

## 05315000 REDWOOD RIVER NEAR MARSHALL, MN

LOCATION.--Lat 44°25'49", long 95°50'43", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 12, T.111 N., R.42 W., Lyon County, 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 mi<sup>2</sup>.

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.

GAGE.--Water-stage recorder. Datum of gage is 1,188.23 ft above sea level (NGVD of 1929). March 1940 to April 9, 1980, nonrecording 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, nonrecording 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 fair to 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.

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	5.6	e15	e8.2	e5.6	e3.5	e103	35	19	681	120	22	e11
2	5.3	e14	e8.0	e5.5	e3.5	e98	33	20	583	108	22	e11
3	5.1	e14	e8.1	e5.0	e3.5	e96	31	19	478	104	22	e11
4	4.9	e14	e8.1	e4.2	e3.3	e88	29	18	400	117	22	e11
5	5.2	e12	e7.9	e3.8	e3.4	e81	28	17	343	107	20	e12
6	4.8	e11	e7.9	e3.7	e3.6	e75	27	16	294	98	19	e13
7	e7.1	e10	e8.2	e3.6	e3.8	e71	27	16	247	90	20	e12
8	e11	e10	e8.1	e3.5	e3.9	e66	25	15	217	84	18	e12
9	e11	e10	e7.2	e3.6	e4.1	e62	25	15	271	77	16	e12
10	e11	e10	e5.7	e3.9	e4.1	e58	24	14	269	72	15	e11
11	e15	e11	e4.3	e4.1	e4.1	e57	22	12	338	100	15	e11
12	e14	e10	e3.6	e4.4	e4.1	e54	22	11	385	91	15	e11
13	e12	e8.9	e3.6	e4.6	e4.2	e47	22	11	329	82	14	e10
14	e12	9.8	e3.9	e4.8	e4.2	e39	21	13	277	73	14	e10
15	e12	e10	e5.0	e5.0	e4.0	e36	19	12	228	64	e16	e11
16	e11	e10	e5.4	e5.1	e3.9	e35	19	13	381	61	e18	e13
17	e11	11	e5.3	e5.0	e4.1	e35	19	19	908	54	e19	14
18	e10	11	e5.3	e4.8	e4.4	e35	18	19	1,500	50	e17	14
19	e11	10	e5.2	e4.6	e4.6	e35	18	21	865	47	e15	12
20	e11	9.7	e5.3	e4.6	e5.0	e35	22	22	553	42	e13	10
21	e11	10	e5.4	e4.6	e5.4	e36	25	25	399	38	e12	10
22	e9.2	12	e5.6	e4.5	e6.5	42	27	27	323	35	e12	12
23	e8.2	e7.8	e5.4	e4.6	e7.6	40	26	39	273	32	e12	12
24	e12	e9.3	e5.3	e4.6	e8.5	37	25	80	245	29	e14	12
25	e13	e8.8	e5.1	e4.5	e9.0	36	27	104	219	27	e13	11
26	e14	e8.2	e5.3	e4.3	e9.8	36	26	110	198	25	e13	10
27	e15	e8.1	e5.6	e3.9	e13	38	24	100	178	23	e12	9.5
28	e16	e7.9	e6.0	e3.6	e31	43	24	95	157	25	e12	9.8
29	e15	e7.9	e5.7	e3.5	e77	43	23	107	143	28	e12	9.8
30	e16	e8.6	e5.6	e3.4	---	41	21	473	129	25	e11	e9.8
31	e14	---	e5.6	e3.4	---	38	---	599	---	23	e11	---
TOTAL	333.4	310.0	184.9	134.3	247.1	1,636	734	2,081	11,811	1,951	486	337.9
MEAN	10.8	10.3	5.96	4.33	8.52	52.8	24.5	67.1	394	62.9	15.7	11.3
MAX	16	15	8.2	5.6	77	103	35	599	1,500	120	22	14
MIN	4.8	7.8	3.6	3.4	3.3	35	18	11	129	23	11	9.5
AC-FT	661	615	367	266	490	3,250	1,460	4,130	23,430	3,870	964	670
CFSM	0.04	0.04	0.02	0.02	0.03	0.20	0.09	0.26	1.52	0.24	0.06	0.04
IN.	0.05	0.04	0.03	0.02	0.04	0.23	0.11	0.30	1.70	0.28	0.07	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	27.0	27.0	16.1	9.17	16.1	119	241	127	124	69.2	33.5	24.9
MAX	310	202	115	59.4	101	571	1,252	1,205	936	1,161	610	292
(WY)	(1996)	(1996)	(1999)	(1994)	(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	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	14,950.7		20,246.6		a70.0	
ANNUAL MEAN	41.0		55.3		421 1993	
HIGHEST ANNUAL MEAN					5.13 1981	
LOWEST ANNUAL MEAN					5,300 May 9, 1993	
HIGHEST DAILY MEAN	494	Apr 20	1,500	Jun 18		
LOWEST DAILY MEAN	3.5	Mar 12	3.3	Feb 4	b0.00 Jul 28, 1940	
ANNUAL SEVEN-DAY MINIMUM	3.7	Mar 7	3.4	Jan 30	0.00 Jul 28, 1940	
MAXIMUM PEAK FLOW			1,660	Jun 18	6,380 May 9, 1993	
MAXIMUM PEAK STAGE			13.96	Jun 18	17.00 May 9, 1993	
INSTANTANEOUS LOW FLOW			c3.3	Feb 4	b0.00 Jul 28, 1940	
ANNUAL RUNOFF (AC-FT)	29,650		40,160		50,730	
ANNUAL RUNOFF (CFSM)	0.158		0.214		0.270	
ANNUAL RUNOFF (INCHES)	2.15		2.91		3.67	
10 PERCENT EXCEEDS	133		107		167	
50 PERCENT EXCEEDS	10		14		13	
90 PERCENT EXCEEDS	5.2		4.4		2.1	

- a Median of annual mean discharges is 45.0 ft<sup>3</sup>/s.
- b Many days, several years.
- c Estimated daily-mean discharge, backwater from ice.
- e Estimated.

