



Multi-species Tagging Program

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

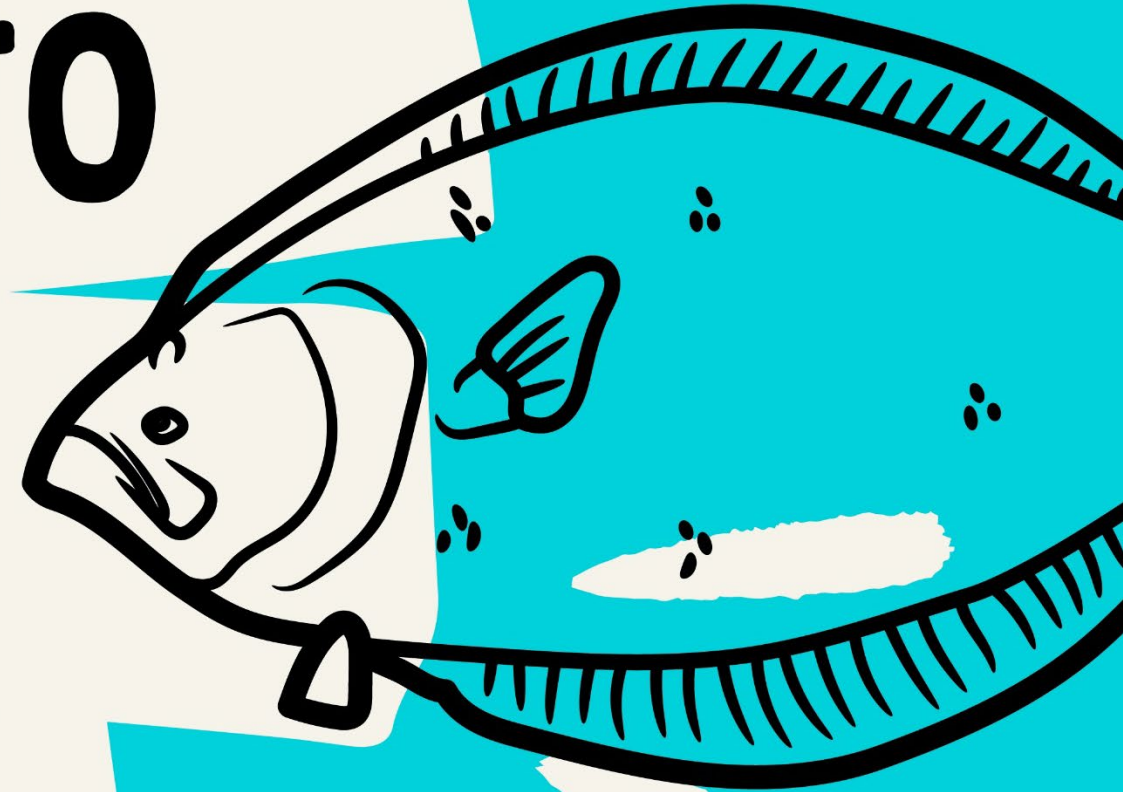
Marine Fisheries Commission August 2024 | Ami Staples





**TAGGING
INTO**

**CITIZEN
SCIENCE**



What is citizen science?



“the collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists.”

-Oxford Languages

“Citizen science is science for everyone!”

-U.S. National Park Service



What is the NC Tagging Program?

NCDMF Multi-Species Tagging Program began in 2014

- Coastal Recreational Fishing License (CRFL) grant funded
- Standardizes tagging procedures and data collection across species

Tagging studies play a vital role in assessing fish populations by providing information about

- migration patterns
- habitat use
- stock delineation
- population structure
- growth rates
- mortality rates (natural and fishing)



What fish do we tag?



Striped Bass



Red Drum



Southern Flounder



Spotted Seatrout



Cobia



What tagging techniques do we use?



Satellite



Acoustic



PIT



Conventional

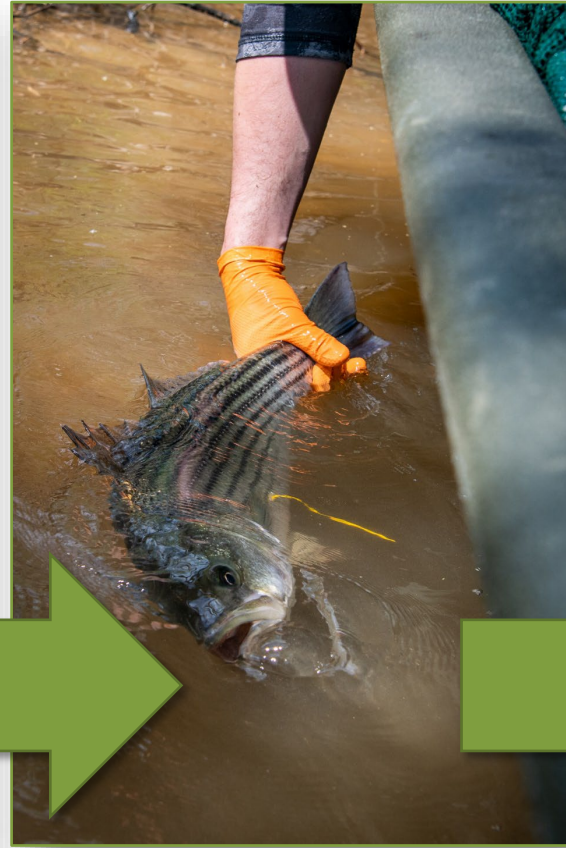
What tagging methodology do we use?



Capture



Mark



Release



Recapture

How can citizen scientist play a role?



Capture



Mark



Release



Recapture

What do I do if I catch a tagged fish?

Catch

Cut

Report



How do I report a tagged fish?

If you **CATCH** a tagged fish,
CUT off the tag and **REPORT**
the tag to **1-800-682-2632**.

Can I leave the tag in the fish and
release it so another angler can
catch it? Isn't that better
information?

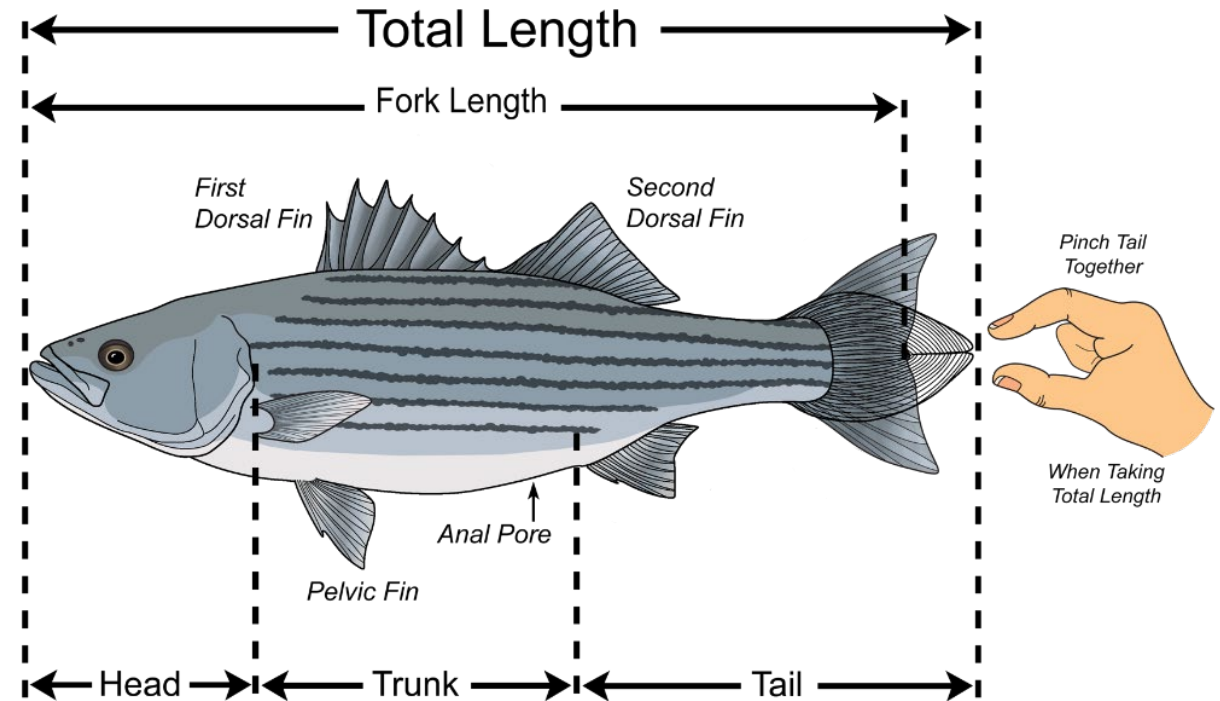


How do I take a picture of the tag?



What information do I report?

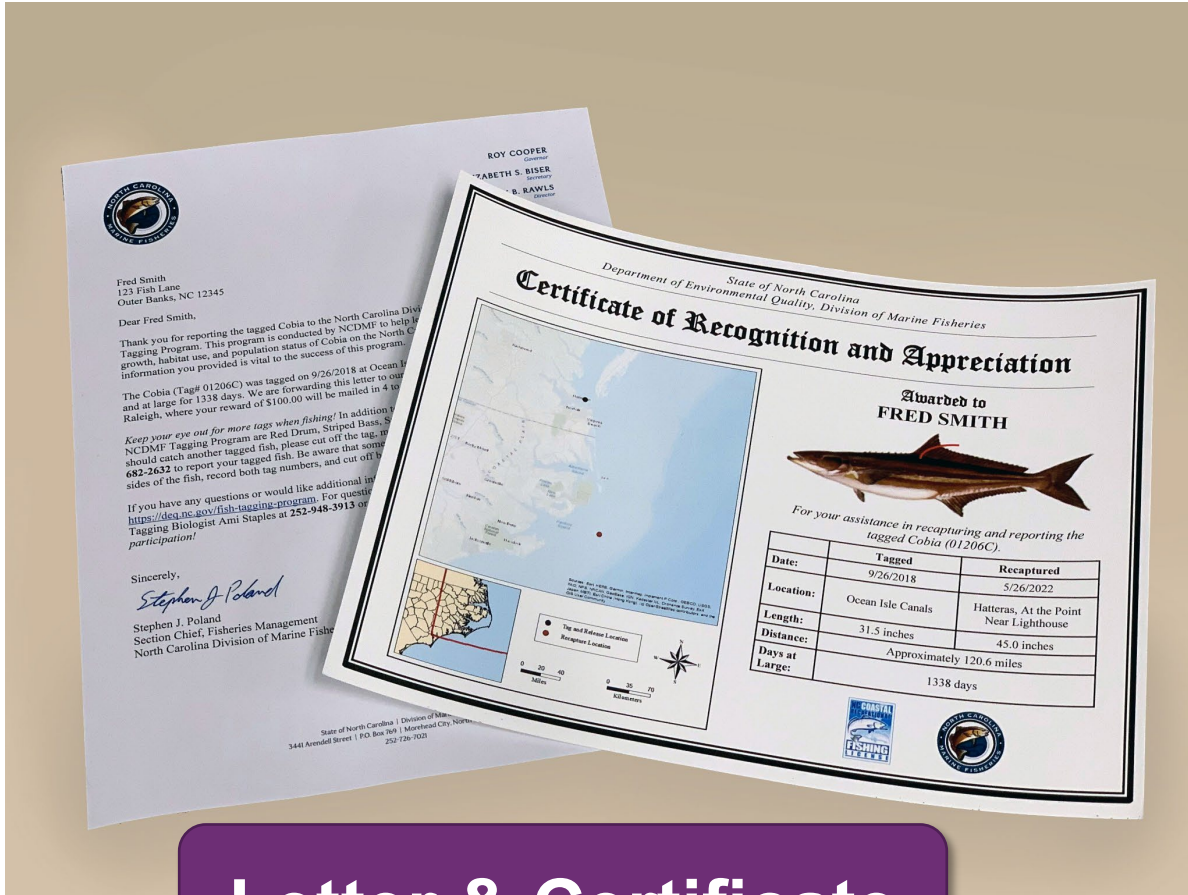
1. Date of capture
2. Location of capture
3. Tag number
4. Species
5. Gear used for capture
6. Length (TL)
7. Fate of fish



In addition, your contact information will be collected at the reporting time.



What is in a reward packet?



Letter & Certificate



Reward

How do I become a volunteer tagger?

Complete the online application

Attend an in-person volunteer tagger training

- Overview of the Tagging Program
- Review of tagging procedures and data collection
- Hands-on tagging demonstration and practice with real fish
- One-on-one time with biologists

If there is need in the area where you fish, then you will receive a tagging kit and can start tagging!



How many fish have we tagged?

