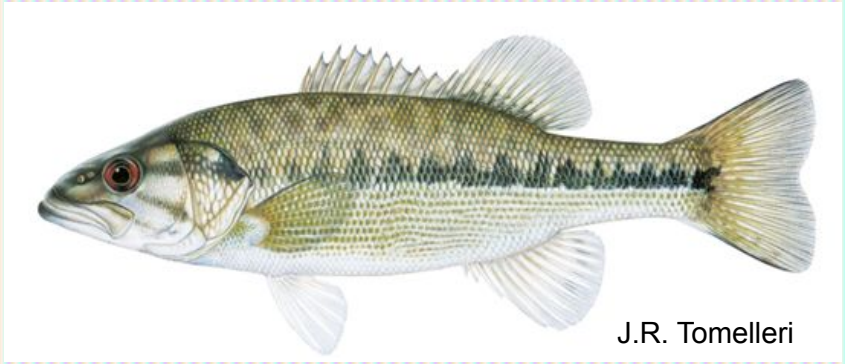

J.R. Tomelleri

Impacts of Alabama bass invading South Atlantic Slope waterways

Mark Scott, Preston Chrisman

South Carolina Dept. of Natural Resources

DNR

Life's Better OUTDOORS

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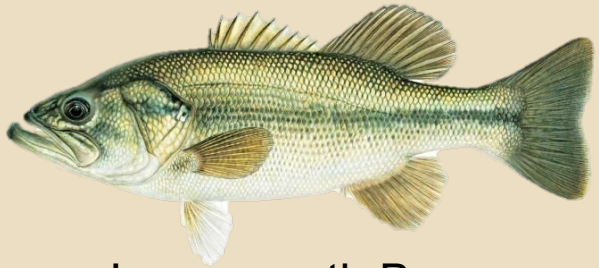
How many black bass species are there?

