Impacts of Flathead Catfish Established in South Atlantic Rivers

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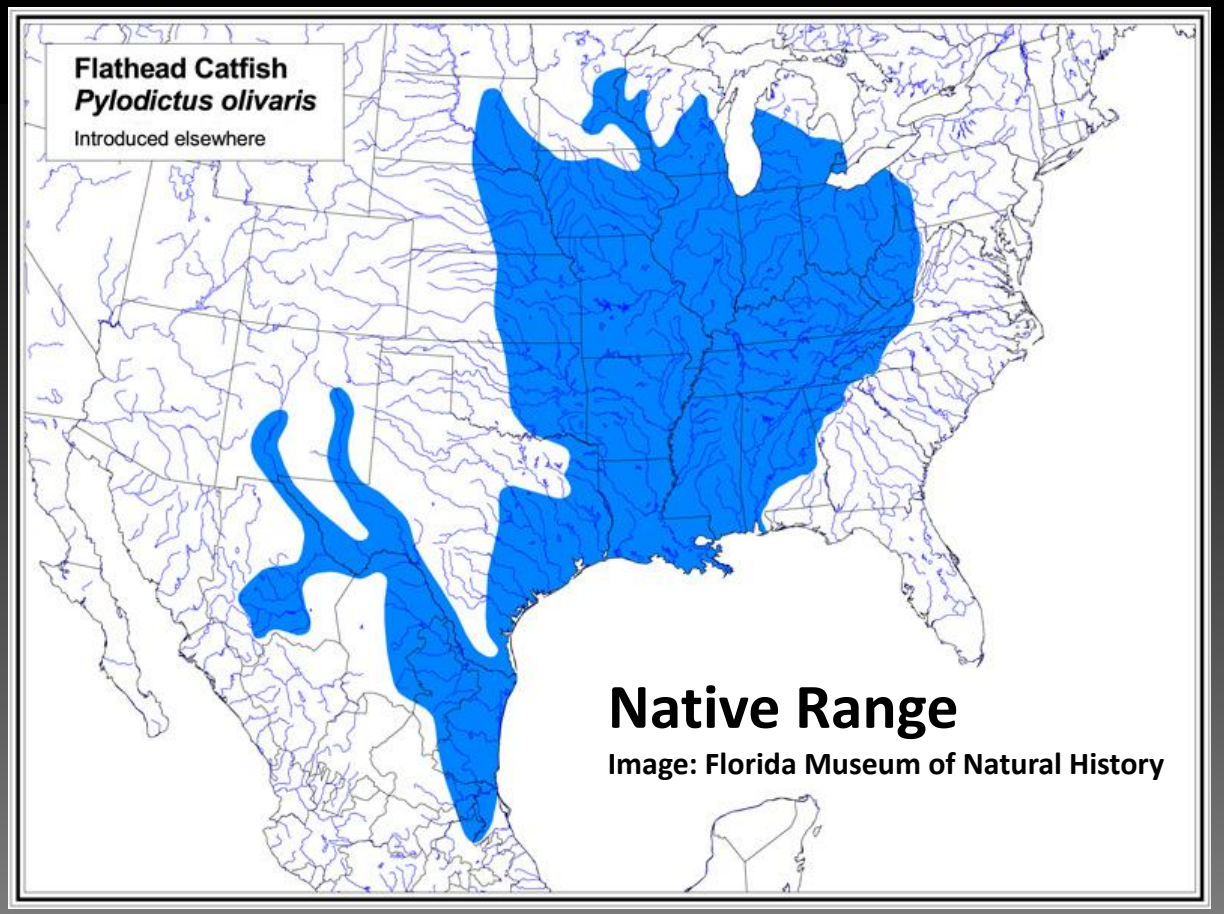
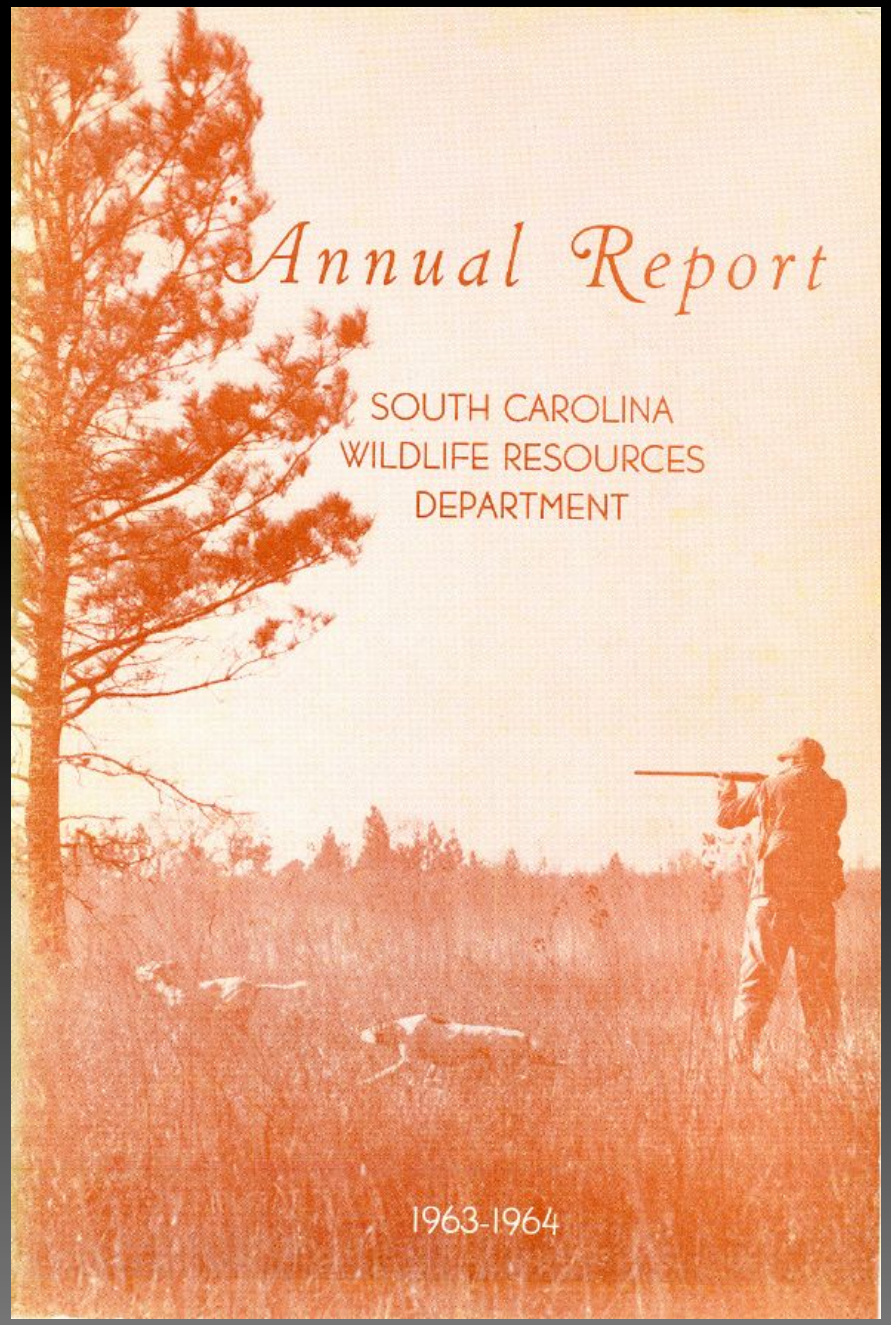
Flathead Catfish

