

Alberta Conservation Association
2022/23 Project Summary Report

Project Name: ABHuntLog

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Partnerships

Alberta Environment and Protected Areas

Alberta Fish & Game Association

Alberta Professional Outfitters Society

iHunter

Korth Group Ltd.

Métis Nation of Alberta

Safari Club International – Northern Alberta Chapter

University of Alberta

Key Findings

- We created ABHuntLog in collaboration with iHunter and University of Alberta as a voluntary survey feature within the iHunter Alberta app. In 2022, Métis Nation of Alberta joined the collaboration.
- During the fall hunting season from September 1 to December 31, 2022, 361 voluntary participants completed 1,405 surveys in 135 Wildlife Management Units (before data cleaning) for hunting, scouting, and recreational trips in Alberta.
- The 2022 ABHuntLog contest for a Korth optics grand prize package increased participation.

- We received the most observations for white-tailed deer (930 surveys), waterfowl (559 surveys), and mule deer (540 surveys), followed by upland game birds (329 surveys), moose (288 surveys), and coyotes (274 surveys).
- We aggregated and summarized these observations by Wildlife Management Units and made sample heat maps for key wildlife metrics (i.e., observation rates, age ratios, and sex ratios).
- Hunters who completed ABHuntLog surveys for hunting and scouting trips can use their personal dashboard to assist them in completing mandatory harvest reporting. The summaries available on ABHuntLog.ca and each hunter's personal dashboard will be useful tools that build and maintain participation in subsequent years.

Abstract

ABHuntLog is an inexpensive and accessible citizen science app feature for collecting large-scale, long-term harvestable wildlife population data, developed through a partnership among Alberta Conservation Association (ACA), University of Alberta, Métis Nation of Alberta, and iHunter. The second hunting season of ABHuntLog operation saw an increase in participation; between September 1 and December 31, 2022, 361 voluntary ABHuntLog participants completed 1,405 surveys in 135 Wildlife Management Units (WMUs; before data cleaning). The most observational data were submitted for white-tailed deer, followed by waterfowl, mule deer, and upland game birds. Several aggregated summaries by WMU of the 2021 and 2022 data are available on ACA's website (ABHuntLog.ca), allowing hunters to visualize and understand the value and utility of their ABHuntLog data. 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. ABHuntLog enables voluntary submission of observational data using the iHunter Alberta app that will help achieve these outcomes, as well as provide a private dashboard summary of the individual's observational and harvest information that they can use for planning future hunts and completing their annual mandatory reporting requirements. We anticipate increased participation in future years with improvements to ABHuntLog in 2023 and continued promotion of this tool so that we can expand the number and quality of the data summaries provided on ACA's website.

Introduction

The data used to manage wildlife populations effectively require survey methods that provide accurate and precise population estimates that are also efficient and economical (Found and Patterson 2020). In Alberta, aerial surveys have historically been the primary method used to estimate population size, trend, distribution, and herd composition for ungulates (AEP 2016). As such, they have been an important source of data for setting hunting allocations. However, aerial ungulate surveys are intermittent and prohibitively expensive, averaging about \$60,000 per Wildlife Management Unit (WMU), prompting the need for additional strategies for monitoring populations (Boyce et al. 2012, Boyce and Corrigan 2017). Inspired by the success of moose (*Alces alces*) observation indices gathered by hunters in Scandinavia (e.g., Solberg and Sæther 1999, Rönnegård et al. 2008), Alberta's Moose Hunter Survey app (Moose app) was initiated in 2012 (U of A 2017a, 2017b). The survey provided a supplemental and less-costly data source to assess population trends across years over a broad range of WMUs (Boyce et al. 2012, Boyce and Corrigan 2017).

We took over the administration of the Moose app in 2017 and summarized the first five years of data (Peters et al. 2018). At that time, it was decided that a reconstruction and expansion of the app was necessary to make it more user friendly, increase data quantity and quality, and improve hunter retention. ABHuntLog is the citizen science tool that Alberta Conservation Association (ACA), University of Alberta (U of A; V. Adamowicz, Department of Resource Economics and Environmental Sociology), and iHunter have developed to address these issues (Figure 1). In 2022, Métis Nation of Alberta (MNA) also joined our collaboration, with the intent of promoting ABHuntLog to their constituents.

