



# *Striped Bass FMP Amendment 2*

## Background and Adaptive Management Steps

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

Marine Fisheries Commission

Daniel Zapf, FMP Coordinator  
Todd Mathes, CSMA Striped Bass Lead  
Charlton Godwin, Striped Bass Lead

May 21-23, 2025



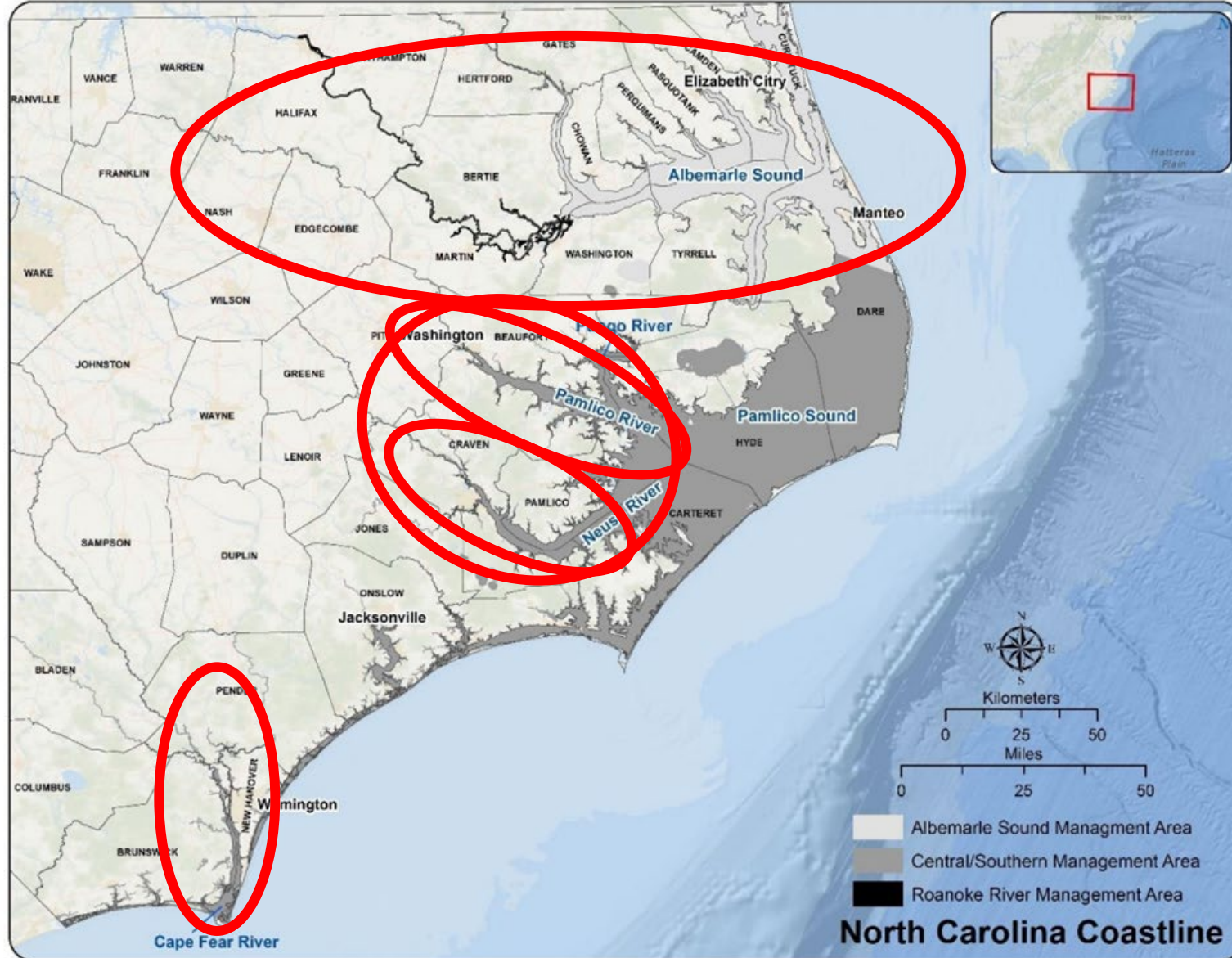
# *Presentation Outline*

- Management Areas and Stocks
- Life History
- Stocking
- Supplement A to Amendment 1
- Ferry Line Gill Net Closure
- Amendment 2
  - Goal
  - Stock Status
  - Management
  - Adaptive Management
- Timeline and Next Steps





# *Management Areas and Stocks*



- Albemarle Sound (ASMA)
- Roanoke River (RRMA)
  - Albemarle-Roanoke stock (A-R)
  - Under Atlantic States Marine Fisheries Commission (ASMFC)
- Central Southern Management Area (CSMA)
  - Tar-Pamlico, Neuse, Cape Fear stocks

# *Tar-Pamlico and Neuse Rivers Striped Bass Life History*

- Striped bass populations considered river resident
- Supported by stocking
- Likely no native or genetically distinct strains
  - Roanoke River strain stocked or used as broodstock since the mid 1970's



