

Alberta Conservation Association
2019/20 Project Summary Report

Project Name: Alberta Volunteer Amphibian Monitoring Program

Wildlife Program Manager: Doug Manzer

Project Leader: Kris Kendell

Primary ACA staff on project: Kris Kendell

Partnerships

Alberta Biodiversity Monitoring Institute

Alberta Environment and Parks

Key Findings

- We delivered seven oral presentations over the past year highlighting the conservation needs of Alberta's amphibians and reptiles.
- We are a member of the International Union for Conservation of Nature, Species Survival Commission, Amphibian Specialist Group, Canada.
- We are partnering with the Alberta Biodiversity Monitoring Institute (ABMI), trialing their free, NatureLynx mobile application to help streamline the way AVAMP participants make and report their observations. To date, seven amphibian records were submitted through ACA's AVAMP Group on ABMI's NatureLynx platform.
- In total, 41 volunteers submitted 46 amphibian and 16 reptile observations to AVAMP, including the location of five snake hibernacula (dens).

Abstract

Volunteers play a crucial role in wildlife conservation efforts through their involvement in biodiversity-related citizen science projects. The Alberta Volunteer Amphibian Monitoring Program (AVAMP) invites people to engage with nature and to provide unique information on amphibian and reptile distribution and life-cycle events. To streamline the way AVAMP participants make and report their observations, we are partnering with Alberta Biodiversity Monitoring Institute and trialing their free NatureLynx mobile application. The NatureLynx app allows AVAMP participants to complete data entry in the field. Data are organized in an AVAMP community group set up on the app by ACA and accessible to us. In 2019/20, 41 participants from AVAMP submitted 43 amphibian and 16 reptile observations, including locations of five snake hibernacula (dens) directly through AVAMP. An additional seven amphibian records were submitted through the AVAMP Group on ABMI's NatureLynx platform. Combined, these data represented 60% of the amphibian and 44% of the reptile species native to the province. Setting appropriate conservation measures for amphibians and reptiles requires a good understanding of species distributions and timing of life-cycle events, which are often based on relatively few observation records. AVAMP is an example of how ACA can work with a network of enthusiastic volunteers and partners to fill these data gaps and positively impact conservation.

Introduction

One of Alberta Conservation Association's (ACA's) largest wildlife volunteer-based projects is the Alberta Volunteer Amphibian Monitoring Program (AVAMP). Through volunteering, AVAMP participants are provided with opportunities to increase their knowledge of wildlife and conservation issues, use their skills and experiences to contribute to conservation, and network with wildlife professionals. Data collected by AVAMP volunteers increases our knowledge of amphibian and reptile distributions, along with other data, assists in updating their general status (Alberta Sustainable Resource Development 2010) and provides valuable information for land-use planning efforts.

We chair the Alberta Amphibian and Reptile Specialist Group, where we discuss topics and issues related to conservation and research of amphibians and reptiles in Alberta. These meetings also provide a forum to explore opportunities for collaboration. In 2017, we became a member of the International Union for Conservation of Nature Species Survival Commission Amphibian Specialist Group, Canada. In 2019, we were invited by Alberta Environment and Parks to contribute to the development of a provincial rapid response plan for the amphibian fungal pathogen *Batrachochytrium salamandrivorans* or Bsal for short.

Methods

At sites of their own choice, we encourage AVAMP participants to listen for calling frogs and toads in the spring and to search for individual amphibians throughout the spring, summer, and early fall. Volunteers can also report the locations of snake hibernacula and other reptile sightings, including dead-on-road occurrences. We promote AVAMP through our email newsletter and through social media to increase awareness of amphibians and reptiles and help us maintain relationships with program volunteers and other interested parties. We deliver oral presentations to target audiences to motivate and engage potential participants and improve awareness about the amphibians and reptiles in their communities. Volunteers self-register and enter their own monitoring data online.

We offer volunteers a quick identification guide for Alberta's amphibians (*Amphibian Identifier*) for use in the field as well as a brochure (*Reptiles of Alberta*) that gets people thinking about their attitudes toward reptiles and their habitat needs. These brochures encourage the reporting of amphibian and reptile observations to the program. We have also developed an online identification key to help volunteers confirm the identity of any amphibians or reptiles observed.

