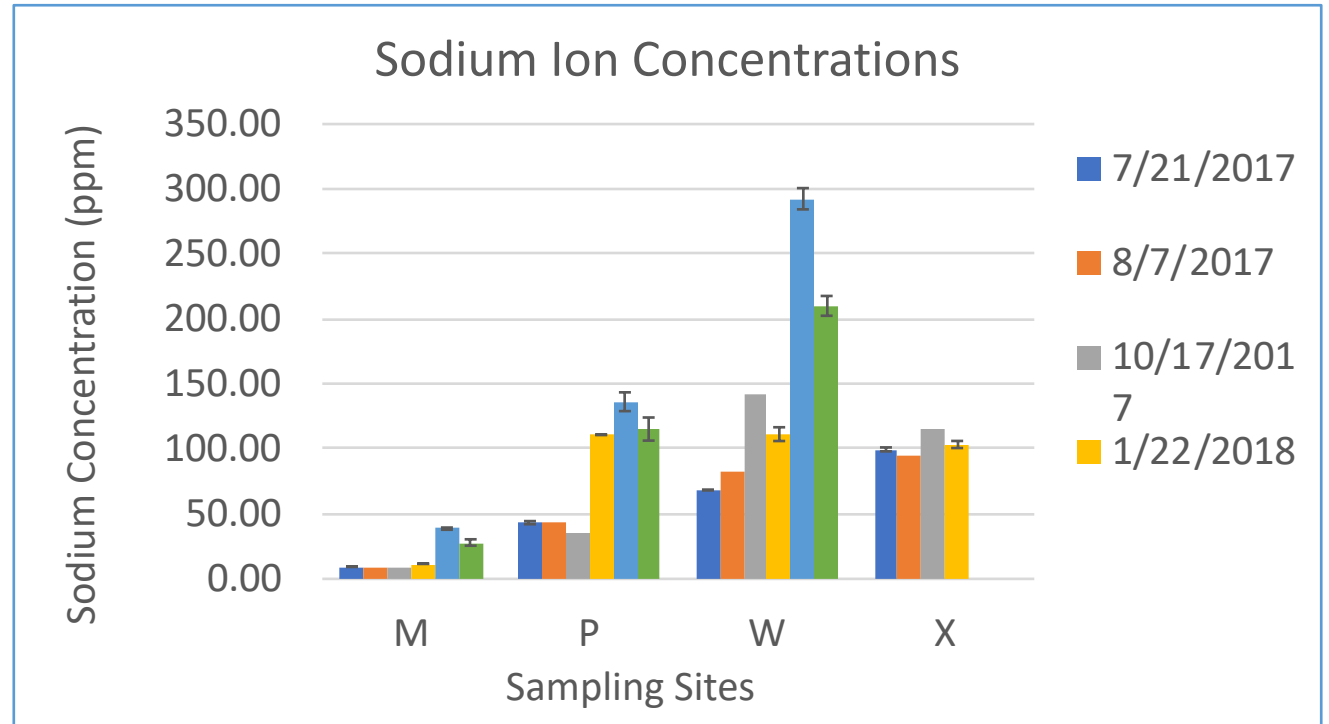


Quantitation of metal ions in surface waters in Southeastern Wisconsin

Researchers: Leah Hall and Christine Blaine

The use of common road salts, NaCl and CaCl₂, in the winter results in melting snow and spring rains washing these ions off impervious pavements into surrounding surface waters. High concentrations of sodium and chloride ions in these waters are known to be hazardous to aquatic life. Sodium, magnesium, calcium and chloride ion concentrations are quantified in the Pike River, Lake Michigan and the surrounding watershed. Data supports an increase in chloride ion concentration from fall to spring months. Preliminary data from metal ion concentrations are [Na⁺] = 43.7±1.4 ppm, [Mg²⁺] = 25.9±0.8 ppm and [Ca²⁺] = 62.6±1.2 ppm. Seasonal monitoring will determine whether increases in these metal ion concentrations are seen from road salt runoff into the Pike River Watershed.



Leah Hall '19 worked on this project during Summer 2017 and the 2017-18 academic year. Leah is a Noyce Scholar and plans to teach high school chemistry upon graduation.