

Homeowner Deicing Salt Stewardship

Andrew Lazur, Water Quality Specialist

The use of salt to de-ice roads, parking lots, sidewalks, etc. is a common practice to reduce driving and walking hazards, but has resulted in a significant cost to aquatic habitats and drinking water quality. Even low chloride levels can reduce aquatic species growth and reproduction and the extent of streams that are considered impaired is both significant and increasing. Further, increasing chloride and sodium runoff has resulted in lower drinking water quality in both surface and groundwater supplies.

Road salts have resulted in contaminated well water supplies, particularly in the Piedmont or western MD regions where fractured rock geology exists resulting in groundwater with more direct contact with surface contamination. In some cases, chloride concentrations have exceeded the EPA secondary maximum contaminant level (SCML) of 230 ppm multiple times. This can lead to the necessity of well replacement or installation of expensive water treatment systems such as whole house reverse osmosis (RO) filtration systems, which also require regular and potentially costly maintenance.

Chloride increases corrosion potential of water effecting supply infrastructure including pipes and fixtures. Lead leaching due to increased chloride induced corrosion is a significant problem and health risk. Chloride also increases the mobilization of other heavy metals such as arsenic, cadmium, chromium, and mercury, as well as radionuclides – radon and radium.

Chloride is highly mobile in soils and water making it extremely difficult to manage in the environment. Reducing salt use is the only effective road-salt-runoff management strategy. Efforts to reduce use have been made, particularly by state and some county transportation agencies, yet a challenging dilemma exists – balancing public safety needs and minimizing environmental impacts. Reduction options include enhanced voluntary adoption of proven salt reduction practices, or regulations to require said practices, and engagement of the entire community involved in deicing activities. As homeowners, we can play a role in reducing salt use and thereby reduce impacts to our water quality:

- The best approach to reducing slipping hazards and use of potentially harmful deicing salts is shoveling sidewalks to reduce snow accumulation and ice formation
- Covering small areas such as your steps with a heavy, waterproof plastic or a tarp before the storm can reduce shoveling and deicer use
- Focus use of deicing products on high use areas and slopes where traction is most important
- Spreading the deicer before snow and ice start helps reduce accumulation and usage of salts. Note that salt and deicers are not effective when snow is more than three inches deep
- If applying deicers after snow and ice is present, remove as much snow and ice as possible before application
- Reduce salt and deicer use by adding sand for traction
- Consider more sustainable alternatives to salt. Calcium magnesium acetate (CMA) are more effective at melting ice and snow when temperatures are above 25. See EPA list of safer products: <https://www.epa.gov/saferchoice/products>
- Follow the label directions. If only a handful of rock salt per square yard is required, using more is not more effective, just more expensive and will reduce risk to plants, animals, vehicles and impact to groundwater.