

Water-Data Report 2009

05063398 SOUTH BRANCH WILD RICE RIVER AT CO. RD. 27 NR FELTON, MN

Upper Red Basin
Eastern Wild Rice Subbasin

LOCATION.--Lat 47°06'48", long 96°23'09" referenced to North American Datum of 1983, in SE ¼ NE ¼ SE ¼ sec.16, T.145 N., R.45 W., Clay County, MN, Hydrologic Unit 09020108, on left bank 30 ft downstream from County Road 27 bridge and 6.0 miles northeast of Felton.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Aug. 16, 2004 to current year.

GAGE.--Water-stage recorder. Datum of gage is 954.03 ft (NGVD of 1929).

COOPERATION.--Red River Watershed Management Board.

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

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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	12	127	e33	e9.3	e9.3	e14	396	153	126	31	5.7	11
2	12	109	e30	e9.3	e9.3	e14	368	127	90	29	5.3	9.2
3	11	98	e28	e9.3	e9.4	e14	329	112	62	25	5.2	8.2
4	11	92	e26	e9.4	e9.4	e14	284	101	48	22	5.0	7.4
5	12	144	e23	e9.4	e9.4	e14	255	92	42	20	4.8	6.5
6	17	248	e22	e9.4	e9.4	e13	232	92	39	17	4.6	5.6
7	125	929	e21	e9.4	e9.5	e13	246	82	37	16	4.7	5.1
8	150	500	e19	e9.4	e10	e13	e360	75	39	15	5.4	5.4
9	89	284	e18	e9.4	e12	e14	886	71	40	14	20	7.7
10	66	237	e17	e9.4	e19	e15	804	68	39	13	15	6.2
11	462	231	e16	e9.5	e23	e15	587	62	36	12	10	7.9
12	551	204	e15	e9.5	e23	e16	482	61	35	10	7.3	9.9
13	1,400	189	e14	e9.4	e22	e16	391	123	33	9.3	6.3	10
14	1,070	176	e13	e9.4	e20	e16	e360	131	31	9.0	6.6	13
15	552	144	e11	e9.4	e19	e17	748	93	29	8.9	12	32
16	396	120	e10	e9.3	e17	e46	516	94	29	8.2	12	29
17	330	111	e9.9	e9.3	e16	e94	402	85	38	7.7	28	18
18	295	e104	e9.6	e9.2	e15	e956	347	74	43	7.2	71	11
19	262	e101	e9.4	e9.2	e15	e649	298	66	42	6.8	76	8.8
20	216	e96	e9.3	e9.2	e14	e832	267	60	45	8.9	100	6.7
21	168	e93	e9.3	e9.3	e14	e1,360	243	56	43	10	98	6.1
22	141	e84	e9.3	e9.6	e14	e1,880	215	51	44	8.0	78	6.6
23	154	e68	e9.4	e9.7	e14	e3,700	187	49	44	7.1	57	5.5
24	155	e65	e9.3	e9.7	e14	e2,700	151	45	44	8.0	36	5.1
25	289	e59	e9.2	e9.6	e14	4,140	139	46	45	7.7	26	4.8
26	239	e54	e9.2	e9.6	e14	1,160	131	95	38	6.9	21	4.4
27	223	e49	e9.2	e9.4	e14	716	145	202	47	6.5	18	4.2
28	195	e46	e9.2	e9.3	e14	617	142	145	51	5.9	15	3.8
29	169	e41	e9.2	e9.3	---	509	130	143	40	5.7	14	3.5
30	158	e37	e9.2	e9.3	---	485	178	151	34	5.8	12	3.8
31	146	---	e9.3	e9.3	---	413	---	145	---	5.7	11	---
Total	8,076	4,840	456.0	291.2	402.7	20,475	10,219	2,950	1,353	367.3	790.9	266.4
Mean	261	161	14.7	9.39	14.4	660	341	95.2	45.1	11.8	25.5	8.88
Max	1,400	929	33	9.7	23	4,140	886	202	126	31	100	32
Min	11	37	9.2	9.2	9.3	13	130	45	29	5.7	4.6	3.5
Ac-ft	16,020	9,600	904	578	799	40,610	20,270	5,850	2,680	729	1,570	528
Cfs/m	1.37	0.85	0.08	0.05	0.08	3.48	1.79	0.50	0.24	0.06	0.13	0.05
In.	1.58	0.95	0.09	0.06	0.08	4.01	2.00	0.58	0.26	0.07	0.15	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2009, BY WATER YEAR (WY)