NCDMF staff electrofishing



# *Tar-Pamlico and Neuse Rivers Striped Bass Life History*

- Documented spawning migrations and egg production
- Limited recruitment



# *Tar-Pamlico and Neuse Rivers Striped Bass Life History*

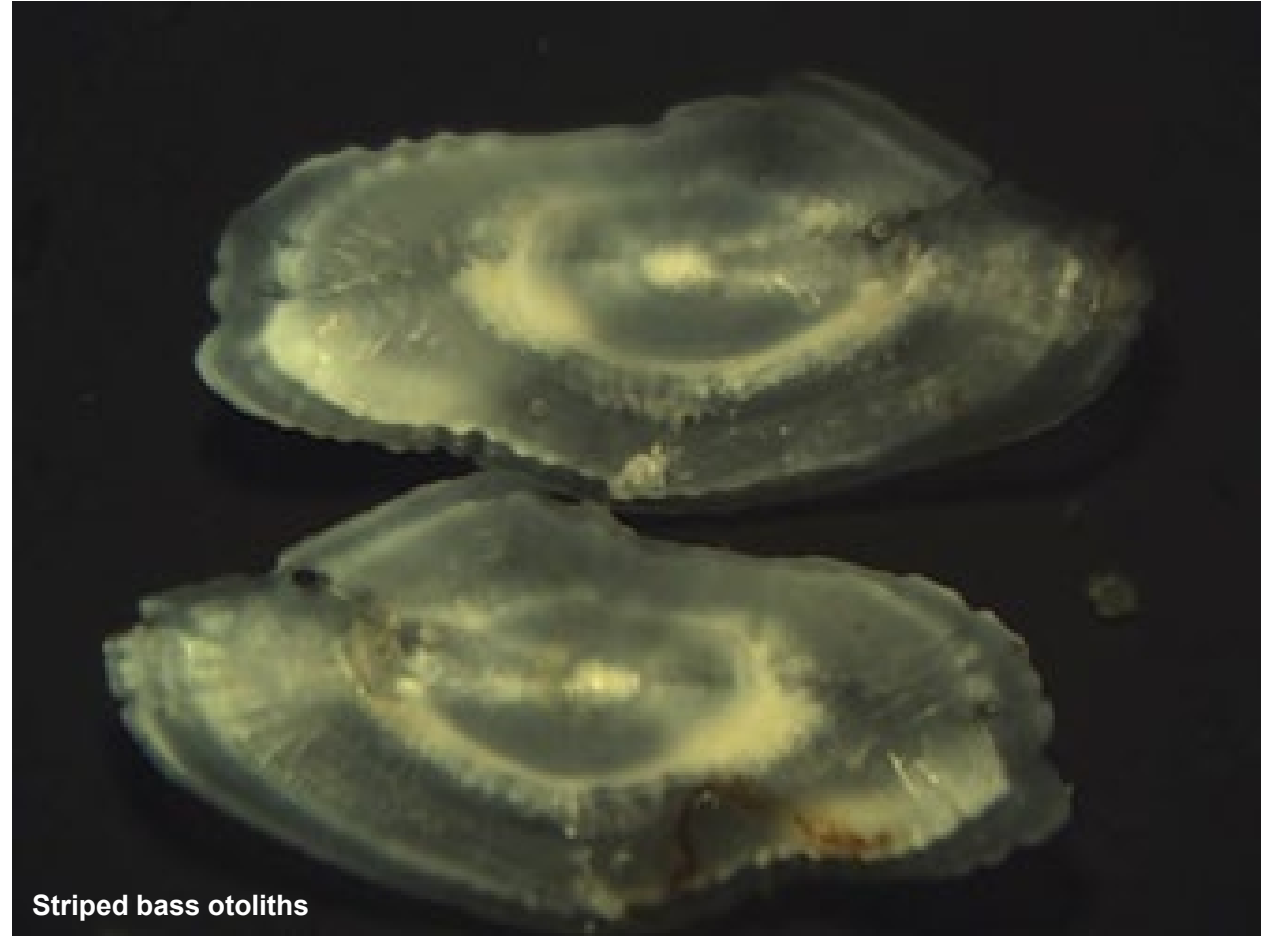
- Females nearly 100% mature at age-3
- Older fish produce more eggs
- Limited numbers of fish over age-6
- Older fish ( $\geq$ age-10) insufficient to provide natural recruitment?
- Sufficient flow needed for egg survival



# *Tar-Pamlico and Neuse Rivers Striped Bass Stocking*

## Hatchery Contribution

- Chemical marker on otolith 1998–2011
- Mark was not retained
- Underestimation of hatchery fish



