

**R Researching
A Amphibian
N Numbers in
A Alberta**

**Monitoring amphibian populations and public
education about amphibians inhabiting Alberta.**

**Beaverhill Lake Natural Area Research Site
Spring/Summer Report 1999**



Tyler Flockhart

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Introduction

The spring season at The Beaverhill Lake Natural Area was upon us before all the ice was even melted from the lake. In roadside ditches and small ponds, the calls of the amphibians we are so fond of hearing were chorusing together to signal that spring had indeed arrived. This could only mean one thing: the time had come to once again set up the amphibian traps to help monitor the local populations.

The Beaverhill Lake Natural Area is an excellent candidate for a RANA site. It is a natural area with controlled human traffic, it is located close to a major center (Edmonton) with a high population which increases the potential for general public interest, and most importantly it is located next to one of the largest sloughs on the world.

Under the guidance of biologist Lisa Takats, Jeff Adamyk, Charles Priestley, and myself were fortunate enough to help conduct research on the amphibian fauna within a natural Aspen parkland ecoregion. Our duties included: setting, maintaining and fixing traps, monitoring the traps for amphibian activity, and conducting interpretive talks to visitors to the Natural Area.

Methods

As in previous years, a total of 36 traps (9 fences total) were used in 1999. One trap was moved a small distance due to the presence of an anthill, but besides this the traps remained in their original locations. For the spring season, traps were set on May 11th in the afternoon and spring monitoring started the following day and concluded on June 1st. The traps were checked daily for the total 21 days. Summer monitoring began on July 28th and was concluded on August 17th.

Frogs that were captured were identified, measured, and weighed, and data on individual color, injuries and direction of travel was recorded. This data was collected to study both short term and long term population trends.

Results

Spring

The spring RANA season was very productive. A large number of frogs were captured, mainly being Wood Frogs, spread out over a large area. The single most productive day yielded a total of 21 frogs caught in 25 traps on May 25th (see Table 1). Of the 21 frogs caught, 20 were Wood Frogs and a single boreal (striped) chorus frog, the only one caught in the spring season. Overall, there were 87 Wood Frogs and 1 Boreal Chorus Frog captured for a total of 88 amphibians caught, a complete day by day chart is included. It must be noted that many days in the spring season, the total of 36 traps were not used due to malfunctions, suggestions for improving the traps is included at the end of the report.

Table 1: RANA trapping data for spring 1999 at Beaverhill Lake.

Date	# of traps set	# of nights set	# of malfunctions	# of trap nights	# of captures		captures/ trap night
					WOFR	BCFR	
12-May	36	1	0	36	0		0
13-May	36	1	0	36	1		0
14-May	36	1	12	24	12		0.50
15-May	36	1	12	24	12		0.50
16-May	36	1	20	16	1		0.06
17-May	36	1	20	16	1		0.06
18-May	36	1	20	16	8		0.50
19-May	36	1	20	16	1		0.063
20-May	36	1	19	17	1		0.059
21-May	36	1	16	20	2		0.100
22-May	36	1	20	16	3		0.188
23-May	36	1	18	18	13		0.722
24-May	36	1	12	24	4		0.167
25-May	36	1	12	24	20	1	0.875
26-May	36	1	12	24	4		0.167
27-May	36	1	12	24	1		0.042
28-May	36	1	12	24	0		0
29-May	36	1	8	28	0		0
30-May	36	1	8	28	1		0.036
31-May	36	1	2	34	1		0.029
1-June	36	1	0	36	1		0.028
TOTAL		21			87	1	

Summer

The summer season on RANA at Beaverhill Lake started slowly and never really seemed to pick up the speed some thought it would. Still, the frogs did come and were trapped and released on their movement in order to prepare for the coming winter.

Peak activity occurred on August 7th when a total of 7 Wood Frogs were captured and released (see Table 2). Total number of amphibians caught was 25, a lower number than that of the spring. Most of the frogs caught in the fall were young of the year, which will mean a good population to start next spring.

