



Ethel Lake 2022

Lake information

WATERSHED	LAKE CLASS
Upper Stewart	D
SURFACE AREA	ELEVATION
4610 ha	760 m
MAXIMUM DEPTH	AVERAGE DEPTH
62 m	31 m
SURFACE TEMP	REGULATIONS
13.4°C	Conservation waters
SAMPLING DATES	NET SETS
July 24 – 27	80

LOCATION

Ethel Lake is located approximately 20 km east of Stewart Crossing. Ethel Lake is in the Traditional Territory of the First Nation of Na-Cho Nyäk Dun.

ACCESS AND USE

A seasonal access road is located approximately 10 km south of Stewart Crossing, off the Klondike Highway. At the western end of Ethel Lake, there is a government campground and boat launch, as well as private residences. There is also a First Nation of Na-Cho Nyäk Dun cultural camp on the shores of Ethel Lake.

Overall status

Lake trout

The 2022 lake trout population estimate was four times larger than the previous 2011 population estimate. The reason for this increase in population is unknown.

Lake whitefish

In 2022, 120 lake whitefish were caught; a large increase from the 2011 survey. Additional species sampled included: Arctic grayling and round whitefish.

Recommendation

As Ethel Lake supports both small- and large-bodied lake trout, an angler harvest survey should be conducted to assess harvest levels, as well as the length and age composition of the fish being harvested.

Lake trout

Overview

A total of 110 lake trout were captured during the 2022 survey, 105 of which were sampled.

Population estimate and density

The lake trout population was estimated at **38,200** (estimate range: 19,501 –57,370). This equates to a density of more than 8 lake trout per hectare.

Length and weight

Sampled fish ranged from 301 mm to 907 mm in fork length, with an average length of 548 mm and weight of 1,981 g.

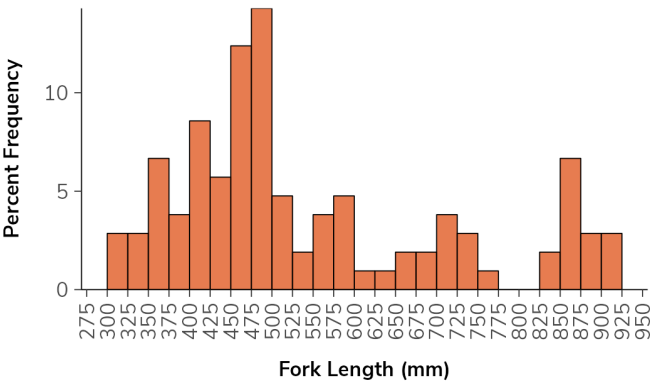


Figure 1. Length frequency distribution of sampled lake trout in Ethel Lake (2022), n = 105.

Age and growth

Age structures were taken from 85 lake trout. Ages ranged from 7 to 40 years. Results indicate that there may be both large and small-bodied populations residing in Ethel Lake.

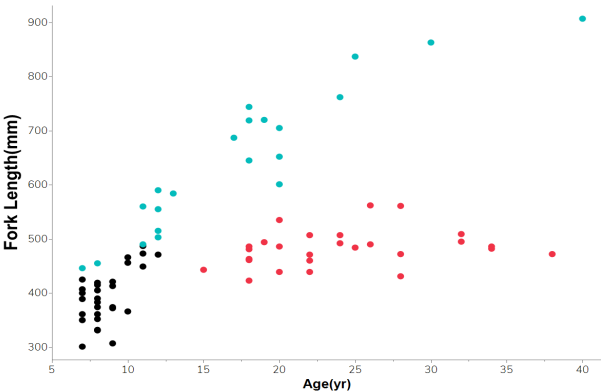


Figure 2. Von Bertalanffy growth curve of lake trout in Ethel Lake (2022, n=85). Blue indicates large-bodied, red indicates small-bodied lake trout.

Suggested citation:

Government of Yukon. 2025. Lake Trout and Lake Whitefish Monitoring Program: Ethel Lake 2022. Government of Yukon, Whitehorse, Yukon, Canada.

Lake whitefish

Overview

During this survey, 98 lake whitefish were captured, 89 of which were sampled.

Length & weight

Sampled lake whitefish ranged in fork length from 243 mm to 539 mm, with a mean fork length and weight of 434 mm and 1,121 g, respectively. Age structures were analyzed from 49 lake whitefish. Ages ranged from 5 to 23 years, with a mean age of 16.

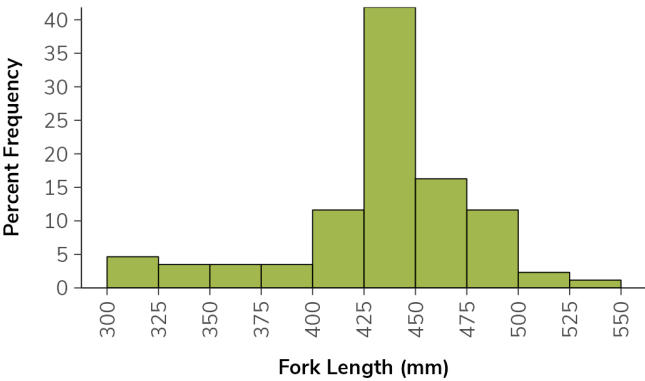


Figure 3. Length frequency of lake whitefish as sampled in Ethel Lake (2022), n = 89.

Temperature and dissolved oxygen

The profiles of oxygen and temperature indicated water conditions were suitable for lake trout. However, optimal habitat occurred between 12 m down to the bottom.

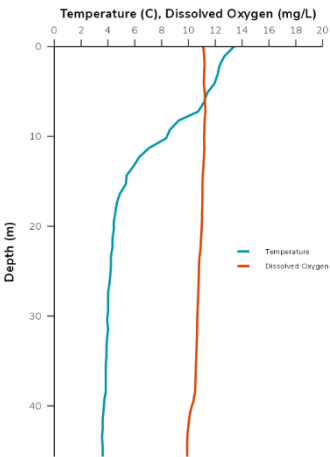


Figure 4. Temperature (C) and dissolved oxygen (mg/L) as measured in Ethel Lake, July 24, 2022.