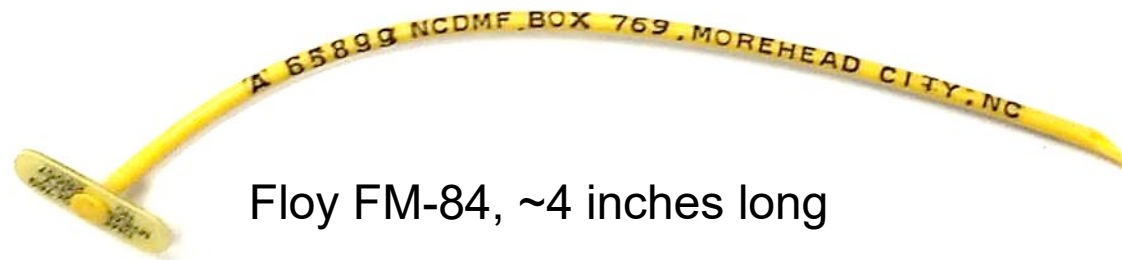
Multi-Species Tagging Program Effort (2014-2023)

Species	Total Fish Tagged (#)	Total Fish Recaptured (#)
Striped Bass	106,886	3,559
Red Drum	13,599	1,592
Spotted Seatrout	13,161	852
Southern Flounder	8,597	601
Cobia*	590	102
Total	142,833	6,706

*Cobia tagging data reported for 2017-2022. Cobia tagging study began in 2017.



Striped Bass Tags

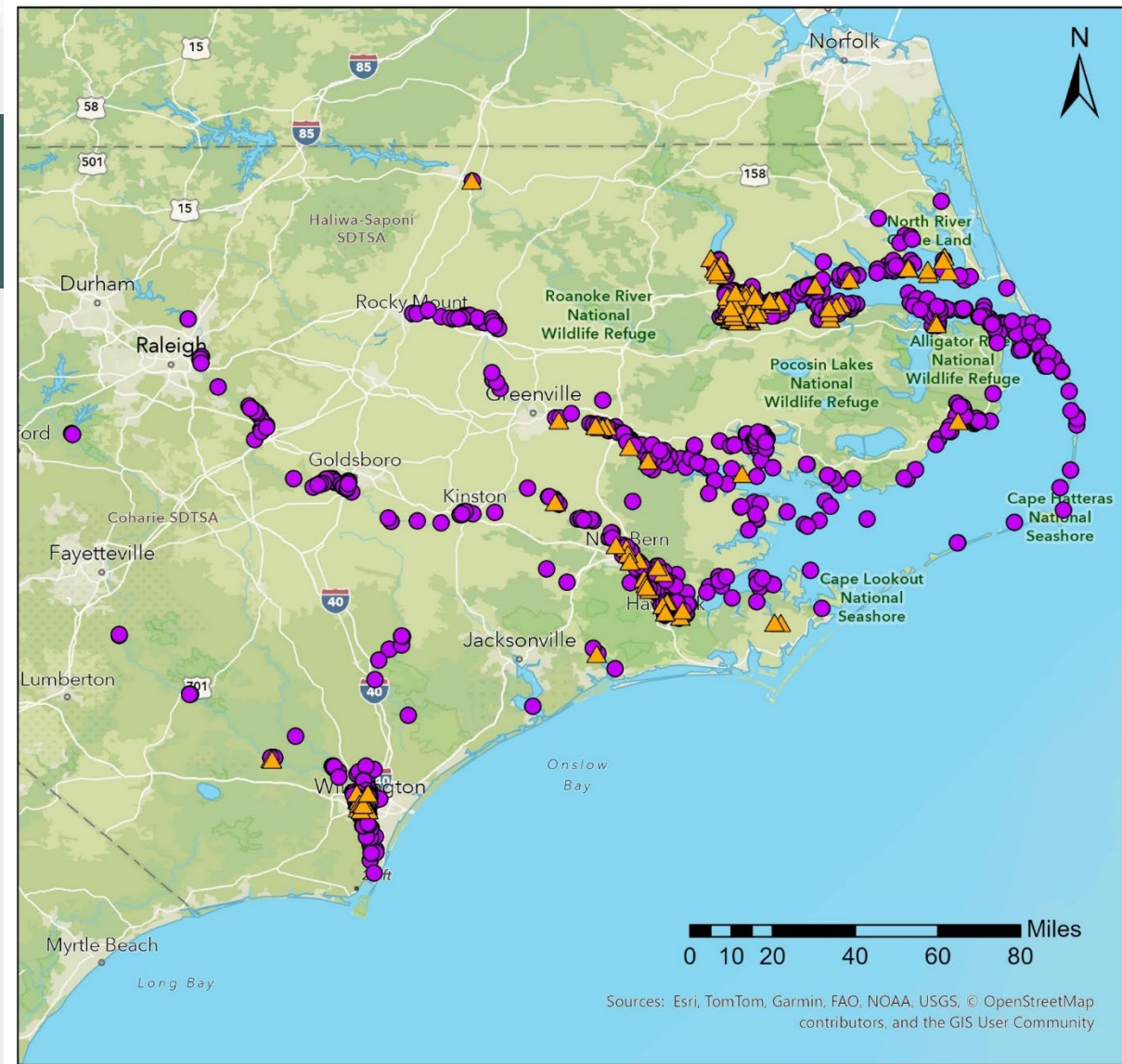


Floy FM-84, ~4 inches long



Striped Bass Releases

106,886
total tagged fish



Original tag release distribution:

- ▲ Striped Bass Releases (2023)
- Striped Bass Releases (2014-2022)



Striped Bass Returns

3,559

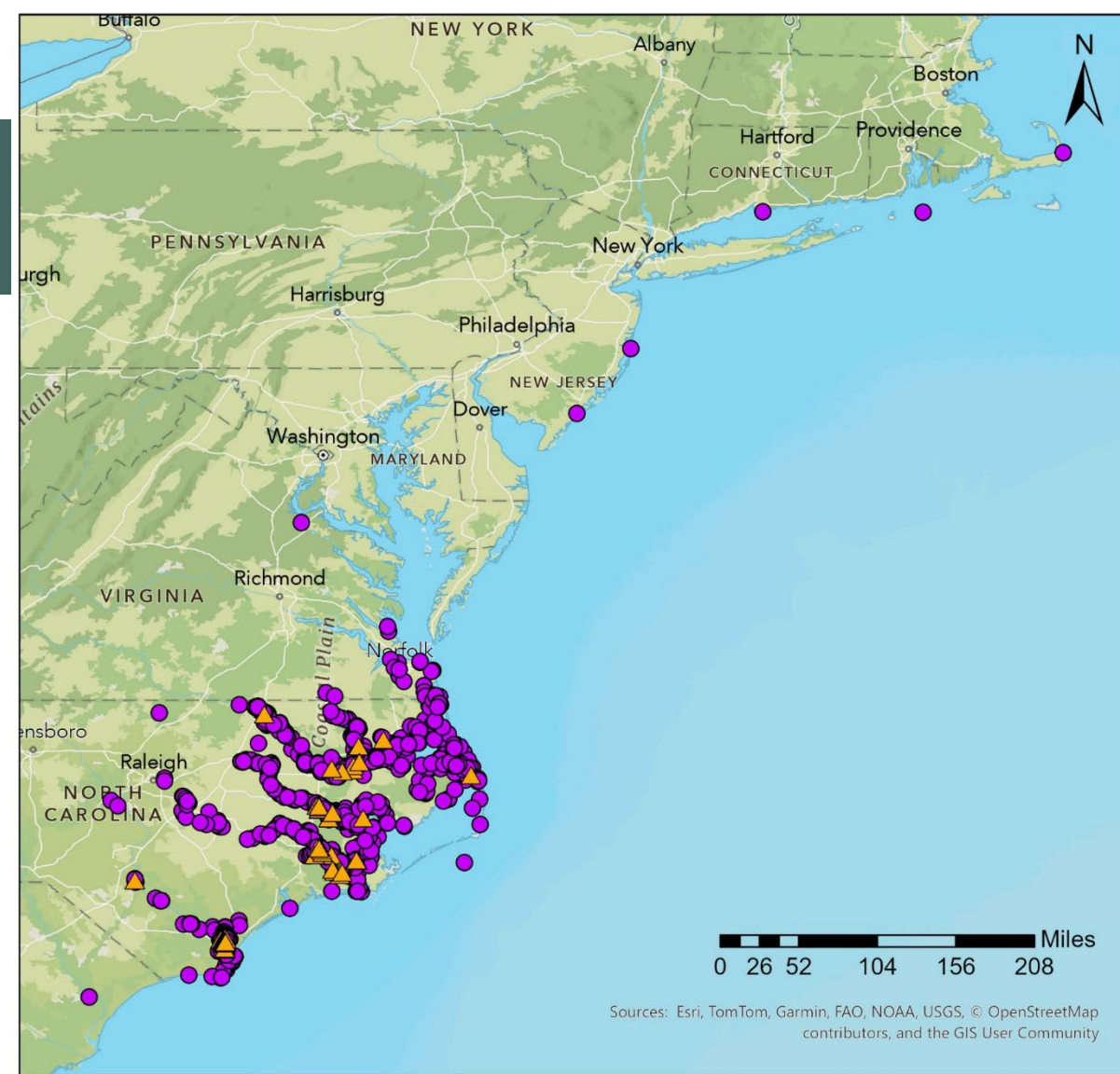
total recaptured fish

Average Days-At-Large 263 days

- Max 2,474 days (~6.7 years)

Average Distance Traveled 38 miles

- Max 579 miles



Tag recapture distribution:

- ▲ Striped Bass Recaptures (2023)
- Striped Bass Recaptures (2014-2022)



Most Days-At-Large

A98547

2,258 days at large (~6.2 years)

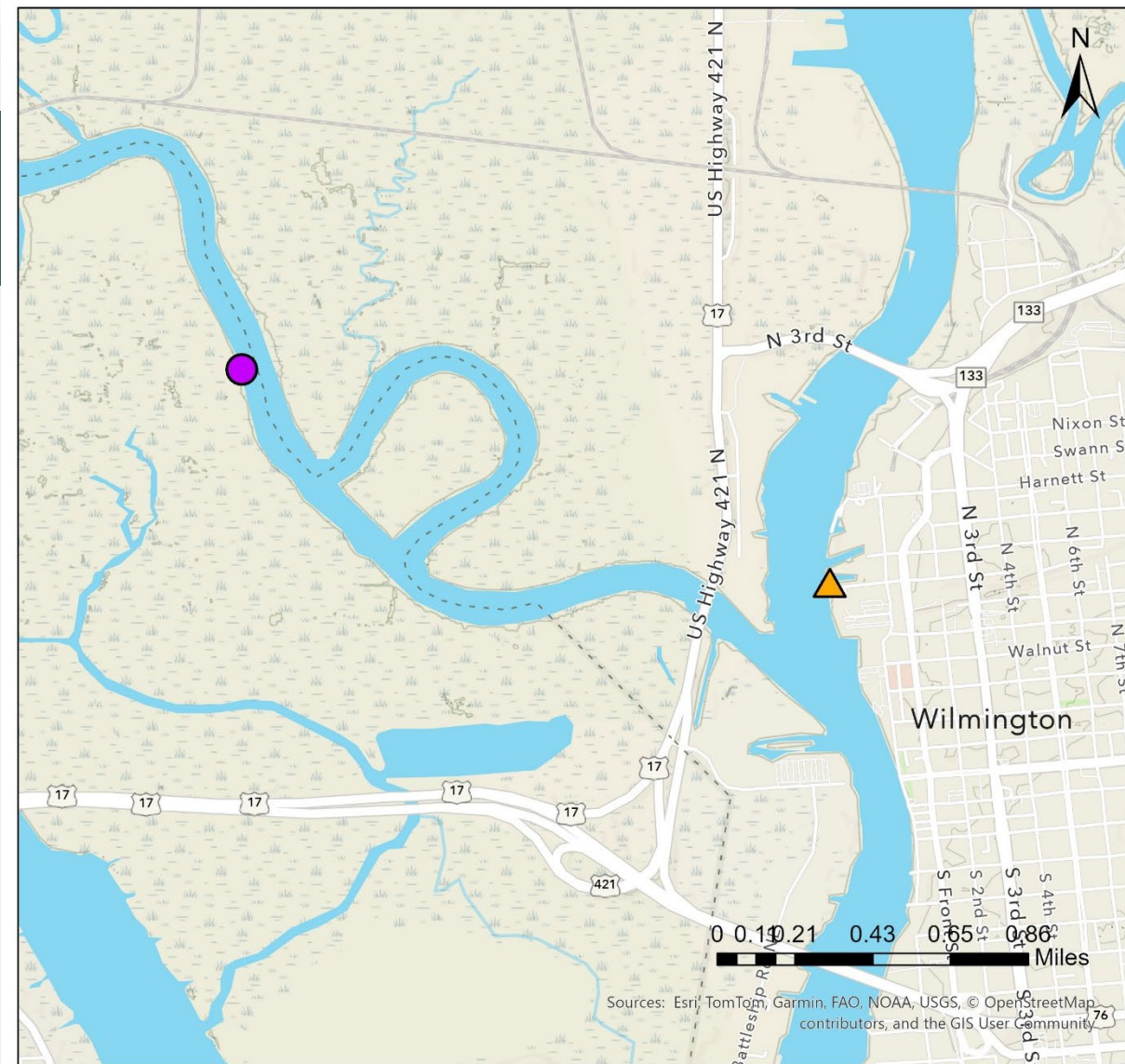
- Tagged on 2/07/2017
- Recaptured on 11/17/2023