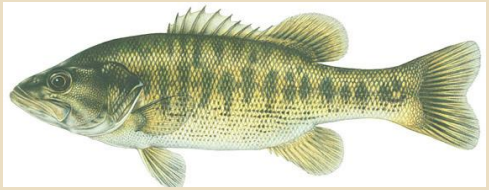


Largemouth Bass
Micropterus salmoides

Bartram's Bass
Micropterus pucpuggy

Florida Bass
Micropterus floridanus

Suwanee Bass
Micropterus notius



Guadalupe Bass
Micropterus treculi

Spotted Bass
Micropterus punctulatus

Redeye Bass
Micropterus coosae

Chattahoochee Bass
Micropterus chattahoochae

Alabama Bass
Micropterus henshalli

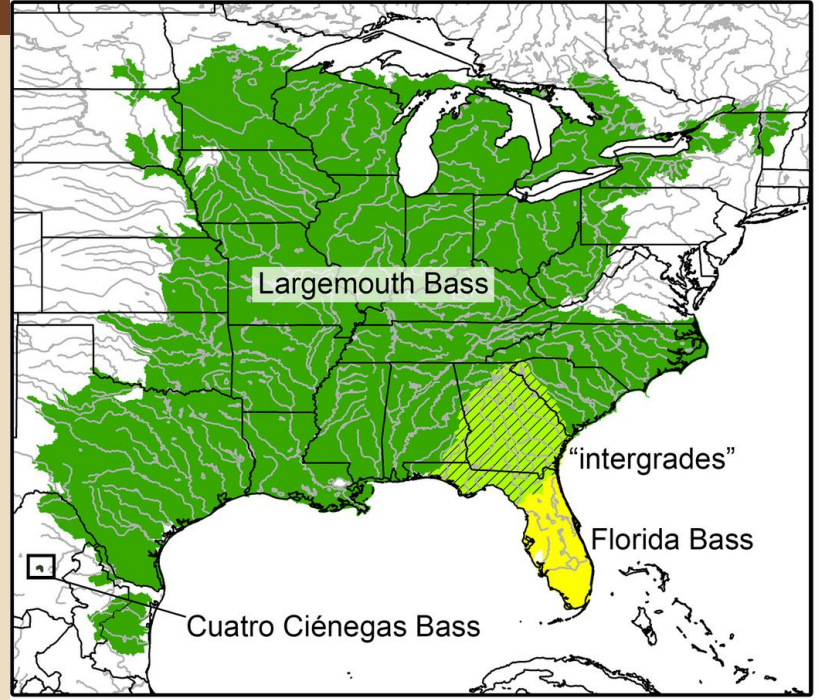
Smallmouth Bass
Micropterus dolomieu

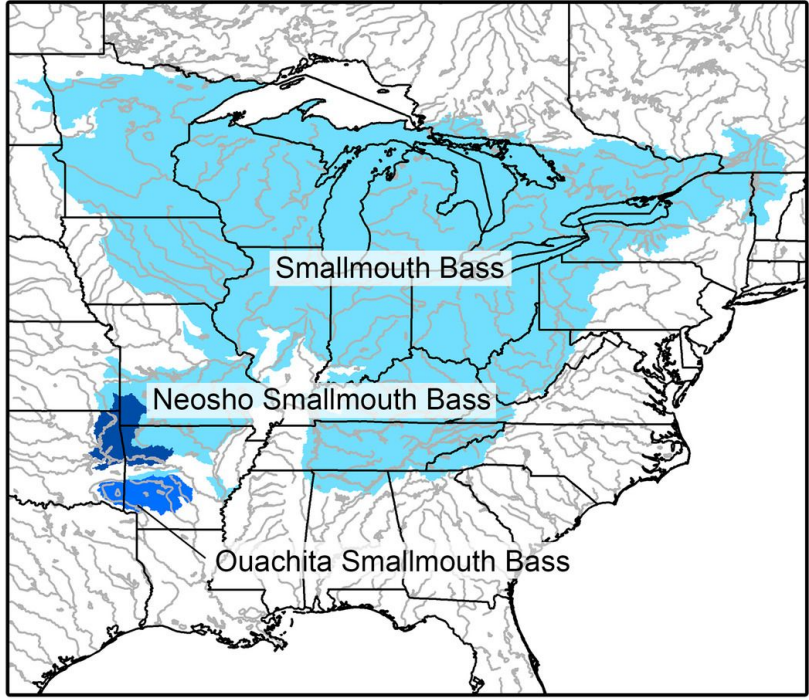
Shoal Bass
Micropterus cataractae

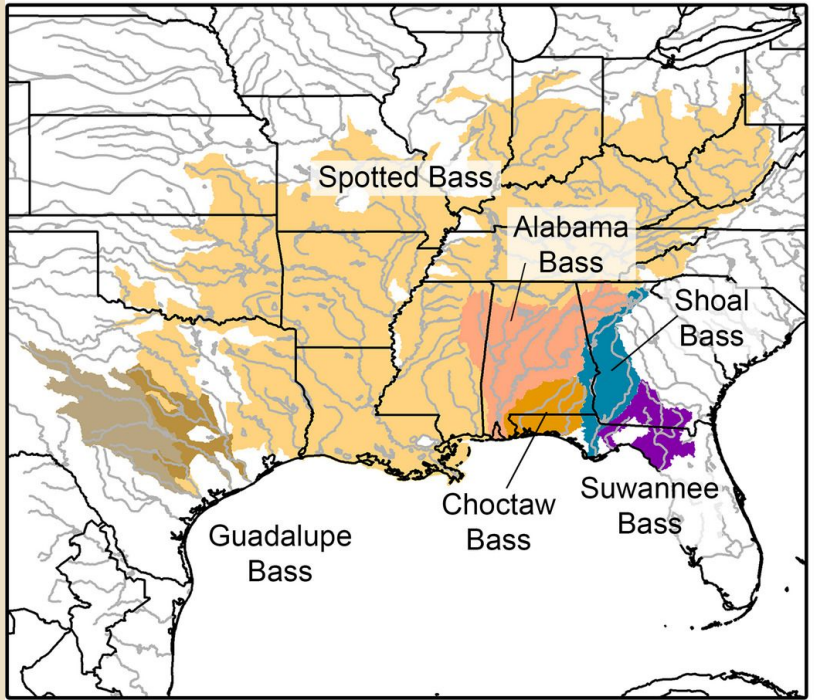
Altamaha Bass
Micropterus calliurus

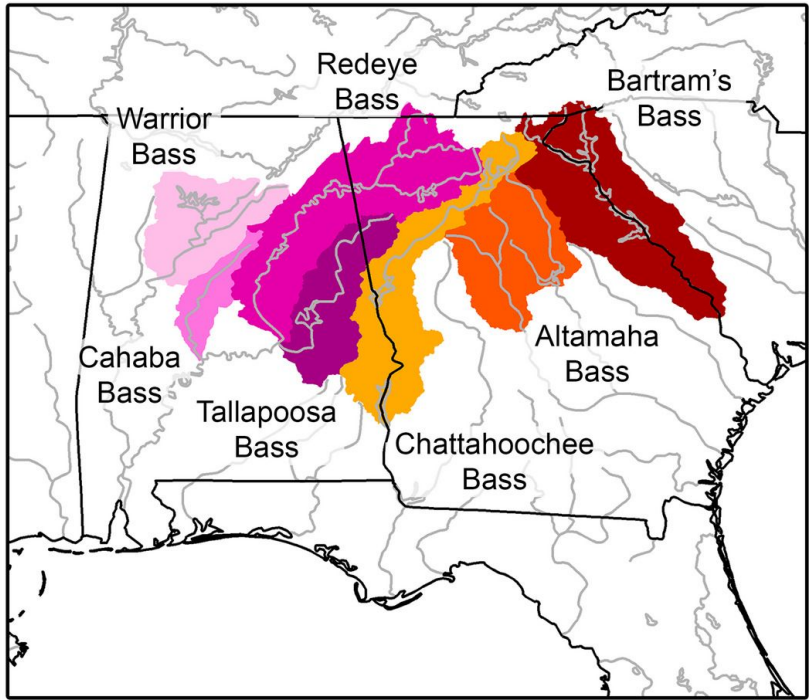
Black Bass *Micropterus*

- Ongoing ichthyological rearrangement
  - Largemouth clade
  - Smallmouth clade
  - Spotted clade
  - Redeye clade
- Native range maps show southern endemism









Taylor et al. 2019. *Fisheries*

Alabama Bass *Micropterus henshalli Hubbs & Bailey, 1940*

Credit: Katie Burelle
nas.er.usgs.gov

- Originally described as Spotted Bass *M. punctulatus*, elevated to species in 2008
- Southeastern native, Southeastern invasive

Alabama Bass On The Move

Active transport across river basin boundaries by the angling public creates urgent need for outreach and education concerning effects

