

## MINNESOTA RIVER BASIN--Continued

05320270 LITTLE COBB RIVER NEAR BEAUFORD, MN

LOCATION.--Lat 43°59'48", long 93°54'30", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 11, T.106 N., R.26 W., Blue Earth County, 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 mi<sup>2</sup> (revised).

PERIOD OF RECORD.--April 1996 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 fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	36	18	e.94	e.66	67	53	233	187	67	146	6.7
2	.00	32	17	e.90	.69	71	49	208	171	61	124	5.4
3	.00	29	16	e.80	.66	54	48	184	157	117	100	4.4
4	.00	26	14	e.60	e.64	74	47	165	144	142	79	4.1
5	.00	24	14	e.50	e.62	68	61	149	134	123	65	5.0
6	.00	22	14	e.47	.76	48	237	142	127	107	54	3.9
7	.00	20	12	e.44	.82	43	298	139	123	88	45	4.1
8	.00	18	9.8	e.40	.90	49	310	133	130	108	38	6.8
9	.00	18	11	e.39	1.1	47	479	126	128	157	69	5.4
10	.00	41	10	e.38	2.7	68	661	119	132	136	95	6.6
11	.00	104	7.8	e.37	43	51	748	117	332	127	103	5.3
12	.00	84	10	e.36	44	42	811	183	489	110	116	4.2
13	.00	76	7.8	e.37	64	43	771	290	459	92	108	4.2
14	.00	70	5.8	e.38	66	44	721	331	509	76	96	4.1
15	.27	63	5.8	e.40	79	50	646	526	523	65	80	3.6
16	.88	57	5.3	e.43	118	87	610	658	441	56	67	3.0
17	52	50	5.2	.53	137	128	589	602	352	49	57	2.3
18	126	46	5.0	.43	145	113	560	531	285	56	49	2.0
19	92	43	3.5	.44	141	111	545	460	248	89	43	2.2
20	57	35	e2.0	.40	129	95	495	451	220	145	38	1.9
21	41	31	e1.5	.38	113	86	445	551	195	212	34	1.5
22	33	39	e1.3	.41	98	77	402	569	171	267	31	1.4
23	29	31	e1.1	.43	86	67	362	612	153	316	29	1.2
24	25	28	e1.1	.40	79	60	347	618	136	363	26	.94
25	23	26	e1.0	e.42	71	53	362	567	121	344	23	.53
26	19	24	e.99	e.42	72	48	381	468	108	283	20	.53
27	22	22	e.98	e.48	67	45	373	383	97	229	18	.64
28	35	21	e.98	.55	67	48	332	317	87	189	15	.36
29	44	20	e.97	.55	---	54	292	272	80	165	12	.15
30	43	19	e.99	.61	---	55	259	240	73	163	9.7	.06
31	40	---	e1.0	e.63	---	57	---	214	---	163	8.1	---
TOTAL	682.15	1155	205.91	15.21	1628.55	2003	12294	10558	6512	4665	1797.8	92.51
MEAN	22.0	38.5	6.64	.49	58.2	64.6	410	341	217	150	58.0	3.08
MAX	126	104	18	.94	145	128	811	658	523	363	146	6.8
MIN	.00	18	.97	.36	.62	42	47	117	73	49	8.1	.06
AC-FT	1350	2290	408	30	3230	3970	24390	20940	12920	9250	3570	183
CFSM	.17	.30	.05	.00	.45	.50	3.15	2.62	1.67	1.16	.45	.02
IN.	.20	.33	.06	.00	.47	.57	3.52	3.02	1.86	1.33	.51	.03

