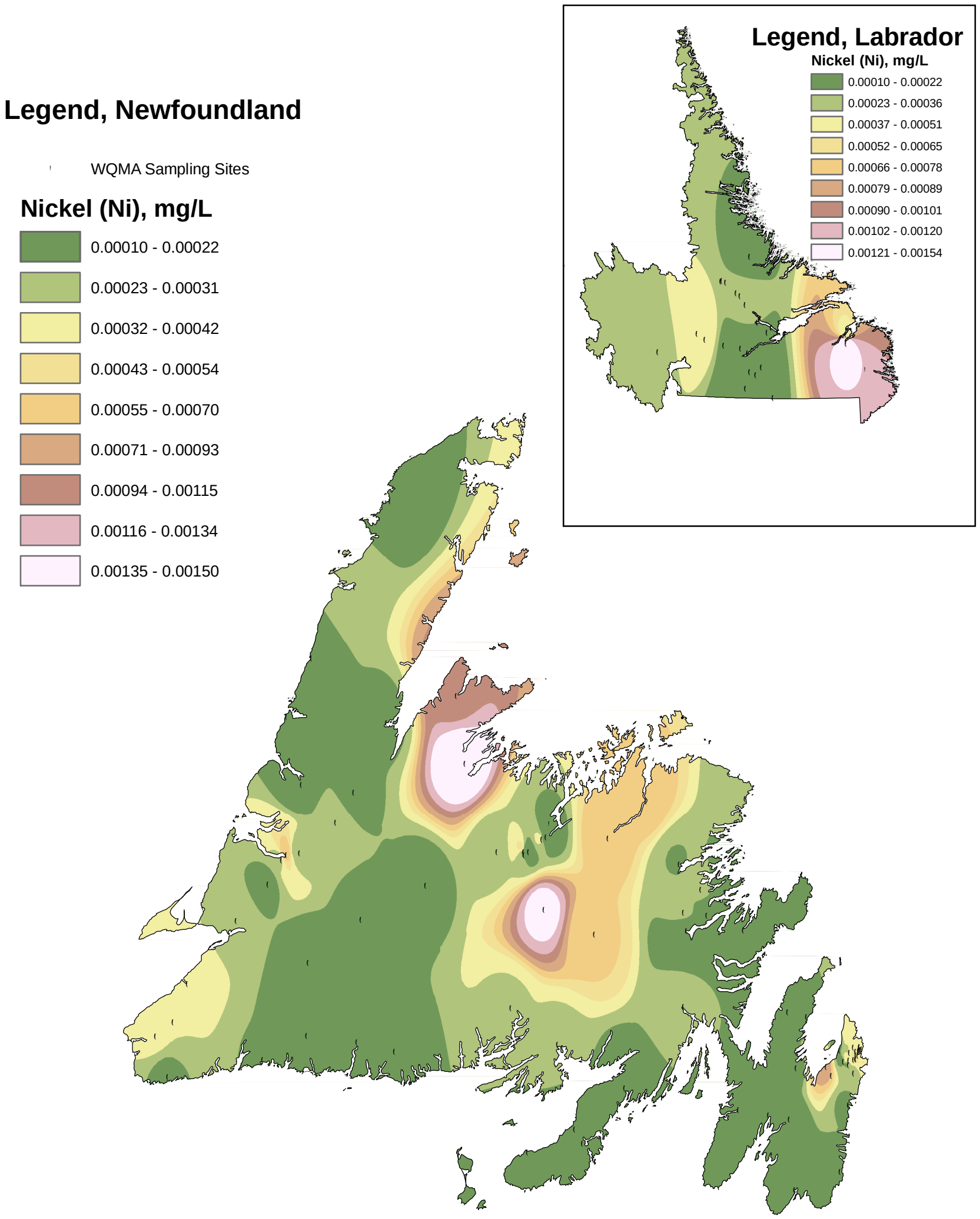
Nickel Contours Based on Canada-Newfoundland Water Quality Monitoring Agreement Data



A contour map displays regions, each of which represents a constant value for a particular parameter. These regions are approximations based on average recorded values at WQMA sites for all data collected between 1985-2000. The contour regions were estimated using a geostatistical approach known as Inverse Distance Weight (IDW), with a power of 5. The maps will be updated for every five years of new water quality data collected. Values are compared against the Canadian Council of Ministers of the Environment Water Quality Guidelines for the Protection of Aquatic Life.

Nickel levels in the province are primarily a result of geology, but it is also a known emission from thermal generation plants. The burning of fossil fuel can elevate levels of nickel, as can metal smelting. In addition, abandoned vehicles near waterbodies can affect nickel levels. The nickel guideline for the Protection of Aquatic Life is 0.025-0.125 mg/L. The guideline value is represented as a range because nickel is dependent on the presence of other water quality parameters such as hardness (the concentration of $CaCO_3$), and needs to be adjusted for site specific conditions. Levels in the province are well below the conservative guideline value of 0.025 mg/L.

Government of Newfoundland and Labrador
Department of Environment and Conservation
Water Resources Management Division

Environment Canada

Environnement Canada