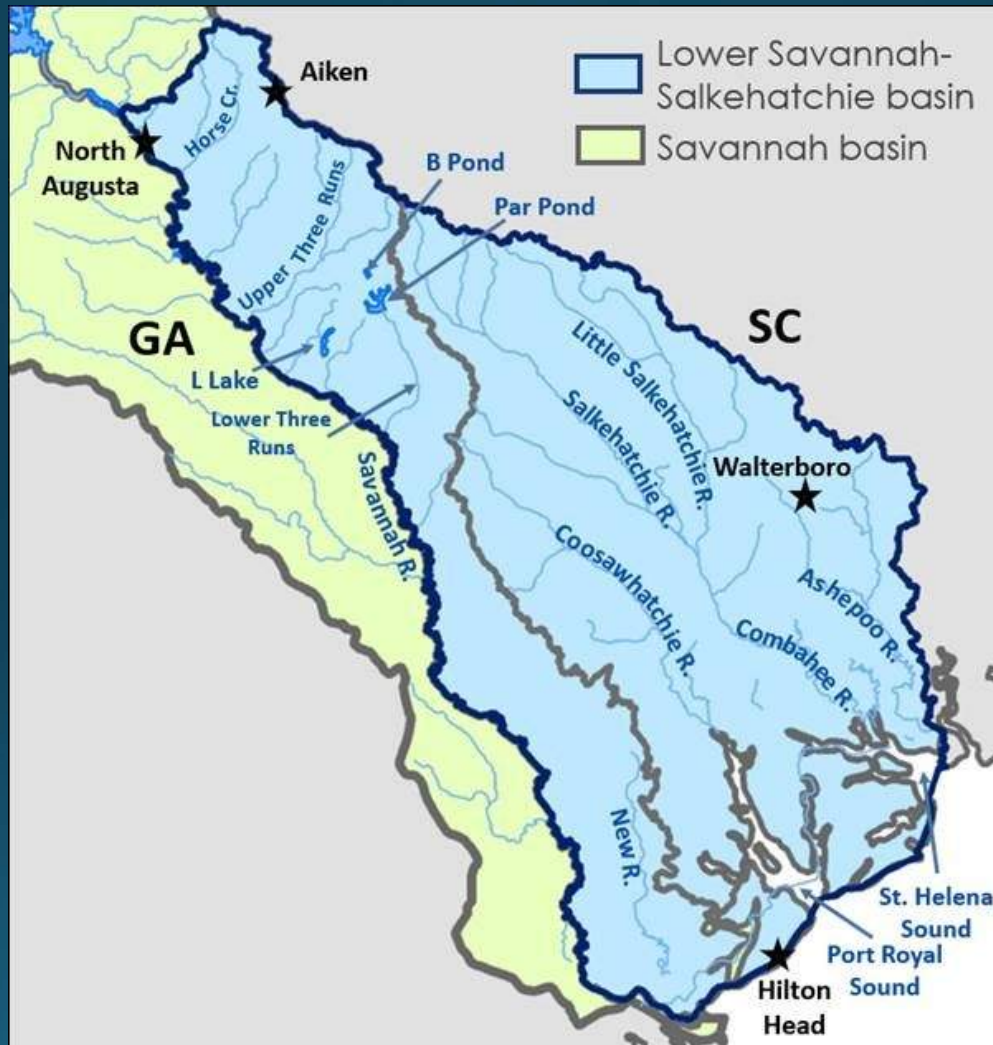




# Freshwater Fishes of the Savannah/Salkehatchie River Basins







85 Native Species

14 Introduced  
Species





**Sportfish of the Savannah/  
Salkehatchie River Basins**





Salkehatchie River  
“Redbreast River”





Bluegill



Redear Sunfish  
"Shellcracker"





Spotted sunfish  
"Stumpknocker"



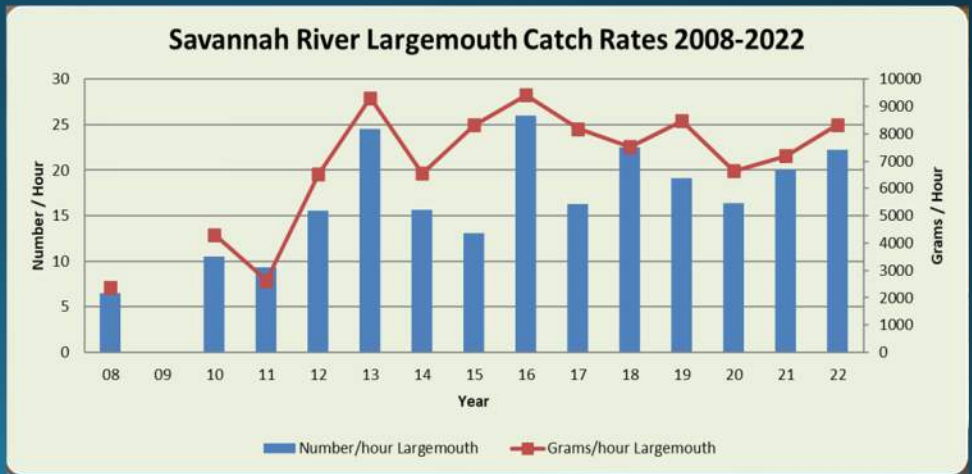
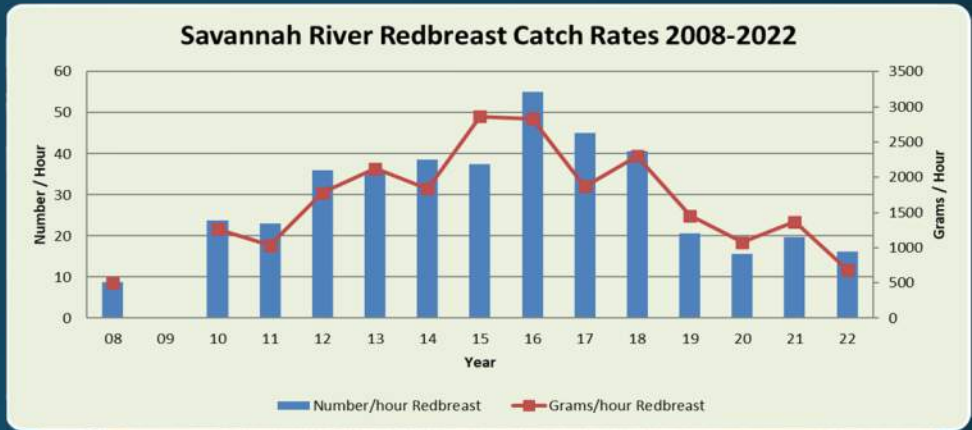




