

Invasive Species of the Great Lakes: the Round Goby

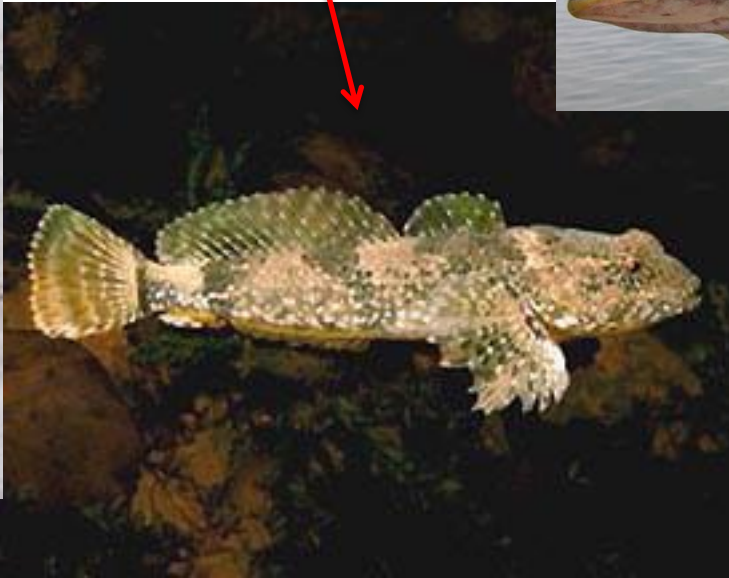
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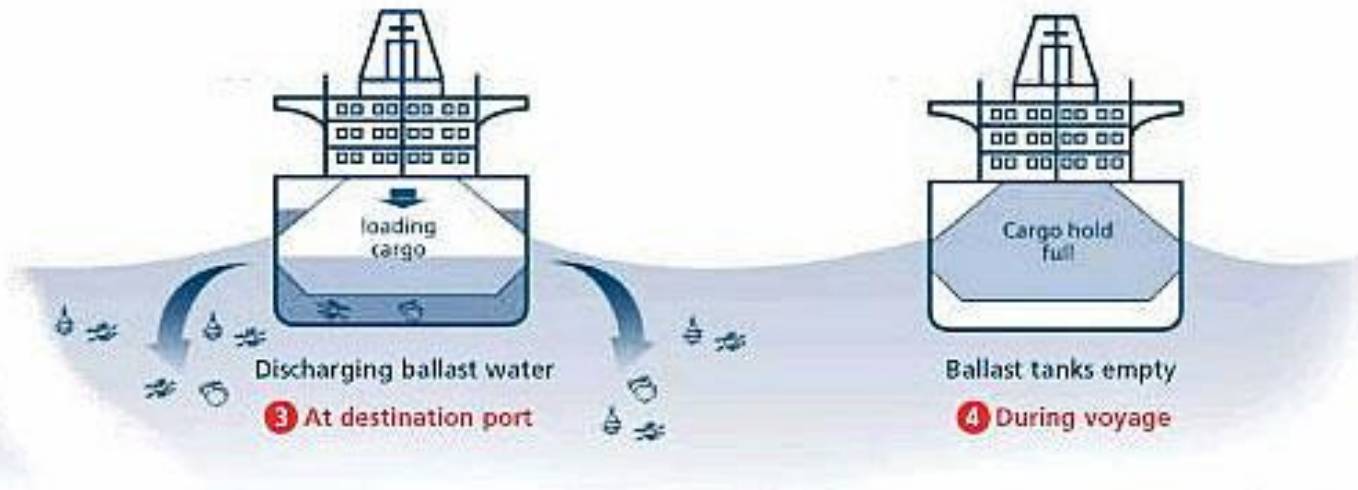
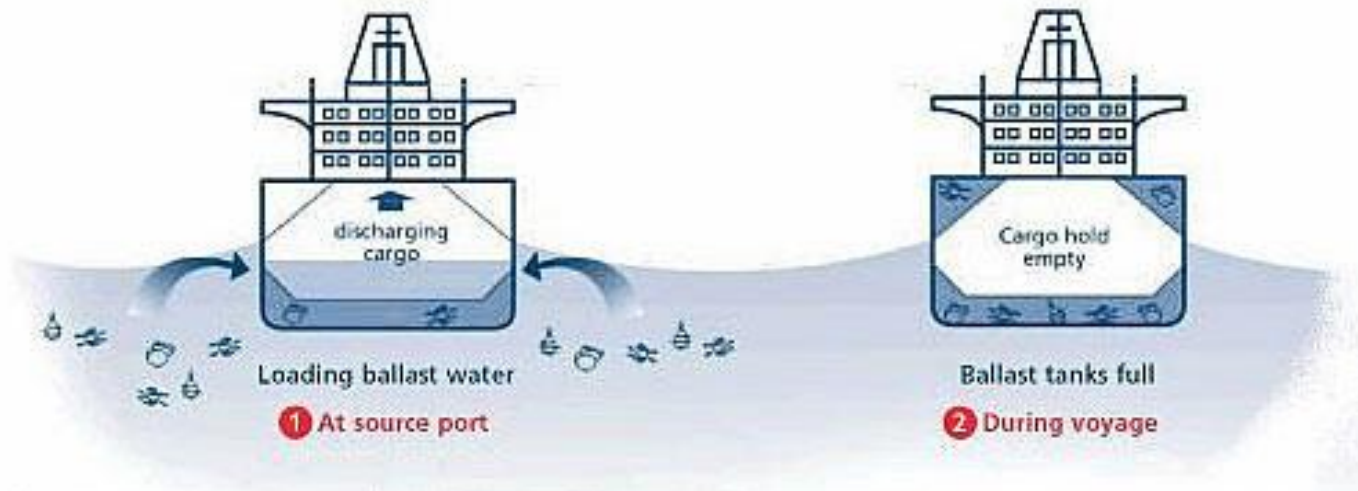