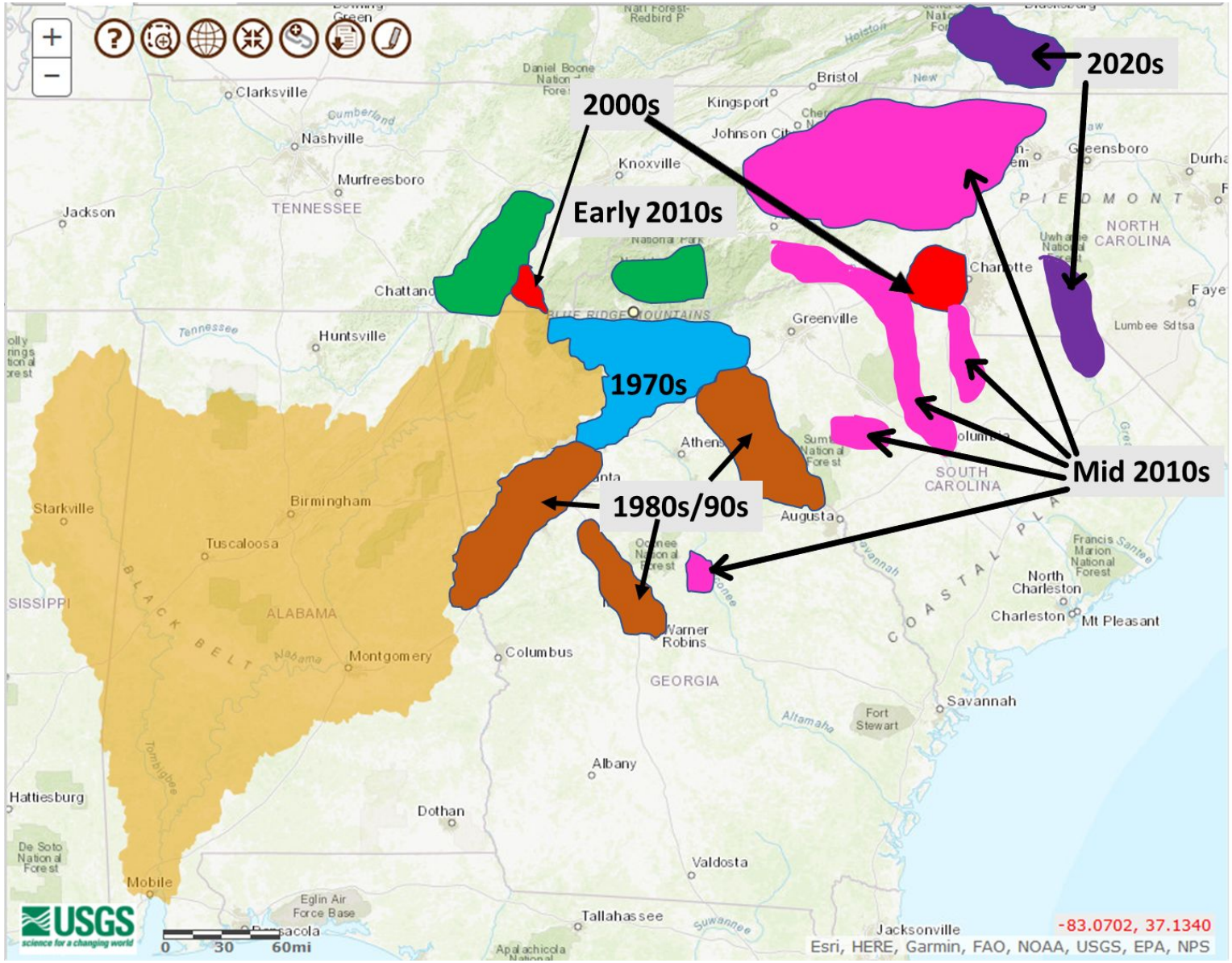
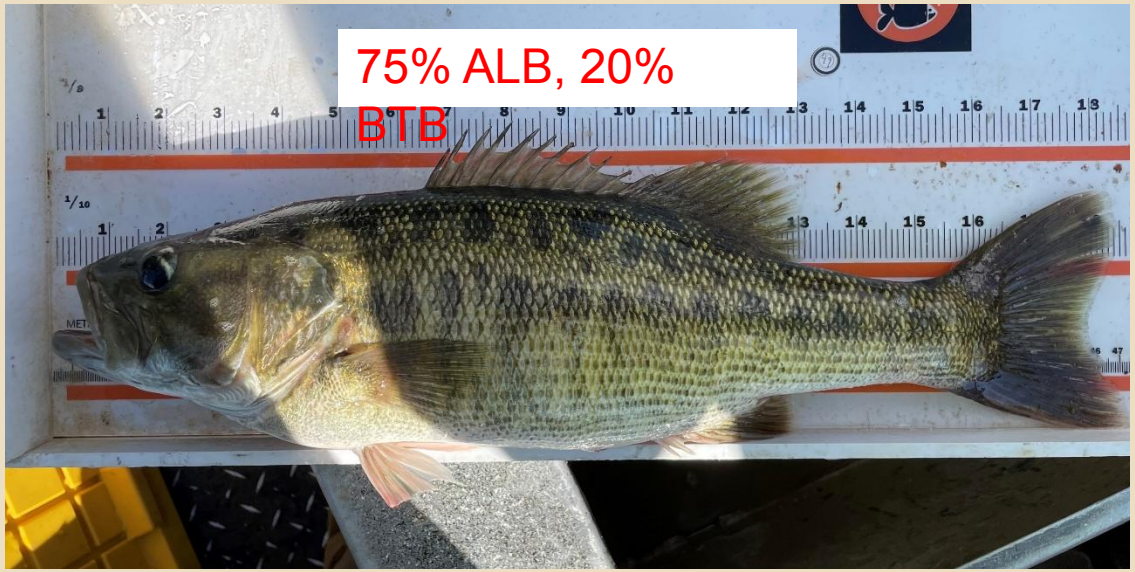


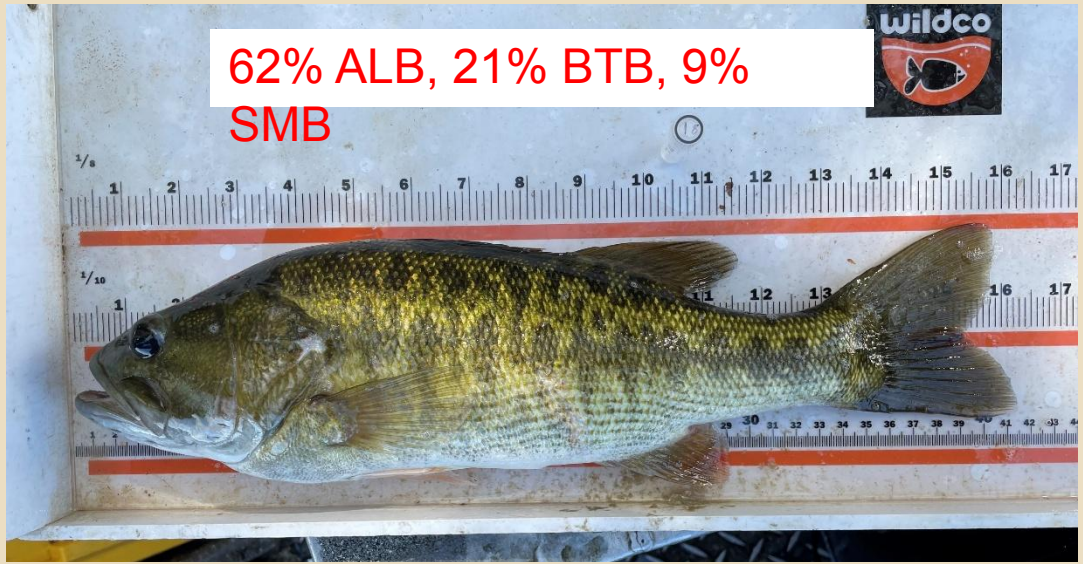
Photo credit: GADNR & Sammons et al. 2023.

