



***PROPOSED DIAMONDBACK TERRAPIN  
MANAGEMENT AREAS IN MASONBORO  
SOUND AND THE LOWER CAPE FEAR RIVER***  
*DEPARTMENT OF ENVIRONMENTAL QUALITY*

Marine Fisheries

Marine Fisheries Commission Meeting | Corrin Flora, Joe Facendola | 14 May 2020



## *Blue Crab FMP Amendment 3*

MFC approved framework, includes creating Diamondback Terrapin Management Areas “DTMAs”

- Highly targeted approach to minimize impact to blue crab fishery and provide diamondback terrapin protection
- Applies to commercial and recreational blue crab pots
- Before proposed DTMA's can be implemented by proclamation, the following are required:
  - Consult regional advisory committees
  - Public comment
  - Stakeholder input
  - Final MFC approval



## *DTMA Framework Summary*

- 1) Require terrapin excluder devices only for crab pots fished within designated DTMAAs.
- 2) Require terrapin excluder devices to be used between March 1 and October 31.
- 3) Consider waterbodies less than 250 m (820.2 ft.) from any shoreline, and less than 3 m (9.8 ft.) deep as potential interaction zone.
- 4) Diamondback terrapin presence and overlap with a potential crab pot interaction zone is verified using NC govt. databases and University or peer reviewed data.
- 5) DTMA boundaries will contain verified populations of diamondback terrapins and minimize any waterbody area not designated as potential interaction zone. Boundaries of pre-existing natural or conservation areas may be used as DTMAAs to simplify compliance and support conservation goals of these areas.
- 6) An initial issue paper detailing the proposed DTMA will be presented to the appropriate regional advisory committee for input and recommendations, and will receive public comment concerning the proposed DTMA.
- 7) NCMFC review division proposed DTMA documents and recommendations, and take action to adopt, modify, or deny proposed DTMA
- 8) Implement DTMA actions by proclamation and incorporate the finalized Issue Paper into the most current FMP as a revision.