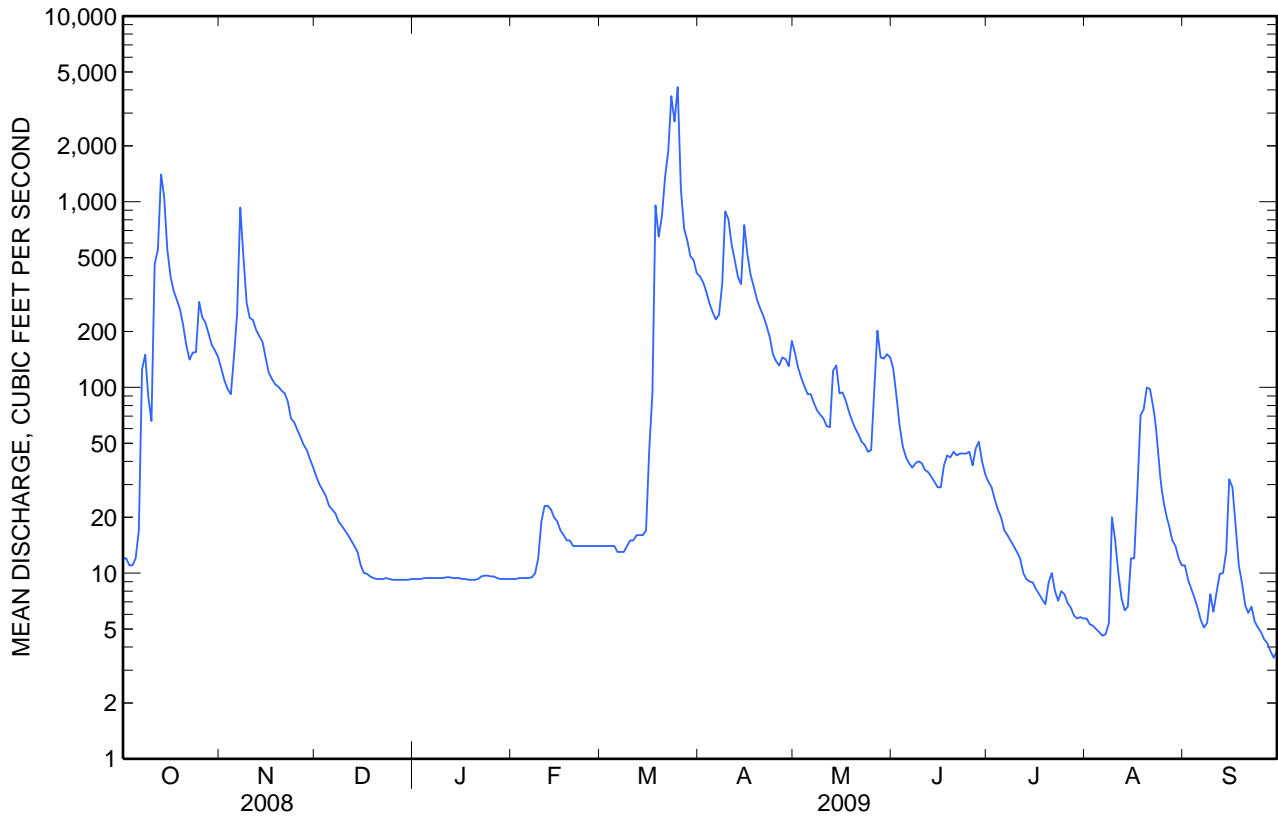
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	82.1	55.8	10.9	8.02	8.30	201	215	65.4	126	15.9	15.1	26.9
Max	261	161	14.8	14.6	14.4	660	376	95.2	216	36.9	25.5	67.6
(WY)	(2009)	(2009)	(2005)	(2006)	(2009)	(2009)	(2006)	(2009)	(2007)	(2005)	(2009)	(2004)
Min	10.9	7.66	5.95	3.93	4.31	8.10	114	37.5	23.4	7.45	2.59	3.66
(WY)	(2007)	(2007)	(2007)	(2007)	(2007)	(2008)	(2008)	(2007)	(2006)	(2006)	(2006)	(2006)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 2004 - 2009	
Annual total	26,462.8		50,487.5			
Annual mean	72.3		138		68.6	
Highest annual mean					138	2009
Lowest annual mean					39.2	2008
Highest daily mean	1,400	Oct 13	4,140	Mar 25	4,140	Mar 25, 2009
Lowest daily mean	4.8	Aug 31	3.5	Sep 29	^a 2.1	Aug 16, 2006
Annual seven-day minimum	5.3	Jan 17	4.2	Sep 24	2.2	Aug 16, 2006
Maximum peak flow			5,080	Mar 25	5,490	Mar 31, 2006
Maximum peak stage			10.79	Mar 25	10.94	Mar 31, 2006
Instantaneous low flow			3.5	Sep 28	2.0	Aug 16, 2006
Annual runoff (ac-ft)	52,490		100,100		49,730	
Annual runoff (cfsm)	0.381		0.728		0.361	
Annual runoff (inches)	5.18		9.88		4.91	
10 percent exceeds	190		329		142	
50 percent exceeds	18		23		14	
90 percent exceeds	5.6		7.4		4.5	