Alabama Bass: Two Paths to Impacts

- Hybridization with Bartram's Bass, Smallmouth Bass, and other black bass species (other than Largemouth Bass)
- Direct competition with Largemouth Bass

Path 1: Alabama Bass Introgressive Hybridization





Introgressive Hybridization with Bartram's Bass

Early hybridization impacts seen in mainstem Savannah River reservoirs

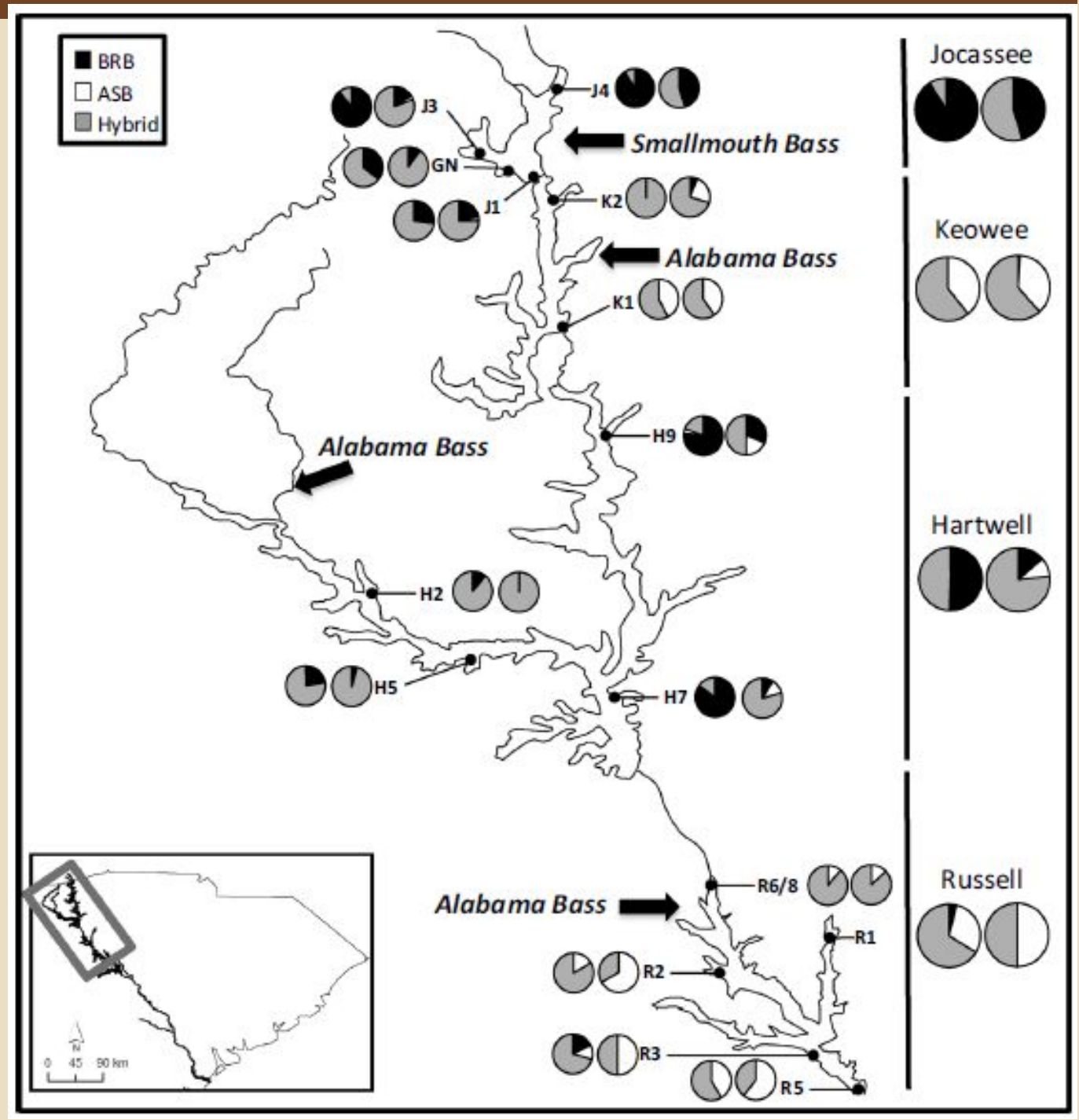
By 2004 (pie chart on left) when fish samples were genotyped, hybrids already made up significant portion of most reservoirs.

By 2010 (pie chart on right), few pure Bartram's Bass remained.

Bartram's alleles being purged from system via introgression

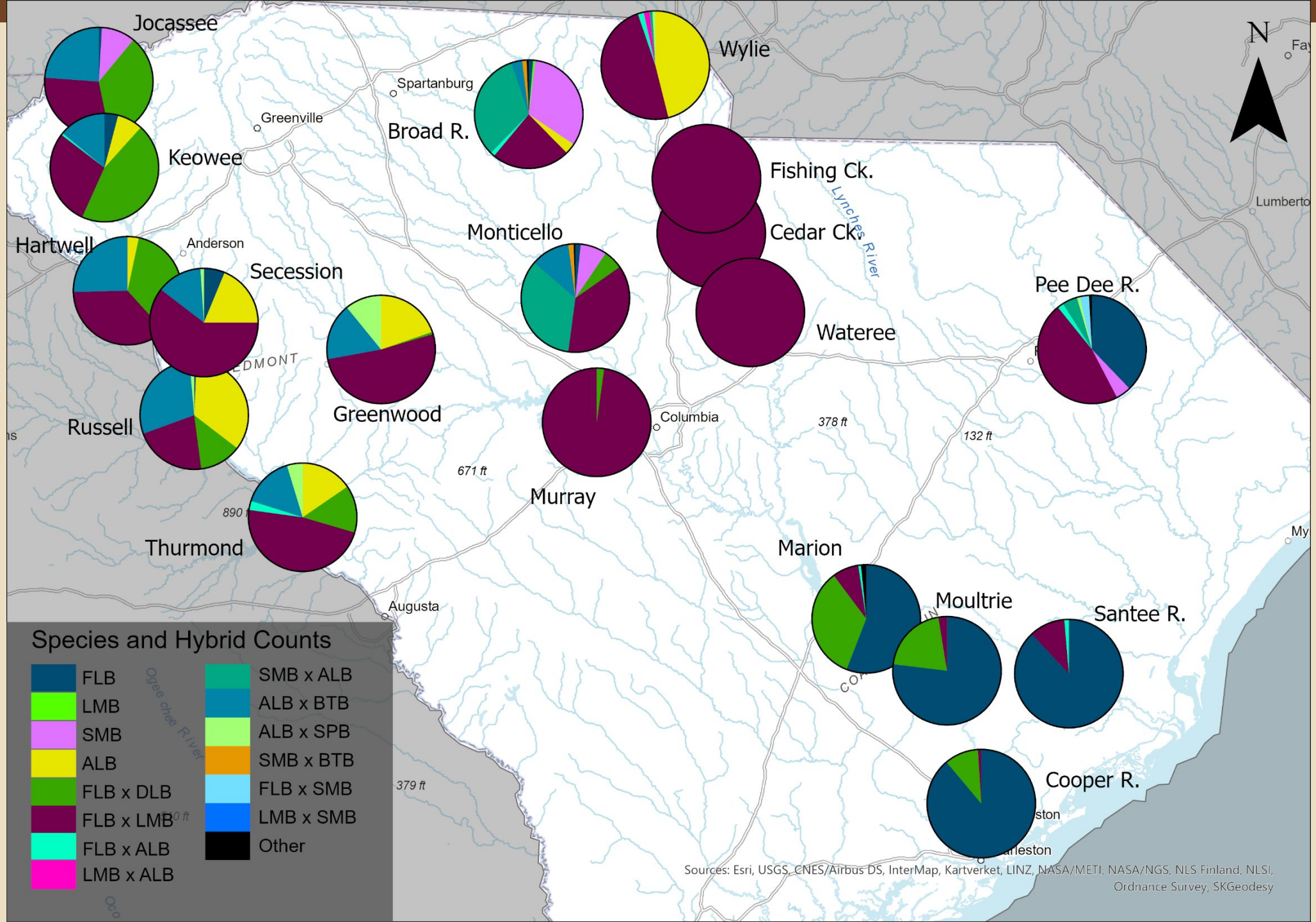
Endemic fish facing potential for extinction as it was being formally described