Approximately 1 mile traveled

- Tagged at in Wilmington, NC
- Recaptured in Wilmington, NC

Grew 12.9" (22.4" to 35.3")*

*Recapture length was estimated, was not measured



Tag distribution:

- A98547 Original Release Location
- ▲ A98547 Recapture Location



Furthest Distance Traveled

50552A

119 days at large

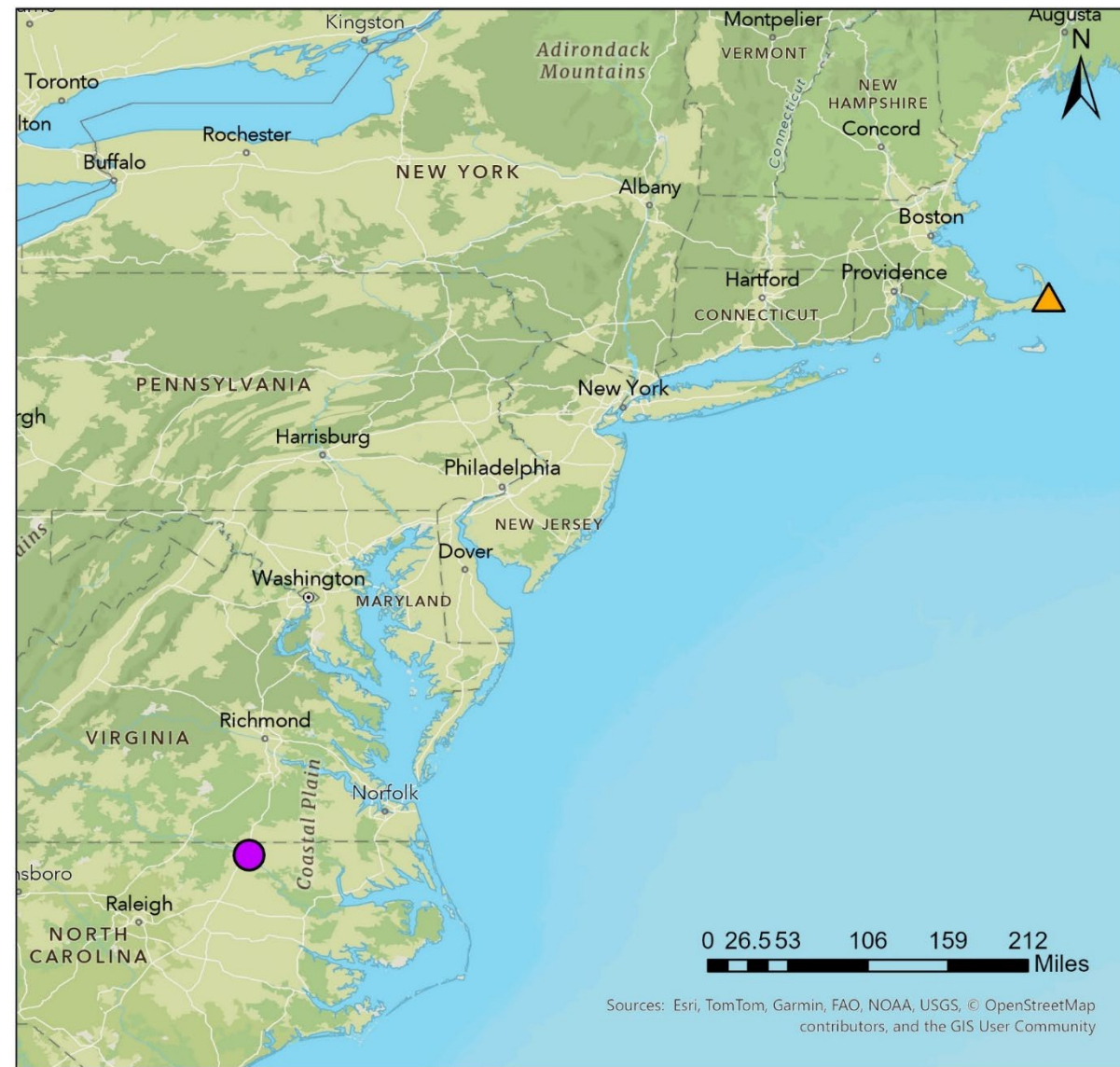
- Tagged on 5/03/2021
- Recaptured on 8/30/2021

579 miles traveled

- Tagged at Roanoke Rapids, NC
- Recaptured in Nauset Beach, MA

Grew 0" (39" to 39")*

*Recapture length was estimated, was not measured.



Tag distribution:

- ▲ 50522A Recapture Location
- 50552A Release Location



What we've learned about Striped Bass...



Four defined spawning stocks

- Roanoke, Tar-Pamlico, Neuse, Cape Fear rivers

General movements

- Migrate north and south seasonally, move into rivers to spawn in the spring
- Remain in coastal sounds and estuaries longer than Chesapeake Bay striped bass before migrating to the Atlantic Ocean
- Albemarle/Roanoke stock: 9% of 8-year-old fish and 33% of 9-year-old fish migrate to the Atlantic Ocean
- Southern stocks do not participate in long coastal migrations like northern stocks of striped bass



Red Drum Tags



Floy FM-95W, ~3.5 inches long

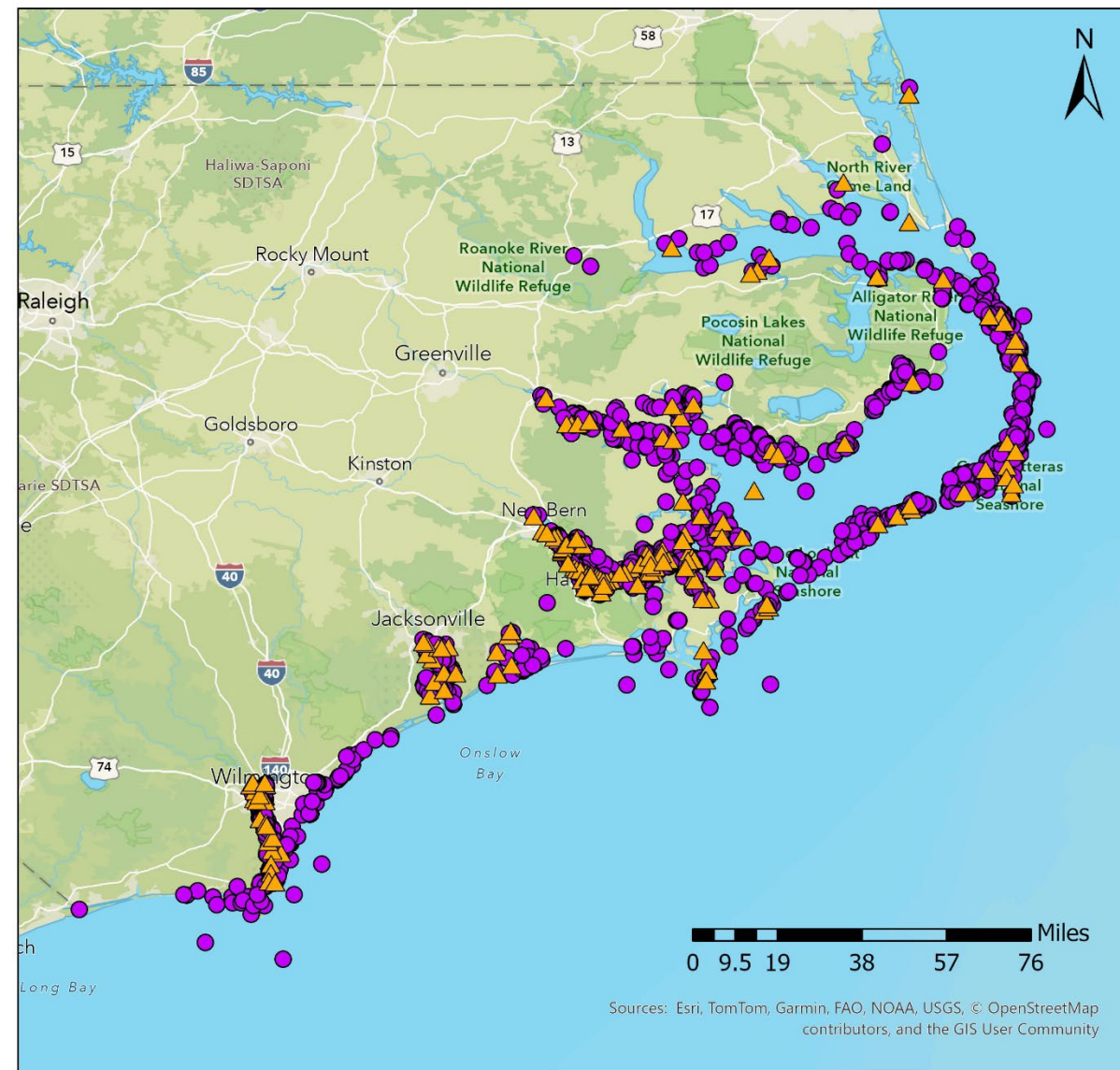


Floy FH-69, ~5 inches long



Red Drum Releases

13,599
total tagged fish



Original tag release distribution:

- ▲ Red Drum Releases (2023)
- Red Drum Releases (2014-2022)



Red Drum Returns

1,592

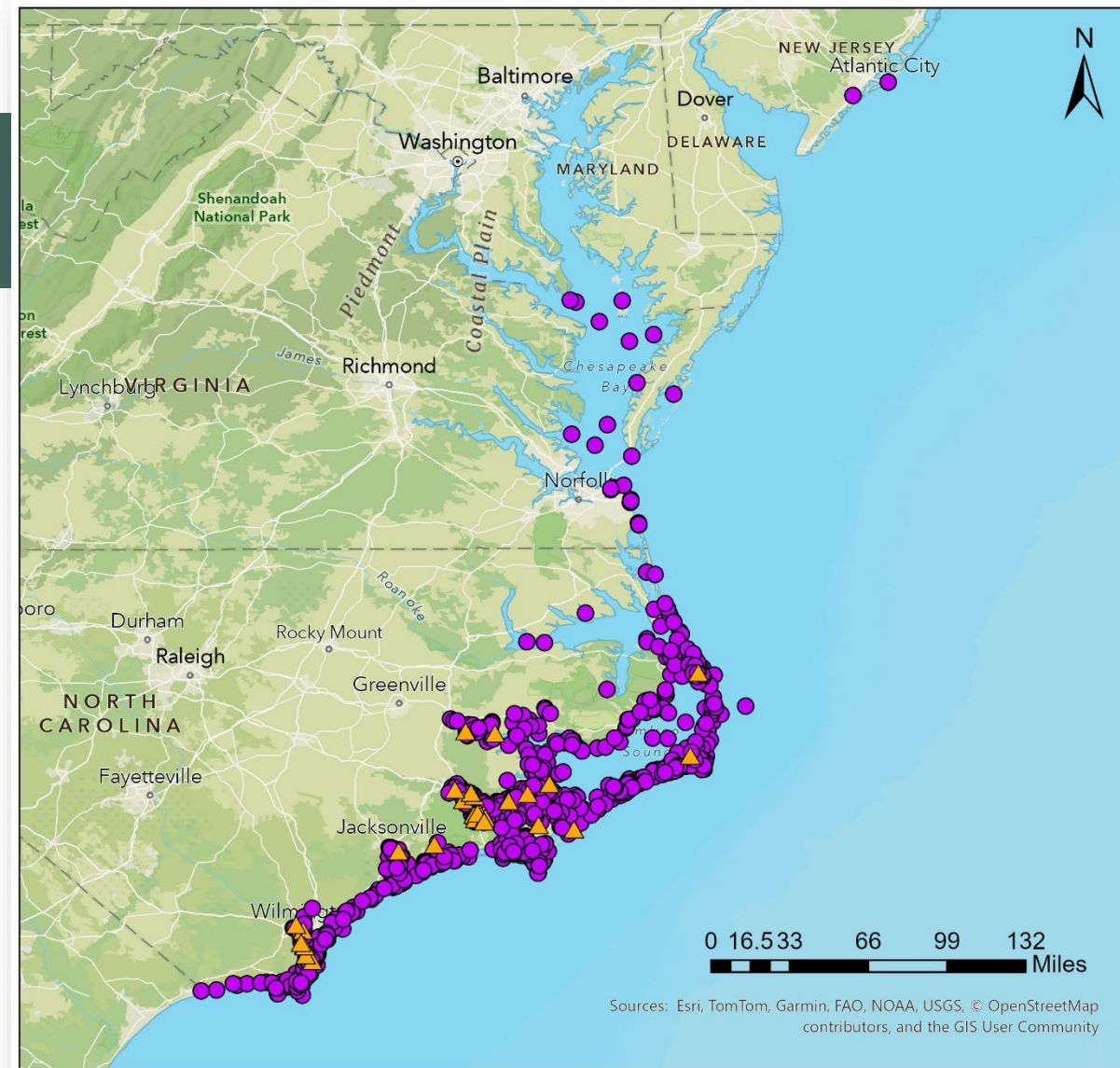
total recaptured fish

Average Days-At-Large 241 days

- Max 2,258 days (~6.2 years)