Pylodictis olivaris

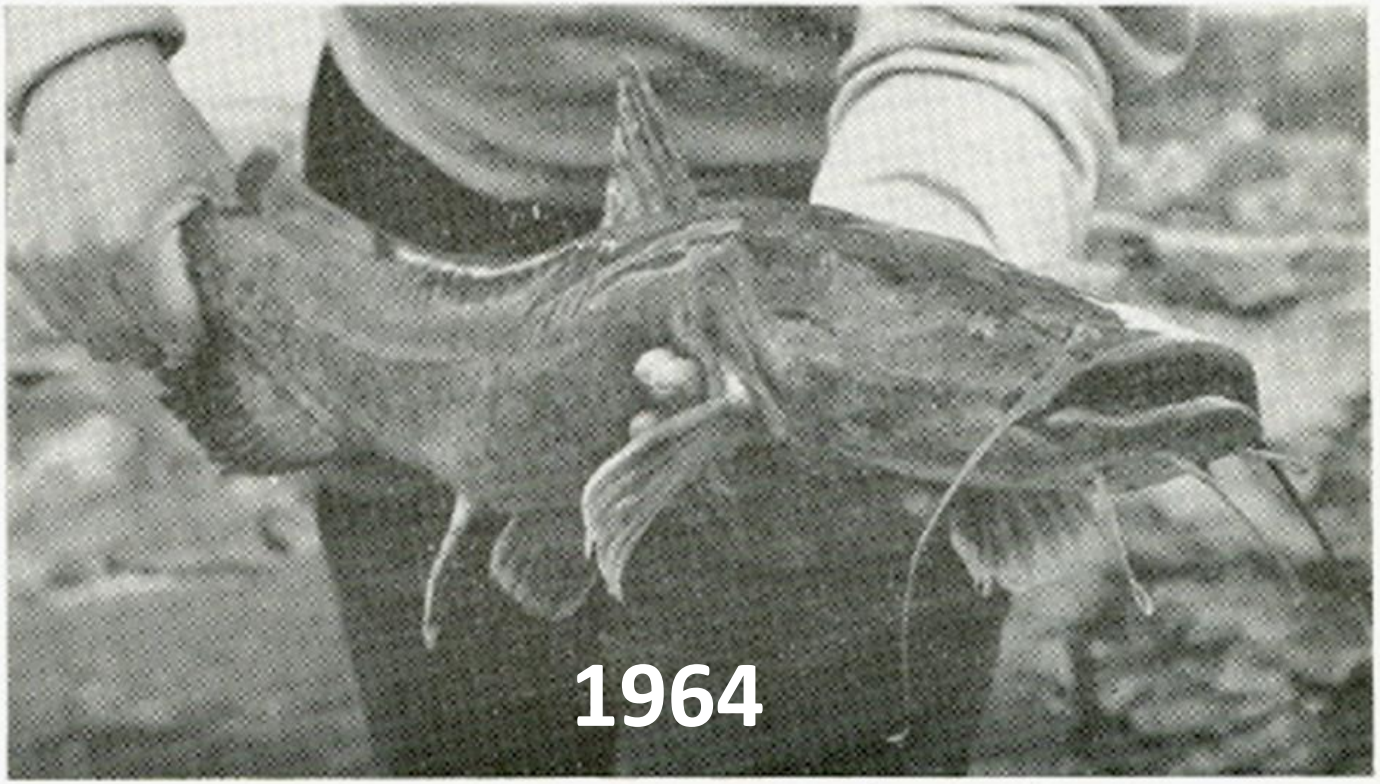
Family Ictaluridae

- Fast-growing, long-lived
- Age 4: 400-600 mm long, reproductively mature
- Age 10: 800-1000+ mm, 14+ kg (30+ lb)
- Can live 20+ yrs



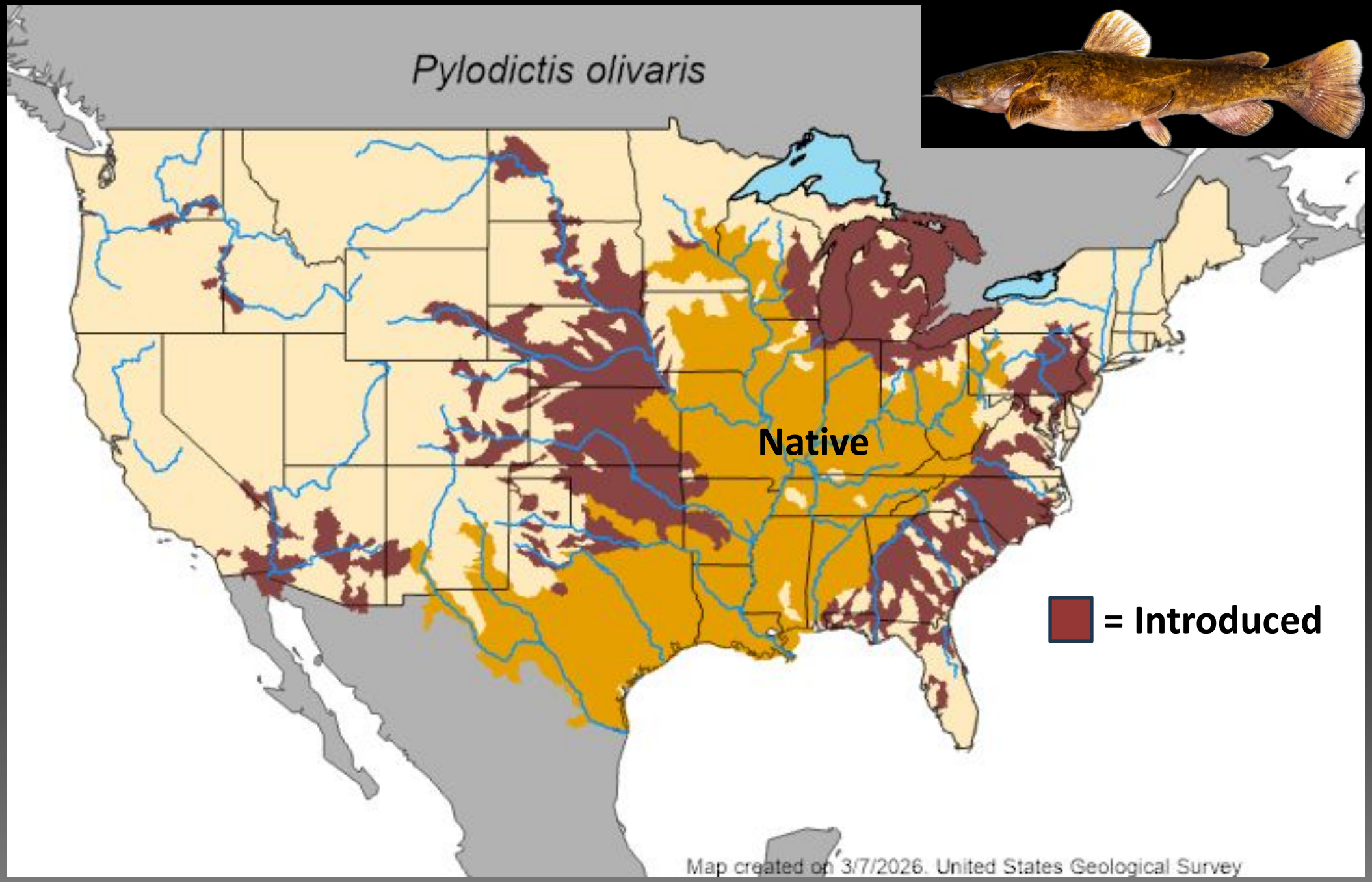


On February 6, 51 flathead catfish were stocked in Lake Marion. These fish were a gift to South Carolina from Arkansas and were

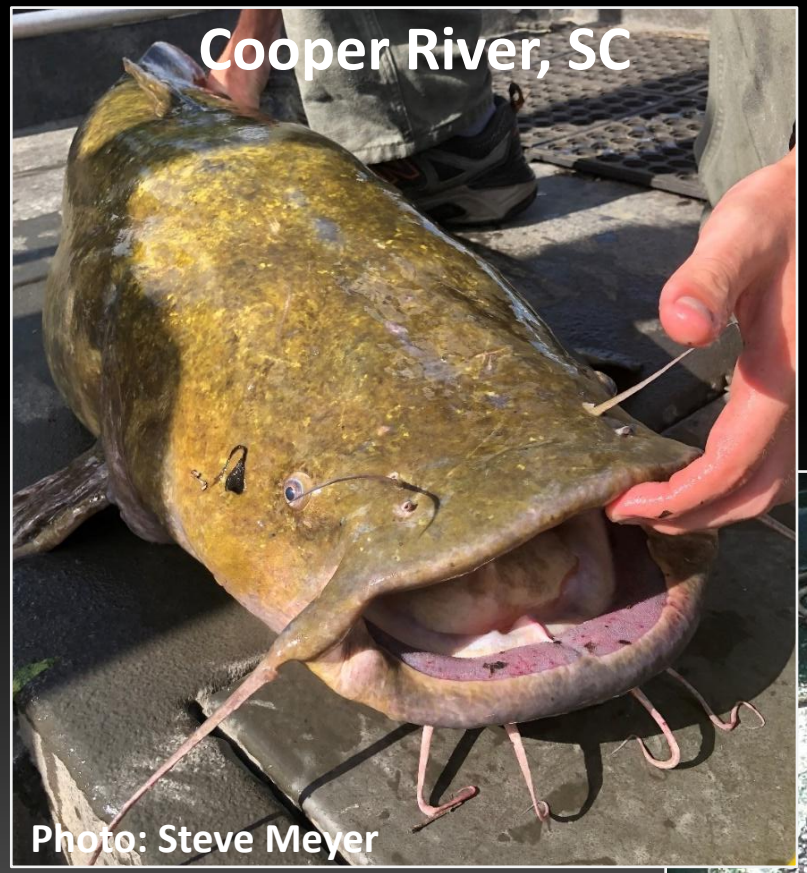


One of the flathead catfish brought in from Arkansas and stocked in Lake Marion. These fish get up to 100 pounds.

