Water-Data Report 2013

05317000 COTTONWOOD RIVER NEAR NEW ULM, MN

Minnesota Basin
Cottonwood Subbasin

LOCATION.--Lat 44°17′29″, long 94°26′24″ referenced to North American Datum of 1927, in SW ¼ NE ¼ sec.33, T.110 N., R.30 W., Brown County, MN, 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 mi^2.

SURFACE-WATER RECORDS

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. Unpublished, 2009: 1935(M).

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr 29	0730	1,150	6.12
Jun 15	1430	1,110	6.05
Jun 24	1530	*3,520	*9.85

Minimum discharge, 10 ft^3/s, Dec. 5, 10, gage height, 1.95 ft

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 05317000, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/05317000.2013.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	20	41	42	e21	e16	23	575	1,030	391	1,350	88	37
2	19	40	41	e21	e16	e22	520	903	376	1,120	83	34
3	19	41	41	e21	e16	24	540	790	336	952	79	35
4	19	42	41	e21	e16	e23	548	684	310	808	75	35
5	18	44	37	e21	e17	23	514	591	290	694	109	33
6	18	46	42	e21	e17	23	432	e509	278	600	111	32
7	19	47	45	e20	e17	24	372	e448	269	525	99	30
8	20	47	46	e21	e17	24	363	e405	260	466	97	29
9	22	46	39	e21	e17	e29	361	e437	290	423	92	29
10	22	44	33	e21	e17	e36	383	e531	288	383	87	27
11	20	55	e43	e20	e17	e196	367	e733	328	357	85	27
12	23	54	e43	e20	e18	e462	332	814	654	328	80	25
13	23	52	42	e20	e19	e351	320	718	840	309	77	26
14	23	48	41	e19	e20	e329	312	627	909	277	74	30
15	23	48	48	e19	e20	e341	306	554	982	256	68	49
16	23	46	47	e19	e20	e646	317	498	906	234	63	45
17	26	46	44	e19	e21	633	336	459	816	215	59	41
18	31	45	43	e18	e22	552	407	415	745	198	55	43
19	34	44	41	e18	e22	368	449	759	804	182	53	47
20	43	43	40	e17	e22	316	435	758	713	172	51	45
21	37	44	e38	e17	e22	316	417	625	592	156	49	38
22	32	44	e33	e17	e23	318	455	546	754	149	71	37
23	33	42	e29	e17	e24	313	549	487	2,550	134	95	35
24	38	33	e27	e17	e24	267	590	446	3,460	127	60	34
25	53	45	e25	e16	e24	253	596	413	3,420	118	51	32
26	52	33	e24	e16	24	218	598	389	3,110	115	47	29