Striped bass otoliths



# *Tar-Pamlico and Neuse Rivers Striped Bass Stocking*

## Hatchery Contribution

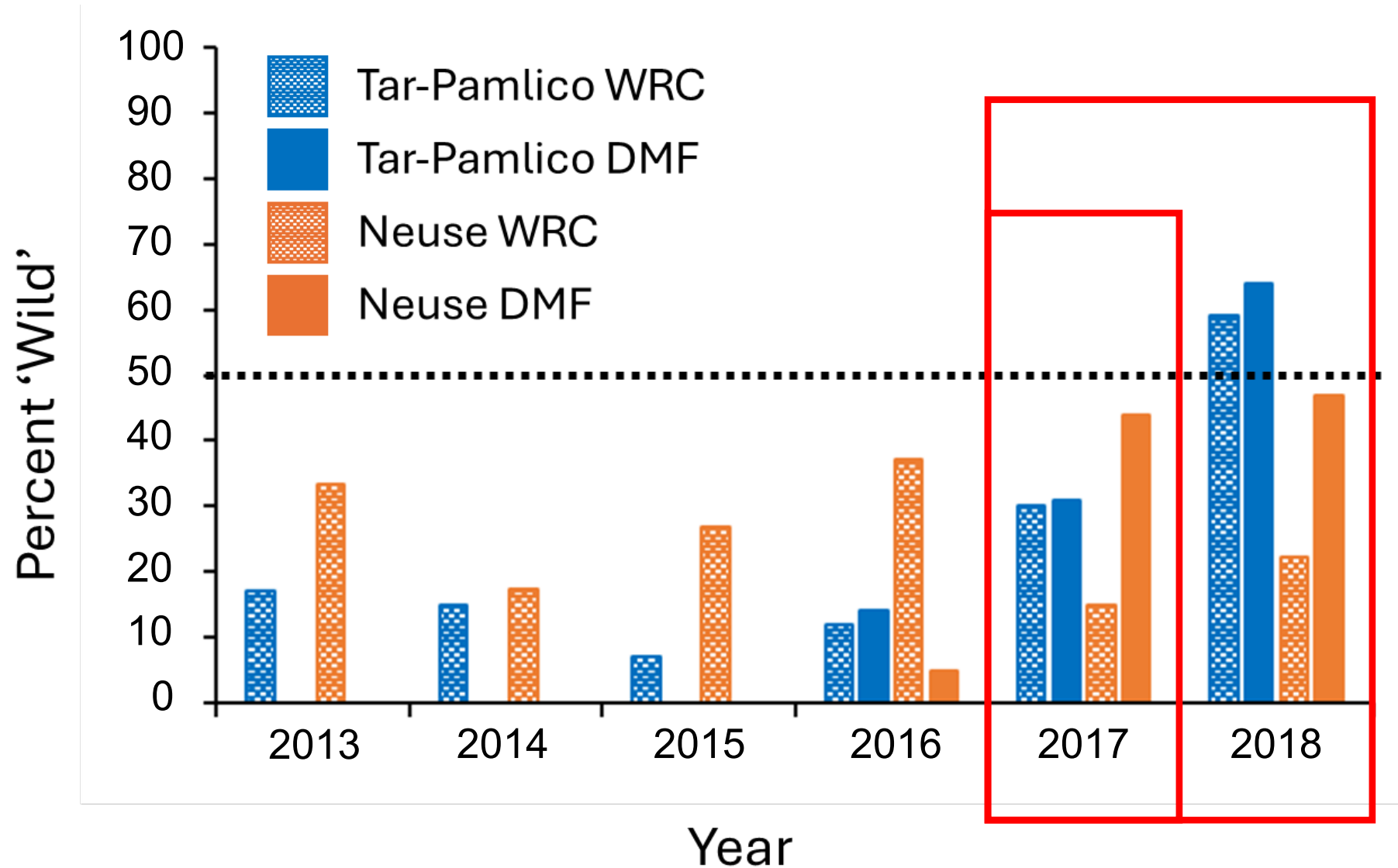
- Genetic identification 2010–present
- Parentage Based Tagging (PBT) analysis began 2010
- Indicates nearly 100% hatchery fish on spawning grounds
- Varies by year and area of river



Striped bass genetics



## *Tar-Pamlico and Neuse Rivers Striped Bass Stocking*



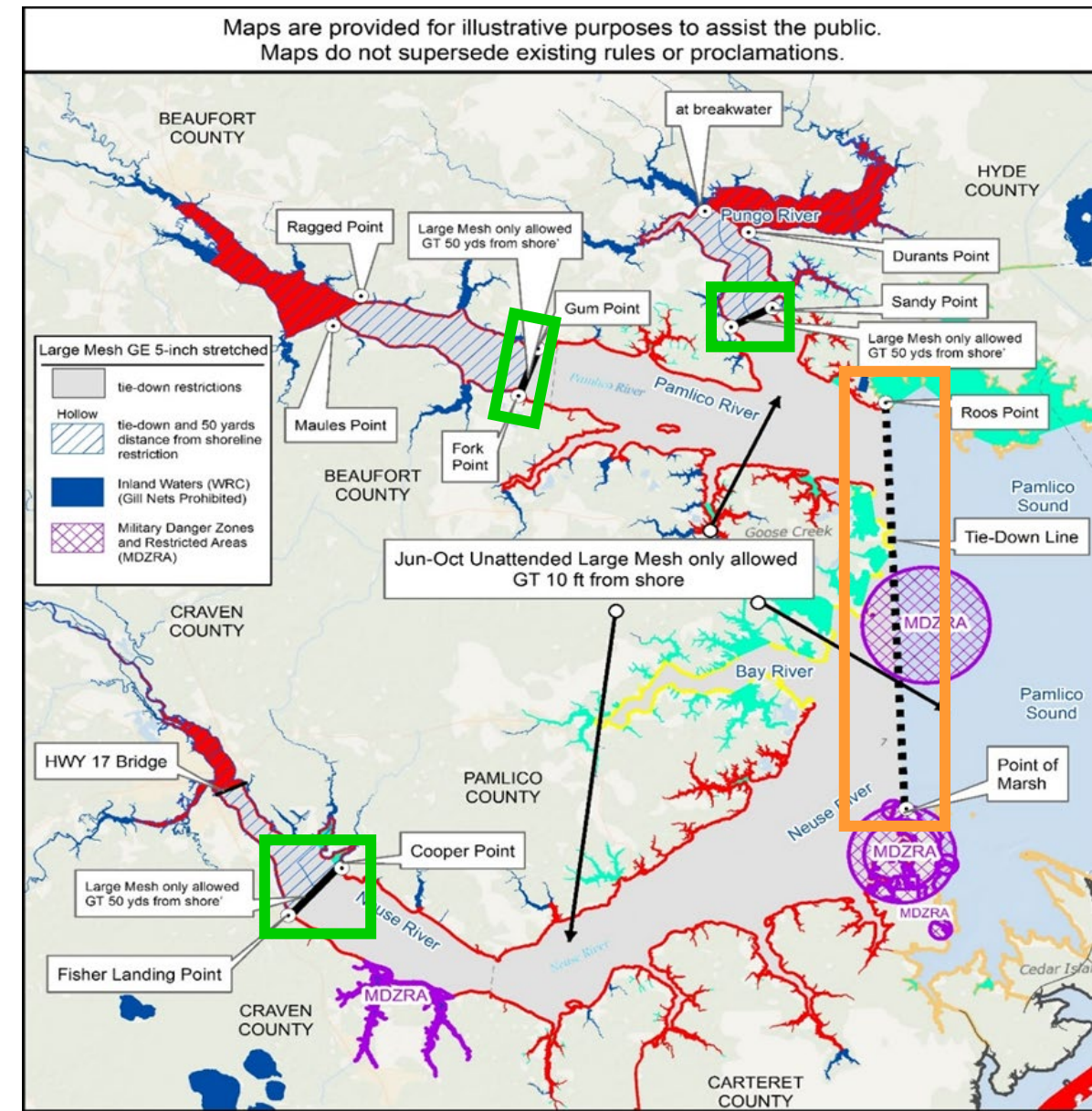
## *Supplement A to Amendment 1*

- November 2018 – DMF recommends temporary harvest moratorium
- February 2019 – MFC adopts Supplement A
- February 2019 – DMF does not issue proclamation to open commercial striped bass season
- March 2019 – proclamation implementing tie-down and distance from shore restrictions for large mesh anchored gill nets
- March 2019 – DMF and WRC issue consistent management resulting in year-round recreational season closure