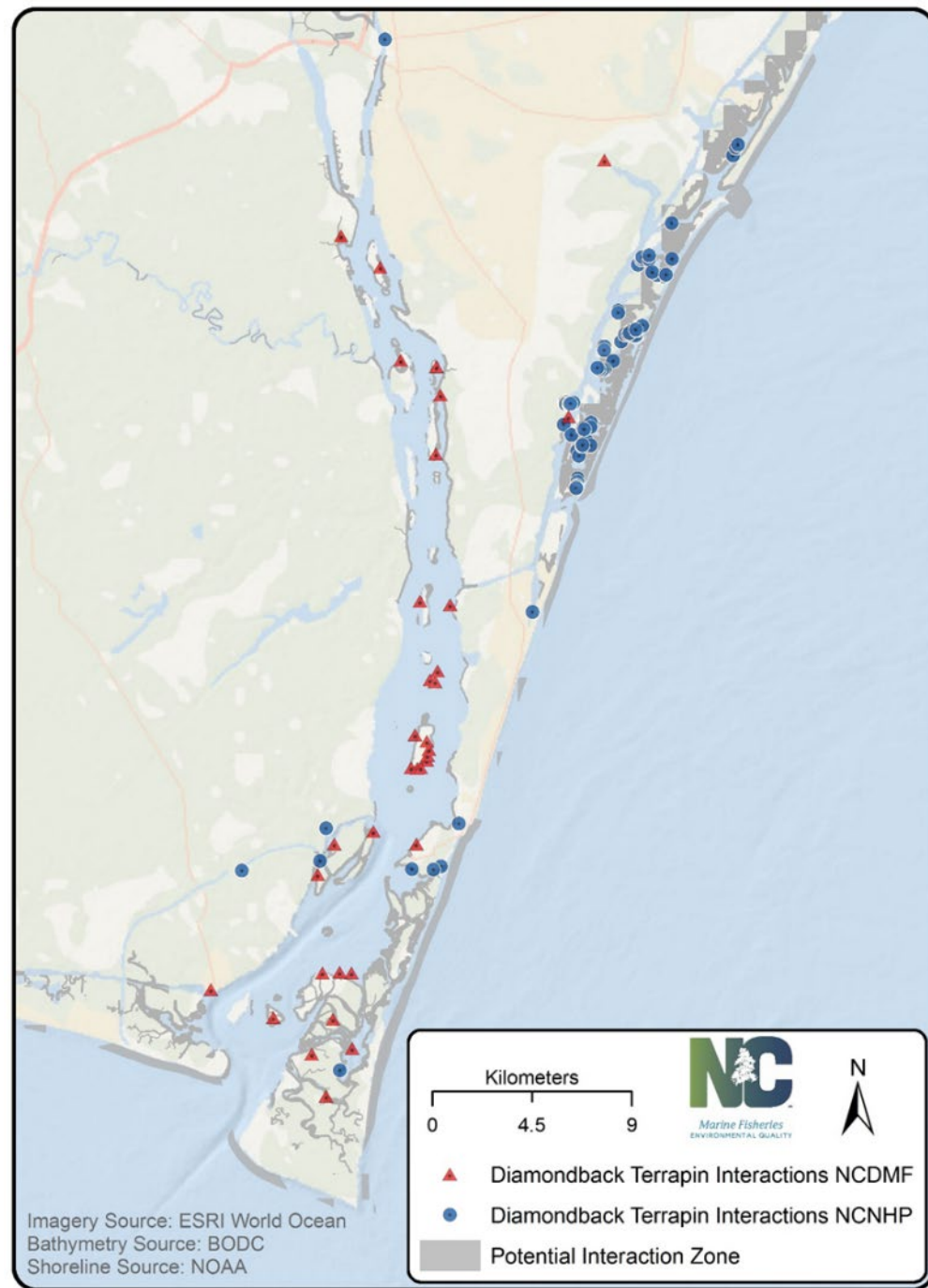
# *Currently Proposed DTMAs*

- Areas behind Masonboro and Bald Head have been identified as containing populations of terrapins vulnerable to capture in crab pots
- Primary data sources
  - DMF & NC Natural Heritage Program (NCNHP) datasets
  - 9 academic studies referenced that document terrapins, their biology, capture in crab pots, and their population decline in these areas



## *Presence and Potential Interaction*

- DMF & NCNHP documented terrapin locations
- Potential interaction zone
  - Water less than 3 m (9.8 ft.) deep
  - AND
  - Less than 250 m (820.2 ft.) from shore



# Existing Ecological Areas

## National Estuarine Research Reserves

- Provide coastal management through site research
- Terrapin populations not impacted by coastal development
- Site manager expressed concern over terrapin bycatch
- Collects terrapin and crab pot data in collaboration with Wildlife Resources Commission





# Existing Ecological Areas

- Region 4 MFC nominated Strategic Habitat Areas
- Represent priority locations for protection or restoration due to their exceptional ecological functions



# Proposed Areas

	Masonboro	Bald Head
Total area DTMA (acres)	5,739	9,945
% DTMA water	59%	39%
% DTMA water in interaction zone	85%	61%
% DTMA total Trip Ticket area	64%	29%

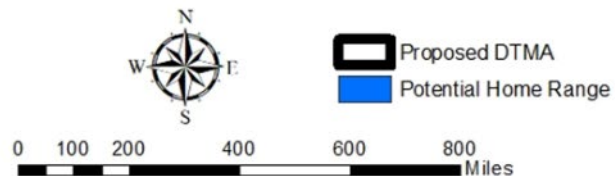
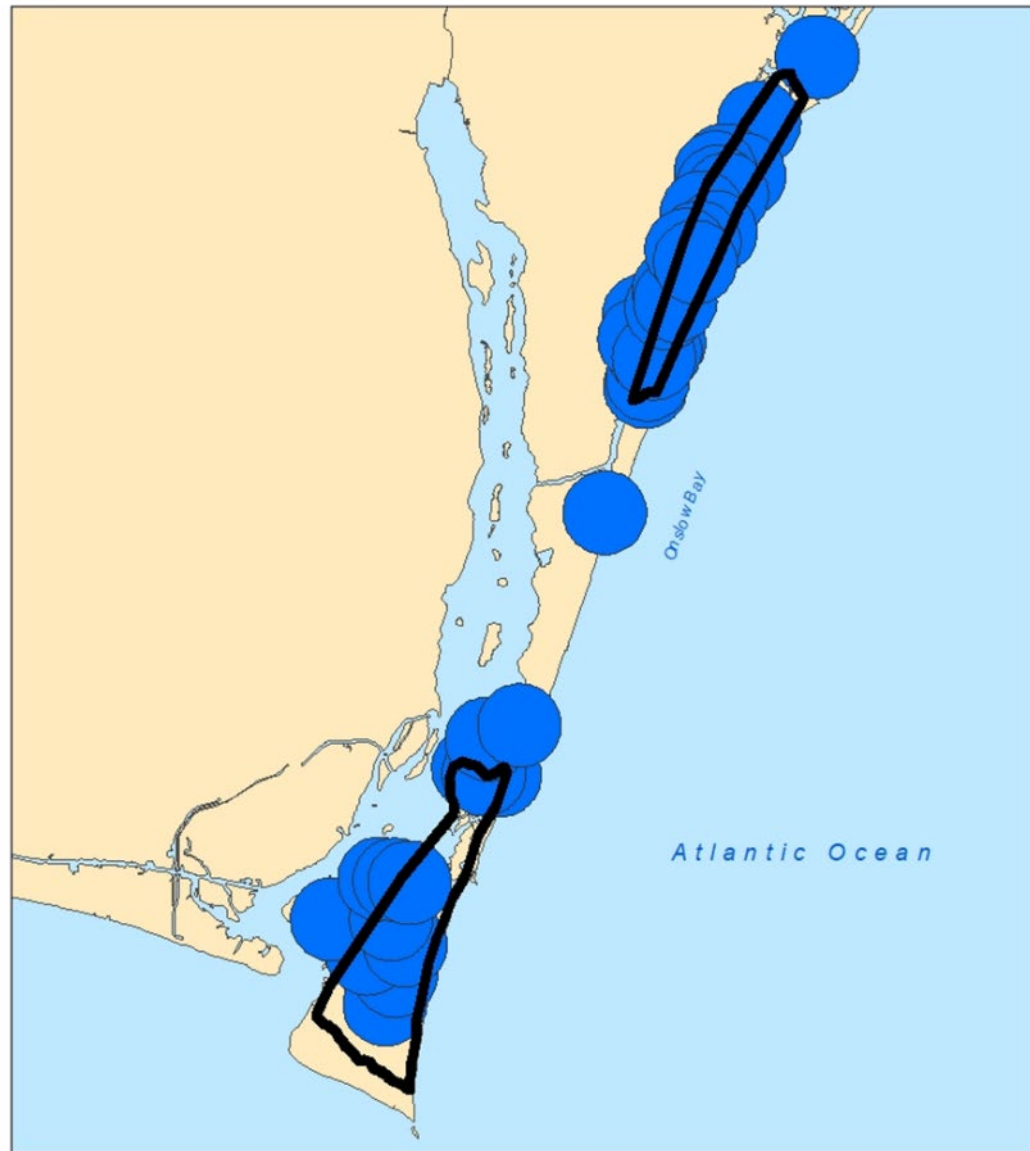