Work since has focused on running waters to evaluate invasion dynamics



Bangs et al. 2018

Denotes genetically “pure” (>90%)



Publications

North American Journal of Fisheries Management 41:1309–1321, 2021

ISSN: 0275-5947 print / 1548-8675 online
DOI: 10.1002/nafm.10637

ARTICLE

Modeling Distribution of Endemic Bartram's Bass *Micropterus* sp. cf. *coosae*: Disturbance and Proximity to Invasion Source Increase Hybridization with Invasive Alabama Bass

Brandon K. Peoples* and **Emily Judson**[1]
Department of Forestry and Environmental Conservatio

Tanya L. Darden and Daniel J. Farrae
South Carolina Department of Natural Resources, Mar
Charleston, South Carolina 29412, USA

Kevin Kubach[2]
South Carolina Department of Natural Resources, 100

Jean Leitner
South Carolina Department of Natural Resources, 311

Mark C. Scott[2]
South Carolina Department of Natural Resources, 100

Ecology of Freshwater Fish

WILEY

Ecology of FRESHWATER FISH

ORIGINAL ARTICLE OPEN ACCESS

Competition or Habitat: Co-Occurrence of Endemic and Cosmopolitan Black Bass Species in a Changing Landscape

Caroline Cooper[1,2] | Kyle Barrett[1] | Tanya L. Darden[3] | Daniel J. Farrae[3] | Kevin Kubach[4] | Mark C. Scott[1,4] | Brandon K. Peoples[1]

[1]Clemson University, Department of Forestry and Environmental Conservation, Clemson, South Carolina, USA | [2]Georgia Department. Of Natural Resources, Wildlife Resources Division, Albany, Georgia, USA | [3]South Carolina Dept. of Natural Resources, Marine Resources Research Institute, Charleston, South Carolina, USA | [4]South Carolina Dept. Natural Resources, Freshwater Fisheries Statewide Research, Clemson, South Carolina, USA

Correspondence: Brandon K. Peoples (peoples@clemson.edu)

Received: 5 June 2025 | **Revised:** 21 July 2025 | **Accepted:** 25 July 2025

Received: 9 June 2020 | Revised: 27 October 2020 | Accepted: 28 October 2020

DOI: 10.1111/eff.12585

ORIGINAL ARTICLE

Ecology of FRESHWATER FISH WILEY

Nesting microhabitat use and hybridisation of endemic Bartram's Bass in Savannah River tributaries

Emily Judson[1] | Tanya L. Darden[2] | Daniel Farrae[2] | Jean Leitner[3] | Brandon K. Peoples[1]

Publications

Ecology of Freshwater Fish

WILEY

Ecology of FRESHWATER FISH

ORIGINAL ARTICLE OPEN ACCESS

Summer and Autumn Movement of Endemic Bartram's Bass, Invasive Alabama Bass and Hybrid Congeners in an Upper Savannah River Tributary

Tyler R. Zumwalt[1,2] | Troy M. Farmer[1] | Mark C. Scott[3] | Daniel J. Farrae[4] | Tanya L. Darden[4] | Henry J. Hershey[5] | Brandon K. Peoples[1]

[1]Department of Forestry and Environmental Conservation, Clemson University, Clemson, South Carolina, USA | [2]Idaho Department of Fish
Coeur d'Alene, Idaho, USA | [3]South Carolina Department of Natural Resources, Freshwater Fisheries Statewide Research, Clemson, South Ca
USA | [4]South Carolina Department of Natural Resources, Marine Resources Research Institute, Charleston, South Carolina, USA | [5]School
Aquaculture, and Aquatic Sciences, Auburn University, Auburn, Alabama, USA

Correspondence: Brandon K. Peoples (peoples@clemson.edu)

Received: 3 November 2024 | **Revised:** 30 May 2025 | **Accepted:** 10 June 2025

Funding: This study was supported by U.S. Fish and Wildlife Service.

Keywords: discharge | *Micropterus* | PIT tag | Redeye Bass | telemetry | temperature

North American Journal of Fisheries Management, 2025, **00**, 1–17
https://doi.org/10.1093/NAJFMT/vqae006
Advance access publication: March 20, 2025
Article

AFS American Fisheries Society

Using multi-state occupancy models to quantify distribution and detection of endemic Bartram's Bass and congeners