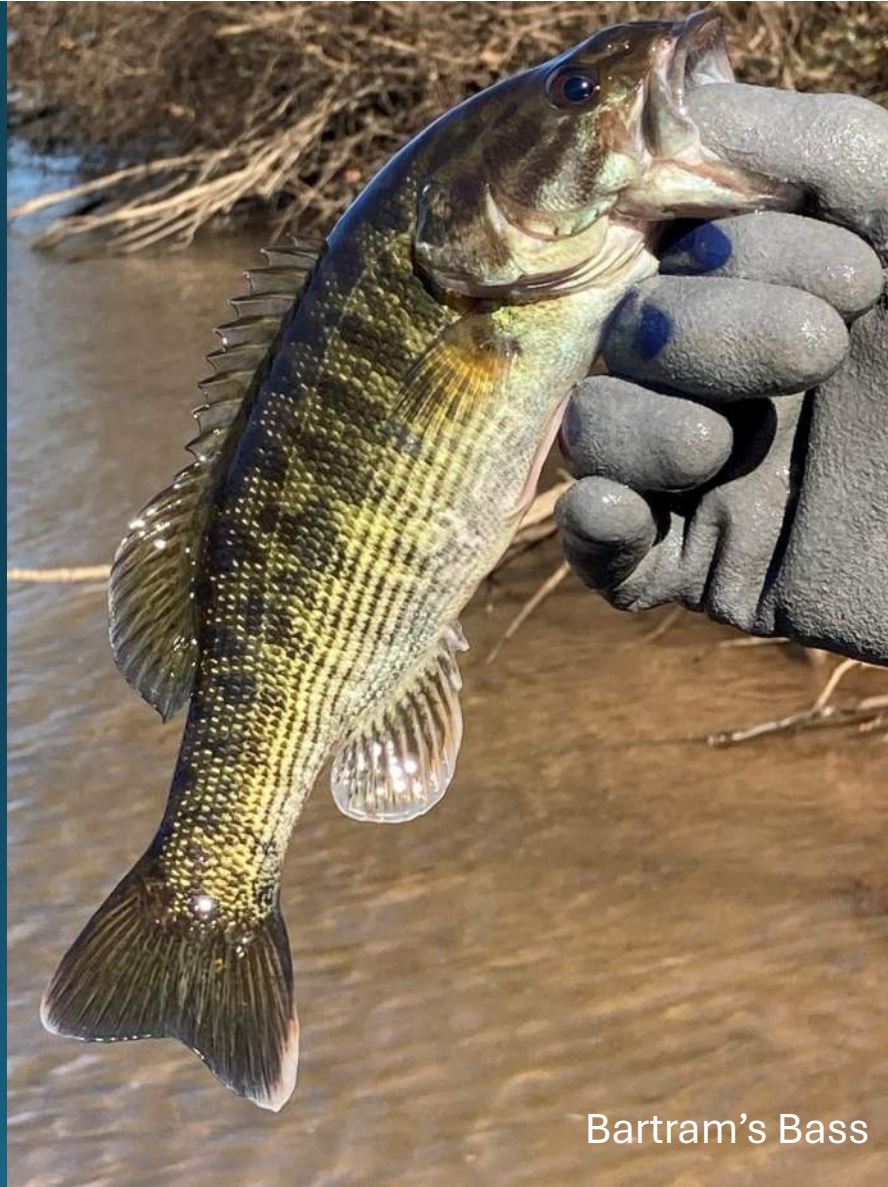
Flat Bullhead

# Standardized Sampling: Savannah River

- No significant changes from 2021
- RBS continues to stabilize – Flatheads
- LMB catch rates have increased for second year
- BLG are consistently most abundant, RES numbers continue to increase







Bartram's Bass








***Coastal Striped Bass  
Stocking***

Spawning Year	Savannah		Altamaha		Ogeechee
1999	30,380				
2000	40,003				
2001	13,161				
2002	40,105				
2003	0		18,846		
2004	0		27,838		
2005	20,424		11,111		
2006	23,523		24,566		
2007	45,169		107,150		
2008	41,851		0		
2009	10,113		41,199		
2010	15,261		41,924		
2011	12,326		27,199		
2012	8,102		0		
2013	14,992		65,736		5,143
2014	15,006		* 200,142		4,655
2015	15,040		* 175,537		5,171
2016	12,021		* 383,895		0
2017	37,741		*298,284		*100,284
2018	*125,529		*280,845		
2018	37,748				
2019	*107915				
2019	42,754				
2020	30,026				
2021	26,523				
2022	26,771		28,750		

Blue highlight indicates phase I fingerling stocking and black is phase II fingerling stocking.

- We continue to stock the Savannah with around 30,000 striped bass annually.
- No more OTC marking of fish.
- We continue to stock the Altamaha with any “extra” phase-I production.

J. Fleming



Non-game Fish  
of the  
Savannah/Salkehatchie River  
Basins



Taillight Shiner



Savannah Darter



Dollar Sunfish



Lowland Shiner



Turquoise Darter





Blackbanded Sunfish



Banded Sunfish



Bluespotted Sunfish



Spotted sucker





Robust Redhorse

Image courtesy of NCFishes.com

# Diadromous Fishes of the Savannah/ Salkehatchie River Basins

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.





