

# Take Home Messages

- Road salt (NaCl) applied to impervious surfaces (roads and parking lots) ends up in streams and groundwater
- Watersheds with more impervious surfaces have higher stream and groundwater sodium and chloride concentrations
- We have seen long-term increases in stream water NaCl. For example, in College Brook, NaCl concentrations have tripled in response to a doubling of impervious surfaces in the watershed
- High concentrations of sodium and chloride are seen both in the winter when road and parking lot runoff is quickly routed streams (storm drains) and in the summer when flows are low and little dilution occurs.
- There is no natural (i.e. doesn't stick to soils and is not taken up by vegetation) removal of NaCl applied to the landscape and NaCl is not retained or removed in stormwater treatment systems
- The only way to reduce NaCl in streams and groundwater is to reduce amount of road salt applied
- Pervious pavement requires less deicing and is a good way to achieve NaCl reduction. Calcium Magnesium Acetate and Potassium Acetate may be good alternatives, but are typically more expensive than NaCl
- Climate change will have uncertain impacts on future application needs and dilution of deicers