Alberta Conservation Association
2020/21 Project Summary Report

Project Name: ACA Fish Stocking Evaluation

Fisheries Program Manager: Peter Aku

Project Leader: Kevin Fitzsimmons

Primary ACA staff on this project: Kacey Barrett, Andrew Clough, Kevin Fitzsimmons

Partnerships

Alberta Environment and Parks

Key Findings

- Angler effort evaluated at 21 waterbodies ranged from 9 h/ha at Vegreville Children's Pond to 6,149 h/ha at Pleasure Island Pond.
- Range of angler effort at the 21 waterbodies suggests many ponds are performing very well as a trout pond, while others have room for improvement.

Abstract

In 2020, ACA stocked 104,955 catchable trout (rainbow, brown, and brook trout) into 64 ponds. Due to COVID-19 restrictions on our workplans, our planned field program was modified, and we used trail cameras to collect angler use data at selected waterbodies and estimate angler effort at 21 trout-stocked ponds. Angler effort ranged from 9 h/ha at Vegreville Children's Pond to 6,149 h/ha at Pleasure Island Pond. Our results suggest that angler use was highly variable, yet remains low at some ponds. Our results continue allowing us to better manage our stocking practices and evaluate site management options to serve Alberta anglers better.

Introduction

In 1998, Alberta Conservation Association (ACA) assumed responsibility for delivering the Enhanced Fish Stocking Project, 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 2020, we stocked 104,955 catchable trout (rainbow, brown, and brook trout) into 64 ponds. 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 the summer of 2019, we planned to assess the effectiveness of trout stocking in creating catchable trout at selected ponds and document the distribution of yellow perch in our trout ponds. Due to COVID-19 restrictions in the spring and summer of 2020, our planned field program was modified, and we used trail cameras to collect angler use data that allowed us to estimate angler effort at 21 trout-stocked ponds.

Methods

We used trail cameras to collect hourly photos at 21 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, tree) or to a sign channel following vanPoorten et al. (2015). Anglers in each photograph were counted, and these instantaneous counts were used to estimate mean angler counts and angling effort (total hours (h) and hours/ha (h/ha)) for the season. Our estimates will be combined with previously estimated effort to help evaluate our stocking program and work towards improving angling at our stocked ponds.

Results

Estimated total fishing pressure ranged from 9 h/ha at Vegreville Children's Pond to 6,149 h/ha at Pleasure Island Pond (Table 1). This suggests many trout stocked ponds are performing very well as a fishery, while others have room for improvement.

Table 1.   Estimated total angler hours and fishing pressure at 21 trout ponds stocked by ACA (2020).

Waterbody	Pond surface area (ha)	Estimated total angler effort		Estimated fishing pressure	
		Hours	95% CI	h/ha	95 % CI
Vegreville Children's Pond	1.4	12	2-23	9	2-17
Two Hills Pond	1.3	36	17 - 57	28	13 - 44
Foremost Reservoir	4.9	157	89 - 239	32	18 - 49
McQuillan Reservoir	9.3	348	263 - 439	37	28 - 47
East Stormwater Pond (Lacombe)	1.6	73	50 - 101	46	31 - 63
Stirling Children's Pond	1.8	311	224 - 405	68	49 - 89
Lamont Reservoir	5.6	497	403 - 594	89	72 - 106
Taber Trout Pond	6.7	647	547 - 751	96	81 - 112
Gooseberry Park Pond	11.3	1,252	862 – 1,684	111	76 - 149
Anderson Dam	2.0	267	201-338	131	98-165
Shell True North Pond	0.8	339	283 - 398	140	117 - 165
Wallace Park Pond	0.5	130	96 - 166	268	198 - 343
Emerson Pond	4.5	1,361	1,223 – 1,502	299	269 - 330
Beaumont Pond	2.5	1,105	964 – 1,248	451	393 - 509
Morinville Lake	12.9	6,742	5,991 – 7,524	522	464 - 582
Innisfree Trout Pond	1.45	839	733-950	579	506-654
Len Thompson Pond	2.0	1,608	1,466 - 1754	808	736 - 881
Niemela Reservoir	2.2	4,226	3,870 – 4,598	1,938	1,775 – 2,109
Telegraph Park Pond	2.2	5,238	4,901 – 5,579	2,425	2,269 – 2,583
Hermitage Park Pond	5.2	2,9358	27,940 – 30,778	5,646	5,373 – 5,919
Pleasure Island Pond	2.3	14,082	13,341-14,823	6,149	5,826-6,473

Conclusion

Angler effort varied greatly among the 21 waterbodies assessed in 2020 ranging from 9 h/ha at Vegreville Children's Pond to 6,149 h/ha at Pleasure Island 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 to better suit Alberta anglers.
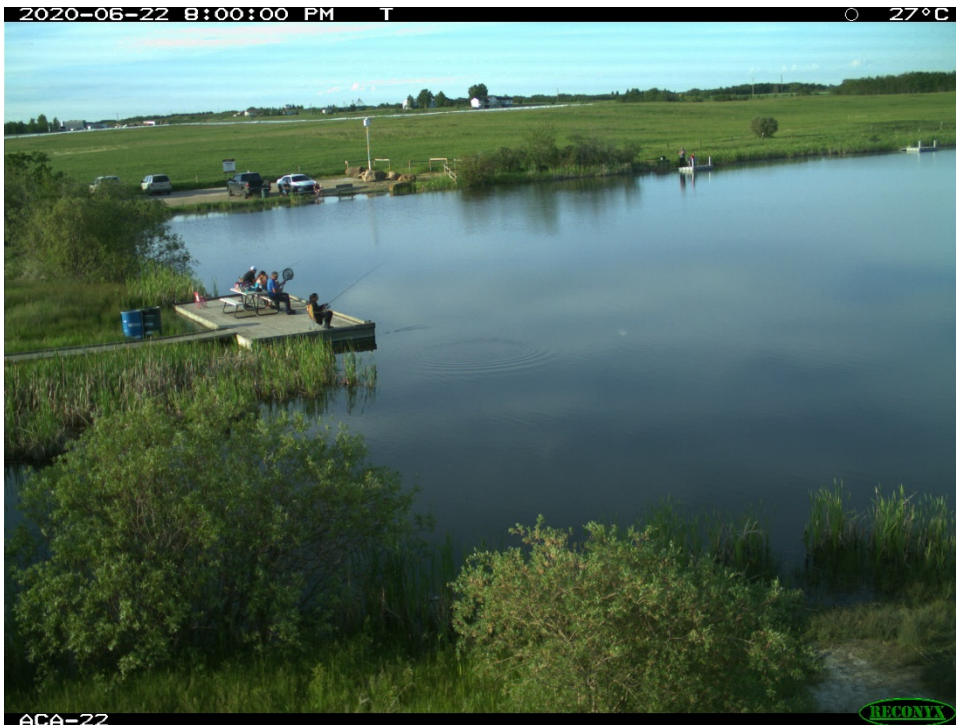
Communications

Not applicable

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

Trail camera being installed by ACA staff member at Emerson Pond. Photo: John Hallett

Trail camera photo of anglers at Pleasure Island Pond. Photo: Trail Camera