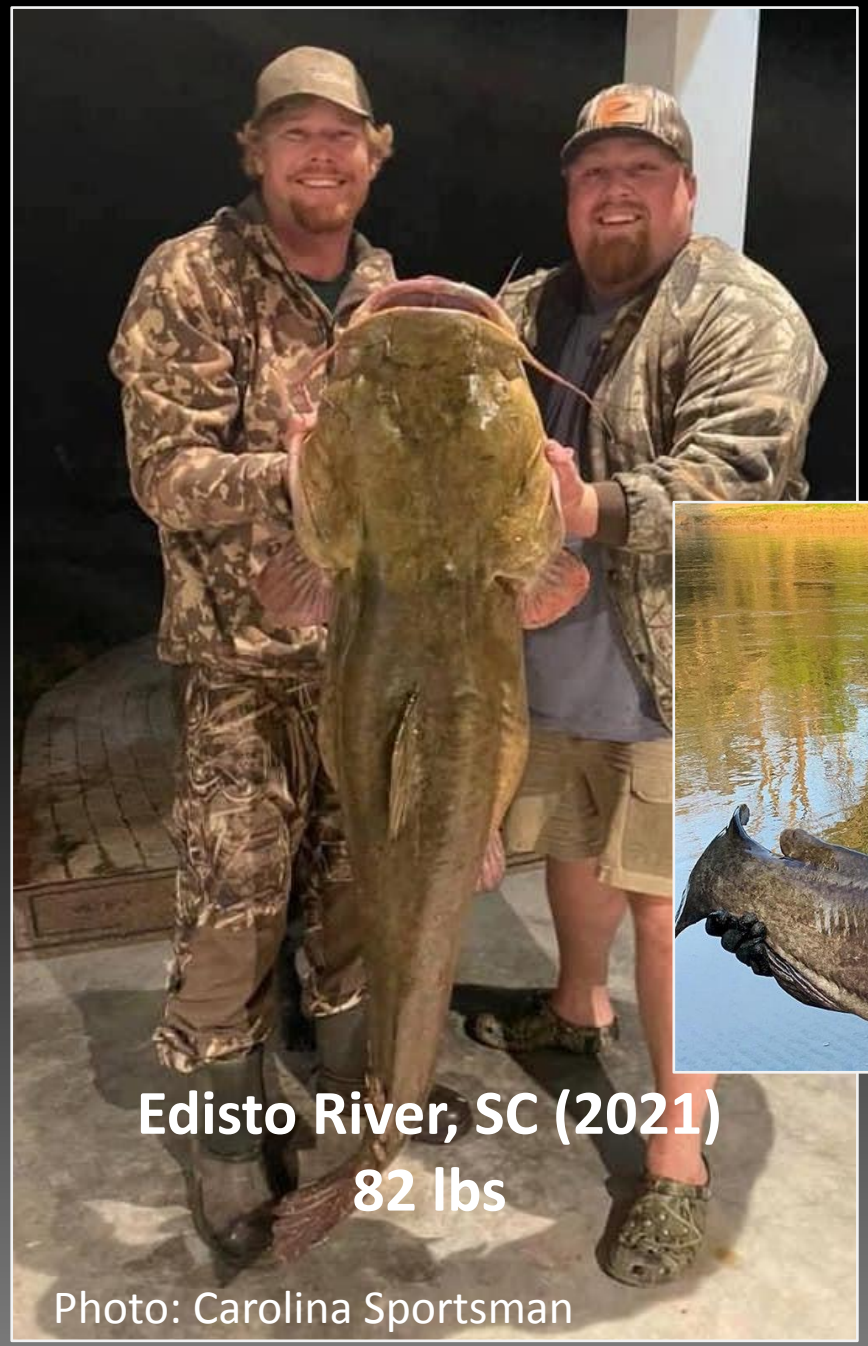
introduced because of their excellence as a sport and table fish and because they reach trophy-size in only a few years. Flatheads attain weights up to 100 pounds


Pylodictis olivaris
Native
= Introduced
Map created on 3/7/2026. United States Geological Survey

- Very low “gape limitation”
- Opportunistic predators
- By 300 mm (12 in), predominantly piscivorous