Average Distance Traveled 17 miles

- Max 437 miles



Tag recapture distribution:

- ▲ Red Drum Recaptures (2023)
- Red Drum Recaptures (2014-2022)



Most Days-At-Large

D75668

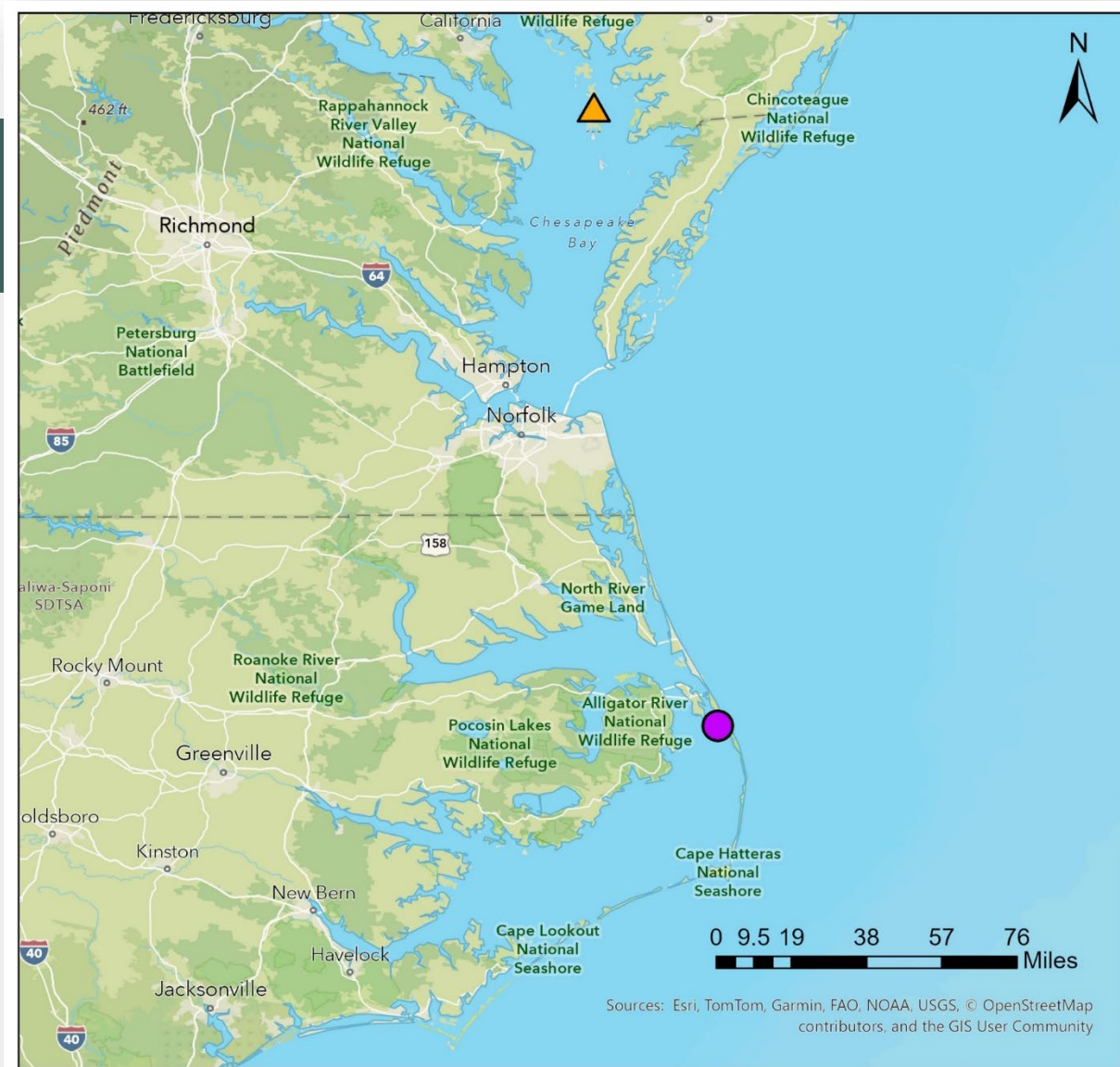
2,258 days at large (~6.2 years)

- Tagged on 6/30/2015
- Recaptured on 9/4/2021

147 miles traveled

- Tagged behind Oregon Inlet, NC
- Recaptured in Tangler Sound, MD

Grew 10.5" (31" to 41.5")



Tag distribution:

- D75668 Release Location
- ▲ D75668 Recapture Location



Furthest Distance Traveled

D76905

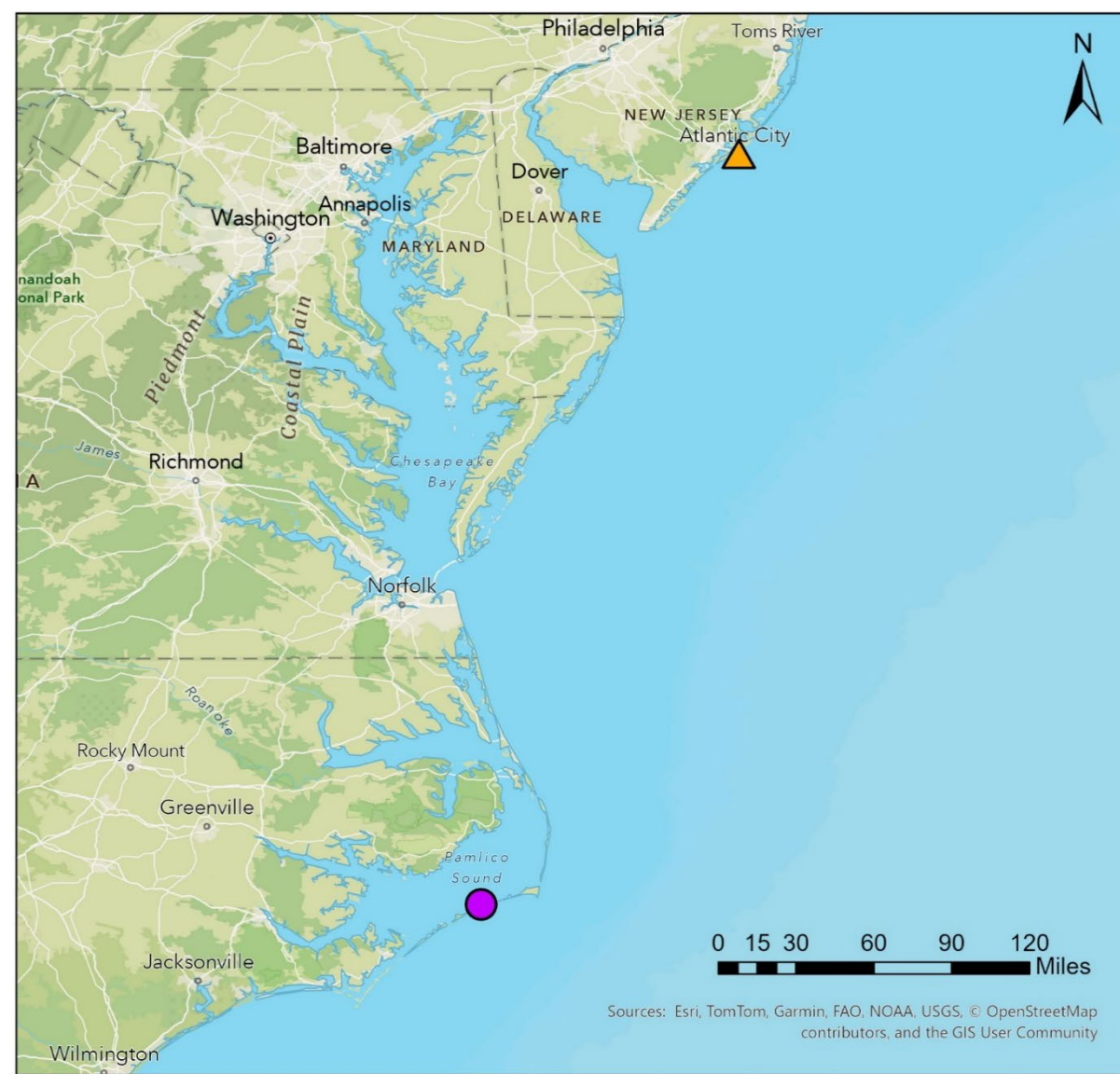
437 days at large (~1.2 years)

- Tagged on 6/30/2015
- Recaptured on 6/10/2017

276 miles traveled

- Tagged at Pony Pen, NC
- Recaptured in Atlantic City, NJ

Grew 16" (16" to 32")



Tag recapture distribution:

- ▲ D76905 Recapture Location
- D76905 Release Location



What we've learned about Red Drum...



High site fidelity

- Young fish tend to stay in same system for first two years of life
- Adult fish return to same areas by season

General movements

- Adult inshore movement (spring/summer); outward (fall/winter)
- Some portion of stock migrates between NC/VA
- Spawn in estuary and inlets

Managed as one stock NC and north

- Based on tagging and genetics



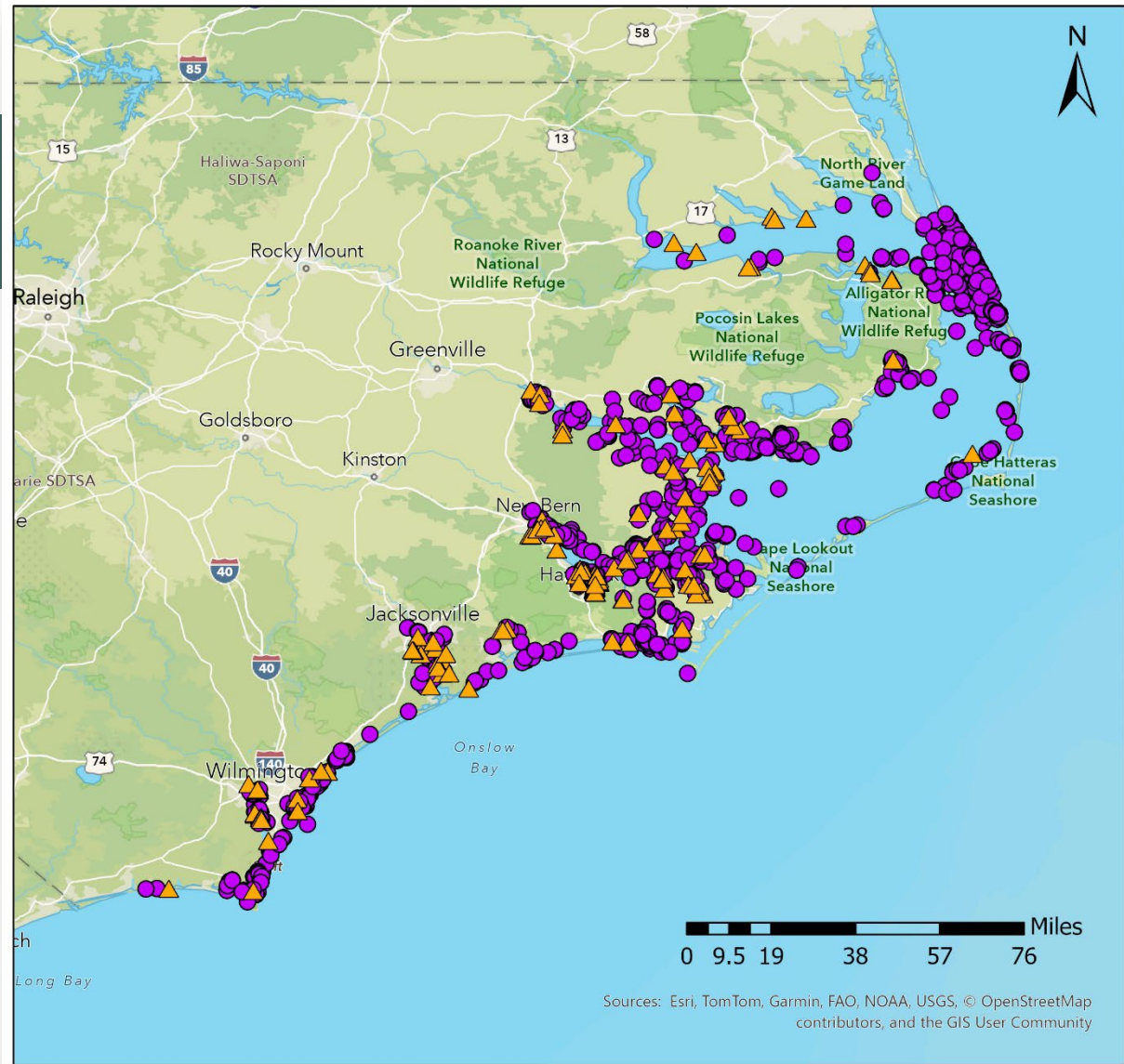
Spotted Seatrout Tags



Floy FM-95W, ~3.5 inches long

Spotted Seatrout Releases

13,161
total tagged fish



Original tag release distribution:

- ▲ Spotted Seatrout Releases (2023)
- Spotted Seatrout Releases (2014-2022)



Spotted Seatrout Returns

852

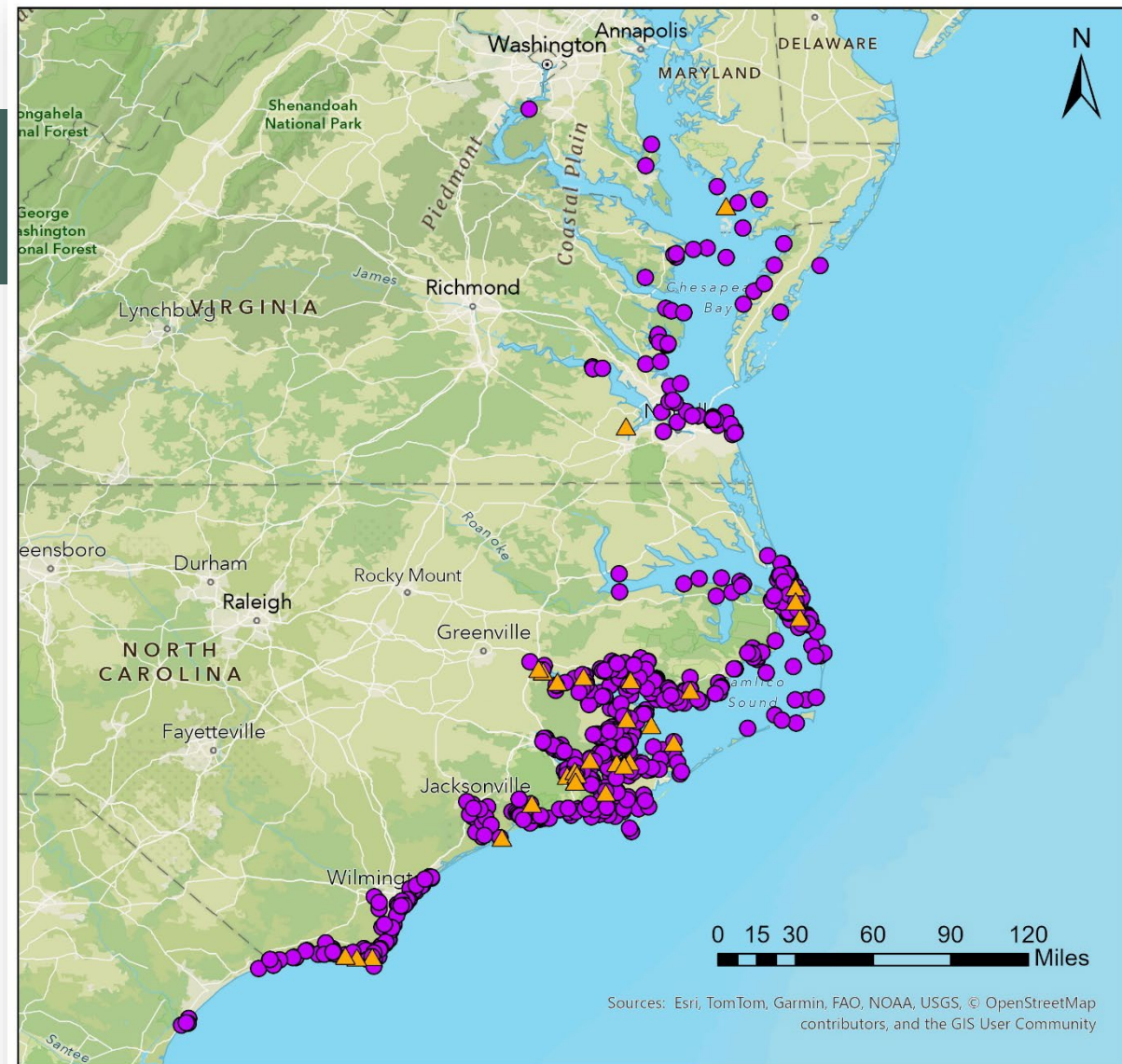
total recaptured fish

Average Days-At-Large 147 days

- Max 1,099 days (~3 years)

Average Distance Traveled 35 miles

- Max 298 miles



Tag recapture distribution:

- ▲ Spotted Seatrout Recaptures (2023)
- Spotted Seatrout Recaptures (2014-2022)



Most Days-At-Large

G05144

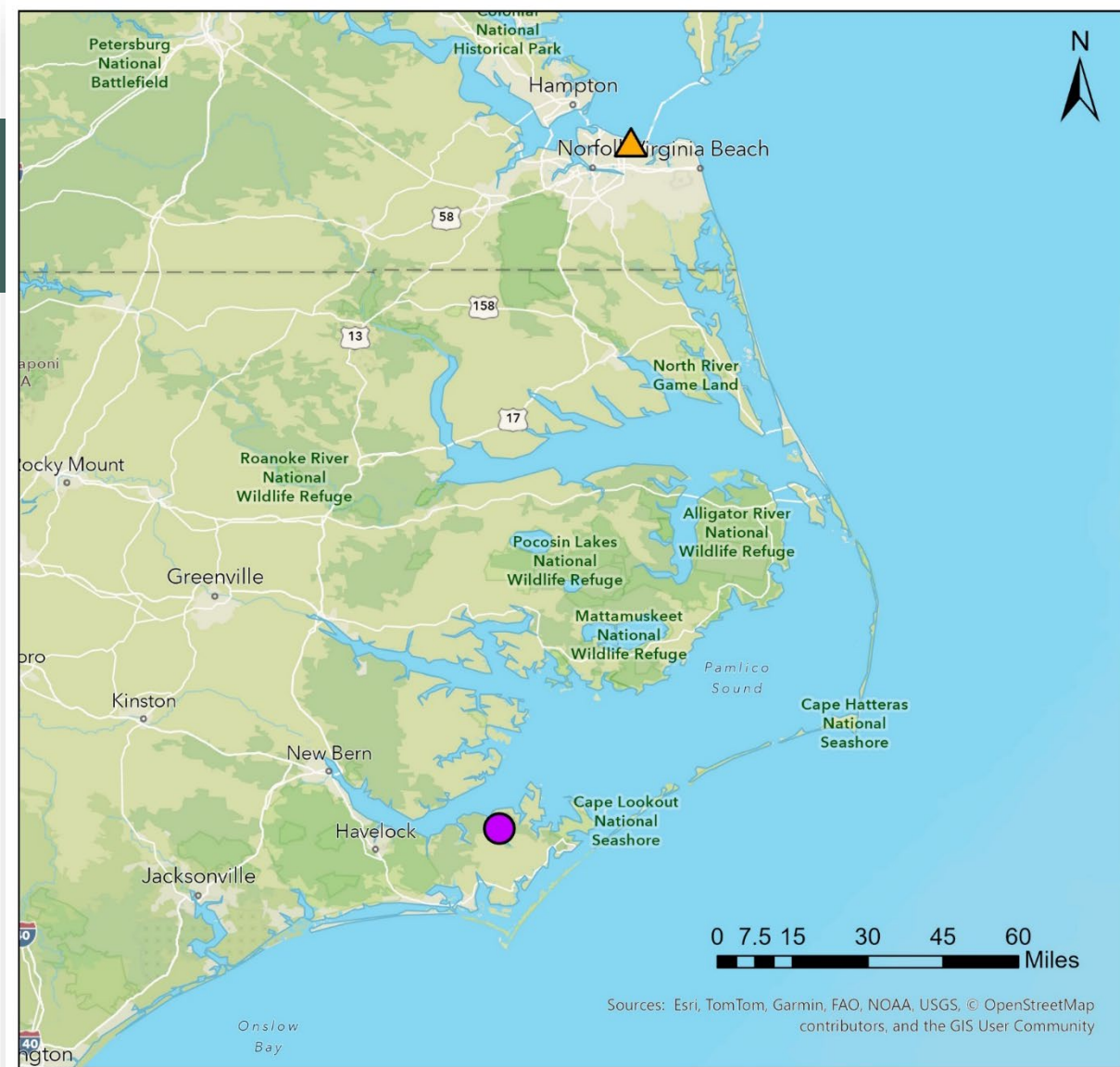
1,099 days at large (~3 years)

- Tagged on 11/2/2017
- Recaptured on 11/5/2020

148 miles traveled

- Tagged in South River, NC
- Recaptured in Little Creek, VA

Grew 6" (17" to 23")



Tag distribution:

- G05144 Release Location
- ▲ G05144 Recapture Location



Furthest Distance Traveled

G16523

164 days at large

- Tagged on 3/11/2020
- Recaptured on 8/22/2020

298 miles traveled

- Tagged in Slocum Creek, NC
- Recaptured in Mattoowoman Creek, MD

Grew 0.8" (19.2" to 20")



Tag distribution:

- G16523 Release Location
- ▲ G16523 Recapture Location



What we've learned about Spotted Seatrout...



High site fidelity

- Most fish tagged in an area are recaptured in the same system

Movement is seasonal

- Movement to the north in spring; south in the fall
- Disperse throughout the sounds in the summer
- Congregate in creeks and coastal areas in the winter

Currently managed as one stock in NC and VA

High/variable mortality

- Susceptible to cold stun events



Southern Flounder Tags

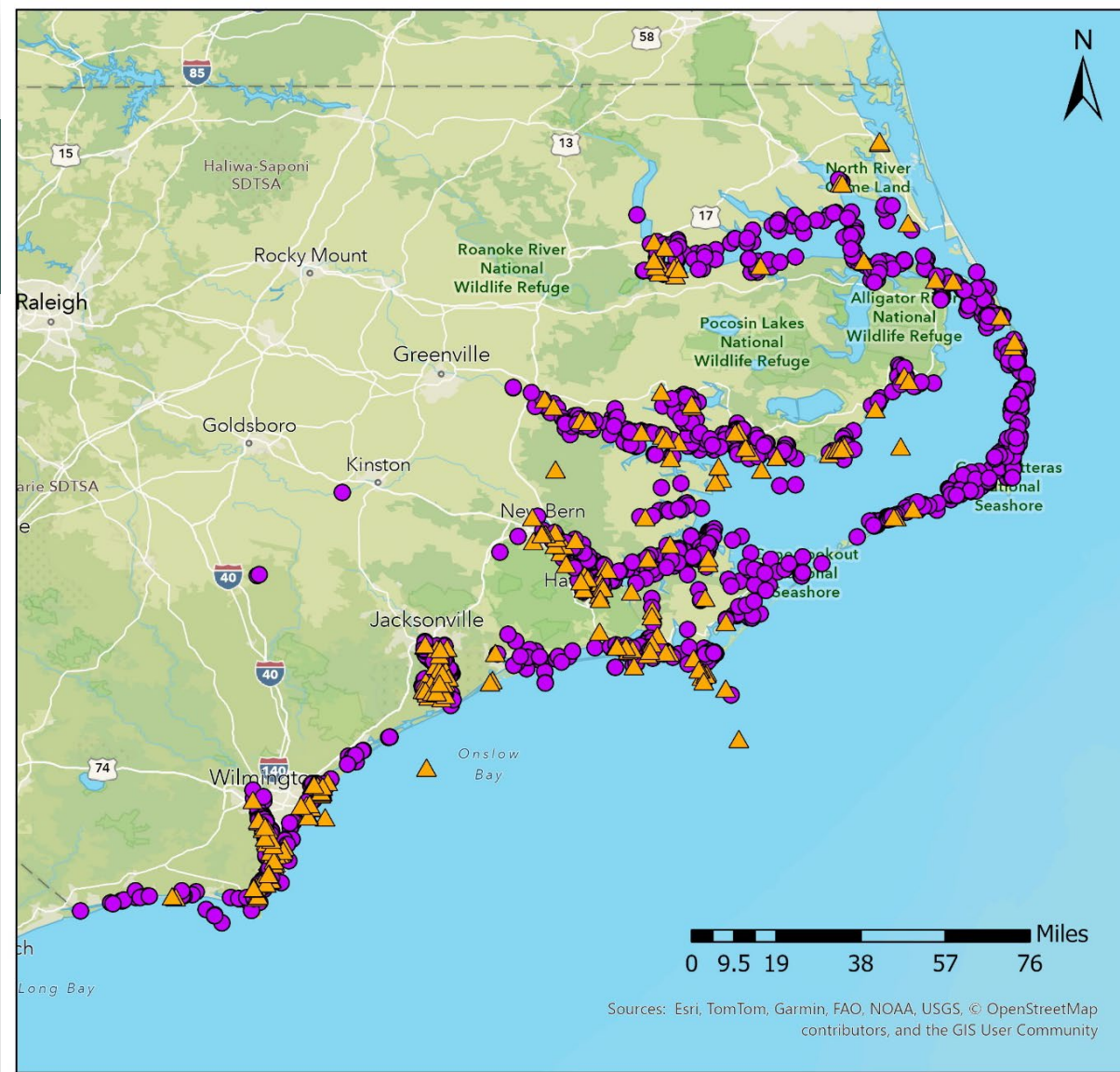


Floy FT-4, ~12 inches long



Southern Flounder Releases

8,597
total tagged fish



Original tag release distribution:

