

Alberta Conservation Association
2020/21 Project Summary Report

Project Name: Fish Stocking, New Lakes

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Partnerships

Alberta Environment and Parks

Alberta Fish & Game Association

Alberta Transportation

County of Grande Prairie

Evelyn Wadey

Saddle Hills County

Taber Irrigation District

Town of Taber

Key Findings

- Recommendations from stakeholders and regional fisheries biologists identified five waterbodies as potential trout stocking sites for evaluation.
- Desktop and field evaluation of these five waterbodies indicate that three (Boulder Lake, and two ponds, along Highway 63) have fisheries potential.
- Approval for stocking Chestermere Pond is pending further assessment of aquatic community composition and under-ice dissolved oxygen concentrations.
- Boulder Lake has been approved for stocking (contingent on fish barriers being installed on the inlet/outlet) and will be stocked in 2021.

Abstract

Stocked trout fisheries are popular in Alberta, with rainbow trout being the third most captured fish in Alberta (DFO 2015). Given the popularity of trout-stocked fisheries in Alberta, this project seeks to expand the number of stocked ponds through identification and screening of ponds with potential to support a stocked trout fishery. ACA and AEP collaborated to evaluate three new ponds (BP1-3) and ACA evaluated one additional new waterbody (Swan Reservoir) and one waterbody identified in 2019 (Boulder Lake). Three of five ponds were suitable for further investigation. Chestermere Pond, a candidate pond from 2017, remains promising and is undergoing further evaluation. Boulder Lake, identified in 2019 and evaluated in 2020, will be stocked in 2021.

Introduction

Alberta Conservation Association (ACA) stocks over 60 waterbodies with catchable-sized trout (i.e., 20 cm) under its Fish Stocking (FS) project. Stocked trout fisheries are popular in Alberta, with rainbow trout being the third most captured fish in Alberta (DFO 2015). FS ponds can receive upwards of 2,000 angler hours per hectare during the summer months (Fitzsimmons and Keeling 2015), making them some of the most intensely fished waterbodies in the province. Being within a reasonable driving distance of many anglers contributes to the popularity of FS ponds. To expand our FS project, ACA is working to identify new waterbodies to stock and/or develop.

Methods

Over the past five years we have evaluated a total of 230 waterbodies using Google Earth © (2020) imagery supplemented with input from regional fisheries biologists and stakeholders. Priority was given to waterbodies within a 50 km radius of a large urban centre. We used satellite imagery and provincial fisheries database queries to eliminate unsuitable waterbodies based on attributes including potential for fish escapement, presence of trout predators, water depth (excessive weed growth), overlap with sensitive amphibian habitat, and potential for user conflict (e.g., on a golf course). Four of the five waterbodies we evaluated in 2020 passed initial screening processes and were suitable for further field evaluation.

In collaboration with ACA, Alberta Environment and Parks (AEP) completed field assessments on three waterbodies along Highway 63 (BP1-3) near Ft. McMurray, while ACA evaluated one additional waterbody (Boulder Lake, identified in 2019) in 2020. We assessed the waterbodies to determine physical, chemical, and biological suitability for recreational trout fishing. At each waterbody we measured water depth, dissolved oxygen, temperature, conductivity, pH, water clarity, and noted aquatic weed abundance, shoreline characteristics, and accessibility to the public. Chestermere Pond, a candidate from 2017, remains promising; we are collecting additional community composition data and under-ice DO to determine suitability for trout stocking.

Results

Two of the three waterbodies along Highway 63 (BP1 and BP 2) assessed by AEP appear to have suitable DO, temperature, pH, and ammonia concentrations to support stocked trout and evaluation is ongoing to gather more information (Table 1). Boulder Lake was evaluated in 2020 and approved for fish stocking in 2021. Chestermere Pond is undergoing further assessment of aquatic community composition and under-ice dissolved oxygen concentrations (Figure 1).

Since 2015, three waterbodies have been developed into fisheries through the FS New Lakes project and stocked with trout: Taber Pond, Shell True North Pond, and County Sportsplex Pond.

Table 1: Water quality parameters collected during the summer, from 1m depth, from candidate ponds to determine suitability for trout survival.

