Al Martin HCTF Conservation Fellowships
Recipient 2021

Kaitlyn Zinn

Kaitlyn Zinn is a PhD student in the University of British Columbia's Faculty of Forestry under the supervision of Dr. Scott Hinch as part of the Pacific Salmon Ecology and Conservation Laboratory. She holds a Master of Science in Zoology and a Bachelor of Science in Natural Resource Conservation.

Growing up, Kaitlyn was always fascinated by fish and their habitats. She grew up ocean fishing on the coast, and eventually got into freshwater fly fishing. Through her experiences she has fostered a connection with salmonids that has led her to this career path. Kaitlyn believes that connecting with fish firsthand, especially through recreational fishing opportunities, is extremely important for cultivating the next generation of conservationists.

Kaitlyn's thesis "Effects of Recreational Catch and Release on Chinook: From Marine Environments to Spawning Grounds" focuses on the effects of catch and release on Chinook salmon, which is a sought-after sport fish and declining Pacific salmon species in British Columbia. Along with developing an understanding of Chinook marine migration ecology, Kaitlyn's research will also build on previous catch and release research by following Chinook from the ocean to the spawning grounds. This will allow examination of the consequences of different fishery encounters, warm water temperatures, and infectious agents to further understand how these cumulative stressors may affect spawning success.

Her research takes place in Barkley Sound, and assesses post-release survival following a recreational fishing interaction. She aims to mimic the recreational fishery with traditional rod and reel techniques. This involves using various gear types (i.e. hook size, flasher vs no-flasher, bait vs. artificial) and handling practices (i.e. air exposure, net use) used by public anglers. Individual characteristics including physical condition (i.e. wounds, scale loss, blood loss, previous capture wounds), and genomic state (i.e. infectious agent presence, stress related gene expression) will be cataloged and compared among the Chinook tagged and released. These factors will help to determine the overall health condition of the individual fish, and point to clues of subsequent mortality. All captured Chinook will be outfitted with a visual (spaghetti) tag as well as a passive integrated transponder (PIT) tag. A subset of fish will also receive acoustic tags, which allow more precise tracking. Tagged Chinook will allow her to examine how survival varies relative to the catch and release event, and tracking fish to the freshwater environment enables investigation of long-term survival and spawning success.

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The intended outcome of this project is to develop the most accurate estimates of post-release survival. This information will be used for escapement modeling and developing technologies that improve angler's abilities to minimally impact Chinook intended for release. Further, this research will help understand how climate change may affect the survival of released Pacific salmon, and subsequent spawning success. Kaitlyn hopes that her research will ultimately play a role in enabling continued sustainable recreational fishing, and intends to help her research group produce a scientifically defensible 'best handling' guide that will assist recreational anglers in reducing their impact on Pacific salmon intended for release.

In the future, Kaitlyn hopes to continue studying salmonids and teaching salmonid ecology to undergraduate university students. Long-term, Kaitlyn's goal is to be involved in salmonid conservation, contributing to the conservation of wild salmon stocks in British Columbia. She also hopes that her work will inspire more women to get involved in both sport fishing and academia.