

# Neenah Slough at Cameron Way

## Road Salt Monitoring Data Summary

December 2011- December 2012



Photo courtesy of Jim Beecher

**Volunteers:** Luke Vandenburg and Jonathon Lisowe

### Specific conductance summary:

- 10 measurements taken
- Minimum: 860  $\mu\text{S}/\text{cm}$  on 3/12/2012
- Maximum: 13000  $\mu\text{S}/\text{cm}$  on 12/31/2011 and 3/4/2012
- Mean: 8590  $\mu\text{S}/\text{cm}$

### Chloride (Cl<sup>-</sup>) summary:

- 4 samples collected
- Minimum: 87.8 mg/L on 5/25/2012
- Maximum: 131 mg/L on 3/12/2012
- Mean: 112 mg/L

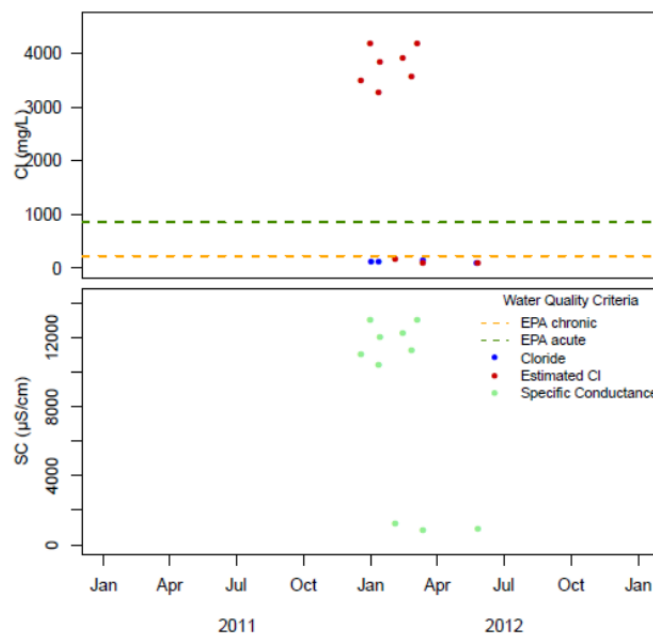
### EPA Acute and Chronic Exceedences for Chloride<sup>1</sup>:

The EPA acute chloride standard of 860 mg/L was exceeded two times in 2011 at this site, plus an additional four times in 2012:

- 3494 mg/L on 12/18/2011 (calculated)<sup>23</sup>
- 4182 mg/L on 12/31/2011 (calculated)
- 3580 mg/L on 2/25/2012 (calculated)
- 3838 mg/L on 1/13/2012 (calculated)
- 3924 mg/L on 2/13/2012 (calculated)
- 4182 mg/L on 3/4/2012 (calculated)

The EPA chronic chloride standard of 230 mg/L was not exceeded at this site in 2011 or in 2012.

### Results Over Time<sup>2</sup>:



<sup>1</sup> 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.

<sup>2</sup> 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  $\text{SC} \leq 1540 \mu\text{S}/\text{cm}$  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.

<sup>3</sup> These calculated values are extremely high and thus suspect. There may be something different happening at this site from other sites, and thus the equation based on Madison and Milwaukee data does not work well to predict chloride values at this site.