

Investigating Invasive Aquatic Plants and Water Quality in Lake Scugog

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Presentation Outline

- Introduction
- Lake Scugog - A changing ecosystem
- Summer research

Introduction

- Who am I?
- What does my lab do?





LAKE SCUGOG: A CHANGING ECOSYSTEM

Lake Scugog - A changing ecosystem



- Dammed in the 1830s
- Marl lake

Scugog pre-1830
Source: Scugog Lake Stewards



Scugog present-day
Source: Scugog Lake Stewards

Lake Scugog - A changing ecosystem

- Productive shallow lake ecosystem
- Eutrophication



Lake Scugog (Source: Scugog Lake Stewards)

Lake Scugog - A changing ecosystem

- Fish community changes over time



Walleye **decline** (Source SooToday.ca)



Largemouth bass **increase**
(Source Oodmag.com)

Lake Scugog - A changing ecosystem

Invasive species



Purple Loosestrife
Source: invadingspecies.com



Zebra mussels
Source: invadingspecies.com



Rusty crayfish
Source: invadingspecies.com

Lake Scugog - A changing ecosystem

Invasive species



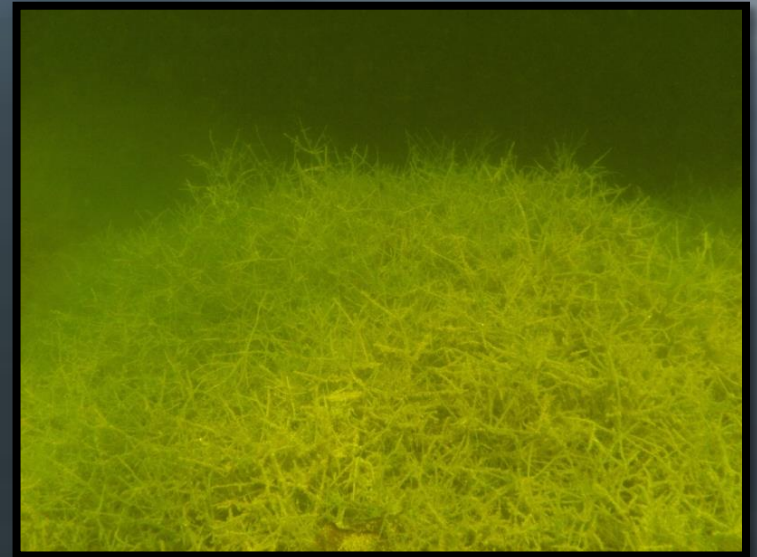
Eurasian Watermilfoil
Source: invadingspecies.com



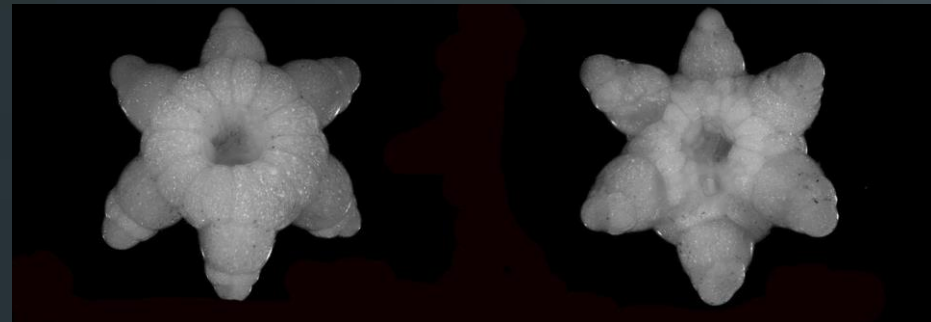
Starry Stonewort
Source: B. Karthein

Why are we concerned about Starry Stonewort?

- **Non-native, invasive** species
- **Displaces** other aquatic plants
- Found to **impact** fish and invertebrate community
- **Hard** branches/stems nuisance for swimmers and boaters



Starry Stonewort infestation
(Source: Mymisa.org)



Star-shaped bulbils (Source: nybg.org)



SUMMER RESEARCH

Lake Scugog Summer Research

- UOIT in partnership with the Scugog Lake Stewards will conduct a baseline aquatic plant survey:
 - Spatial
 - Seasonal

Scugog Lake Stewards
Monitoring Crew
(Source: B. Karthein)



Lake Scugog Summer Research

The study aims to:

- Document **when** and **where** *Eurasian Watermilfoil* and *Starry Stonewort* appear in Lake Scugog over the summer field season.



Lake Scugog Summer Research

The study aims to:

- Assess the **water quality** conditions associated with aquatic plants



What is water quality?

- **Water clarity**
(turbidity)
- **Nutrients**
(trophic state)
- **Algal growth**
(phytoplankton)



Survey of Aquatic Insects

- With assistance from Scugog Steward **Annette Tavares**



Significance of Research

- Confirm **prevalence** of Starry Stonewort
- Determine if there are any **unique** aquatic plant and invertebrate communities associated with Starry Stonewort stands
- Inform agency partners of our research findings (e.g., update **ALS field guides**)
- Use the new information to inform **future studies**

Questions?