Photos: Bill Driver



Edisto River, SC (2021)
82 lbs
Photo: Carolina Sportsman

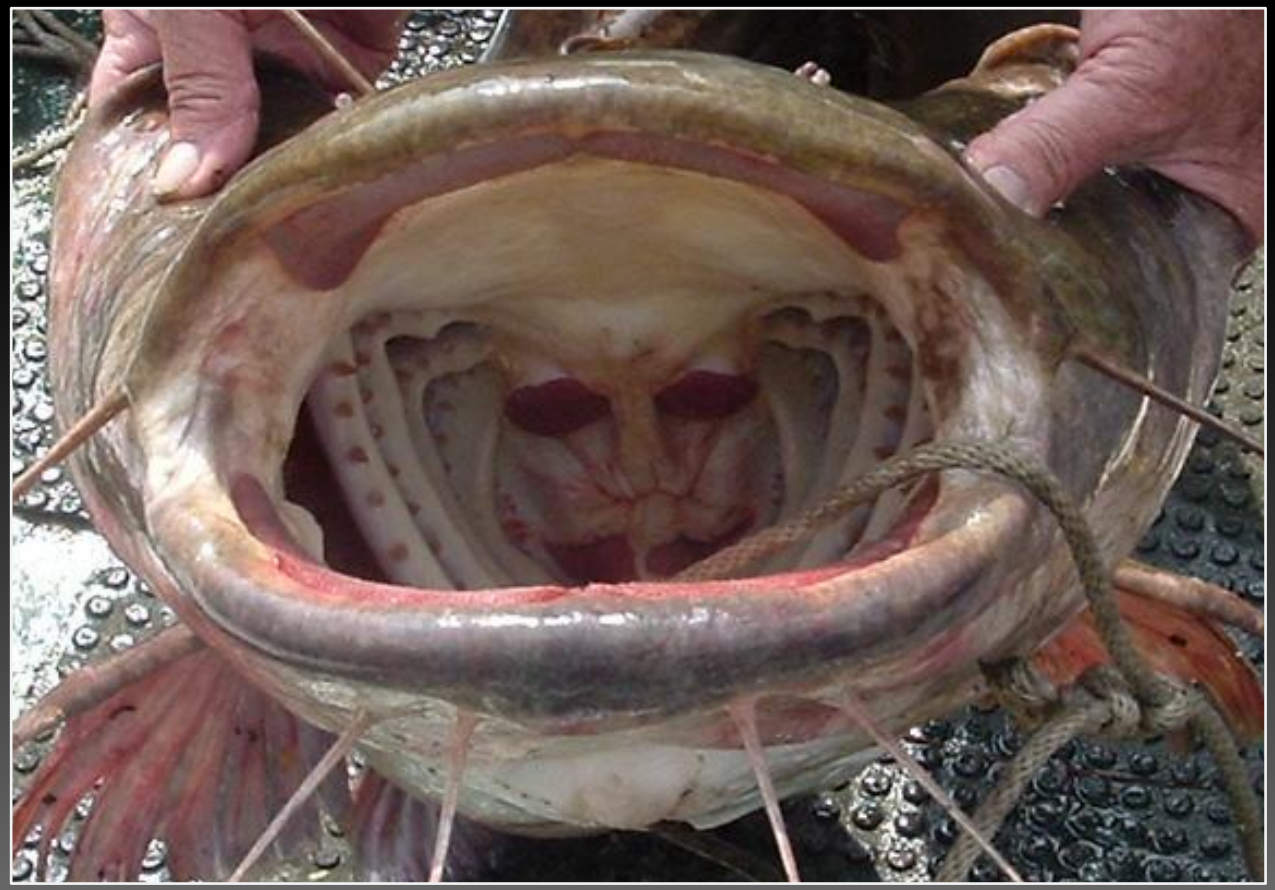
Neuse River, NC (2020)
79 lbs

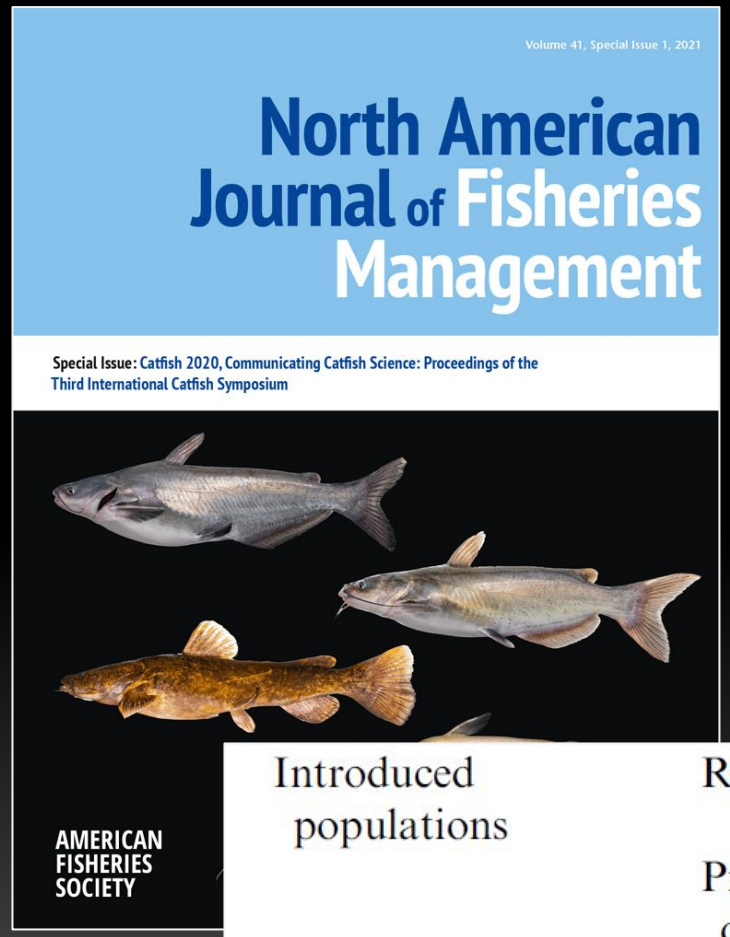
Ocmulgee River, GA (2009)
103 lbs
Age 18
Photo courtesy Tim Bonvechio

Flathead Catfish Diet

- Predation on habitat associates well documented
- In Missouri River (native range), top three prey items:
  - Common Carp
  - FLATHEAD CATFISH
  - Shovelnose Sturgeon

  (Turner 2017)





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SPECIAL ISSUE: CATFISH 2020—THE 3RD INTERNATIONAL CATFISH SYMPOSIUM

Two Decades of Advancement in Flathead Catfish Research

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Introduced populations	Range expansions	Brown et al. 2005; Granfors 2014; Fuller and Whelan 2018; Rachels 2021, this special issue; Smith et al. 2021
	Predatory effects and diets of invasive populations	Weller and Robbins 1999; Herndon and Waters 2002; Kwak et al. 2004*; Pine 2004*; Pine et al. 2005; Brewster 2007*; Slaughter and Jacobson 2008; Bonvechio et al. 2009; Tetzlaff et al. 2010; Baumann and Kwak 2011; Flowers et al. 2011; Dobbins et al. 2012; Ward and Figiel 2013; Evans et al. 2014; Hedden 2015*; Steffenson et al. 2015; Walker et al. 2015; Hedden et al. 2016; Lucchesi et al. 2017; Schmitt et al. 2017, 2019
	Management of invasive populations	Weller and Geihsler 1999; Herndon and Waters 2002; Pine et al. 2007; Bonvechio et al. 2011, 2016; Propst et al. 2015

Native Ictalurids of S. Atlantic Rivers


A nice White Catfish

WHITE CATFISH
Ameiurus catus
(to 500 mm / 20 in)

Photos: NCFishes.com

SNAIL BULLHEAD
Ameiurus brunneus
(to 290 mm / 11 in)

YELLOW BULLHEAD
Ameiurus natalis
(to 400 mm / 16 in)

FLAT BULLHEAD
Ameiurus platycephalus
(to 290 mm / 11 in)

MADTOMS *Noturus spp.* (to 150 mm / 6 in)

Image from Rivers of North America (2nd ed.)—Elsevier

Case Studies

South Atlantic Rivers

Cape Fear River (NC)

Savannah River (SC/GA)

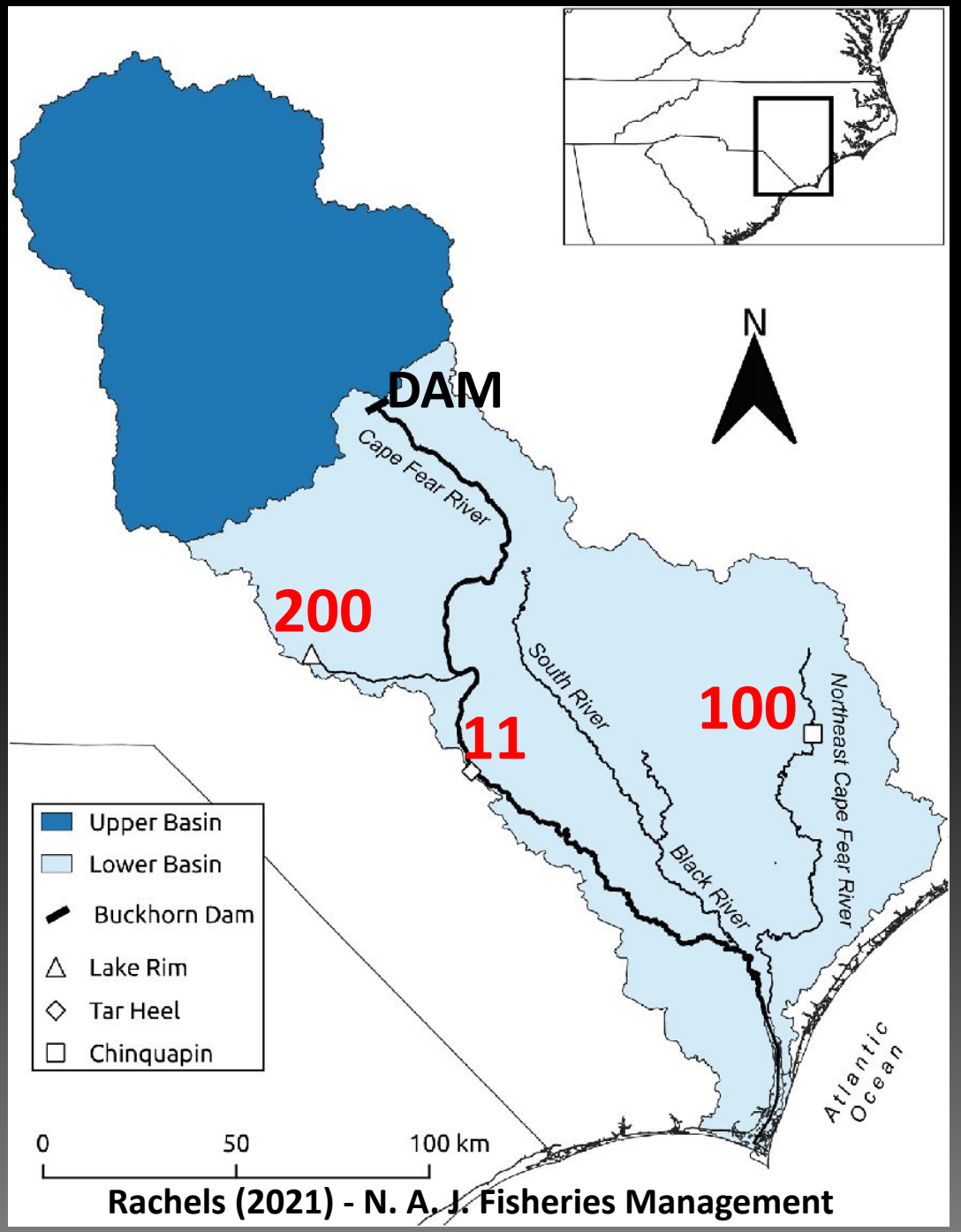
Cape Fear River

1965:

- 200 juveniles stocked into Lake Rim
- 100 juveniles stocked into Northeast Cape Fear River

1966:

