

Water-Data Report 2009

05315000 REDWOOD RIVER NEAR MARSHALL, MN

Minnesota Basin
Redwood Subbasin

LOCATION.--Lat 44°25'49", long 95°50'43" referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.12, T.111 N., R.42 W., Lyon County, MN, Hydrologic Unit 07020006, on right bank 1.7 mi upstream from Redwood River diversion structure on southwest edge of town of Marshall, MN. Prior to Apr. 10, 1980, at site 5 mi downstream.

DRAINAGE AREA.--259 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1940 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WDR MN-89-2: Drainage area. Unpublished: 1977(M).

GAGE.--Water-stage recorder. Datum of gage is 1,188.23 ft above sea level (NGVD of 1929). March 1940 to April 9, 1980, non-recording gage 5.0 mi downstream from present site at datum 43.35 ft lower (crest-stage gage added June 12, 1968). From March 1964 to April 1980, non-recording gage and crest-stage gage on diversion channel 1.5 mi downstream at datum 1,100.00 ft above sea level.

REMARKS.--Records good except those for estimated daily discharge, which are poor. Water diverted at medium and high stages into diversion channel 3.4 mi below station. Diversion began Mar. 18, 1964. Unknown amount of natural diversion into Cottonwood River basin occurs at extremely high stages 0.8 mi below station.

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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	6.3	15	e16	e11	e8.5	e17	107	80	20	30	10	e6.0
2	6.5	15	e15	e11	e8.0	e17	102	75	18	28	e9.2	e5.8
3	6.6	14	e15	e10	e7.9	e19	97	71	19	29	9.0	e6.0
4	6.4	13	e14	e10	e7.6	e19	91	65	18	29	8.0	e6.3
5	6.9	13	e14	e10	e7.7	e23	92	67	19	26	7.1	e6.4
6	8.3	14	e14	e10	e7.6	e29	86	68	20	32	6.3	e6.3
7	18	17	e13	e10	e7.6	e29	85	65	22	47	4.9	e6.1
8	13	18	e13	e10	e7.6	e32	91	62	22	71	6.6	e6.1
9	12	18	e12	e10	e9.2	e36	92	68	23	83	6.6	e5.9
10	11	15	e12	e9.9	e48	e36	92	70	23	76	6.2	e5.8
11	10	15	e12	e9.8	e46	e29	89	71	22	66	5.8	e5.6
12	9.7	15	e12	e9.7	e38	e28	86	67	22	56	4.8	e6.0
13	9.9	16	e12	e9.5	e29	e28	86	64	21	48	4.1	e7.1
14	9.6	18	e12	e9.4	e25	e41	84	55	20	46	3.4	e6.4
15	8.5	21	e12	e9.2	e32	e74	80	52	20	43	4.0	e6.0
16	8.9	22	e12	e9.1	e32	e165	77	49	32	40	6.8	e5.8
17	8.4	21	e11	e9.1	e31	e218	76	43	60	37	7.1	e5.6
18	8.0	e18	e11	e9.0	e28	202	76	42	54	33	6.8	e5.4
19	8.7	e17	e11	e9.0	e20	171	78	38	47	29	8.5	e5.3
20	8.1	e15	e11	e9.0	e19	153	77	37	44	27	8.6	e5.2
21	7.4	e13	e11	e9.0	e19	138	76	34	49	24	7.0	e5.1
22	12	e15	e11	e8.9	e18	130	72	35	52	22	e6.6	e5.0
23	23	e15	e11	e8.8	e20	154	68	35	52	19	e6.4	e5.0
24	26	e15	e11	e8.8	e24	227	66	32	49	17	e6.3	e5.0
25	22	e16	e11	e8.7	e26	211	64	30	46	16	e6.1	12
26	19	e16	e11	e8.6	e24	170	66	32	45	15	e6.0	8.9
27	20	e16	e11	e8.6	e23	127	71	31	45	13	e6.0	6.0
28	17	e17	e11	e8.5	e19	126	71	31	42	11	e6.9	4.7
29	14	e17	e11	e8.4	---	118	73	28	38	10	e6.6	4.3
30	13	e17	e11	e8.0	---	109	76	25	35	9.5	e6.3	3.9
31	15	---	e11	e8.1	---	106	---	23	---	11	e6.1	---
Total	373.2	487	375	289.1	592.7	2,982	2,447	1,545	999	1,043.5	204.1	179.0
Mean	12.0	16.2	12.1	9.33	21.2	96.2	81.6	49.8	33.3	33.7	6.58	5.97
Max	26	22	16	11	48	227	107	80	60	83	10	12
Min	6.3	13	11	8.0	7.6	17	64	23	18	9.5	3.4	3.9
Ac-ft	740	966	744	573	1,180	5,910	4,850	3,060	1,980	2,070	405	355
Cfs/m	0.05	0.06	0.05	0.04	0.08	0.37	0.31	0.19	0.13	0.13	0.03	0.02
In.	0.05	0.07	0.05	0.04	0.09	0.43	0.35	0.22	0.14	0.15	0.03	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	28.7	27.2	16.8	10.2	16.7	121	238	128	123	66.6	32.0	24.2
Max	310	202	115	69.4	101	571	1,252	1,205	936	1,161	610	292
(WY)	(1996)	(1996)	(1999)	(2006)	(1983)	(1983)	(2001)	(1993)	(1993)	(1993)	(1993)	(1986)
Min	0.03	0.58	0.87	0.00	0.09	2.70	7.36	3.90	0.83	0.06	0.04	0.01
(WY)	(1977)	(1977)	(1977)	(1977)	(1979)	(1965)	(1990)	(1981)	(1976)	(1976)	(1941)	(1941)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1940 - 2009	
Annual total	24,634.2		11,516.6			
Annual mean	67.3		31.6		^a 70.0	
Highest annual mean					421	1993
Lowest annual mean					5.13	1981
Highest daily mean	534	Jun 13	227	Mar 24	5,300	May 9, 1993
Lowest daily mean	5.4	Sep 26	3.4	Aug 14	^b 0.00	Jul 28, 1940
Annual seven-day minimum	5.8	Sep 22	5.0	Aug 9	0.00	Jul 28, 1940
Maximum peak flow			^c 243	Mar 18	6,380	May 9, 1993
Maximum peak stage			^d 10.17	Mar 6	17.00	May 9, 1993
Instantaneous low flow			3.1	Aug 14	^b 0.00	Jul 28, 1940
Annual runoff (ac-ft)	48,860		22,840		50,680	
Annual runoff (cfsm)	0.260		0.122		0.270	
Annual runoff (inches)	3.54		1.65		3.67	
10 percent exceeds	234		76		168	
50 percent exceeds	20		17		14	
90 percent exceeds	8.0		6.3		2.2	

^a Median of annual mean discharges is 46 ft³/s.

^b Many days, several years.

^c Gage height, 9.70 ft.

^d Backwater from ice.

