

# Graduate Research into 1) habitat use by juvenile Chinook Salmon in the Canadian Okanagan River and Lake system and 2) predation on juvenile salmon in the Canadian Okanagan River and Lake system



Conservation  
and  
Stewardship

Okanagan Chinook are the only remaining Columbia River Chinook Salmon population in Canada. Their abundance is very low, currently less than a couple hundred spawners, but their abundance was likely in the high thousands before the Canadian Okanagan and Columbia River were developed for Agriculture, Flood Control, and Hydro-power Generation, resulting in physical exclusion from spawning and rearing habitats. Fishing rates have also been high through history, with recent (2009-2018) exploitation rates around 60%. A significant portion of the harvest occurs in the U.S. Columbia River.

COSEWIC has identified this single river Designatable Unit as **ENGANGERED**, and it is currently undergoing review for listing under the Species at Risk Act. Additionally, this stock is part of Batch 1 for the Fish Stock Provisions under the Fisheries Act. Rebuilding the abundance of Okanagan Chinook is a priority for First Nations and local, provincial, and national fisheries agencies on both sides of the boarder.

Recently, the Pacific Salmon Commission conducted a series of 5 workshops with fisheries professionals and First Nations which examined threats, impediments to survival, and mitigation approaches to increase the abundance of Okanagan Chinook.

Similarly, a [Recovery Potential Assessment \(DFO Pacific Region CSAS\)](#) and DFO Risk Assessment Methods (RAMS) have been applied and also identified threats and mitigations. Two main data gaps highlighted from this work include the juvenile habitat use in the Okanagan, which has been highly disturbed and degraded, and the level of predation on juvenile Chinook salmon by native and non-native fishes.

## Take-aways

- Okanagan Chinook are endangered due to habitat destruction and over-fishing.
- Juvenile Chinook habitat use and risk from predators has not been well studied and may be key factors regarding climate change, invasive species, and restoration efforts.
- This population study hires graduate students to research juvenile Okanagan Chinook and track survival through tagging.

To enable rebuilding, it will be essential to have information on habitat use and to understand the threat posed by predation. The use of graduate students will allow for targeted and timely research while building capacity and knowledge for when the students enter the workforce.

## Timeline

- ✓ March 2024: Hire two grad students
- ✓ June 2024: Progress report
- 🔄 Nov 2024: Progress report post field season to determine the success of the field season and layout the data analysis steps
- 🔄 March 2025: Completion report will describe the progress, initial results from the data analysis and layout next steps to get to publication.

DFO Science Division  
**Stock Assessment  
and Research**

DFO Science Section  
**Fraser and Interior  
Area Salmon Stock  
Assessment**

Project Leads  
**Lauren Weir**

Collaborations  
**Okanagan Nation  
Alliance**

Locations  
**Okanagan River  
Columbia**

Species  
**Chinook**

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**2442**



Okanagan



Enumeration

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