# NEW SAVANNAH BLUFF LOCK & DAM PARK



US Army Corps  
of Engineers®



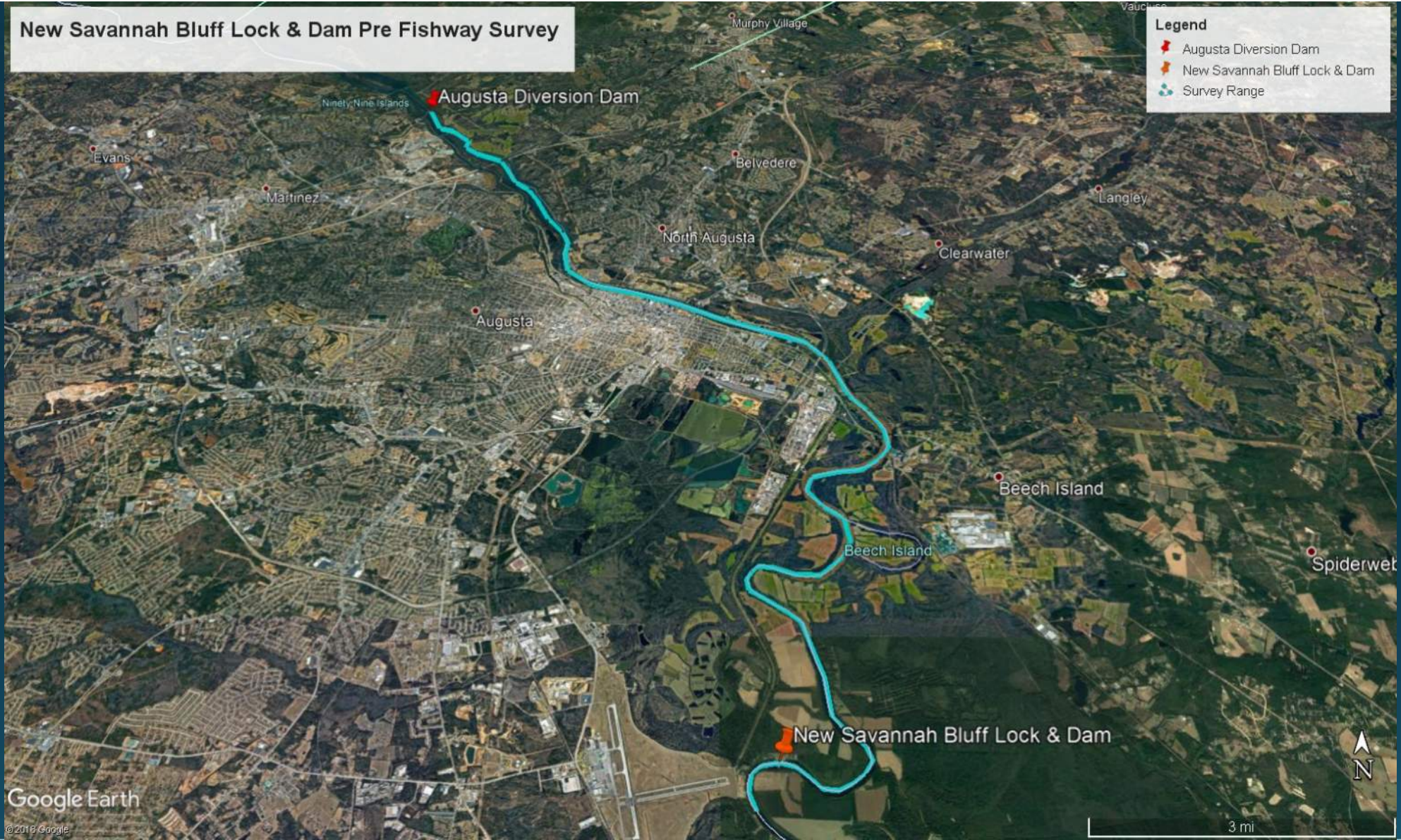
Operated by:

Augusta  
GEORGIA

RECREATION, PARKS AND FACILITIES



# New Savannah Bluff Lock & Dam Pre Fishway Survey



**Legend**

- Augusta Diversion Dam
- New Savannah Bluff Lock & Dam
- Survey Range

Google Earth

© 2018 Google

3 mi





# Sturgeon Telemetry Study Update for the Savannah River Estuary



Ellen Waldrop  
SCDNR Diadromous Fishes Assistant Coordinator  
WFF/MRRI  
Charleston, SC





Atlantic Sturgeon



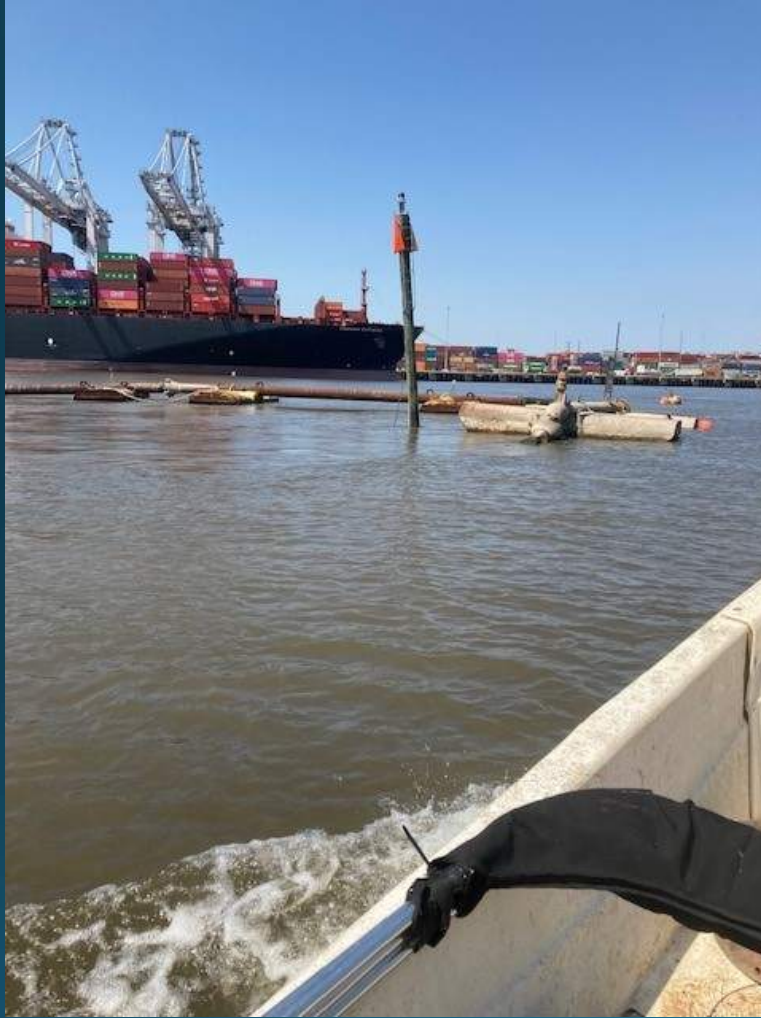
Shortnose Sturgeon

# Objectives

1. Monitor sturgeon distribution in the estuary pre-construction, during construction, and post construction
2. Observe potential changes in habitat preference relative to historic habitat data





