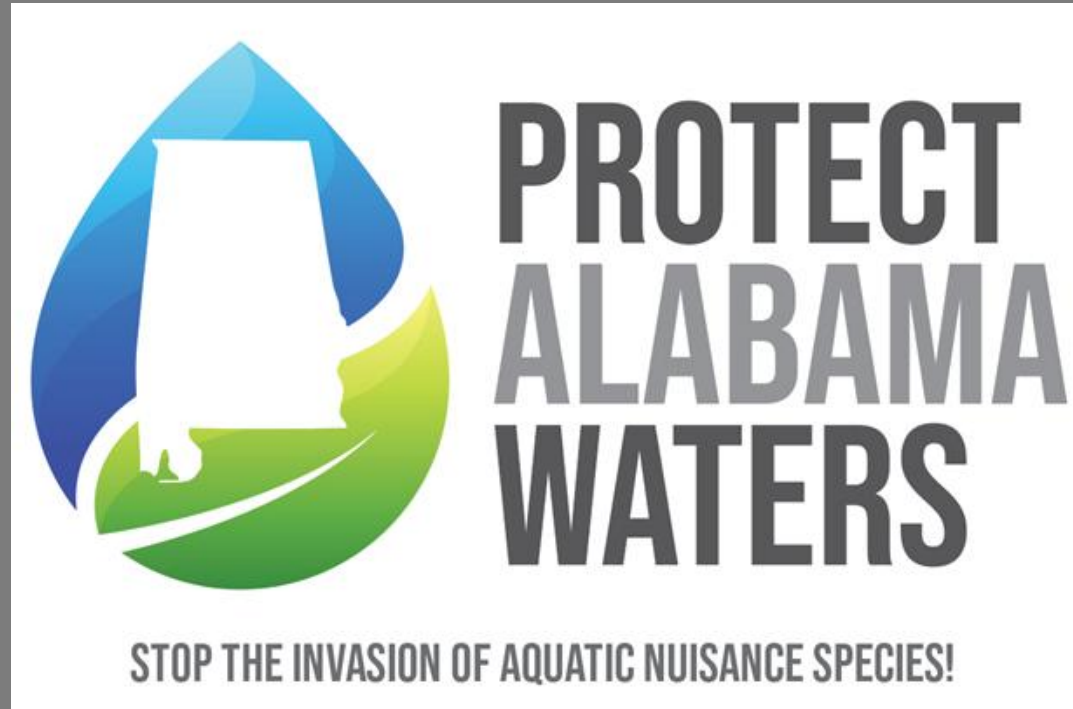


Alabama Aquatic Nuisance Species Program



Adrian Stanfill - Biologist

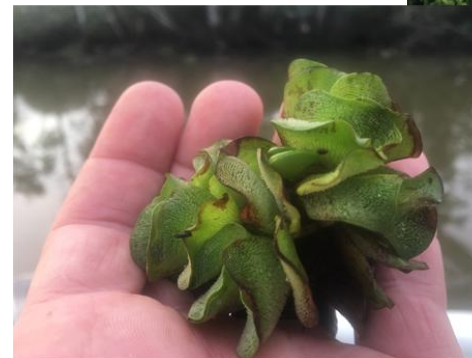
Alabama Aquatic Nuisance Species Program

(256) 777 - 0140



ANS Program Timeline

- **Fall 2020 –**
 - Funding received for invasive carp in TN R.
 - Bighead, Silver, Grass, and Black
 - District 1 – Keith Floyd
- **Fall 2021 –**
 - AL ANS plan approved by ANSTF (USFWS)
- **Summer 2022 –**
 - Funding proposal accepted
 - Allows AL to pursue annual Fed grants match
 - New funding allows program to expand and address issues with extensive fauna Statewide
 - Mussels, plants, snails, etc.



AL ANS Program

Dave Armstrong



Garrett Ray



Prevent, control, and manage the introduction of new and existing ANS in Alabama to minimize impacts on native species, environmental quality, human health, and economics.

AL ANS Program Objectives

- **Objective 1** - Coordinate local, state, regional, federal, and international activities, and programs pertaining to ANS.
- **Objective 2** - Prevent, control, and manage the introduction/reintroduction and spread of new and existing ANS through education about species and pathways, targeting the general public, industries, user groups, government agencies, and non-governmental agencies.
- **Objective 3** - Eliminate, control, and manage ANS through monitoring, early detection, and rapid response.
- **Objective 4** - Prevention of ANS through legislation, regulation, and enforcement.

Invasive Carp – AL Project Objectives

“Carp Work”

