Alberta Conservation Association

2019/20 Project Summary Report

Project Name: Angler Survey - NW

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Partnerships

Alberta Environment and Parks

Key Findings

- Between May 15 and October 31, 2019, we observed angling: 161 parties accessing Peerless Lake from the Peerless Lake campground boat launch and 132 accessing Round Lake.
- At the Peerless Lake campground boat launch, angling parties fished for an average of 5.22 hours resulting in an estimated 842 hours during the survey.
- At Round Lake, parties fished for an average of 3.22 hours resulting in an estimated 422 hours during the survey.
- Between July 4 and October 31, 2019, we observed 5 angling parties accessing Vandersteen Lake. All parties spent one or more nights at the lake.

Abstract

We conducted camera-based angler surveys to estimate number of parties and trip length at Round, Peerless, Vandersteen, and Graham lakes during summer of 2019. We set up a combination of two Reconyx PC900 HyperFire Professional IR trail cameras at identified access points for each lake to capture boat launch events. Cameras at the Peerless Lake campground

boat launch and Round Lake were active from May 15 to October 31, 2019. Cameras were installed at Vandersteen Lake on July 4 after an off-highway vehicle fire ban was lifted, and remained until October 31, 2019. Initial cameras installed at the Graham Lake campground boat launch were stolen and replaced in July 2019. Placement of new cameras at Graham Lake to prevent further theft resulted in few, unreliable capture events. At Peerless Lake campground we observed 161 angling parties who fished for an average of 5.22 hours resulting in an estimated 842 party hours. At Round Lake we observed 132 parties who fished for an average of 3.22 hours resulting in an estimated 422 party hours. At Vandersteen Lake we observed 5 parties who all spent between one and four nights at the lake.

Introduction

High fishing pressure, coupled with slow-growing and late-maturing populations, have resulted in the over-harvest of many of Alberta's sport fish populations (Sullivan 2003), including northern pike and walleye. Effective management requires an understanding of fishing pressure and harvest on lakes. Within Alberta, there are several remote lakes with currently unknown levels of fishing pressure. In the Red Earth area this includes Peerless, Round, Vandersteen, and Graham lakes. To gain a coarse understanding of angler use at selected remote lakes, Alberta Conservation Association (ACA) and the local Alberta Environment and Parks (AEP) fisheries biologist agreed to a low cost and low effort camera-based angler survey: ACA will use trail cameras to collect cost-effective boat launch use data during the summer of 2019.

Methods

We set up a combination of two Reconyx PC900 HyperFire Professional IR trail cameras at each access point to capture boat launch events as an index of angler effort. Round and Vandersteen lakes each have one access point. Graham and Peerless lakes are connected via a channel with one launch at the Peerless Lake campground, and one boat launch in the channel. The cameras operated on motion detection mode and took a series of three photos at one second intervals when triggered. Cameras were checked at approximately monthly intervals to change out memory cards and ensure the batteries were in good condition. Batteries were changed if they read below 50% battery life remaining. Analysis of photos consisted of recording identifying features (make, model, or colour) of the vehicle/boat combination, the date and time of capture, and whether they were arriving or leaving the waterbody. Clear vehicle/boat combinations and a

limited number of daily events allowed for collection of boat launch and take out of individual fishing parties. Parties refers to all individuals fishing out of the same boat. Data from both the cameras at each access point were compared to ensure all captured parties were accounted for and that no time discrepancies existed between the two data sets. Total number of party trips and trip length were tallied from captured camera events. We used bootstrap techniques to calculate estimates and 95% confidence intervals (CI) for mean party trip length and total party hours.

Results

Cameras at the Peerless Lake Campground boat launch and Round Lake boat launch captured data from May 15 to October 31, 2019. Due to an off-highway vehicle (OHV) fire ban impacting spring set up, cameras at Vandersteen Lake captured data from July 4 to October 31, 2019. Initial cameras installed at the Graham Lake campground boat launch were stolen and replaced in July 2019. Placement of new cameras at Graham Lake to prevent further theft resulted in few, unreliable capture events. As a result, we will not provide data or estimates for the Graham Lake channel boat launch.

At the Peerless Lake Campground boat launch, we observed a total of 161 parties and 124 (77%) of those parties were captured arriving and leaving from their trip. Average party trip length was 5.22 hrs (95% CI = 4.60–5.86). This results in an estimated 842 party hours (95% CI = 819–865) at Peerless Lake from the campground boat launch. Of the 161 total parties, 57 used the launch in May, 37 in June, 28 in July, 15 in August, 20 in September, and 5 in October.

At Round Lake, we observed a total of 131 parties and 119 (91%) of those parties were captured arriving and leaving from their trip. Average party trip length was 3.22 hrs (95% CI = 2.86–3.61). This resulted in an estimated 422 party hours (95% CI = 418–427) at Round Lake. Of the 132 total parties, 8 visited the lake in May, 38 in June, 51 in July, 26 in August, and 9 in September. No anglers visited the lake in October.

At Vandersteen Lake, we observed a total of 5 parties. One party was at the lake during camera set up and spent at least one night. Three parties spent two nights, and one party spent 4 nights. These anglers camped on the shore of the lake and did not put in and take out for individual trips. All observed parties visited the lake in July and due to the OHV fire ban recreational users should not have been accessing the lake during the ban.

Conclusion

Given the high percentage of anglers captured both arriving and leaving waterbodies, we believe that the number of parties that completely evaded detection is negligible. Both Round and Vandersteen lakes have one access point each. Thus, we have been able to provide census data for these waterbodies between the specified dates cameras were active. We do, however, recognize that anglers can access Peerless Lake from the Graham Lake boat launch and therefore we have chosen to report on access site use instead of total waterbody use.

Communications

- Presentation made to Peace River area fisheries biologists Chris Briggs and Josef McLeod.

Literature Cited

Sullivan, M.G. 2003. Active management of walleye fisheries in Alberta: dilemmas of managing recovering fisheries. North America Journal of Fisheries Management 23: 1343-1358.

Photos

Photo 1: Boat launch activity captured on trail camera at the Peerless Lake Campground boat launch on June 22, 2019. Photo: ACA

Photo 2: Trail camera installation on the path to Vandersteen Lake, Alberta. Photo: David Jackson

Photo 3: Trail camera hidden behind MADD Canada sign at the Peerless Lake Campground boat launch. Photo: Nikita Lebedynski