Waterbody	DO (mg/L)	Temperature (°C)	pH	Total Ammonia (mg/L)	Overwintering Potential
BP1	7.67	19.6	8.19	0.035	Y
BP2	7.82	19.3	N/A	N/A	Y
Boulder	7.26 ± 0.04	19.7 ± 0.1	8.39 ± 0.09	0.037 ± 0.01	N
Chestermere	11.1 ± 0.8	19.8 ± 0.06	8.9 ± 0.2	0.02	Y

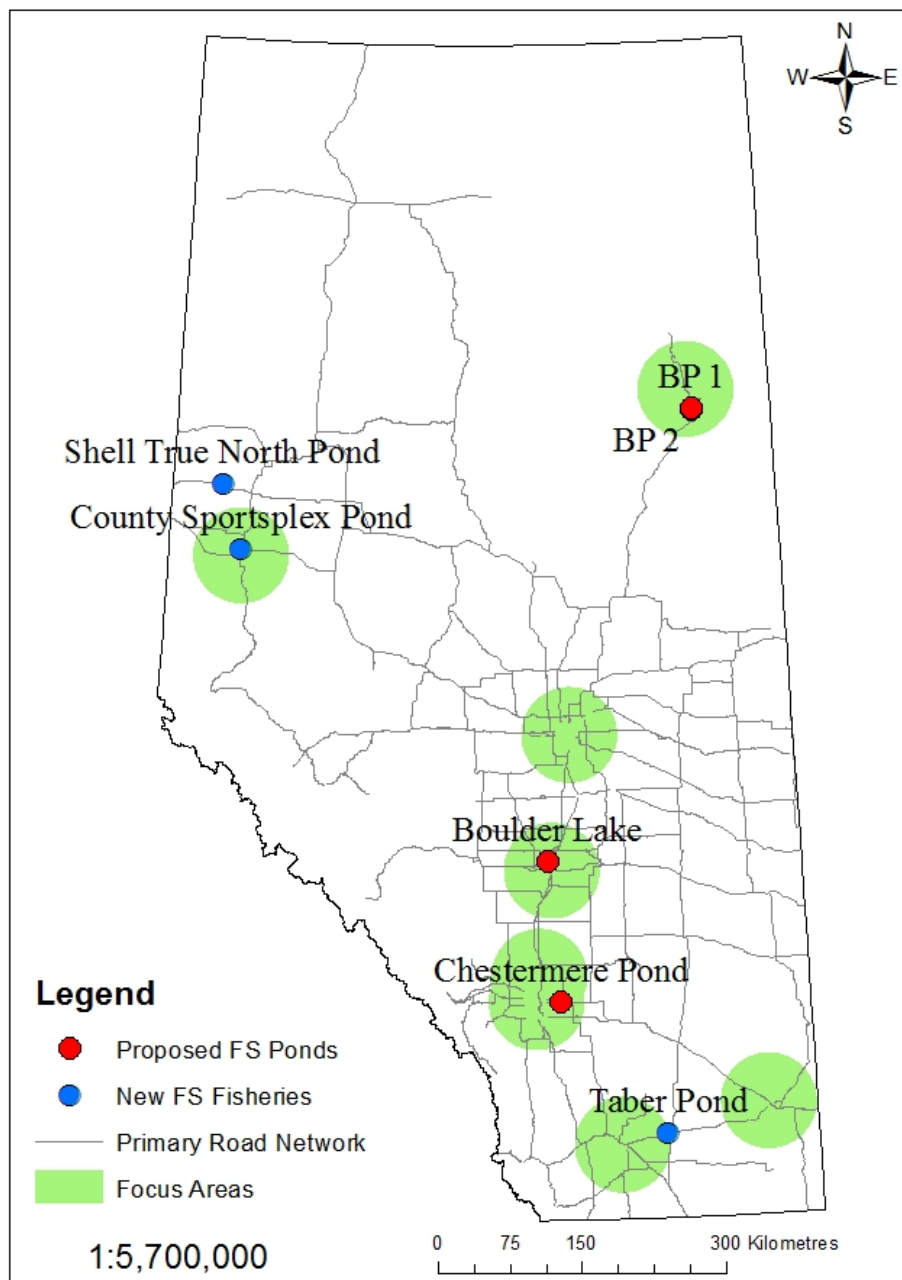


Figure 1: Provincial focal areas for FS expansion, including 50 km buffers, new FS fisheries developed over last five years, and candidate ponds undergoing evaluation.

Conclusions

There are a limited number of waterbodies that are suitable for trout stocking under FS expansion. Nonetheless, we have added three new fisheries with an additional fourth on the way. All three ponds have been very well received as anglers take advantage of these new opportunities. This project continues to find and develop quality fisheries, creating new fishing opportunities near large urban centers.

Communications

- ACA brochure “Remember the Old Fishin’ Hole? Let’s bring that back.”

Literature Cited

DFO (Department of Fisheries and Oceans Canada). 2019. Survey of recreational fishing in Canada, 2015. DFO, Ottawa.

Fitzsimmons, K., and B. Keeling. 2015. Survival of stocked trout and a creel based sport fishery assessment of 12 Alberta Conservation Association stocked ponds. Data Report, produced by the Alberta Conservation Association, Sherwood Park, Alberta, Canada.

Photos



Candidate waterbody for fish stocking expansion, Boulder Lake, 12 km northwest of Red Deer, Alberta. Photo: Marco Fontana



An abundance of brook stickleback and other fish food sources captured in Chestermere Pond during field assessment. Photo: Logan Redman