

A photograph of a dense forest with tall trees and lush green foliage. The trees are reflected in a calm body of water in the foreground. The text "Freshwater Fishes of the Edisto River Basin" is overlaid in white on the right side of the image.

Freshwater Fishes
of the
Edisto River Basin

87 Native Species

3 Introduced Species



Blackbanded Sunfish *Enneacanthus chaetodon* Banded Sunfish *E. obesus*



Bluespotted Sunfish *E. aloriosus*



Spotted sucker

Lowland Shiner



Turquoise Darter



Edisto Broadtail Madtom

Taillight Shiner



Savannah Darter



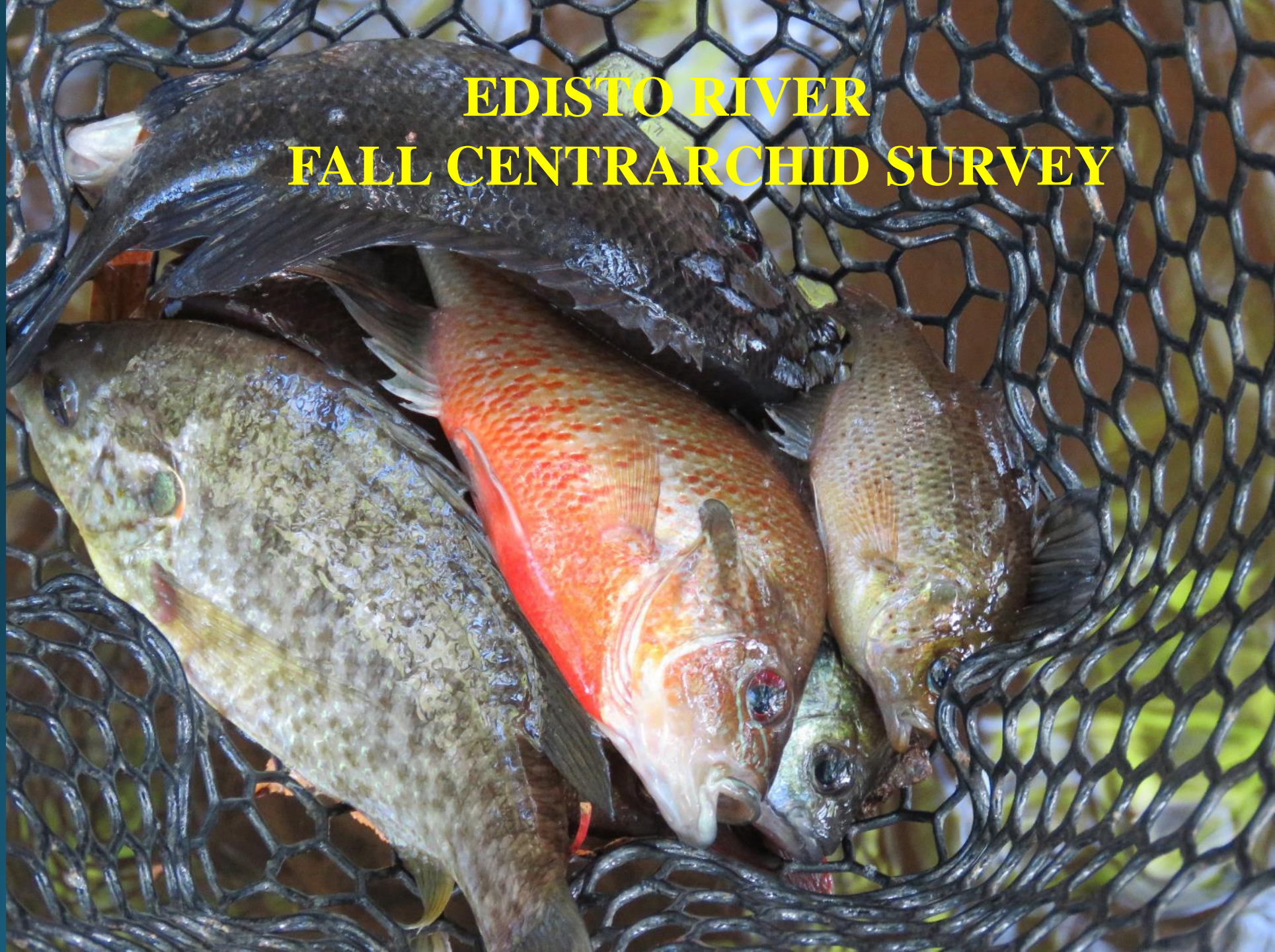
Dollar Sunfish





North Fork Edisto River
(212 km²)

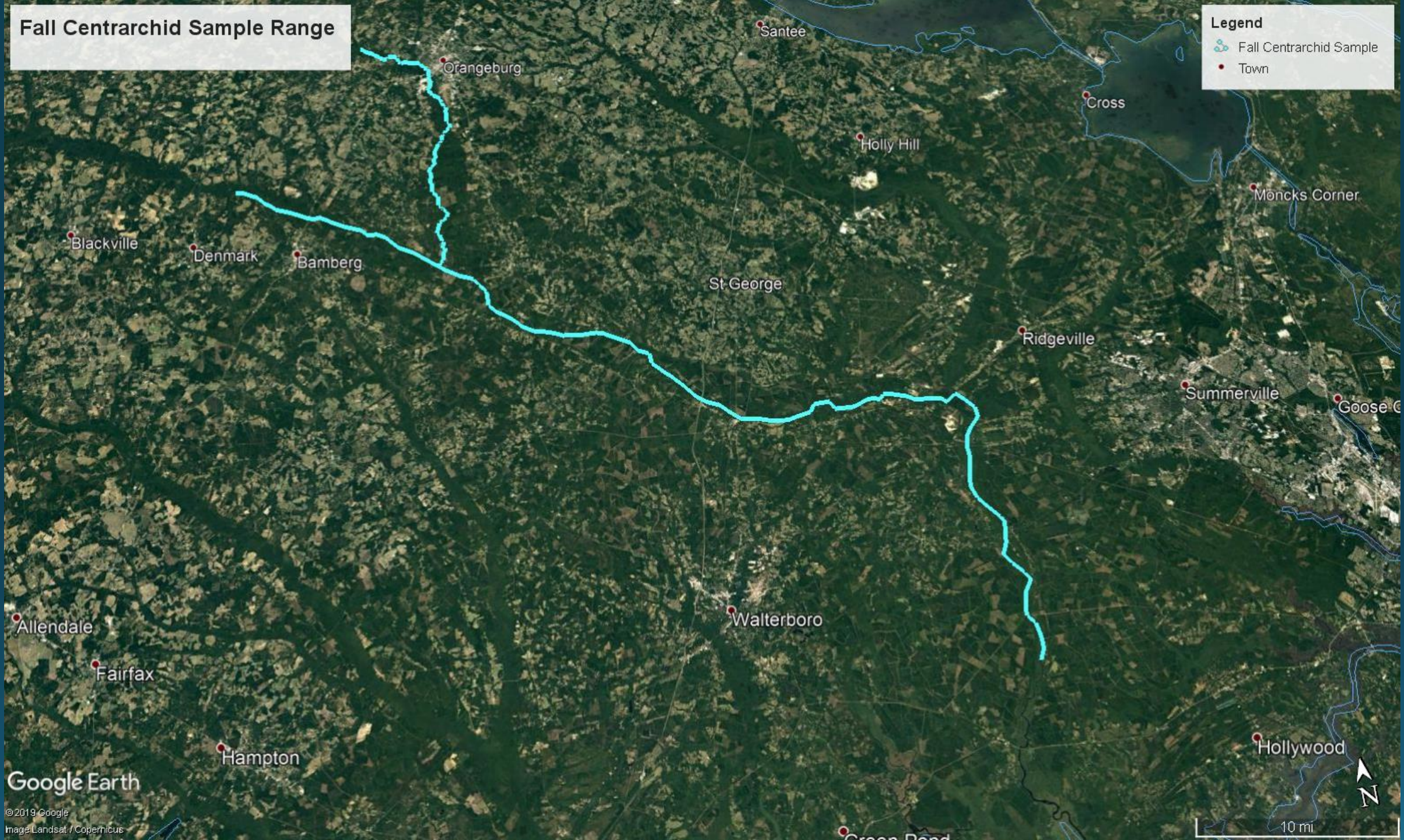
**EDISTO RIVER
FALL CENTRARCHID SURVEY**