- **Invasive Species:** organisms that are introduced into a non-native ecosystem and which cause, or are likely to cause, harm to the economy, environment or human health. (US Fish and Wildlife Service)



Nate Tessler





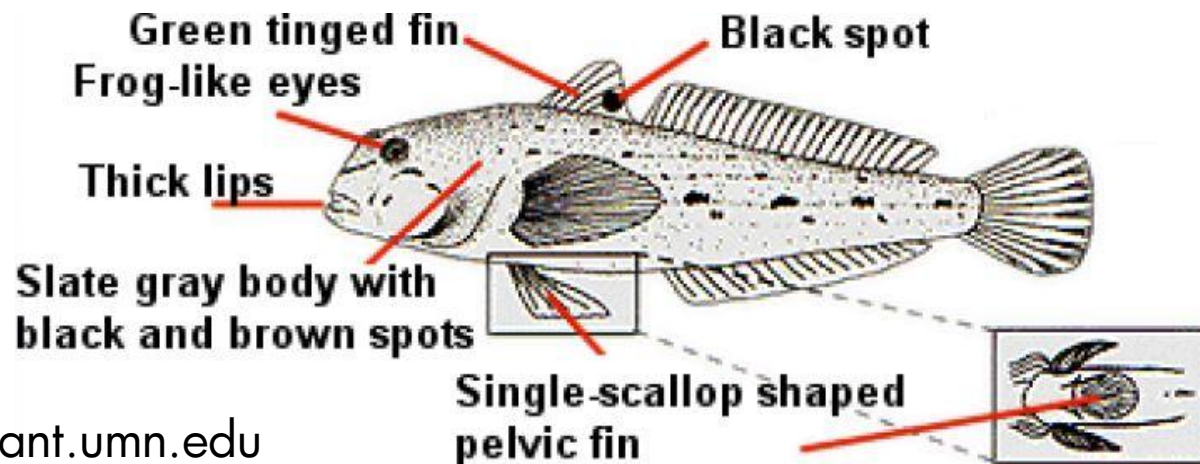
Round Goby

- Bottom dwelling fish
- Inhabit rocky shores
- Native to the Black and Caspian seas
- Usually 3-6” but can get up to 10”



Round Goby

- Reproduce up to 6 times a summer
- Survive in poor water quality
- Well developed sensory systems
 - Enhances their ability to detect water movement
 - Enables them to feed in the dark



Problems with the goby

- Rapid population growth—densities can exceed 20 fish/ m²
- Preys on lake trout eggs and other small fish eggs and fry in laboratory experiments
- Compete with rainbow darters and other native fish for eating small macroinvertebrates
- They compete with native fish for habitat and spawning sites
- Nuisance to fisherman—they aggressively take bait
- Could result in higher bioaccumulation of toxins



Benefits from the Goby

- Water snake food
- Eats zebra mussels
- Feed several sportfishes



Lake Erie Water Snake



“Northern Water Snake” Photo by: Vicki DeLoach

Nerodia sipedon insularum

- Subspecies of Northern Water Snake
- Live in/around Lake Erie in Ohio and Canada
- Typically eat small fish and amphibians
- Non-venomous
- Oviparous-live births, not eggs

Placement on the List

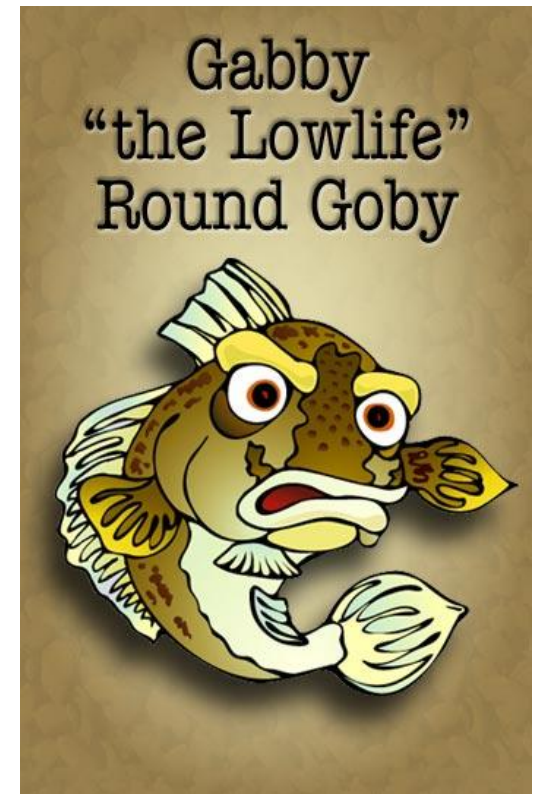
- Federally Threatened in 1999
- Primary reason: humans:
 - Fishing-caught on hooks
 - Road kill
 - Intentional Extermination
- Secondary Reason:
 - Contaminants
 - Invasive Species

Removal from the List

- Removed from the list by The Department of the Interior (U.S. Fish and Wildlife) in Sept. 2011.
- Found +90% of their diet consisted of the round goby.
- Population surveys went from 5,130 in 2001 to 9,800 in 2010
- “Safe” population is from 5,555 to 6,100.

Options for control of goby population

- Educate people on identifying the goby
- Ensure that no round gobies are accidentally released into fishing areas
- Implementing Ballast water exchange laws that restrict and regulate the dumping of ballast water within North American waterways.
- electrical barriers
- piscicides



It's complicated...

Bibliography

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