

Alberta Conservation Association
2020/21 Annual Project Summary Report

Project Name: Yellow Perch Stocked Ponds

Fisheries Program Manager: Peter Aku

Project Leader: Britt Schmidt

Primary ACA staff on this project: Kacey Barrett, Kevin Fitzsimmons, Logan Redman, Troy Furukawa, Tyler Johns, and Mike Rodtka

Partnerships

Alberta Environment and Parks

Key Findings

- Completed test angling on three ACA stocked ponds, Don Sparrow Lake, Ft. Lions Community Fish Pond, and Taber Trout Pond, to confirm presence of yellow perch.
- Caught 50 yellow perch at Ft. Lions (7.1 fish/h) and 10 at Taber (1.1 fish/h); caught no perch at Don Sparrow.
- Length and weight of yellow perch at Ft. Lions ranged from 66 to 254 mm and 3 to 222 g, respectively, with corresponding age range of 1 to 3 years.
- Length and weight of yellow perch at Taber ranged from 141 to 186 mm and 34 to 80 g, respectively, with corresponding age range of 2 to 3 years.
- Multi-year age classes suggest that perch are successfully spawning and overwintering in Ft. Lions and Taber ponds, and thus have potential to maintain self-sustaining populations.

Abstract

ACA has been exploring alternative species to stocked trout to increase opportunities for anglers in Alberta. This project was developed to determine whether select ACA waterbodies can support yellow perch populations that produce both harvestable-sized fish and satisfied anglers. Yellow perch are more tolerant to lower water quality than stocked rainbow trout and anglers

have shown strong interest in stocking yellow perch in the province. In 2020, we set out to develop a yellow perch stocking plan and conduct an experimental transfer of yellow perch to an ACA stocked pond. Due to COVID-19 restrictions, our planned field program was modified, and we conducted test angling at ponds suspected of having existing perch populations to confirm their presence and determine population characteristics such as size and age structure. We completed test angling at Fort Lions Community Park Pond at West Rivers Edge (Ft. Lions Pond), Taber Trout Pond, and Don Sparrow Lake. We caught 50 yellow perch at Ft. Lions Pond that ranged in size (fork length) from 66 to 254 mm with a mean of 104.3 ± 43.2 mm and weight from 3 to 222 g with a mean of 22.6 ± 43.0 g. Ft. Lions Pond perch ages ranged from 1 to 3 years old. We caught 10 yellow perch at Taber Trout Pond that ranged in size (fork length) from 141 to 186 mm with a mean of 167.6 ± 12.1 mm and weight from 34 to 80 g with a mean of 58.2 ± 11.8 g. Taber Trout Pond perch ages ranged from 2 to 3 years old. No fish were caught at Don Sparrow Lake, suggesting that perch do not offer a noteworthy fishery at this pond. Multi-year age classes at Ft. Lions and Taber ponds suggest that perch are successfully spawning and overwintering, and thus have potential to maintain self-sustaining populations.

Introduction

Alberta Conservation Association (ACA) stocks over 100,000 catchable-sized (i.e., 20 cm) trout into over 60 ponds each year, creating “put-and-take” fisheries. In 2015, ACA evaluated fish survival in our stocked ponds and found that several are not capable of supporting trout survival beyond mid-summer due to poor water quality, particularly low dissolved oxygen and high temperatures, and avian predation (Fitzsimmons and Keeling 2016). ACA has been exploring alternative species tolerant of lower water quality that are more predator-averse than hatchery-raised trout. We propose yellow perch as a candidate species meeting these criteria with strong support from anglers (AFGA 2017, 2019). The goal of this project is to determine whether select ACA waterbodies can support yellow perch populations that produce both harvestable-sized fish and satisfied anglers.