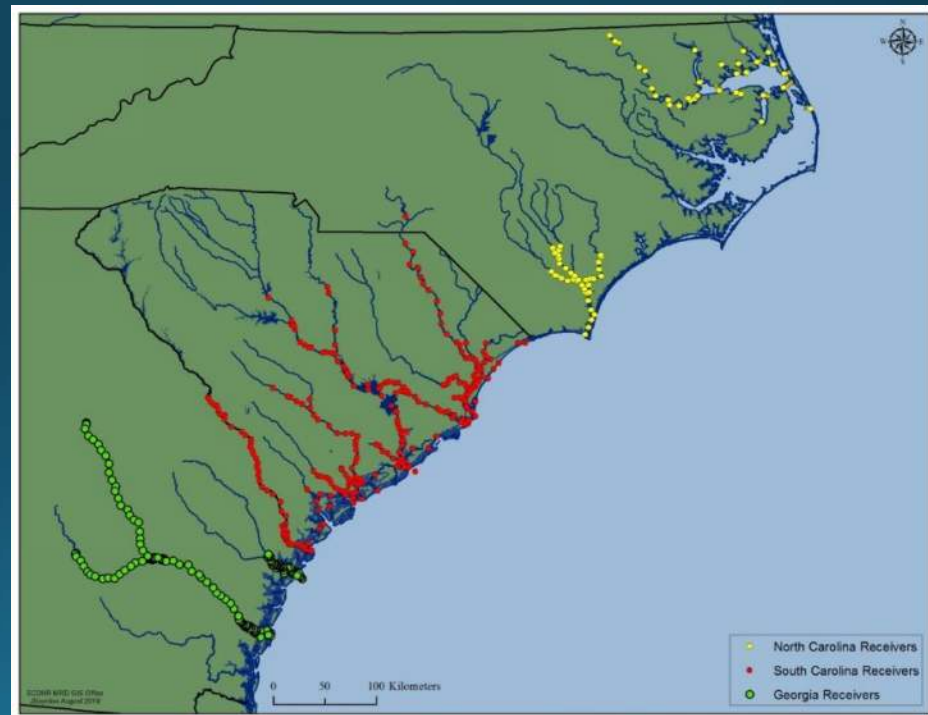


# Receivers

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



VR2W Receiver





**Transmit 10 Atlantic and 10 Shortnose Sturgeon per year  
(5 juvenile / 5 adult)**



# Transmitters

Battery life of 2.5-9 years  
Unique frequency code



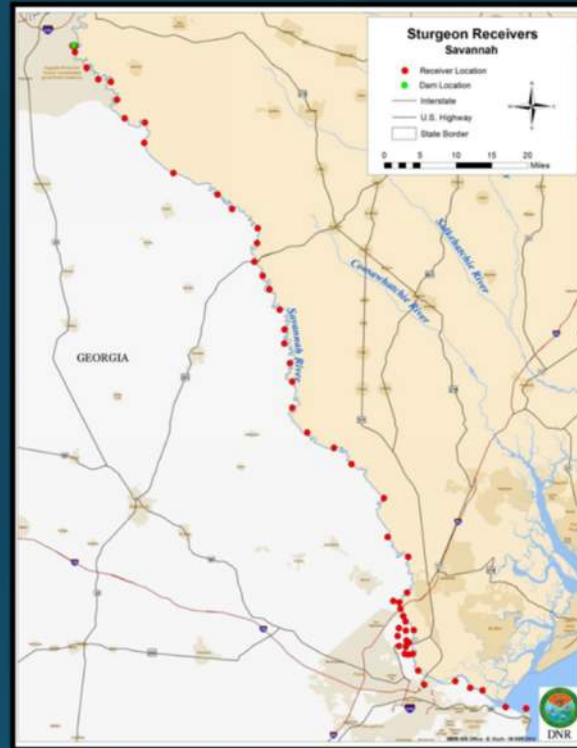
V-9 Low Power  
V-16 High Power





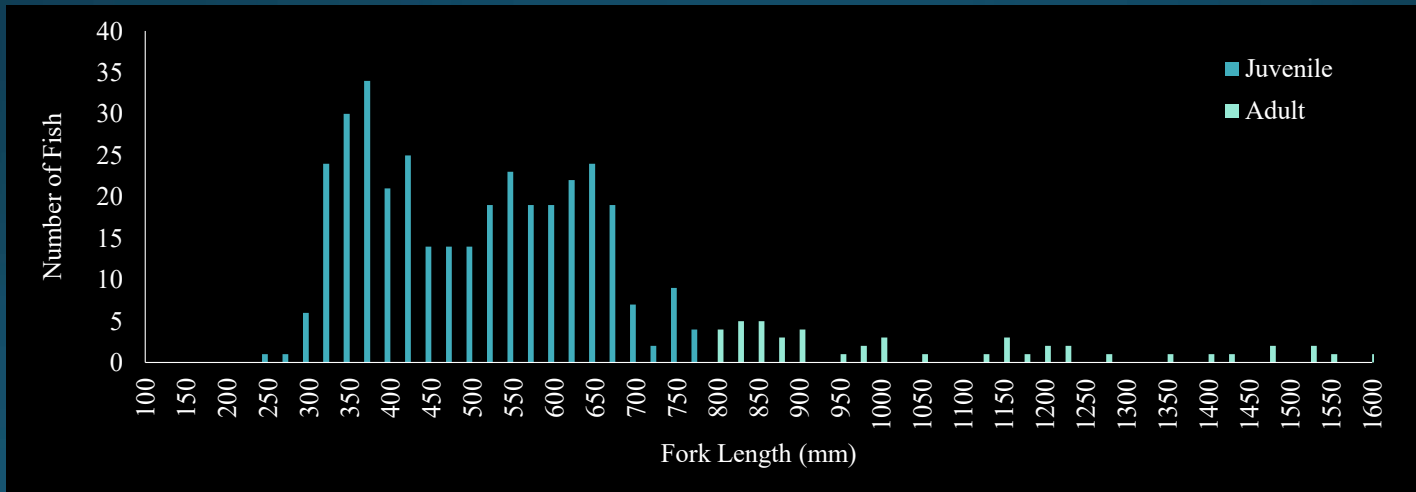


A69-1303-45976



# Capture Results (ATS)

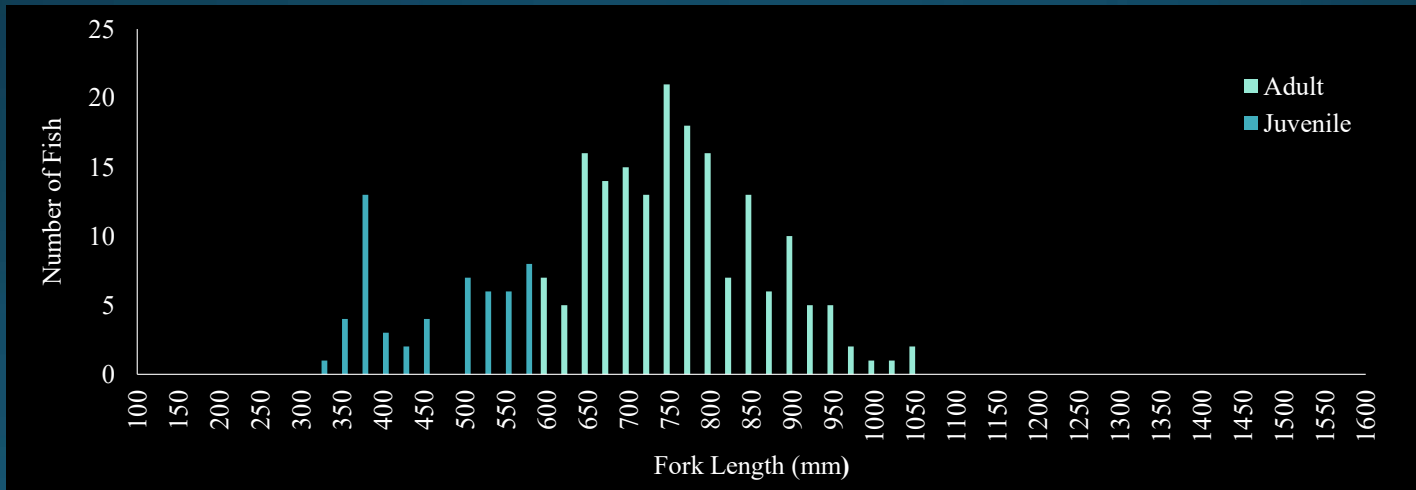
	Number ATS caught	Average FL (mm)
<b>2013-2014</b>	<b>30</b>	<b>568</b>
<b>2014-2015</b>	<b>36</b>	<b>661</b>
<b>2015-2016</b>	<b>78</b>	<b>486</b>
<b>2016-2017</b>	<b>51</b>	<b>587</b>
<b>2017-2018</b>	<b>59</b>	<b>629</b>
<b>2018-2019</b>	<b>68</b>	<b>512</b>
<b>2019-2020</b>	<b>27</b>	<b>662</b>
<b>2020-2021</b>	<b>49</b>	<b>460</b>





