



April 24, 2014

**From:** Chris Schell, Senior Ecosystem Biologist, Resource Management Division, Smithers, BC

**To:** Chris Hamilton, Executive Project Director, Environmental Assessment Office

**Re:** Resident Fish Values to be considered for Morrison Lake as part of the EAO review of the Morrison Copper Gold Mine Project.

From a fisheries perspective, the focus of the Morrison Environmental Assessment Office review has been on Morrison Lake as a sockeye salmon nursery lake. This likely represents the key value from a First Nations perspective, but from a resident angler perspective, Morrison Lake is known for lake trout (*Salvelinus namaycush*). Lake trout is a slow growing, late maturing species of special concern in the Skeena Region, due primarily to its vulnerability to overfishing. Like most *Salvelinus* species, it is a cold water specialist, and avoids the epilimnion (warmer, upper layer of the lake) in the summer. It is angled primarily from boats, using downrigging gear to access deeper water; and by ice fishing. Provincial Angling Guide databases show that since 1990/91, an average of 26 rod days per year were spent on Morrison Lake. Rainbow trout was the most abundant species captured, with lake trout the next most abundant and the largest size fish in the catch.

FLNRO has highlighted lake trout during the original EAO review of the project. Lake trout's affinity for deeper water, its long life, and its value as a sport fish means that this species is well suited for bio-monitoring. Juvenile sockeye salmon will be exposed to mine effluent for 1-2 years, before they smolt and migrate to the ocean. Lake trout are a resident species that live up to 28 years in Morrison Lake, primarily occupying the deep water where the mine effluent is released. Long-term chronic exposure to mine effluent, potential bio-accumulation, and a sport fish that could be rendered unsafe to eat, all highlight the need for monitoring and mitigation of mine effects on Morrison Lake lake trout.