

Table 1.LC. Little Cobb River Monitoring Station Information



Station Address: Near County Road 16 Bridge, Beauford, MN
County: Blue Earth
Major Basin: Minnesota River Basin
Watershed: Le Sueur River
Drainage Area: 130.0 square miles

Station Operator: Metropolitan Council Environmental Services

Metropolitan Council Environmental Services Contact Information:

Contact Person: Heather Offerman
Address: 515 North Riverfront Drive, Suite 220
Mankato, MN 56001
Phone: 507-344-0145
E-mail: heather.offerman@metc.state.mn.us

Station Overview: MCES has conducted water quality monitoring of the Little Cobb River since 1999. The monitoring station is located near Beauford, Minnesota, 1.6 miles upstream from the river confluence with the Big Cobb River. The Little Cobb River outlets from Trenton Lake and flows northwesterly until passing through Severson Lake. From Severson Lake, the river flows northeast, where Bull Run Creek joins prior to the confluence with the Big Cobb River. The Little Cobb River flows through mainly agricultural land in Freeborn, Waseca, and Blue Earth Counties.

MCES is the sole operator of this monitoring station, but partners with the USGS, which maintains the rating curve at this location. USGS has been monitoring river flow at this location, station number 05320270, since 1995. This site is also being studied as a part of

the USGS National Water Quality Assessment (NAWQA) Program, including intermittent collection of water quality samples from 1995 to present.

2001 Monitoring Year: Snowmelt began during the last week of March 2001. Daily average flows were estimated prior to the ice out date, which occurred on approximately March 28, 2001. The river flooded over its banks in the month of April. The peak daily average flow of 1,114 cfs, with a stage of 12.00 feet, occurred on April 4, 2001.

Runoff event-based composite sampling began on April 1 and continued throughout the month. In May, smaller rainfall events triggered additional composite sampling. On June 13-14, a major storm system traveled through the area. During this two-day period, approximately 4 inches of rain fell, with over half of that amount falling in a 3-hour time span. Following this storm event, the river flow peaked at a level slightly less than the highest flow observed during the spring snowmelt event in April.

Thirty-seven samples were collected for water quality analysis during 2001, including 20 composite samples and 17 grab samples. The MCES annual water quality monitoring plan includes 12 monthly baseflow (“non-event”) grab samples and approximately 10 to 15 flow-weighted composite samples collected during all runoff events in the open-water season (March-November). The 2001 sampling scheme met the goals of the MCES monitoring work plan.

For additional stream monitoring information and monitoring methods regarding this site, see www.metrocouncil.org/environment/RiversLakes.

Figure 2.LC. Little Cobb River 2001 Hydrograph with Rainfall and Sampling Information