Objective 1 – Monitor population demographics and distribution



Objective 2 – Removal of individual invasive carp



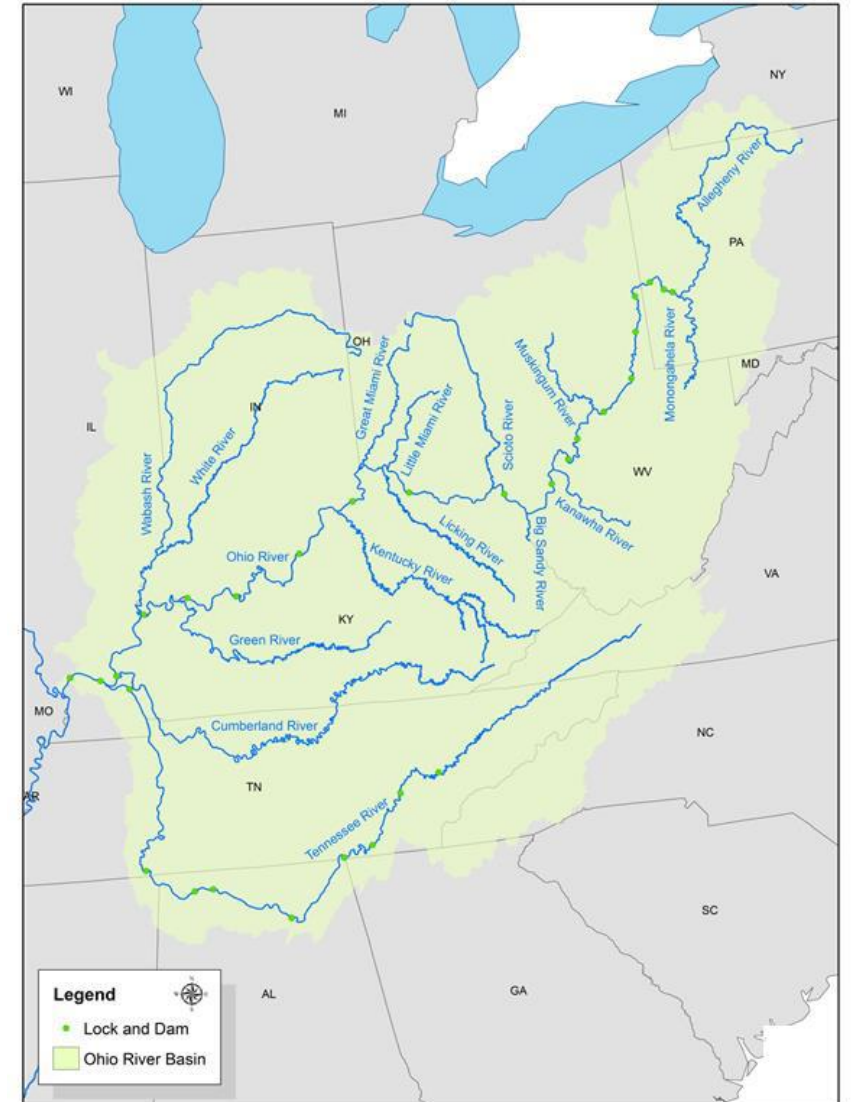
Objective 3 – Propagule sampling at invasion front barriers (i.e., Gunterstown, Wheeler, and Wilson dams)



