



SALT-WISE

By Judy Plaskowitz

Winter is the season of salt. Many of us use salt (sodium chloride, NaCl) to make our outdoor paved surfaces safer. Sodium chloride, lowers the freezing point of water which prevents ice from forming and snow from sticking on surfaces. Residents, state and local governments, property managers, and private contractors all use salt to ensure public safety during a winter weather event. There are no current guidelines for salt application in Baltimore County or in the State of Maryland.

The salt we apply makes its way from road and driveway surfaces into streams. Salt collects in surface reservoirs and groundwater. Data presented by the Washington Suburban Sanitary Commission (WSSC), indicates that between 1992 and 2022, the concentration of salt in the Patuxent Reservoir has increased **260%**, in the Potomac River the concentration of salt has increased 200%. In Central Maryland, a study conducted by Kyle Hurley of Towson University demonstrates that there has been a doubling of salt concentrations in the tributaries of Liberty, Prettyboy, and Loch Raven reservoirs since 1980. While all levels are below EPA levels for chronic exposure, the trend is concerning. A conclusion from the study is that there is increased use of salt per unit road surface.

Why should we be concerned about increasing concentrations of salt in our surface water, reservoir storage, and groundwater? Once salt is released into the environment, it is difficult to remove. The use of salt is necessary for public safety, but trends indicate over application. Overuse of salt in the environment has four major impacts.

- Public Health: Hypertension
 - Salt concentrations are rising in surface and groundwater supplies
 - Salt in drinking water affects people with salt-restricted diets.
- Wildlife
 - Increased salt concentrations stresses freshwater benthic macroinvertebrates, and fish.
- Infrastructure
 - Salt damages public and private infrastructure including bridges, roads, cars, and stormwater facilities.¹
- Freshwater salinization syndrome
 - Increased chloride from salt impacts water chemistry encouraging the release of harmful metals among other chemical into the streams and groundwater.²

What are recommendations for salt-wise use during a winter event?

- Start early. Clear pavement and driveway before snow turns to ice.
- Don't put salt down if it's too cold: Sodium chloride doesn't prevent ice from forming once the temperature of the ground reaches 16 degrees.
- Use less salt. If you must use salt, a 12 oz mug holds enough salt for a 20 foot driveway or 10 sidewalk squares.
- Sweep and Reuse. Keep unneeded salt out of our waterways by sweeping and collecting salt for reuse.

1. [Chloride, Salinity and Dissolved Solids.](#)
2. [Researching the Impacts of Freshwater Salinization Syndrome.](#)