Al Martin HCTF Conservation Fellowships Recipient 2022

Siobhan Darlington

Siobhan Darlington (she/her) is a PhD student in Biology at the University of British Columbia Okanagan working under the supervision of Dr. Adam Ford and Dr. Karen Hodges. She holds a Master of Science in Environmental Studies from the University of Victoria and a Bachelor of Science in Biology from Dalhousie University.

She grew up by lakes and the ocean outside of Halifax, Nova Scotia but developed a fascination with all things terrestrial. While working in conservation outreach with the Nature Conservancy of Canada in the Maritimes, she developed her bird ID skills and monitored the impacts of peat harvesting on declining bank swallow colonies. She became passionate about tagging and tracking wildlife to better understand how humans impact their populations through habitat alteration.

Siobhan's thesis titled "The spatial ecology and foraging dynamics of cougar in the southern interior of British Columbia" focuses on the effects of forest harvesting, wildfire, and human activity on the distribution, population demographics, and diet of cougars. Cougars are managed as a game species in British Columbia and are primary predators of southern interior mule deer, a species which experienced a period of decline during the last decade. Siobhan's research on the Southern BC Cougar Project will tie habitat use by cougars to the prey species they consume including mule deer, elk, moose, and white-tailed deer in three study areas: The West Okanagan, Boundary, and Kootenays.

A day in the field with Siobhan may include snowmobiling through backcountry mountains in search of fresh cougar tracks, capturing and GPS-collaring cougars, snowshoeing to their winter kills, or traversing kilometers of deadfall in the hot summer months to radio-track a denning female and ear-tag her kittens. Siobhan uses groups of GPS locations transmitted every 2 hours to identify potential cougar kills, areas where they are likely to be feeding for more than 12 hours. She and her team search for buried animal remains at the base of trees and identify the prey species, sex, and collect hair samples, a femur to extract bone marrow, and the lower jaw to extract incisors for lab aging. They further collect information on habitat characteristics such as canopy cover, plant species, terrain, and signs of human presence, roads, cutblocks, or burns nearby. If the cougar is still actively feeding, they install a trail camera facing the carcass to detect the presence of scavengers such as wolves, black bears, coyotes, and turkey vultures which may impact how long a cougar feeds before moving on to kill their next prey. Back at the office, Siobhan organizes field crews, volunteers, analyzes data, conducts lab work, and gives continues b



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public presentations to share her research findings and provide education about the elusive behaviour of cougars.

The Southern BC Cougar Project is the most comprehensive cougar study in BC's history and is a collaboration between UBC Okanagan and the Ministry of Forests with support from the Okanagan Nation Alliance and is a HCTF-funded enhancement and restoration project. The project goals are to collect baseline data on cougar distribution, habitat needs, diet, reproduction, survival, and identify the potential impacts of widespread forest disturbances and human activity on their populations. To date, the team has GPS-collared 45 individual cougars, monitored 33 offspring, and confirmed over 800 kills. The results of this study will directly inform the development of a cougar management plan for the province and tie cougar predation of ungulate species such as mule deer to environmental change in the southern interior. More information about the project including recorded presentations can be found at www.bccougarproject.weebly.com

