

THE STATE OF AMPHIBIAN BIODIVERSITY ON THE TRENT UNIVERSITY SYMONS CAMPUS

Trent University ERSC-4830 2023 FW

Olivia Gaetz, Riley Bowman, Dr. Kaitlyn Fleming (Trent School of the Environment), Dr. Thomas Hossie (Trent University Biology Department), Matthew Walmsley (Trent Community Research Centre), Ali Giroux (Trent Lands Stewardship Coordinator)

RESEARCH OBJECTIVES

Assess amphibian **road mortality**



Formulate **traffic and development recommendations**



Assess **life histories of amphibian species** to determine habitat requirements



Compile a **photographic inventory** of observed species



ROAD MORTALITY SURVEYS

Goal is to observe **amphibians moving across roadways** during their fall migration period

Conducted in **October and November** during rainy evenings

Researchers walked **4 survey sites** (Fig. 1), **replicated 3 times per site**



OPPORTUNISTIC SURVEYS

Goal is to observe **amphibians within the Trent Nature Areas**, and to observe the habitats being used

Conducted in **October and November** during warm, sunny days

Researchers walk through **3 survey site** (Fig. 1), **focusing on key habitats**, replicated **2 times per site**



SURVEY SITES

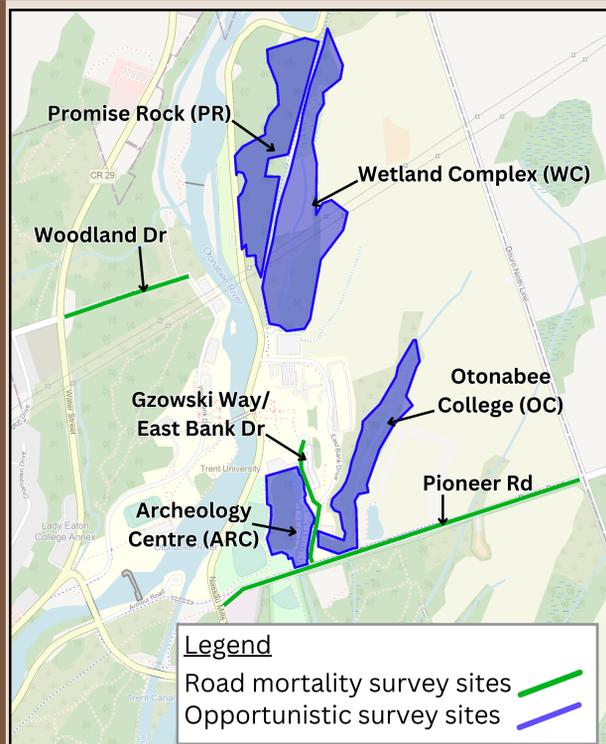


Figure 1: Map of survey sites.

SURVEY RESULTS

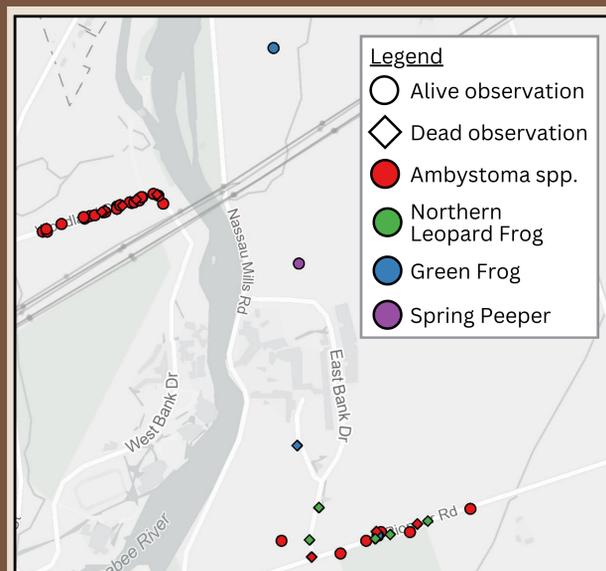


Figure 2: Map of observations from all surveys.



Figure 3: Percent observations by species: 87% ambystoma spp., 6.5% green frog, 5.2% northern leopard frog, 1.3% spring peeper from all surveys.

CITIZEN SCIENCE

Data was collected from citizen science databases to compare historic and current amphibian observations.



Species Name	Observed Historically (prior to 2019)	Observed Recently (2019 to present)	Observed During Surveys
Northern Leopard Frog	yes	yes	yes
Ambystoma Spp.	no	yes	yes
Green Frog	yes	yes	yes
Spring Peeper	yes	yes	yes
American Toad	yes	yes	no
Grey Treefrog	yes	yes	no
Wood Frog	yes	yes	no
Western Chorus Frog	yes	yes	no
Eastern Red-backed Salamander	yes	yes	no
American Bullfrog	yes	yes	no
Mink Frog	yes	no	no

Figure 4: Summary amphibian species observed on campus.

RECOMMENDATIONS

Further research should be done to strengthen the knowledge about amphibians on campus.

Recommended surveys include **frog call monitoring**, and **opportunistic surveys during the summer** months.

A focus on **outreach and education** is recommended to gain community support and **encourage citizen science contributions**.

You can contribute by joining [inaturalist.org](https://www.inaturalist.org)



ACKNOWLEDGEMENTS



Trent Lands and Nature Areas Plan



The researchers of this project would like to acknowledge and thank the following volunteers; Abigail Thompson, Autumn White, Charlie Manuel, Harry Manuel, and Jilian Mattiussi