

Pheasant Branch at Deming Way Road Salt Monitoring Data Summary February 2011–December 2012



Photo courtesy of Jim Beecher

Volunteers: Eric Grazia and Jim Beecher

Specific conductance summary:

- 34 measurements taken
- Minimum: 471 $\mu\text{S}/\text{cm}$ on 8/8/2011
- Maximum: 1930 $\mu\text{S}/\text{cm}$ on 2/17/2011
- Mean: 1062 $\mu\text{S}/\text{cm}$

Chloride (Cl⁻) summary:

- 11 samples collected
- Minimum: 68.5 mg/L on 9/11/2011
- Maximum: 464 mg/L on 2/17/2011
- Mean: 198 mg/L

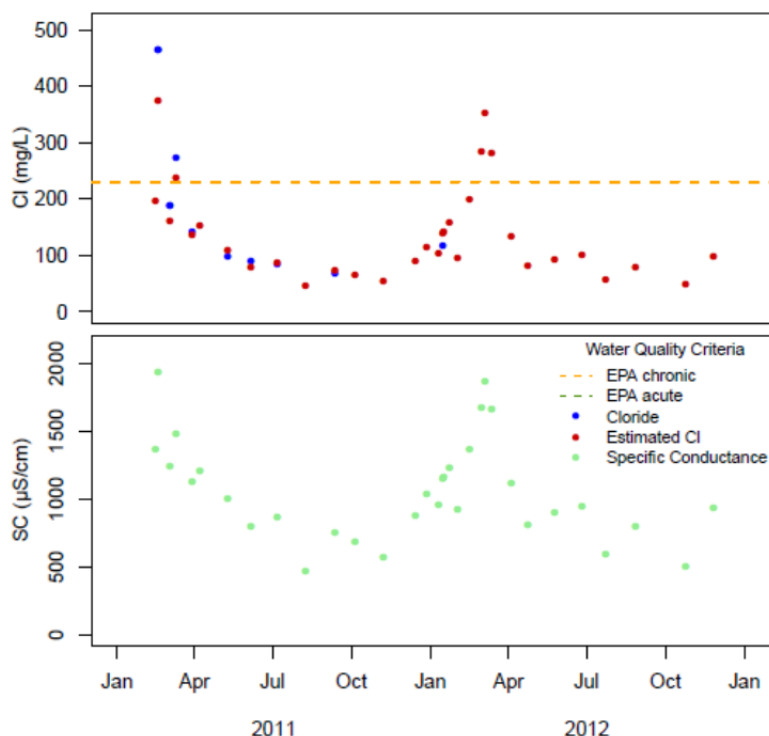
EPA Acute and Chronic Exceedences for Chloride¹:

The EPA acute chloride standard of 860 mg/L was not exceeded in 2011² at this site.

The EPA chronic chloride standard of 230 mg/L was exceeded twice in 2011² at this site, plus an additional three times in 2012:

- 280 mg/L on 3/12/2012 (calculated)³
- 284 mg/L on 2/29/2012 (calculated)
- 353 mg/L on 3/4/2012 (calculated)

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 $\text{Cl} = 0.3441 * \text{SC} - 291$, $\text{adjR}^2 = 0.98$; 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.