

Beaverlodge Quantitative Site Model

The Beaverlodge Quantitative Site Model (QSM) was developed in 2012 and was the accepted tool utilized by Cameco to support risk-based decision making regarding the expected benefit of additional remediation of historic constituents of potential concern (COPC) sources at the decommissioned Beaverlodge properties. It included a watershed dispersion model, coupled with a pathways model to assess natural recovery and potential risks to human and ecological receptors. The QSM was updated in 2014, incorporating an extended timeframe for the dispersion modelling to provide additional insight into the expected long-term water quality in the region.

Results from the QSM were used to establish water quality Performance Indicators to monitor natural recovery and evaluate site conditions to prepare the decommissioned properties for entry to the Institutional Control (IC) program.

The 2020 Environmental Risk Assessment (ERA) represented an update to the QSM by migrating modelling inputs into a probabilistic modelling framework. Model assumptions were revisited based on the current understanding of the environmental conditions, which were informed by almost 40 years of monitoring results. The 2020 ERA demonstrated that based on reported use of the land, there are not expected to be risks to humans residing near or consuming food from areas surrounding the decommissioned Beaverlodge properties. Therefore, living a traditional lifestyle and consuming country foods from the area, while respecting the water and fish advisories, can safely continue.

A summary of the 2020 ERA can be found [here](#).