# Proposed Areas

## Why these areas and size?

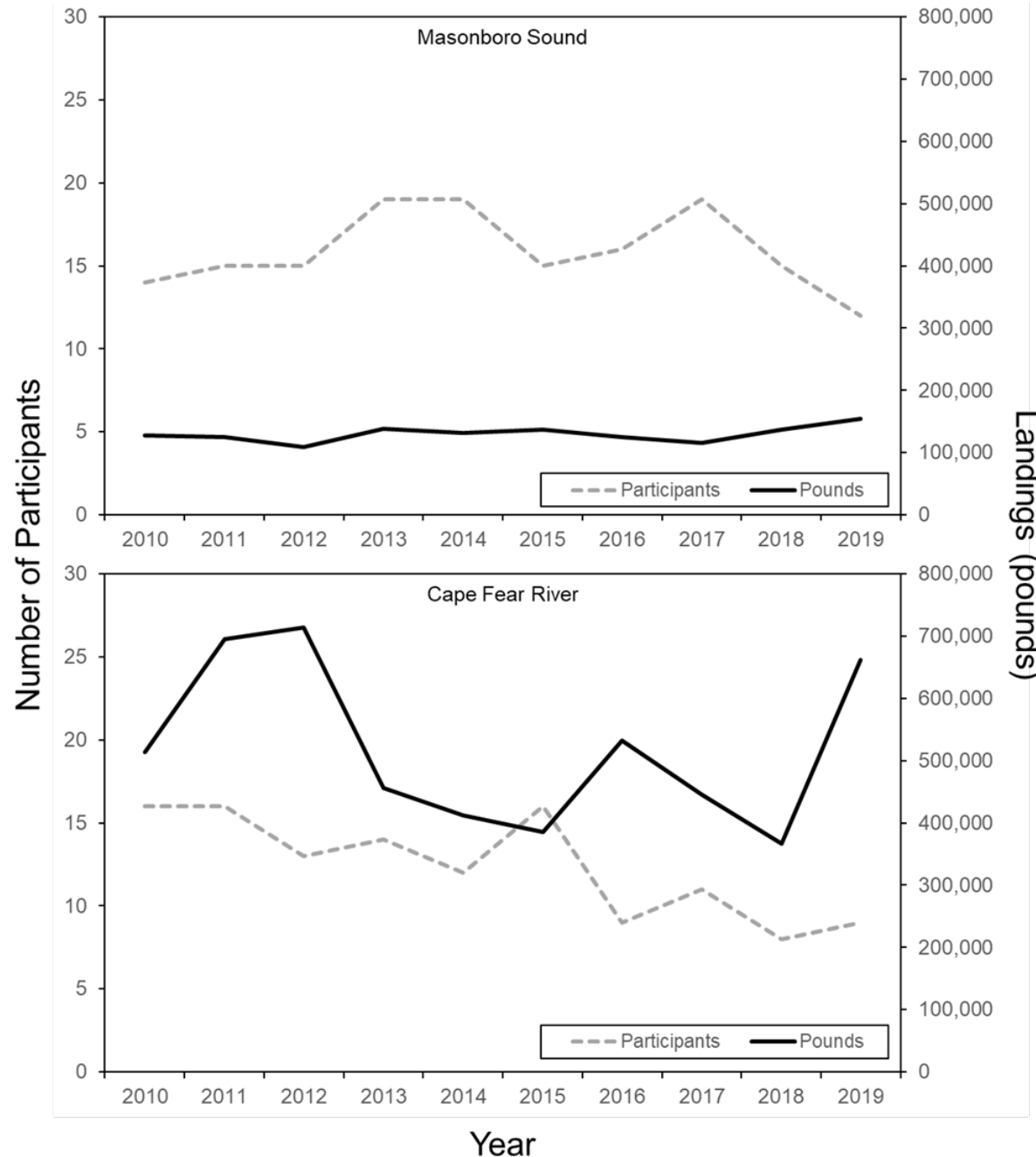
- Subset of terrapin presence data shown as 2.86 mi<sup>2</sup> circles
- Illustrates the need for DTMAs as proposed
  - Size of DTMA needed at least as large as proposed boundary
  - Terrapin home ranges may extend beyond DTMA
  - Appropriate habitat