ABHuntLog's priorities are to collect observation data on a wide range of harvestable species across all WMUs, and to provide high-quality demographic and trend data to biologists, wildlife managers, and hunters, while respecting and protecting the privacy of participants and their personal location and hunting information. Hunters can use ABHuntLog as a record of their hunting and scouting activities, with the assurance that it does not collect exact locations of observations or harvests; furthermore, data are collected anonymously with a unique identification number. By collecting high-quality data on key metrics (e.g., observation rate) for

many of Alberta's harvestable species and making this information readily available on our website and on each participant's personal dashboard, we expect ABHuntLog to become a valuable tool for Alberta hunters.



Figure 1. ABHuntLog logo.

Methods

In 2022/23, ABHuntLog was available to all iHunter Alberta app users who voluntarily completed online registration and consent forms. Participants could log their wildlife observations and harvests in the WMU where they were hunting or scouting throughout their trip, or at the end of the day. The iHunter app is a well-established mapping tool used widely in the hunting community with over 70,000 downloads in Alberta. Partnering with iHunter as the platform for our survey taps into a large hunting audience, and ABHuntLog is now an internal app feature within iHunter Alberta.

Data submitted by individuals are considered private and not released to the public or government. All data are associated with an anonymous identification number. The personal dashboard (Figure 2) is accessed through a user's private iHunter account and provides observation and harvest data summaries by trips (days), by WMU, and by species. The dashboard was expanded in 2022 to include tabs for annual (current) and historical summaries.

Harvestable wildlife observations submitted to ABHuntLog during 2022 were summarized to the WMU level. Beforehand, we cleaned the data by removing survey data associated with less than 20 minutes in a WMU (i.e., we recoded this data to zero assuming the participant did not track their entire trip), so these data did not artificially inflate our observation rates per hour.

We aggregated data by WMU and made sample heat maps of observation rates, age ratios, and sex ratios for several species; the maps are included in this report and available on the ACA website (ABHuntLog.ca). JMP 16.1.0 statistical software was used for all data analysis, and ArcMap 10.8.1 was used for mapping.

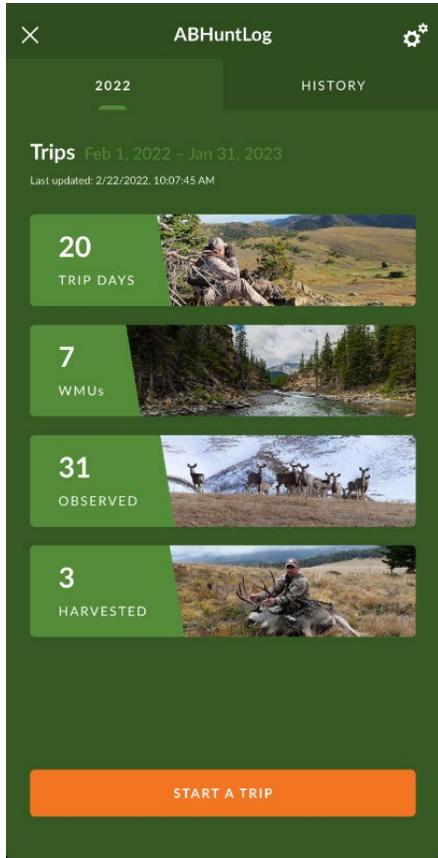


Figure 2. ABHuntLog dashboard homepage, showing running tallies of number of trips logged, WMUs visited, animals observed, and animals harvested. Clicking on each ribbon opens a separate page that provides more details (e.g., “Trip Days” shows which days a trip was made and in which WMU). Data for the current year are now in a separate tab from previous years, accessed at the top of the dashboard.

Results

In 2022/23, we continued to collaborate with the U of A and iHunter to improve the ABHuntLog feature within the iHunter Alberta smartphone app. MNA joined this collaboration in 2022, and all four organizations signed a Cooperation Agreement to ensure longevity of the project, data security, and protection of funds expended. We ran a 2022 contest to increase participation and updated our website (ABHuntLog.ca) where Alberta hunters can find background information on the program, instructions for getting started, a frequently asked questions (FAQ) section, and aggregate data summaries (by WMU) on an annual basis.