In 2020, we set out to develop a yellow perch stocking plan and conduct an experimental transfer to an ACA stocked pond. Due to COVID-19 restrictions, our field program had to be modified. Rather than completing a fish transfer, we conducted test angling at three waterbodies suspected

of having existing perch populations: Fort Lions Community Park Pond (Ft. Lions Pond), Don Sparrow Lake, and Taber Trout Pond. In 2018, 992 yellow perch were transferred into Ft. Lions Pond by Alberta Environment and Parks (AEP) when whirling disease prevented the stocking of hatchery trout. ACA test netting in 2017 at Don Sparrow Lake revealed the presence of yellow perch, and anecdotal evidence from anglers suggested perch in Taber Trout Pond. Test angling in 2020 was used to confirm the presence of yellow perch and determine population characteristics such as size and age structure.

Methods

We conducted test angling at Ft. Lions Pond on June 26, Don Sparrow Lake on June 25, July 22, and September 23, and Taber Trout Pond on June 25 and September 15, with two anglers on shore using hook and line gear with bait. All fish caught were measured for total and fork length, as well as weighed and operculum were removed for ageing. Operculum were aged by two biologists using methods based on Mackay *et al.* 1990 and Eberts 2015.

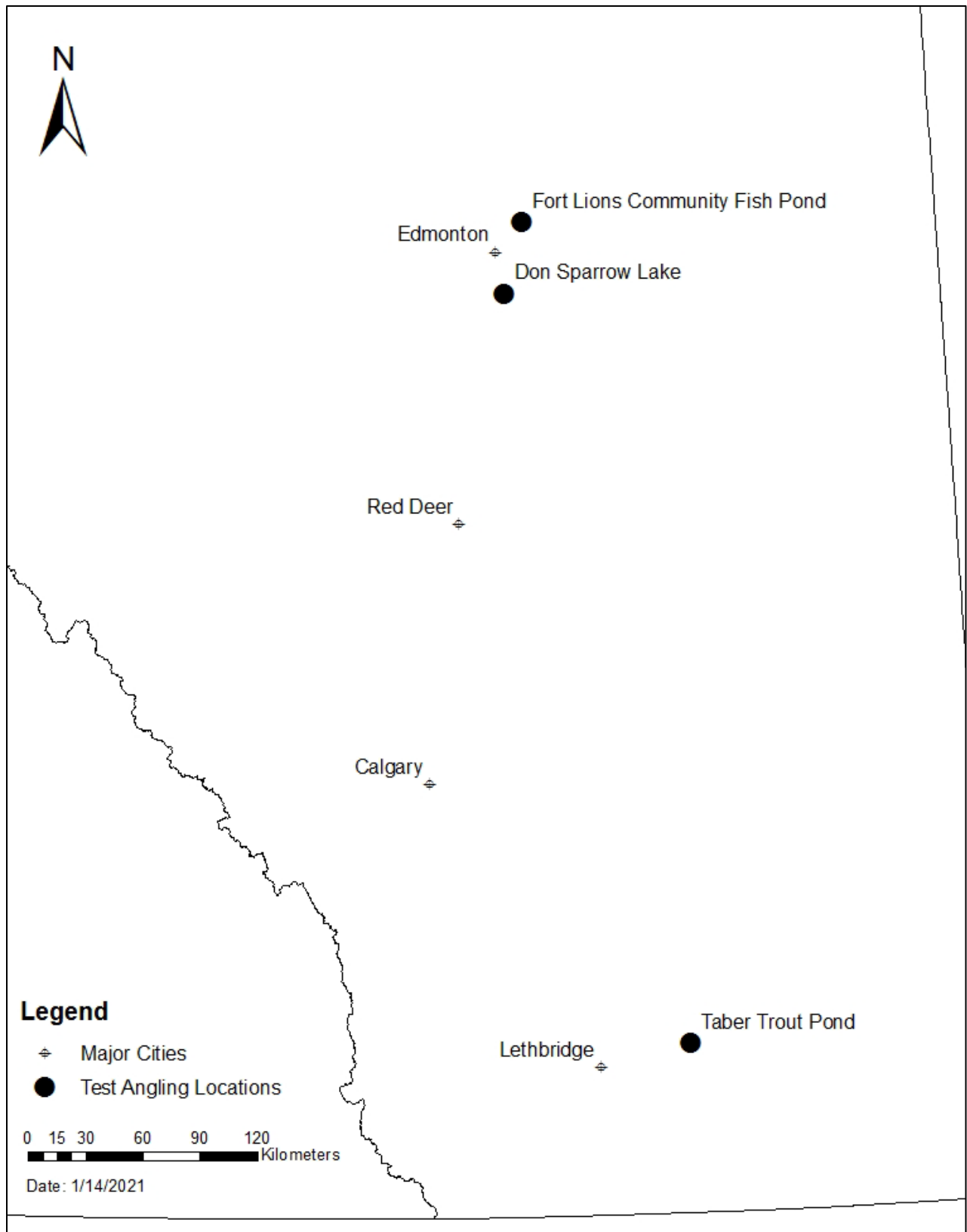


Figure 1. Map showing yellow perch test angling locations in 2020.

Results

We angled for a total of 7 hours at Ft. Lions Pond, catching 50 fish or 7.1 fish/h, 9 hours at Taber Trout Pond, catching 10 fish or 1.1 fish/h, and 18 hours at Don Sparrow Lake but caught no fish (Table 1).

Yellow perch caught at Ft. Lions Pond ranged in size (fork length) from 66 to 254 mm with a mean of 104.3 ± 43.2 mm and weight from 3 to 222 g with a mean of 22.6 ± 43.0 g. Ft. Lions Pond perch ages ranged from 1 to 3 years old. Yellow perch caught at Taber Trout Pond ranged in size from 141 to 186 mm with a mean of 167.6 ± 12.1 mm and weight from 34 to 80 g with a mean of 58.2 ± 11.8 g. Taber Trout Pond perch ages ranged from 2 to 3 years old.

