Mud Creek at CTH BB

Road Salt Monitoring Data Summary
December 2011- December 2012

Photo courtesy of Jim Beecher

Volunteers: Sandy Vander Velden

Specific conductance summary:

- 10 measurements taken
- Minimum: 730 µS/cm on 12/10/2011
- Maximum: 2700 µS/cm on 3/5/2012
- Mean: 1636 µS/cm/

Chloride (Cl^-) summary:

- 4 samples collected
- Minimum: 177 mg/L on 4/22/2012
- Maximum: 616 mg/L on 3/5/2012

  Mean: 376 mg/L

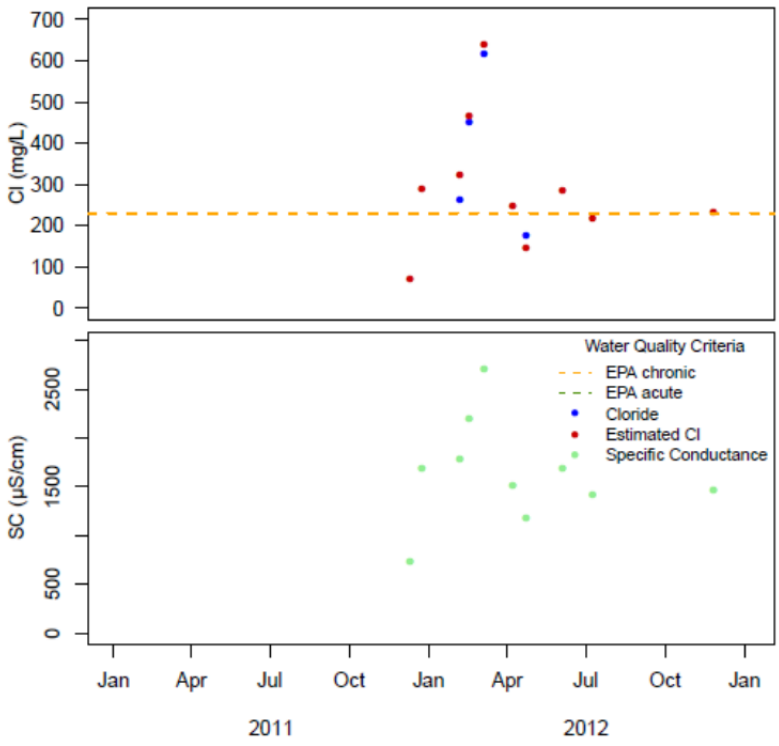
EPA Acute and Chronic Exceedences for Chloride[1]:

The EPA acute chloride standard of 860 mg/L was not exceeded at this site in 2011 or in 2012.

The EPA chronic chloride standard of 230 mg/L was exceeded one time in 2011 at this site, plus an additional six times in 2012:

- 291 mg/L on 12/24/2011 (calculated)[2]
- 234 mg/L on 11/25/2012 (calculated)
- 249 mg/L on 4/7/2012 (calculated)
- 261 mg/L on 2/5/2012 (measured)
- 287 mg/L on 6/3/2012 (calculated)
- 451 mg/L on 2/16/2012 (measured)
- 616 mg/L on 3/5/2012 (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] Calculated chloride: When SC >1540 µS/cm was Cl = 0.3441 * SC – 291, adjR^2 = 0.98; when SC was ≤ 1540 µS/cm was Cl = 1.044 * (exp(0.001609 * SC + 3.046)), adj R^2 = 0.65. Equations based on data from both Madison and Milwaukee.