## Capture Results (SNS)

	Number SNS caught	Average FL (mm)
<b>2013-2014</b>	<b>16</b>	<b>639</b>
<b>2014-2015</b>	<b>42</b>	<b>744</b>
<b>2015-2016</b>	<b>21</b>	<b>680</b>
<b>2016-2017</b>	<b>59</b>	<b>675</b>
<b>2017-2018</b>	<b>29</b>	<b>680</b>
<b>2018-2019</b>	<b>30</b>	<b>711</b>
<b>2019-2020</b>	<b>15</b>	<b>641</b>
<b>2020-2021</b>	<b>19</b>	<b>645</b>



## Transmitter Results

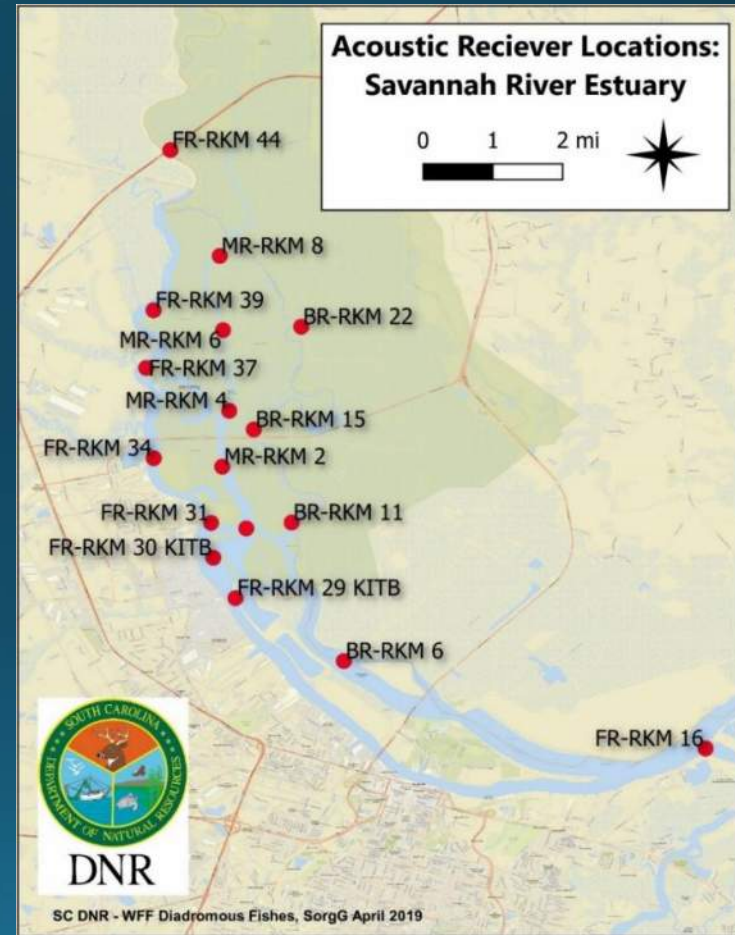
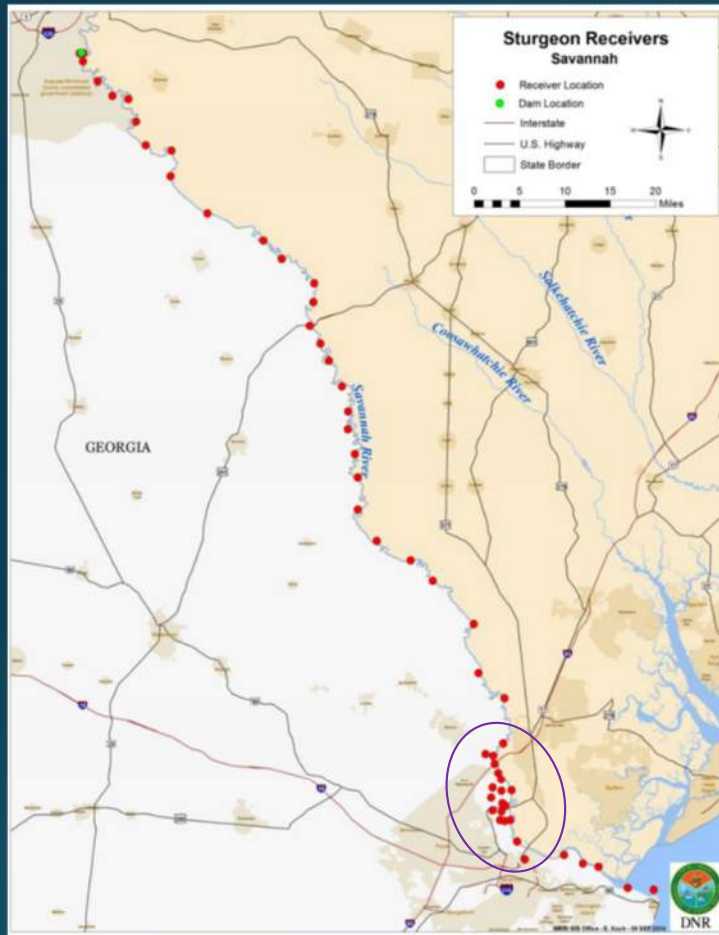
Species	Transmitted
Atlantic Sturgeon	80
Shortnose Sturgeon	83
Total	163



## Telemetry Results

- Array recording detections for 9 yrs.
- About 9 million detections







## Summary

- Similar seasonal movement as historic data
- Juvenile sturgeon may be using alternative habitat in the Middle River under certain conditions
- Continued collection of telemetry data needed