Fall Centrarchid Sample Range

Legend

- Fall Centrarchid Sample
- Town





Redbreast

Bluegill



Redear Sunfish
"Shellcracker"



Spotted sunfish
"Stumpknocker"

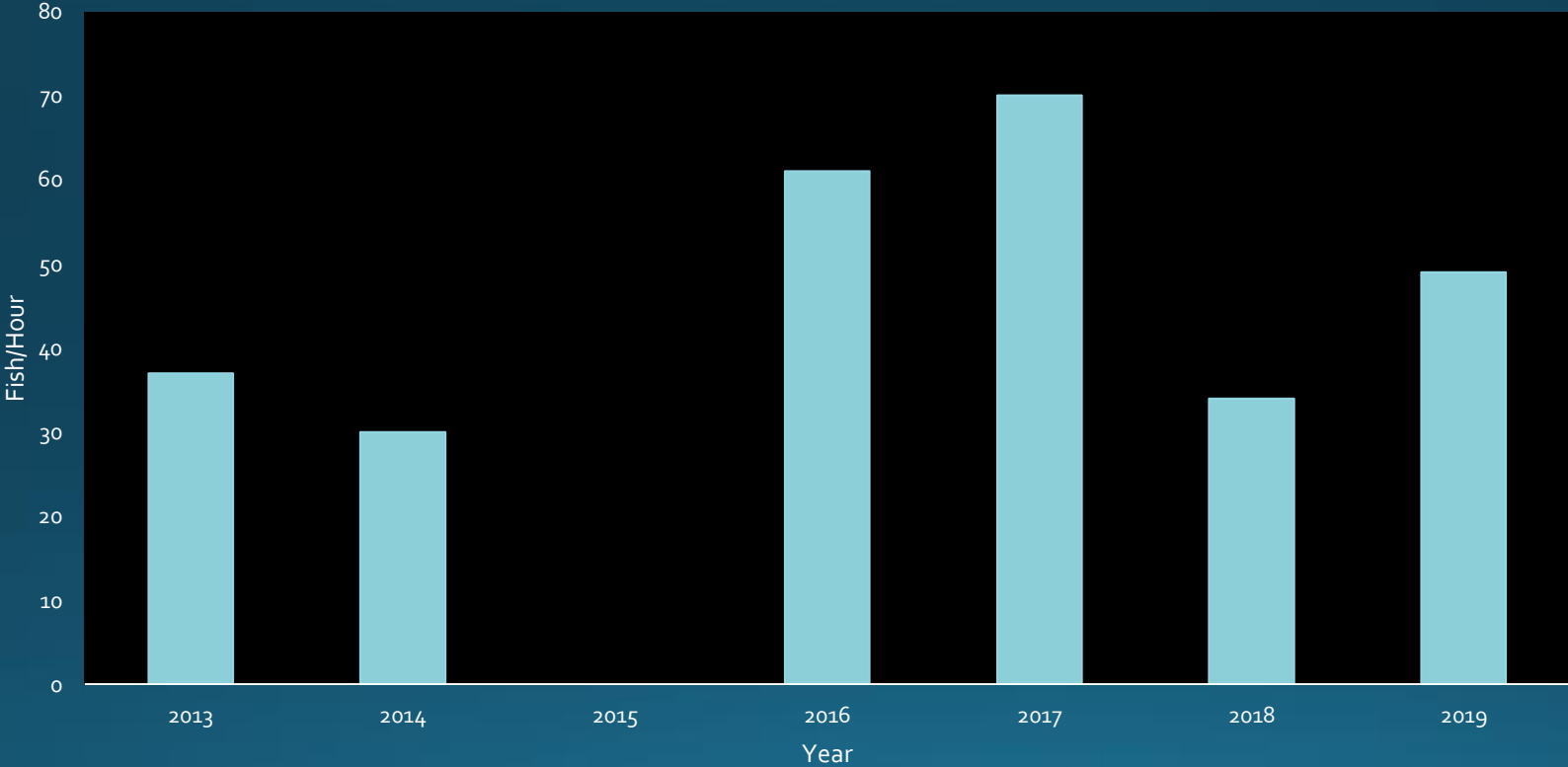


Warmouth

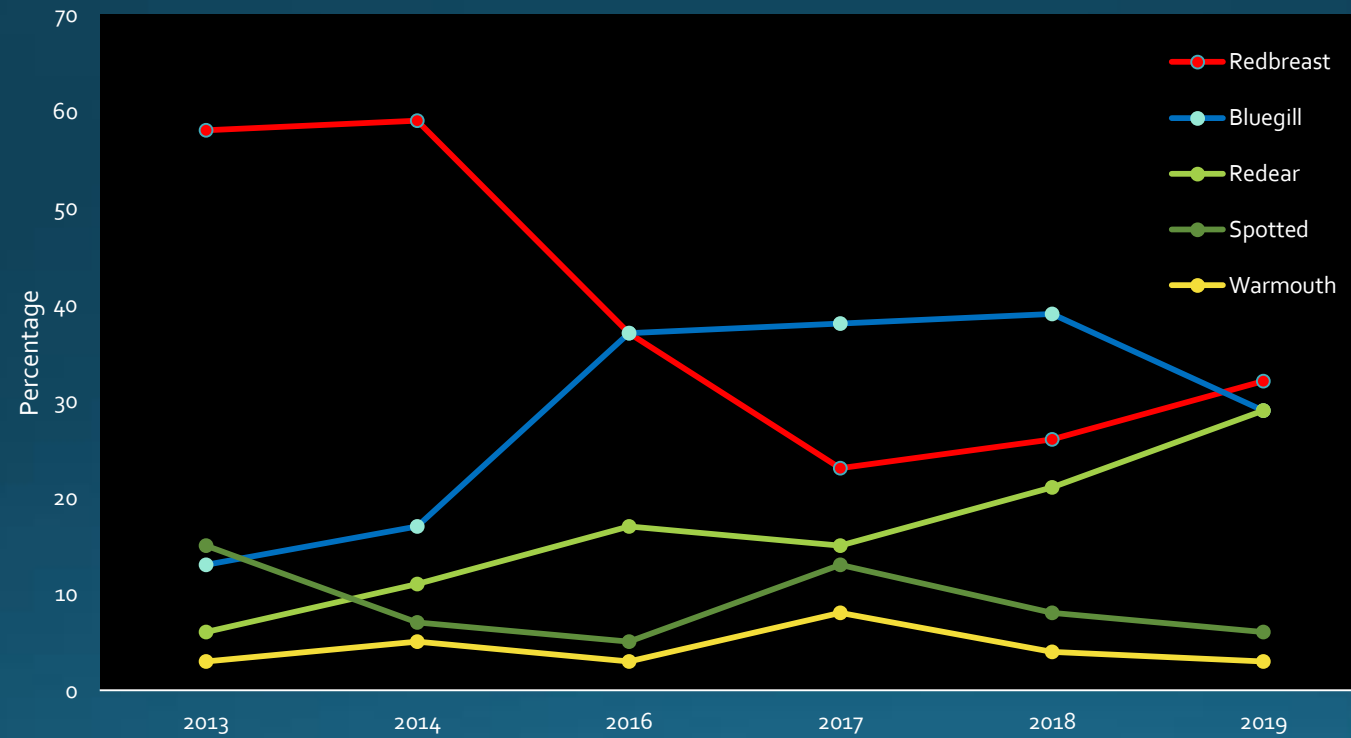


Edisto River Centrarchids Fall CPUE (2013-19)

CPUE Fall Centrarchids



Edisto River Centrarchids Percentage by Species (2013-19)



- Flathead Catfish

