

# Ulao Creek at Hwy 60

## Road Salt Monitoring Data Summary February – December 2011



Photo courtesy of Jim Beecher

**Volunteer:** Phil Strobel

### Specific conductance summary:

- 10 measurements taken
- Minimum: 750  $\mu\text{S}/\text{cm}$  on 4/25/2011
- Maximum: 6600  $\mu\text{S}/\text{cm}$  on 2/13/2011
- Mean: 2272  $\mu\text{S}/\text{cm}$

### Chloride ( $\text{Cl}^-$ ) summary:

- 7 samples collected
- Minimum: 90.7 mg/L 5/30/2011
- Maximum: 2120 mg/L 2/13/2011
- Mean: 759 mg/L

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

- Mid-level: 2000-4000  $\mu\text{S}/\text{cm}$
- High-level: >4000  $\mu\text{S}/\text{cm}$

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

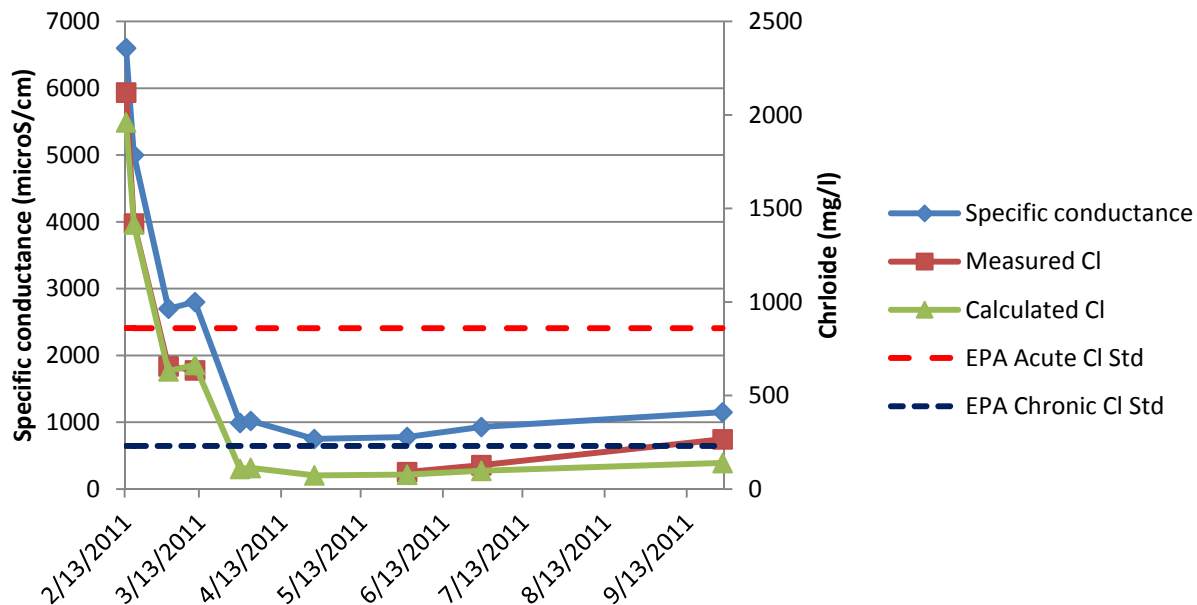
The EPA acute chloride standard of 860 mg/L was exceeded twice at this site:

- 1420 mg/L on 2/16/2011 (measured)
- 2120 mg/L on 2/13/2011 (measured)

In addition, the EPA chronic chloride standard of 230 mg/L was exceeded three times at this site:

- 266 mg/L on 9/26/2011 (measured)
- 635 mg/L on 3/11/2011 (measured)
- 656 mg/L on 3/1/2011 (measured)

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



<sup>1</sup> 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.

<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  $\text{SC}$  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.