

Kinnickinnic River at 11th St Road Salt Monitoring Data Summary February 2011 –December 2012



Photo courtesy of Jim Beecher

Volunteers: Cheryl Nenn and Joe Rath

Specific conductance summary:

- 11 measurements taken
- Minimum: 1000 $\mu\text{S}/\text{cm}$ on 12/10/2012
- Maximum: 8900 $\mu\text{S}/\text{cm}$ on 1/13/2012
- Mean: 4467 $\mu\text{S}/\text{cm}$

Chloride (Cl⁻) summary:

- 8 samples collected
- Minimum: 307 mg/L on 10/7/2011
- Maximum: 2450 mg/L on 1/13/2012
- Mean: 1030 mg/L

EPA Acute and Chronic Exceedences for Chloride¹:

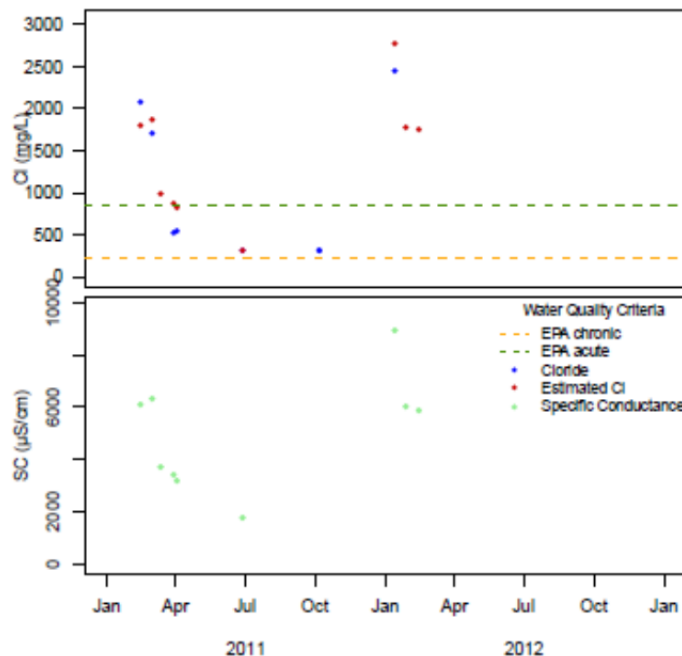
The EPA acute chloride standard of 860 mg/L was exceeded three times in 2011² at this site, plus an additional three times in 2012:

- 1739 mg/L on 2/14/2012 (calculated)³
- 1774 mg/L on 1/28/2012 (calculated)
- 2450 mg/L on 1/13/2012 (calculated)

In addition, the EPA chronic chloride standard of 230 mg/L was exceeded four times in 2011² at this site, plus an additional one time in 2012:

- 707 mg/L on 12/22/2012 (calculated)

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 $\text{Cl} = 1.044 * (\exp(0.001609 * \text{SC} + 3.046))$, $\text{adj R}^2 = 0.65$. Equations based on data from both Madison and Milwaukee.