27	53	41	e23	e16	24	278	688	378	2,690	111	45	30
28	50	39	e23	e16	23	564	963	372	2,360	103	42	30
29	46	e35	e23	e16	---	773	1,120	373	2,000	96	42	28
30	44	e35	e23	e16	---	679	1,080	393	1,660	94	40	26
31	42	---	e22	e16	---	653	---	384	---	91	39	---
Total	945	1,310	1,129	578	555	9,077	15,245	17,469	33,381	11,143	2,166	1,018
Mean	30.5	43.7	36.4	18.6	19.8	293	508	564	1,113	359	69.9	33.9
Max	53	55	48	21	24	773	1,120	1,030	3,460	1,350	111	49
Min	18	33	22	16	16	22	306	372	260	91	39	25
Ac-ft	1,870	2,600	2,240	1,150	1,100	18,000	30,240	34,650	66,210	22,100	4,300	2,020
Cfsm	0.02	0.03	0.03	0.01	0.02	0.23	0.39	0.43	0.86	0.28	0.05	0.03
In.	0.03	0.04	0.03	0.02	0.02	0.26	0.44	0.50	0.96	0.32	0.06	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	204	171	116	68.3	111	698	1,069	666	732	385	185	189
Max	3,208	1,099	572	453	648	4,321	7,075	3,497	5,831	3,815	1,791	3,985
(WY)	(1969)	(1980)	(1980)	(2006)	(2011)	(2011)	(1969)	(1993)	(1993)	(1993)	(1993)	(2010)
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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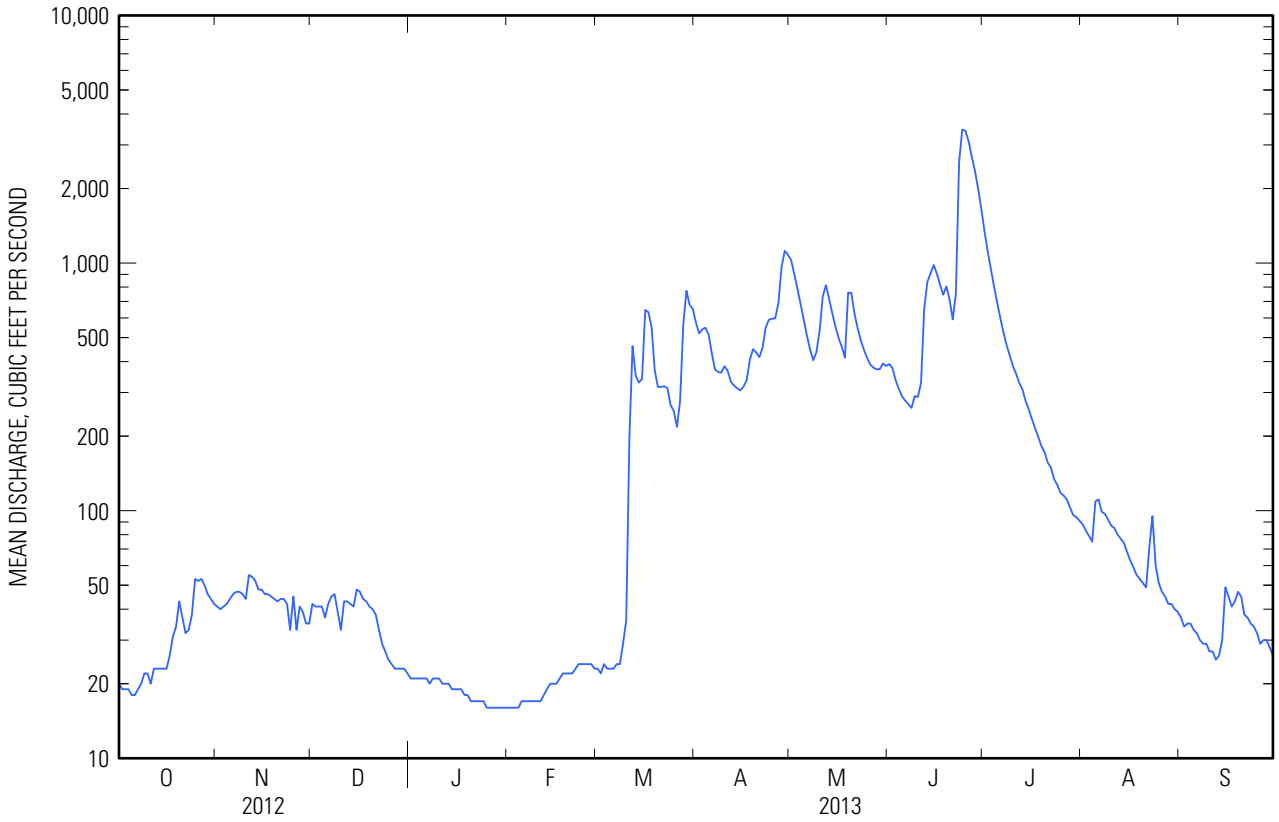
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1909 - 2013	
Annual total	106,204		94,016			
Annual mean	290		258		[a]408	
Highest annual mean					1,796	1993
Lowest annual mean					41.1	1940
Highest daily mean	4,800	May 29	3,460	Jun 24	27,100	Apr 9, 1969
Lowest daily mean	18	Oct 5	[b]16	Jan 25	0.60	Aug 1, 1934
Annual seven-day minimum	19	Oct 1	16	Jan 25	0.64	Feb 1, 1940
Maximum peak flow			3,520	Jun 24	28,700	Apr 10, 1969
Maximum peak stage			9.85	Jun 24	20.86	Apr 8, 1965
Instantaneous low flow			[c]10	Dec 5	[d]0.50	Nov 27, 1952
Annual runoff (ac-ft)	210,700		186,500		295,600	
Annual runoff (cfsm)	0.223		0.198		0.314	
Annual runoff (inches)	3.04		2.69		4.26	
10 percent exceeds	707		681		997	
50 percent exceeds	51		47		107	
90 percent exceeds	24		19		15	

[a] Median of annual mean discharges is 280 ft³/s.
[b] Also occurred January 26 to February 4.
[c] Result of freeze-up, also occurred December 10..
[d] Minimum observed.