

Aquatic Invasive Species

September 30th, 2014,

NOFNEC

Photo by Thad R. Cook

Overview

- Introduction
- Invasive Species of Concern
 - Round Goby
 - Phragmites
 - Asian Carps
- How can you help?
 - Decontamination
 - Resources
 - AOFRC



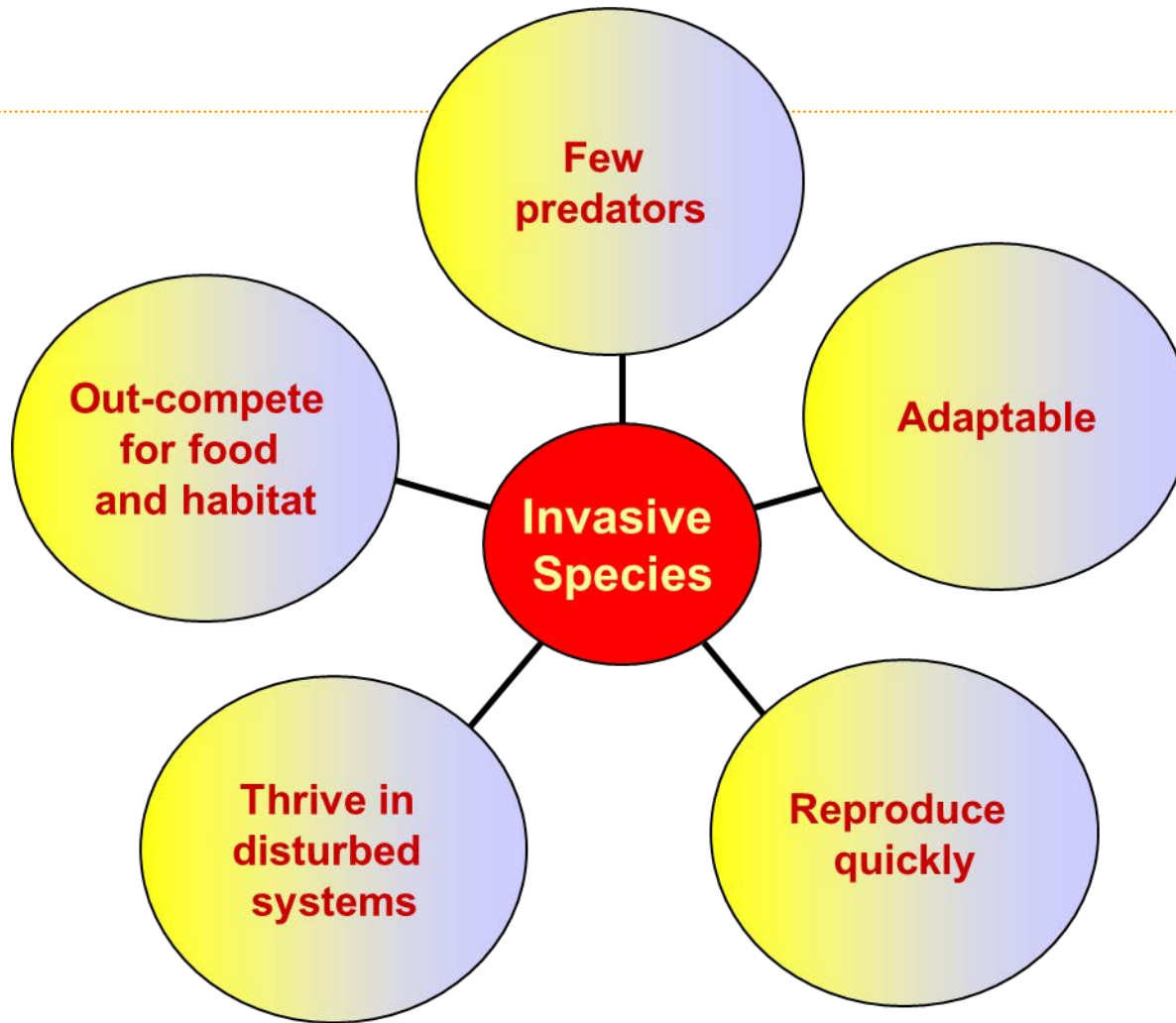
Introduction

What are invasive species?

Definition - are harmful alien species whose introduction or spread threatens the environment, the economy, or society, including human health.

- There are currently over 185 non-native species in the Great Lakes.





Pathways

- Man-Made Pathways
- Shipping (ballast water)
- Aquarium Trade
- Horticultural Trade
- Live Food Fish Industry
- Commercial Bait Harvest/Transport
- Natural Pathways (wind, water current, animal assisted)
- Recreational activities (Boating, float planes, contaminated equipment, illegal stocking etc.)