# Local Blue Crab Fishery Information 2010 - 2019\*

- **Masonboro**
  - 12-19 (avg. 16) participants
  - Avg. landings 129,889 lb.
- **Cape Fear**
  - 8-16 (avg. 12) participants
  - Avg. landings 518,269 lb.
- **Masonboro DTMA**
  - Smaller footprint
  - But, higher percentage of trip ticket area
  - May likely impact more individuals than Bald Head DTMA

\* 2019 data considered preliminary



# *Blue Crab Fishery Information*

## *2010 – 2019\**

10-year average value data for Blue Crab, Whelk, and Stone Crab

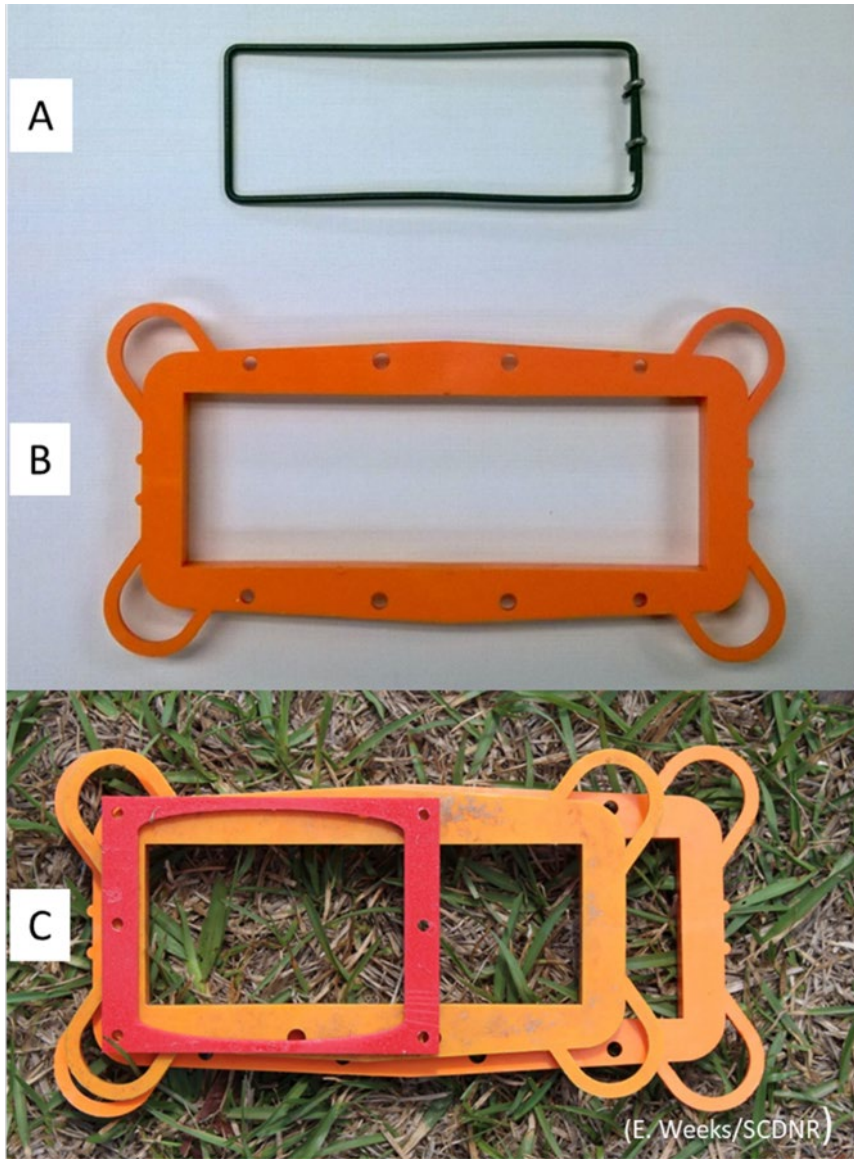
	<b>Masonboro Sound</b>	<b>Cape Fear River</b>	<b>Statewide</b>
<b>Blue Crab</b>	\$ 138,682 (0.53%)	\$ 596,242 (2.29%)	\$26,077,194
<b>Whelk</b>	\$ 99 (0.08%)	\$ 178 (0.14%)	\$125,502
<b>Stone Crab</b>	\$ 1,384 (7.11%)	\$ 622 (3.19%)	\$19,476

