

Cold Lake

Fisheries Management Zone NB1

Background

Cold Lake is a large (37,300 hectares), cool relatively unproductive lake with a mean depth of 50 m and a maximum depth of 99 m. Approximately 70% of the surface area falls within Alberta, with the remainder in Saskatchewan, creating a unique management situation. The lake supports populations of over 20 species of fish, including lake trout, walleye, Northern pike, burbot, and lake whitefish.

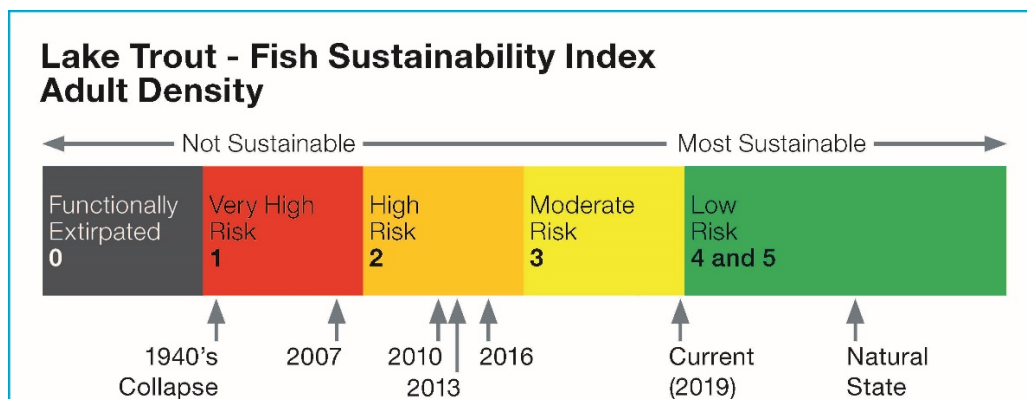
- The lake trout population was virtually collapsed by the late 1940's and catches remained low for decades.
- Interprovincial allocation agreements began in 1987; Alberta and Saskatchewan placed a shared limit on lake trout. Increasingly restrictive harvest limits for lake trout were put in place for both recreational and commercial fisheries. To this day, lake trout and lake whitefish are managed within the existing interprovincial allocations.
- Monitoring over the last 15 years has shown that the trout population has been steadily increasing, to the point where it is at a lower level of risk to sustainability.
- 2012 winter/summer angler surveys suggest that total angling effort was approximately 130,000 angling hours, with the summer fishery accounting for over 75% of the effort. Summer angling effort had more than tripled since the 1990's.

Current Sportfishing Regulations

- Open May 15 to March 31
- Lake trout – one fish over 75 cm; zero harvest limit for lake trout September 15 to November 15
- Walleye – three fish over 50 cm
- Northern pike – one fish over 63 cm
- Yellow perch - 15 fish, no size limit
- Burbot – 10 fish, any size
- Lake Whitefish – 10 fish, any size

Fisheries Management Considerations

Lake trout populations are assessed through a Summer Profundal Index Netting (SPIN) surveys, a standardized technique used by biologists to measure fish populations. SPIN surveys were conducted in 2007, 2010, 2013, 2016, and 2019 in Cold Lake. The 2019 SPIN survey indicated that the abundance of lake trout in Cold Lake was in the moderate-low risk category on the draft Fish Sustainability Index (FSI) for Lake Trout. The current status allows us to explore harvest regulation options.



Disclaimer: This FSI chart is in draft form and the risk categories have not been finalized. Placement of arrows are approximate within some categories.

Lake Trout Life History

- Lake trout are a cold water species and typically avoid water temperatures above 12°C.
- Lake trout can live a long time. The oldest lake trout we have recorded in Cold Lake was 40 years old.
- Lake trout in Cold Lake are a fall spawning fish and begin spawning at approximately 60 cm in total length.
- The current 75 cm total length harvest limit provides up to 10 years of spawning protection on average for lake trout in Cold Lake.
- There is little difference between the size of male and female lake trout after maturity. The assumption that “all the big fish are female” is not true for lake trout in Cold Lake.
- Lake trout are physostomous, meaning they have a duct connecting their swim bladder to their gut. This allows lake trout to 'burp' air to relieve pressure so they can move from deep water to shallow water while following their favorite prey, cisco.