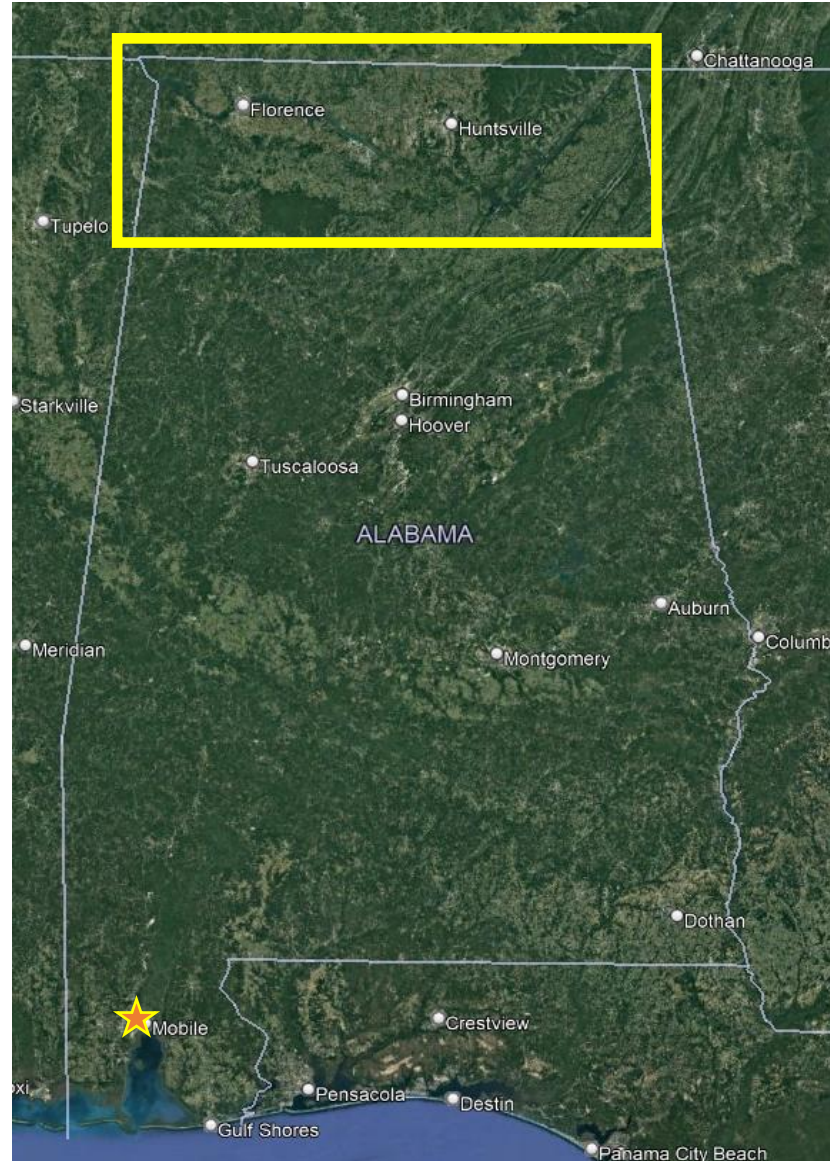
Invasive Carp Partnerships

- **Basin Delineation**

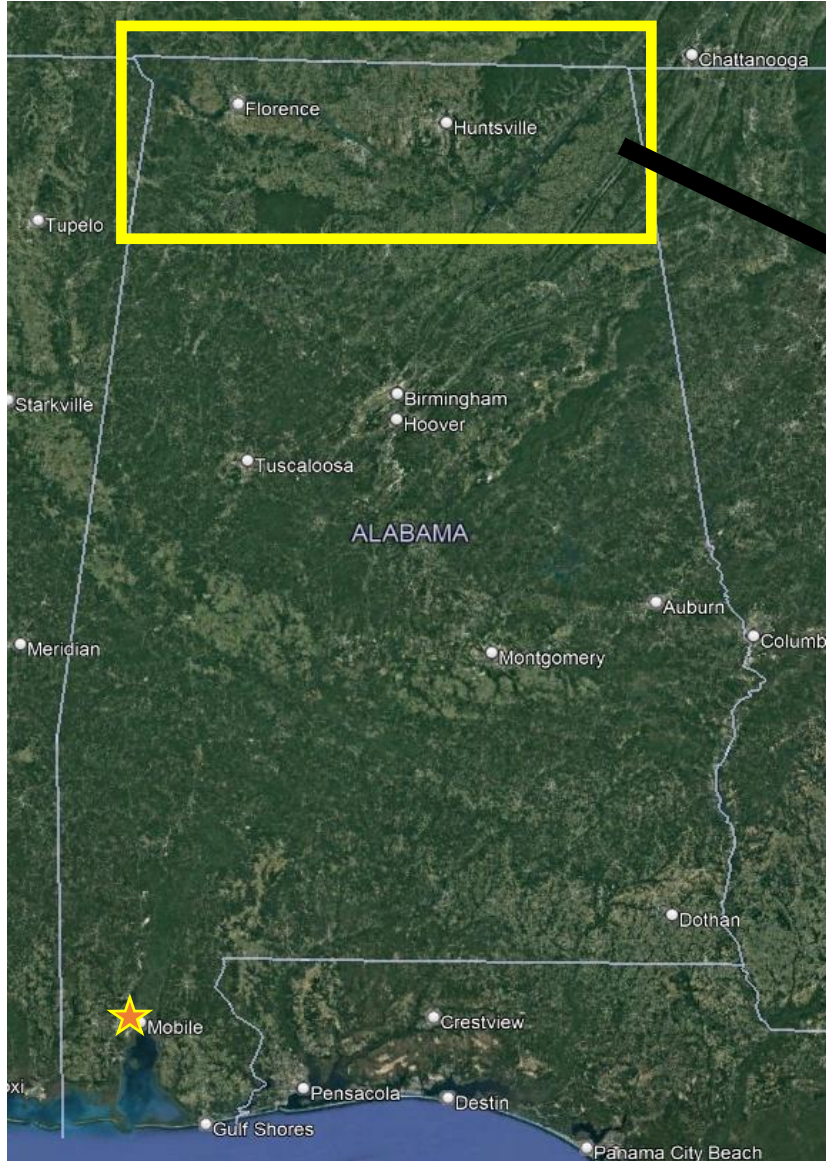
- Mississippi River Basin → Ohio River Sub-Basin → Tennessee and Cumberland River Basin (TNCR)
- Partner agency within the TNCR Working Group
 - KY, TN, MS, USFWS, USGS, TVA, Universities
 - TN River Reservoirs within AL
 - Pickwick, Wilson, Wheeler, and Guntersville



