

Starkweather Creek at Atwood Ave

Road Salt Monitoring Data Summary

December 2011 – December 2012



Photo courtesy of Jim Beecher

Volunteers: Erin and Jake Vennie-Vollrath

Specific conductance summary:

- 14 measurements taken
- Minimum: 700 $\mu\text{S}/\text{cm}$ on 9/12/2012
- Maximum: 3600 $\mu\text{S}/\text{cm}$ on 1/24/2012
- Mean: 1487 $\mu\text{S}/\text{cm}$

Chloride (Cl⁻) summary:

- 5 samples collected
- Minimum: 116 mg/L on 6/10/2012
- Maximum: 931 mg/L on 1/24/2012
- Mean: 382 mg/L

EPA Acute and Chronic Exceedences for Chloride¹:

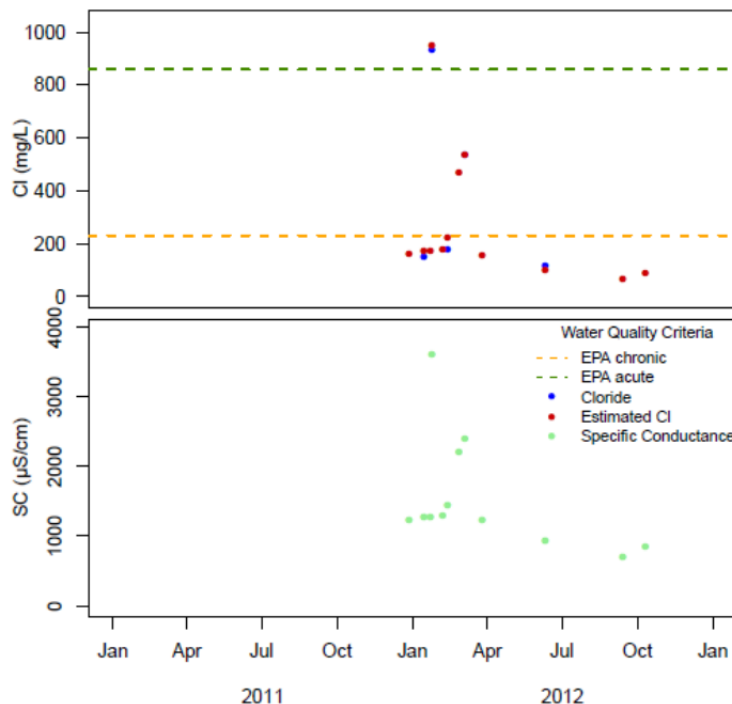
The EPA acute chloride standard of 860 mg/L was not exceeded in 2011 at this site but was exceed once 2012:

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

The EPA chronic chloride standard of 230 mg/L was not exceeded in 2011 at this site but was exceeded twice in 2012:

- 466 mg/L on 2/26/2012 (calculated)²
- 535 mg/L on 3/4/2012 (measured)

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