

Asian Carp Distribution on the Tennessee-Tombigbee Waterway, Mississippi

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Tennessee-Tombigbee Waterway





Silver Carp in Pickwick



- The first known Silver Carp was first seen in Pickwick Lake in 2012 in Bear Creek.
- Commercial anglers notified MDWFP of their catch in July. The fish was caught in MS waters.



Silver Carp in Pickwick



- Based on commercial anglers, catch rates have steadily increased and distribution has widened to include most of the lake.
- Silver Carp have been seen as a seasonal fishery from April through October in MS waters.
- Currently, laws in Alabama do not allow for commercial angling with the use of nets in their waters. It is presumed that Silver Carp over-winter in Alabama.

eDNA sampling



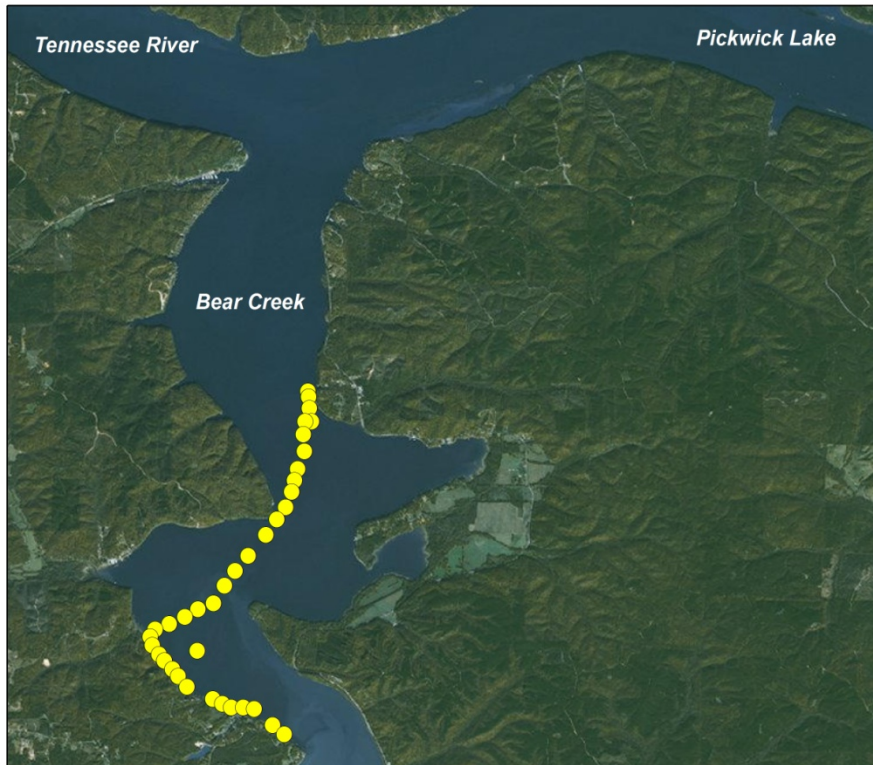
- eDNA sampling was conducted in 2015.
- Sampling was conducted by the USFWS' Carterville, IL office and MDWFP fisheries personnel.
- Sampling areas in MS included parts of Bay Springs Lake and Lock E on the TTW and Bear Creek.



eDNA Sampling



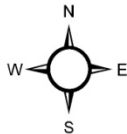
Bighead and Silver Carp eDNA Early Detection Results:
Bear Creek, Tennessee River
Sampling Period: Week of April 27, 2015
Number of Samples Collected: 40