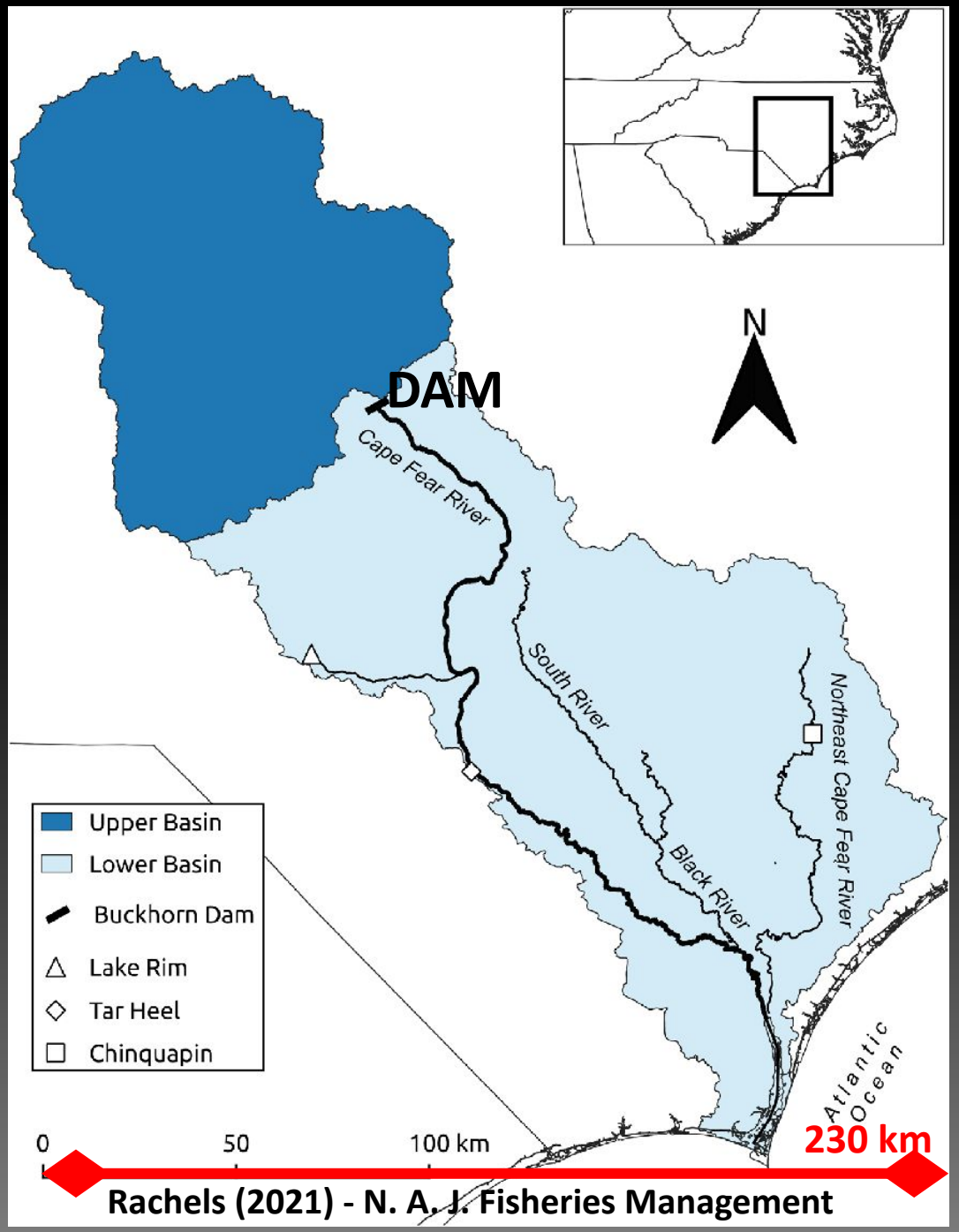
- NCWRC stocked 11 mature individuals near Fayetteville



Cape Fear River

Guier et al. (1981):

- By 1980 (15 yrs), Flatheads spanned 230 km
- Flatheads represented 65% of the fish biomass in the river section
- “In a 15-year period, their numbers have expanded to a level of being the dominant predator in the mainstream habitat.”



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SPECIAL ISSUE: CATFISH 2020—THE 3RD INTERNATIONAL CATFISH SYMPOSIUM

Exploring Legacy Data Sets to Infer Spatial and Temporal Trends in the Ictalurid Assemblage of an Atlantic Slope River

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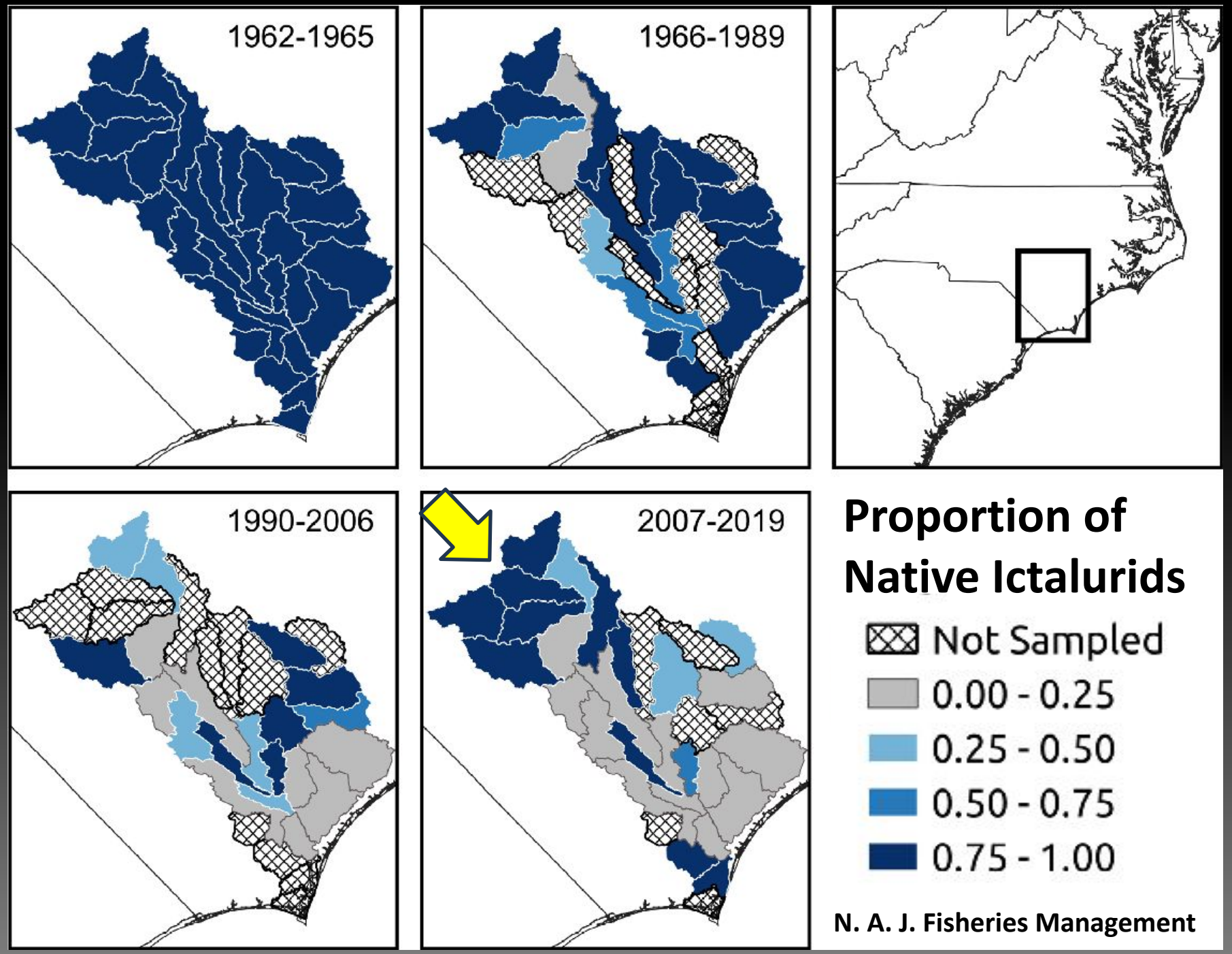
Cape Fear River

Rachels (2021)

- Widespread decline in native ictalurids
- Native ictalurids negatively associated with proximity to Flathead intro sites



