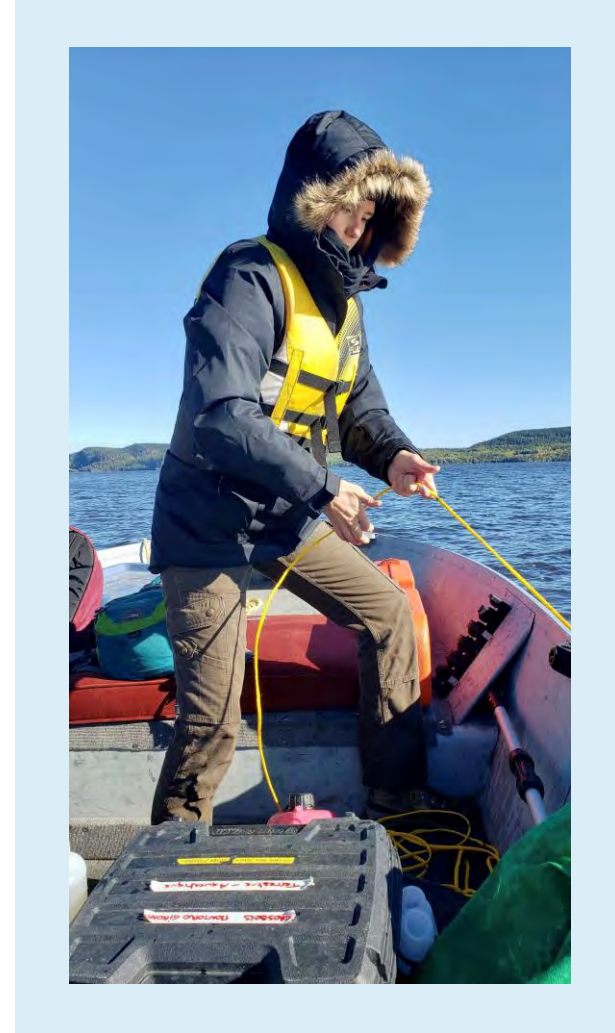


Limiting the spread of a newcomer: the Spiny Water Flea

Sam Lucy Behle^{1, 2}, Beatrix Beisner^{2, 3} and Guillaume Grosbois^{1, 2}



Problematic: The Spiny Water Flea



Source: michigan.gov

- *Bythotrephes longimanus*
- **Invasive alien species** in North America
- **Reduced biodiversity** an all trophic levels
- **Changes** in the **food web** structure
- **Reduced** human **fishing activities**
- Detection in Abitibi-Temiscamingue: 2018

Methods

- Sampling **30 lakes** in a forest gradient: temperate – mixed – boreal
- Sampling **zooplankton, fish, lake transparency, carbon and human activity**
- **Modeling the spread** of *Bythotrephes* with habitat and anthropogenic data

Objectives

1. Analyzing the **differences in the impact** of *Bythotrephes* on the **zooplankton and the zooplanktivorous fish** from temperate to boreal lakes.
2. Evaluate which **chemical, physical and anthropogenic parameters** lead to a **successful establishment of *Bythotrephes*** from temperate to boreal lakes.
3. **Modelling** which lakes in the boreal region will be likely invaded by *Bythotrephes* in the **future**.