Table 1. Summary of test angling completed at ACA stocked ponds in 2020. (CPUE = Catch Per Unit Effort)

Pond	Date	Number of anglers	Hours fished (per angler)	Fish caught	CPUE (fish/h)
Ft. Lions Pond	26 June	2	3.5	50	7.1
Don Sparrow Lake	25 June	2	4.0	0	0
	22 July	2	1.5	0	0
	23 Sept	2	3.5	0	0
Taber Trout Pond	25 June	2	2.5	0	0
	15 Sept	2	2.0	10	2.5

Conclusion

Our results provide evidence of persisting yellow perch populations in Ft. Lions and Taber Trout Ponds. Multiple age classes of fish at both ponds suggest that perch are overwintering, and the presence of year 1 fish at Ft. Lions Pond suggests they have spawned successfully. Given no yellow perch were caught at Don Sparrow Lake, we are unable to determine their presence, suggesting that perch do not provide a noteworthy angling opportunity at this waterbody. Based on results from Ft. Lions and Taber Trout Ponds, we are hopeful that future stocking of perch can be successful and have developed a plan to transfer perch into a subset of ACA ponds in 2021.

Communications

Briefing notes to update ACA President and AEP Minister of Environment.

Literature Cited

AFGA. 2017. 2017 Resolutions. Alberta Fish and Game Association.

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Eberts, R. 2015. A guide to aging yellow perch and walleye. University of Regina. Available at:
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Fitzsimmons, K., and B. Keeling. 2016. Stocked trout survival and camera-based angler survey at selected ACA stocked ponds. Data Report, D-2016-106, produced by Alberta Conservation Association, Sherwood Park, Alberta, Canada. 25 pp + App.

Mackay, W.C., Ash, G.R., and H.J. Norris (eds). 1990. *Fish Ageing Methods for Alberta*. R.L. & L. Environmental Services Ltd. in assoc. with Alberta Fish and Wildl. Div. and Univ. of Alberta, Edmonton. 113 p.

Photos



Yellow perch caught at Taber Trout Pond. Photo: Logan Redman.



Yellow perch caught at Fort Lions Community Park Pond. Photo: Kacey Barrett