Savannah River

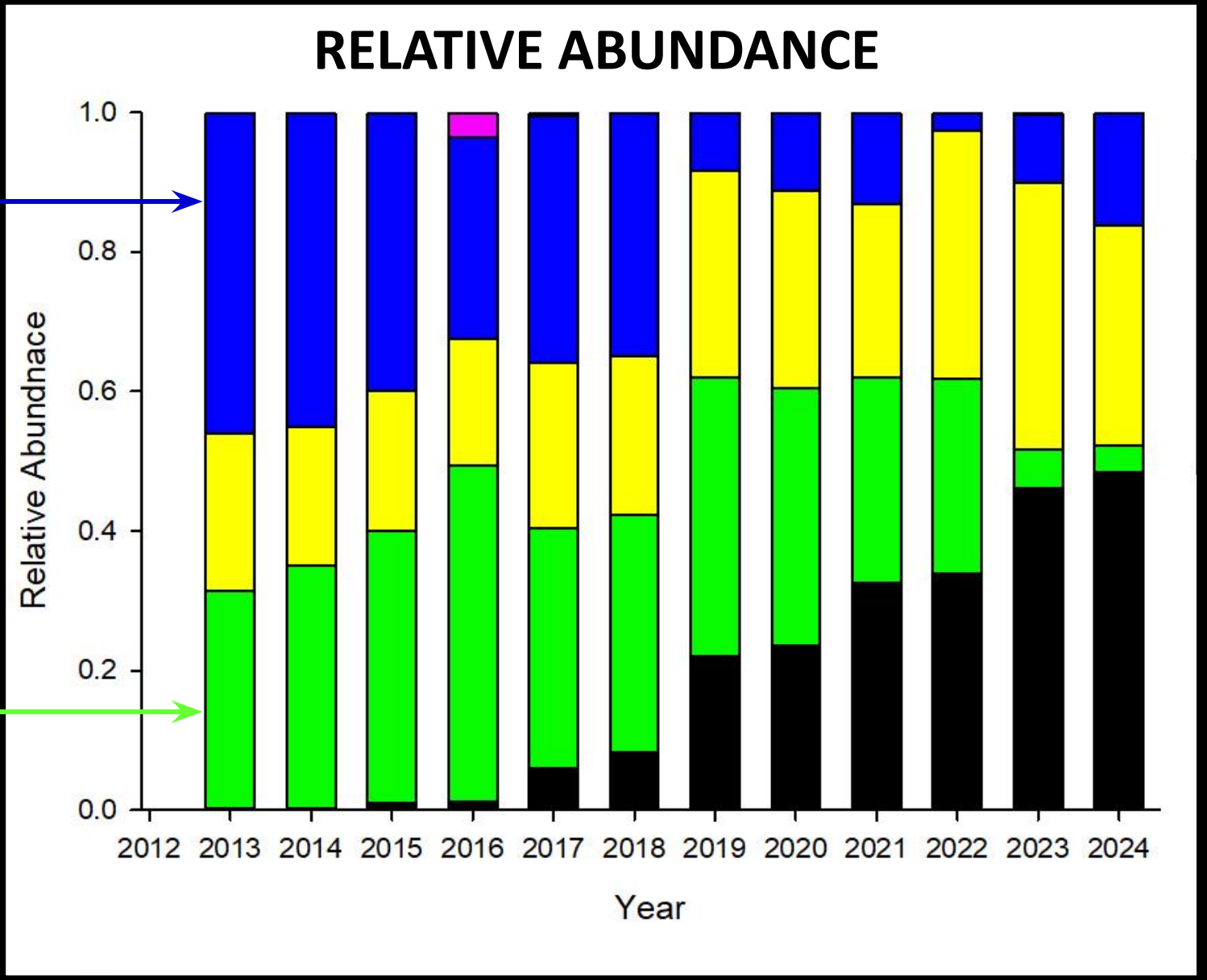
- 1965-1967: ~ 50 Flatheads stocked by SCDNR in Lake Thurmond
- 1970s: GADNR stocked “Savannah River” (locations unknown)
- Angler introductions / establishment in upper Savannah reservoirs
- 2010: Flatheads confirmed in Lower Savannah River
- 2013: SCDNR monitoring initiated (Hal Beard, Jason Bettinger, Chris Thomason)

