

Factors Affecting Road Salt Toxicity to *Hyalella azteca*

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The United States applies millions of metric tons of road salts to roads yearly to combat snow and ice, half of which end up in adjacent waterways and pose a potential risk to aquatic macroinvertebrates. The object of the current study was to evaluate the effects of exposure duration and temperature on the toxicity of two salts (NaCl and KCl) to the aquatic macroinvertebrate *Hyalella azteca*. Toxicity tests were conducted for a 96h, a 10d, and a 96h exposure with a seven-day dilution period, at both 23 and 12°C for each salt. While there was a significant difference in the toxicity between sodium chloride and potassium chloride, there was no difference in toxicity between temperatures for a given exposure time. Additionally, there was no significant difference in toxicity between the 96h exposure and the 96h exposure with the seven-day dilution period. This indicated that the decreased temperature during salt application may not increase the potential risk to aquatic animals. Furthermore, after an acute exposure no additional mortality was observed during the dilution period. This may imply that surviving organisms may not be impacted, however, further research is required to confirm the ecological implications of these results.