

Water-Data Report 2009

05320270 LITTLE COBB RIVER NEAR BEAUFORD, MN

Minnesota Basin
Le Sueur Subbasin

LOCATION.--Lat 43°59'48", long 93°54'30" referenced to North American Datum of 1927, in SE ¼ SE ¼ sec.11, T.106 N., R.26 W., Blue Earth County, MN, Hydrologic Unit 07020011, on left bank at downstream end of bridge on County Road No. 16, 1.6 mi upstream from mouth, 2.6 mi east of Beauford, and 5.3 mi northeast of Mapleton.

DRAINAGE AREA.--130 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1996 to September 30, 1999, June 2001 to current year.

REVISED RECORDS.--WDR MN-99-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 980 ft above sea level (from topographic map).

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum gage height observed, 12.17 ft, on April 5, 2001, discharge 2,220 ft³/s (from highwater mark).

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated; <, less than]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	e0.11	<0.10	e0.00	e6.0	85	66	e14	65	0.88	0.00
2	0.00	0.00	e0.10	<0.10	e0.00	e6.0	77	62	e12	57	0.48	0.00
3	0.00	0.00	e0.10	<0.10	e0.00	e6.1	69	56	e10	50	0.49	0.00
4	0.00	0.00	e0.10	<0.10	e0.00	e5.9	62	56	e8.7	44	0.56	0.00
5	0.00	0.00	e0.10	<0.10	e0.00	e6.1	57	54	e8.3	38	0.25	0.00
6	0.00	<0.10	e0.10	<0.10	e0.00	e7.6	53	65	e8.7	32	0.11	e0.00
7	0.00	0.16	e0.10	<0.10	<0.10	e22	50	123	e9.1	27	0.11	e0.00
8	0.00	0.78	e0.10	<0.10	e0.10	e24	46	100	e11	24	0.10	e0.00
9	0.00	e0.80	e0.10	<0.10	e0.50	e20	42	94	e24	20	<0.10	0.00
10	0.00	e0.78	e0.10	<0.10	e11	e16	37	97	e37	18	<0.10	0.00
11	0.00	e0.74	e0.10	e0.00	e24	e15	31	93	e41	15	<0.10	0.00
12	0.00	e0.68	e0.10	e0.00	e29	e13	28	88	e42	12	<0.10	0.00
13	0.00	e0.62	e0.10	e0.00	e21	e12	25	82	e42	10	<0.10	0.00
14	0.00	e0.56	e0.10	e0.00	e18	e12	25	78	e40	8.2	<0.10	0.00
15	0.00	e0.58	e0.10	e0.00	e15	e14	23	71	e37	6.4	<0.10	0.00
16	0.00	e0.53	e0.10	e0.00	e18	e20	22	65	e35	5.9	<0.10	0.00
17	0.00	e0.47	e0.10	e0.00	e15	e14	21	61	e37	4.2	<0.10	0.00
18	0.00	e0.42	e0.10	e0.00	e11	e11	20	55	e38	3.2	<0.10	0.00
19	0.00	e0.37	e0.10	e0.00	e9.7	e11	21	50	e39	2.1	<0.10	0.00
20	0.00	0.33	e0.10	e0.00	e8.6	e10	21	47	e39	1.7	<0.10	0.00
21	0.00	e0.24	e0.10	e0.00	e7.8	e34	22	42	e38	2.0	<0.10	0.00
22	0.00	e0.22	e0.10	e0.00	e7.3	e85	21	35	e39	2.2	<0.10	0.00
23	0.00	e0.20	e0.10	e0.00	e7.1	e170	19	32	e44	1.5	<0.10	0.00
24	0.00	e0.18	e0.10	e0.00	e7.5	279	19	31	e74	1.1	<0.10	0.00
25	0.00	e0.17	e0.10	e0.00	e7.4	277	19	29	95	0.91	<0.10	0.00
26	0.00	e0.16	e0.10	e0.00	e7.3	251	21	27	104	1.0	<0.10	0.00
27	0.00	e0.14	e0.10	e0.00	e6.7	212	42	25	103	0.97	<0.10	0.00
28	0.00	e0.13	e0.10	e0.00	e6.2	164	58	24	95	1.4	<0.10	0.00
29	0.00	e0.12	e0.10	e0.00	---	131	65	e21	83	0.75	0.00	0.00
30	0.00	e0.12	e0.10	e0.00	---	109	66	e17	73	0.88	0.00	0.00
31	0.00	---	e0.10	e0.00	---	93	---	e14	---	0.92	0.00	---
Total	0.00	9.60	3.11	1.00	238.30	2,056.7	1,167	1,760	1,280.8	457.33	4.98	0.00
Mean	0.00	0.32	0.10	0.03	8.51	66.3	38.9	56.8	42.7	14.8	0.16	0.00
Max	0.00	0.80	0.11	0.10	29	279	85	123	104	65	0.88	0.00
Min	0.00	0.00	0.10	0.00	0.00	5.9	19	14	8.3	0.75	0.00	0.00
Ac-ft	0.00	19	6.2	2.0	473	4,080	2,310	3,490	2,540	907	9.9	0.00
Cfsm	0.00	0.00	0.00	0.00	0.07	0.51	0.30	0.44	0.33	0.11	0.00	0.00
In.	0.00	0.00	0.00	0.00	0.07	0.59	0.33	0.50	0.37	0.13	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	74.1	25.2	13.5	12.4	23.2	88.2	185	144	124	53.6	26.7	41.6
Max	452	89.7	54.0	57.5	72.7	278	415	341	217	150	109	361
(WY)	(2008)	(1997)	(1997)	(2006)	(2006)	(1997)	(2006)	(1999)	(1999)	(1999)	(2007)	(2004)
Min	0.00	0.00	0.00	0.00	0.15	12.5	9.69	40.6	42.7	1.35	0.16	0.00
(WY)	(2002)	(2004)	(2004)	(2004)	(2004)	(2002)	(2004)	(2002)	(2009)	(2007)	(2009)	(2003)

