

Pheasant Branch at Century Ave

Road Salt Monitoring Data Summary

February 2011–December 2012



Photos courtesy of Jim Beecher

Volunteers: Eric Grazia and Jim Beecher

Specific conductance summary:

- 33 measurements taken
- Minimum: 550 $\mu\text{S}/\text{cm}$ on 8/8/2011
- Maximum: 17300 $\mu\text{S}/\text{cm}$ on 12/10/2012
- Mean: 1740 $\mu\text{S}/\text{cm}$

Chloride (Cl⁻) summary:

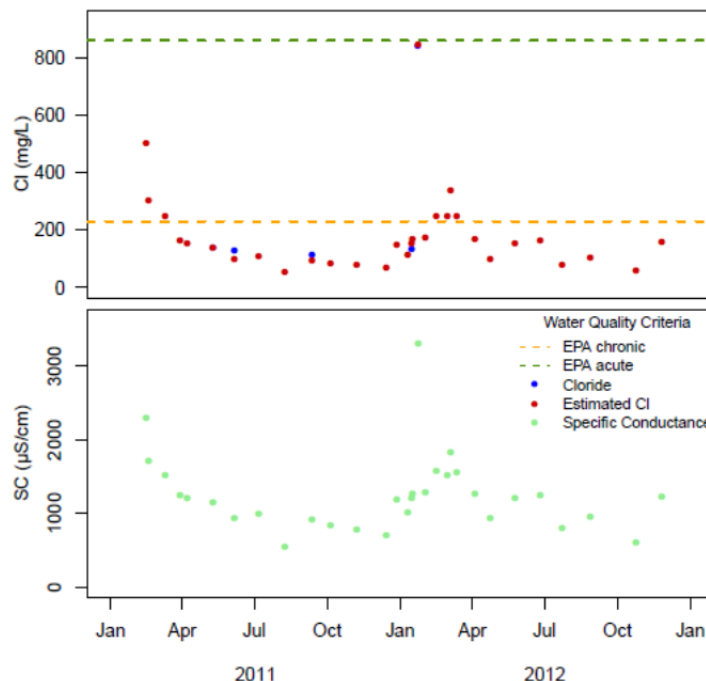
- 6 samples collected
- Minimum: 114 mg/L on 9/11/2011
- Maximum: 839 mg/L on 1/23/2012
- Mean: 294 mg/L

EPA Acute and Chronic Exceedences for Chloride¹:

The EPA acute chloride standard of 860 mg/L was not exceeded at this site in 2011² or in 2012. The EPA chronic chloride standard of 230 mg/L was exceeded three times in 2011² at this site, plus an additional six times in 2012:

- 246 mg/L on 3/12/2012 (calculated)³
- 249 mg/L on 2/15/2012 and 2/29/2012 (calculated)
- 339 mg/L on 3/4/2012 (calculated)
- 413 mg/L on 12/10/2012 (measured)
- 839 mg/L on 1/23/2012 (measured)

Results Over Time³:



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 <http://watermonitoring.uwex.edu/level3/UrbanRoadSaltReports.html>

³ Calculated chloride: When $\text{SC} > 1540 \mu\text{S}/\text{cm}$ was $\text{Cl} = 0.3441 * \text{SC} - 291$, $\text{adj}R^2 = 0.98$; when SC was $\leq 1540 \mu\text{S}/\text{cm}$ was $\text{Cl} = 1.044 * (\exp(0.001609 * \text{SC} + 3.046))$, $\text{adj}R^2 = 0.65$. Equations based on data from both Madison and Milwaukee.