



Lake information

WATERSHED	LAKE CLASS
Yukon Headwaters	F
SURFACE AREA	ELEVATION
20,099 ha	628 m
MAXIMUM DEPTH	AVERAGE DEPTH
146 m	54 m
SURFACE TEMP	REGULATIONS
14.5°C	Conservation Waters
SAMPLING DATES	NET SETS
July 16 – July 23	135

Location

Lake Laberge is located approximately 47 km north of Whitehorse, on the North Klondike Highway. This lake is found within the Traditional Territories of the Ta'an Kwäch'än Council and Kwanlin Dün First Nation. This lake is part of the Yukon River and influenced by the Whitehorse Rapids Generating Station.

Access and Use

Lake Laberge is accessed through a public boat launch, which is available at a government campground. There are several private residences along the lake shore. Historically, lake trout in this lake were depleted by commercial fishing in the early 1900s.

Lake Laberge 2024

Overall status

Lake trout

The 2024 survey results for Lake Laberge indicate that the lake trout population remains sustainable, with the ongoing recruitment and a continued presence of larger, older individuals. Compared to the 2016 survey, both population size and catch rates have increased.

Lake whitefish

The 2024 Lake Laberge survey indicated a sustainable population of lake whitefish. The population showed favourable recruitment and a continued presence of older individuals.

Recommendation

Lake Laberge's water levels are partially regulated by the Whitehorse Rapids Generating Station. Fluctuating water levels have the potential to impact the lake trout population, particularly during critical life stages. Therefore, long-term monitoring of this population should continue, with comparative analyses conducted to detect any changes over time. Monitoring efforts should focus on catch-per-unit effort, age and growth patterns, and stock structure analysis.

Lake trout

During the 2024 survey of Lake Laberge a total of 154 lake trout were captured.

Population estimate and density

The lake trout population estimate was **68,600** (estimate range: 1,429 – 135,780). This equates to a density of 3.4 large-bodied lake trout per hectare.

Length and weight

Lake trout were sampled, ranging in size (fork length) from 292 mm to 744 mm. The sampled fish had an average length of 498 mm and an average weight of 1,608 g.

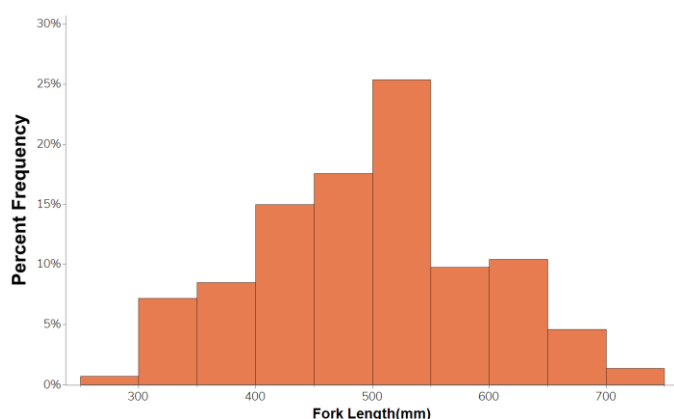


Figure 1. Length frequency distribution of sampled lake trout in Lake Laberge (2024), n = 154.

Age and growth

Age structures were obtained from 106 lake trout. Ages ranged from 5 to 38 years.

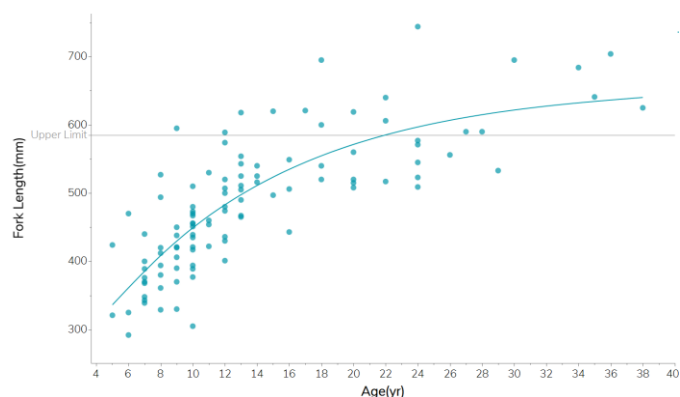


Figure 2. Von Bertalanffy growth curve of age analyzed sampled lake trout in Lake Laberge (2024), n = 106. The horizontal line shows the current upper slot limit.

Lake whitefish

Overview

A total of 146 lake whitefish were captured during the 2024 survey. The size of these fish ranged from 236 mm to 599 mm in length, with an average fork length of 373 mm and an average weight of 663 g. Age structures were obtained from 97 lake whitefish. Ages ranged from 4 to 26 years.

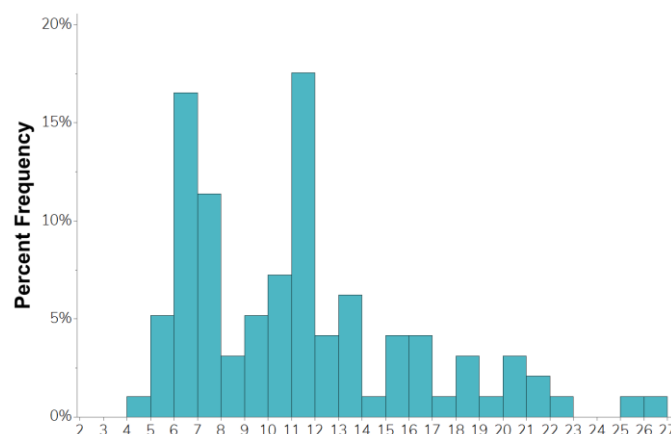


Figure 3. Age frequency distribution of sampled lake whitefish in Lake Laberge (2024), n = 97.

Temperature and dissolved oxygen

The temperature profile displayed a gradual decline from the surface to 20. Optimal summer temperatures for lake trout occurred between 11 m and 25 m. Dissolved oxygen remained stable and optimal throughout the water column.

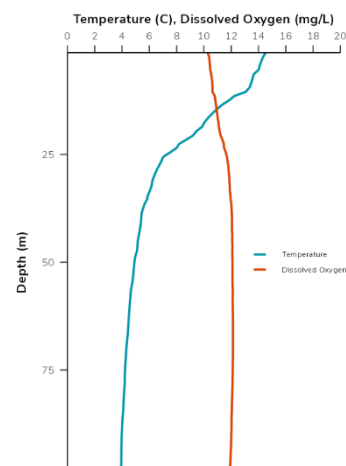


Figure 4. Temperature (C) and dissolved oxygen (mg/L) as measured in Lake Laberge on July 22, 2024.

Suggested citation:

Government of Yukon. 2025. Lake Trout and Lake Whitefish Monitoring Program: Lake Laberge 2024. Government of Yukon, Whitehorse, Yukon, Canada.