- First Documented
1989
Canadys Area

- Fully Colonized
2000





Flat Bullhead



Flathead Catfish

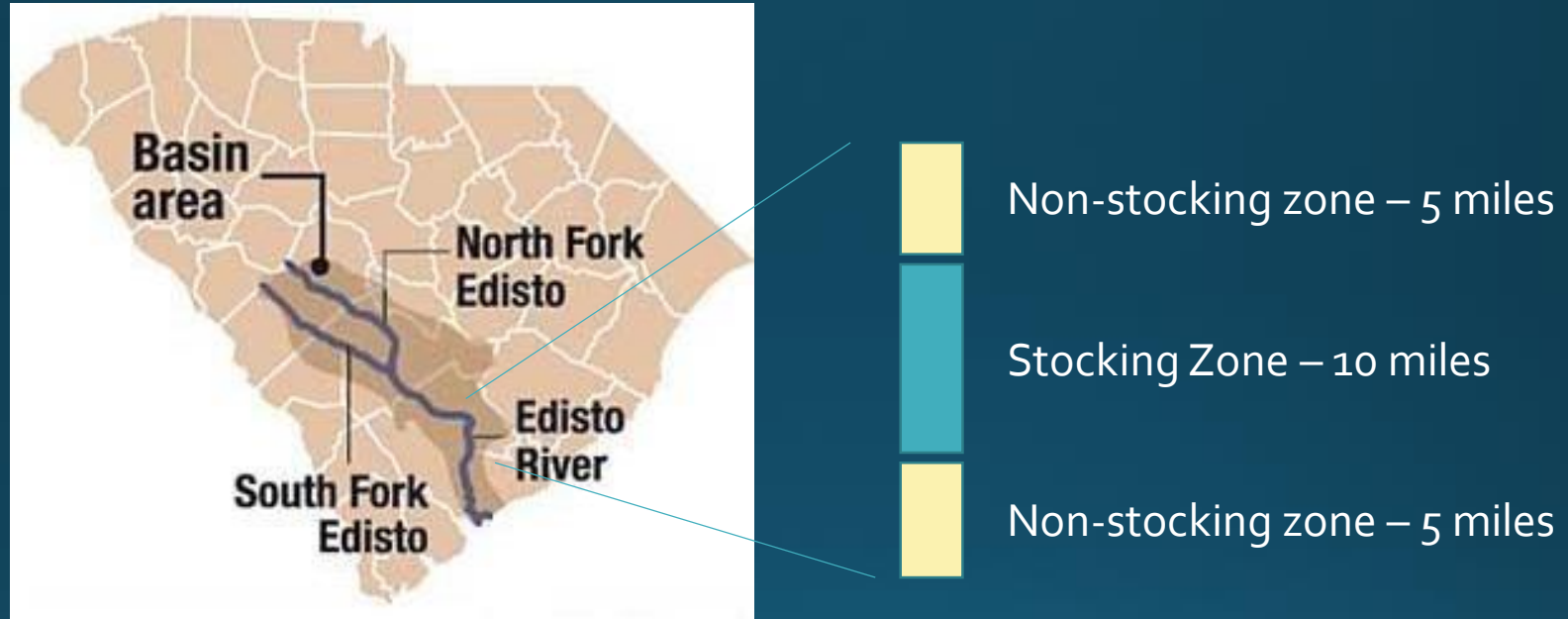
Redbreast Sunfish *Lepomis auritus*

Edisto River Stocking Assessment

Jean Leitner and Chris Thomason - SCDNR



Basic Study Area and Design



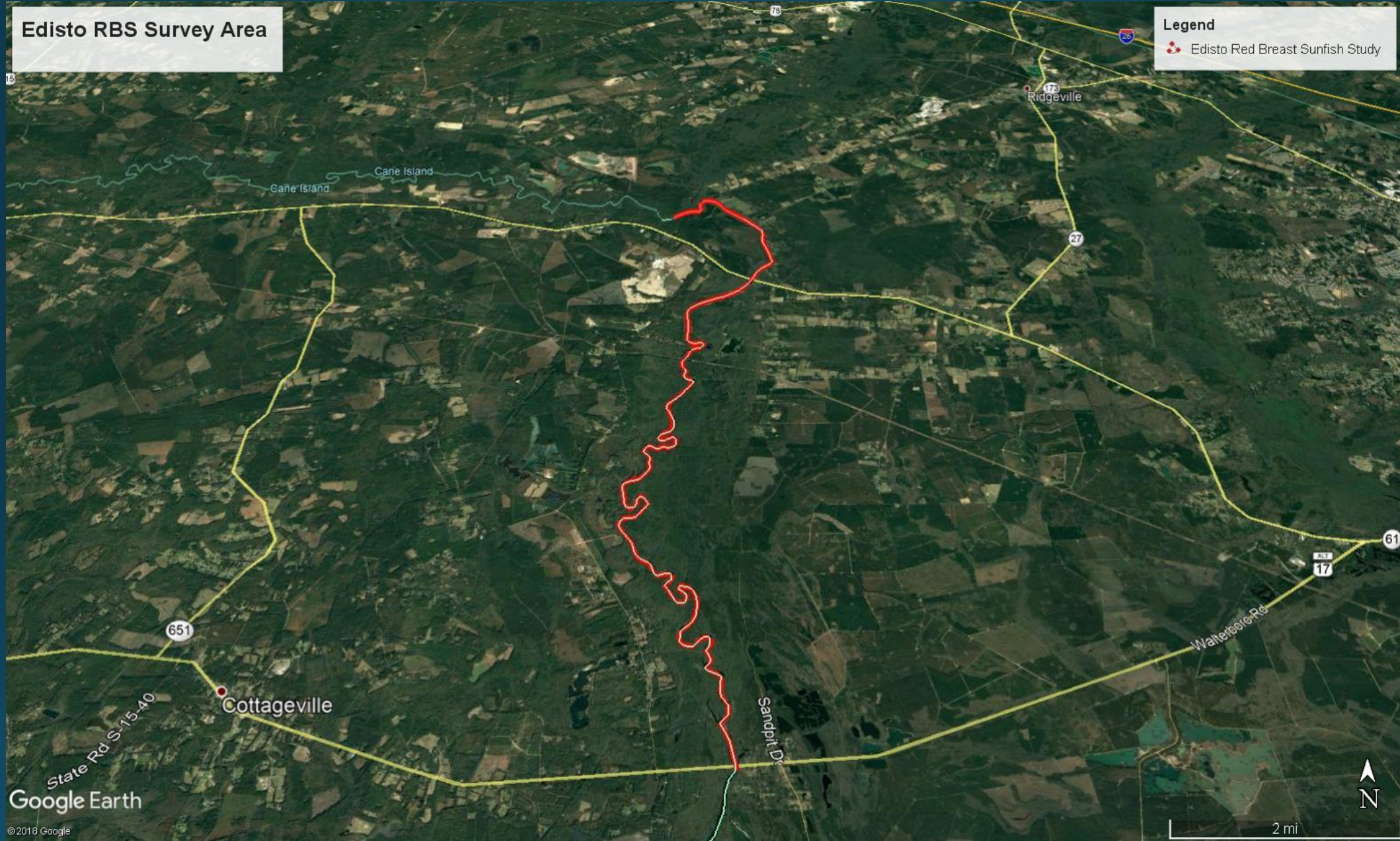
Freshwater Main stem of Edisto River – about 80 miles
Orangeburg NFH continues to stock the forks