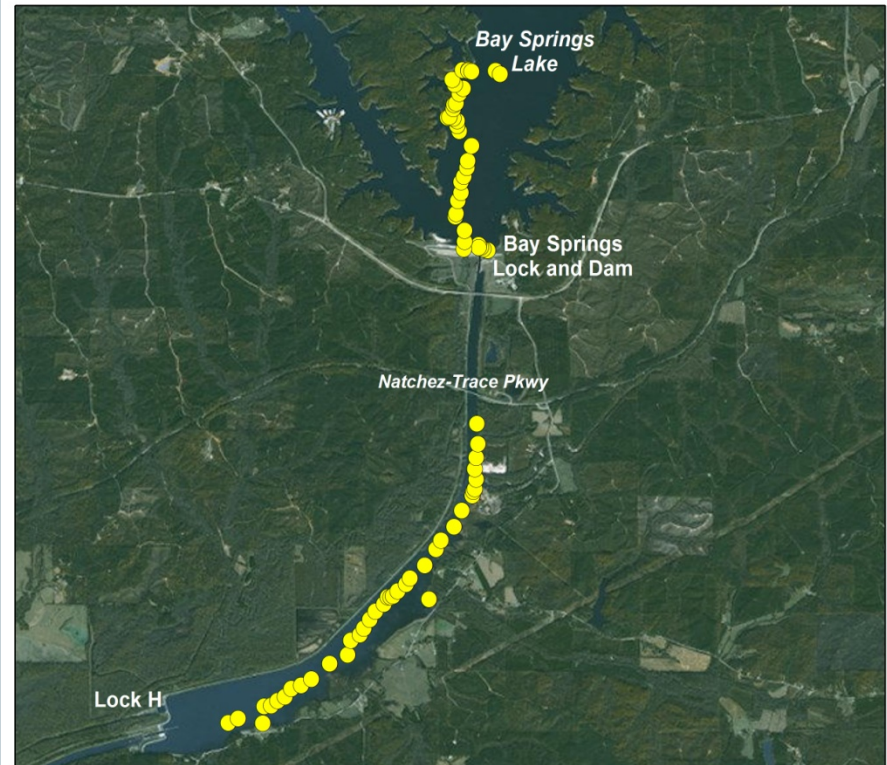
eDNA Sample Points

● Negative

0 0.35 0.7 1.4 2.1 Miles



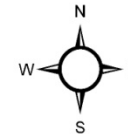
Bighead and Silver Carp eDNA Early Detection Results:
Bay Springs Lake, Tennessee-Tombigbee Waterway
Sampling Period: Week of April 27, 2015
Number of Samples Collected: 80



eDNA Sample Points

● Negative

0 0.3 0.6 1.2 1.8 Miles



Telemetry Project



- In 2015 a telemetry project was initiated.
- Objectives:
 - Determine the seasonal movements of Silver Carp in Mississippi waters of Pickwick Lake.
 - Determine if there is any evidence of the inter-basin transfer from the Tennessee River drainage into the Tombigbee River drainage via the Tenn-Tom Waterway.
 - Determine population size and structure.

Telemetry Project



- Sampling is being done with the help of the USFWS' Private John Allen National Fish Hatchery personnel from Tupelo, MS.
- Commercial anglers are also providing assistance when available.
- Sampling for Silver Carp is being conducted with experimental gill nets (3 – 6 inch) with 2 - 5 hour soak times.
- Electrofishing is periodically being conducted to determine presence of Young of the Year (YOY) Silver Carp.
- So far, zero Silver or Bighead Carp have been seen.

Telemetry Project



- Tracking will be done with the use of 6 Vemco VR2 receivers, and 20 Vemco VR-16 transmitters.
- Data will be analyzed with VUE software.
- Once sampled each Silver Carp will be measured, weighed, implanted, jaw tagged and released.
- There are currently 2 other Silver Carp telemetry studies being planned for Pickwick Lake (TWRA and Tennessee Tech University) that will begin in 2016.

Proposed Receiver Locations



- 3 MDWFP receivers will be placed in the Yellow Creek arm of Pickwick Lake. Yellow Creek is directly connected to the Tenn-Tom Waterway via the Divide Cut.
- The other receivers will be placed in the Divide Cut and at the Bay Springs Lock structure.



Future Work



- Potential use of various barriers on the Tenn-Tom to be used as pilot studies.
- Monitor effects of Silver Carp on sportfish populations.
- Determine other funding sources to increase telemetry work; i.e. more tagged fish.
- Further collaborations with neighboring agencies and other government entities.

Acknowledgments



- USFWS' Cartersville Office
- USFWS' Pvt. John Allen Fish Hatchery – Tupelo
- Pickwick commercial anglers
- Mississippi Department of Environmental Quality
- Angie Rodgers – USFWS/LMRCC
- U.S. Army Corps of Engineers



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