

# Mud Creek at Spencer St

## Road Salt Monitoring Data Summary

### December 2011- December 2012



Photo courtesy of Jim Beecher

**Volunteer:** Paul Gravunder

**Specific conductance summary:**

- 19 measurements taken
- Minimum: 940  $\mu\text{S}/\text{cm}$  on 9/8/2012
- Maximum: 3500  $\mu\text{S}/\text{cm}$  on 1/24/2012
- Mean: 1733  $\mu\text{S}/\text{cm}$

**Chloride (Cl<sup>-</sup>) summary:**

- 9 samples collected
- Minimum: 134 mg/L on 5/13/2012
- Maximum: 955 mg/L on 1/24/2012
- Mean: 376 mg/L

**EPA Acute and Chronic Exceedences for Chloride<sup>1</sup>:**

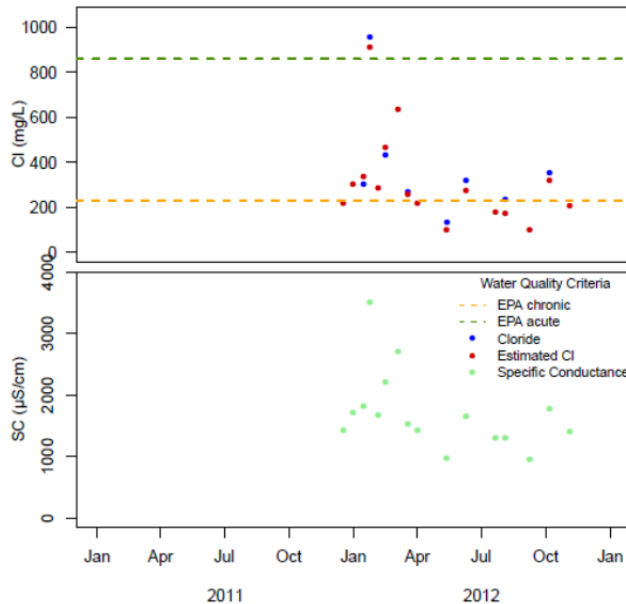
The EPA acute chloride standard of 860 mg/L was not exceeded at this site in 2011, but was exceeded one time in 2012:

- 955 mg/L on 1/24/2012 (measured)

The EPA chronic chloride standard of 230 mg/L was exceeded one time in 2011 at this site, plus an additional 11 times in 2012:

- |  |                                       |
|--|---------------------------------------|
| ○ 301 mg/L on 12/31/2011 (calculated) <sup>2</sup> | ○ 318 mg/L on 6/9/2012 (measured)     |
| ○ 234 mg/L on 8/4/2012 (measured)                  | ○ 352 mg/L on 10/6/2012 (measured)    |
| ○ 245 mg/L on 12/1/2012 (calculated)               | ○ 386 mg/L on 12/11/2012 (measured)   |
| ○ 267 mg/L on 3/18/2012 (measured)                 | ○ 432 mg/L on 2/15/2012 (measured)    |
| ○ 287 mg/L on 2/5/2012 (calculated)                | ○ 466 mg/L on 12/23/2012 (calculated) |
| ○ 302 mg/L on 1/15/2012 (measured)                 | ○ 638 mg/L on 3/4/2012 (calculated)   |

**Results Over Time<sup>2</sup>:**



<sup>1</sup> EPA acute chloride standard: The one-hour average concentration should not exceed 860 mg/L more than once every three years. EPA chronic chloride standard: The four day average concentration should not exceed 230 mg/L more than once every three years on average. Source: EPA. 1988. Ambient Water Quality Criteria for Chloride. EPA 440/6-88-001.

<sup>2</sup> Calculated chloride: When  $\text{SC} > 1540 \mu\text{S}/\text{cm}$  was  $\text{Cl} = 0.3441 * \text{SC} - 291$ ,  $\text{adjR}^2 = 0.98$ ; when  $\text{SC} \leq 1540 \mu\text{S}/\text{cm}$  was  $\text{Cl} = 1.044 * (\exp(0.001609 * \text{SC} + 3.046))$ ,  $\text{adjR}^2 = 0.65$ . Equations based on data from both Madison and Milwaukee.