

---

**PhD Defense: Emma Atkinson, January 15, 1:00 PM Online Only - Day Correction**

1 message

---

**Biological Sciences** <biosci-ualberta.ca@shared1.ccsend.com>

Mon, Jan 12, 2026 at 2:00 PM

Reply-To: biosci@ualberta.ca

To: kbudinsk@ualberta.ca



**PhD DEFENSE**

**PhD Defense - Emma Atkinson**  
**Date:** Thursday, January 15, 2026  
**Time:** 1:00 pm  
**Supervisor(s):** Dr. Mark Lewis & Dr. Stephanie Green  
**Location:** **ONLINE ONLY**

+ ADD TO  


"Prawn tales: A deep dive into the population biology and fisheries management of spot prawns (*Pandalus platyceros*) in British Columbia, Canada"

**Abstract:** Marine invertebrates have long supported ecosystems and fed people in Pacific Canada. Today, marine invertebrates increasingly form the foundation of commercial fisheries in Pacific Canada, outpacing the scientific capacity to manage them. Despite their ubiquity, large populations, and broad dispersal as larvae, marine invertebrate populations can and do collapse. Some are sequential hermaphrodites whose complex life histories interact with fishery dynamics in poorly understood ways.

This thesis examines the population biology and management of spot prawns (*Pandalus platyceros*) in British Columbia, a protandrous hermaphrodite targeted by a commercial trap fishery operating under a fixed escapement framework. In Chapter 2, I use a theoretical population model to show that variable fishing pressure on males can generate oscillating dynamics in the fishery length, a pattern consistent with commercial data. Limiting male harvest led to a more stable, longer annual fishery with some catch trade-offs.

In Chapter 3, I conduct a field experiment that finds high post-release survival of spot prawns under immediate release and cool conditions. These results suggest release-based measures may be effective but depend on handling. In Chapter 4, I empirically assess spring escapement of spot prawn female spawners for three regions in BC. Drawing on fishery data and research survey data, I find that escapement routinely falls below management targets despite fishery data suggesting above-target escapement at fishery close. Post-fishery mortality rates were higher and more spatially variable than currently assumed, potentially reflecting elevated mortality, positively biased catch indices, or both.

These findings underline risks of relying on fishery-dependent data and static targets. Together this work provides empirical estimates and analytical tools to support adaptive management by federal and First Nations governments, while illustrating how species-specific investigation of population biology can inform stewardship of growing invertebrate fisheries.

**ZOOM:**

<https://ualberta-ca.zoom.us/j/99113939757?pwd=EyM24brg2waCKCFDaQ4wJbVIDHaCKr.1>

**Meeting ID: 991 1393 9757**

**Passcode: 607133**



[www.biology.ualberta.ca](http://www.biology.ualberta.ca)

---

University of Alberta | Department of Biological Sciences | Edmonton, AB T6G 2E9 CA

[Unsubscribe](#) | [Update Profile](#) | [Constant Contact Data Notice](#)



Try email marketing for free today!