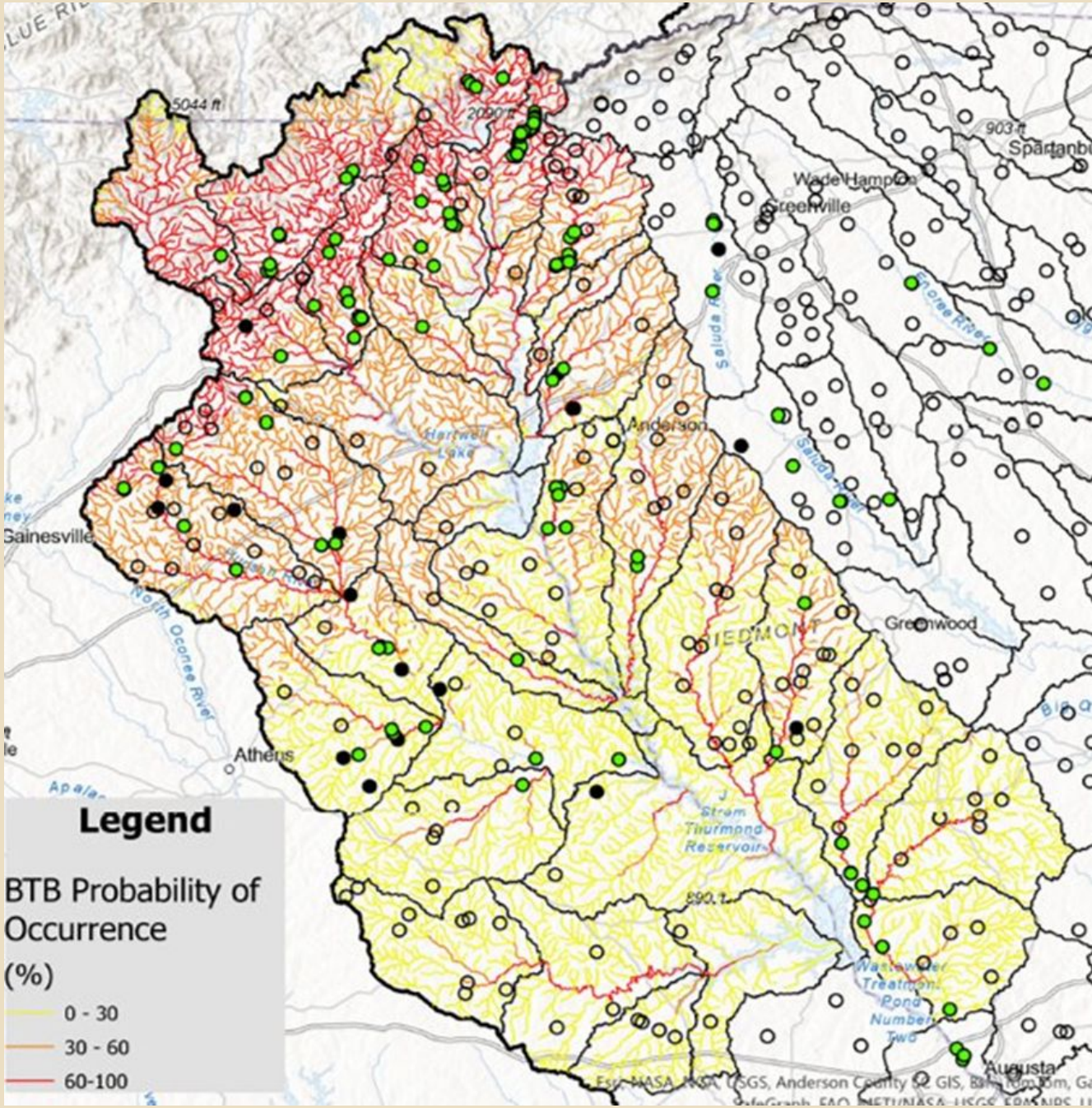
Caroline Cooper[1,2], Kyle Barrett[1], Luke M. Bower[3], Tanya L. Darden[4], Daniel J. Farrae[4], Kevin Kubach[5], Mark C. Scott[5,1], and Brandon K. Peoples[1,*]

[1]Department of Forestry and Environmental Conservation, Clemson University, Clemson, South Carolina, USA
[2]Georgia Department of Natural Resources, Wildlife Resources Division, Albany, Georgia, USA
[3]U.S. Geological Survey, South Carolina Cooperative Fish and Wildlife Research Unit, Clemson University, Clemson, South Carolina, USA
[4]South Carolina Department of Natural Resources, Marine Resources Research Institute, Charleston, South Carolina, USA
[5]South Carolina Department of Natural Resources, Freshwater Fisheries Statewide Research, Clemson, South Carolina, USA

*Corresponding author: Brandon K. Peoples. Email: peoples@clemson.edu.

Upper Savannah River Basin

- 2013 – 2023 random and longitudinal surveys in tributaries across range
- Hybridization documented
- Refugia identified
- Distance from reservoir, channel gradient important factors
- Forest cover most predictive of hybridization occurrence at a site



Path 2 to Impacts

North American Journal of Fisheries Management 43:384–399, 2023

ISSN: 0275-5947 print / 1548-8675 online
DOI: 10.1002/nafm.10876

SPECIAL SECTION: BACK TO THE FUTURE OF RESERVOIR FISHERIES MANAGEMENT—WHAT HAVE WE LEARNED IN 50 YEARS?

Alabama Bass Alter Reservoir Black Bass Species Assemblages When Introduced Outside Their Native Range

Steven M. Sammons*
School of Fisheries, Aquaculture, and Aquatic Sciences, Auburn University, Auburn, Alabama 36849, USA

Lawrence G. Dorsey and C. Scott Loftis
North Carolina Wildlife Resources Commission, 1721 Mail Service Center, Raleigh, North Carolina 27699, USA

Preston Chrisman
South Carolina Department of Natural Resources, 1506 Ebenezer Road, Rock Hill, South Carolina 29732, USA

Mark Scott
South Carolina Department of Natural Resources, 311 Natural Resources Drive, Clemson, South Carolina 29631, USA

John Hammonds
Tennessee Wildlife Resources Agency, 3030 Wildlife Way, Morristown, Tennessee 37814, USA

Michael Jolley
Tennessee Wildlife Resources Agency, 464 Industrial Boulevard, Crossville, Tennessee 38555, USA

Hunter Hatcher
Virginia Department of Wildlife Resources, 107 Foxwood Drive, Farmville, Virginia 23901, USA

John Odenkirk
Virginia Department of Wildlife Resources, 1320 Belman Road, Fredericksburg, Virginia 22401, USA

John Damer
Georgia Department of Natural Resources, Wildlife Resources Division, 2650 Floyd Springs Road, Armuchee, Georgia 30105, USA

Matthew R. Lewis and Eric J. Peatman
School of Fisheries, Aquaculture, and Aquatic Sciences, Auburn University, Auburn, Alabama 36849, USA