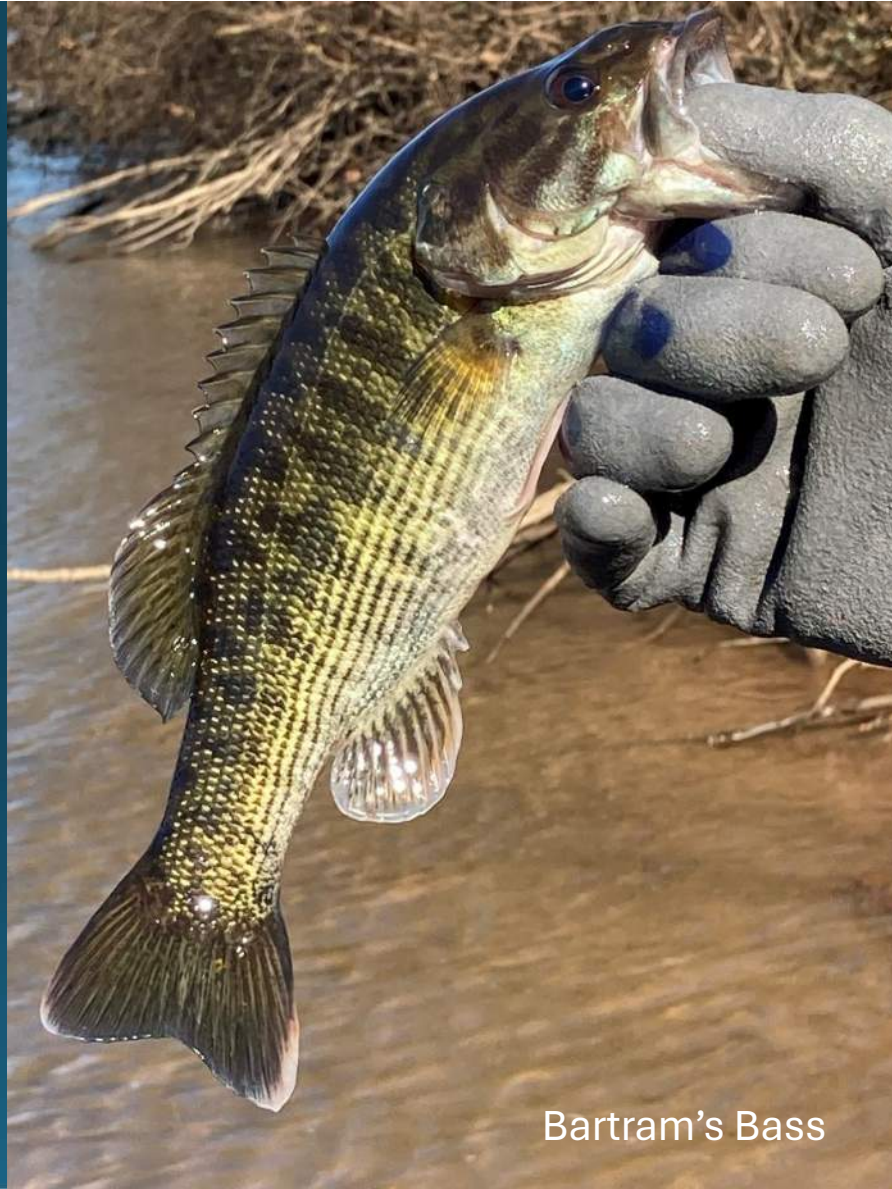
A wide river flows through a lush green forest. The water is calm, reflecting the sky and the surrounding trees. The sky is a vibrant blue, dotted with fluffy white clouds. The forest on both banks is dense and green, with some trees showing signs of autumn. The overall scene is peaceful and scenic.

**Non-native/ Invasive Fish of the  
Savannah/ Salkehatchie River Basins**





Smallmouth Bass



Bartram's Bass



## Lower Savannah River Ictalurid Survey





# Lower Savannah Catfish Study

**Legend**  
Lower Savannah Catfish Study

Athens

Columbia  
South Carolina

Augusta

Summerville

Charl

Statesboro

Beaufort

Saint Helena Shoal

Pritchards Island

Hilton Head Island

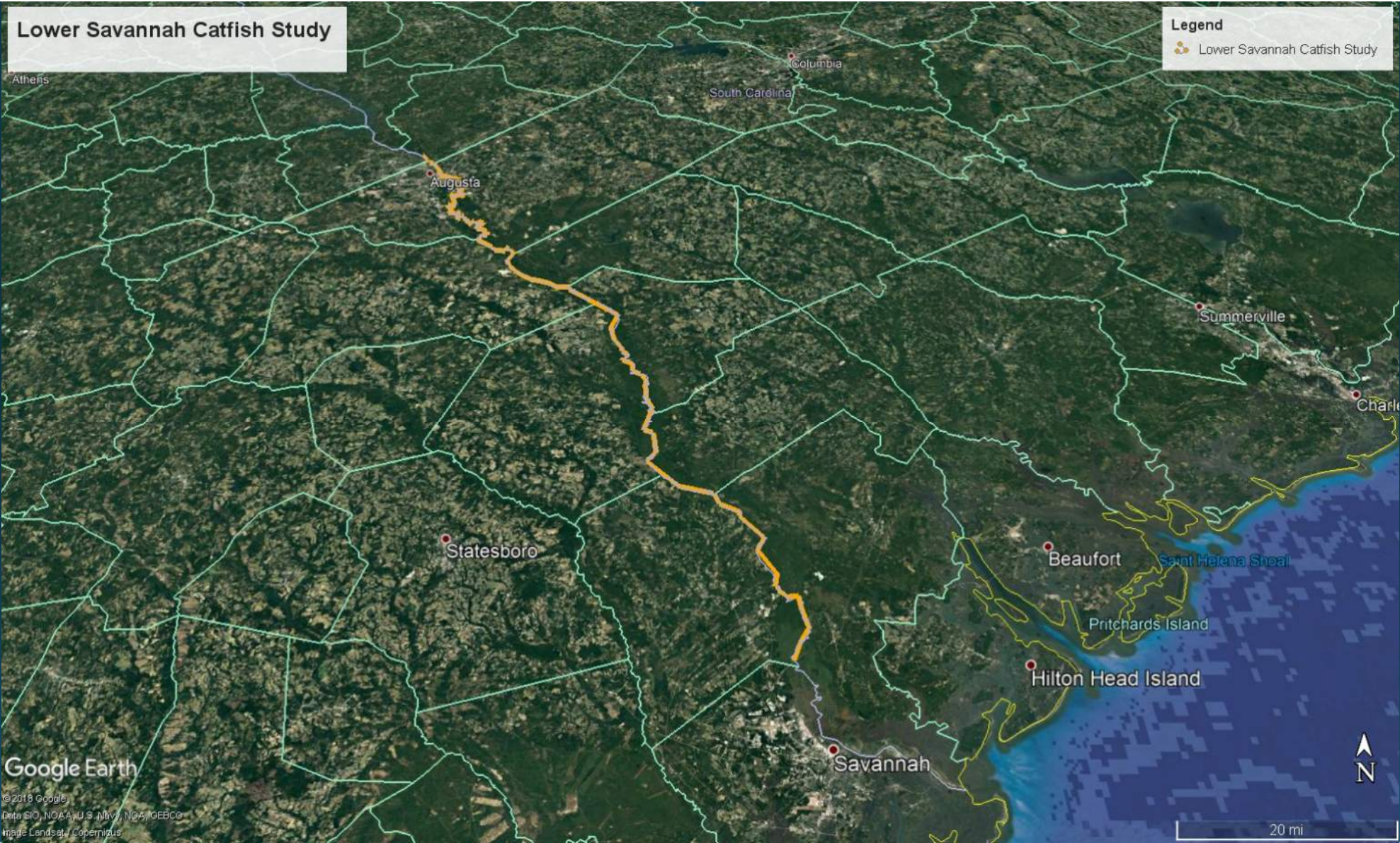
Savannah

Google Earth

© 2018 Google  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Image Landsat/Copernicus