\* 2019 data considered preliminary





# *Excluder Device Blue Crab Catch Impact*



## Terrapin Exclusion Dimensions

- No greater than 1.6 x 6.3 in. (shell height limiting, A & B)
- SC design 2-2.5 x 3.1 in. (shell width limiting, C)

## Blue Crab Loss:

### Excluders A and B:

- 1.6 in. ranged from 0 to 29% reduction
- NC study at Masonboro 1.5 in. no impact

### Excluder C (SC design):

- Ranged from no reduction in catch to .078 in. reduction in average crab size
- SC design dimensions engineered to capture 99% of blue crabs.

- Additional terrapin excluder devices shall be approved, in consultation with the Shellfish/Crustacean Advisory Committee



# Public Comment

- 2 press releases: with online and mail in comment until 23 April for DTMA
  - Mailed information to potentially impacted crabbers
  - E-mailed information to local terrapin researchers
- A total of 9 comments received on DTMA questionnaire
  - 5 Agency & NGO: North Carolina Wildlife Federation, Center for Biological Diversity, North Carolina Herpetological Society, North Carolina Wildlife Resources Commission, and North Carolina Coastal Reserve
  - members of public
- Agency & NGO comments:
  - Support DTMA approach
  - More protection needed
- Public comments:
  - 2 supports DTMA approach
  - 1 questions approach
  - 1 off topic ( sea turtles and nets)

The screenshot shows a public comment form titled "Public Comment on Proposed Diamondback Terrapin Management Areas". The form is set against a white background with a green navigation bar at the top. The navigation bar contains links for Home, Permits & Rules, Outreach & Education, Energy & Climate, Conservation, News, and About. The main heading is "Public Comment on Proposed Diamondback Terrapin Management Areas" in a large, bold, dark blue font. Below the heading, a deadline is stated: "Please Submit Comments by 5 p.m. April 23, 2020". A paragraph of text explains that the N.C. Division of Marine Fisheries is accepting public comments on two proposed diamondback terrapin management areas in the southern coastal area of the state (Masonboro Sound and lower Cape Fear River), where fishermen will be required to use turtle excluders in crab pots. Members of the public who wish to submit comments electronically may do so through this form. The deadline for submission is 5 p.m. April 23. A link is provided for more information: "Click here" for information on the proposed diamondback terrapin management areas. The form includes three input fields: "Name:", "City:", and "State:", each with a red asterisk indicating a required field. Below these fields is a large text area for comments, with the instruction "Please type your comments in the box below." and a small red asterisk.

Home Permits & Rules Outreach & Education Energy & Climate Conservation News About