Invasive Carp - Study Area

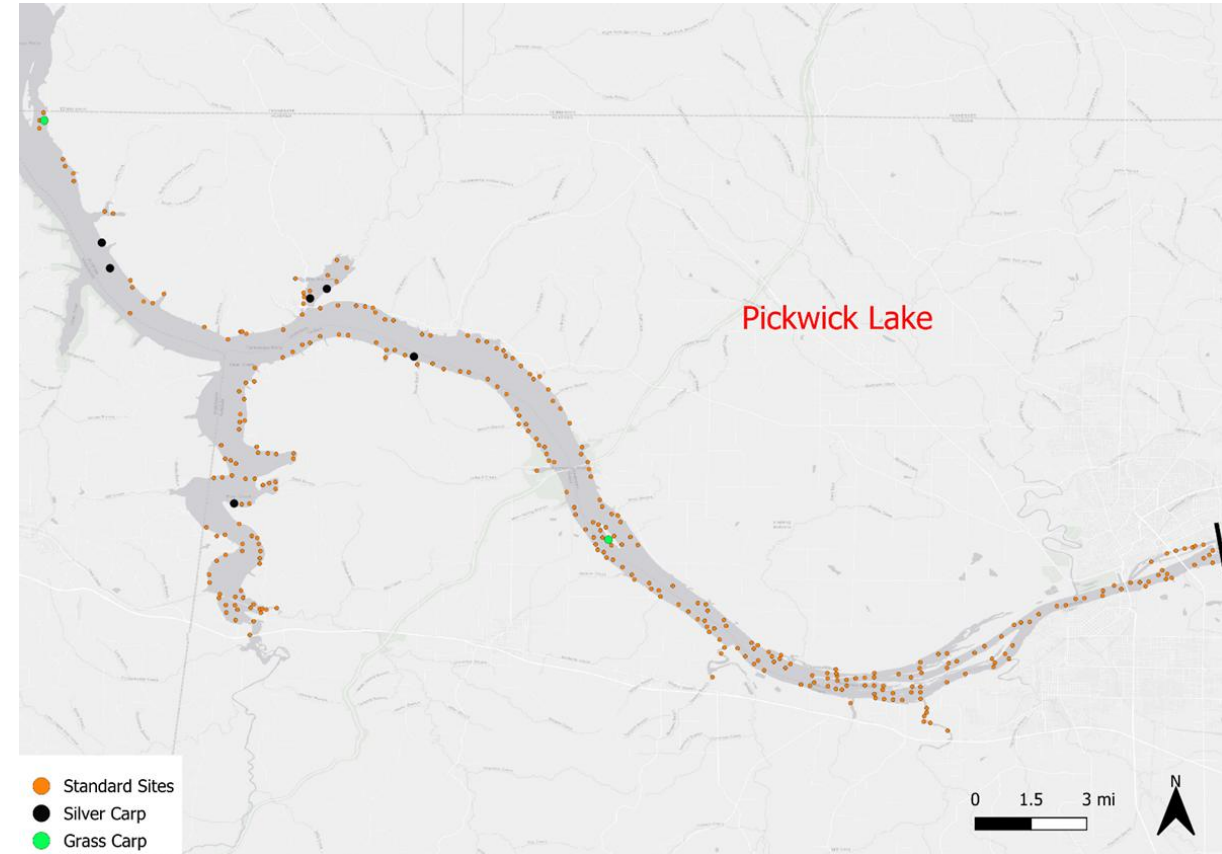


Invasive Carp - Study Area



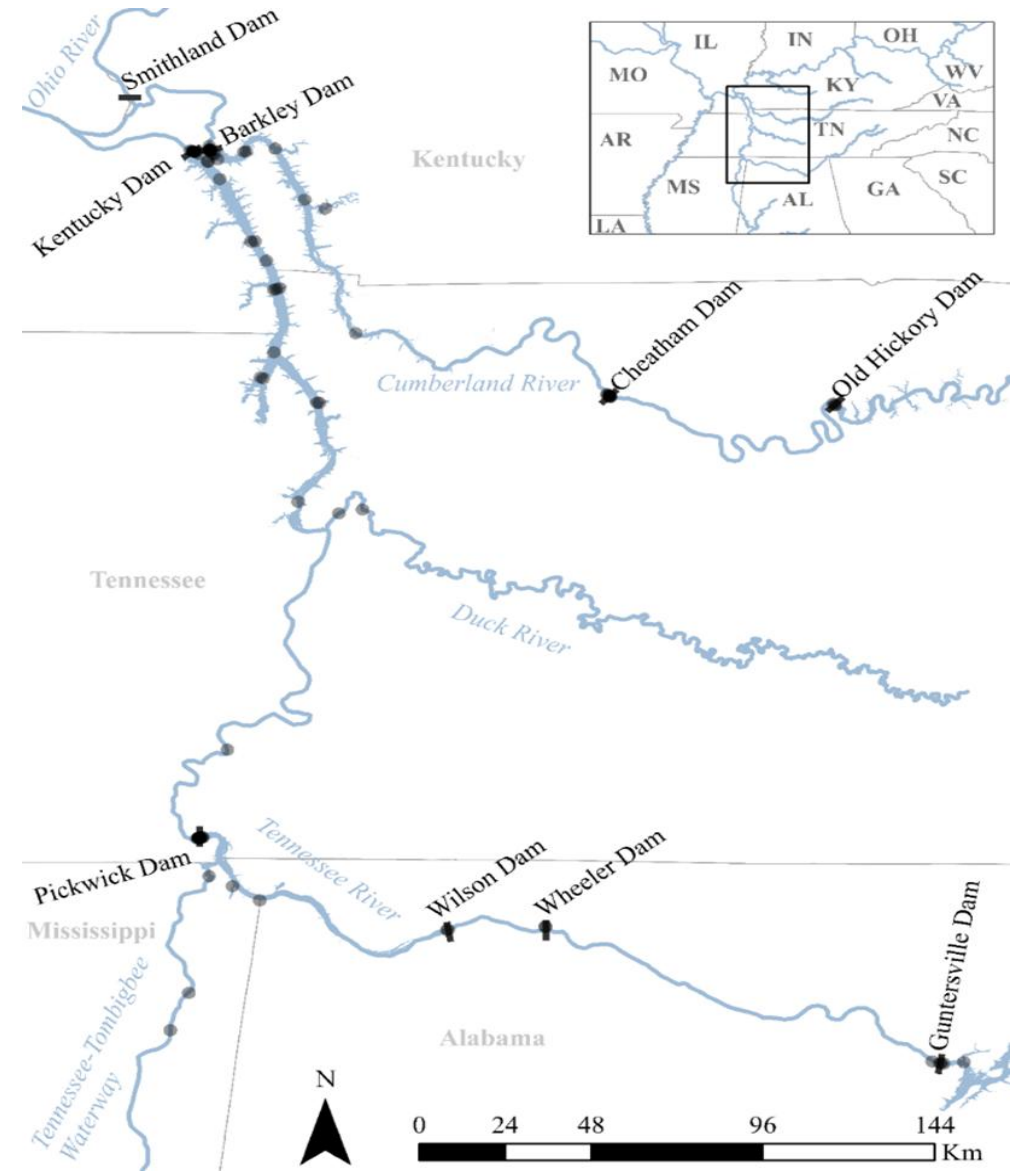
Invasive Carp – Objective 1 (Monitoring)

- **Random Grid Based Sampling**
 - **Boat Electrofishing**
 - Fall (October – November)
 - 400-m² cells covering all shoreline and islands
 - Removed from unsafe areas or too shallow
 - 1,394 viable grids
 - 320 randomly selected sites
 - 237 located in AL waters
 - MS n=54; TN n=29
 - **Carp**
 - Weighed, measured, sex determined, gonads weighed, otoliths and peck spines removed



