Summer 2023 Sustainability Scholars Program Internship Opportunity

The UBC Sustainability Initiative (USI) is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the Sustainability Scholars Program website to learn how the program works and to apply.
- Be sure to review the application guide on the Apply page to confirm your eligibility before applying.

Applications close at midnight on Sunday January 29, 2023.

Research to inform inclusion of Fraser River watershed Chinook tributaries as designated Critical Habitat for Southern Resident Killer Whales

Project Background & Overview:
As a nursery and feeding ground, the Fraser River estuary connects a food web linking fish, birds, and marine mammals across thousands of kilometers of the North Pacific Ocean. Fraser River Chinook salmon are an international transboundary species with habitat ranges spanning from the Fraser River and the Salish Sea to Alaska and are the preferred prey of Southern Resident killer whales (SRKW).

SRKWs are a distinct transboundary population of Resident killer whales that are listed as endangered under Canada's Species at Risk Act (SARA). Legally protected habitat of Southern Resident killer whales is located within the transboundary marine waters of the Salish Sea from Swiftsure Bank to the Southern Georgia Strait. The northeast terminus of this critical habitat is the Fraser River Estuary, where Southern Residents follow Chinook salmon that are migrating back to their natal watershed to spawn. Chinook from the upper, middle, lower and Thompson portions of the Fraser watershed are important contributors to the diets of Southern Residents from Spring to Fall. This importance is underscored by the correlation between the body condition and survival of J pod with the abundance of Fraser River Chinook.

Critical Habitat in the Salish Sea is managed jointly by Canada, the United States, the Province of British Columbia, Washington State, and informed by dozens of Indigenous Nations throughout the region.

This project will work to advance the inclusion of the Fraser River watershed Chinook tributaries as designated Critical Habitat for SRKWs under the Species at Risk Act.

Project description

The purpose of this project is to conduct a deep dive into how Critical Habitat is defined, how it is applied ecologically and legally under Canada's federal legislation, and its role in protecting endangered species and advancing their recovery. Specifically, the outcome of this project will demonstrate the value of extending Critical Habitat upriver into Chinook tributaries in the Fraser River watershed, and how this designation would encourage a shift from unsustainable land use practices (e.g., forestry, mining, water licenses) that could support Chinook salmon habitat protection, SRKW recovery and advance climate change adaptation that threatens them both. This project will conclude with a mock pitch to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), presenting the scientific argument for expending SRKW Critical Habitat into the Fraser River watershed.

Project scope

The scope of this project includes conducting a background literature review of Southern Resident killer whales and Fraser River Chinook salmon and their predator-prey relationship. The student will also explore how Critical Habitat is defined, what is considered when designating Critical Habitat, and case studies of how Critical Habitat has been updated or extended to include the habitats of prey resources beyond where predators access them.

Key questions the Scholar will research include:

1. How is Critical Habitat defined under the Species at Risk Act?
2. What is considered when defining Critical Habitat?
3. Are there other case studies of Critical Habitat extending beyond the foraging grounds of the focal endangered species?
4. Does this proposed expansion of critical habitat fit within the existing criteria used to determine Critical Habitat by COSEWIC?
5. If not, can COSEWIC's criteria be updated?
6. How would updating these guidelines to extend Critical Habitat into Fraser River watershed Chinook-bearing tributaries support climate change adaptation, salmon habitat protection, and SRKW recovery?

Primary activities the Scholar will conduct include:

1. Literature review of the following information:
    a. Scientific papers on the Chinook salmon diets of Southern Resident killer whales;
    b. Policy on how Critical Habitat is defined and the ecological considerations in this definition;
    c. Current land-use practices in the Fraser River watershed and how they impact salmon productivity and further climate change impacts on salmon declines that are linked to nutritionally-stressed state of SRKW.
2. Scope a pitch to COSEWIC outlining how either the existing or updated criteria could be expanded to include Chinook tributaries that could advance salmon and SRKW recovery.
3. Summarize the above in a final report provided at the end of the program.
4. Engage in a stakeholder meeting to share results of the report.

Deliverables

- A final report containing a summary of the work completed
- A final report for the online public-facing Scholars Project Library.
- Article that summarizes report and findings for the public (hosted on Raincoast's website).

Time Commitment

- This project will take 260 hours to complete: 250 hours to be allocated to the research, and 10 hours to be allocated to participating in meetings and collaboration opportunities with the rest of the FERC cohort
- This project must be completed between May 1 to August 15, 2023
- The Scholar is to complete hours between 9 am and 5 pm, Monday to Friday, approximately 17 to 20 hours per week.
- The Scholar must live in the lower mainland to be available to attend FERC meetings and events in person.

Required/preferred Skills and Background

☒ Excellent research and writing skills
☒ Demonstrated interest in sustainability
☒ Strong analytical skills
☒ Ability to work independently
☒ Deadline oriented
☒ Interest or background in ecology, marine ecosystems, whale/salmon ecology, an asset.
☒ Experience researching an analysing policy, an asset
☒ Understanding of both ecology and the legal system of Canada, an asset.

Applications close **midnight Sunday January 29, 2023**
Apply here: Click here to apply
Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions

Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 23, 2023. Click here for details and to register.

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae

https://www.grad.ubc.ca/current-students/graduate-pathways-success

https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services