Vita

Candidate's name: Emma Lauren Lippert

Universities Attended:
University of Waterloo (2016)
Bachelors of Science

University of New Brunswick (2021)
Masters of Science
Biology

Publications / Conference Presentations:

November 8-9, 2017 2nd Biennial Canadian Freshwater Mollusc Research Meeting Oral Presentation: "The Effects of the Mactaquac Hydro Generating Station on Freshwater Mussel Assemblages in the St. John River, New Brunswick" Burlington, Ontario Emma Lippert, Dr. R.A Curry

July 11-12, 2018 New Brunswick Museum Freshwater Mussel Identification and Survey Techniques Workshop Oral Presentation: "Freshwater Mussels of the Saint John River" Fredericton, New Brunswick Emma Lippert, Dr. R.A. Curry

Freshwater Mussel Assemblages of the Saint John River, New Brunswick: Establishing Baseline Population Metrics and Habitat Associations

UNIVERSITY OF NEW BRUNSWICK

THESIS DEFENCE AND EXAMINATION

in Partial Fulfillment

of the Requirement for the Degree of
Master of Science

by

Emma L. Lippert

in the Department of Biology

U.N.B., Fredericton, N.B.

Friday, January 14th, 2022
2:00 p.m.

Via MS TEAMS

Examining Committee

Dr. Allen Curry	Supervisor
Dr. Rene Malenfant	Internal Examiner
Dr. Wendy Monk	External Examiner
Dr. Shawn MacLellan	Chair of Oral Examination

Abstract

Freshwater mussels are considered one of the most imperiled animals in the world and continue to experience reductions in distributions and range, and the loss of species from communities. As keystone species and ecosystem engineers, they provide ecosystem services that benefit both the surrounding freshwater environment, e.g., protecting, and sustaining ecosystem functions and water quality. Surveys for freshwater mussels are used to learn about the status of mussel populations and the health of aquatic ecosystems, yet there is a lack of current and historical data for freshwater mussel populations in most of Atlantic Canada. It is concurrently apparent that baseline population data is becoming increasingly important amid threats such as continued anthropogenic pressures, invasive species, and climate change. I present the results of extensive freshwater mussel surveys throughout the Saint John River, New Brunswick, the river with the greatest freshwater mussel diversity in the Maritimes. These surveys help to establish baseline population metrics for the Saint John River and allowed me to determine associations between freshwater mussels and their physical habitat. This baseline information can be used to help better understand the basic ecology of the freshwater mussel community as well as guide freshwater mussel management, conservation, and future freshwater mussel research efforts in the Saint John River and New Brunswick.