NYSG improved round goby invasive species monitoring methods that can be applied to waters in the U.S., Canada, and globally

Improving Invasive Round Goby Monitoring

Round goby have spread throughout the Great Lakes faster than any other invasive fish. They are impacting native fishes and commercial and sport fisheries in the Great Lakes and continue to spread in North American waters. Importantly, in the Great Lakes they consume invasive zebra and quagga mussels.

Unfortunately, assessing round goby populations is difficult because they often prefer rocky habitat, limiting the effectiveness of traditional survey gears like trawls. However, monitoring round goby is vital for determining the extent to which they serve as a benefit or detriment to fisheries resources.

In 2017, New York Sea Grant (NYSG) and partners taught a graduate level course at Cornell University focused on improving round goby assessments. A videography method was tested for evaluating numbers, biomass, and habitat use of round goby in an invaded lake.

Round goby.
Photo: Jesse Lepak, NYSG

Monitoring and understanding invasive round goby is crucial due to their impact on native fishes, predator-prey interactions and energy movement within the Great Lakes that support a multi-billion dollar fishing industry and numerous businesses and communities.

Nine students were enrolled in the course with 24 volunteers involved with such activities as guest lectures and sampling. In addition, three student interns were mentored through this work during fall 2017, with everyone involved gaining practical fisheries experience, working in the field collecting data and samples, classroom learning, and analyzing data.

This videography-based technique can be adapted and applied for round goby monitoring throughout the Great Lakes. NYSG and partners have begun communicating the findings on this innovation to relevant state and federal agency personnel through presentations, meetings, and consultations.

A peer-reviewed manuscript describing the videography-based round goby assessment method is in development.

Partners:

- USGS
- Cornell University faculty & students
- NYS Department of Environmental Conservation
- Cornell Lab of Ornithology

The Sea Grant Focus Area for this project is Environmental Literacy & Workforce Development

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