On July 29th, on only the second day of summer monitoring, history was made. For the first time, a Tiger Salamander was caught and released from the amphibian traps. The discovery, made by Charles Priestley, was one that was long awaited by many and celebrated. Questions have arisen concerning the population of the Tiger Salamander at Beaverhill Lake, this year we have proof that the population still exists.

Table 2: RANA trapping data for summer 1999 at Beaverhill Lake.

Date	# of traps	# of nights	# of	# of trap	# of captures		captures/ trap night
	set	set	malfunctions	nights	WOFR	TISA	
28-Jul	36	1	0	36	0		0
29-Jul	36	1	0	36	0	1	0.028
30-Jul	36	1	0	36	0		0
31-Jul	36	1	0	36	0		0
1-Aug	36	1	0	36	0		0
2-Aug	36	1	0	36	0		0
3-Aug	36	1	0	36	0		0
4-Aug	36	1	0	36	0		0
5-Aug	36	1	0	36	0		0
6-Aug	36	1	0	36	1		0.028
7-Aug	36	1	0	36	7		0.194
8-Aug	36	1	0	36	3		0.083
9-Aug	36	1	0	36	2		0.056
10-Aug	36	1	0	36	0		0
11-Aug	36	1	0	36	1		0.028
12-Aug	36	1	0	36	1		0.028
13-Aug	36	1	0	36	5		0.139
14-Aug	36	1	0	36	0		0
15-Aug	36	1	0	36	2		0.056
16-Aug	36	1	0	36	2		0.056
17-Aug	36	1	0	36	0		0
TOTAL		21			24	1	

Visitors

During the annual Snow Goose festival (April 24-25) over 300 people were exposed to the RANA project. A field trip for the Edmonton Natural History Club was conducted on May 22 (see ad at right). Fourteen people participated in this trip led by Lisa Takats. Over the rest of the spring and summer many visitors came to the natural area and observed the RANA project. Signs at each of the arrays explained what the study was and why it was being conducted.

May 22 – Croaks and Trills at Beaverhill Lake

A casual hike looking for amphibians of the Beaverhill Lake Natural Area. Search for different life stages and learn about different amphibian and reptile projects being conducted in the province.

- Leader: Lisa Takats 427-1249
- Difficulty: Easy hiking about 3-4 hrs.
- Meet: 7:30 a.m. at Tim Horton's 10310-31 Avenue to drive out to lake.
- Length: A little over half a day, bring a lunch and rubber boots.



Suggestions

Although the spring and summer RANA seasons were successful, there were some suggestions that came to our attention that may help amphibian monitoring be easier.

- 1) The trap lanes were mowed at the beginning of each season, which to our knowledge did not happen last year. We feel this is a good idea for two reasons: a) to help the frogs move more quickly into the traps and b) to keep the site organized and tidy which helps with public interpretation.
- 2) Regarding the traps themselves, Beaverhill Lake is located in an area with extremely sandy soil. Traps become flooded easily and the sand offers little support making the sand collapse and making the trap useless. We suggest the use of rebar for two reasons: a) to hold the can in place along with surrounding sand and b) to help avoid the can floating on the top of the underlying water (a high water table is common in wetlands).

Perhaps the above two suggestions will help the traps at Beaverhill Lake and other RANA sites be easier and more effective to operate.

Conclusions

Two separate trapping seasons were introduced this year in order to monitor amphibian populations during peak migration. The spring season was more productive than summer, however, the summer trapping period did produce a rare Tiger Salamander. The 1999 RANA year was a success and we look forward to the 2000 summer and the results and surprises that it brings.

Check out last year's RANA report on our website:

<http://www.ualberta.ca/~jduxbury/BBO/bbowhatsnew.htm#amphib>

We at the Beaverhill Bird Observatory are proud to be a part of important research on amphibians and look forward to a higher awareness towards amphibians.



Tyler and Charles checking RANA traps.



Charles Priestley weighs a Wood Frog



A young-of-year Plains Garter Snake (*Thamnophis radix*) that was found along one of the fences. A number of these snakes were found this year, but the hibernaculum was not located.