Wingra Creek at Olin Ave

Road Salt Monitoring Data Summary

February –December 2011

Photo courtesy of Jim Beecher

Volunteers: Christina and Ian Anderson

Specific conductance summary:

- 7 measurements taken
- Minimum: 660 µS/cm on 6/23/2011
- Maximum: 1200 µS/cm on 2/18/2011
- Mean: 863 µS/cm

Chloride (Cl^-) summary:

- 6 samples collected
- Minimum: 116 mg/L 6/23/2011
- Maximum: 253 mg/L 2/18/2011
- Mean: 158 mg/L

Specific conductance ranges at which to collect grab samples in 2012 for this site:

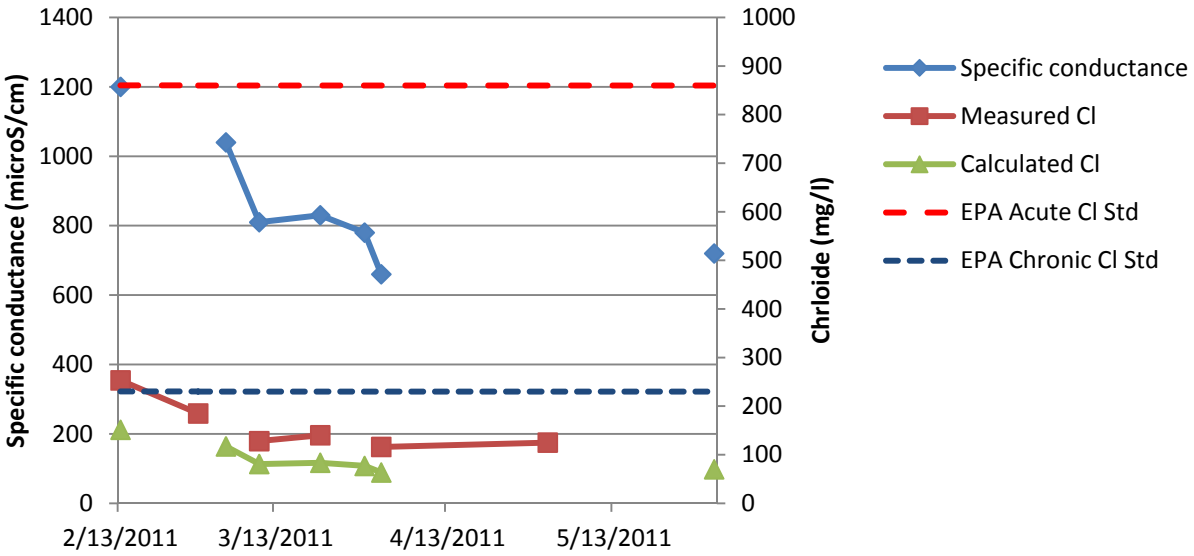
- Mid-level: 900-1000 µS/cm
- High-level: >1000 µS/cm

EPA Acute and Chronic Exceedences for Chloride[1]:

The EPA acute chloride standard of 860 mg/L was not exceeded at this site. The EPA chronic chloride standard of 230 mg/L was exceeded once:

- 253 mg/L on 2/18/2011 (measured)

Results Over Time[2]:



[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] Two regression equations calculated based on specific conductance and chloride data collected from the Madison and Milwaukee areas collectively. The equation used when specific conductance >1540 µS/cm was Cl = 0.3441 * SC – 291, adjR^2 = 0.98; and when specific conductance ≤ 1540 µS/cm was Cl = 1.044 * (exp(0.001609 * SC + 3.046)), adj R^2 = 0.65.