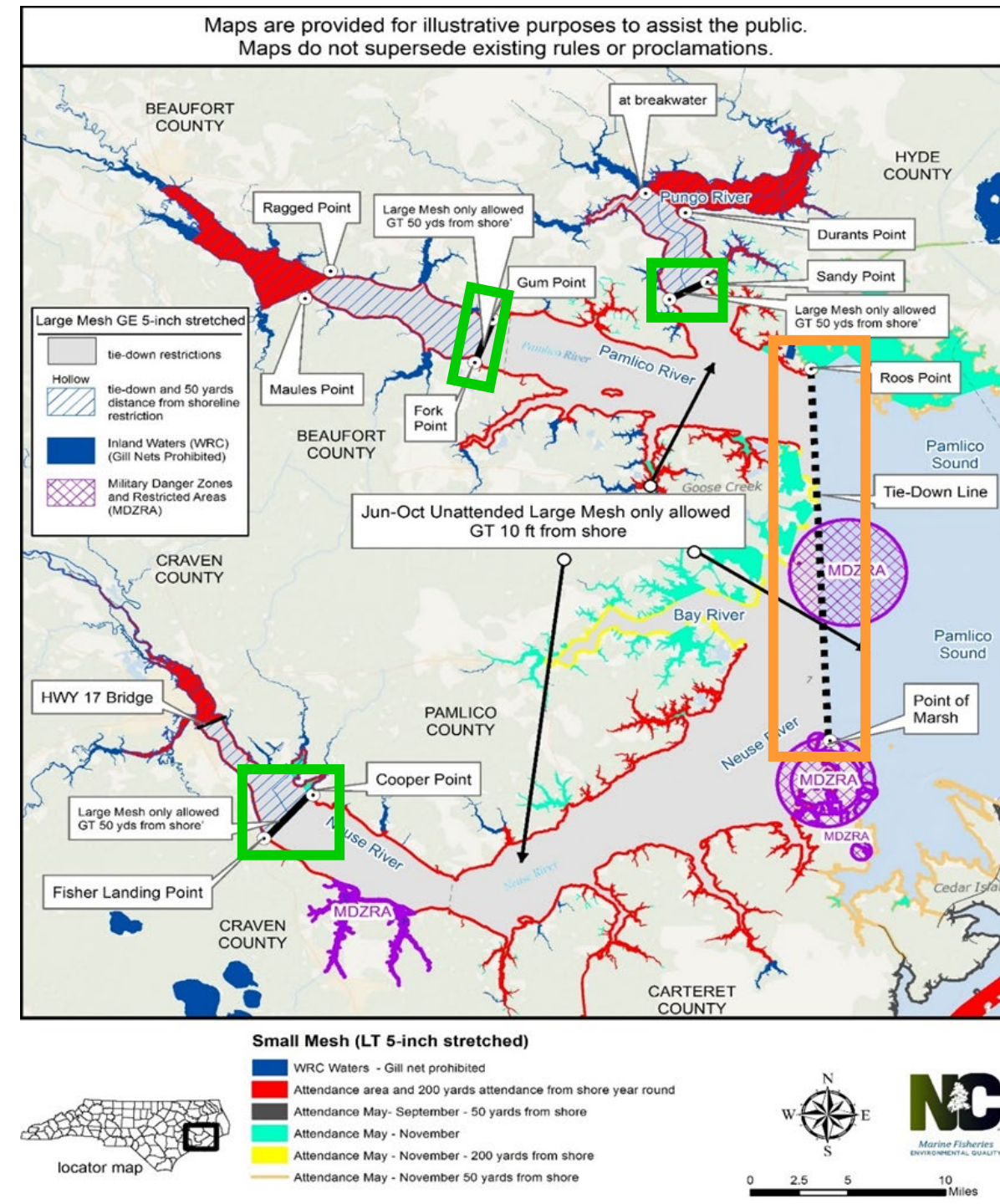
# Tar-Pamlico and Neuse River Gill Net Restrictions

- Striped Bass FMP – adopted 2004
  - Focused on reducing discard mortality in anchored gill net fishery
- After commercial season closed, large-mesh gill nets required:
  - Three-foot tie downs
  - Maintain minimum distance from shore of 50 yards above tie down lines



# Tar-Pamlico and Neuse River Gill Net Restrictions

- Gill net restrictions not arbitrary - based on data
- Distance from shore
  - Reduce discards up to 60%
- Tie-down study
  - Reduce discards 85-99% in depths less than 3 feet depending on season
- Reduced gill net discards by approximately 82%