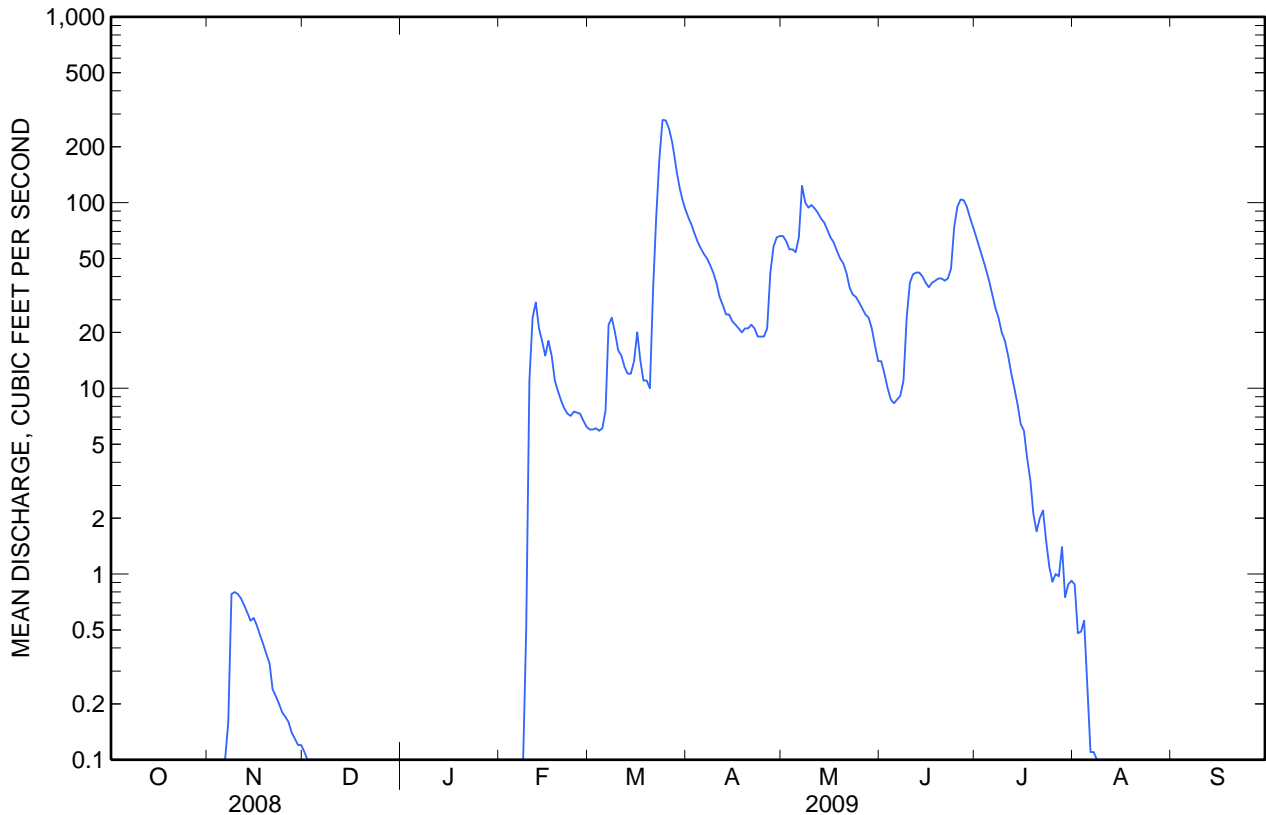
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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1996 - 2009	
Annual total	18,673.06		6,978.82			
Annual mean	51.0		19.1		70.4	
Highest annual mean					114	1999
Lowest annual mean					19.1	2009
Highest daily mean	420	Jun 16	279	Mar 24	1,510	Sep 18, 2004
Lowest daily mean	0.00	Aug 23	^a 0.00	Oct 1	^b 0.00	Sep 6, 1998
Annual seven-day minimum	0.00	Sep 1	0.00	Oct 1	0.00	Sep 12, 1998
Maximum peak flow			288	Mar 24	1,630	Sep 18, 2004
Maximum peak stage			7.85	Mar 24	11.93	Sep 18, 2004
Instantaneous low flow			^a 0.00	Oct 1	^b 0.00	Sep 5, 1998
Annual runoff (ac-ft)	37,040		13,840		50,970	
Annual runoff (cfsm)	0.392		0.147		0.541	
Annual runoff (inches)	5.34		2.00		7.35	
10 percent exceeds	197		62		200	
50 percent exceeds	3.2		0.53		23	
90 percent exceeds	0.00		0.00		0.00	

^a Many days

^b Many days, several years.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Continuous water-quality data from water years 1996 to 2007.

