The Chinese Mystery Snail Project: CITIZEN SCIENCE UTILIZED TO REPORT AN AQUATIC INVASIVE SPECIES, THE CHINESE MYSTERY SNAIL (CIPANGOPALUDINA CHINENSIS), IN ATLANTIC CANADA Sarah Kingsbury¹, Dr. Donald F. McAlpine², Edward Parker³, and Dr. Linda Campbell¹ ¹Saint Mary's University, Halifax, NS SAINT MARY'S UNIVERSITY ²New Brunswick Museum, Saint John, NB ³Fisheries and Oceans Canada, Dartmouth, NS

Research Question:

Where is *C. chinensis* distributed within Atlantic Canada (Nova Scotia, New Brunswick, and Prince Edward Island)?

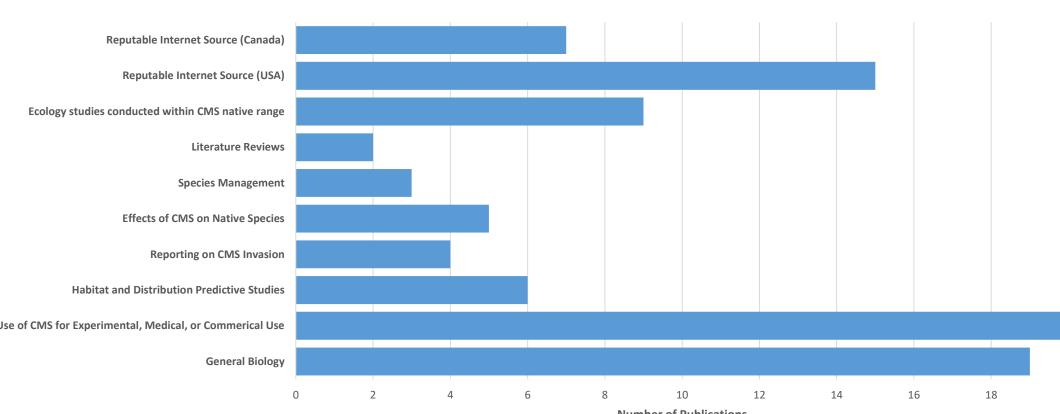
Background

Objectives

- 1. To determine probable impacts of C. chinensis on invaded ecosystems.
- 2. To create an effective citizen science program which can be used to monitor numerous

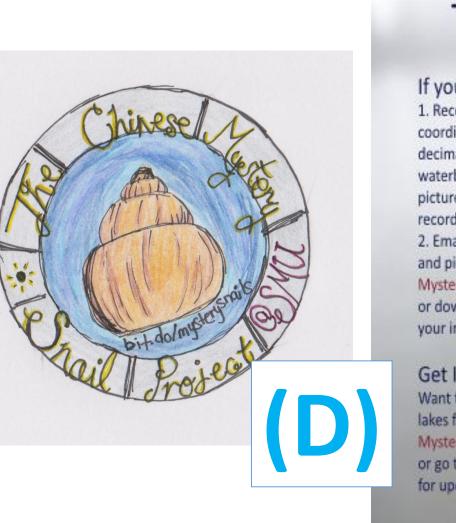
Methods

Literature Review:



- Native to central Asia
- Arrived in North America in 1890
- Largest freshwater snail in North America
- Found in 29 US States and 8 Canadian Provinces
- Not yet listed as an invasive species in North America
- Able to alter water chemistry, displace food resources, and outcompete native snail species for resources

- aquatic species.
- 3. To determine areas in Atlantic
 - Canada that are at high-risk of C. chinensis either being present or likely to be invaded



The Chinese Mystery Snail Project An aquatic invasive species present in the Maritime If you see this snail: Get the App: Email this information Get Involved:

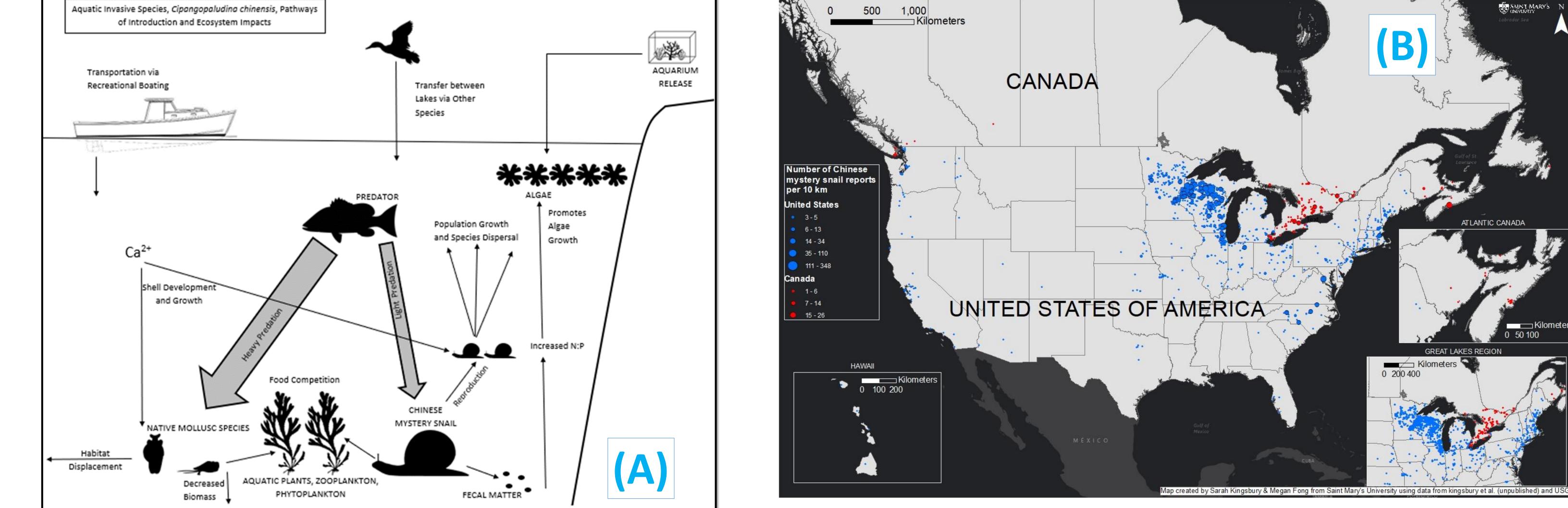
Matching the right people with the

right communication strategies:

Media	General Public	Profession and Semi- Professional Researchers	Policy-makers
Email	√	✓	✓
Formal Meetings	√	√	✓
Informal Meetings		\checkmark	
Invasive Alien Species of Nova Scotia Guidebook and Website	✓	✓	√
The Chinese Mystery Snail Project Website	✓	✓	✓
The Chinese Mystery Snail Project App	\checkmark	✓	\checkmark
The Chinese Mystery Snail Project Twitter	✓	✓	\checkmark
Mailing or Giving-Out Informative magnets, species identification cards, shell magnets, or informative brochures	✓	✓	✓
Public Lecture	√	√	✓
Conference Presentation		✓	√
Academic Papers		✓	✓
Workshops on biodiversity and Informal Lake Survey Methods		√	\checkmark

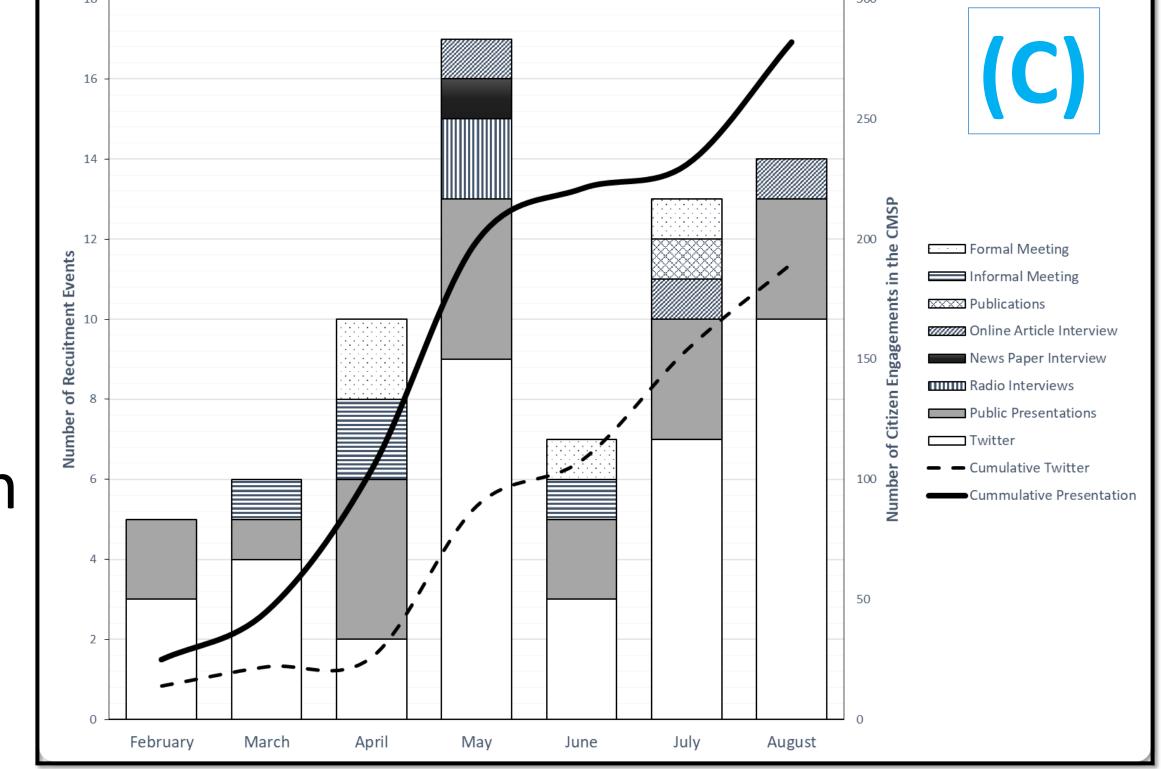
Results

Aquatic Invasive Species, Cipongopoludino chinensis, Pathways of Introduction and Ecosystem Impacts



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	and a second s	mst literation

(A) We developed a conceptual model of the probable consequences of C. chinensis invasion based on the results of North American studies. (B) Collecting data from literature, museum networks and scientists across Canada, we mapped *C. chinensis* occurrence reports and compared the



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- Canadian reports to the American reports (obtained from USGS).
- (C) Citizen involvement was slow at first. Social media (e.g. Twitter) had a high output, but a low engagement.
- (D) Promotional magnets and stickers were the most effective educational tools.

Discussion

- Four things needed to do citizen science in Atlantic Canada:
- 1. Green education for schools
- 2.Centralized, open-access database for multiple species
- 3. Make species monitoring "cool"
- 4.Connect researchers with citizen groups

Conclusion

Citizen science is an effective tool for surveying freshwater systems for aquatic invasive species, but more work needs to be focused at encouraging involvement and improving accessibility of these programs.