Lower Savannah River

SNAIL BULLHEAD

WHITE CATFISH

RELATIVE ABUNDANCE



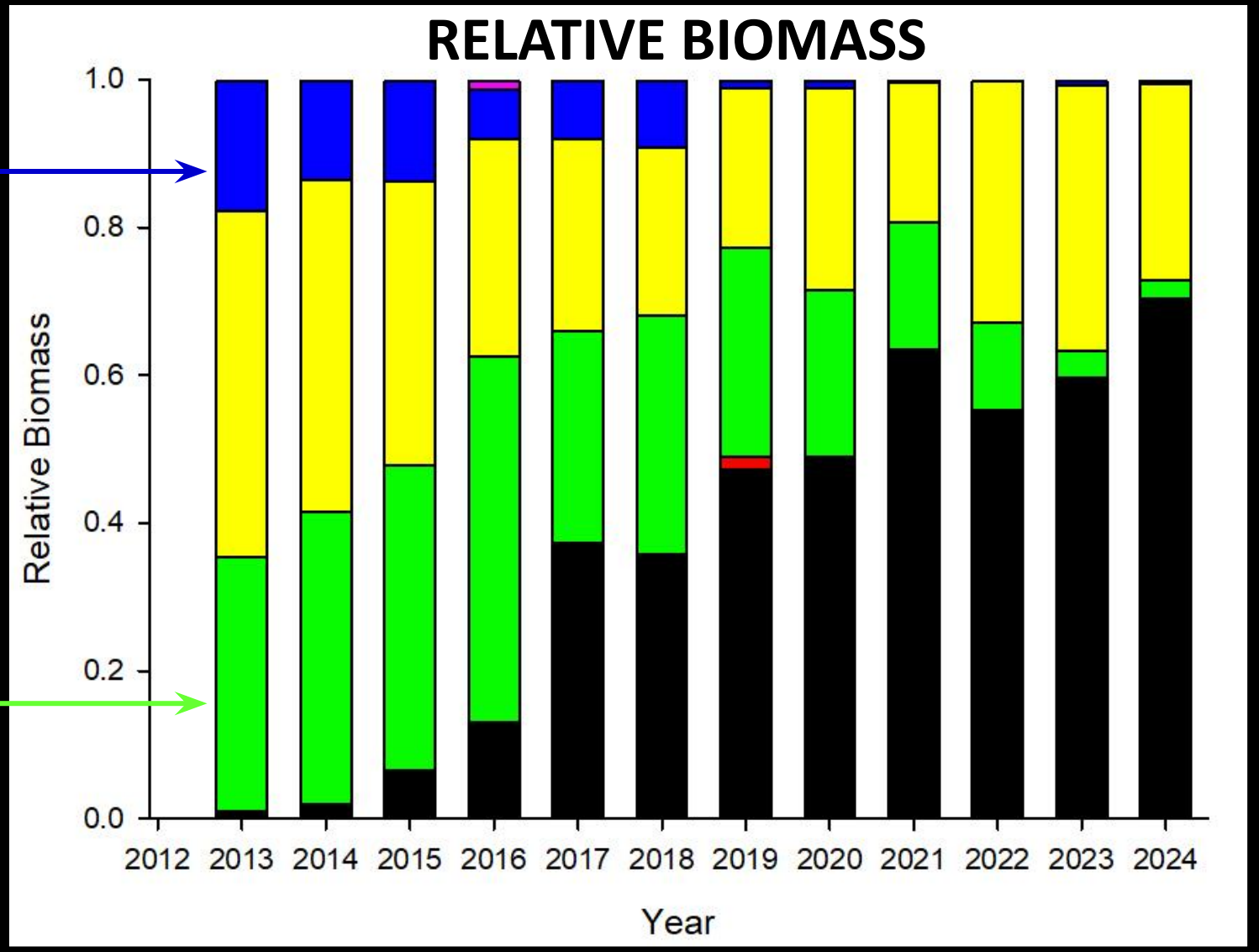
CHANNEL CATFISH=YELLOW

Lower Savannah River

SNAIL BULLHEAD

WHITE CATFISH

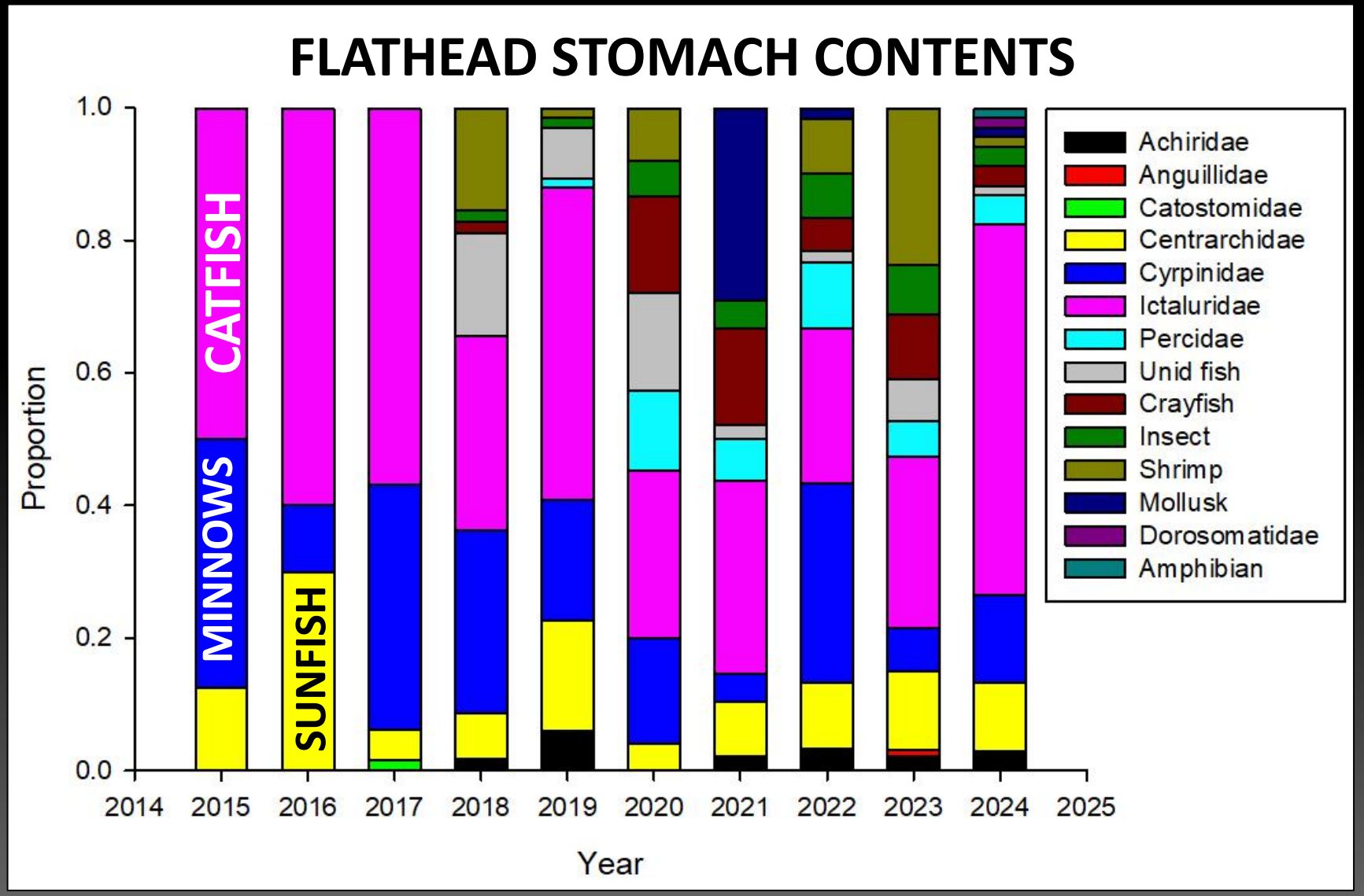
FLATHEAD = BLACK BARS



CHANNEL CATFISH=YELLOW

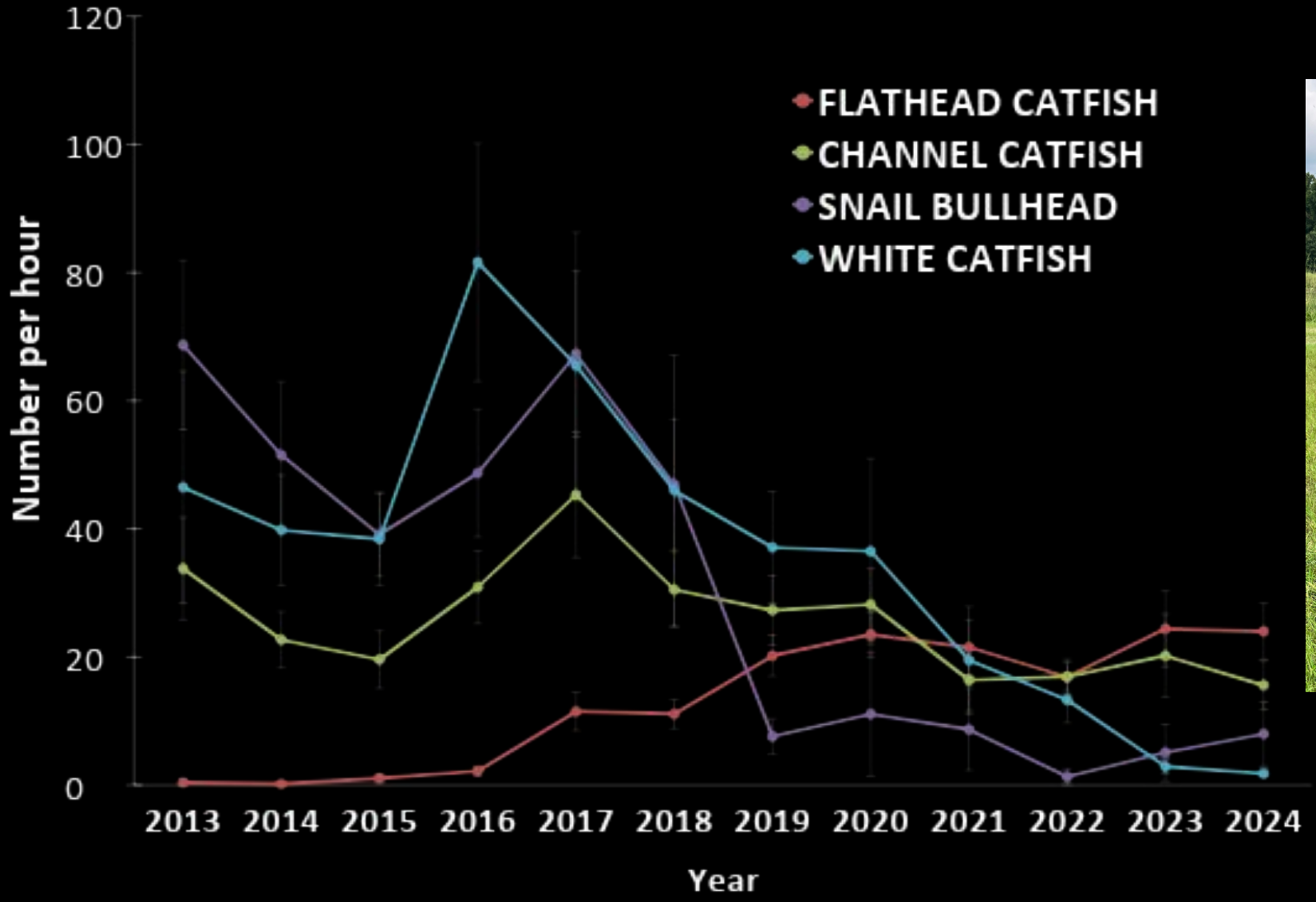
Savannah River

- 859 stomachs examined
- 42% contained prey
- Over all years, 66% contained fish tissue
- In 2024, 90% contained fish tissue



Catfish prey in later years was mainly Channel and Flathead

Savannah River – Decade of Decline for Natives



Recent Flathead mean catch (n) per hour by river

LITTLE PEE DEE
89/hr (2014)

