Project Name: Alberta Wildlife App

Wildlife Program Manager: Doug Manzer

Project Leader: Sue Peters

Primary ACA staff on project: Robert Anderson, Paul Jones, and Sue Peters

Partnerships

Alberta Environment and Parks
Alberta Fish & Game Association
Alberta Professional Outfitters Society
iHunter
University of Alberta
Metis Nation of Alberta

Key Findings

- We built cooperative partnerships with iHunter Alberta, the University of Alberta, and Metis Nation of Alberta, and secured funding from Alberta Fish & Game Association and Alberta Professional Outfitter Society.

- We added harvestable species conservation questions to an existing survey that is delivered to Alberta hunters through the iHunter app. We can expand to other species in the future.

- We began development of a hunter dashboard to view wildlife observation/harvest data summaries within iHunter; for example, number of moose/elk/mule deer observed per day. Hunters who opt to have spatial data collected will have summaries of distance travelled. This hunter dashboard will be a useful tool for mandatory harvest reporting and maintaining participation in subsequent years.

Abstract

In Alberta, aerial surveys have historically been the primary method used to estimate the population size, trend, distribution, and herd composition for ungulates. As such, they have been an important source of data for setting hunting allocations but are intermittent and are prohibitively expensive. We have partnered with University of Alberta, Metis Nation of Alberta, and iHunter to collect data for game species from hunters using a survey in the iHunter app. We will beta test the survey during the spring and fall 2021 hunting seasons, which will also include a hunter economics component that is led by University of Alberta. The survey enables users to input their sightings of game species, including moose, mule deer, white-tailed deer, elk, pronghorn, carnivores, and gamebirds. In the future, outfitters and hunters will be able to use their personal dashboard within iHunter to retrieve a summary of the data they submitted for evaluating their hunts. Hunters may also choose to use this information to fill out their mandatory reporting requirements for the provincial government. We will write an annual summary of these wildlife data focusing particularly on adult:juvenile and male:female ratios that can be used by hunters to plan their next hunt, and by AEP to assist them in the management of game species. Submissions by individuals will be strictly private and not released; all information will be summarized up to the WMU or at a larger spatial extent.

Introduction

In Alberta, aerial surveys have historically been the primary method used to estimate the population size, trend, distribution, and herd composition for ungulates. As such, they have been an important source of data for setting hunting allocations. However, aerial ungulate surveys are intermittent and are prohibitively expensive, averaging about $60,000 per wildlife management unit (WMU). Inspired by the success of moose (*Alces alces*) observation indices gathered by hunters in Scandinavia, Mark Boyce at the University of Alberta (U of A) initiated Alberta's Moose Hunter Survey app in 2012. The survey used smartphone technology as a less-costly monitoring alternative to aerial surveys. The app asked hunters to record the number of moose they observed while hunting in their designated WMU in Alberta. Alberta Conservation Association (ACA) took over the administration of the Moose App in 2017 and completed a summary of the first five years of data collection (Peters et al. 2018). At that time, it was decided

that a reconstruction of the app was necessary to make it more user friendly, to increase data quantity and quality, and improve hunter retention (Figure 1).
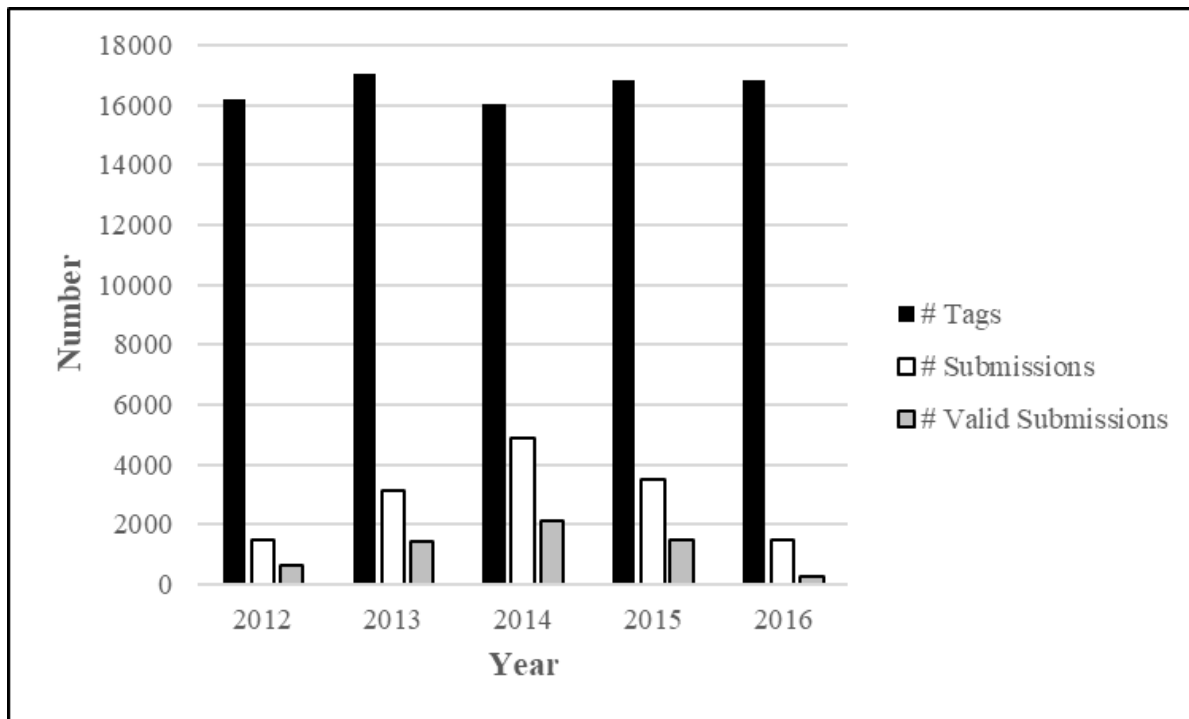