On September 1, 2021, the ABHuntLog feature in iHunter Alberta was first released, allowing participants to voluntarily track their hunting and scouting trips and complete a survey about their wildlife observations and harvests after each trip. In 2022, the second year of operation, the number of participants more than doubled; between September 1 and December 31, 2022, 361 ABHuntLog participants completed 1,405 surveys (“trips”) in 135 WMUs, before data cleaning (Figure 3). Thirty-eight percent of ABHuntLog participants from 2021 continued to submit data in 2022. We broadened our userbase in 2022 to include outdoor recreationists and Métis harvesters.

The mean number of trips per WMU was 10.4 (range: 1–77). The mean number of trips per participant was 3.9 (range: 1–55). Most of the trips (out of 1,405 trips in total) were for hunting (88%) rather than scouting or recreating (Figure 3). Participants could submit observation data for several species each time they filled out a trip survey. White-tailed deer (*Odocoileus virginianus*) was the most common targeted or secondary (incidental) species identified in trip surveys, followed by waterfowl, mule deer (*O. hemionus*), and upland game birds (Figure 4).

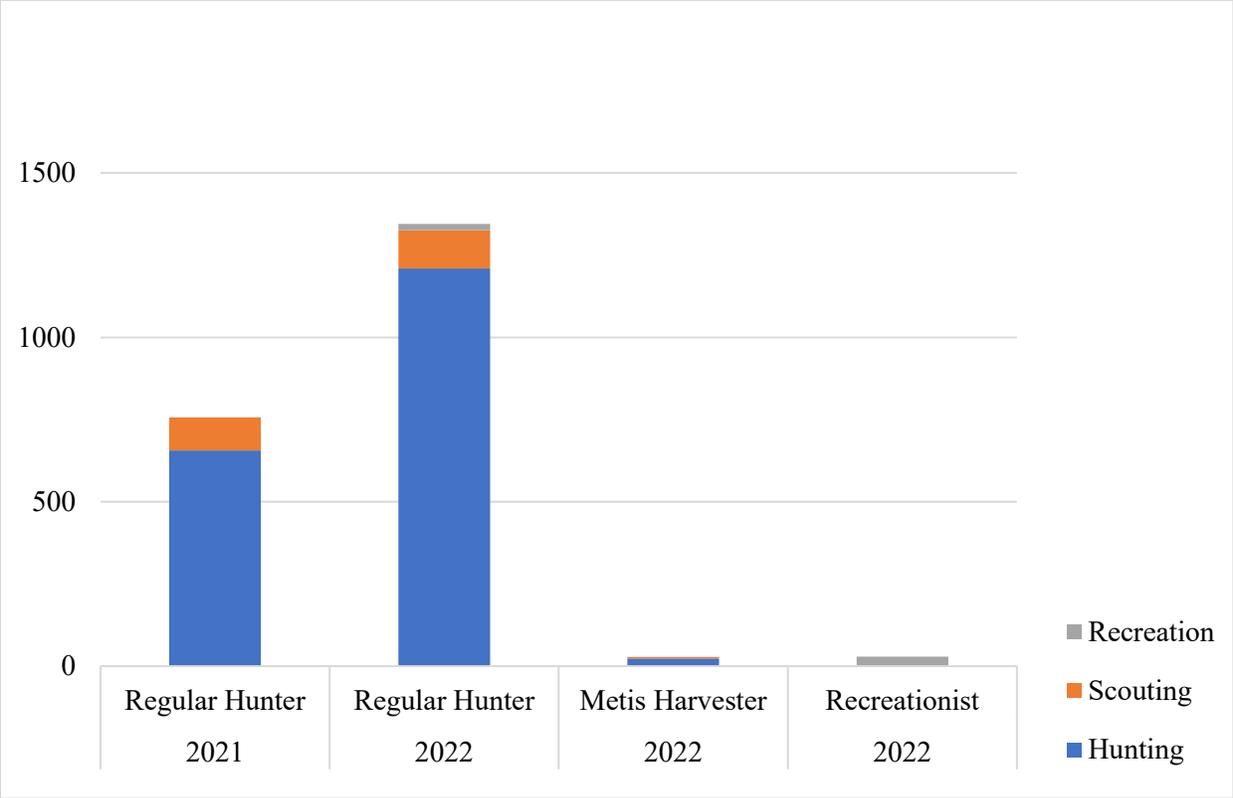


Figure 3. The number of surveys (trips) submitted by type of participant and activity type in 2021 and 2022. In 2021, regular hunter or outfitter were the only options for type of participant; Métis harvesters and recreationist were added as options in 2022.