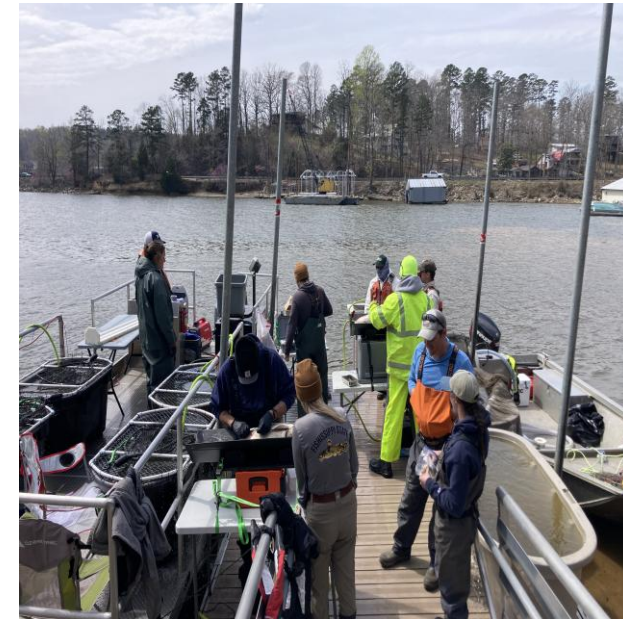
Invasive Carp – Objective 1 (Distribution)

- **Movement Among Reservoirs?**
 - **TNCR Acoustic Tagging**
 - USGS, USFW, MDWFP, TWRA, TVA, and TTU
 - Surgically implanted Tags
 - Receivers in and around all Locks along study area



Invasive Carp – Objective 1 (Distribution)

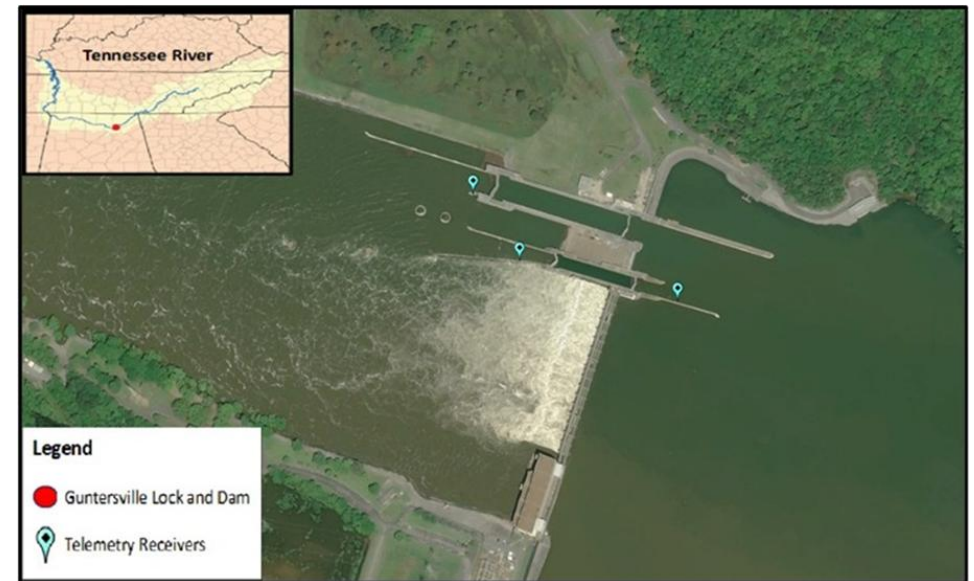
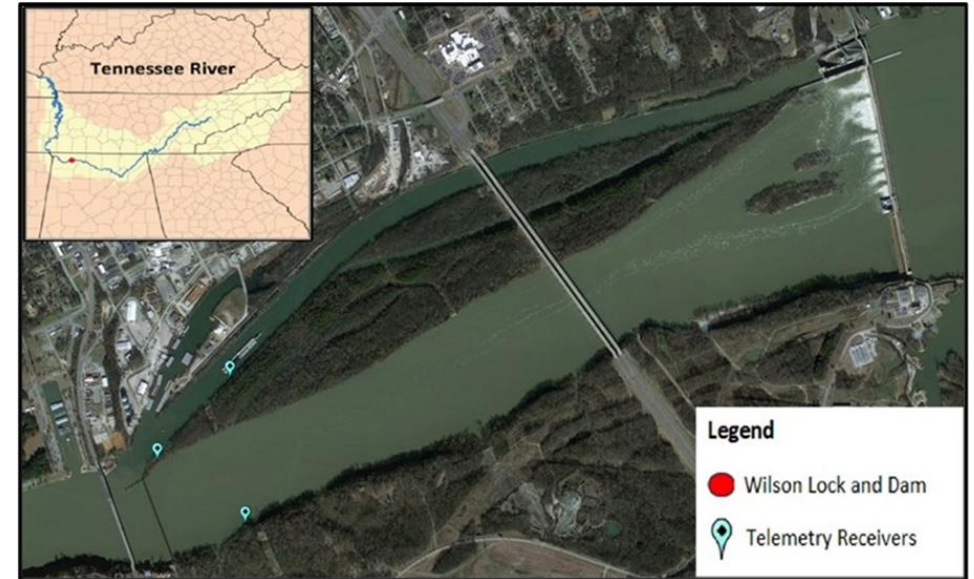
- **Pickwick Acoustic Tagging 2016 - ?**
 - *USGS, USFW, MDWFP, TWRA, TVA, and TTU
 - Tag ~100 annually
 - Surgically implanted
 - Receivers in and around all Locks along study area



Invasive Carp – Objective 1 (Distribution)

