Alberta Conservation Association
2013/14 Project Summary Report

Project Name: Wildlife Volunteer and Outreach Project

Wildlife Program Manager: Doug Manzer

Project Leader: Kris Kendell

Primary ACA staff on project:

Kris Kendell, Amanda Rezansoff and Mike Verhage

Partnerships

Alberta Environment and Sustainable Resource Development
Crowsnest Conservation Society
TD Friends of the Environment Foundation

Key Findings

- We developed an amphibian reference sheet that volunteers can use in the field to assist with amphibian identification and find instructions for data submission. A quick response code feature allows smartphone users to access the project's webpage, including the online volunteer data input form.
- Volunteers with the Crowsnest Conservation Society conducted a survey of 11 ponds in southwestern Alberta. A total of four species of amphibians were detected, with boreal toads observed at two ponds. This information is valued as an input for land use planning, particularly for forest harvest plans.
- Fifty-two volunteers submitted 155 amphibian and 44 reptile observations, including 7 snake hibernacula (den) locations.
- We contributed content to ACA's monthly e-mail newsletter, which is sent to more than 67,000 people. Each article had an overall conservation-education focus and encouraged volunteer participation in our wildlife programs.

Introduction

Throughout history, citizen scientists have contributed to the advancement of conservation through their volunteer activities. Through volunteering, individuals are provided with opportunities to improve their skill-set, increase their knowledge of conservation issues, and network with wildlife professionals while, at the same time, increasing our capacity to deliver wildlife initiatives.

Currently, our largest wildlife volunteer component is the Alberta Volunteer Amphibian Monitoring Program (AVAMP). Data collected by program volunteers increase knowledge about the distribution of Alberta's amphibian and reptile species and, along with other data, assist in

updating the general status of amphibians and reptiles in Alberta (Alberta Sustainable Resource Development 2010).

We are also partnering with Crowsnest Conservation Society (CCS), a volunteer-based conservation group, to determine the distribution of boreal toads (*Anaxyrus boreas*) in the Crowsnest Pass area of southwestern Alberta. Data collected by volunteers can be used by land managers to incorporate appropriate setback distances around boreal toad breeding ponds into forestry harvest plans.

Methods

At sites of their own choice, we encouraged AVAMP participants to listen for calling frogs and toads in the spring and search for individual amphibians throughout the spring, summer and early fall. We promoted AVAMP through our e-mail newsletter and through social media. The newsletter increases awareness of amphibians and reptiles, and helps us maintain relationships with program volunteers and other interested parties. Volunteers self-register and enter their own monitoring data online, where data are then automatically organized into a spreadsheet.

We collaborated with CCS to stratify habitat into areas more and less likely to be occupied by breeding boreal toads, and we trained this organization's volunteers to apply a customized survey protocol. Between July and August, volunteers searched ponds of their own choice within a defined study area for evidence of boreal toad breeding and recorded pond characteristics as well as the presence or absence of boreal toads. CCS organized its volunteers for the completion of this survey and provided the data to Alberta Conservation Association (ACA) for analysis. We mapped the location of amphibian observations, including breeding ponds.

We reviewed, verified and compiled all volunteer amphibian observations and then forwarded them to Alberta Environment and Sustainable Resource Development for entry into the Fisheries and Wildlife Management Information System database.

Results

In 2013/14, 49 individuals, families, organizations and/or groups registered to become members of AVAMP. We circulated six articles relating to herpetofauna conservation, habitat stewardship and volunteering in ACA's e-mail newsletter, which is sent to more than 67,000 people each month. These articles resulted in over 3,300 combined individual views.

Five CCS volunteers surveyed 11 sites between July 2 and August 15, 2013. Boreal toads were observed at two of the 11 sites (18%), with confirmed breeding at both locations. Both toad observations occurred in a mixedwood forest habitat type in large waterbodies with water depth greater than 1 m.

Fifty-two participants from AVAMP and CCS submitted a total of 155 amphibian and 44 reptile observations, including 7 snake hibernacula (den) locations. Data submitted by volunteers represented 80% of the amphibian and 78% of the reptile species native to the province (Table 1).

Table 1. Records of each amphibian and reptile species observed by Wildlife Volunteer and Outreach Project participants in 2013/14.