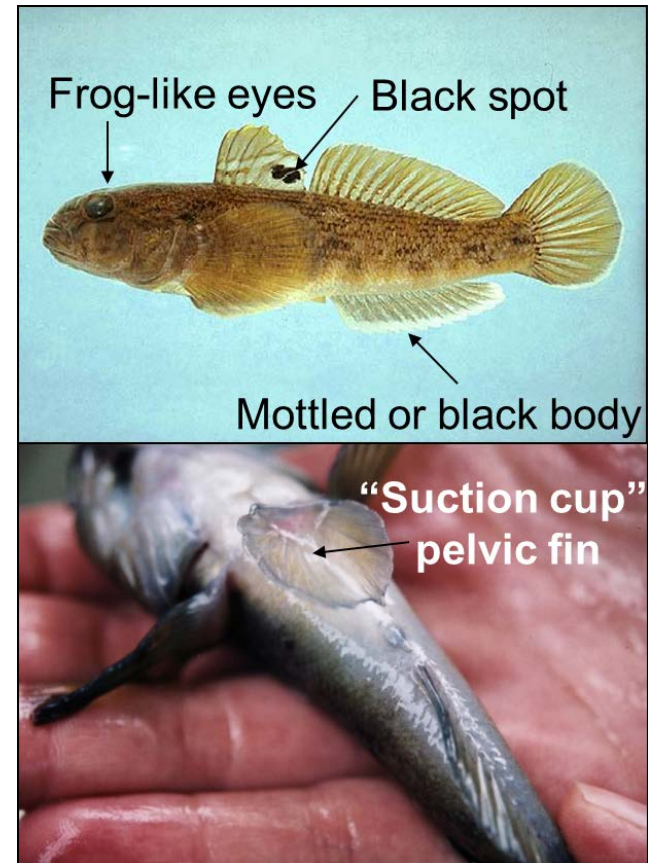
Why should we care?

Invasive species can...

1. Contribute to extinctions of native plants and animals
 2. Reduce biodiversity
 3. Compete with native organisms for resources
 4. Alter habitats
 5. Impact our commercial and recreational activities.
- These issues can result in huge economic impacts and in some cases, permanent disruptions of aquatic ecosystems.

Round Goby

- Native to Europe
- Ballast water introduction
- First discovered in St. Clair River in 1990
- Utilizes all available habitats (prefers rocky substrate) at a variety of depths.
- High reproductive rate (spawns several times/season)
- Bottom dweller, easily caught



Round Goby

- Outcompetes native prey fish
- Feeds on invertebrates, eggs and young of Trout, Bass, Walleye, Whitefish etc.
- Affects the production of sportfish
- Bioaccumulation
- Linked to Botulism Type E outbreaks
- Impacts to tourism from being a nuisance to anglers
- Nuisance for commercial harvesters due to numbers

**Round gobies feeding on
bass embryos**



**Densities reach over
125/m²**

Phragmites

- Perennial grass native to Eurasia
- In 2005 Agriculture and Agri-food Canada “worst invasive plant species”
- Spreads through seed, rhizomes and stolon fragments
- Spread through recreational activities and machinery
- Prefers wet areas, but can survive in dry



Phragmites

Impacts

- Releases toxins from roots affecting neighboring plants
- Creates large monoculture stands
- Provides little habitat and food for wildlife
- Increases fire hazard
- Found throughout southern Ontario, as far north as Cochrane, Fort Francis, Manitoba and much of the US.