- ▲ Southern Flounder Releases (2023)
- Southern Flounder Releases (2014-2022)



Southern Flounder Returns

601

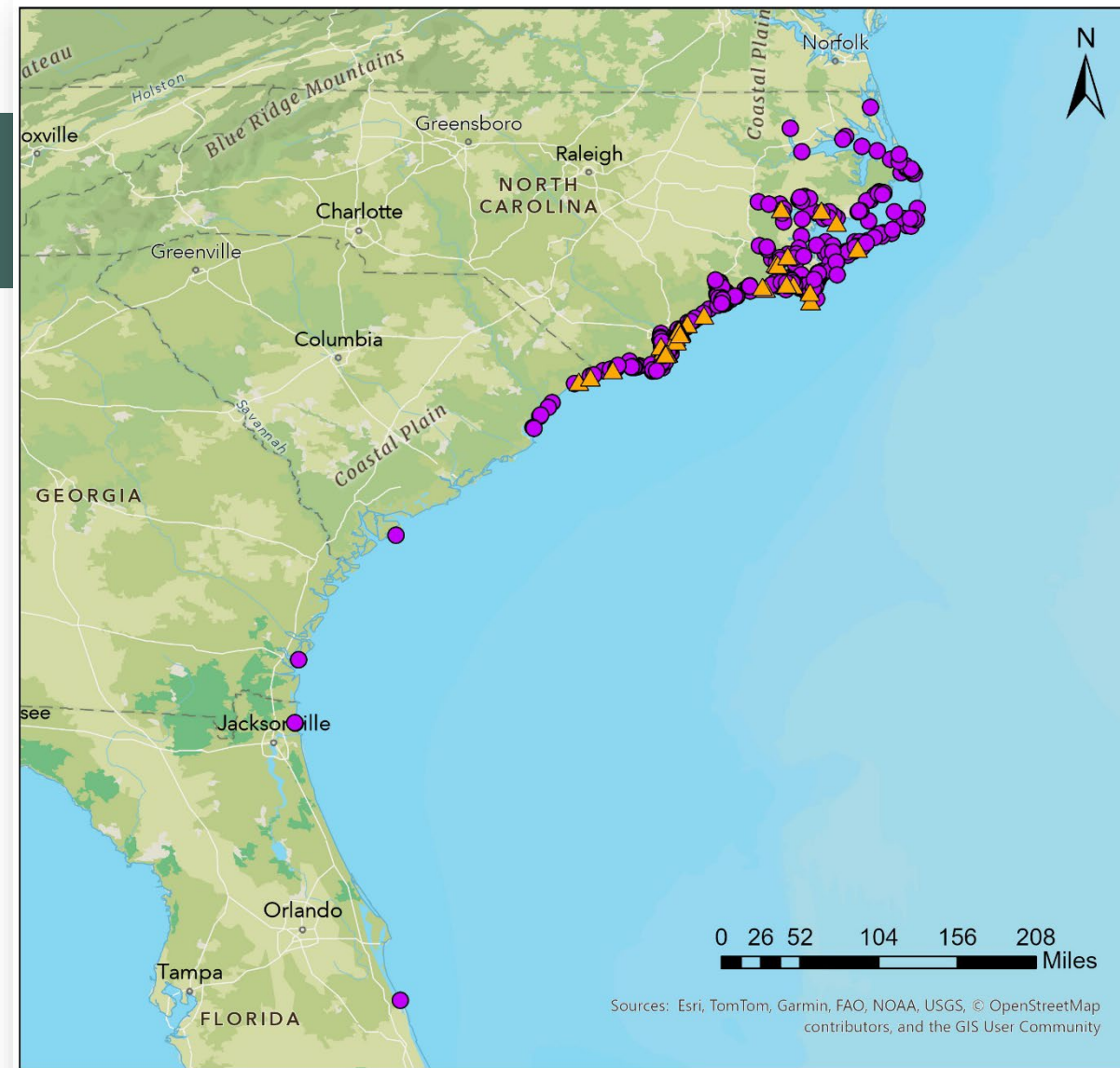
total recaptured fish

Average Days-At-Large 147

- Max 1,753 days (~4.8 years)

Average Distance Traveled 17 miles

- Max 518 miles



Tag recapture distribution:

- ▲ Southern Flounder Recaptures (2023)
- Southern Flounder Recaptures (2014-2022)



Most Days-At-Large

N01663

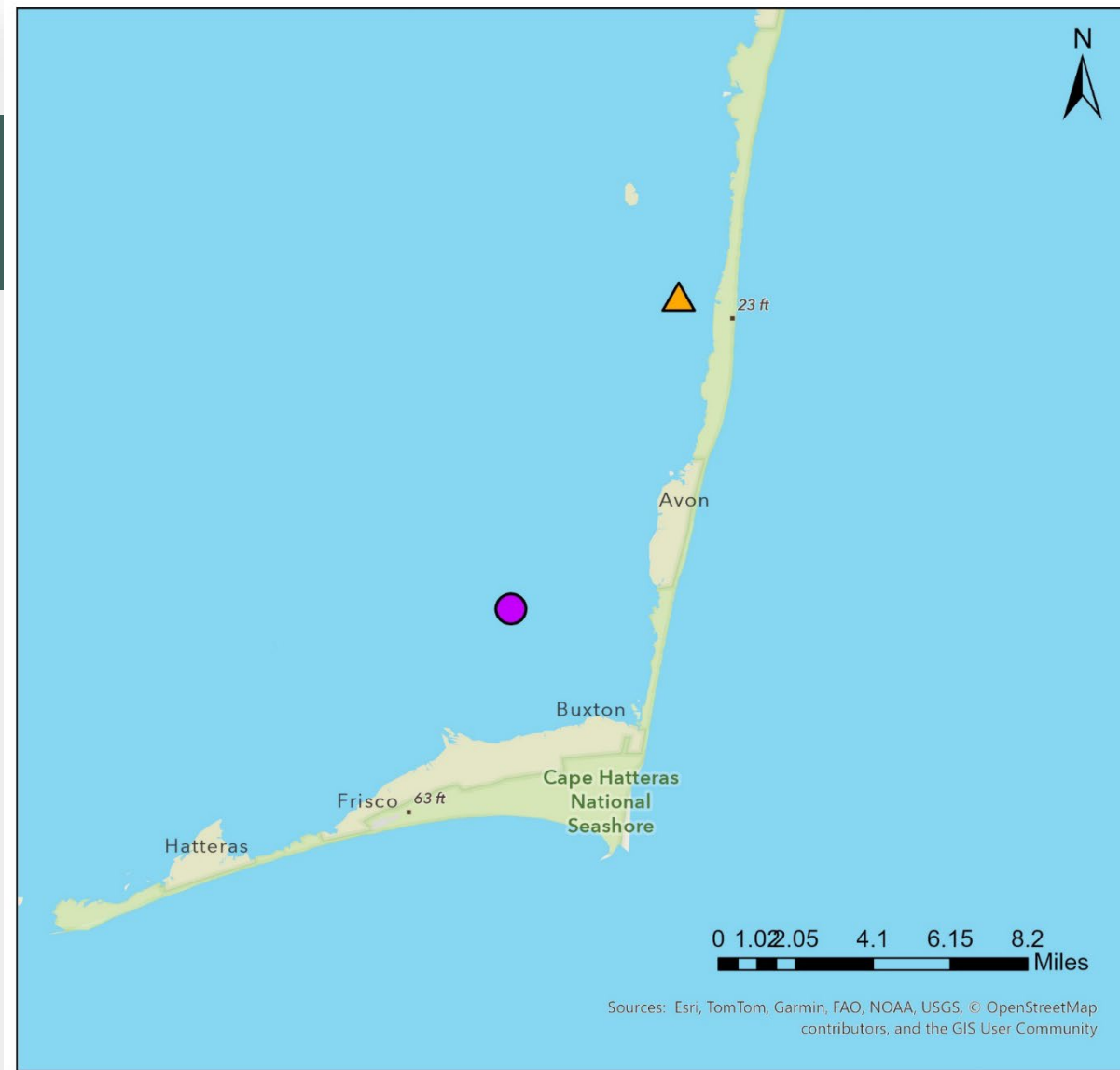
1,753 days (~4.8 years)

- Tagged on 9/2/2015
- Recaptured on 6/20/2020

8 miles traveled

- Tagged in Cape Channel behind Hatteras, NC
- Recaptured between Little Kinnakeet and Gull Shoal, NC

Grew 14.6" (13.4" to 28.0")



Tag distribution:

- N01663 Release Location
- ▲ N01663 Recapture Location



Furthest Distance Traveled

N00017

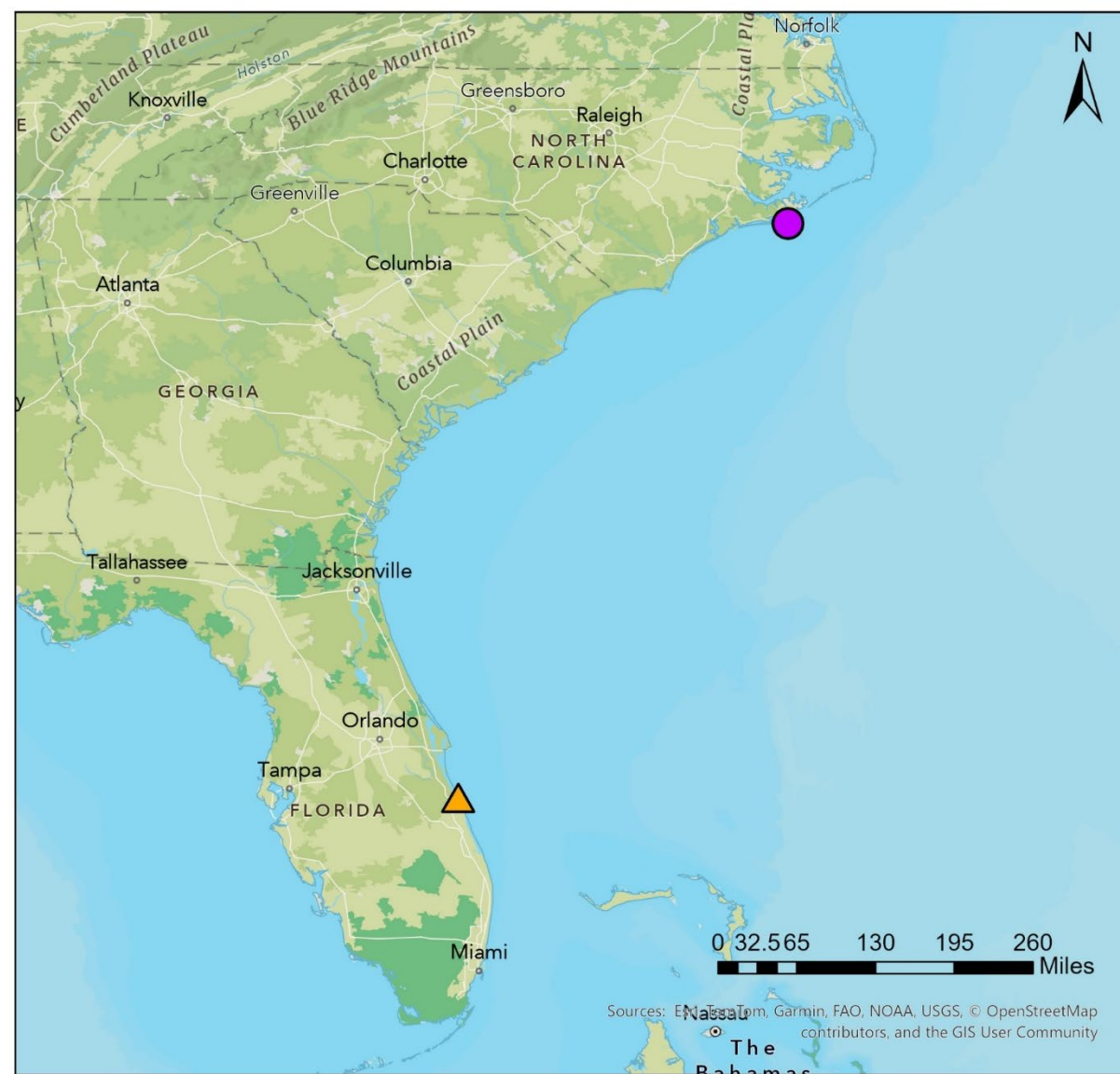
184 days at large

- Tagged on 10/13/2014
- Recaptured on 4/15/2015

518 miles traveled

- Tagged Hog Pen Bay, NC
- Recaptured in Hobe Sound, FL

Grew 0.4" (21.1" to 21.5")



Tag distribution:

- N00017 Release Location
- ▲ N00017 Recapture Location



What we've learned about Southern Flounder...



