

# Together for Wildlife

## Together for Wildlife HCTF Conservation Fellowship Recipient 2023



Jamie Clarke

Jamie Clarke (she/her) is a Master's student at the University of Victoria, working under the supervision of Dr. Jason Fisher and in collaboration with Holger Bohm, BC's Ungulate Specialist. Jamie will be testing camera traps as a tool for density estimation, and comparing density estimates of ungulates from camera traps to aerial ungulate surveys - an industry-standard, but imperfect, survey method.

Knowing how many animals of a given species are in an area - density - is very valuable information. Measures of density can be used to track whether populations shrink or grow, whether the actions we take to protect animals are working, and to tell hunters how many animals they can harvest. Ungulate densities are of particular management interest. In BC, robust estimates of deer, moose, elk and caribou densities are essential, as they are important (and, in some places, declining) game species. Densities for ungulates in BC are typically estimated using aerial helicopter surveys. Though aerial surveys are a standard survey tool with important advantages, they can also be costly and dangerous, and can produce unreliable density estimates.

Jamie's research examines camera traps as an alternative survey tool for estimating ungulate densities. Camera traps are passive detectors that capture images and/or videos of animals when they pass through the field-of-view, triggering sensors. In contrast with aerial surveys, camera traps are minimally disruptive, and can collect data for long stretches of time and on multiple species at once. Camera trap data can be used to study a wide variety of ecological questions, including community composition, recruitment and survival, habitat selection, health, and behaviour.

To evaluate camera traps for ungulate density estimation, Jamie will be conducting aerial surveys of ungulate populations following BC's current standard protocols and setting up a camera trap network to test 3 different camera trap density models. Using these two survey methods over the same area and at the same time, Jamie will be able to directly compare each tool and research method.

This project builds from Jamie's previous work at WildCAM, writing a handbook on camera trap density estimation. Jamie hopes her project's findings will contribute directly to practical stewardship solutions in BC and help keep wildlife populations healthy and flourishing.



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