422	98	634
26	30	e32	e30	e21	e24	283	165	1,070	760	382	124	572
27	32	e32	e31	e20	e26	288	157	1,020	701	346	139	511
28	33	e32	e30	e20	e29	295	156	908	647	314	119	456
29	33	e32	e30	e19	e37	280	151	1,200	600	290	116	411
30	33	e32	e29	e19	---	270	139	3,410	560	266	142	379
31	34	---	e29	e19	---	262	---	5,600	---	244	124	---
TOTAL	876	1,142	917	812	647	9,384	4,410	17,324	68,875	23,209	4,895	8,880
MEAN	28.3	38.1	29.6	26.2	22.3	303	147	559	2,296	749	158	296
MAX	34	45	40	32	37	395	246	5,600	6,290	1,840	243	634
MIN	23	28	25	19	20	76	88	59	560	244	98	84
AC-FT	1,740	2,270	1,820	1,610	1,280	18,610	8,750	34,360	136,600	46,040	9,710	17,610
CFSM	0.02	0.03	0.02	0.02	0.02	0.23	0.11	0.43	1.77	0.58	0.12	0.23
IN.	0.03	0.03	0.03	0.02	0.02	0.27	0.13	0.50	1.97	0.66	0.14	0.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2004, BY WATER YEAR (WY)

MEAN	170	158	109	58.0	99.3	634	1,063	601	655	374	189	151
MAX	3,208	1,099	572	282	628	3,350	7,075	3,497	5,831	3,815	1,791	2,438
(WY)	(1969)	(1980)	(1980)	(1992)	(1983)	(1997)	(1969)	(1993)	(1993)	(1993)	(1993)	(1986)
MIN	4.57	7.97	5.77	1.61	1.47	13.9	40.0	7.57	8.58	4.37	1.05	3.28
(WY)	(1934)	(1940)	(1936)	(1940)	(1940)	(1965)	(1959)	(1934)	(1911)	(1934)	(1934)	(1933)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1909 - 2004	
ANNUAL TOTAL	83,410		141,371		a381	
ANNUAL MEAN	229		386		1,796	
HIGHEST ANNUAL MEAN					41.1 1940	
LOWEST ANNUAL MEAN					27,100 Apr 9, 1969	
HIGHEST DAILY MEAN	1,410	May 14	6,290	Jun 1	0.60	Aug 1, 1934
LOWEST DAILY MEAN	19	Sep 10	19	Jan 29-31	0.64	Feb 1, 1940
ANNUAL SEVEN-DAY MINIMUM	21	Sep 4	20	Jan 27	28,700	Apr 10, 1969
MAXIMUM PEAK FLOW			6,410	Jun 1	20.86	Apr 8, 1965
MAXIMUM PEAK STAGE			12.44	Jun 1	c0.50	Nov 27, 1952
INSTANTANEOUS LOW FLOW			b9.3	Nov 24		
ANNUAL RUNOFF (AC-FT)	165,400		280,400		275,900	
ANNUAL RUNOFF (CFSM)	0.176		0.297		0.293	
ANNUAL RUNOFF (INCHES)	2.39		4.05		3.98	
10 PERCENT EXCEEDS	745		927		915	
50 PERCENT EXCEEDS	45		104		98	
90 PERCENT EXCEEDS	27		24		14	

- a Median of annual mean discharges is 260 ft³/s.
- b Occurred before freezeup.
- c Minimum observed.
- e Estimated.

