

Title: The effects of glyphosate-based herbicide on the populations and physiology of mammals in a forest food web

Level: PhD Student

Location: Prince George, BC, Canada

Start date: May or September 2025

Duration: 3-4 years

Opportunity description:

Glyphosate-based herbicides (GBHs) are applied extensively throughout Canada by several industrial sectors to promote the growth of commercial crop species, to protect infrastructure, and to maintain sight lines. Recent evidence from laboratory studies has identified links between the ingestion of GBHs and adverse health effects in mammals, including anxiety-like behavior, gut inflammation, and changes to metabolic responses. Despite potential health effects, little is known about the effects of widespread glyphosate application on the health, physiology, and population abundance of free-roaming mammals. Accordingly, this PhD position aims to better understand the effects of GBH application on mammals in forested ecosystems. The project is part of the [GROW Alliance](#), a group of researchers from the University of Northern British Columbia (UNBC) and the University of British Columbia in collaboration with the Swan River First Nation, The British Columbia Wildlife Federation, and the British Columbia and Alberta Trapper's Associations. The PhD student will be co-supervised by Dr. Jeffery Werner (UNBC and Province of BC) and Dr. Heather Bryan ([UNBC Wildlife and Ecosystem Bioindicator Lab](#)) and will be based at the Prince George campus of UNBC.

The PhD student will design and execute field experiments to assess the impacts of GBH application on target species and broader ecosystem health. One component of the PhD project will involve a field trial in cut blocks treated experimentally with GBH spray to examine the effects of GBH on red-backed voles. This work will use a mark-recapture design to examine population-levels effects of GBH on voles and will require lab work to examine effects on vole microbiome and physiology via the collection of feces. The student will work with the project supervisors and collaborators to design other components of the research, which may focus on species such as hares, weasels, moose, deer, or elk.

Qualifications:

- MSc in ecology, wildlife biology, conservation, or similar discipline
- Experience working in both the field and laboratory
- Comfortable working in remote locations at night in challenging terrain
- Strong writing skills
- Previous experience with data management and quantitative data analysis using programs such as R and/or Python
- Keen attention to detail and organizational skills
- Independent work ethic with the ability to collaborate in a multidisciplinary team
- Valid class 5 driver's license required
- Experience with small mammal research and trapping is an asset
- Experience working with Indigenous communities and hunting/trapping groups is an asset

Stipend:

The PhD student will receive a minimum stipend of \$25,000/year for three years. Additional support is in place for research expenses and academic travel expenses.

Include with application:

- Cover letter
- CV
- Unofficial academic transcripts
- Name and contact information of three references

To Apply:

Please email your application as a single PDF file with your name and “Glyphosates and Small Mammals PhD Application” in the subject line to:

Heather Bryan, heather.bryan@unbc.ca

Applications received on or before December 15, 2024, will receive full consideration; however, applications will be accepted until the position is filled.

Our Commitment to Diversity and Employment Equity

The University of Northern British Columbia is fully committed to creating and maintaining an equitable, diverse, and inclusive environment that is accessible to all. We are devoted to ensuring a welcoming, safe, and inclusive campus free from harassment, bullying, and discrimination. This commitment is woven into our motto and mission. In the Dakelh language, UNBC’s motto ‘En Cha Huná translates to “he/she/they also live” and means respect for all living things. Through the respect for all living things, we are able to grow and learn better together, each bringing our own unique individual differences and contributions to inspire leaders for tomorrow by influencing the world today.

Employment equity requires that we remove barriers and overcome both direct and indirect discrimination. In this way, the pool of excellent candidates increases substantially. We encourage applications from members of groups that have been marginalized on any grounds enumerated under the B.C. Human Rights Code, including sex, sexual orientation, gender identity or expression, racialization, disability, political belief, religion, marital or family status, age, and/or status as a First Nation, Metis, Inuit, or Indigenous person.

About the University and its Community

Since its founding in 1990, the University of Northern British Columbia (UNBC) has emerged as one of Canada’s best small research-intensive universities, with a passion for teaching, discovery, people, and the North. UNBC’s excellence is derived from community-inspired research, hands-on learning, and alumni who are leading change around the world.

Since time immemorial, Indigenous peoples have walked gently on the diverse traditional territories where the University of Northern British Columbia community is grateful to live, work, learn, and play. We are committed to building and nurturing relationships with Indigenous peoples, we acknowledge their traditional lands, and we thank them for their hospitality. UNBC's largest campus in Prince George is located on the traditional unceded territory of the Lheidli T'enneh, in the spectacular landscape near the geographic centre of beautiful British Columbia.

UNBC's three regional campuses are located in Quesnel, Fort St. John, and Terrace. The South-Central campus in Quesnel is situated on the traditional territory of the Lhtako Dené (Red Bluff Band), Nazko, Lhoosk'uz Dené Nation (Kluskus Band), and Esdilagh First Nations (formerly Alexandria Band). Lhtako, Nazko, and Lhoosk'uz are Dakelh First Nations, and Esdilagh is a member of the Tsilhqot'in Nation. The Peace River-Liard campus in Fort St. John is situated on the traditional territory of the Doig River, Blueberry River and Halfway River First Nations. They are the Dunne-Za people. The Northwest campus in Terrace is situated on traditional Ts'msyen (Tsimshian) territory of the Kitsumkalum and Kitselas First Nations. It includes a satellite campus in the coastal community of Prince Rupert.

UNBC consistently ranks in the top three in its category in the annual Maclean's university rankings. UNBC also recently placed among the top five per cent of higher education institutions worldwide by the Times Higher Education World University Rankings. With a diverse student population, the University is friendly, inclusive, and supportive. Prince George is a city of ~74,000 people with impressive cultural, educational, and recreational amenities. For more information about living and working in Prince George, please refer to <http://www.unbc.ca/experience> and <https://moveupprincegeorge.ca>. Make your mark with this leading post-secondary institution.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. We thank all applicants for their interest in UNBC however, only those applicants selected for further consideration will be contacted.