Edisto RBS Survey Area

Legend

- Edisto Red Breast Sunfish Study

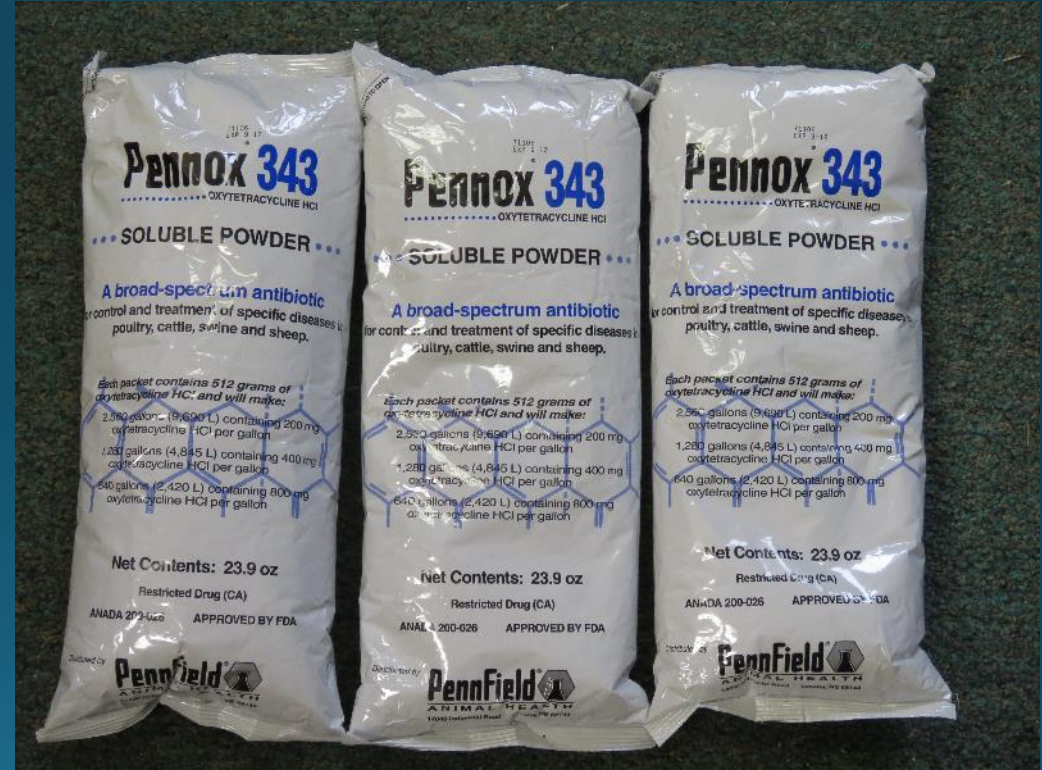


Study Design

- 250,000 OTC-marked fish produced and stocked annually
- subset from each mark event grown out for OTC evaluation
- 2 stocking sites within 10 mile stocking zone

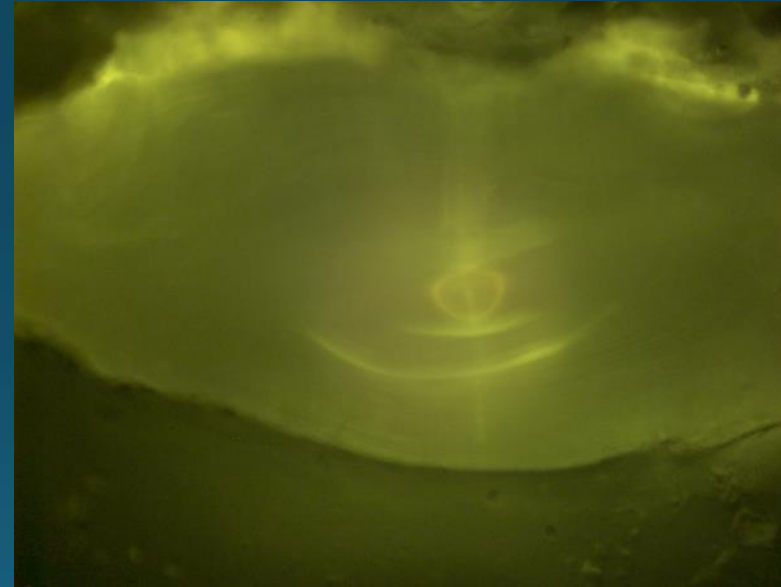


Edisto River Redbreast Stocking Assessment



Study Design

- Fish collected by electrofishing at age 1+ in the Fall (pre-recruitment)
- Standardized (60 min) shock time in each of 8 sampling zones
- Aged and evaluated for OTC marks



Summary Preliminary results

Zone	2010	2013	2015	Average
	% Hatchery	% Hatchery	% Hatchery	
Upstream	0% (0 of 45)	0% (0 of 22)	2% (1 of 51)	<1%
Stocking	14% (29 of 202)	9% (6 of 65)	21% (30 of 143)	16%
Downstream	5% (6 of 130)	13% (5 of 39)	9% (5 of 57)	7%

Zone	2010	2013	2015	Average
	Number stocked	Number stocked	Number stocked	
Stocking	276,000	288,000	292,000	287,000