e Estimated

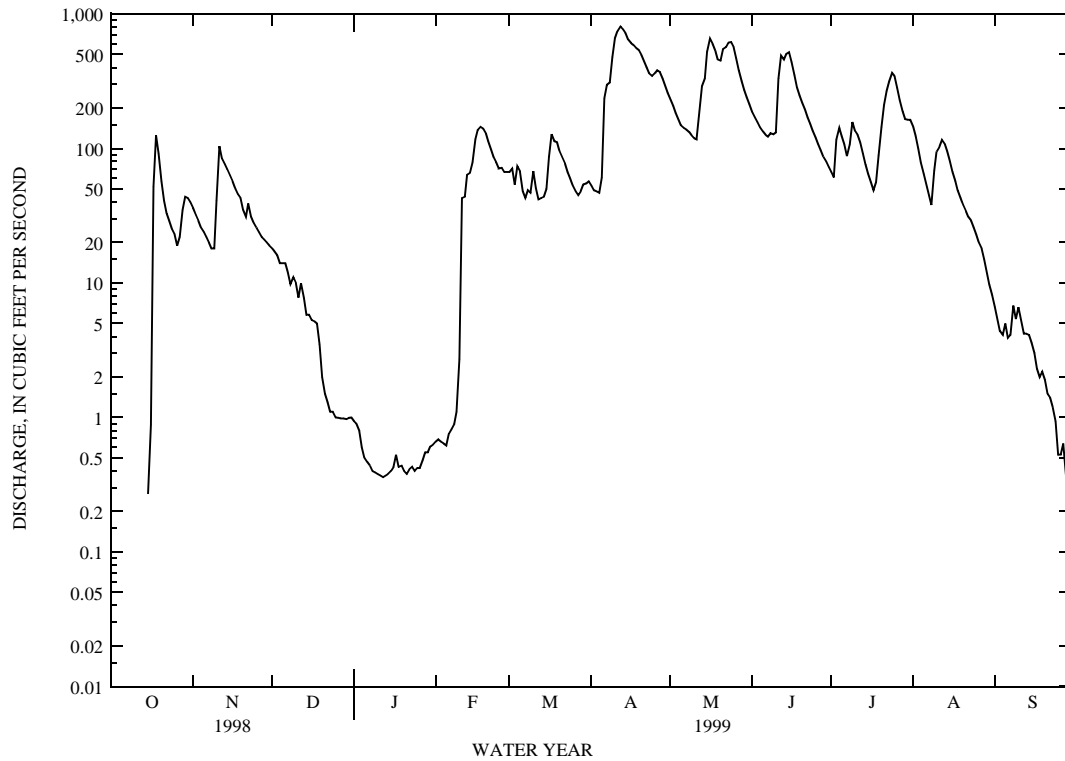
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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.2	47.7	23.6	7.65	44.5	152	240	162	140	100	32.7	7.66
MAX	23.2	89.7	54.0	18.2	58.2	278	410	341	217	150	58.0	17.2
(WY)	1998	1997	1997	1997	1999	1997	1999	1999	1999	1999	1999	1997
MIN	6.22	15.0	6.64	.49	18.4	64.6	119	77.3	83.1	28.4	4.34	.11
(WY)	1997	1998	1999	1999	1997	1999	1996	1996	1998	1996	1998	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1996 - 1999
ANNUAL TOTAL	25434.09	41609.13	
ANNUAL MEAN	69.7	114	88.3
HIGHEST ANNUAL MEAN			114 1999
LOWEST ANNUAL MEAN			68.1 1998
HIGHEST DAILY MEAN	665 Apr 2	811 Apr 12	811 Apr 12 1999
LOWEST DAILY MEAN	.00 Sep 6	.00 Oct 1-14	.00a Sep 6 1998
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 12	.00 Oct 1	.00 Sep 12 1998
INSTANTANEOUS PEAK FLOW		852 Apr 12	852 Apr 12 1999
INSTANTANEOUS PEAK STAGE		10.98 Apr 12	11.38 Mar 14 1997
INSTANTANEOUS LOW FLOW		.00 Oct 1	.00a Sep 5 1998
ANNUAL RUNOFF (AC-FT)	50450	82530	63960
ANNUAL RUNOFF (CFSM)	.54	.88	.68
ANNUAL RUNOFF (INCHES)	7.28	11.91	9.23
10 PERCENT EXCEEDS	183	362	210
50 PERCENT EXCEEDS	28	49	42
90 PERCENT EXCEEDS	.00	.44	2.3

a Many days in 1998 and 1999.  
 b Backwater from ice.



## MINNESOTA RIVER BASIN--Continued

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(National Water-Quality Assessment Program)

## WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1996 to current year.

PERIOD OF DAILY RECORD:

WATER TEMPERATURES.-- April 1996 to September 1998.

SPECIFIC CONDUCTANCE.-- April 1996 to September 1998.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
MAR										
25...	1410	53	536	561	8.4	8.2	6.7	748	13.2	110
APR										
07...	1445	294	553	581	7.6	7.8	9.0	733	10.9	97
MAY										
12...	1300	186	574	586	7.9	8.0	12.9	740	8.7	85
25...	1230	555	582	596	7.8	8.2	15.4	738	8.7	90
JUN										
11...	1350	358	355	366	7.4	7.6	17.6	740	6.9	75
29...	1355	81	631	630	8.1	8.2	20.0	736	7.9	89
JUL										
29...	0900	165	356	624	8.0	8.0	27.0	--	--	--
AUG										
19...	0930	44	576	570	8.0	8.1	20.9	742	6.5	74
SEP										
30...	1000	.05	545	563	7.0	7.8	11.6	738	5.2	49

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)
MAR										
25...	280	210	256	<.020	.021	.64	.98	5.47	.079	.028
APR										
07...	290	87	106	.058	.076	1.0	1.5	15.6	.281	.147
MAY										
12...	280	193	235	.131	.083	.87	2.3	14.6	.339	.110
25...	290	--	--	.021	.063	.94	1.0	18.5	.170	.124
JUN										
11...	--	98	120	.080	.059	1.1	2.5	14.1	.611	.333
29...	310	231	282	.036	.048	.76	1.6	12.3	.204	.074
JUL										
29...	310	298	244	.050	.070	.86	2.1	9.34	.302	.134
AUG										
19...	280	277	227	.039	.035	.68	1.1	8.31	.188	.056
SEP										
30...	260	531	282	<.020	<.010	.76	1.2	<.050	.166	.122

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
MAR 25...	.017	6.7	.60	72	25	9.4	.2	2.0	16
APR 07...	.120	7.4	2.4	76	23	6.8	.2	2.8	16
MAY 12...	.095	6.0	4.6	73	24	9.8	.3	2.1	17
25...	.108	7.4	1.2	76	24	7.6	.2	2.0	14
JUN 11...	.267	8.0	8.1	43	14	3.9	.1	2.8	8.3
29...	.063	5.9	4.5	78	28	9.9	.2	1.5	16
JUL 29...	.113	7.5	5.6	81	27	9.2	.2	2.3	13
AUG 19...	.047	6.9	--	66	29	11	.3	2.2	15
SEP 30...	.085	--	--	58	28	19	.5	3.8	23

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 25...	40	.35	12	E9.1	53	345	326	21	56
APR 07...	29	.36	21	<10	122	388	297	111	90
MAY 12...	25	.39	18	<10	6.7	368	350	160	97
25...	21	.41	23	E5.3	6.1	397	--	35	93
JUN 11...	8.9	.28	23	10	E2.0	280	225	392	97
29...	22	.51	24	<10	3.7	410	373	224	89
JUL 29...	18	.54	30	<10	<3.0	397	--	249	95
AUG 19...	22	.45	29	<10	E1.5	363	322	69	97
SEP 30...	31	.47	15	16	140	339	317	53	100