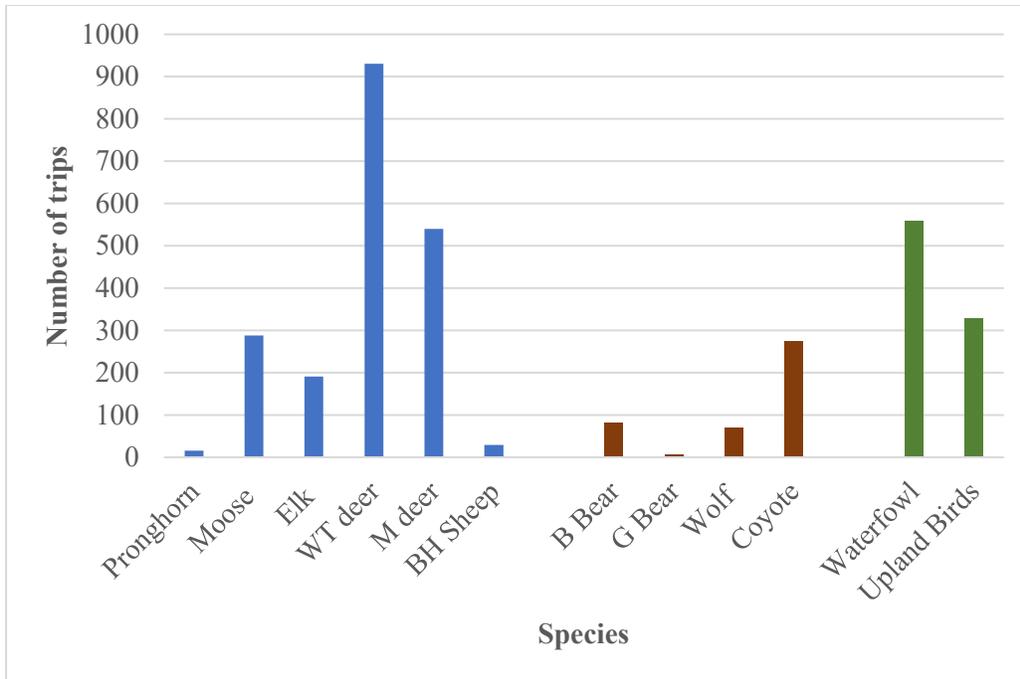
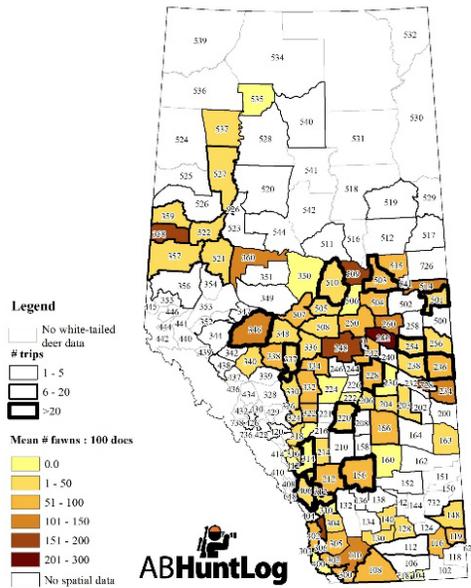


Figure 4. The total number of trips in 2022 during which each species was identified in the survey as either a targeted or incidental species of interest for hunting or scouting. Waterfowl includes Canada/white/white-fronted geese, ducks, and cranes. Upland game birds include pheasant, three grouse species, and Merriam’s turkey. More than one species could be selected per survey; therefore, the total number of species identified (n = 3,315) is greater than the number of surveys submitted (n = 1,405).

