Understanding Invasive Carp in the Non-Established Front

2018 UMISC / NAISMA Joint Conference | October 17, 2018 | Rochester, MN

Nick Frohnauer | Invasive Fish Coordinator
John Waters | Invasive Carp Statewide Field Lead
Ben Larson | Invasive Carp Specialist
Minnesota’s Tagged Bighead Carp

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Minnesota Monitoring and Response Program

• Implemented in 2012

• Soft Funding:
  • Environmental and Natural Resources Trust Fund
  • Minnesota Department of Natural Resources
  • US Fish and Wildlife Service
  • Outdoor Heritage fund

• Utilizes targeted sampling, commercial fishing, and public reports
Minnesota Monitoring and Response Program

Challenges

• Few in system
• Large/complex system
• Traditional sampling weak
Adaptive Sampling
Is our current program depicting the true status of carp?
Can we increase the number of carp removed more efficiently?

How can we catch more fish?
• Increase resources expended
• Experiment/Add new gears or methods
• Improve detection and capture
Benefits
• Identifying locations to target
• Identifying time to sample
• “Traitor” Fish Technique

Complications
• Bighead and Silver Carp life history
• Monitoring the fish using active and passive tracking techniques
• Commitment of adequate resources

Minnesota Invasive Carp Tagging
Minnesota Invasive Carp Tagging

Initiating the Process

• Not allowed – required Legislation
• Development of Standard Operating Procedure
• Submittal of Statute language
• Legislation passed in May 2017 and went into affect July 1, 2017
• Issued the permit

July 28, 2017
From data from other UMR tagging studies, we expected to see:

- **June-August:**
  - Tributaries/Shallower, slow waters
- **September-December:**
  - Above Points/Spillways
- **January-February:**
  - Above Points/Spillways
- **March-May:**
  - Backwaters/Upstream movement
Bighead Carp Observed Movements

Tagged July 2017

2017- moved primarily within Lake St. Croix, overwintered

2018- similar movements, with spring in or near flooded timber

5/11/18 in Andersen Bay – caught 2 Bigheads

June- ran to Pool 3 for 5 days

Back to Lake St. Croix

10/17/2018
Quick Takeaways

• Mainly stayed in Lake St. Croix
• Primarily in warmer waters, with colder waters experienced when making rare deep dives
• Deep dives – 70 Ft
• Associated with Paddlefish
• Overwintered in 40+ ft of water in Lake St. Croix
• Did not appear to make a spawning run
<table>
<thead>
<tr>
<th>Benefits</th>
<th>Progress</th>
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<tbody>
<tr>
<td>Identifying locations to target</td>
<td>Yes</td>
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<tr>
<td>Identifying time to sample</td>
<td>Starting to</td>
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<tr>
<td>“Traitor” Fish Technique</td>
<td>Yes</td>
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Minnesota Invasive Carp Tagging

Further Analysis
• Pairing with phytoplankton data
• Pairing with flow/temp data
• Depth analysis

Project Adaptation
• Real time receiver
• Purse seine
• Dedicated tracking crew
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