Path 2 to Impacts

Savannah Basin Reservoirs

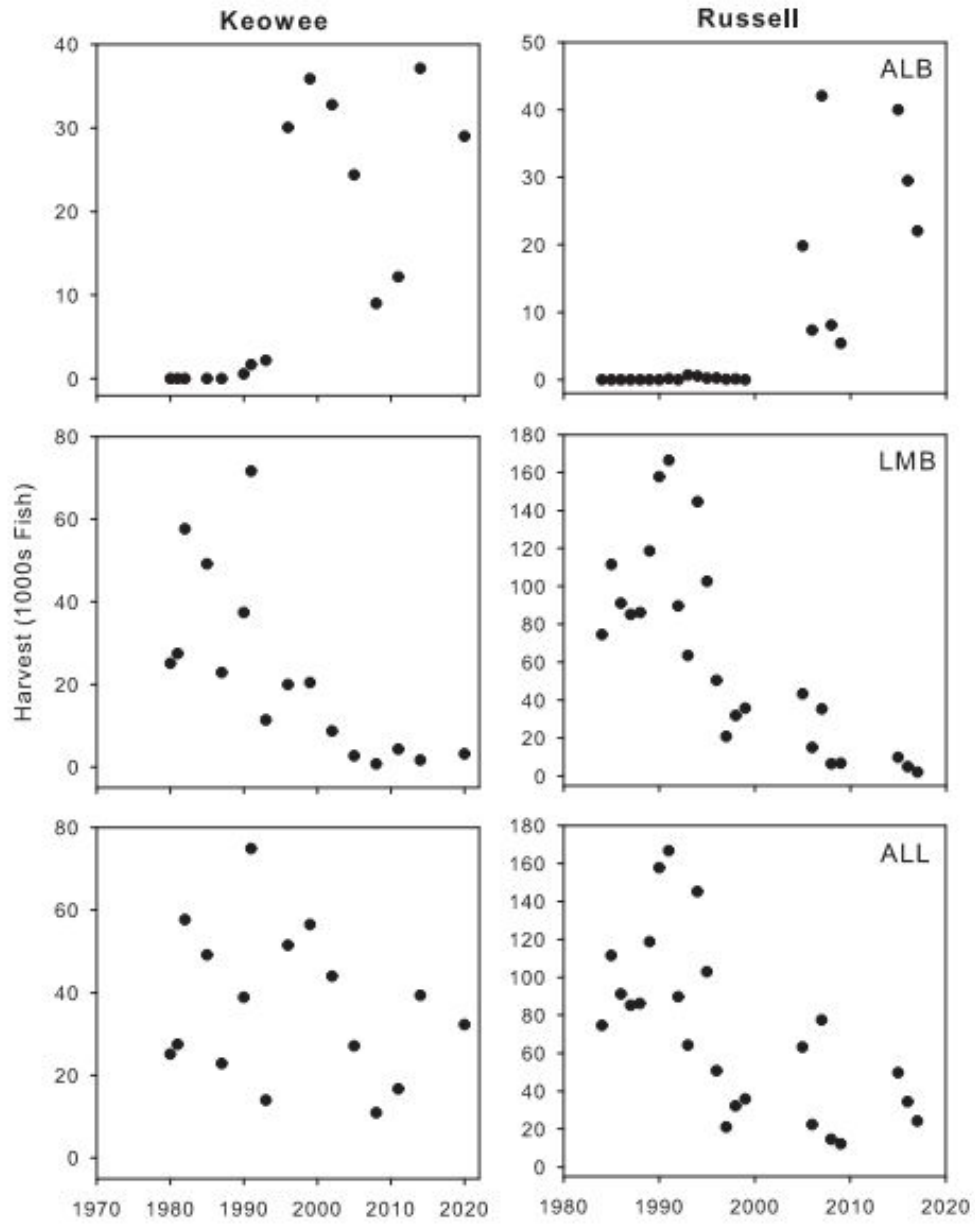
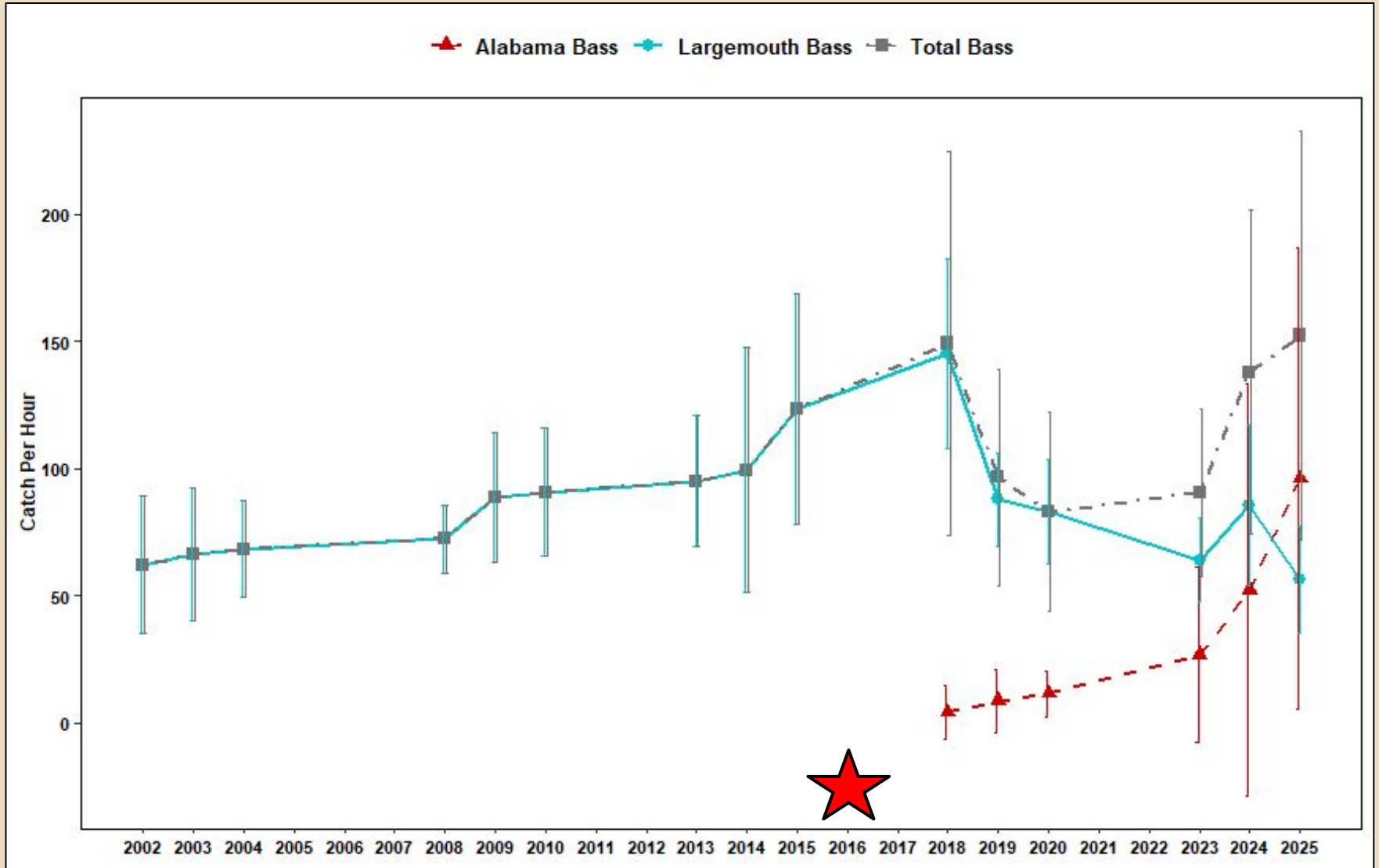


