Together for Wildlife HCTF Conservation Fellowship
Recipient 2023

Harry Zhang

Harry (Yiduo) Zhang is a Ph.D. candidate of Earth and Environmental Science at the University of British Columbia, Okanagan Campus. He is a member of the Complex Environmental System Lab under the supervision of Dr. Lael Parrott. His research interest is to apply GIS and model simulation to solve practical environmental management problems in complex socio-environmental systems. Harry holds a Bachelor's degree in Environmental Science and a Master's in Environmental Management.

Harry finds enthusiasm in applied problem-solving using technical approaches. "Feeding the right data to the right tools to inform the right decisions" loosely summarizes his work and study. After obtaining his Master's degree, Harry worked as a remote sensing analyst in vegetation and fire management in the United States for two years. He then returned to China to work on a remote sensing project on snow leopard conservation in Tibet. Being a Chinese national having worked and studied in North America for over a decade, Harry is an experienced intercultural communicator with first-hand knowledge building understanding across Western and non-Western cultures. This unique experience strengthens his scientific and technical skills when working with stakeholders from various cultural backgrounds to solve wildlife conservation problems.

Harry's Ph.D. research is a grizzly bear habitat modeling project that involves Indigenous participation and traditional knowledge input, and aims to achieve two primary goals The first goal is to bring grizzly bear habitat restoration opportunities into the Kettle-Granby area of southeastern B.C., which may in the long term radiate its positive effects, including the reintroduction of a viable grizzly bear population, into the neighboring extirpated areas. The second goal Harry's research addresses is to experimentally develop a participatory modeling framework that combines the strengths of data-driven scientific modeling and the rich resources of the traditional ecological knowledge held within Indigenous communities, as part of the overarching effort to establish a new paradigm of Indigenous empowerment in applied wildlife conservation and natural resource management.

An agent-based modeling approach simulates the study area's interactive bear-landscape system. Autonomous mobile bear agents are programmed to roam on and interact with the modeled landscape that represents the physical environment. Conclusions about the habitat characteristics are drawn from observed habitat use from the model simulations. In the participatory process, Indigenous bear experts are asked to give their opinions on the model design, key mechanisms, and its usage. They are also invited to formulate conservation scenarios that are meaningful to the communities and the values they hold. Interested Indigenous community members will validate the scenario simulation results along with expert opinions. Finally, the indigenous participants will use these model results to inform future conservation decisions.