CARP

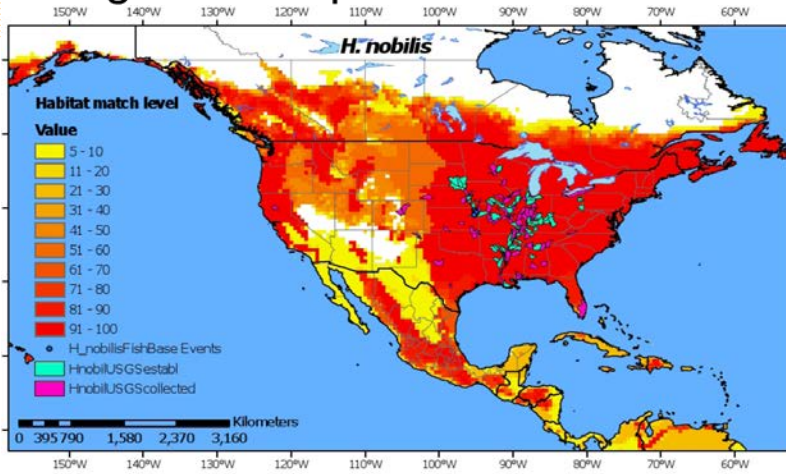


Asian carps

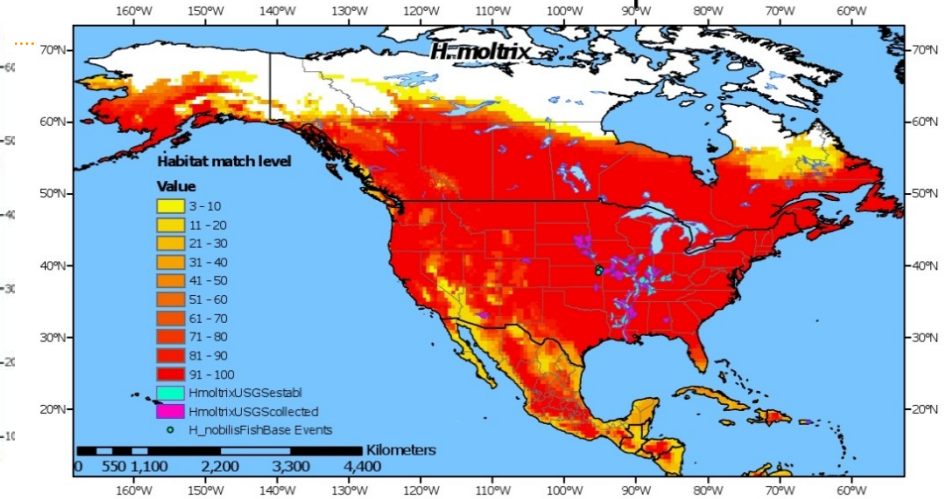
- 4 species could potentially invade the Great Lakes (Bighead, Silver, Black, and Grass).
- DFO Bi-national Risk Assessment on Bigheaded Carps– HIGH RISK
- Could spread throughout the basin in 20 years
- < 10 adult females (and similar # of males) for successful annual reproduction in a basin
- Establishment – cascading impacts originating at base of food-chain



Bighead Carp



Silver Carp



Suitable Tributaries for Spawning

History – how they got here



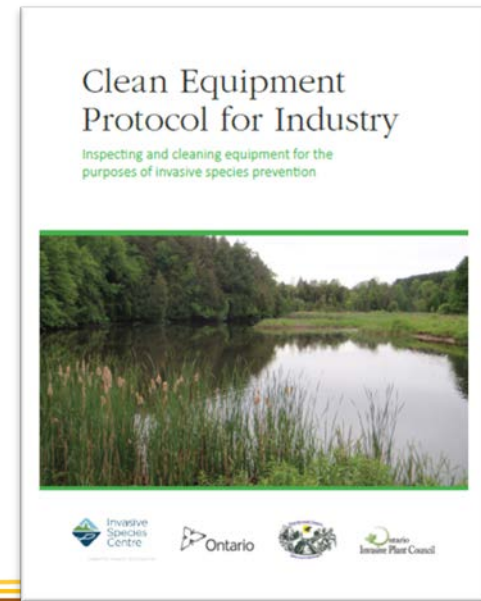
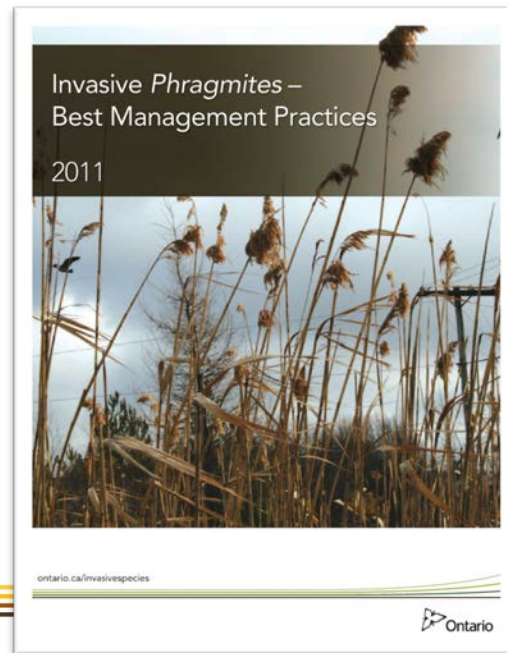
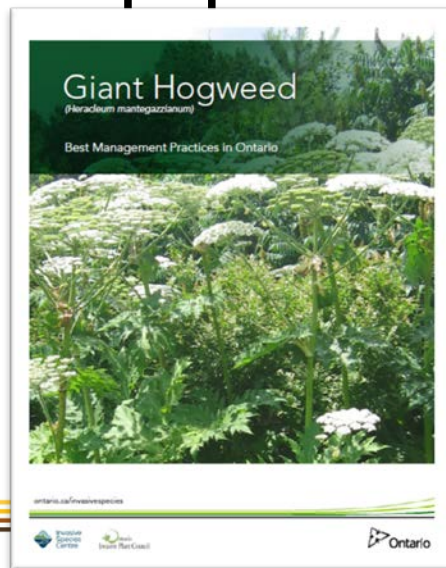
Decontamination

