



Photo from June 2012

## *E. coli* Monitoring Results

2011-2012

\*For the complete watershed monitoring report, see the Executive Summary at [www.CRWP.net](http://www.CRWP.net)

### Cannon River in Cannon Falls (S003-818)

The Cannon River monitoring site is located upstream of Highway 20 at Riverside Park in Cannon Falls, MN in Goodhue County.

The appearance of the Cannon River in Cannon Falls was generally good, but declined throughout the summer as algae increased. Algae density also progressively affected the clarity and recreational suitability score of the water in this stretch of the Cannon River. (Table 1). Definitions for Appearance and Recreational Suitability are provided in Table 2. *Escherichia coli* (*E. coli*) data are described further on the following page.

**Table 1.** Summary statistics, June – August 2011 and 2012.

Parameter	Count	Mean	Min	Max
Appearance	19	2.5	1	4
Recreational Suitability	19	3.1	2	5
Clarity (cm)	19	54	13	>100
<i>E. coli</i> 2011 (MPN/100mL)	10	26***	<1	>2419.6
<i>E. coli</i> 2012 (MPN/100mL)	6	32***	10.8	173*

\*\*\*90-day geometric mean

\*measured one week after major flood event on June 14

Clarity measured by Secchi tube

**Table 2.** Appearance and Recreational Suitability score definitions.

Rating	Appearance Definition	Recreational Suitability Definition
1	Clear – transparent water	Beautiful, could not be better
2	Cloudy – not quite crystal clear; cloudy white, gray or light brown	Very minor aesthetic problems; excellent for body-contact recreation
3	Muddy – cloudy brown due to high sediment levels	Body-contact recreation and aesthetic enjoyment slightly impaired
4	Green – due to algae growth; indicative of excess nutrients released into the stream	Recreation potential and level of enjoyment of the stream substantially reduced (would not swim but boating/canoeing is okay)
5	Muddy and Green – a combination of cloudy brown from high sediment levels and green from algae growth	Swimming and aesthetic enjoyment of the stream nearly impossible.



### ***E. coli* bacteria in the Cannon River in Cannon Falls, MN**

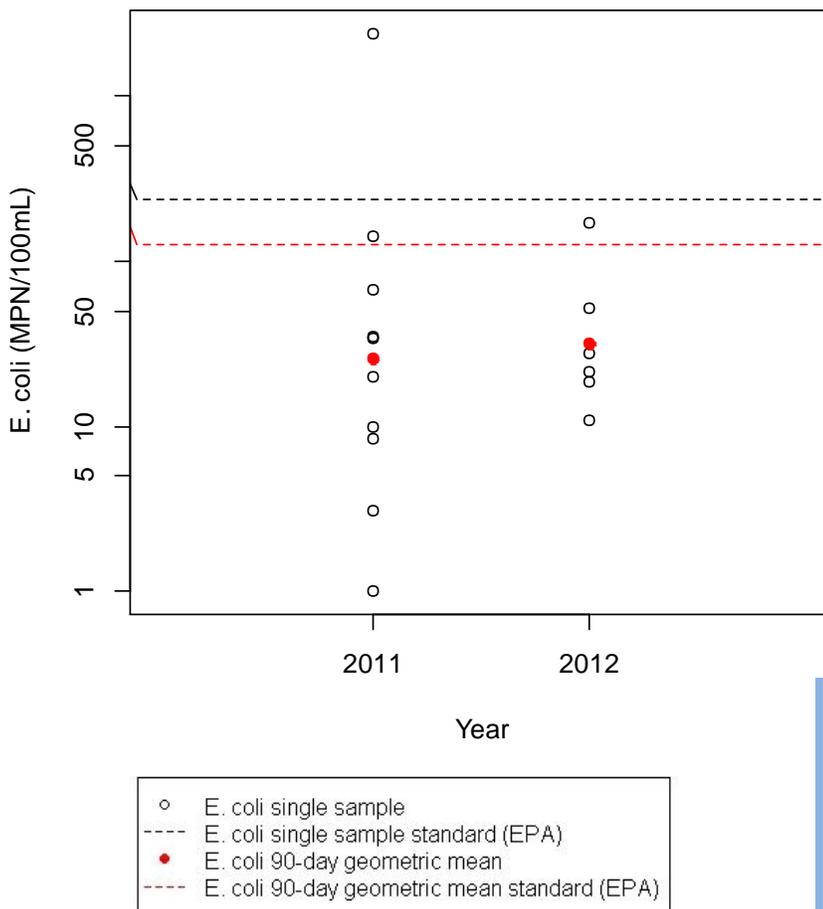
The open black circles and the black dotted line show the single sample values collected by the Cannon River Watershed Partnership and the single sample standard that the Environmental Protection Agency has set, respectively. Single samples above this dotted black line indicate that unsafe levels of disease-causing pathogens may be present in the water.

The red circles and the red dashed line indicate the geometric mean calculated by the Cannon River Watershed Partnership and the Environmental Protection Agency geometric mean standard, respectively. The geometric mean helps to dampen the effect of very high or very low numbers, thus reducing bias and allowing for meaningful statistical results. Even so, the geometric mean is still above the EPA standard for safe recreation. Additionally, this is a 90-day geometric mean which means it is quite conservative.

#### **What is *E. coli* and why monitor it?**

*Escherichia coli* (*E. coli*) bacteria are an indicator of fecal contamination and used by the Environmental Protection Agency to evaluate public health risk in fresh waters. High levels suggest that disease-causing pathogens may be present.

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The *E. coli* data from 2011 and 2012 show that the single sample values are mostly within the single sample standard. During both years, the geometric mean was below the geometric mean standard which suggests that disease-causing pathogens are below the level of concern according to the standard that the Environmental Protection Agency has established to protect public health.

**“What can I do to help?”**

**“Where can I learn more?”**

**“How can I monitor a stream or lake near me?”**

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