

**Alberta Conservation Association
2019/20 Project Summary Report**

Project Name: ACA Fish Stocking Evaluation

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Partnerships

Alberta Environment and Parks

Key Findings

- Angler effort ranged from 22 hours/ha at Bow City East Ponds to 961 hours/ha at Taber Pond.
- Angler effort at Fort Lions Community Fish Pond was quite low following an experimental stocking with yellow perch.

Abstract

In 2019, ACA stocked 103,255 catchable trout (rainbow, brown, and brook trout) into 61 ponds. One pond was experimentally stocked with 1,200 yellow perch in 2018. Using trail cameras to collect angler use data allowed us to estimate angler effort at two trout ponds and at a pond stocked experimentally with yellow perch. Angler effort ranged from 21 hours/ha at Bow City East Pond to 960 hours/ha at Taber Pond. Angler effort at Fort Lions Community Fish Pond, a yellow perch pond, was 63 hours/ha. Our results suggest that angler use was highly variable and despite the introduction of a new species, can remain low. Our results continue allowing us to better manage our stocking practices and evaluate site management options serve Alberta anglers

better.

Introduction

In 1998, Alberta Conservation Association (ACA) assumed responsibility for delivering the Enhanced Fish Stocking Project (hereafter referred to as Fish Stocking (FS)), with the objective to provide increased angling opportunities to Albertans by stocking catchable-sized (≥ 20 cm) rainbow trout in parts of the province where angling opportunities are limited. In 2019, we stocked 103,255 catchable trout (rainbow, brown, and brook trout) into 61 ponds, and one pond was stocked with 1,200 yellow perch in 2018. Most waterbodies are small and situated near densely populated areas, making them popular family destinations. As a result, these stocked ponds can have substantial angling pressure. In 2019, we estimated angling effort on three ponds, two of which were stocked with trout and the third stocked with yellow perch.

Methods

We used trail cameras to collect hourly angler counts at three ponds (Table 1) between May 15 and August 31. Cameras were programmed to take photographs daily from 0500 to 2200 hours and were attached to stationary structures (e.g., power pole or tree) or to a sign channel (vanPoorten et al. 2015). Anglers in each photograph were counted, and these instantaneous counts were used to estimate mean angler counts and angling effort (hours) for the season. Our estimates will be combined with previously estimated effort to help evaluate the FS project and work towards setting and achieving its objectives and goals.

Results

Estimated total angler effort ranged from 22 to 6,446 hours at Bow City East Pond and Taber Pond, respectively. Angler effort standardized to waterbody surface area (hours/ha), ranged from 22 h/ha at Bow City East Pond to 961 h/ha at Taber Pond (Table 1).

Table 1. Estimated total angler effort and effort per hectare at 3 waterbodies (2019).

Waterbody	Lake area	Estimated total angler effort		Estimated angler effort per ha	
	(ha)	Hours	95% CI	Hours/ha	95 %CI
Bow City East	4.00	22.28	15.02 - 28.12	22.28	15.02 - 28.12
Fort Lions Community Fish Pond	4.93	313.41	209.17 - 450.66	63.57	42.43 - 91.41
Taber Trout Pond	6.73	6,466.01	5,896.03 – 7,031.75	960.77	876.08 – 1,044.84

Conclusion

Angler effort varied greatly among the three waterbodies assessed in 2019, with effort ranging 22 hours/ha at Bow City East Ponds to 961 hours/ha at Taber Pond. Using these data, we will be able to manage stocking times and rates, species selection, and evaluate site management options (e.g., amenities, infrastructure) at individual waterbodies.

Communications

N/A

Literature Cited

van Poorten, B. T., Carruthers, T. R., Ward, H. G., & Varkey, D. A. (2015). Imputing recreational angling effort from time-lapse cameras using an hierarchical Bayesian model. *Fisheries Research*, 172, 265-273.

Photos



Photo 1. Trail camera being installed by ACA staff member for FS evaluation. Photo: John Hallett



Photo 2. Trail camera photo from the beach and dock at Taber Pond. Photo: Trail Camera