

## Impact of road salt on stormwater wetlands

It has been widely shown that urbanization increases macronutrient loads that enter freshwater systems. Best management practices (BMPs), such as constructed stormwater wetlands (CSWs), aim to reduce nutrient loads by acting as nutrient sinks. Road salt is heavily used to deice roads in high snowfall areas of the United States and the negative ecological consequences on freshwater systems have been widely noted. Additionally, salt water flushes nutrients from soils and BMPs designed as a sink could potentially become a source once this salt is added. In a semiarid climate where most precipitation occurs as snowfall, the highest demand on stormwater infrastructure likely coincides with the highest concentrations of salt. Our study examines how road salt effects functioning of two CSWs in a semiarid, snowmelt-driven climate in Pocatello, Idaho. Soil cores were collected and water with various salt concentrations was added. After 24 hours, this water was analyzed for macronutrients to quantify nutrient leaching from CSW soils. We expect that, at higher salt concentrations, nutrient leaching from soils will increase, elevating the macronutrient loads entering local streams and rivers. This study will inform decision-makers on the implications of adding road salt to CSW function and could inform future BMP use.