- **Inspect** equipment and remove any visible plants or animals
- **Drain** water while on land before leaving the waterbody.
- **Wash/Dry** your equipment to kill harmful species that were not seen (do not use bleach). Some species can survive for several days out of water so it is important to
- **Rinse** your equipment with hot tap water ($>50^{\circ}$ C) **OR**
- **Spray** your equipment with high pressure water (250psi) **OR**
- **Dry** your equipment for at least 5 days before transporting to another waterbody. **OR**
- **Freeze** equipment for 2 days.

Resources

BMP's

- For several species eg Phragmites, also working around water, and for cleaning equipment



Report Sightings

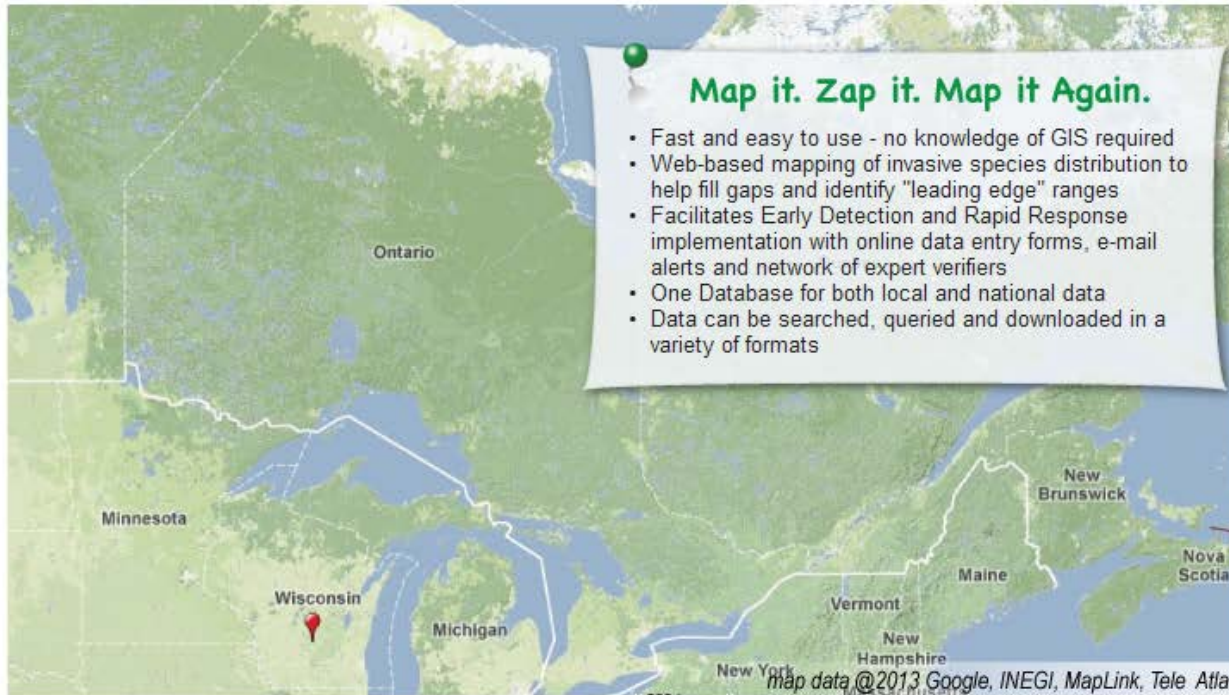
Distribution Maps

Species Information

Tools

My EDDMapS

sign out



Highlighted Species



giant hogweed

Heracleum mantegazzianum

Ontario Partners



Invasive Species Centre

Catalyst for research and response



Ontario

Recent Reports

Smartphone App

The Great Lakes Early Detection Network app brings the power of EDDMapS to your smartphone. GLEDN is an invasive species early detection and warning system for the Great Lakes region developed through funding provided by the National Park Service as



Anishinabek/Ontario Fisheries Resource Centre

- AOFRC piloting a program to facilitate discussions in First Nation communities on invasive species, and reviewing management options.
- Also developing invasive species factsheets, maps, and resources for first nations.
- Anishinabek Invasive Species Hotline 1-844-872-2348 (1-844-TRACE-IT)
- Ontarioinvaders.ca

Questions

