



Lake Information

WATERSHED	LAKE CLASS
Stewart	E
SURFACE AREA	ELEVATION
9,963 ha	583 m
MAXIMUM DEPTH	AVERAGE DEPTH
106 m	56.5 m
SURFACE TEMP	REGULATIONS
15.1°C	Conservation Waters
SAMPLING DATES	NET SETS
July 24 – Aug 04	140

Location

Mayo Lake is located in the central Yukon, approximately 50 km northwest of Mayo, within the Traditional Territory of the First Nation of Na-Cho Nyäk Dun. Mayo Lake is the reservoir for the Mayo electrical generating station and as such, the lake levels are controlled by this facility.

Access and Use

Mayo Lake is primarily accessed from the public boat launch at the west end of the lake, near the hydro dam. There are several private residences along the northwest shore of the lake.

Mayo Lake 2013

Overall Status

Lake Trout

The lake trout population in Mayo Lake was found to be smaller in number than other comparably sized Yukon lakes. However, our confidence in the population estimate is weak. This may be due to the morphology of the lake, making it difficult to thoroughly sample.

Lake Whitefish

The lake whitefish population appeared healthy, however this population is also difficult to assess.

Recommendation

The recommendation from this survey is to increase the number of age structures obtained and analyzed. The current assessment indicated few, if any, individuals greater than 650 mm. This will allow for increased knowledge of the population structure and further management of the lake trout and lake whitefish populations within this lake.

Lake Trout

Population Estimate and Density

Lake trout population within Mayo Lake was estimated at **21,229** (estimate range: 5,603 – 37,202). This equates to a density of 2.1 lake trout per hectare; however, there was a low confidence level with this population estimate, as evident by the wide range.

Length and Weight

The sampled lake trout ranged in size from 250 mm to 835 mm in fork length, with an average length of 456 mm and an average weight 1,261 g.

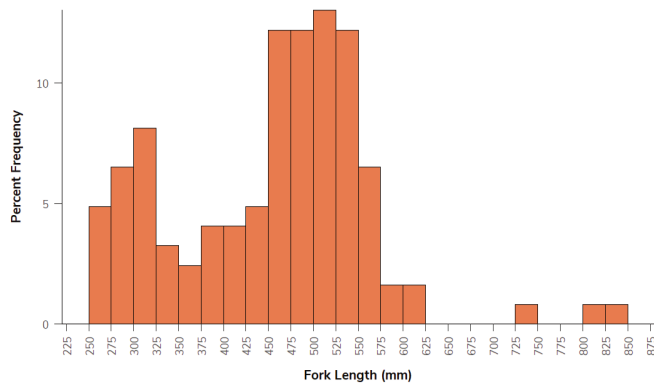


Figure 1. Length frequency distribution of sampled lake trout in Mayo Lake (2013), n = 123.

Age and Growth

Age structures were obtained from 42 individuals. Ages ranged from 6 to 41 years, with few individuals greater than 650 mm.

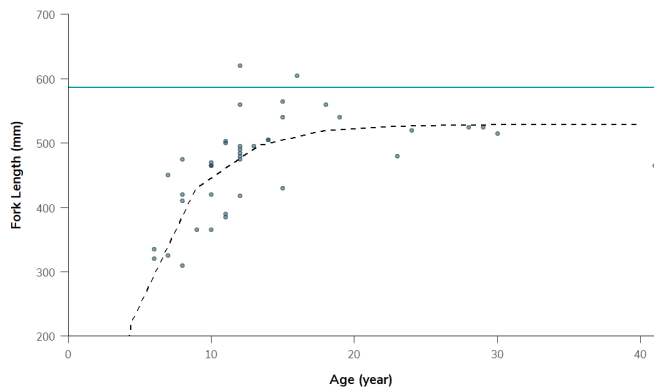


Figure 2. Von Bertalanffy growth curve of age-analyzed sampled lake trout in Mayo Lake (2013), n = 42. The horizontal line shows the current upper slot limit.

Suggested citation:

Government of Yukon. 2024. Lake Trout and Lake Whitefish Monitoring Program: Mayo Lake 2013. Government of Yukon, Whitehorse, Yukon, Canada.

Lake Whitefish

Overview

During this survey, 72 lake whitefish were captured. The captured lake whitefish ranged from 385 mm to 525 mm in fork length, with an average length of 430 mm and average weight 1,175 g. Age structures from 39 lake whitefish. Ages ranged from 7 to 30 years.

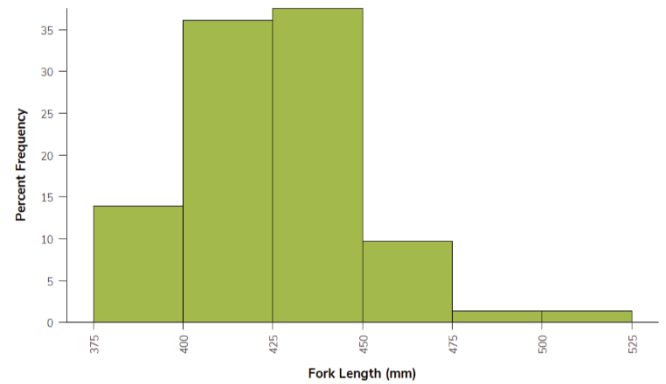


Figure 3. Length frequency distribution of sampled lake whitefish in Mayo Lake (2013), n = 72.

Temperature and Dissolved Oxygen

Temperature and dissolved oxygen profiles were taken within the Main arm, Roop arm and Nelson arm of the lake. Each of the three lake arms were stratified in temperature, displaying a thermocline between 6 m and 12 m in depth. Dissolved oxygen levels were found to be suitable for lake trout throughout the water column in all three arms.

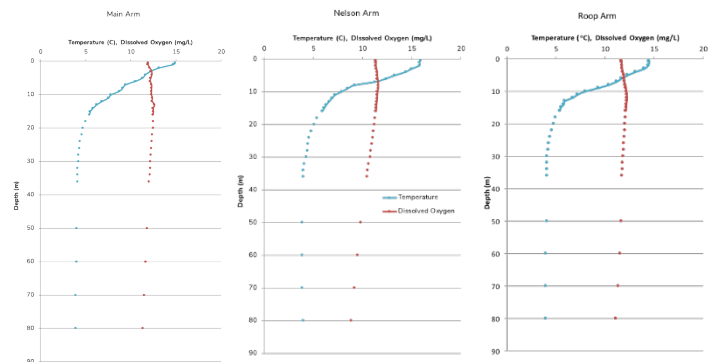


Figure 4. Temperature (C) and dissolved oxygen (mg/L) as measured in the Main Arm, Nelson Arm and Roop Arm of Mayo Lake in July 2013.