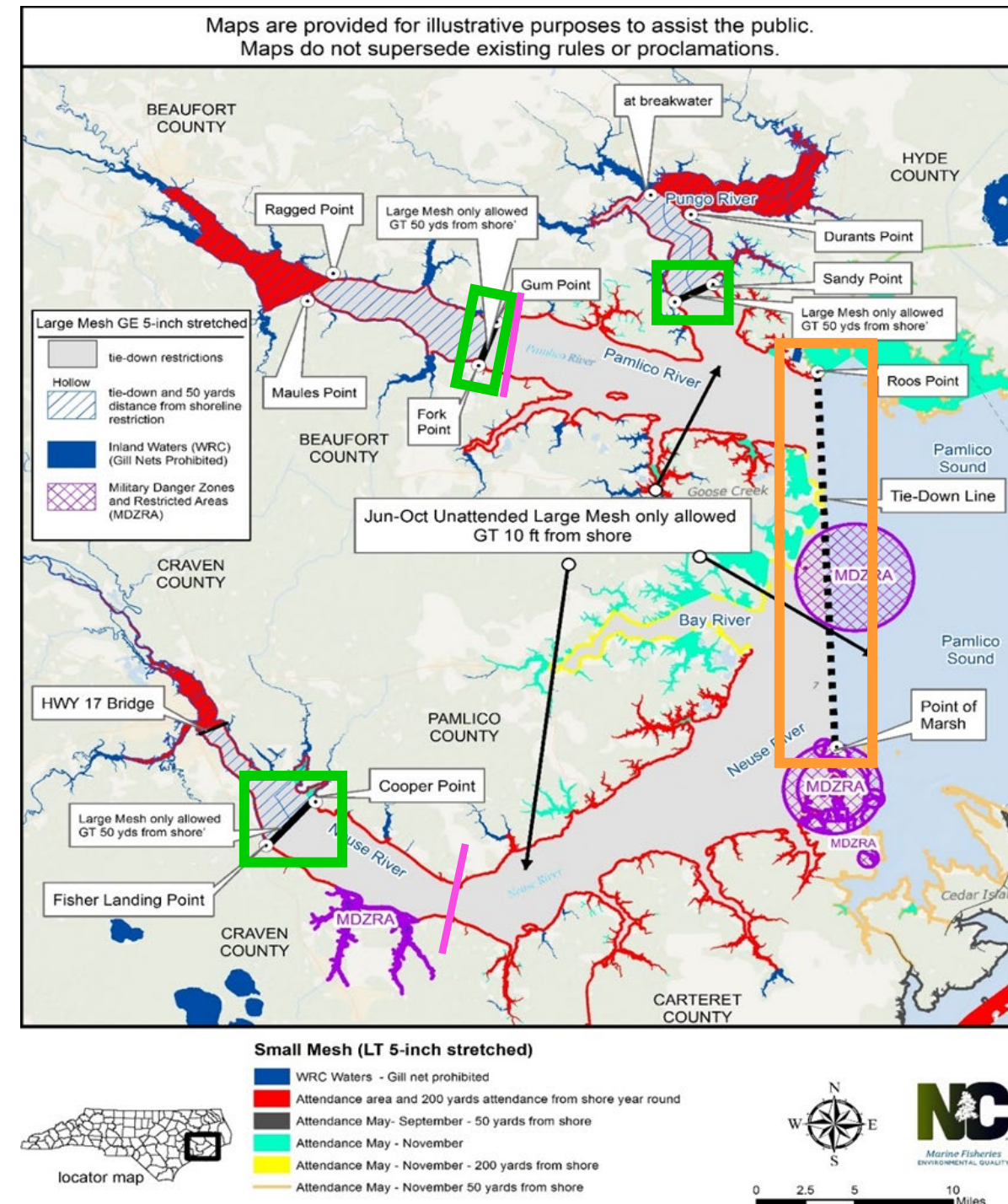




# Ferry Line Gill Net Closure

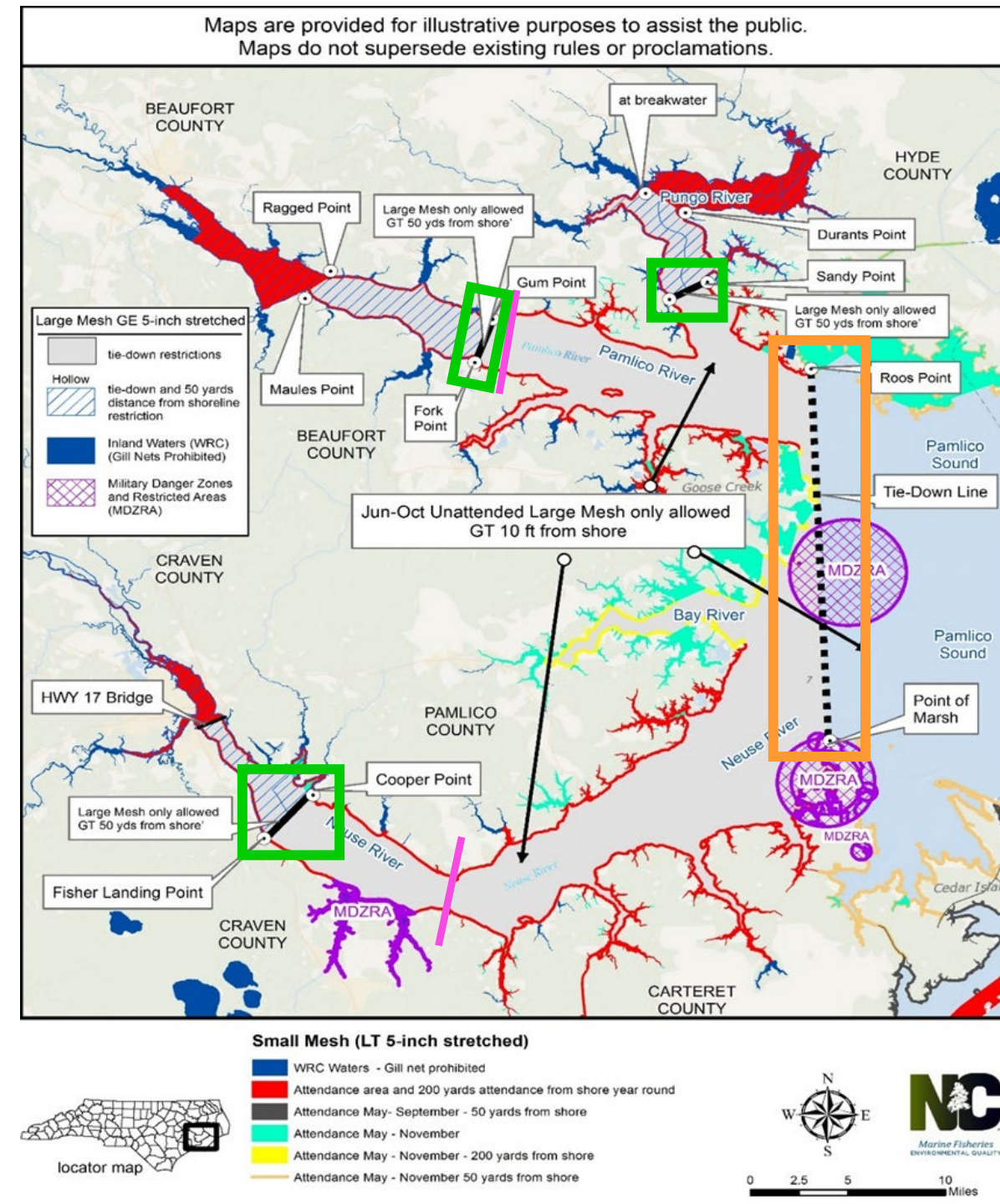
February 2019 – MFC passed motion to:

*“Ask the director of NCDMF to issue a proclamation, effective in conjunction with the Supplement, that restricts the use of gill-nets that interact with striped bass upstream of the ferry lines and requires attendance of gill-nets that interact with striped bass upstream of the tie-down lines”*



# Ferry Line Gill Net Closure

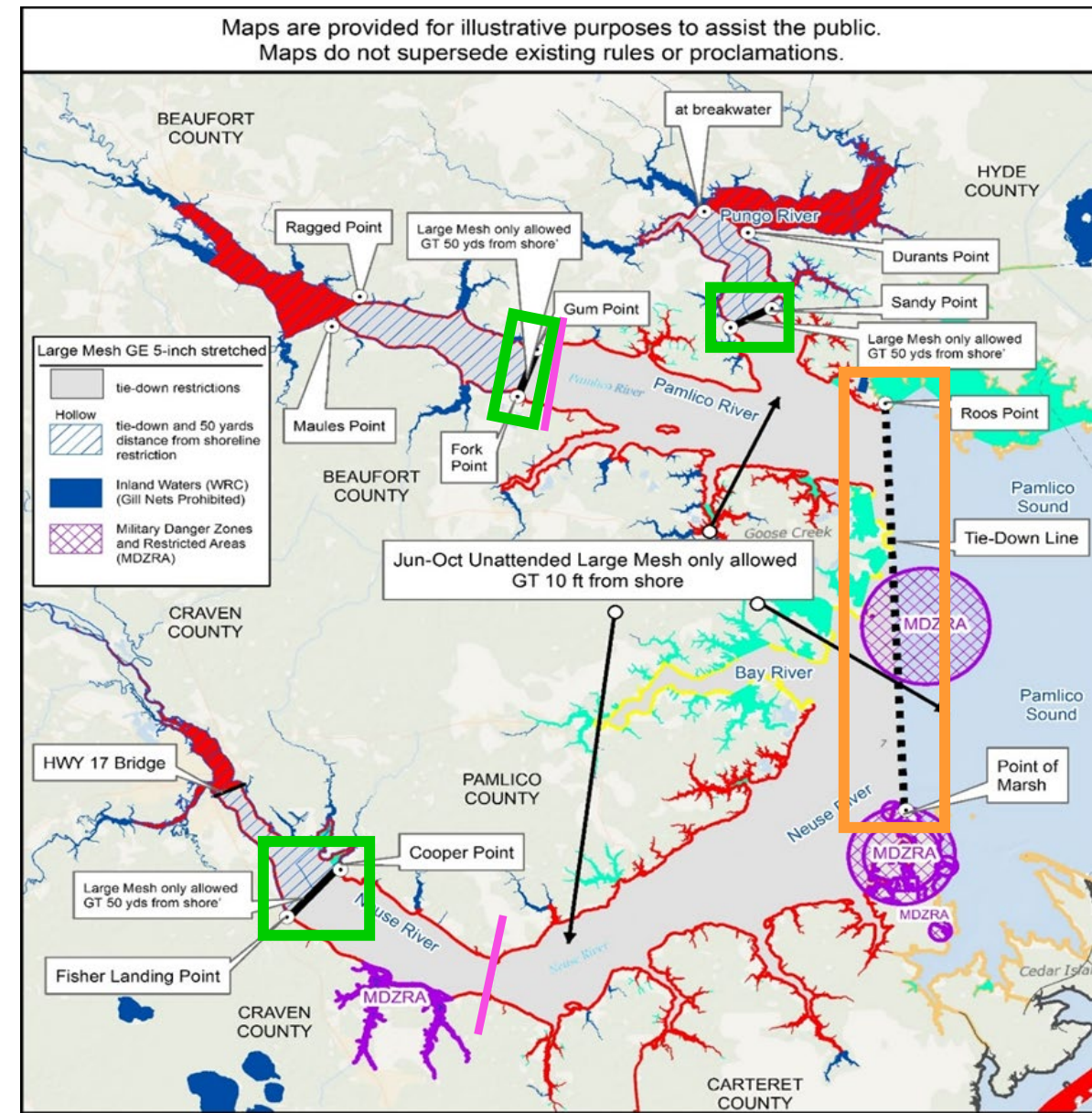
- DMF Director declined
  - Data did not support request
- March 13, 2019 – Emergency MFC meeting
  - Motion directing DMF Director to issue gill net proclamation
  - Director bound by law to issue proclamation





# Ferry Line Gill Net Closure

March 15, 2019 Proclamation prohibiting use of all gill nets upstream of ferry lines





# *Amendment 2*



## *Amendment 2 – Goal*

Manage estuarine striped bass fisheries to achieve self-sustaining populations that provide sustainable harvest based on science-based decision-making processes. If biological and/or environmental factors prevent a self-sustaining population, then alternate management strategies will be implemented that provide protection for and access to the resource.