Figure 1.   The number of moose hunting tags compared to the number of data submissions (2012 – 2016) to the original moose app developed by M. Boyce. Reproduced from Peters et al. (2018).

For the 2020/21 fiscal year, the objectives for this project were to: 1) reconstruct the existing moose app or explore alternatives to create a smartphone app for beta testing in the 2021 hunting season; 2) explore options to expand data collection from just moose to include other ungulates, carnivores, and gamebirds; 3) explored options for the development of a dashboard that would allow outfitters and hunters to access a summary of their data, to assist them with planning future hunts as well as basic information that they can use for their mandatory annual reporting requirements for the government; 4) develop a user-friendly ACA website that summarizes the overall dataset collected by the app as a tool for Alberta hunters; and 5) continue dialogue with Alberta Environment and Parks (AEP) regarding the use and value of data collected with the app. We believe the development of the app will take about three years of testing to gain the full capacity for both data quality/utility, and to satisfy the end user and motivate the users' continued participation.

Methods

The U of A will use Qualtrics software to add wildlife conservation survey questions to the augmented version of iHunter Alberta, which they beta tested in the spring of 2020. The iHunter app is a well-established tool used in the hunting community with over ten thousand downloads, so partnering with them is strategic. Using iHunter as the platform for our survey taps into an existing body of iHunter users, rather than potentially siphoning a smaller number of users to a separate app.

We plan to beta test the survey during the spring and fall 2021 hunting seasons using preselected outfitters and hunters. Preliminary data submitted during beta testing will be summarized to the Wildlife Management Unit level or higher. Data submitted by individuals will be considered private and not released to the public or government. With assistance from a contractor, we will create a mock dashboard that allows outfitters and hunters to retrieve a summary of their submitted harvest data for mandatory reporting purposes. The hunter dashboard will be accessed by hunters through their iHunter account and will provide observation/harvest data summaries by individual days, by all days combined, by WMU, etc. Hunters who opt to have spatial data collected will have summaries of distance travelled. This hunter dashboard will be a useful tool for mandatory harvest reporting.

