

Postdoctoral Fellowship

The Ecosystem Role of Harp Seals in Newfoundland & Labrador

A postdoctoral fellowship is available at the Centre for Fisheries Ecosystems Research, Fisheries & Marine Institute, Memorial University, St. John's, NL, Canada.

Harp seals have increased in abundance in Newfoundland and Labrador during the past decades, estimated at 2 million individuals in the 1970s, 5.5 million in 2001, and 7.6 million in 2019. This growth in seal population is accompanied by increased consumption of prey species – many of which are also targeted by fishing, such as northern cod, shrimp, capelin, herring, and redfish. Studies that have looked at the role of harp seal predation on northern cod population dynamics have concluded that they are not the main driver. However, estimations of harp seal diet are mostly based on nearshore sampling and it is unknown if they are representative of offshore foraging. This presents a key uncertainty in estimating the ecosystem impact of harp seals in Newfoundland and Labrador marine ecosystems. The role of harp seal predation on commercially harvested species other than northern cod has not received much attention and is also a key knowledge gap.

This project will employ two ecosystem modelling approaches – Ecopath and size-based (mizer) – to evaluate:

- the ecosystem role of harp seals
- harp seal prey consumption rates
- how harp seal prey consumption compares to fisheries removals for the same species
- how various harp seal diet configurations influence the above estimates
- scenarios of increasing or decreasing harp seal abundance with implications for their ecosystem role and impact on fisheries

This framework allows for continued model development and updates as additional harp seal information becomes available; including diet data, movement and spatial distribution data, stable isotope or fatty acid data, abundance of prey, and fisheries removals.

Location: The candidate will be based at the Fisheries & Marine Institute, Memorial University, in St. John's, NL, Canada. Memorial University is a hub of ocean sciences located in the Province's capital. St. John's is a safe and friendly city with great historical charm, known for its hospitality, live music, a vibrant cultural life, and easy access to wilderness and a wide range of outdoor activities.

Requirements:

- PhD in Fisheries Science/Ecology, Statistics, Mathematics, Marine Ecology/Biology, Oceanography or related discipline
- Demonstrated quantitative skills in ecosystem and/or statistical modelling
- Strong writing and communication skills

Duration: September 1, 2023 – August 31, 2025

Salary: \$60K/year plus benefits

To apply: Please send a cover letter explaining your relevant experience to, and interest in, the position, with CV to Dr. Tyler Eddy tyler.eddy@mi.mun.ca. Position will remain open until filled and is subject to final approval.