High spring and summer site fidelity

- Early season tagged fish are recaptured in same system prior to fall migration
- Larger tagged fish in the fall are highly migratory

General Movements

- Larger, mature fish migrate to ocean beginning late summer and early fall
- A portion of stock migrates south to SC, GA, FL
- Fish return to NC estuaries after migration into ocean
- Limited tagging data from SC and GA suggest a low probability that adult fish move north into NC waters

Current stock assessment

- Combines FL, GA, SC, and NC into one unit stock in the U.S. South Atlantic



Cobia Tags

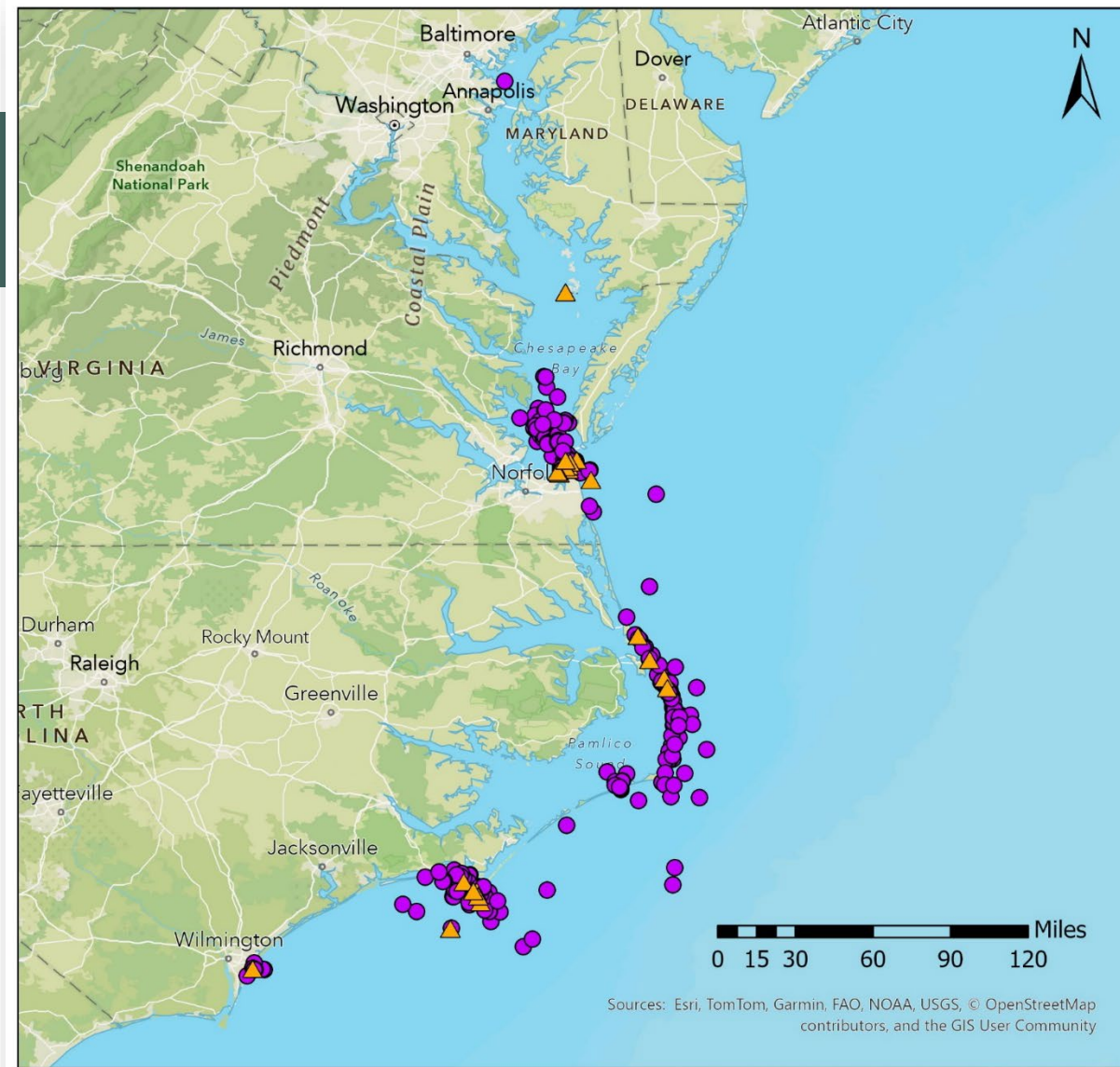


Floy FIM-96, ~6 inches long



Cobia Releases

590
total tagged fish



Original tag release distribution

- ▲ Cobia Release (2023)
- Cobia Releases (2017-2022)



Cobia Returns

102

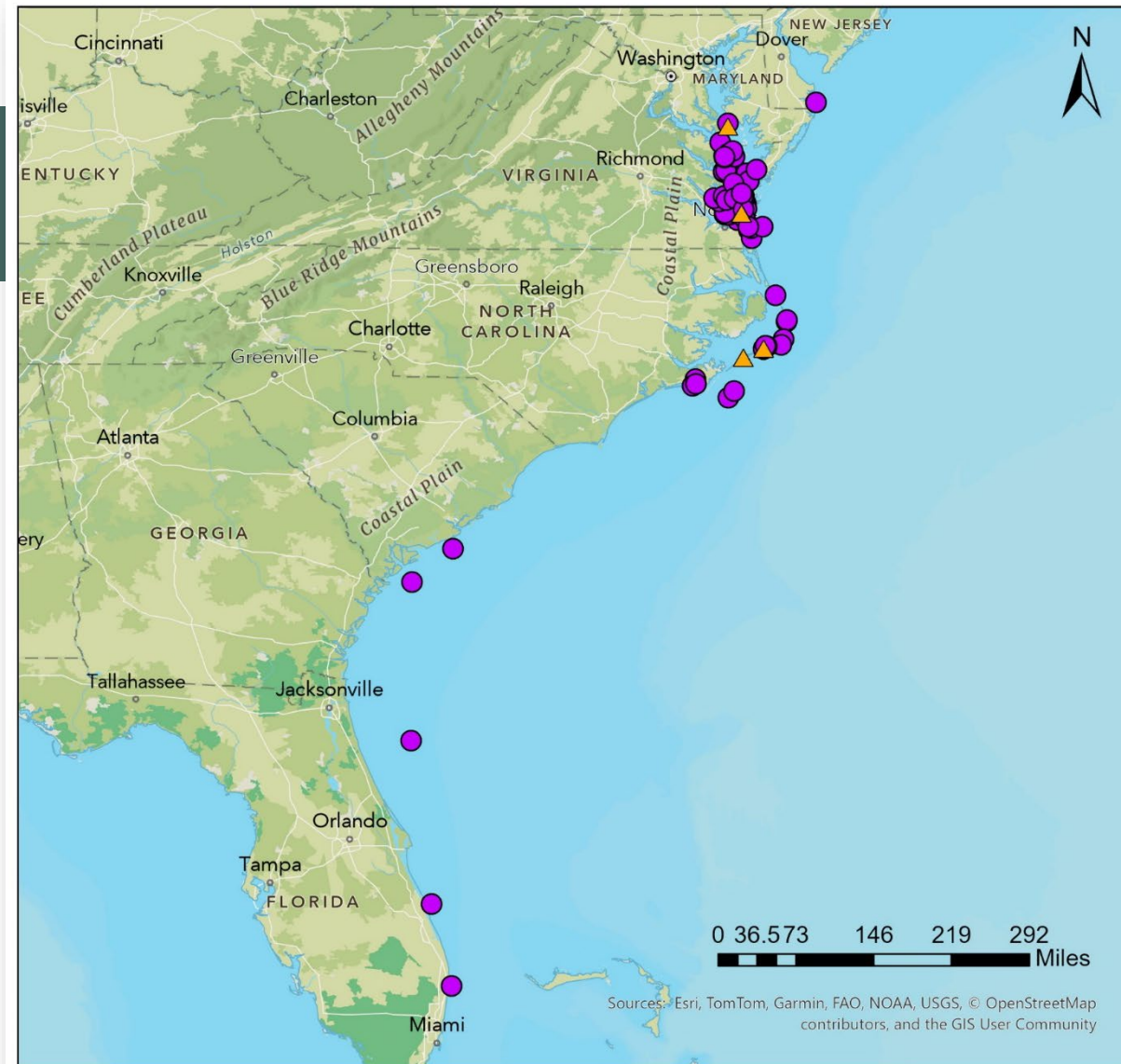
total recaptured fish

Average Days-At-Large 412 days

- Max 1,198 days (~3.3 years)

Average Distance Traveled 120 miles

- Max 696 miles



Tag recapture distribution:

- ▲ Cobia Recaptures (2023)
- Cobia Recaptures (2017-2022)



Most Days-At-Large

0104C

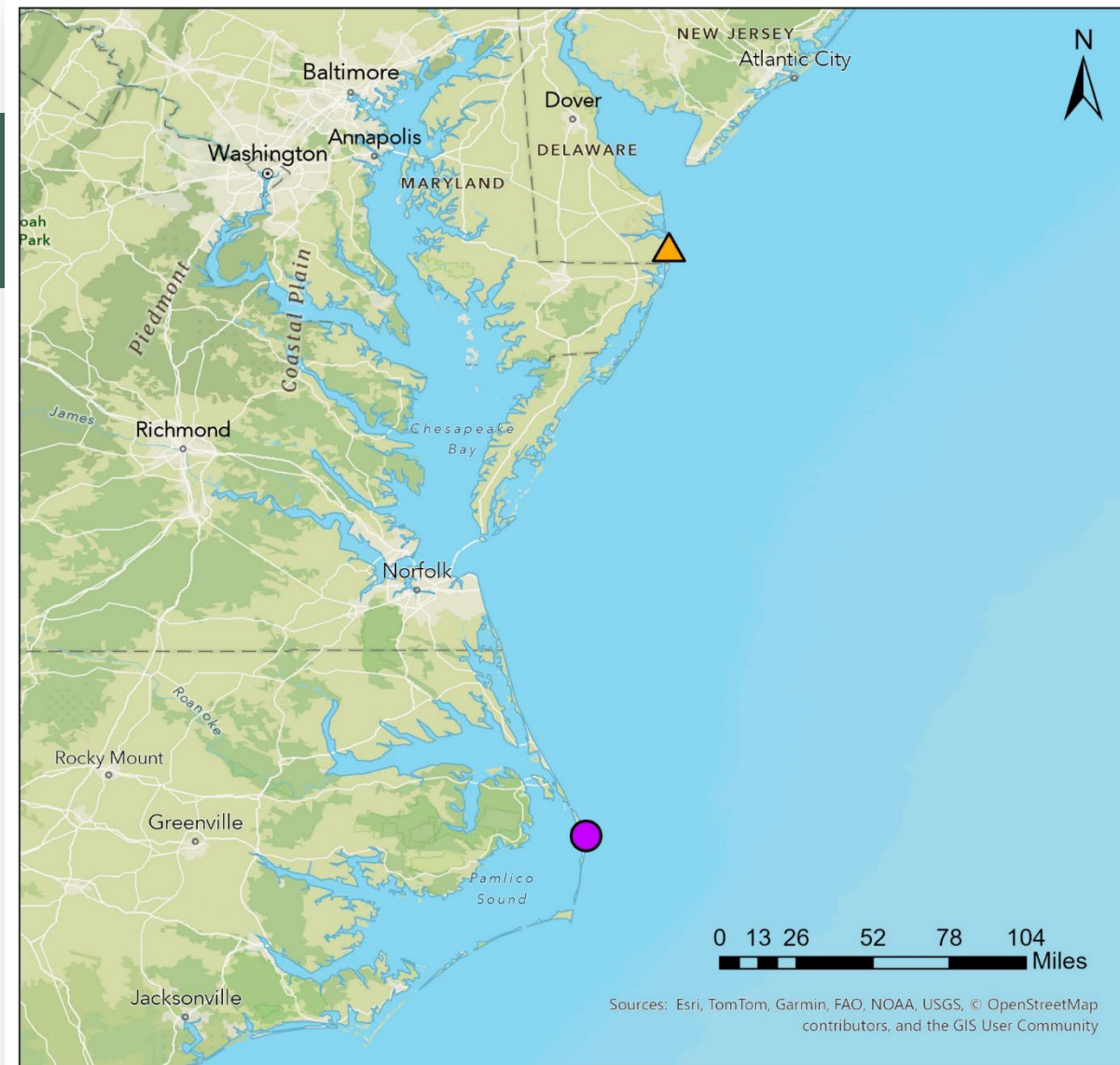
1,198 days at large (3.3 years)

