

Together for Wildlife

Together for Wildlife HCTF Conservation Scholarship

Recipient 2026

Kara Atkinson



Kara is a PhD student at the University of British Columbia's Okanagan campus working under Dr. Michael Noonan. She is studying the limitations of temperature on the movement and energetics of the at-risk Great Basin Gopher Snake.

Climate change is a leading cause in the disruption of ecological progresses, causing long-term shifts in temperature as well as increased weather variability. As ectotherms, snakes cannot produce body heat and are at increased risk from environmental shifts in their ecosystems under anthropogenic climate change.

Snakes are cryptic animals that can be difficult to observe in the wild. Small, implanted devices such as radio-telemetry transmitters and accelerometers, basically Fitbits, can illuminate the secret lives of these species, logging information even when the animal is not directly observed. Combining the information from these two devices gives a detailed view of how an animal goes about its daily life, including daily activity periods, energy expenditure, feeding events, temperature regulation, migration, and habitat use. This information informs the mechanics of how climate change may individuals across a species, and highlight individual variation in resilience to these challenges.

The Great Basin Gopher Snake is a threatened species endemic to the endangered grasslands of British Columbia, where they reach their northern limit. Much of their habitat in this region has been degraded or lost from human activities and further threats to key habitat features, such as hibernacula, are ongoing. Protections and legislation for gopher snakes are often based on research from the less cryptic Western Rattlesnake, while large knowledge gaps still exist for the gopher snake. The proposed research aims to use both radio-telemetry and accelerometry to better understand the natural history and energy limitations of the Great Basin Gopher Snake in a northern ecosystem, where temperature creates a challenging environment for ectothermic animals. To complement this snake activity data, she will also be collecting data from camera traps on the activity of the small mammal prey population, to understand how the snakes' activity period compares to that of their prey. Considering climate change and projected aridification in the area, understanding how temperature changes the behaviour of reptiles is essential in the protection of these species.

Working with the Nk'Mip Desert Cultural Centre, Kara hopes to help fill knowledge gaps on this species through research in protected, natural habitat on Osoyoos Indian Band land. Responsibility to the land is a priority for the centre, and the research from this work both helps uncover information on native species as well as creating opportunity for indigenous-led conservation.



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