Striped Bass Movement and Summer habitat Use In the Edisto River System

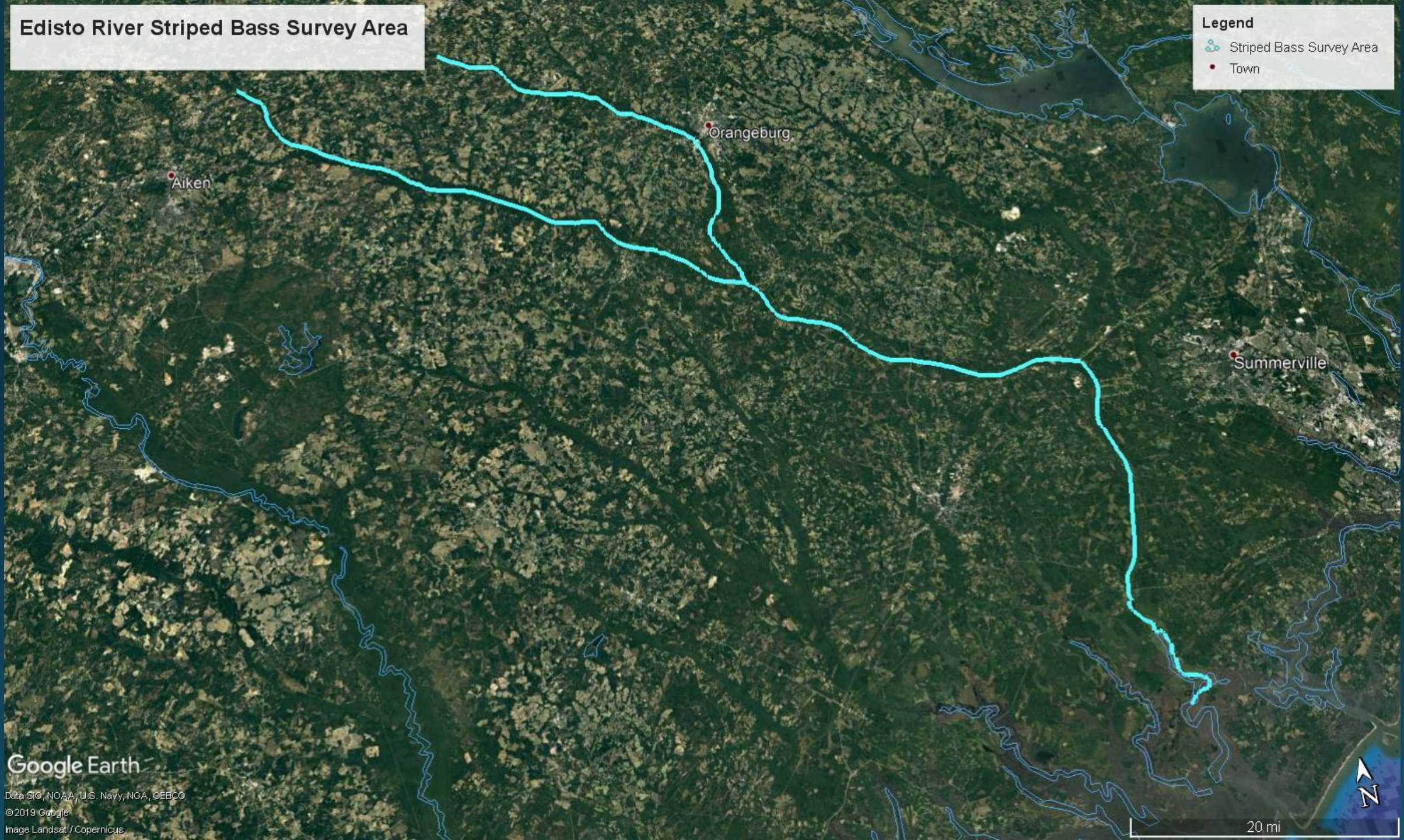




Edisto River Striped Bass Survey Area

Legend

-  Striped Bass Survey Area
-  Town



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2019 Google
Image Landsat / Copernicus

20 mi



Study Design

- Up to 20 Striped Bass (≥ 8 lbs) captured by electrofishing using Smith-Root 9.0 unit during winter 2019 and 2020 in lower Edisto
- Surgically implant Vemco sonic tags
- Monitor using array of Vemco receivers throughout year
- Use manual tracking when Striped bass reach potential thermal refuge areas