Results

In 2020/21, we developed cooperative partnerships with iHunter, the University of Alberta, and the Metis Nation of Alberta, to expand the utility of an in-app survey initiative already underway by the University. ACA developed a list of wildlife conservation questions and metrics to survey outfitters and hunters on observations of a suite of ungulates (mule deer [*Odocoileus hemionus*], white-tailed deer [*O. virginianus*], elk [*Cervus elaphus*], and pronghorn [*Antilocapra americana*]), carnivores, and gamebirds to be added to the app survey. The modified survey will be ready to beta test in the spring of 2021. We are working with iHunter and the U of A to create a hunter dashboard that will allow individual hunters access to their individual data (Figures 2 and 3).
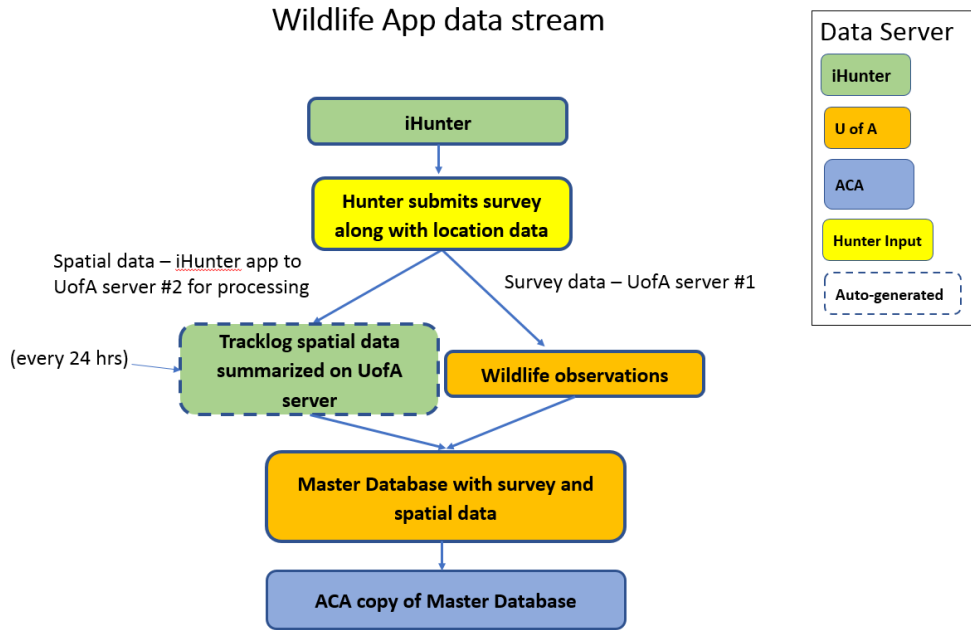
Figure 2.   Flow of hunter-submitted observations and associated data. Data privacy will be maintained by assigning unique user ID numbers, and spatial data will only be collected with consent and not stored by iHunter.
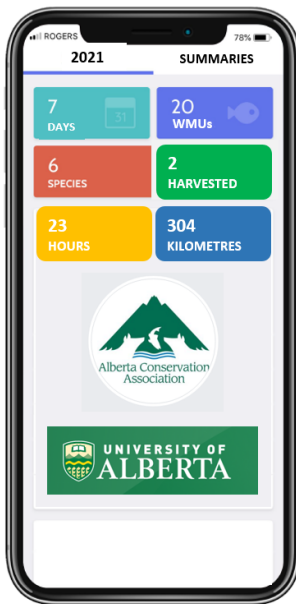

Figure 3.   Preliminary dashboard template (adapted from MyCatch fishing log app by Angler's Atlas), which would be revamped with a wildlife focus and unique branding. The home dashboard view would display running tallies of the number of trip days, WMUs, species observations, harvests, hours, and kilometres travelled, each linked to a data summary. Two data tabs are planned (current year tallies, and previous yearly summaries with a grand tally).

Conclusions

Alberta needs an inexpensive and accessible tool for collecting large-scale, long-term wildlife population data. In addition, Alberta hunters have expressed an interest in providing meaningful data to assist in the management of game species, and a desire for better information to help with planning future hunts. The augmented version of iHunter will enable self-submission of observational data that will help achieve these outcomes, as well as provide a summary of information that individual hunters can use for their annual mandatory reporting requirements to AEP. We have developed cooperative partnerships with iHunter, U of A, and Metis Nation of Alberta, to deliver a survey to Alberta hunters through iHunter, an app with roughly 60,000 users. This survey will collect population data for Alberta ungulates, carnivores, and gamebirds, and summarize it at the WMU (or greater) level on our website. In the future, individual hunters may also have access to a personal and secure dashboard to get summaries of their data that they can choose to use when they complete their mandatory harvest reports. After the survey is available to all Alberta hunters and is operating at full capacity for both data quality and utility, we will summarize province-wide results in an annual report that can be used by hunters for planning future hunts, as well as by AEP to assist them in the management of game species.

Communications

Key Contacts

- Mark Stenroos – iHunter
- Dr. Vic Adamowicz – University of Alberta
- Jordan York – Metis Nation of Alberta

Literature Cited

Peters, S.H., P.F. Jones, and R.A. Anderson. 2018. Assessment of the Alberta moose hunter survey app, 2012 to 2016. Technical Report, produced by Alberta Conservation Association, Blairmore, Alberta, Canada. 23 pp + App.

Photos

ACA staff member, Sue Peters, beta testing the Alberta Wildlife App. Photo: Alberta Conservation Association

ACA staff member, Sue Peters, beta testing the Alberta Wildlife App. Photo: Alberta Conservation Association

Mule Deer. Photo: Paul Jones

Doe and Buck Pronghorn. Photo: Paul Jones