^a Many days in August 2006



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WATER-QUALITY RECORDS

REMARKS.--This site is part of a sediment study of the Wild Rice River. The objectives of this study are to describe sediment concentration and load as a function of streamflow and season at selected sites in the Wild Rice River Basin. Also to describe the relationship between mean cross-sectional suspended sediment concentrations and point measurements of water transparency.

These sites will be operated for a period of five years to develop sediment-transport curves that can be used to determine long-term sediment transport relative to previous studies. These data also will be used to better understand how suspended sediment concentrations relate to total maximum daily loads (TMDLs) for turbidity along the Wild Rice River.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 2

[Remark codes: >, greater than.]

Date	Time	Medium name	Temperature, air, deg C (00020)	Instantaneous discharge, ft ³ /s (00061)	Specific conductance, μ S/cm @ 25 degC (00095)	Temperature, water, deg C (00010)	Transparency wat unf tube, cm (65225)	Turbidity white light, det ang 90+/-30 degrees NTU (63675)	Turbidity white light, det ang 90+/-30 corrcd NTRU (63676)
Oct									
14...	1816	Surface water	--	863	508	9.3	11	38	37
Feb									
20...	0920	Surface water	--	14	802	.0	>60	1.3	1.4
Mar									
26...	0915	Surface water	-7.5	1,440	338	-7	13	48	48
26...	0916	Surface water	-7.5	1,440	338	-7	13	48	48
Apr									
14...	0815	Surface water	--	447	--	--	--	--	--
14...	0826	Surface water	7.5	444	494	7.7	48	13	14
Jun									
19...	0935	Surface water	19.0	41	--	18.5	--	--	--
Jul									
14...	1600	Surface water	24.0	9.0	643	20.3	--	1.4	1.5
Aug									
27...	1645	Surface water	25.0	18	690	22.9	>60	2.6	3.4

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 2

[Remark codes: >, greater than.]

Date	Sampler type, code (84164)	Suspnd. sedimnt sieve diametr percent <0.0625 mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
Oct			
14...	Sampler US DH-59	57	123
Feb			
20...	Grab sample	80	137
Mar			
26...	Weighted-bottle	--	2,070
26...	Weighted-bottle	--	--
Apr			
14...	Sampler US D-74	80	35
14...	Weighted-bottle	--	--
Jun			
19...	Other	54	71
Jul			
14...	Other	68	57
Aug			
27...	Weighted-bottle	100	4