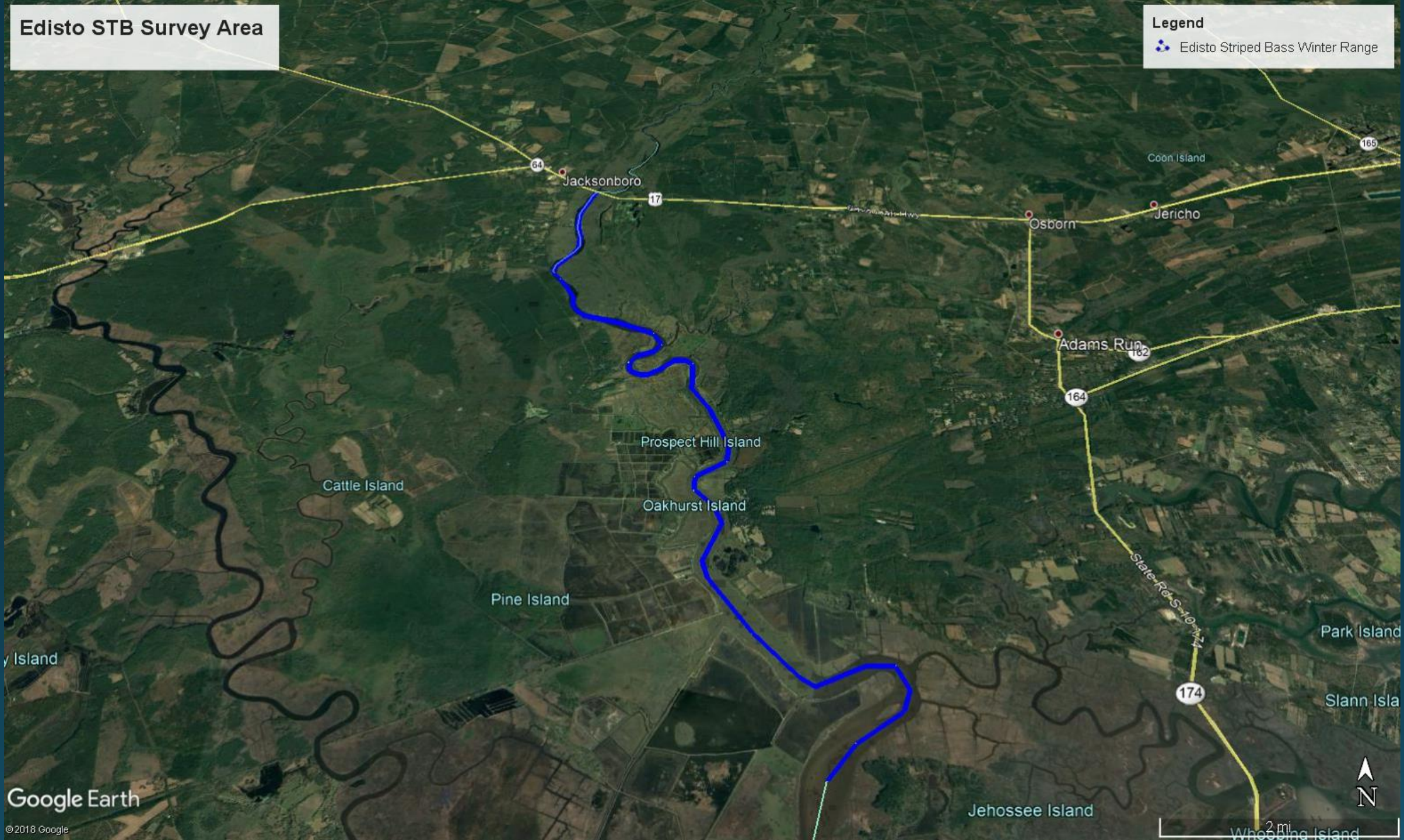






Edisto STB Survey Area

Legend
Edisto Striped Bass Winter Range

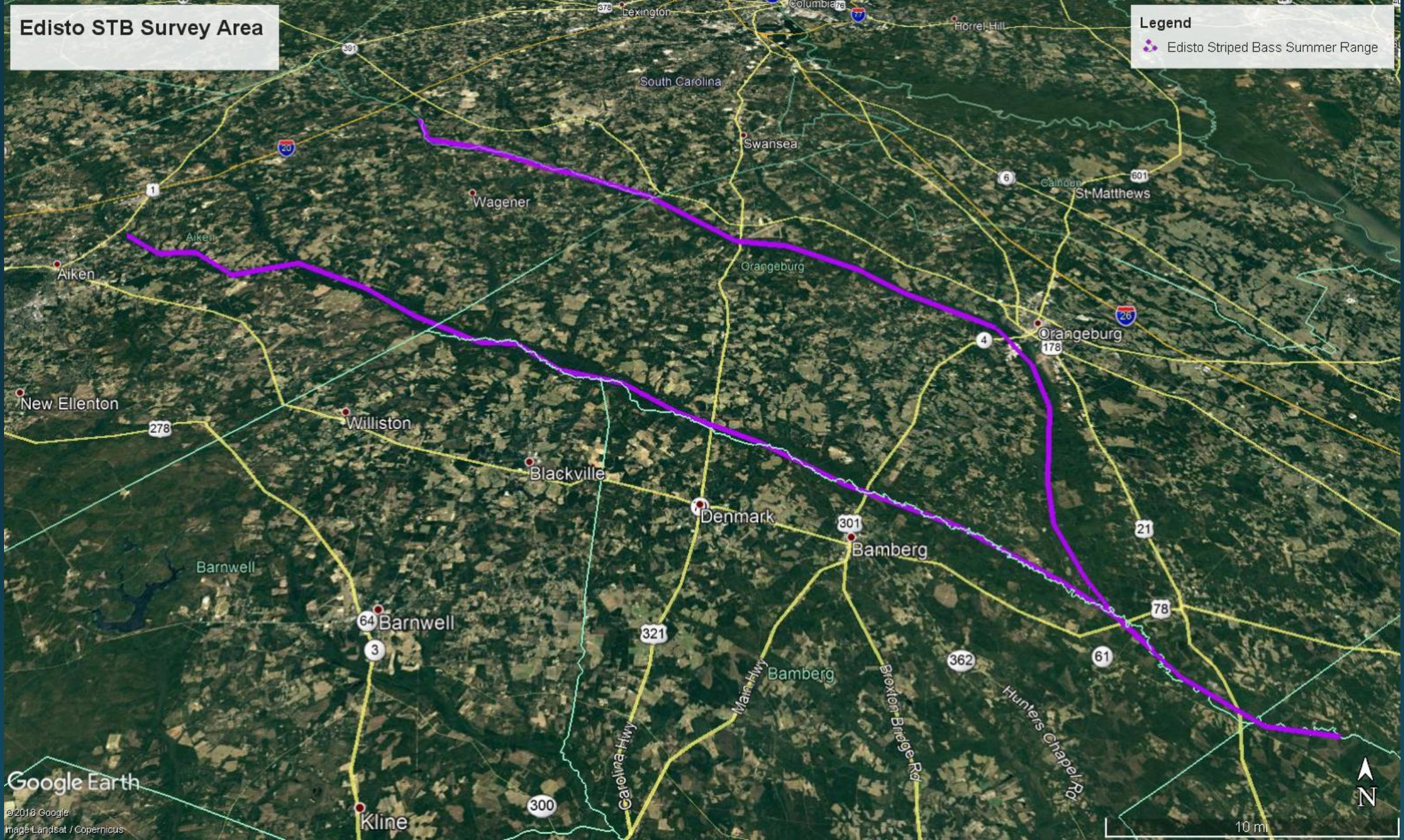




Edisto STB Survey Area

Legend

- Edisto Striped Bass Summer Range



Edisto River Striper Movement Study

Legend

- Edisto Striped Bass Summer Range
- Edisto Striped Bass Winter Range
- Reciever
- West Bank Landing Reciever

