

Willow Creek at Maple Rd

Road Salt Monitoring Data Summary

February 2011–December 2012



Photo courtesy of Jim Beecher

Volunteer: Chris Hitch (2011) and Joe Rath (2012)

Specific conductance summary:

- 16 measurements taken
- Minimum: 1000 $\mu\text{S}/\text{cm}$ on 9/20/2011
- Maximum: 1740 $\mu\text{S}/\text{cm}$ on 3/12/2011
- Mean: 1259 $\mu\text{S}/\text{cm}$

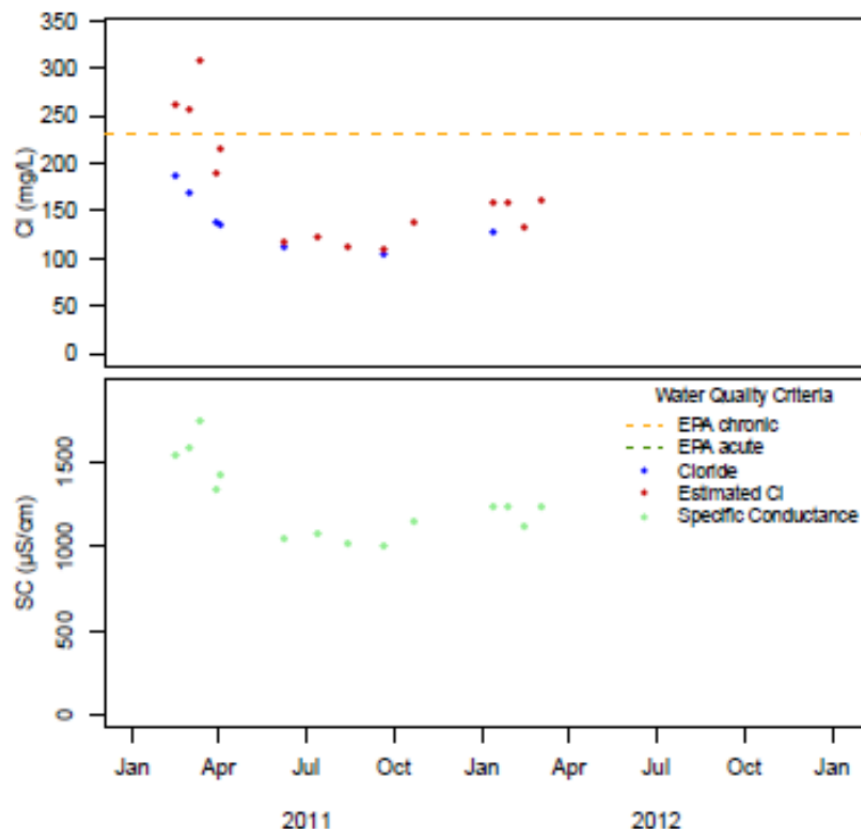
Chloride (Cl⁻) summary:

- 7 samples collected
- Minimum: 103 mg/L on 9/20/2011
- Maximum: 186 mg/L on 2/15/2011
- Mean: 139 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. However, the EPA chronic chloride standard of 230 mg/L was met or exceeded three times in 2011 but zero times in 2012.

Results Over Time³:



¹ Acute standard: The one-hour average should not exceed 860 mg/L more than once every three years. Chronic standard: The four day average should not exceed 230 mg/L more than once every three years. 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 $\text{Cl} = 1.044 * (\exp(0.001609 * \text{SC} + 3.046))$, $\text{adjR}^2 = 0.65$. Equations based on data from both Madison and Milwaukee.