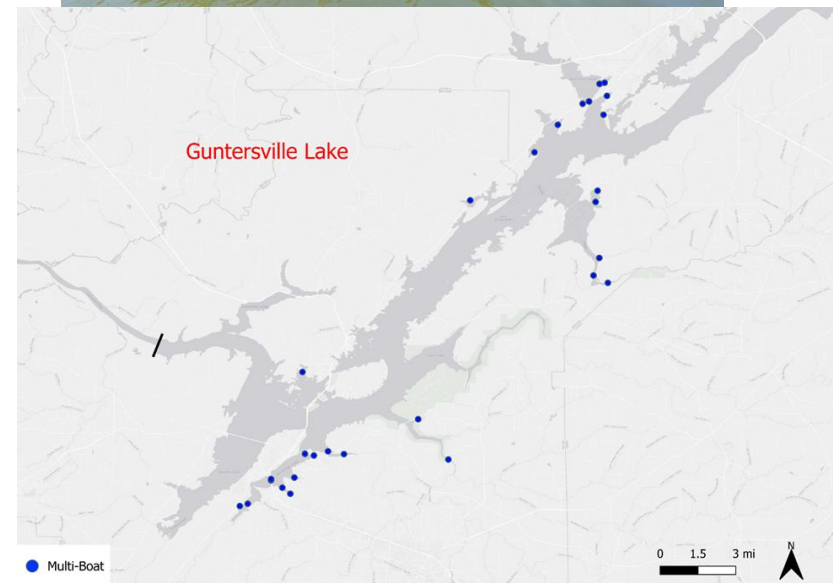
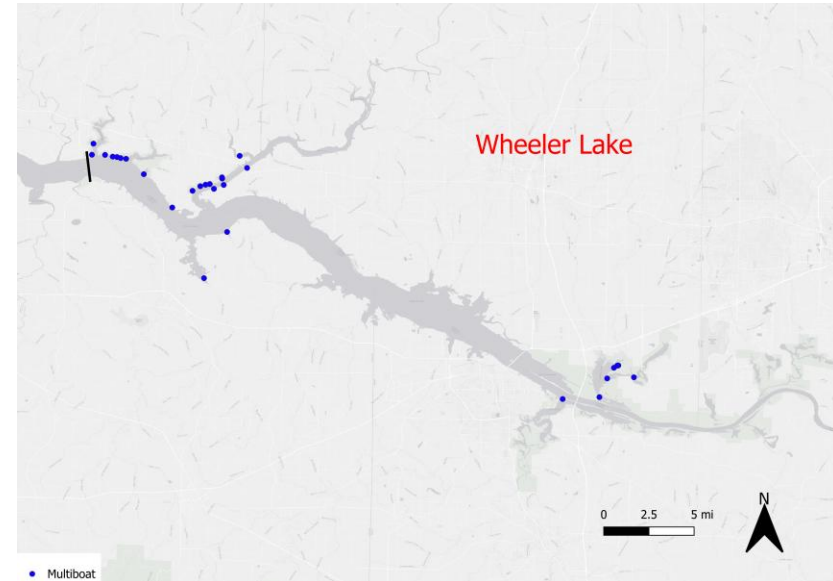
- **Alabama Acoustic Array**

- *USGS, USFW, MDWFP, TWRA, TVA, and TTU
- Tag ~100 annually
- Surgically implanted
- Receivers in and around all Locks along study area
- Receiver data offloads quarterly



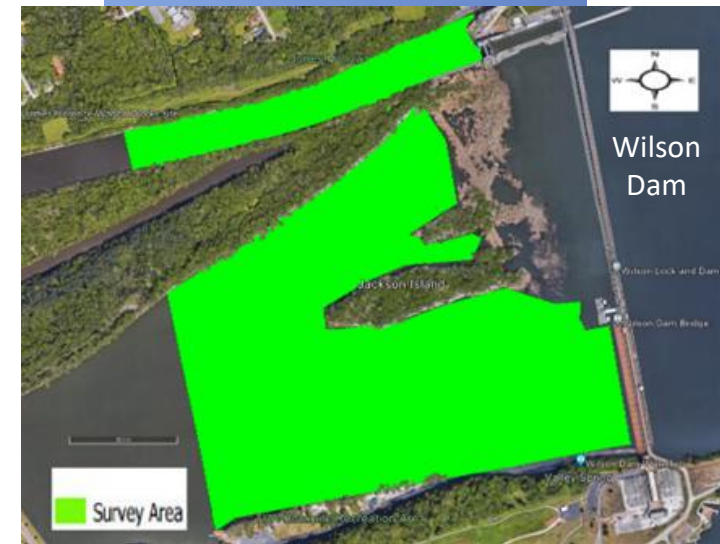
Invasive Carp – Objective 2 (Removal)

- **Carp “Herding” – Early Spring/Late Winter**
 - Wilson, Wheeler, and Guntersville
 - Multi-boat electrofishing events
 - Multi-agency Collaboration
 - Effectively sample large areas



Invasive Carp – Objective 3 (Propagule)

- **Propagule Sampling**
 - **Electrofishing Below Dams**
 - Guntersville, Wheeler, Wilson
 - April – September
 - V Formation Boat Electrofishing
 - Positively identified and/or collected



Management Questions

1. What is the status of invasive Carp in AL?
2. Do we have reproducing populations in AL?
3. How, when, and where do they move in AL?
4. How do they impact AL fisheries?
5. How do we control/manage invasive carp in AL?



