What’s the Catch? Trends in Grass Carp Adult and Egg Captures

Ryan Brown
1963 - Imported to U.S. to control aquatic vegetation

1983 - Triploid (sterile) Grass Carp developed

1980’s - Reports of Grass Carp captured by commercial fishers in Lake Erie

2012 - Diploid Grass Carp that originated from the Sandusky River were captured

2015 - Grass carp eggs found in the Sandusky River

2018 - First strike teams deployed, grass carp larvae found in Maumee River

2019-2023 - Continued effort
Management Strategy

• Prevent Grass Carp from attaining densities that cause adverse impacts
  • Certain number to remove to each year
• Minimize the likelihood of introduction and establishment of new breeding populations
Core vs New Adult Removal Areas

• Core
  • Sandusky: RKMs 0.5-25.5
  • Maumee: RKMs 0.5-27

• New
  • Upstream exploration
  • What do catches look like in newly explored areas?
  • What does the ploidy breakdown look like?
Cuyahoga River

Maumee River (Farnsworth MP) and Sandusky (above spawning grounds)

Maumee River (Napoleon area)
Maumee 2022
Sandusky 2018-2022
Upstream Implications

• Need to expand temporally and spatially as we look for grass carp
  • Keep removals high

• How do they use river habitat for spawning and staging?
  • Telemetry
Cuyahoga River

Maumee River

Sandusky River

Percent Diploid

Previously Unexploited Area

- Blue: No
- Yellow: Yes

<5 fish/year

'19 '20 '21 '22 '23

'19 '20 '21 '22 '23

'19 '20 '21 '22 '23
Ploidy Implications

• Not all unexploited populations are triploid

• Sandusky has the highest percentage of diploids

• We need to watch the increasing diploid percentage trend
  • Are we removing triploids faster than they immigrate into system?
Upstream Exploration is Essential

- Gears may be saturated in lower river
- High catch in unexploited areas
  - 2023 mostly diploids
- Generally better habitat
  - Pools between shallow rapids
Upstream Exploration: What we used

• “Little Shock Boat”
  • ODNR loaner
  • Metal hull = not ideal
  • Maneuverable
  • Mostly used in the Sandusky in 2023

• USFWS Ecat
  • Limited maneuverability
  • Easily launched at canoe ramps
  • Better suited for narrow rivers?
Upstream Exploration: What we NEED to use

- Inflatable raft with motor
  - Maneuverable
  - Better hull material
  - Easy to launch

- Trucks with winch

- Similar to MBI setup
Management Implications

• Upstream exploration has provided areas of high adult catch
  • Need to keep exploring unexploited areas
  • Need to examine how grass carp use the river for staging and spawning

• New areas of catch are not all triploids

• Fine-tuning more appropriate vessels to expand our search areas

• Grass carp able to spawn outside the expected May-July window
  • Same flow and water temperature conditions must still be met