

**Alberta Conservation Association
2011/12 Project Summary Report**

Project Name: *Wildlife Volunteer and Outreach Project*

Wildlife Program Manager: Doug Manzer

Project Leader: Kris Kendell

Primary ACA staff on project:

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Partnerships

Alberta Sustainable Resource Development
Crowsnest Conservation Society
Edmonton Reptile and Amphibian Society
TD Friends of the Environment Foundation
Royal Alberta Museum

Key Findings

- Volunteers with the Crowsnest Conservation Society conducted a survey of 20 ponds and identified six boreal toad breeding sites in southwestern Alberta. This information is highly valued for land use planning, particularly for developing forest harvest plans.
- In total, 57 volunteers submitted 245 amphibian and 18 reptile observations, including two snake hibernacula (den) locations. A volunteer recorded an observation of mountain short-horned lizard, which is a very cryptic and endangered reptile species.
- Over 800 volunteers received a copy of our biannual newsletter *Croaks and Trills*.

Introduction

Throughout history, amateur citizen scientists have contributed to the advancement of conservation through their volunteer activities. Through volunteering, individuals are provided the opportunity to improve their skill-set, increase their knowledge of conservation issues, and network with wildlife professionals while simultaneously 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 contribute to an increased understanding of the distribution of Alberta's amphibian and reptile species and are used, along with other data, to assist in updating the general status of amphibians and reptiles in Alberta (Alberta Sustainable Resource Development 2010).

We also partnered with Crowsnest Conservation Society (CCS), a volunteer-based conservation group, to identify the distribution of boreal toads (*Anaxyrus boreas*) in the Crowsnest Pass area

of southwestern Alberta. Data collected by volunteers will be used by wildlife managers to incorporate appropriate setback distances around boreal toad breeding ponds into forestry harvest plans. These data will also support an occupancy study to improve the predictive performance of boreal toad distribution models by identifying habitat as suitable or unsuitable for breeding.

Methods

We provided participants with identification and monitoring guidelines for amphibians, including a CD featuring the calls of the frogs and toads of Alberta. 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 distributed *Croaks and Trills*, the program's biannual newsletter, to help increase awareness of amphibians and reptiles and to assist in maintaining relationships with program volunteers and other interested parties. We are in the process of switching the newsletter from hard-copy to digital format that will be featured as a component of ACA's monthly email newsletter. Going digital with this process will also complement the inclusion of an online volunteer registration and data entry system.

We collaborated with CCS to stratify habitat into areas more and less likely to contain breeding boreal toads and trained their volunteers to apply a customized survey protocol. Between June and August, volunteer surveyors searched ponds along 500-m transects for evidence of boreal toad breeding and recorded pond characteristics, as well as the presence or absence of boreal toads. CCS organized their network of volunteers for the completion of this survey and provided their data to ACA for analysis. We mapped the location of breeding ponds and will use these data to design a tool to predict the location of other breeding locations.

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

Results

The online registration and data entry system for AVAMP participants will be released to the public in late spring 2012. The initial release will contain basic functionality, allowing volunteers to register and record observations online. Additional features such as Google Maps interactivity and online data sharing will be released in mid-to-late 2012. An online volunteer feedback survey was developed to ensure we maintain high-quality volunteer opportunities. In 2011, 29 individuals, families, organizations and/or groups signed up to become members of AVAMP, bringing the total number of program members to over 800. All program members received the biannual newsletter, *Croaks and Trills*.

In total, 57 participants from AVAMP and CCS submitted 245 amphibian and 18 reptile observations, including two snake hibernacula (den) locations. Data submitted by volunteers represented 90% of the amphibian and 67% of the reptile species native to the province (Table 1).

Table 1. Number of records of each amphibian and reptile species observed by Wildlife Volunteer and Outreach Project participants in 2011/12.

Species	Taxonomic name	Number of Records
Boreal Chorus Frog	<i>Pseudacris maculata</i>	96
Boreal Toad	<i>Anaxyrus boreas</i>	34
Bullsnake	<i>Pituophis catenifer</i>	1
Canadian Toad	<i>Anaxyrus hemiophrys</i>	7
Columbia Spotted Frog	<i>Rana luteiventris</i>	12
Great Plains Toad	<i>Anaxyrus cognatus</i>	4
Long-toed Salamander	<i>Ambystoma macrodactylum</i>	14
Mountain Short-horned Lizard	<i>Phrynosoma hernandesi</i>	1
Northern Leopard Frog	<i>Lithobates pipiens</i>	13
Plains Garter Snake	<i>Thamnophis radix</i>	5
Plains Spadefoot	<i>Spea bombifrons</i>	0
Prairie Rattlesnake	<i>Crotalus viridis</i>	0
Red-sided Garter Snake	<i>Thamnophis sirtalis</i>	5
Tiger Salamander	<i>Ambystoma mavortium</i>	9
Wandering Garter Snake	<i>Thamnophis elegans</i>	5
Western Hog-nosed Snake	<i>Heterodon nasicus</i>	1
Western Painted Turtle	<i>Chrysemys picta</i>	0
Wood Frog	<i>Lithobates sylvaticus</i>	56
Yellow-bellied Racer	<i>Coluber constrictor</i>	0
Total		263

Volunteers from CCS visited 20 boreal toad sites between July 30 and August 13, 2011. Volunteers detected boreal toads at six of 20 sites (32%), with confirmed breeding at four of 20 sites (21%).

Conclusions

Data collected by CCS and AVAMP participants will provide information that is valuable to biologists for land use planning efforts and to better understand the distribution and status of Alberta's amphibians and reptiles. AVAMP and the partnership established with CCS are examples of how Alberta Conservation Association can work with a network of enthusiastic volunteers to positively impact conservation through their activities.

Communications

- Invited presentation at the Northwest Partners in Amphibian and Reptile Conservation annual meeting, Portland, Oregon, March 20, 2012.
- 15th annual Alberta Amphibian and Reptile Specialist Group meeting, Red Deer, Alberta, February 29, 2012.
- Presentation to Friends of Fish Creek Provincial Park, Calgary, Alberta, October 27, 2011.

- Edmonton Reptile and Amphibian Society fall show, Edmonton, Alberta, October 1 – 2, 2011.
- Presentation at Wetlands, Trees, and Forests Environmental Event, Viking, Alberta, September 27, 2011.
- *Explore: Alberta Parks 2011 Guide*. Article: “Connecting to Nature via Frogs (Beauvais Lake Provincial Park – the Montane)”. Pages 52 – 53.
- Presentation for ACA Speakers Series at Writing-On-Stone Provincial Park, Alberta, August 5, 2011.
- Presentation to performing arts summer camp, The Karaoke Croak (Musical Theater), Sherwood Park, Alberta, July 12, 2011.
- Presentation at Miquelon Lake Provincial Park, Alberta, July 2, 2011.
- Presentation to Leo Nickerson Elementary School, St. Albert, Alberta, June 2, 2011.
- Presentation to Lundbreck School, Lundbreck, Alberta, April 14, 2011.

Literature Cited

Alberta Sustainable Resource Development. 2010. The general status of Alberta wild species 2010. Available online:

www.srd.alberta.ca/FishWildlife/SpeciesAtRisk/GeneralStatusOfAlbertaWildSpecies/

Photos



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.



Crowsnest Conservation Society members search for boreal toad tadpoles in a wetland. (Photo: Kris Kendell)



Boreal toad tadpoles. (Photo: Jim Rennie)