20 mi





- Flathead Catfish
- First Documented 2010 SRS area
- Fully Colonized 2020



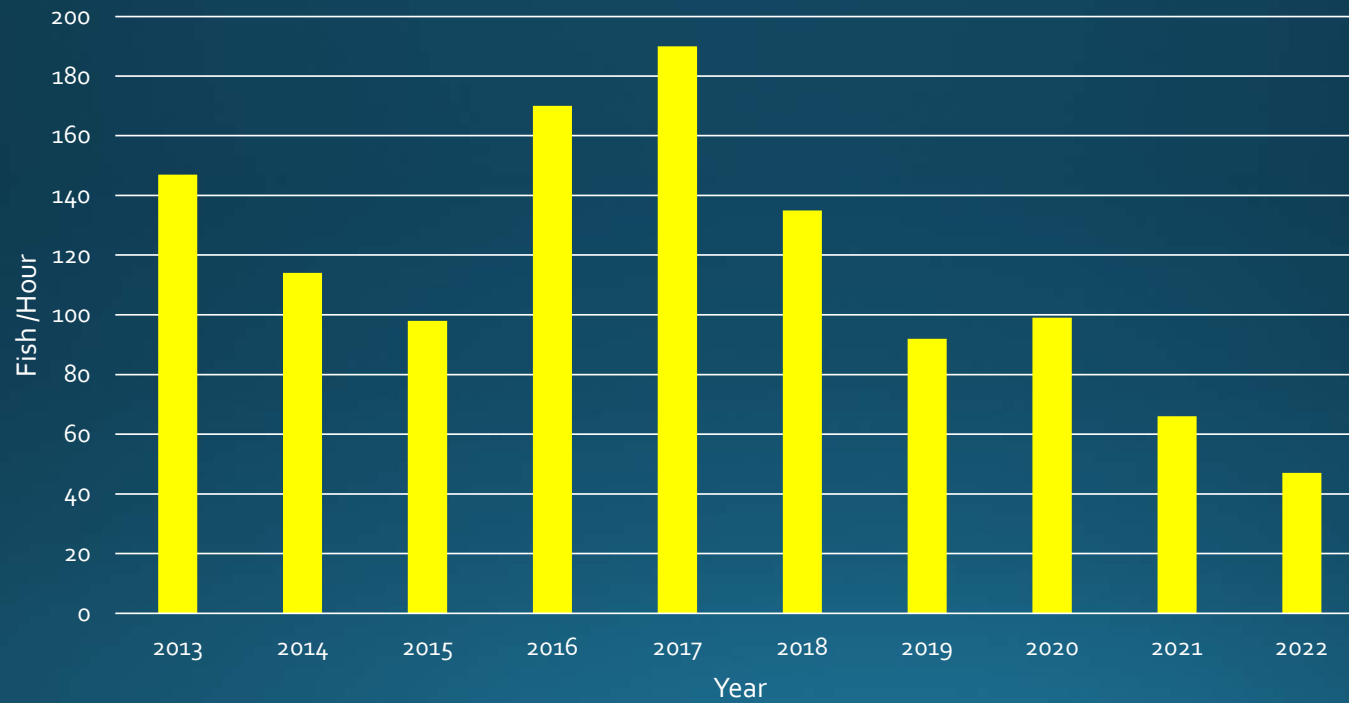




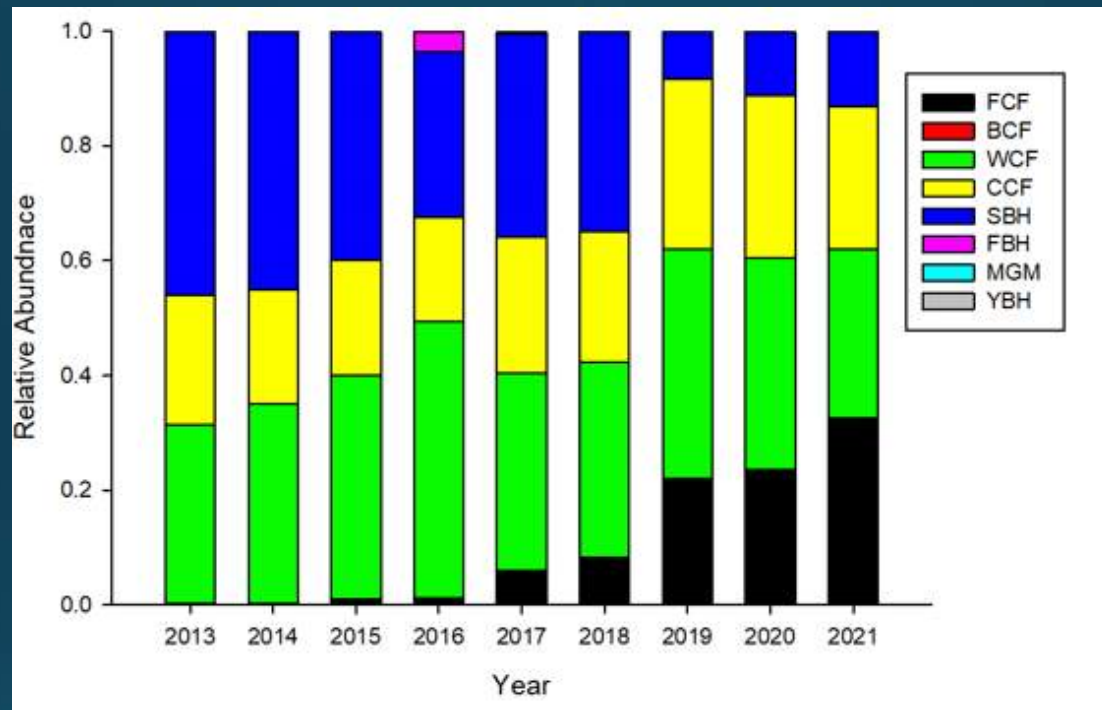




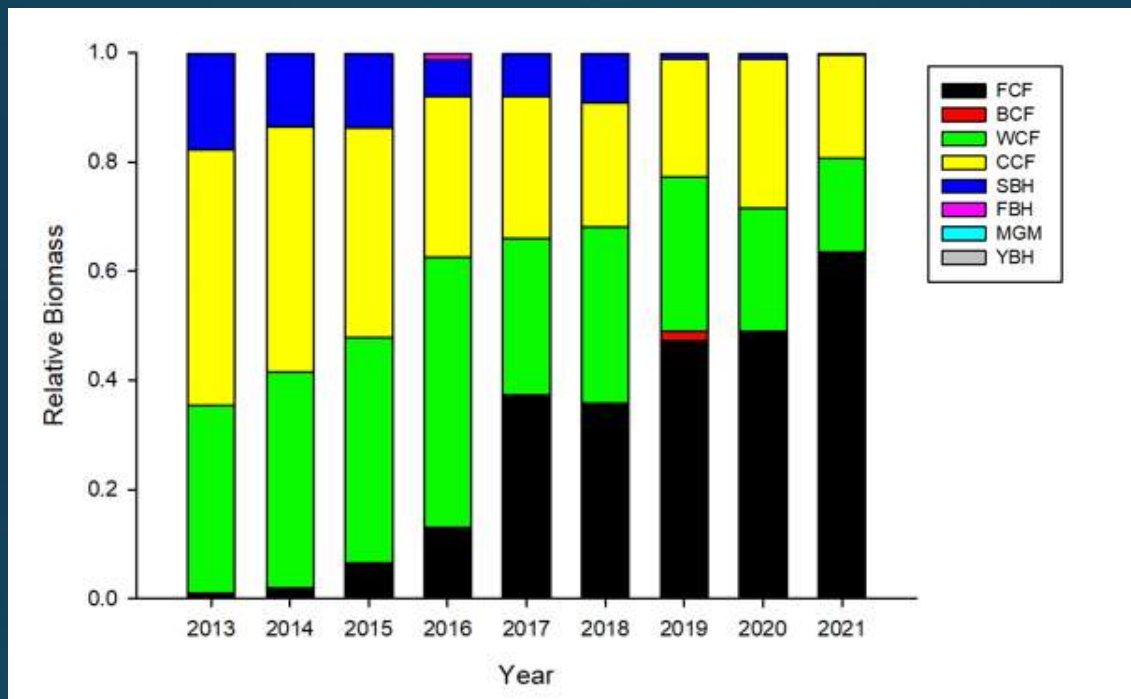
# Lower Savannah Ictalurids CPUE (2013-22)





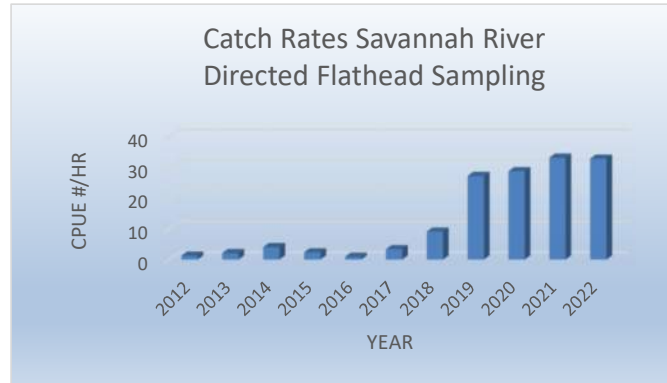


Relative abundance of ictalurids captured from the Savannah River with boat electrofishing during summer 2013 – 2021.



Relative biomass of ictalurids captured from the Savannah River with boat electrofishing during summer 2013 – 2021.





***Catch rates in the Savannah are equivalent to those in the Altamaha at some sites.***

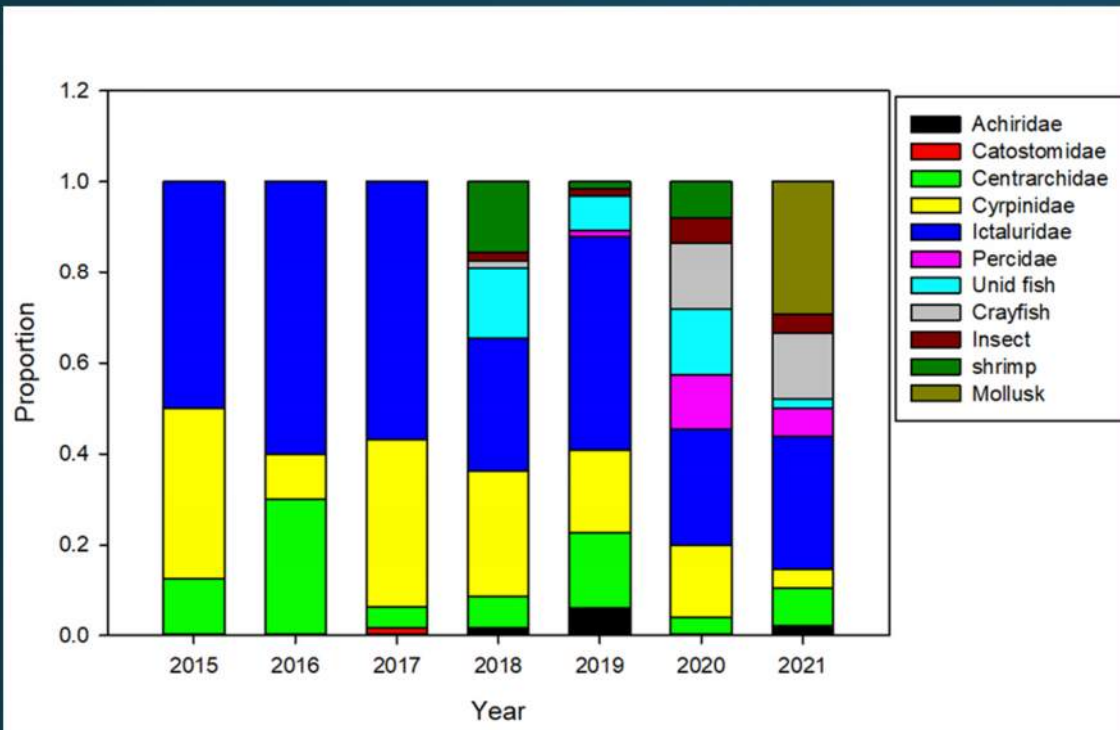


*J. Fleming*

Estimated Age	N	Mean TL (mm)	SE
0	5	248	26.11
1	11	335	26.05
2	19	428	30.00
3	39	566	26.22
4	18	697	29.29
5	3	961	64.38
6	3	940	10.39
7	1	1104	

Estimated age of Flathead Catfish using sectioned lapillus otoliths, the number aged (N), mean total length (mm) and standard error for Flathead Catfish collected with boat electrofishing from the Savannah River during summer 2021.





Proportion of diet items found in the stomachs of Flathead Catfish captured from the Savannah River with boat electrofishing during summer 2013 – 2021.









# ACKNOWLEDGEMENTS

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Joel Fleming

NCFishes.com

Fritz Rohde





Questions?