AL ANS Program Objectives

“Non-Carp”

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AL ANS – Zebra Mussels

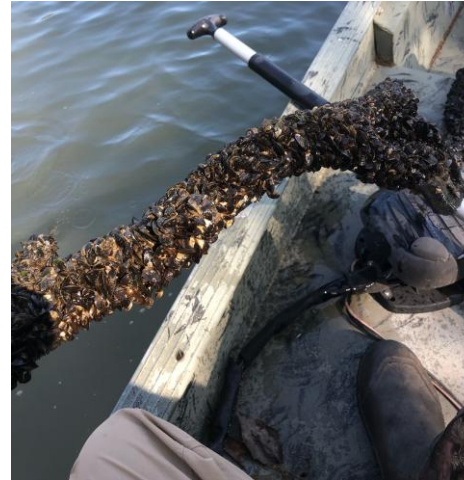
- **Zebra Mussel Monitoring**

- Established in TN R. (1992)
- Documented in Black Warrior R.
- Low level densities in AL

- **Coordination with USACE**



- Holt Lake, Tuscaloosa
- Meet with Environmental Compliance specialist on protocol
- Expand sampling
 - Veliger sampling TN, Black Warrior
 - Determine where established
 - Compile existing occurrence
 - Investigate water quality to determine risk of establishment



AL ANS – Zebra Mussels

- **Zebra Mussel Monitoring**

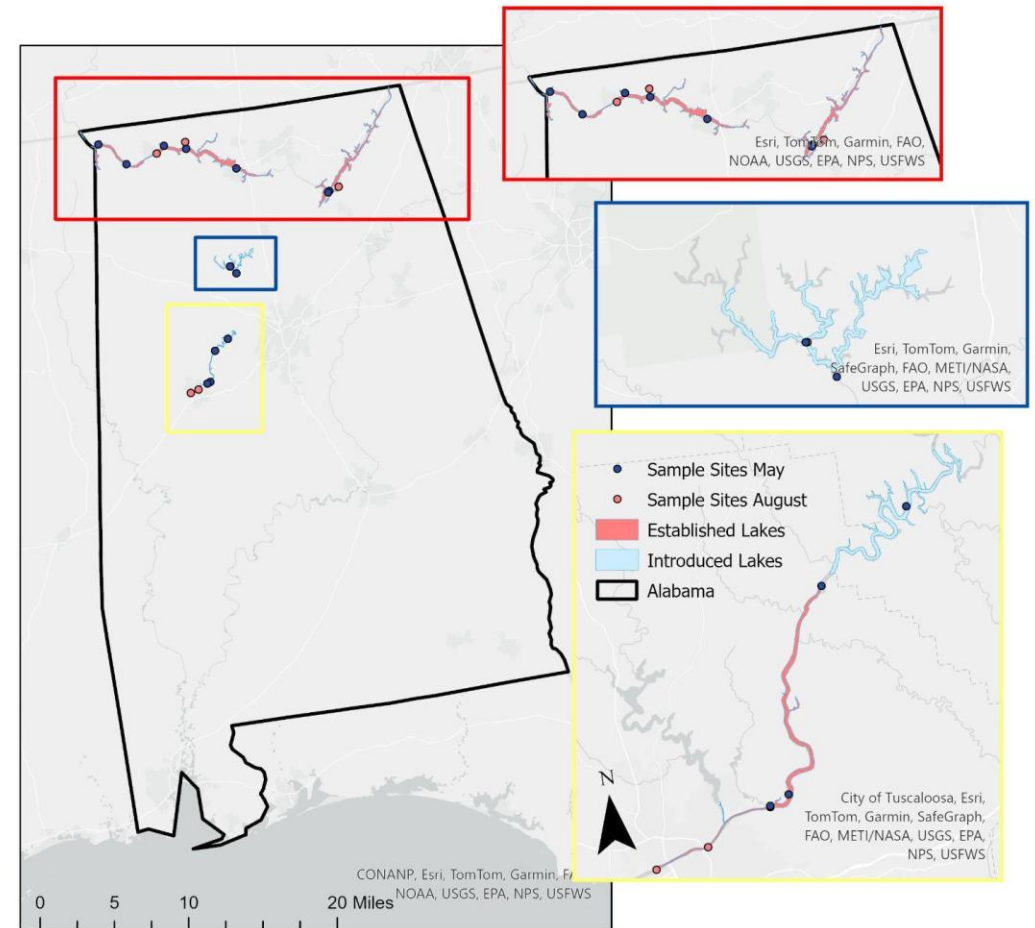
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- Holt Lake, Tuscaloosa
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Alabama Reservoirs That Have Been Sampled For Veligers



Map provided by Liz Farley and Riley Lovejoy

AL ANS - Awareness

- **Slenderclaw Crayfish**
 - Collaboration with:
 - AL State Parks
 - USFWS
 - GSA
 - Outreach
 - Highlight the species
 - Community awareness of pathways



ATTENTION!

STATE PARKS GUESTS

Help Protect The Endangered Slenderclaw Crayfish

Found only in this watershed,
this rare species is highly
vulnerable to invasive crayfish
and habitat loss and we
need your help.



- Do not dump bait buckets or home aquariums into any watershed.
- Never transport wild-caught bait into or out of this watershed - it's illegal and harmful.

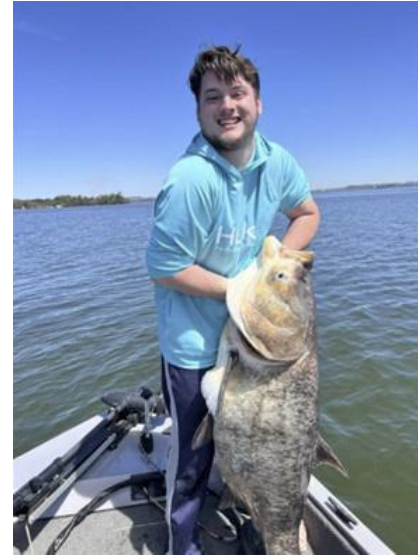
These actions can introduce invasive species that threaten the Slenderclaw crayfish's survival.