Species	**Taxonomic name**	**Number of records**
Boreal chorus frog	*Pseudacris maculata*	64
Boreal toad	*Anaxyrus boreas*	12
Bullsnake	*Pituophis catenifer*	2
Canadian toad	*Anaxyrus hemiophrys*	1
Columbia spotted frog	*Rana luteiventris*	5
Great Plains toad	*Anaxyrus cognatus*	0
Long-toed salamander	*Ambystoma macrodactylum*	4
Mountain short-horned lizard	*Phrynosoma hernandesi*	0
Northern leopard frog	*Lithobates pipiens*	3
Plains garter snake	*Thamnophis radix*	26
Plains spadefoot	*Spea bombifrons*	0
Prairie rattlesnake	*Crotalus viridis*	2
Red-sided garter snake	*Thamnophis sirtalis*	12
Tiger salamander	*Ambystoma mavortium*	12
Wandering garter snake	*Thamnophis elegans*	1
Western hog-nosed snake	*Heterodon nasicus*	0
Western painted turtle	*Chrysemys picta*	1
Wood frog	*Lithobates sylvaticus*	54
Yellow-bellied racer	*Coluber constrictor*	0
Total		199

We developed an amphibian reference sheet that volunteers can use in the field to assist with amphibian identification and find instructions for data submission. Also featured is a quick response code that allows smartphone users to access the AVAMP webpage. The identifier sheet replaces the *Amphibian Monitoring Manual*, which is available digitally on the project's webpage. The identifier sheet is expected to improve the project's performance by increasing the quality and volume of data from participants.

Conclusions

Data from the CCS project and AVAMP will provide valuable information for land-use planning efforts and will provide a better understanding of the distribution and status of Alberta's amphibians and reptiles. These established partnerships and volunteer relationships are examples of how ACA can work with a network of enthusiastic volunteers to positively impact conservation.

Communications

- Northwest Chapter: Partners in Amphibian and Reptile Conservation 7th Annual Meeting. "ACA/Alberta Herpetofauna Conservation Projects." Pasco, Washington, USA, February 3 – 7, 2014.

- Beaver Hills BioBlitz. Invited expert (Amphibians and Reptiles). Strathcona Wilderness Centre, Alberta, January 19, 2014.
- 4th Annual Environmental Conservation Sciences Students' Association and Forestry Society, Pro Net Event (Industry expert: ACA/AVAMP), University of Alberta, Edmonton, Alberta, January 9, 2014.
- AVAMP promotion: "Kung-Frog: Legend of the Pondmaster," Interpretive Program, Alberta Parks, Kananaskis Country, Alberta, July/August, 2013.
- *Herpetofauna of Alberta BioBank: Draft Protocol*. 2013. Developed by Alberta Amphibian and Reptile Specialist Group (ACA chair), in partnership with Royal Alberta Museum.
- A. Blair McPherson School, "Urban Sprawl and Its Impact on Animals and Humans," Edmonton, Alberta, May 24, 2013.
- Crowsnest Conservation Society. Boreal Toad Monitoring Workshop. Blairmore, Alberta, July 3, 2013.
- Edmonton Reptile and Amphibian Society. "Herpetofauna Translocations," Edmonton, Alberta, May 21, 2013.
- Junior Forest Warden Spring Conference and AGM. Instructor/presenter: "Alberta's Amazing Amphibians and Remarkable Reptiles." Edmonton, Alberta, April 26 – 28, 2013.

Literature Cited

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

Photo Captions

Alberta Volunteer Amphibian Monitoring Program

The Alberta Volunteer Amphibian Monitoring Program logo captures the essence of the volunteer program: signifying discovery and exploration of the natural world, particularly of amphibians and wetlands.
[filename: Photo1_WildlifeVolunteer_2013-14_ACA.jpg]

Crowsnest Conservation Society members participate in a boreal toad monitoring workshop at a wetland in southwestern Alberta. Photo: Kris Kendell
[filename: Photo2_WildlifeVolunteer_2013-14_Kris Kendell.jpg]

Boreal toad (*Anaxyrus boreas*) tadpoles gather in a sundrenched stretch of shallow water along the edge of a pond in southwestern Alberta. Photo: Jim Rennie
[filename: Photo3_WildlifeVolunteer_2013-14_Jim Rennie.jpg]