

Sawyer Creek at N Westfield St.

Road Salt Monitoring Data Summary

December 2011- December 2012



Photo courtesy of Jim Beecher

Volunteers: Derek Tess and Kayla Pierce

Specific conductance summary:

- 16 measurements taken
- Minimum: 580 $\mu\text{S}/\text{cm}$ on 3/8/2012
- Maximum: 1940 $\mu\text{S}/\text{cm}$ on 2/15/2012
- Mean: 1033 $\mu\text{S}/\text{cm}$

Chloride (Cl^-) summary:

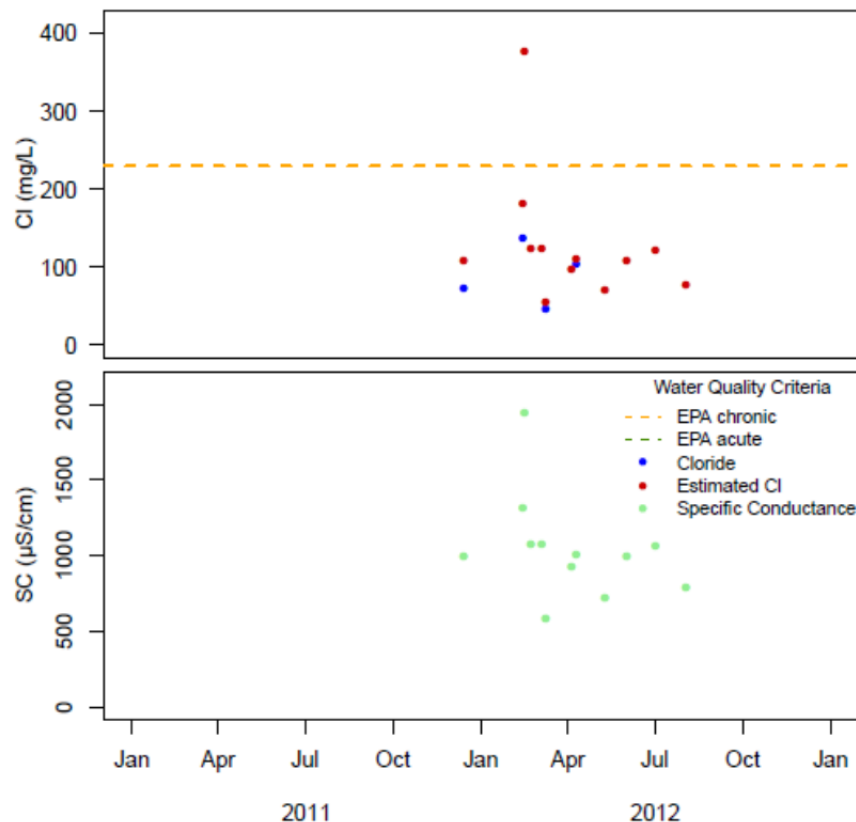
- 4 samples collected
- Minimum: 45.7 mg/L on 3/8/2012
- Maximum: 138 mg/L on 2/13/2012
- Mean: 91 mg/L

EPA Acute and Chronic Exceedences for Chloride¹:

The EPA acute chloride standard of 860 mg/L was not exceeded at this site in 2011 or in 2012. The EPA chronic chloride standard of 230 mg/L was not exceeded at this site in 2011, but was exceeded two times in 2012:

- 234 mg/L on 12/11/2012 (calculated)²
- 377 mg/L on 2/15/2012 (calculated)

Results Over Time²:



¹ 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.

² 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.