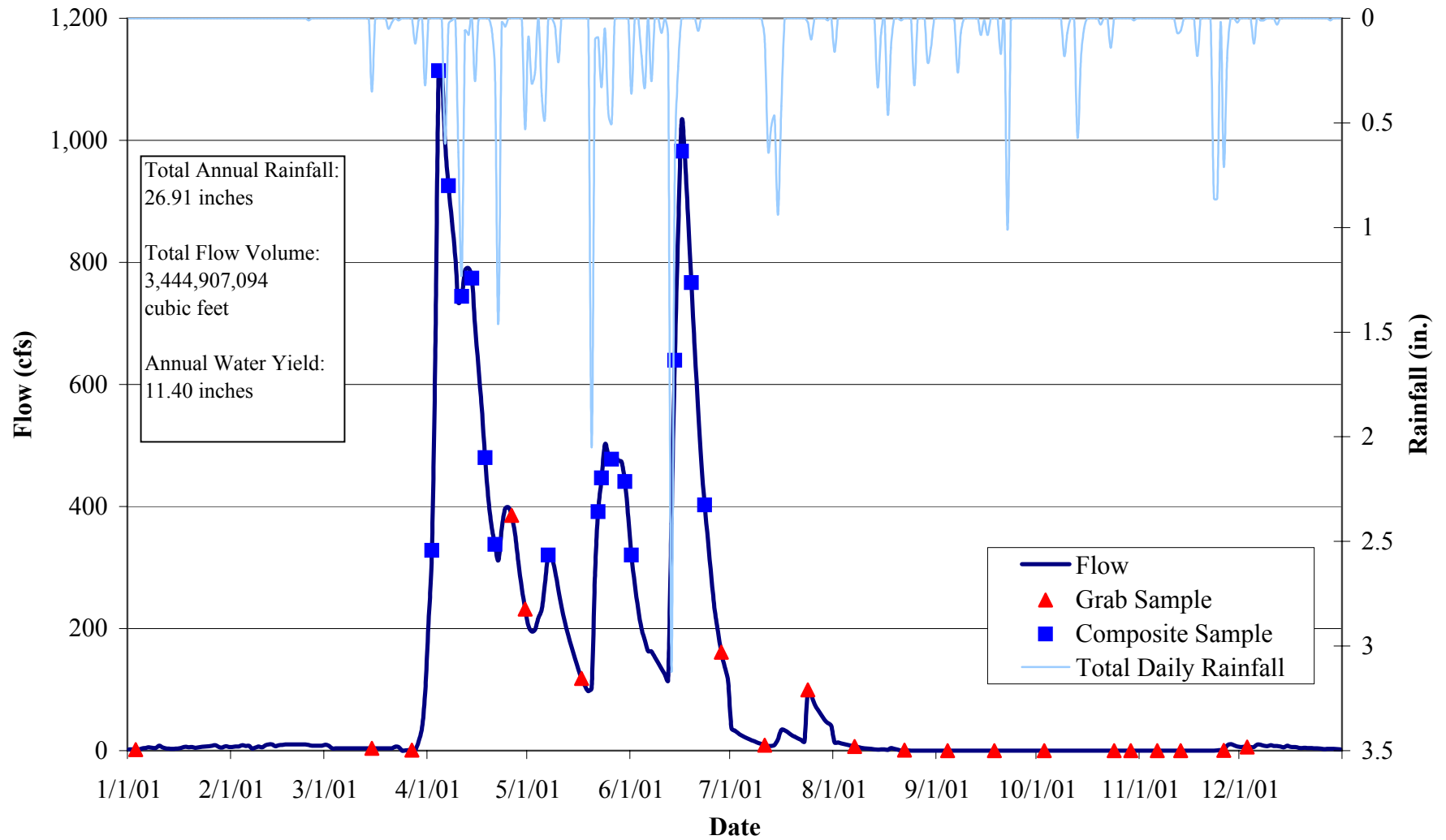


Table 2.LC. Little Cobb River 2001 Water Chemistry Information

Variable	N	Mean	Median	Minimum	Maximum	25%	75%	STD
Chloride, mg/L	34	17	14	5	66	10	17	14
Hardness, mg/L	34	241	252	88	426	214	283	71
Cadmium, ug/L	23	0.1	0.1	0.1	0.2	0.1	0.1	0.0
Chromium, ug/L	23	2.1	1.3	0.5	13.5	0.6	2.1	2.8
Copper, ug/L	23	5.1	4.0	2.5	14.7	3.5	5.0	3.1
Lead, ug/L	23	1.4	0.7	0.5	8.1	0.5	1.5	1.7
Nickel, ug/L	23	5.6	5.0	3.6	15.1	4.2	5.9	2.4
Zinc, ug/L	23	12.0	8.0	2.0	56.0	6.0	12.0	14.0
Nitrogen, Total Kjeldahl, mg/L	37	1.40	1.30	0.50	3.20	1.00	1.50	0.50
Nitrogen, Total Nitrate, mg/L	38	7.10	7.94	0.05	15.60	0.52	12.35	5.68
Phosphorus, Total, mg/L	37	0.31	0.26	0.05	0.92	0.18	0.42	0.18
Phosphorus, Total Dissolved, mg/L	38	0.20	0.18	0.03	0.70	0.12	0.28	0.13
Solids, Total Suspended, mg/L	37	72	42	2	470	19	86	102
Solids, Volatile Suspended, mg/L	37	12	8	1	72	5	15	16
Turbidity, NTU	37	31	20	1	260	10	31	46
Transparency Tube, cm	16	26	24	5	60	15	35	17

Table 3.LC. Little Cobb River 2001 Annual Loading Information* for Suspended Solids and Nutrients

Variable	Annual Load (tons)	Annual Yield (lbs/acre)	Annual Normalized Yield (lbs/acre/in of water)	Flow Weighted Mean Concentration (mg/L)
Solids, Total Suspended	9,117	219	19	85
Phosphorus, Total	33.50	0.81	0.07	0.31
Phosphorus, Total Dissolved	22.97	0.55	0.05	0.21
Nitrogen, Total Nitrate+Total Nitrite	1,140.85	27.42	2.41	10.61

* 2001 Annual Loading Information is provisional and may be subject to minor revisions.

Table 4.LC. Little Cobb River 2001 Macroinvertebrate Monitoring Results and Metrics

Monitoring Date 10/29/01

Class	Order	Family	Common Name	Life Stage	Organism Count
Insecta	Coleoptera	Elmidae	Riffle Beetles	Adult	7
Insecta	Coleoptera	Elmidae	Riffle Beetles	Larvae	5
Insecta	Diptera	Chironomidae	Midges	Larvae	1
Insecta	Ephemeroptera	Heptageniidae	Flatheaded Mayflies	Larvae	1
Insecta	Ephemeroptera	Leptophlebiidae	Pronggills	Larvae	4

Macroinvertebrate Taxa Metrics

Total Taxa	4
EPT Taxa	2
% EPT Taxa	50
Diptera Taxa	1
% Diptera Taxa	25
Mean Tolerance Value	4.00

Macroinvertebrate Organism Metrics

Total Organisms	18
EPT Individuals	5
% EPT Individuals	28
Diptera Individuals	1
% Diptera Individuals	6
Chironomidae Individuals	1
% Chironomidae Individuals	6