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Name: \*

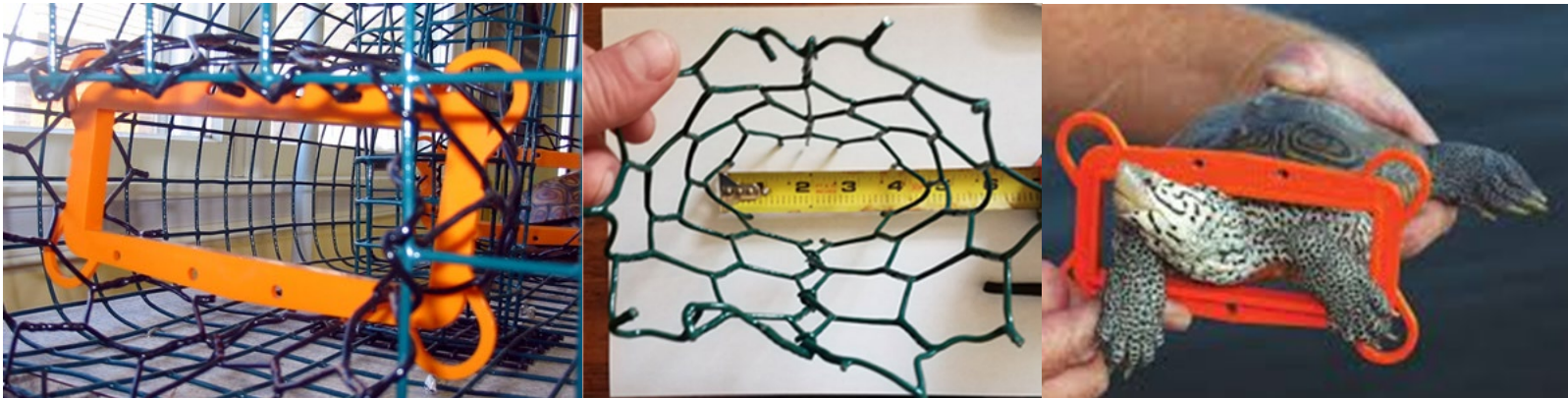
City: \*

State: \*

Please type your comments in the box below.

# *Southern Advisory Committee Recommendations*

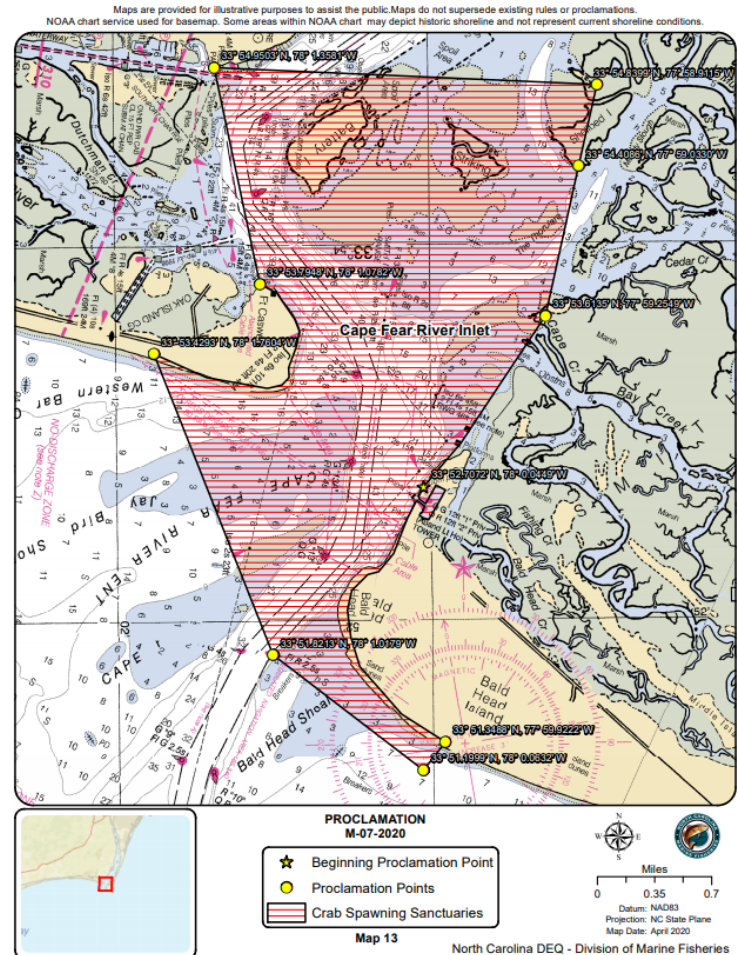
- Recommends establishing the areas described as the Masonboro Island and Bald Head Island DTMAs by proclamation
  - To explore options for funding to offset cost of excluder devices to current fishermen
  - To explore options for research on approved and additional designs
- Additional Discussion
  - The two proposed areas are a first step
  - Explore additional areas for DTMA designation
  - Suggested Elizabeth River should have been included in the Bald Head DTMA