Baughman Landing Reciever

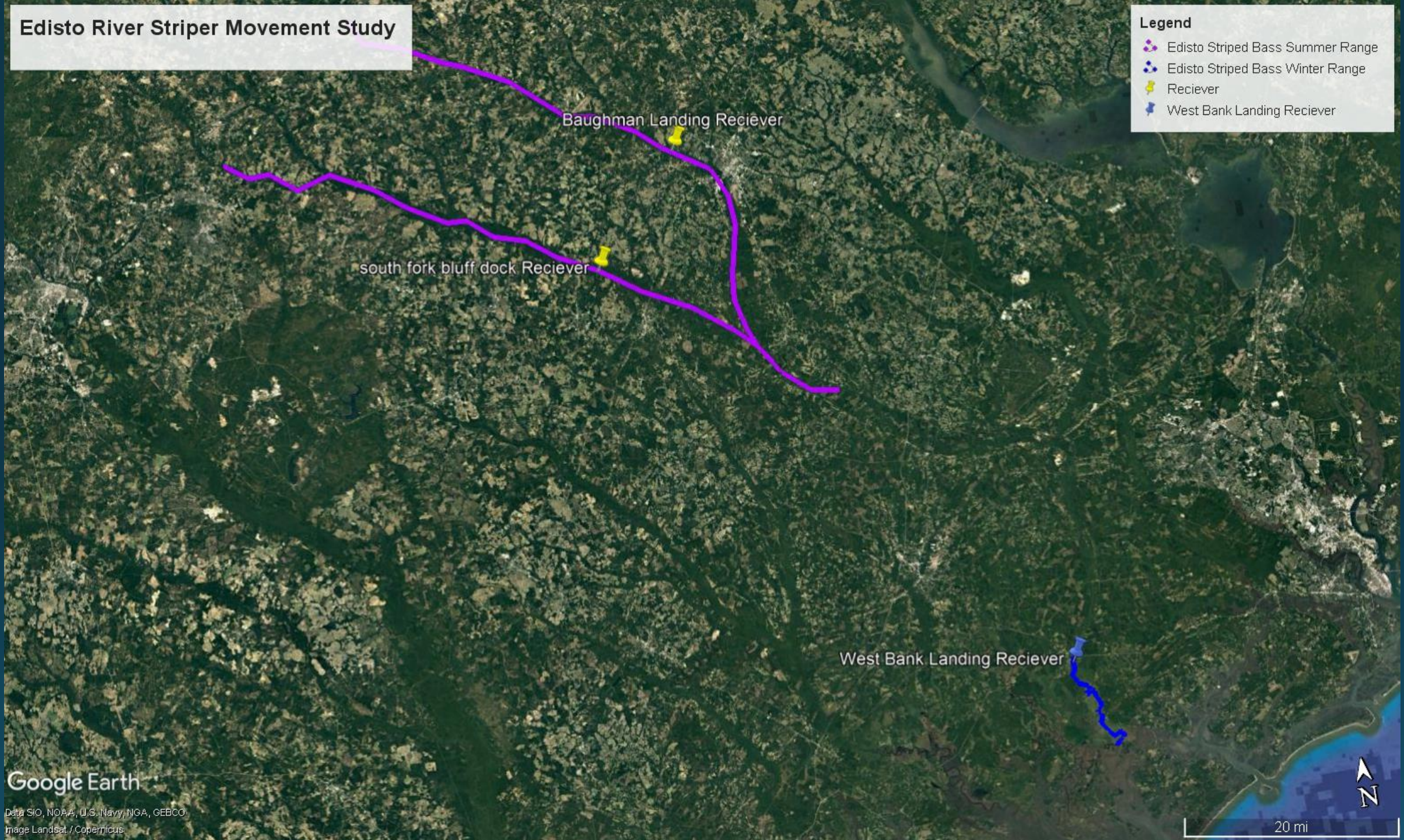
south fork bluff dock Reciever

West Bank Landing Reciever

Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

20 mi







Diadromous fishes

Anadromous - migrating from the sea to fresh water for the purpose of spawning.



Catadromous - migrating from fresh water to the sea for the purpose of spawning.

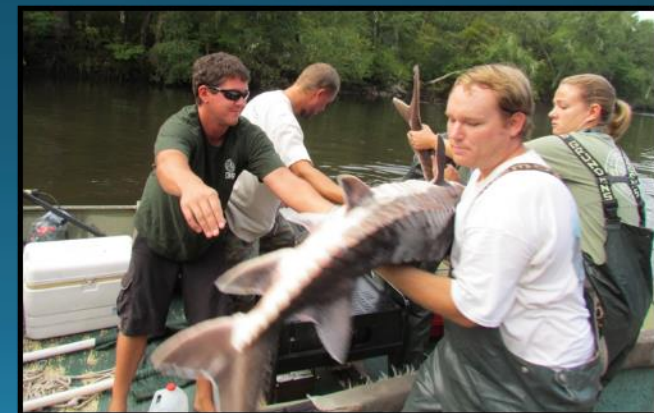


Multi-state sturgeon study

- Federally-funded (NMFS) 3 year telemetry study (NCE) (2010-2014)
- State collaborators: NCSU, NCDMF, and UGA

Objectives:

1. Better address the distribution/migration range of both species of sturgeon
2. Identify critical habitat (foraging, spawning, potential impacted sites, etc.) for both species of sturgeon
3. Document the degree of inter-basin transfer occurring for both species