We reviewed, verified, and compiled all volunteer amphibian and reptile observations and then forwarded them to the Government of Alberta for entry into its Fisheries and Wildlife Management Information System database.

Results

In 2019/20, 36 new members joined ACA's AVAMP platform. In all, 41 AVAMP participants submitted a total of 43 amphibian and 16 reptile observations, including five snake hibernaculum (den) locations, through ACA's data submission portal. Through a trial, an additional seven amphibian records were submitted through the AVAMP Group on ABMI's NatureLynx platform. Combined, data submitted by volunteers represented 60% of the amphibian and 44% of the reptile species native to the province (Table 1).

Table 1. Records of amphibian and reptile species observed by Alberta Volunteer Amphibian Monitoring Program participants in 2019/20.

Species	Taxonomic name	Number of records	
		ACA ¹	NatureLynx ²
Boreal chorus frog	<i>Pseudacris maculata</i>	9	4
Boreal toad	<i>Anaxyrus boreas</i>	5	1
Bullsnake	<i>Pituophis catenifer</i>	2	
Canadian toad	<i>Anaxyrus hemiophrys</i>	2	
Columbia spotted frog	<i>Rana luteiventris</i>		
Great plains toad	<i>Anaxyrus cognatus</i>		
Long-toed salamander	<i>Ambystoma macrodactylum</i>	1	
Mountain short-horned lizard	<i>Phrynosoma hernandesi</i>		
Northern leopard frog	<i>Lithobates pipiens</i>	2	
Plains garter snake	<i>Thamnophis radix</i>	12	
Plains hog-nosed snake	<i>Heterodon nasicus</i>		
Plains spadefoot	<i>Spea bombifrons</i>		
Prairie rattlesnake	<i>Crotalus viridis</i>		
Red-sided garter snake	<i>Thamnophis sirtalis</i>	5	
Tiger salamander	<i>Ambystoma mavortium</i>	12	2
Wandering garter snake	<i>Thamnophis elegans</i>	2	
Western painted turtle	<i>Chrysemys picta</i>		
Wood frog	<i>Lithobates sylvaticus</i>	12	
Yellow-bellied racer	<i>Coluber constrictor</i>		
Total		64	7

¹ACA online data submission portal; ²ABMI's NatureLynx AVAMP Group

Through public presentations and interactions with volunteers, we have shared expertise and information about amphibian and reptile identification, ecology, mitigation translocation, stewardship, citizen science, data collection protocols, and survey methodologies.

Conclusions

Data from AVAMP volunteers will provide a better understanding of the distribution and status of Alberta's amphibians and reptiles in the province. AVAMP is an example how ACA can work with a network of enthusiastic volunteers and partners to positively impact conservation. AVAMP connects people to nature and generates valuable data from these encounters that support the conservation and management of Alberta's amphibian and reptile species.

Communications

Oral presentations

- Environmental and Conservation Sciences Students' Association, University of Alberta, Edmonton, AB. 7 March 2020.
- Nature Alberta, Winter Family Nature Night, Edmonton, AB. 23 February 2020.
- The Philip J. Currie Dinosaur Museum, Al Lakusta Day/Lecture Series, Grande Prairie, AB. 26 October 2019.
- John Janzen Nature Centre, Edmonton, AB. 29 September 2019.
- North Saskatchewan River Valley Conservation Society, Edmonton, AB. 28 September 2019.
- Shell Canada Ltd., Learn-at-Lunch, Calgary, AB. 24 September 2019.
- Edmonton Valley Zoo, World Snake Day, Edmonton, AB. 14 July 2019.
- Clean and Green RiverFest, St. Albert, AB. 11 May 2019.

Literature Cited

Alberta Sustainable Resource Development. 2010. The general status of Alberta wild species 2010. Available online at <http://www.srd.gov.ab.ca/fishwildlife/speciesatrisk/statusofalbertawildspecies>

Photos



The Alberta Volunteer Amphibian Monitoring Program logo. Photo: ACA



Reptiles observations, such as this red-sided garter snake (*Thamnophis sirtalis*) shown here, can be submitted to AVAMP using the program's online data submission platform. Alternatively, amphibian and reptile observations can be submitted using ABMI's NatureLynx mobile application. Photo: Kris Kendell