AL ANS - EDRR

- **Reports:**

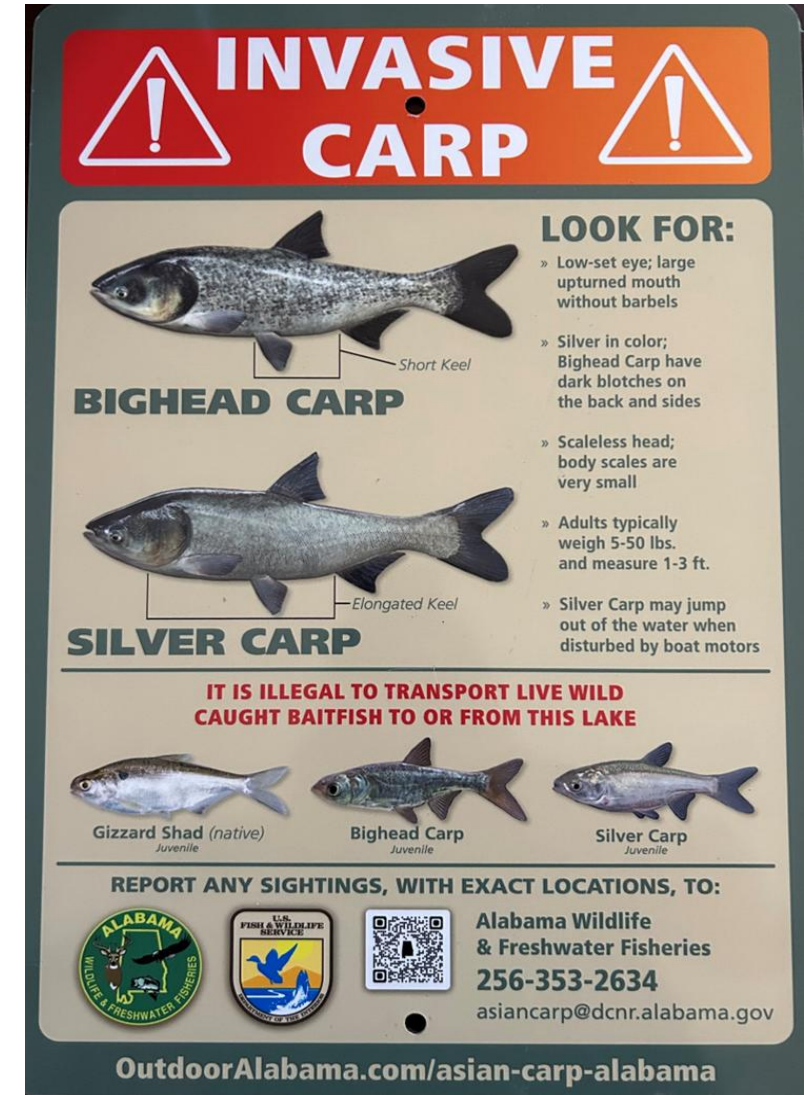
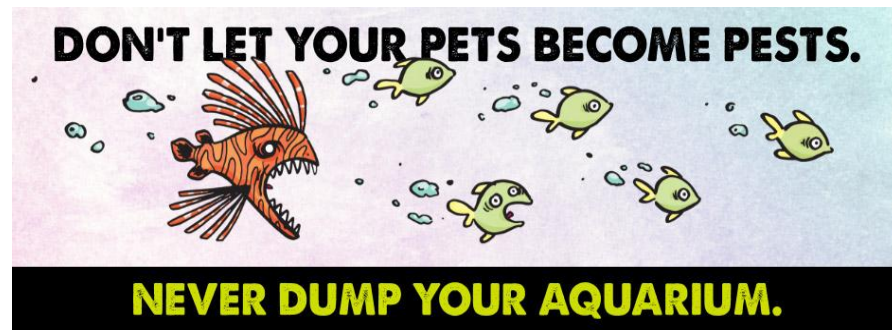
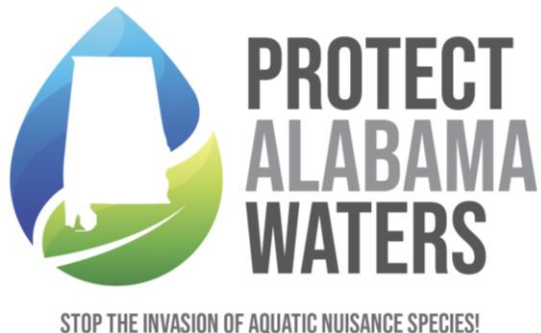
- Recreational and commercial anglers
- District Biologist
- Researchers
- General Public
- Respond when we can or ask for assistance from ADCNR
- Validate Reports
- Update USGS NAS Database



AL ANS – Outreach and Education

- **Develop Statewide Educational Materials**

- Tri-folds, Rack Cards, Signage, etc.
- Overhaul ANS website
 - ANS “Campaign” to promote awareness
 - Make information more engaging
 - More user friendly
 - Reporting encounters easier
- Expand Existing educational programs



AL ANS - Prevention

- Through legislation, regulation and enforcement
 - Prioritize Pathways
 - Develop Non-Native Aquaculture, Research, and Aquarium Species Lists
 - Clean up existing regulation language
 - 220-2.124 : *Nonindigenous Aquatic Plant Regulation*
 - 220-2-.26 : *Restrictions on Possession, Sale, Importation and/or Release of Certain Animals and Fish*
 - *Grass Carp*
 - *Tilapia*

2026 Regulation Amendments	
Plants	Animals
• Common • Crested fl heart • Cuban Bu • Dotted Du • Lyngbya V • Uruguayan Waterprimrose	• Zebra Mussels • Corbicula Clam • Apple Snails (Pomacea)

Questions?

- Adrian.Stanfill@dcnr.alabama.gov
- (256) 777 - 0140