2015-2020

- Low level NMFS funding
- Purchase and maintain receivers

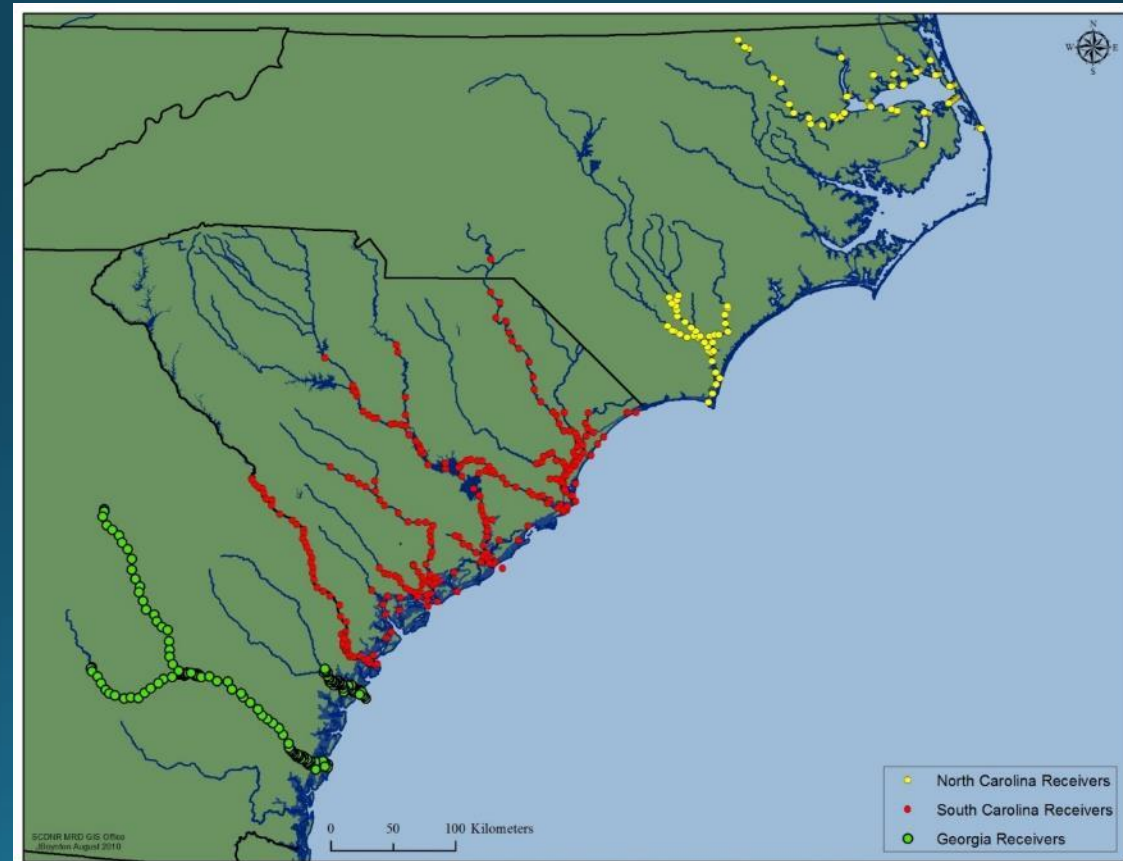


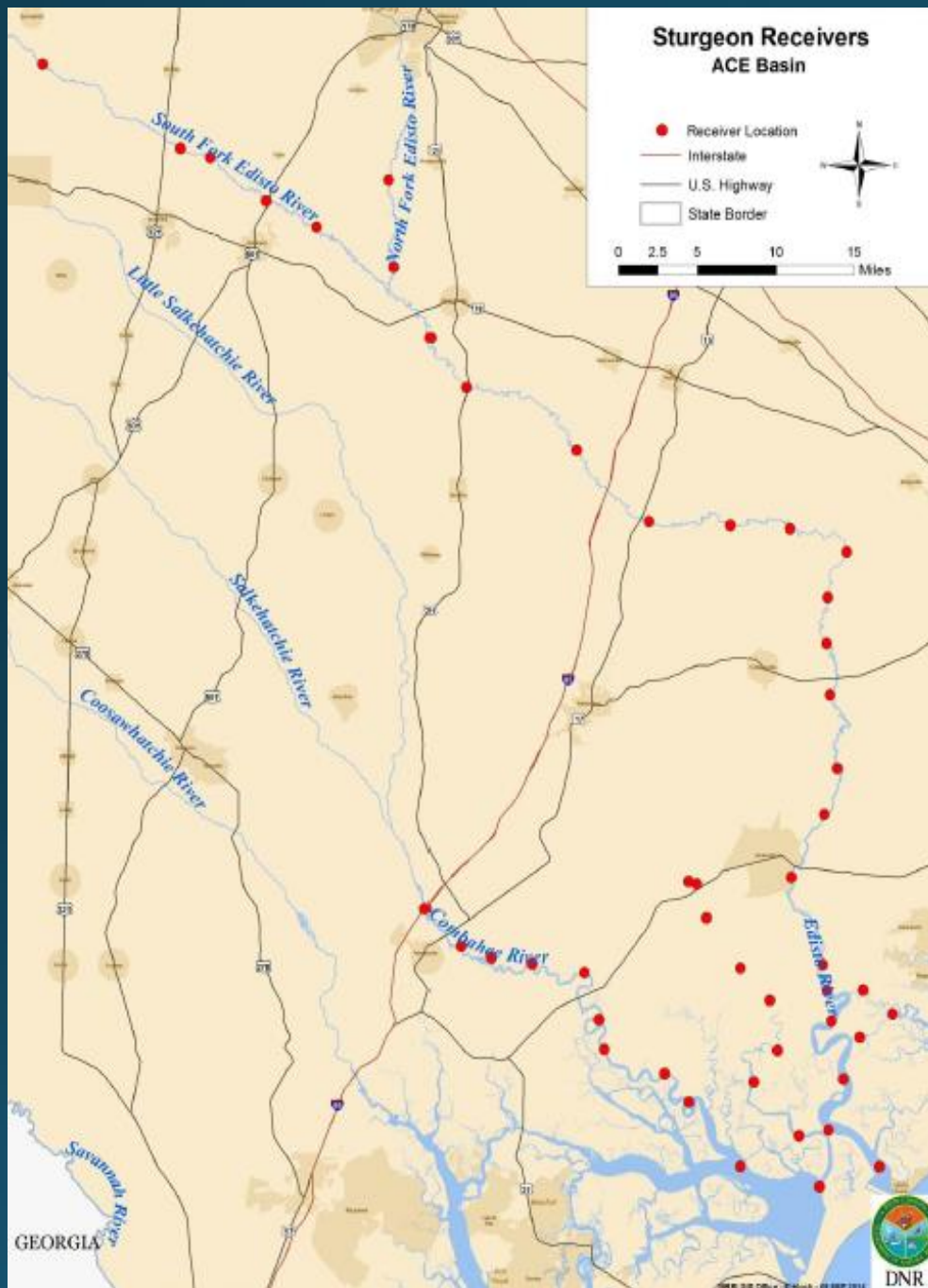
Receivers

- Deploy array of ~300 receivers in SC.
- In SC most major river systems, ICW, and sounds.



VR2W Receiver





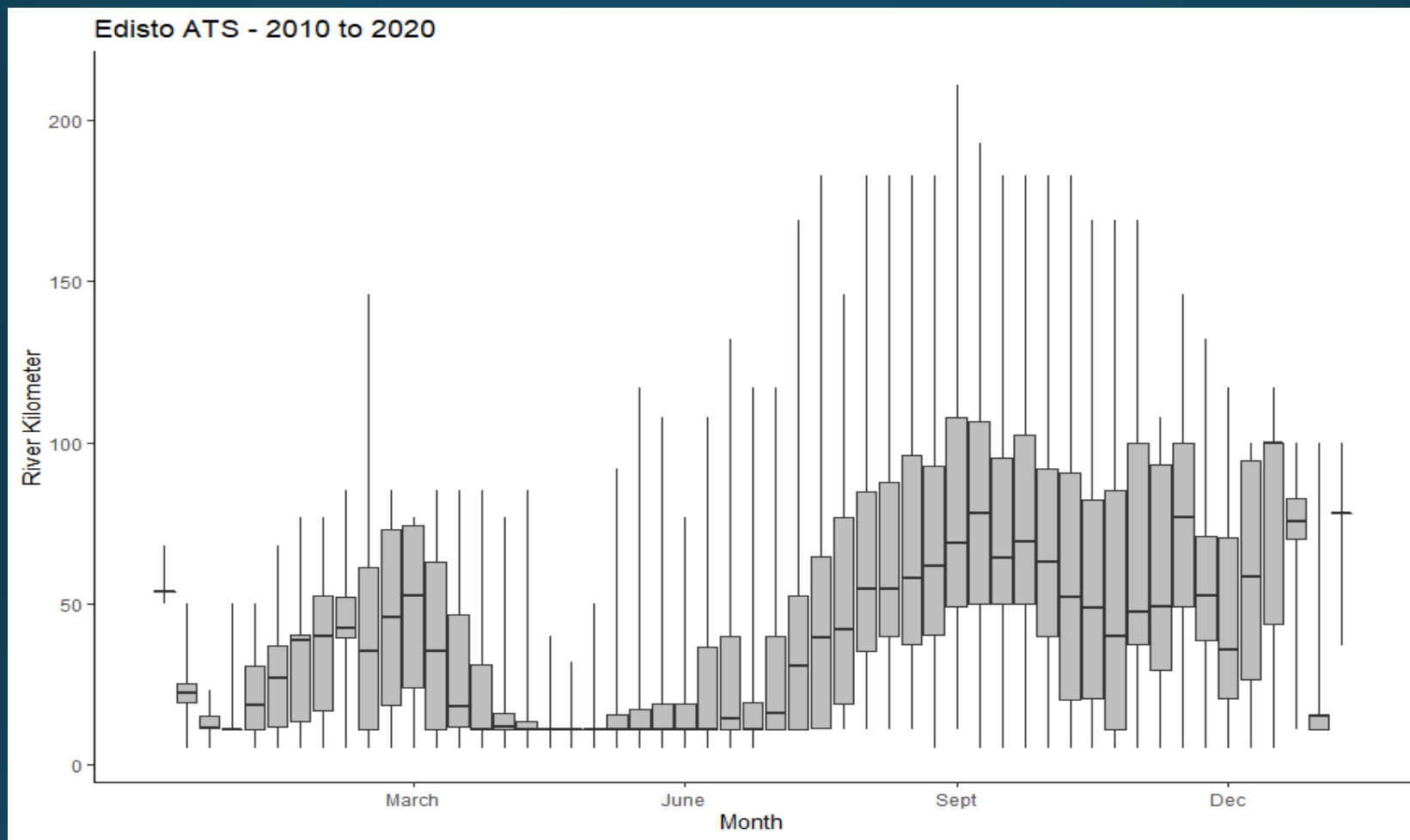
- Edisto River
- 48 receivers deployed over 260 rkm



Atlantic Sturgeon
Acipenser oxyrinchus



Shortnose Sturgeon
Acipenser brevirostrum



Season	River	Unique Fish	Year Range
Spring	Edisto	1-7	2010-2019
Fall	Edisto	2 - 47	2010-2019



Edisto River “Redbreast River”

