

Water quality of the Porcupine River



Drilling a hole in the ice for winter sampling at the Porcupine River station.

The Porcupine River above Old Crow River is one of 14 water quality sampling stations in Yukon as part of the Canada-Yukon Water Quality Monitoring Network. This site has been monitored on a monthly basis since 1992 and is currently monitored by the Game Guardian from Vuntut Gwitchin First Nation. The data collected at this station is used to calculate a Water Quality Index (WQI).

What is the WQI?

The purpose of the Water Quality Index is to provide a general idea of water quality conditions at a site. Every three years, the water quality index for a site is calculated, which produces a single value between 0 (poor) and 100 (excellent). These values are grouped to give an idea of the aquatic health of the site (see WQI categories). The natural water quality and potential concerns differ for each site and therefore different sets of parameters are measured. The set of parameters used to calculate the WQI at the Porcupine River are alkalinity, copper, nitrogen, phosphorous, lead, pH, selenium, sulphate, temperature and zinc.

Why is monitoring important?

Clean water is an essential element for healthy aquatic ecosystems, but as humans continue to develop the surrounding landscape, the quality of water can become jeopardized. By monitoring surface water throughout Yukon and Canada, we can assess the current and trending health of lakes, rivers, and streams.

Results

2017-2019 is the first period for which a WQI score has been calculated at the Porcupine River. The 'fair' result is most likely caused by naturally elevated metal concentrations, common across Yukon. A 'Fair' score means the aquatic life is generally healthy and stable, but at times may be negatively affected by poor water quality conditions.

WQI scores of the Porcupine River

	2017- 2019
WQI Score	70.4

WQI categories:

Excellent (95-100)	Aquatic life is not threatened or impaired. Measurements never or very rarely exceed water quality guidelines.
Good (80-94)	Aquatic life is protected with only a minor degree of threat or impairment. Measurements rarely exceed water quality guidelines and, usually, by a narrow margin
Fair (65-79)	Aquatic life is protected, but at times may be threatened or impaired. Measurements sometimes exceed water quality guidelines and, possibly, by a wide margin.
Marginal (45-64)	Aquatic life frequently may be threatened or impaired. Measurements often exceed water quality guidelines by a considerable margin.
Poor (0-44)	Aquatic life is threatened, impaired or even lost. Measurements usually exceed water quality guidelines by a considerable margin.