## *Amendment 2 – Tar-Pamlico and Neuse Rivers Stock Status*

- Stock status is unknown
- Biological reference points not generated
  - Continuous stocking
  - Lack of natural recruitment
- Produced stock report that evaluated:
  - All data collected
  - All management effort
  - All major analyses



## *Amendment 2 – Tar-Pamlico and Neuse Rivers Stock Status*

### Demographic matrix model

- NOT A STOCK ASSESSMENT
- Does not provide population abundance or mortality estimates
- Evaluated stocking and management strategies





## *Amendment 2 – Tar-Pamlico and Neuse Rivers Stock Status*

- Striped bass populations in the Tar-Pamlico and Neuse rivers are depressed to an extent that sustainability is unlikely at any level of fishing mortality
- Limited by natural recruitment
- If stocking were to stop, abundance would decline



## *Amendment 2 – Tar-Pamlico and Neuse Rivers Management*

- Focused on promoting natural recruitment
  - Increase overall abundance
  - Increase abundance of older, larger fish
- Amendment 2 adopted November 2022
- Continued no-possession measure in Tar-Pamlico and Neuse rivers (in place since March 2019)





## *Amendment 2 – Tar-Pamlico and Neuse Rivers Management*

- Maintained gill net closure above the ferry lines and requirement for use of 3-foot tie downs for gill nets below the ferry lines
  - Draft Amendment 2 included options for gill net access
  - Options removed by MFC prior to public and advisory committee review
- Additionally, the motion to approve Amendment 2 included language to: *“maintain the gill net prohibition through 2024 to allow for assessment of its performance”*.



# *Amendment 2 – Adaptive Management*

## Adaptive Management

- In 2025, review data through 2024 to determine if populations are self-sustaining and if sustainable harvest can be determined

As directed in the motion, data review will also evaluate performance of the gill net prohibition



Photo Credit Stephen Jackson



## *Amendment 2 – Adaptive Management*

- Began reviewing DMF and WRC data in 2025
- Analysis will include evaluation of:
  - Adult abundance
  - Age structure
  - Natural recruitment
  - Hatchery contribution
- Will consider environmental conditions, changes to stocking strategies, life history information



Photo Credit Stephen Jackson

# Timeline

Supplement A to Amendment 1 adopted

March 2019

Ferry Line Gill Net Closure implemented

March 15, 2019

Amendment 2 adopted

November 2022

Division begins data review

January 1, 2025

You are  
here

**Division provides background to MFC - NO ACTION**

**May 21 - 23, 2025**

Division presents data analysis/conclusions/next steps to MFC

August 2025

# *Questions?*

## Striped Bass Leads

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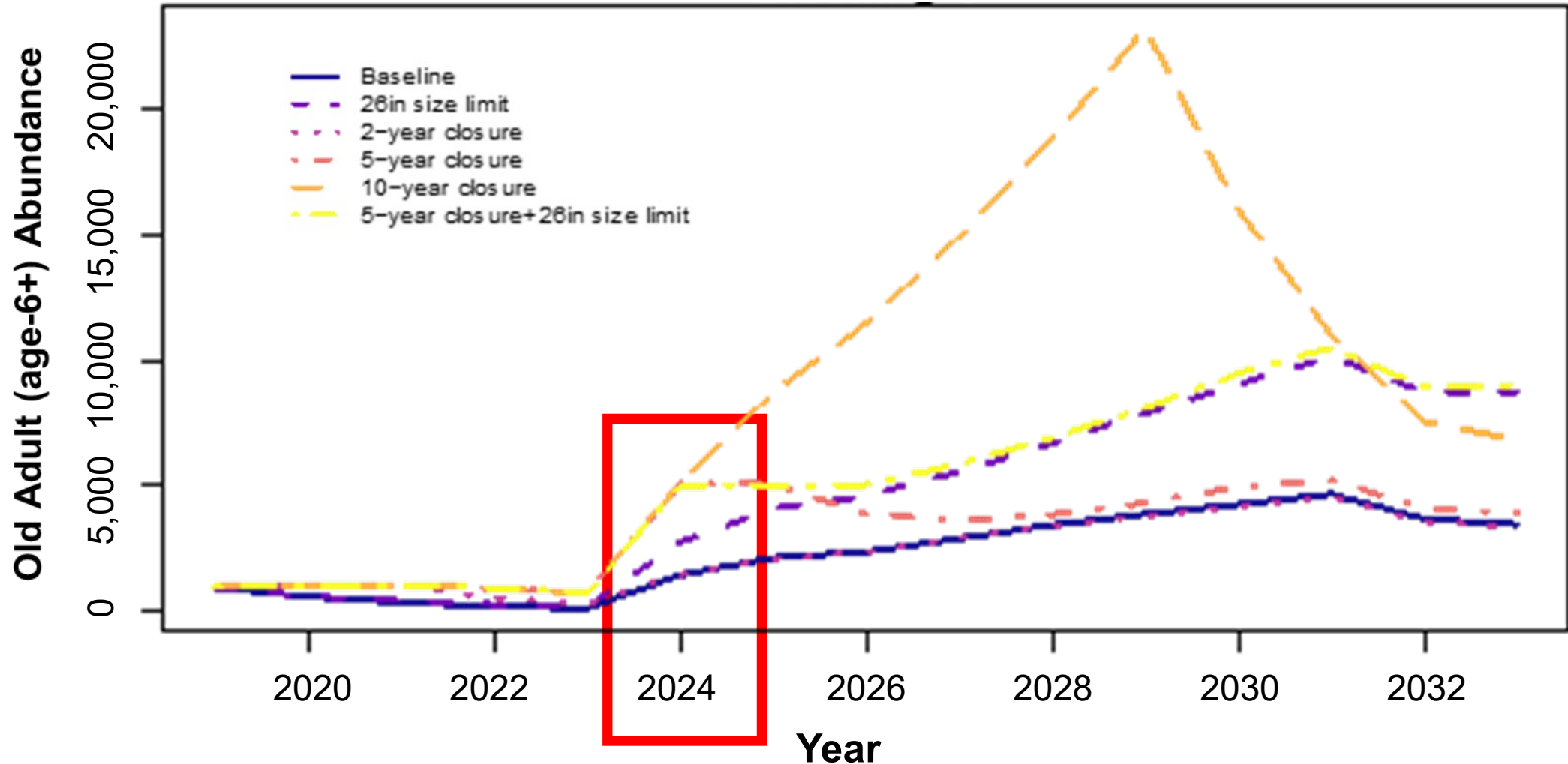