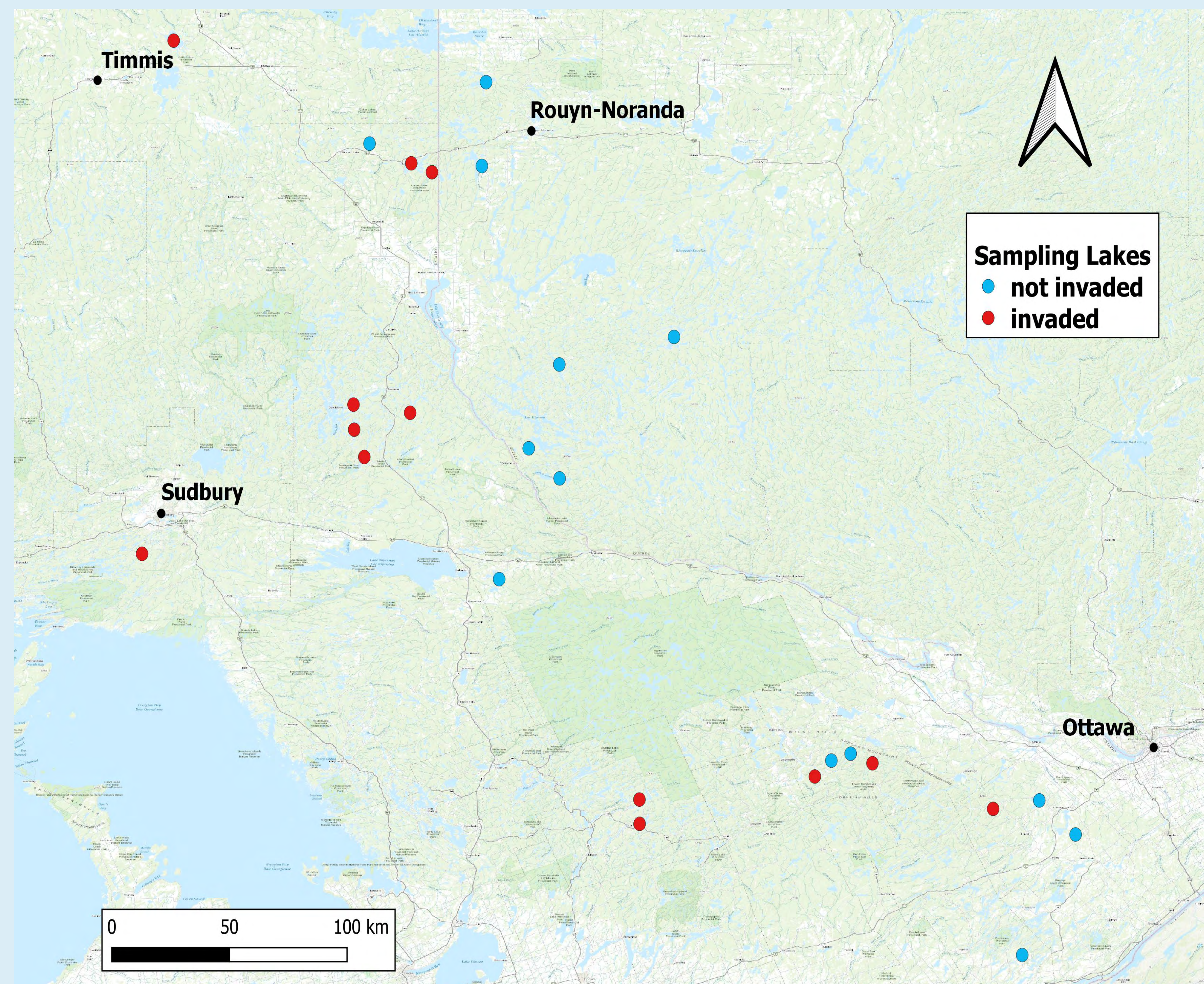
Hypothesis

1. *Bythotrephes* will significantly **reduce the zooplankton community, change the diet of the zooplanktivorous fish and simplify the food web** moving from temperate to boreal forests.
2. *Bythotrephes* will establish successfully in more **transparent lakes with lower content in carbon and higher influence by humans**.
3. *Bythotrephes* is able to **invade a majority of the lakes** in the boreal region.

Contribution

- Improve the **understanding of *Bythotrephes* spread in the North**
- **Limit *Bythotrephes* spread** in the North

The sampling region



¹ Groupe de Recherche en Écologie de la MRC-Abitibi, Institute de Recherche sur les Forêts, UQAT, QC, Canada

² Groupe de Recherche Interuniversitaire en Limnologie

³ Département des sciences biologiques, UQAM, QC, Canada.