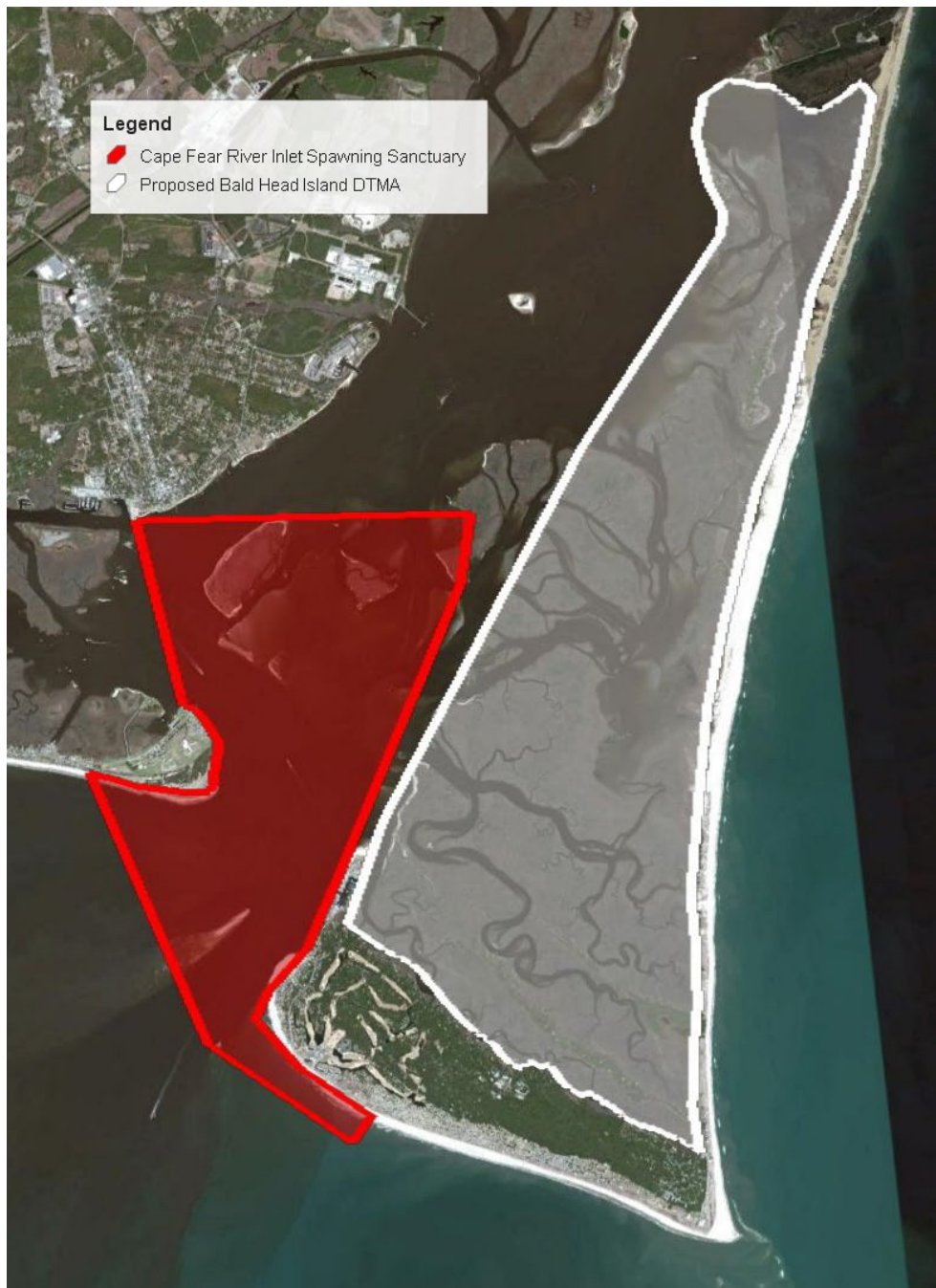




# DMF Recommendations

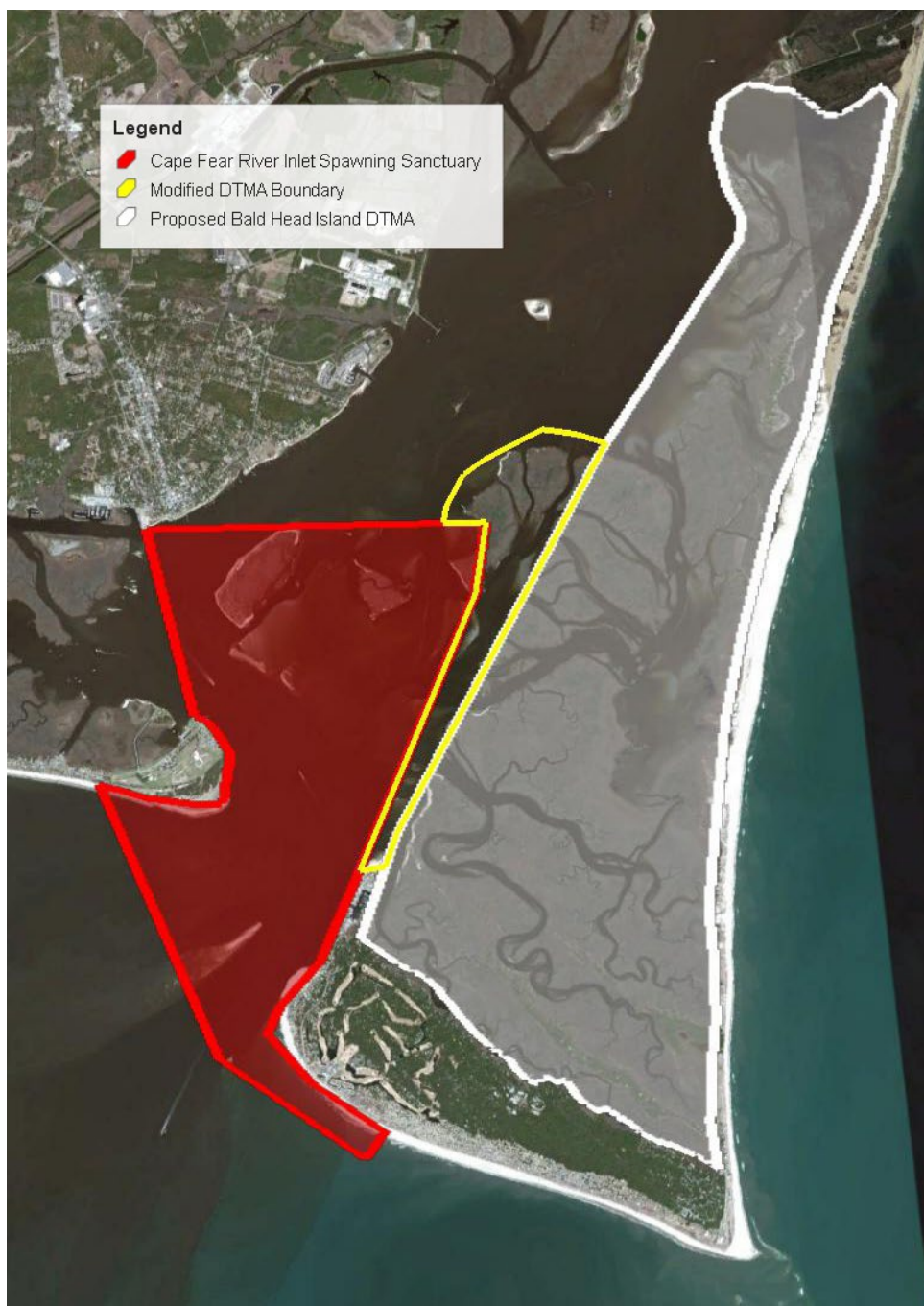
- Recommends establishing the areas described as the Masonboro Island and Bald Head Island DTMAs by proclamation
- Division further recommends a modification of the initial western border of the proposed Bald Head Island DTMA ..





- Proposed Bald Head Island DTMA (white):
  - Adjacent to new Crab Spawning Sanctuary (red)
  - 3 different crab pot regulations within a 200 to 600 yard space
  - Potential for increased pot effort around boundary of Spawning Sanctuary





- Modified boundary to proposed Bald Head Island DTMA (yellow):
  - Increase in area of 7.4%
  - Simplifies compliance
  - Use of landmarks and shoreline as boundary, opposed to lines drawn on map
  - Protection for terrapins in an area with documented occurrences in the interaction zone
  - Addresses potential pot effort increase concerns





## *Potential Impacts of Action*

- +/- Only impacts fishermen (commercial and recreational) who crab pot within DTMA
- Creates additional cost and regulatory burden to modify crab pots for compliance
- Has economic impact from potential reduction in crab pot catch within DTMA



## *Potential Impacts of Action*

- + Implements a MFC selected management strategy, which is a proactive conservation measure for a state and federal listed “Species of Concern”.
- + Removes conflict between commercial crab potting and research or educational activities occurring at National Estuarine Research Reserve sites.
- + Addresses issue causing negative ratings by sustainable seafood consumer advisory groups due to the bycatch of diamondback terrapins in the N.C. blue crab fishery.



Presently caught  
in ways that harm  
other marine life  
or the  
environment.







41 dead diamondback terrapins reported from 3 active crab pots in this area by Marine Patrol (19 April 2020)





## Summary

- Implementing MFC adopted management strategies from Blue Crab FMP Amendments 3
- FMP Amendment 3 maintains DTMA approach to provide terrapin protection and moderate overall fishery impact based on best available data
- DMF modified BHI DTMA boundary to simplify compliance by stakeholders

If proposed DTMAs implemented:

- Potential for localized regulatory and economic impacts to crabbers
- May mitigate multiple concerns:
  - Population recovery, state species of concern as bycatch in crab pot fishery
  - Federal and NGO action
  - NERR conflicts
  - Seafood ratings



## *Additional MFC Discussion and Vote*

