

05317000 COTTONWOOD RIVER NEAR NEW ULM, MN

LOCATION.--Lat 44°17'29", long 94°26'24", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ 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)
Apr 21	1900	1,300	6.90	Jun 26	0400	1,140	6.58
May 14	0400	*1,420	*7.15				

Minimum discharge, 19 ft³/s, Sept. 8, gage height, 2.62 ft.

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	75	175	e96	e104	e44	e41	198	543	520	761	66	25
2	72	168	e110	e103	e45	e40	207	516	482	652	62	26
3	69	166	e105	e102	e45	e38	215	501	460	558	60	25
4	110	170	e100	e102	e43	e38	206	479	444	514	58	23
5	118	189	e100	e103	e41	e38	196	477	440	439	62	23
6	205	187	e105	e105	e40	e37	170	476	427	401	60	22
7	245	185	e120	e105	e39	e37	152	503	444	358	59	21
8	273	183	118	e106	e39	e37	145	558	552	332	57	20
9	264	180	116	e104	e40	e37	146	613	754	351	56	20
10	261	180	119	e100	e39	e38	136	648	831	398	52	19
11	247	177	119	e78	e39	e40	134	845	835	319	51	67
12	254	172	117	e66	e40	e47	145	1,150	772	300	50	73
13	244	170	119	e56	e40	67	145	1,370	724	287	48	53
14	235	165	121	e45	e41	85	146	1,410	657	296	46	47
15	223	161	120	e41	e41	180	146	1,310	588	278	44	48
16	213	157	120	e40	e40	462	169	1,210	525	250	42	57
17	210	152	123	e40	e40	624	179	1,110	478	231	40	56
18	209	144	124	e41	e42	684	396	1,020	440	212	47	50
19	203	143	126	e42	e44	565	889	981	403	189	45	45
20	202	156	e120	e42	e44	533	1,160	1,050	368	183	43	40
21	197	156	e115	e41	e44	443	1,290	1,080	329	167	40	40
22	187	151	e108	e41	e43	371	1,270	1,020	341	158	38	38
23	182	144	e103	e40	e41	341	1,210	950	367	155	37	36
24	179	140	e101	e39	e39	368	1,110	886	651	136	35	34
25	178	120	e100	e39	e39	348	991	834	994	121	35	32
26	176	e86	e100	e39	e39	299	888	782	1,120	110	34	31
27	174	e82	e101	e40	e40	286	790	739	1,080	101	32	31
28	174	e88	e105	e40	e41	280	703	699	997	92	30	28
29	179	e100	e108	e41	---	264	636	651	914	84	28	28
30	181	e96	e110	e42	---	240	586	611	875	78	26	26
31	177	---	e107	e43	---	215	---	567	---	72	25	---
TOTAL	5,916	4,543	3,456	1,970	1,152	7,123	14,754	25,589	18,812	8,583	1,408	1,084
MEAN	191	151	111	63.5	41.1	230	492	825	627	277	45.4	36.1
MAX	273	189	126	106	45	684	1,290	1,410	1,120	761	66	73
MIN	69	82	96	39	39	37	134	476	329	72	25	19
AC-FT	11,730	9,010	6,850	3,910	2,280	14,130	29,260	50,760	37,310	17,020	2,790	2,150
CFSM	0.15	0.12	0.09	0.05	0.03	0.18	0.38	0.63	0.48	0.21	0.03	0.03
IN.	0.17	0.13	0.10	0.06	0.03	0.20	0.42	0.73	0.54	0.25	0.04	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2003, BY WATER YEAR (WY)

MEAN	172	159	110	58.4	100	638	1,075	602	634	369	189	149
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1909 - 2003	
ANNUAL TOTAL	161,342		94,390		a381	
ANNUAL MEAN	442		259		1,796	
HIGHEST ANNUAL MEAN					41.1	
LOWEST ANNUAL MEAN					27,100	
HIGHEST DAILY MEAN	5,050	Jun 4	1,410	May 14	0.60	Apr 9, 1969
LOWEST DAILY MEAN	54	Sep 24	19	Sep 10	0.64	Aug 1, 1934
ANNUAL SEVEN-DAY MINIMUM	64	Sep 18	21	Sep 4	28,700	Feb 1, 1940
MAXIMUM PEAK FLOW			1,420	May 14	20.86	Apr 10, 1969
MAXIMUM PEAK STAGE			7.15	May 14	b0.50	Apr 8, 1965
INSTANTANEOUS LOW FLOW			19	Sep 8	275,900	Nov 27, 1952
ANNUAL RUNOFF (AC-FT)	320,000		187,200			
ANNUAL RUNOFF (CFSM)	0.34		0.20		0.29	
ANNUAL RUNOFF (INCHES)	4.62		2.70		3.98	
10 PERCENT EXCEEDS	1,010		745		915	
50 PERCENT EXCEEDS	213		126		98	
90 PERCENT EXCEEDS	102		38		14	

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