In the following white-tailed deer heat maps (Figure 5a, 5b), we present aggregated observation data by WMU for the average number of white-tailed deer bucks per 100 does and the average number of white-tailed deer fawns per 100 does.

a

White-tailed Deer Fawns : 100 Does



b

White-tailed Deer Bucks : 100 Does

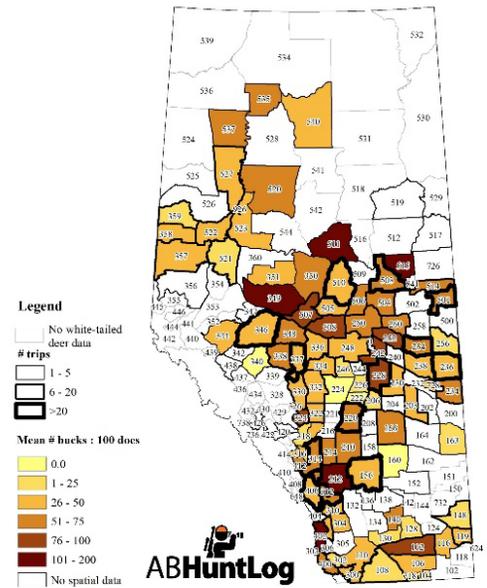


Figure 5. Mean number of white-tailed deer fawns (a) and bucks (b) per 100 does observed in Alberta Wildlife Management Units (WMU), based on the trips (surveys) completed in ABHuntLog between September 1 and December 31, 2022. WMUs with grey boundaries had no white-tailed deer data submitted, while those with thin black boundaries had observations but no fawn (a) or buck (b) data. The number of trips is based on all trips, including those with and without spatial data collected.

Conclusions

We have developed a cooperative partnership with iHunter, U of A, and MNA to deliver a survey tool that engages hunters through iHunter, an app with roughly 70,000 users in Alberta. ABHuntLog is an inexpensive and accessible citizen science tool for collecting large-scale, long-term harvestable wildlife observational data. Alberta hunters have expressed an interest in providing meaningful data to assist in the management of game species, identify conservation needs, and provide better information to help with planning future hunts. ABHuntLog enables anonymous, self-submission of observational data using the iHunter Alberta app that will help achieve these outcomes, as well as provide a dashboard summary of harvest information that

individual hunters can use for planning future hunts and completing their annual mandatory reporting requirements to Alberta Environment and Protected Areas (EPA).

We recognize the importance of building trust in the hunting community. As such, all user data are protected on secure servers and are associated only with anonymous identification numbers. Furthermore, ABHuntLog does not collect exact locations of an individual's observations or harvests. Several sample summaries by WMU of the 2022 data are available on ACA's website (ABHuntLog.ca). In future years and with enough data, we will provide aggregated summaries of all relevant metrics (e.g., observation rate, age ratios, and sex ratios) for all species surveyed in ABHuntLog.

Communications

ABHuntLog has been promoted in numerous venues:

- Dr. M. Boyce (U of A) citizen science webinar
- Magazines: *Conservation Magazine*, *Alberta Outdoorsmen*, *2022 Alberta Hunting Regulations*, and *Alberta Discover Guide*
- ACA newsletters
- Presentations: Alberta Fish & Game Association (AFGA) 2023 conference; St. Albert AFGA club meeting; Backcountry Hunters and Anglers Alberta Chapter 2023 AGM
- ACA's social media platforms and website (ab-conservation.com, abhuntlog.ca)
- iHunter in-app messaging

Key Contacts

- Mark Stenroos, Erik Benner, Chad McElhinney, and Gareth Burke – iHunter
- Dr. Vic Adamowicz – University of Alberta
- Jordan York – Métis Nation of Alberta

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Photos



Photo 1. Alberta hunters have expressed an interest in providing meaningful data to assist in the management of game species, identify conservation needs, and provide better information to help with planning future hunts. ABHuntLog enables anonymous, self-submission of observational data using the iHunter Alberta app that will help achieve these outcomes. Photo: Andrew Jakes



Photo 2. ABHuntLog participants are encouraged to submit wildlife observations year-round. The ABHuntLog survey allows participants to identify as hunters, outfitters, outdoor recreationists, or Métis harvesters. Photo: Sue Peters, ACA