REMARKS.--This site is part of a statewide sediment study. The objectives of this study are to describe sediment concentrations and load and turbidity as a function of streamflow and season at selected stream sites. Secondly to describe relations between mean cross-sectional suspended sediment concentrations and point measurements of water transparency. Also to provide training about sediment transport processes and sediment sampling techniques to Minnesota Pollution Control Agency's (MPCA) staff.

COOPERATION.--The Minnesota Pollution Control Agency (MPCA) is a cooperator on this project.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,270 $\mu\text{S}/\text{cm}$, July 14, 1997; minimum, 249 $\mu\text{S}/\text{cm}$, Aug. 10, 1996.

pH: Maximum recorded, 8.7, July 29, 30, and Aug. 16, 2005; minimum recorded, 7.6, June 10, 12, Aug. 1, 28, 2006.

WATER TEMPERATURE: Maximum, 30.0 C, July 16 and 24, 2005; minimum, 0.0 C on many days most winters.

DISSOLVED OXYGEN: Maximum, 11.7 mg/L, Aug. 17, 2005; minimum, 2.9 mg/L, July 31, Aug. 1, 2006.

DISSOLVED OXYGEN, % OF SATURATION: Maximum, 115, June 8, 12 2006; minimum, 36, Aug. 1, 2006.

TURBIDITY: Maximum, 180 FNU, July 3, 2005; minimum, 11 FNU, Aug. 26, 2006.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 2

[Remark codes: <, less than.]

Date	Time	Medium name	Temperature, air, deg C (00020)	Instantaneous discharge, ft ³ /s (00061)	Specific conductance, wat unf lab, $\mu\text{S}/\text{cm}$ @ 25 degC (90095)	Specific conductance, wat unf $\mu\text{S}/\text{cm}$ @ 25 degC (00095)	Temperature, water, deg C (00010)	Transparency wat unf tube, cm (65225)	Turbidity white light, det ang 90+/-30 NTU (63675)	Turbidity white light, det ang 90+/-30 corrctd NTRU (63676)
Mar										
24...	1324	Surface water	--	--	--	372	12.8	4	320	480
24...	1401	Surface water	--	--	372	--	12.8	--	--	--
24...	1402	Surface water	--	--	--	--	12.8	--	--	--
24...	1431	Surface water	--	--	374	--	12.8	--	--	--
May										
11...	1110	Surface water	--	--	--	--	--	--	--	--
29...	0859	Surface water	20.1	22	--	--	17.3	--	--	--
29...	0907	Surface water	20.1	22	--	--	17.3	--	--	--
29...	0922	Surface water	20.1	22	528	--	17.3	--	--	--
29...	0933	Surface water	20.1	22	--	596	17.3	14	47	43
Jun										
17...	1152	Surface water	--	5.2	534	533	19.3	17	40	44
17...	1201	Surface water	--	5.2	--	--	--	--	--	--
17...	1220	Surface water	--	--	532	--	--	--	--	--
17...	1226	Surface water	--	5.2	--	533	19.3	17	40	44
21...	1005	Surface water	--	--	--	--	--	--	--	--
Jul										
07...	0910	Surface water	--	--	--	--	--	--	--	--
22...	1130	Surface water	--	--	--	--	21.1	--	--	--
22...	1145	Surface water	--	2.1	427	--	--	--	--	--
22...	1148	Surface water	--	2.1	--	--	--	--	--	--
22...	1157	Surface water	--	2.1	--	--	--	--	--	--
22...	1200	Surface water	--	2.1	--	444	21.1	16	29	28
Aug										
12...	1210	Bottom material	24.0	<.01	--	510	21.6	--	--	--

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 2

[Remark codes: <, less than.]

Date	Sampler type, code (84164)	Suspnd. sedimnt sieve diametr percent <0.0625 mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
Mar			
24...	Weighted-bottle	--	--
24...	Sampler US D-74	--	372
24...	US DH-95 plastic	98	346
24...	Sampler US D-74	--	314
May			
11...	Sampler US D-74	--	--
29...	Sampler US D-74	--	--
29...	Weighted-bottle	86	99
29...	Sampler US D-74	--	103
29...	Grab sample	--	--
Jun			
17...	Sampler US D-74	--	61
17...	Grab sample	99	122
17...	Sampler US D-74	--	62
17...	Grab sample	--	--
21...	Sampler US D-74	--	--
Jul			
07...	Sampler US D-74	--	--
22...	Sampler US D-74	--	--
22...	Weighted-bottle	--	28
22...	Weighted-bottle	96	51
22...	Weighted-bottle	--	--
22...	Weighted-bottle	--	--
Aug			
12...	Other	--	--