- Tagged on 5/13/2017
- Recaptured on 8/23/2020

179 miles traveled

- Tagged offshore of Pea Island Beach above Rodanthe, NC
- Recaptured offshore of Bethany Beach, DE

Grew 17" (30" to 47")



Tag distribution:

- 00104C Release Location
- ▲ 00104C Recapture Location



Furthest Distance Traveled

0741C

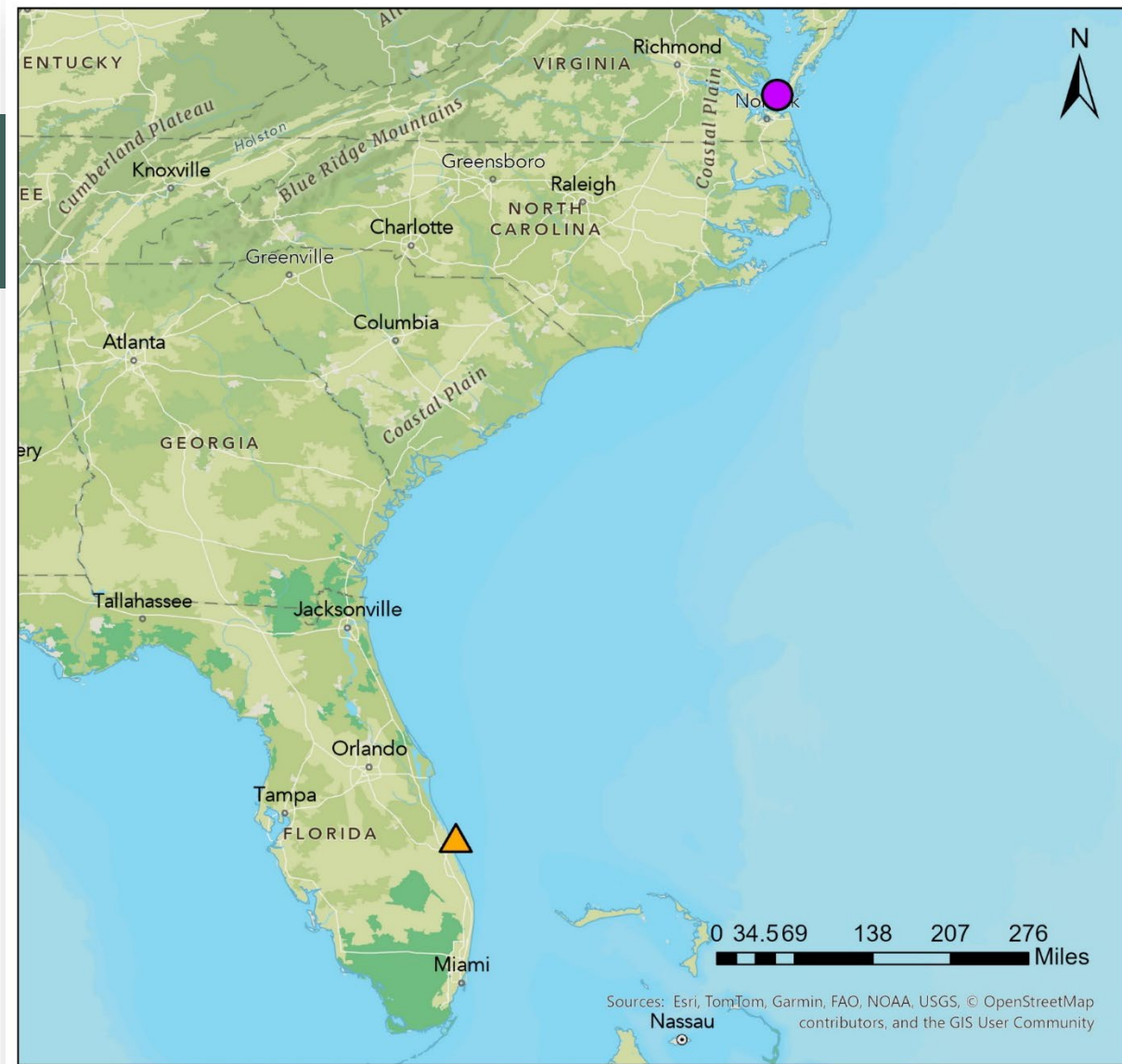
564 days at large (1.5 years)

- Tagged on 8/11/2019
- Recaptured on 2/25/2021

696 miles traveled

- Tagged at the mouth of Chesapeake Bay, VA
- Recaptured offshore Vero Beach, FL

49" when tagged

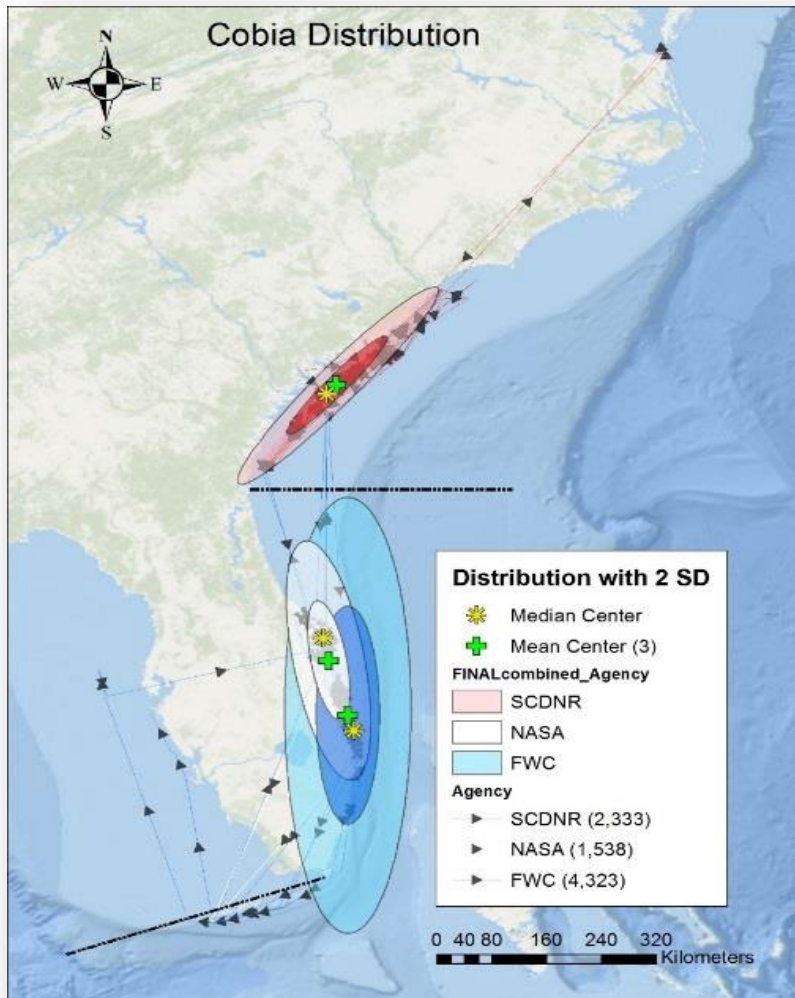


Tag distribution:

- 00741C Release Location
- ▲ 00741C Recapture Location



What we've learned about Cobia...



Seasonal Migration

- Movement north in spring, south in the fall
- Evidence of some overwintering offshore (east-west movement)

Multiple stocks within mixing zone

- Atlantic and Gulf migratory groups
- East Florida mixing zone
- Tagging informs genetic data



Where can I learn more about the Tagging Program?

Website/Social Media



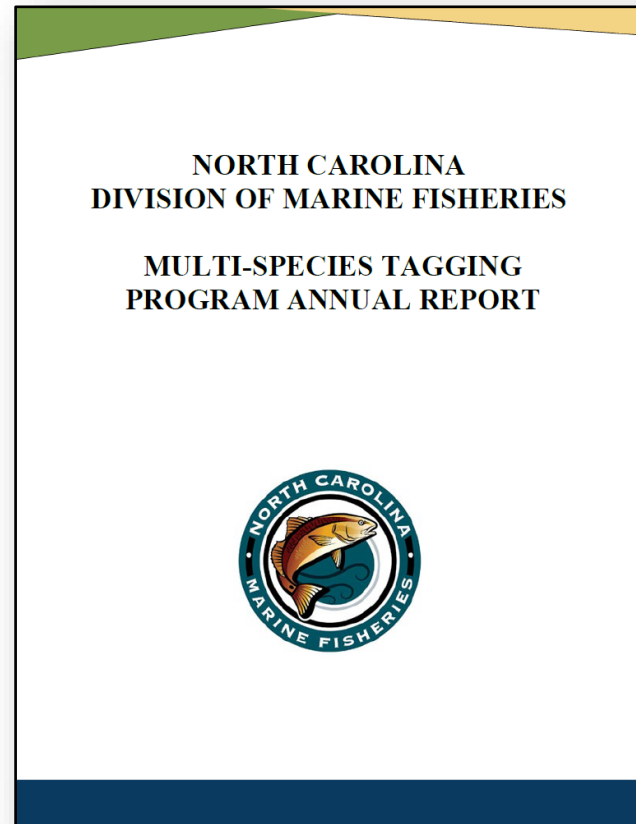
NC Division of Marine Fisheries
October 10, 2023 · 🌐

Caught a tagged fish? Wondering what to do? Just remember to catch, cut, report. If you catch a tagged fish, cut off the tag, and report it to 1-800-682-2632 or online at <https://deq.nc.gov/report-tagged-fish>. Some fish may have two tags, so check both sides of your fish. By reporting your tagged fish, you will receive a reward packet with letter, certificate, and map containing information about your fish, and a reward of your choice. Yellow tag rewards include a Tagging Program hat, towel, fish pin or \$5. Red tags are worth \$100! Report your tagged fish today!

NORTH CAROLINA TAGGING PROGRAM




Annual Report



**NORTH CAROLINA
DIVISION OF MARINE FISHERIES**

**MULTI-SPECIES TAGGING
PROGRAM ANNUAL REPORT**



Outreach Program



\$100 REWARD
ANGLERS, LOOK FOR TAGS IN YOUR CATCH

- RED DRUM
- SOUTHERN FLOUNDER
- STRIPED BASS
- SPOTTED SEATROUT
- COBIA

REWARDS FOR TAG & FISH RECAPTURE INFORMATION

Check both sides of your fish. Some fish may have two tags. Two tags mean two rewards!

To receive a reward you must report the tag number(s), fish species, date, location, gear, length, and fate of fish.

Yellow tag rewards include a hat, towel, fish pin or \$5.

Red tags are worth a \$100 reward and the tag must be cut off and mailed to:

North Carolina Division of Marine Fisheries
Attn: Tagging Program
P.O. Box 709
Morehead City, NC 28557

1-800-682-2632
TAGRECAP@DEQ.NC.GOV

REPORT YOUR TAGGED FISH



Contact Information

Ami Staples

Tagging Program Biologist II

ami.staples@deq.nc.gov

252-948-3913

Washington Regional Office
943 Washington Square Mall
Washington, NC 27889



Questions?



TAGGING PROGRAM

