

Alberta Conservation Association
2023/24 Project Summary Report

Project Name: Lake Aeration

Fisheries Program Manager: Peter Aku

Project Leaders: Andrew Clough, Troy Furukawa, Brad Hurkett, and Dave Jackson

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Partnerships

Alberta Fish & Game Association

Thorhild County

Aquality Environmental Consulting Ltd.

West Fraser – Edson Forest Products

Clear Hills County

County of Barrhead

County of Northern Lights

Edmonton Trout Fishing Club

Government of Alberta

Mercer Peace River Pulp Ltd.

Mountain View County

Municipal District of Bonnyville

Municipal District of Greenview No. 16

Northern Lights Fly Fishers – Trout

Unlimited Canada

Northern Sunrise County

Parkland County

Saddle Hills County

Key Findings

- Aerated 22 waterbodies to help maintain dissolved oxygen levels suitable for year-round survival of stocked trout, thereby creating angling opportunities that would otherwise not exist.
- Received increase partnership funding from Mercer Peace River Pulp Ltd. to support the Sulphur Lake aeration site.
- Discontinued aeration of Spring Lake (NE) due to limited public access to the lake.

Details

Alberta Conservation Association (ACA) uses lake aeration as a fisheries management technique to provide Albertans with diverse recreational angling opportunities in areas of the province where such fishing opportunities would be otherwise limited. Aerated waterbodies are typically shallow and eutrophic, experience prolonged ice cover, and are susceptible to summer and winter fish kills. Our primary objective is to promote year-round survival of stocked trout in aerated lakes by maintaining dissolve oxygen (DO) concentrations above 3 mg/L. We use three aeration techniques: mechanical surface aeration, diffuser aeration, and fall destratification aeration. During aeration, we monitor water quality at each waterbody by collecting monthly DO and temperature profiles at 1-metre intervals at multiple stations. During winter, we visit each site regularly as per ACA's Winter Lake Aeration Public Warning and Protection Procedures Protocol to monitor equipment functionality and record compliance with public safety liability requirements. In 2023/24, we aerated 22 waterbodies across the province, all of which successfully overwintered stocked trout without any reported fish kills. This year we dropped Spring Lake (NE) from our project because of access restrictions that limit the public from using the lake; Edmonton Trout Fish Club has taken over aerating the lake using aeration equipment donated by ACA.

Photos



Photo 1. Surface aerators running after installation at Sulphur Lake. Photo: Dave Jackson



Photo 2. Hasse Lake aeration in subfreezing conditions. Photo: Troy Furukawa



Photo 3. Assessing ice conditions at Hansens Reservoir in late fall before installing the safety fence. Photo: Andrew Clough.