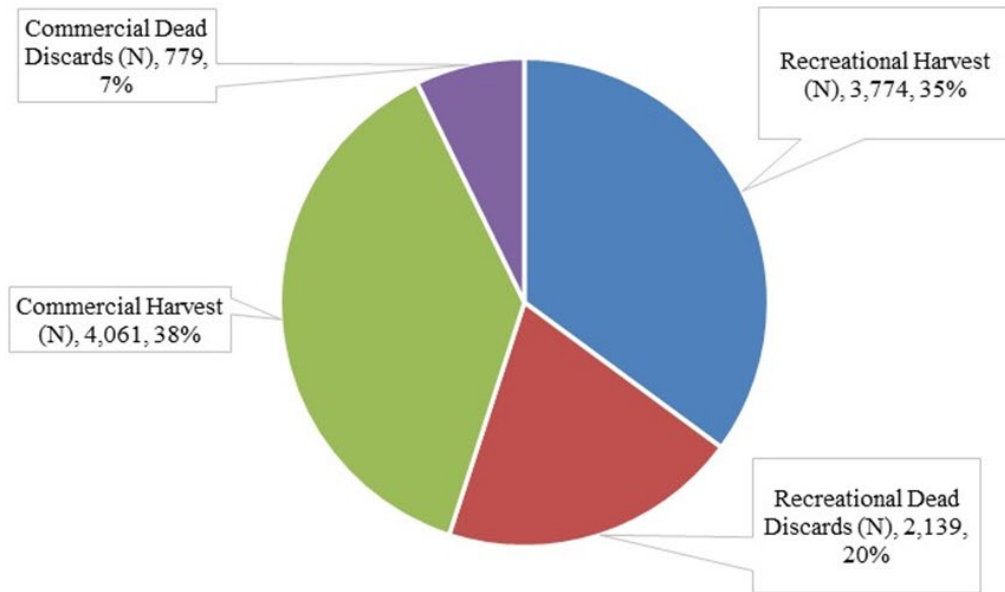
# Amendment 2 Data Review

Stocking Rate = 100,000  
fish per year with 8-year  
continuous stocking

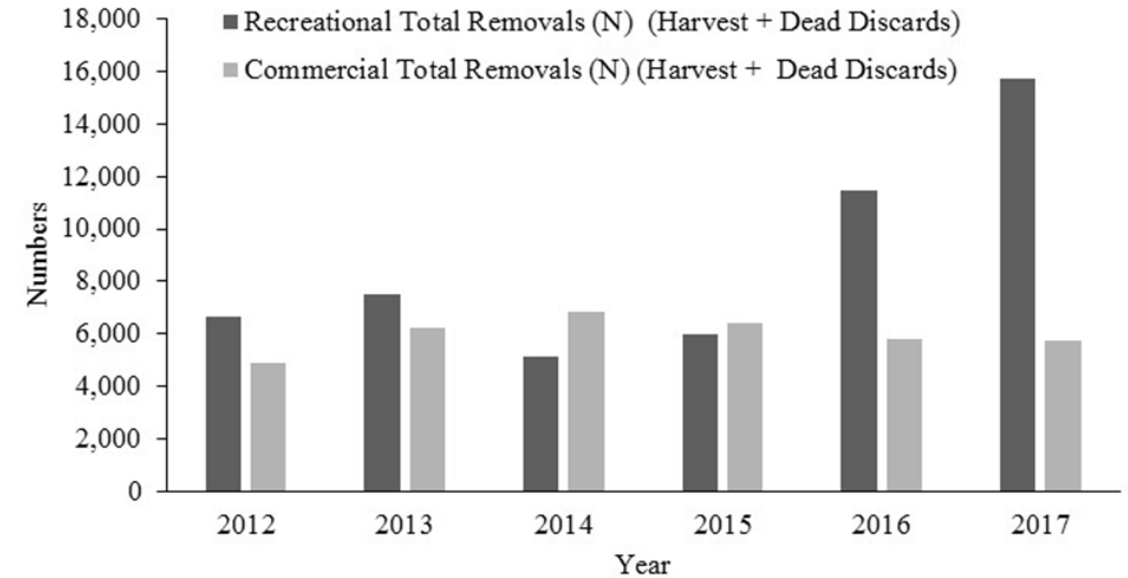
## Matrix Model Projections



# CSMA Gill Net Restrictions



Average number of striped bass harvest and discards, from the Tar-Pamlico and Neuse rivers, 2012–2017



Commercial and recreational total removals from the Tar-Pamlico and Neuse rivers, 2012 – 2017