BLACK
15/hr

SANTEE
20/hr

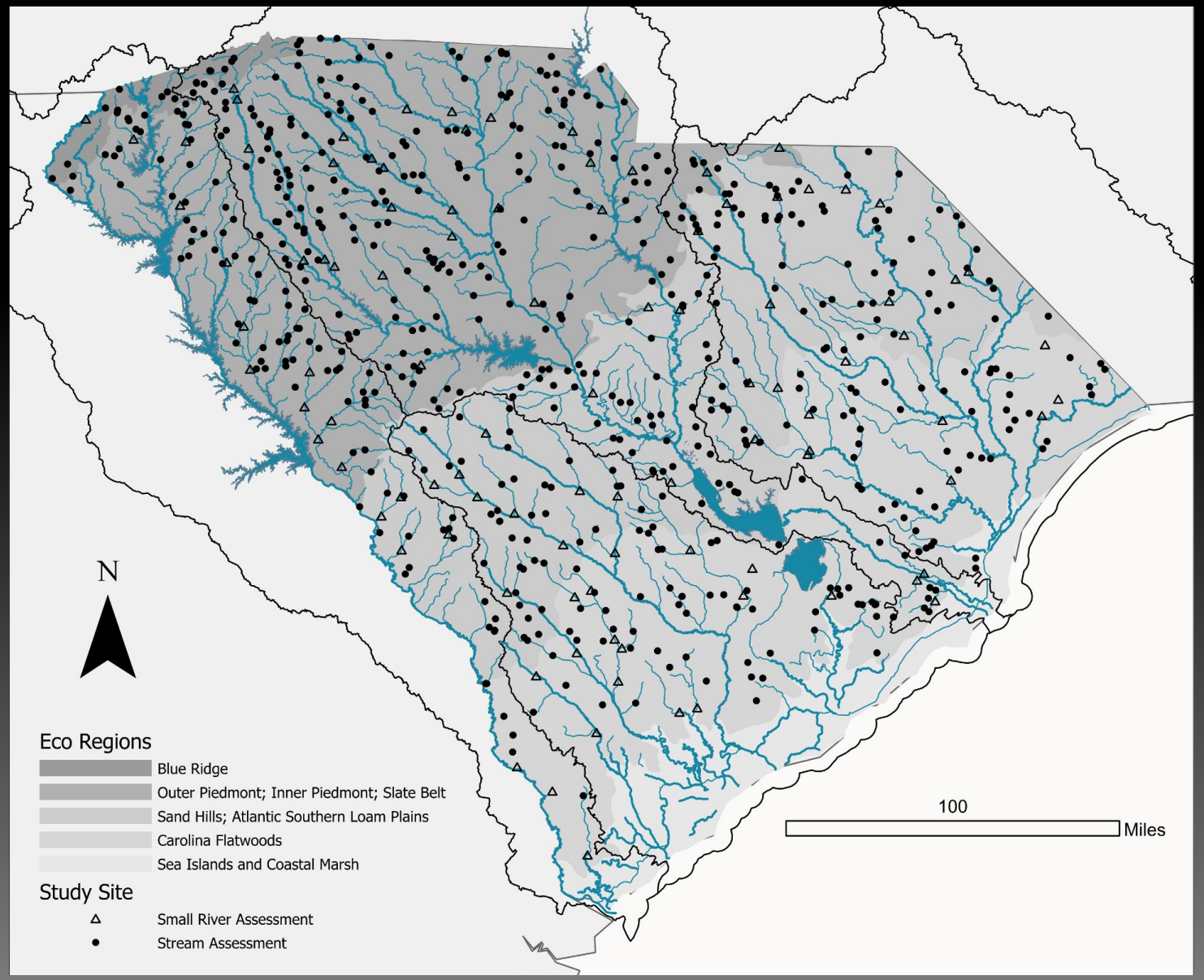
SAVANNAH
24/hr

SATILLA (GA)
75/hr (2014)

Edisto River – Photos by Chris Thomason

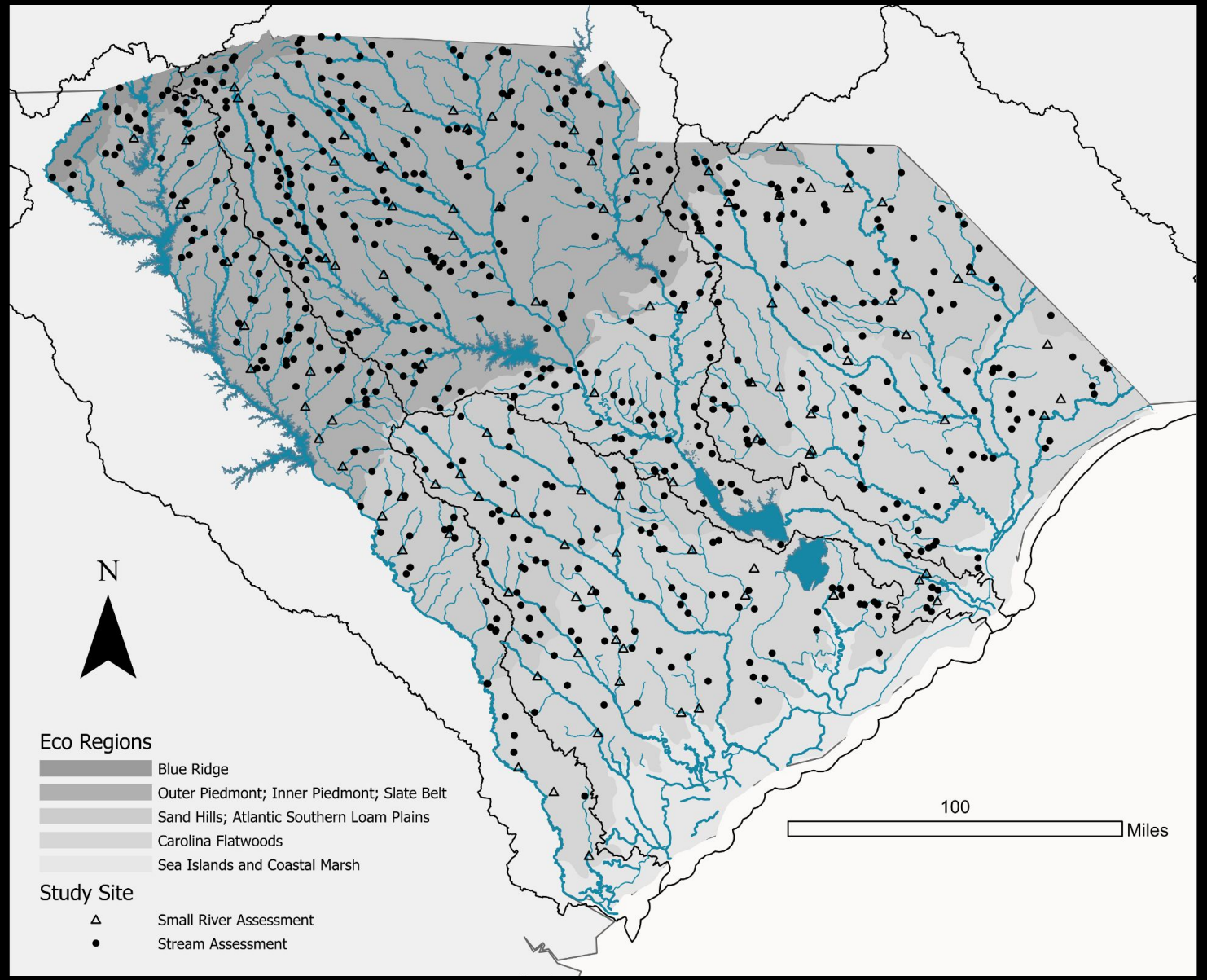
“Smaller” waters – refuge for natives?

- SCDNR Stream and Small River Assessments
- 2006 – 2025
- ~700 unique sites
- 981 samples



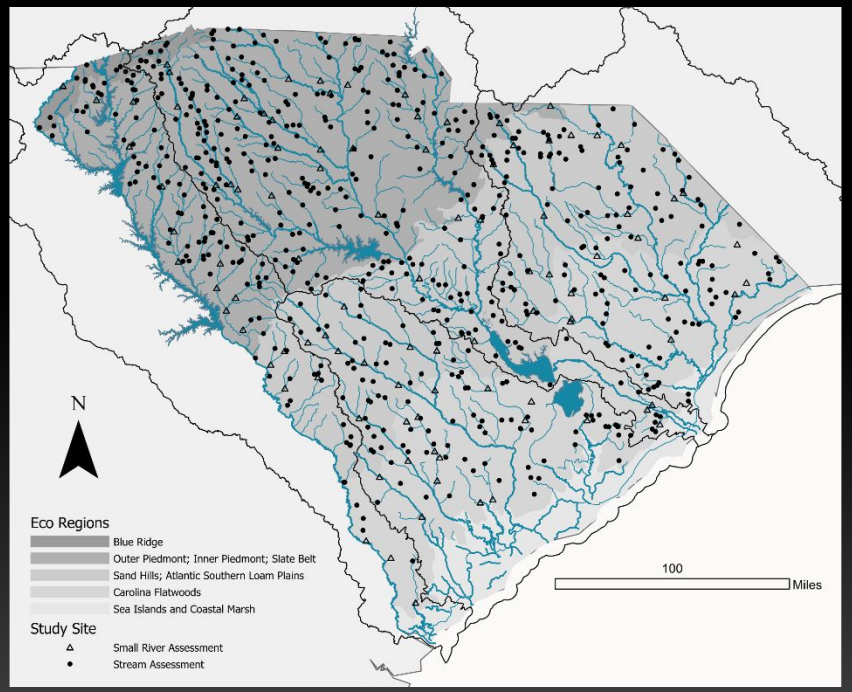
“Smaller” waters – refuge for natives?

- Flatheads collected at 11 sites (1.6%)
- Total 42 individuals
- Max count 12
- Mostly near large rivers



“Smaller” waters – refuge for natives?

- FLAT BULLHEAD:
  - 1001 individuals in 254 samples
- SNAIL BULLHEAD:
  - 696 individuals in 116 samples
- WHITE CATFISH
  - 46 individuals in 12 samples



- **More of a “river” species**
- **More overlap with Flatheads**
- **Greatest risk?**

Acknowledgements

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Levi Kaczka
Scott Lamprecht
Steve Meyer
Bill Post

SNAIL BULLHEAD

QUESTIONS?

LITTLE PEE DEE RIVER
7 April 2026
Photo by Keith Bradley

Flathead Catfish Salinity Tolerance

Salinity (ppt)	Effect/condition
0 – 4.0	Optimal
8.0 – 10.0	Physiological effects, reduced growth
10.0 – 14.0	Can survive short periods
15.0	

Edisto

- First documented 1989
- Full colonization by 2000

Pee Dee River

- 1965-1970: Stocked by NCWRC in Yadkin River
- Later: Unauthorized introductions by anglers

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