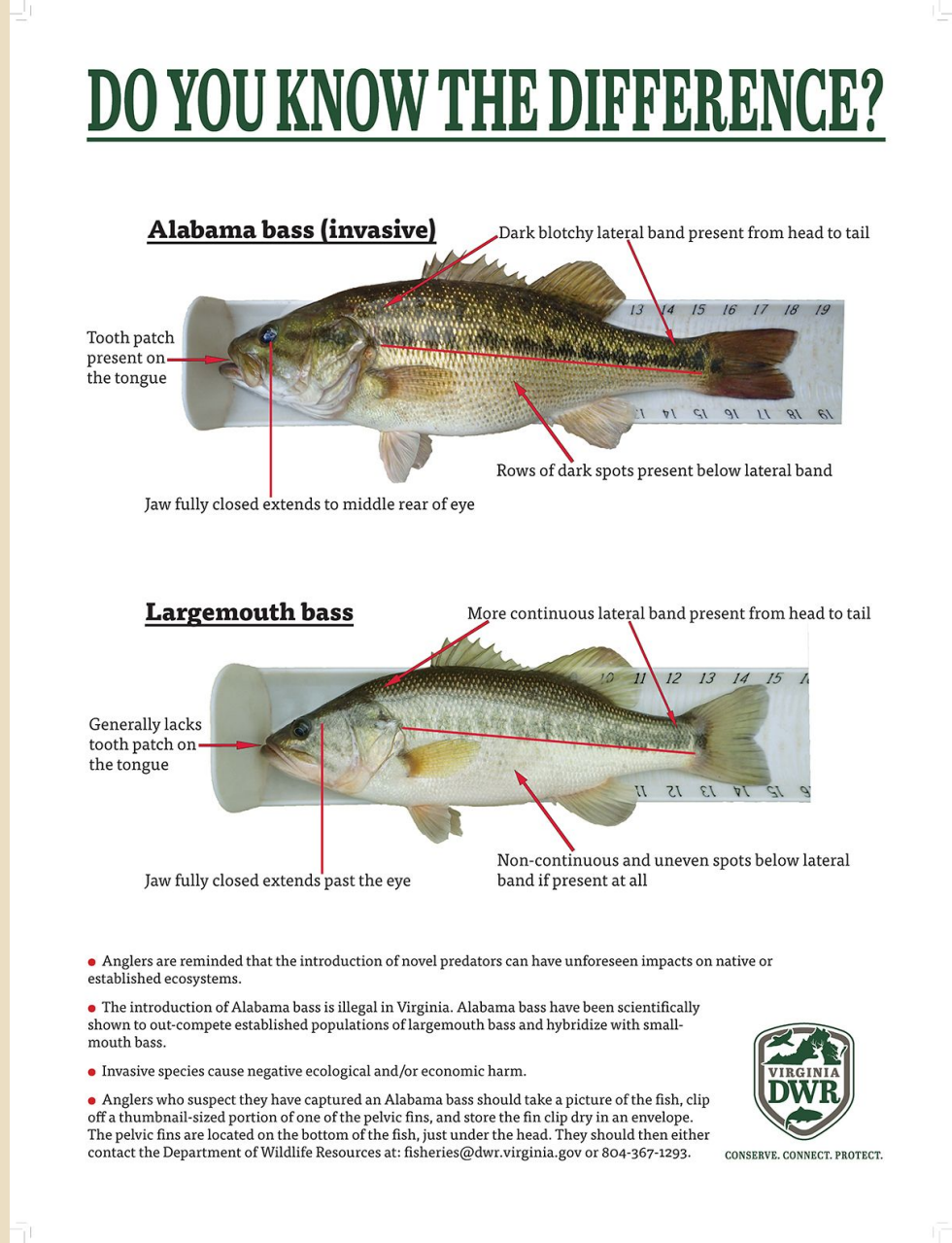
FIGURE 3. Annual estimated harvest of Alabama Bass (ALB), Largemouth Bass (LMB), and total black bass (ALL) from two southeastern U.S. reservoirs. Note the different *y*-axis scales.

Path 2 to Impacts

Catawba River – Lake Wylie



Placards and Posters Being Used to Educate the Public

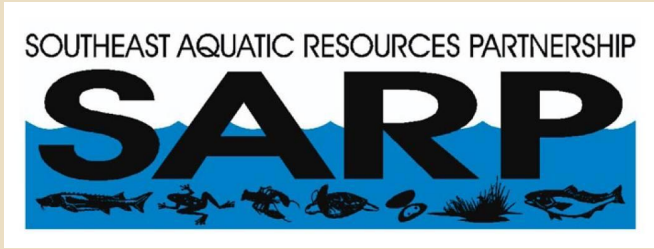


Takeaways

- Alabama Bass have been increasing their range since the latter 20th century
- Expansion facilitated by the angling public desiring additional options
- Native and naturalized species (e.g., Bartram's Bass, Smallmouth Bass) can be extirpated through introgressive hybridization
- High value sport fisheries have been negatively affected by expansion of Alabama Bass in Georgia, the Carolinas, Tennessee, and Virginia – the northward range boundary potential is unknown
- Mechanisms of replacement are not known with certainty, but likely involve competition for available resources
- All natural resource agencies and their stakeholders should be engaged in public outreach campaigns to discourage the public from moving live animals around and increasing their distribution outside their native ranges

Questions?

ScottM@dnr.sc.gov



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Acknowledgements

- Data collection and processing: Emily Judson, Daniel Farrae, Kevin Kubach, Drew Gelder, Kenson Kanczuzewski, Troy Cribb, Amy Chastain, Weston Houck, Vic Blackwell, Chris Cobb, John Lawrence, Parker Sharpe, Joey Lindler, Crista McKuen, Seth Mycko, Colton Lockaby, Jon Blalock

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