



Blue Crab FMP Amendment 3 Adaptive Management

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

N.C. Marine Fisheries Commission | Joe Facendola, Robert Corbett | May. 25, 2023



Blue Crab FMP Amendment 2

In 2013, the MFC recognized diamondback terrapins as a wildlife species in need of protection from crab pots

Crab pots one of the largest threats to diamondback terrapin populations

- NC species of “Special Concern”
- Vulnerable to local extinctions
- Life history
 - Long lived & slow to mature
 - Low reproductive output
 - Strong site fidelity



Blue Crab FMP Amendment 2

In 2014, the MFC adopted Rule 15A NCAC 03L .0204

- Commission delegated authority to division director to:
 - Require terrapin excluder devices in each funnel entrance of crab pots
 - Impose the following restrictions for their use:
 - 1) Specify areas
 - 2) Specify time periods
 - 3) Specify means and methods

Applies to commercial and recreational blue crab pots.



Blue Crab FMP Amendment 2



To Implement Blue Crab FMP Amendment 2 MFC adopted management strategy:

- The use of proclamation authority required:
 - Consultation with the Shellfish & Crustacean AC on developing criteria; and
 - Approval of criteria by MFC
- DMF developed a draft framework for proclamation use criteria and terrapin excluder specifications in consultation with ACs for approval by MFC



Blue Crab FMP Amendment 3

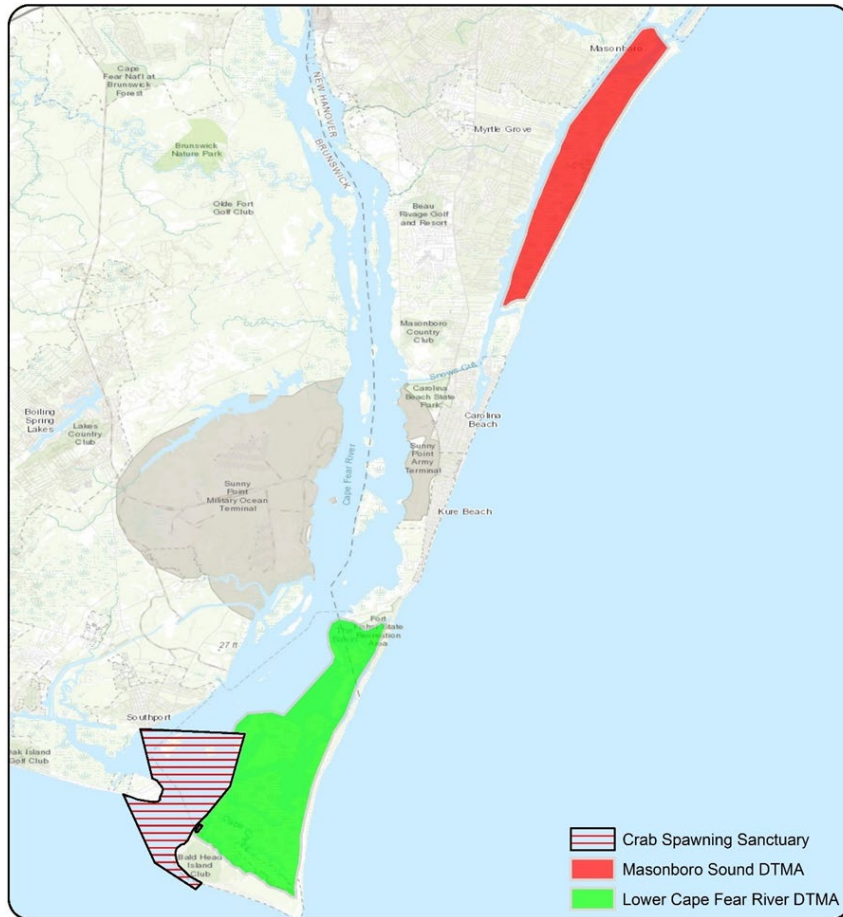
MFC approved framework, includes creating Diamondback Terrapin Management Areas “DTMAs”

- Highly targeted approach to minimize impact to blue crab fishery and maximize diamondback terrapin protection
- Considerations for creating targeted DTMA approach:
 - Seasonal terrapin activity
 - Depth and distance from shore
 - Terrapin presence
 - Existing conservation areas
 - Stakeholder input

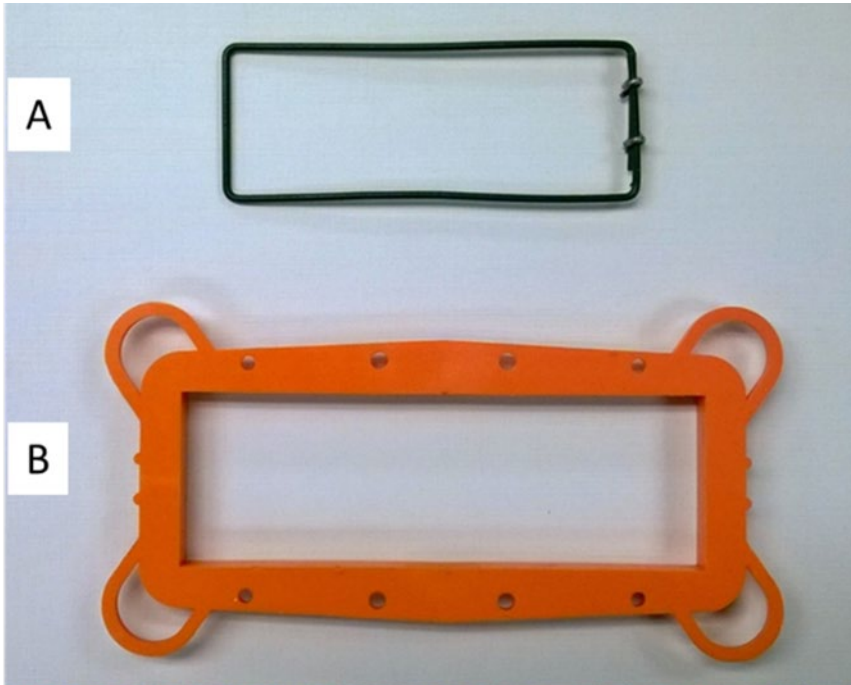


May 2020 Revision to the Blue Crab FMP

- Areas behind Masonboro and Bald Head Islands designated as DTMA's effective March 2021



Excluder Devices



N.C. Division of Marine Fisheries

Approved Terrapin Bycatch Reduction Devices

Devices are required within Diamondback Terrapin Management Areas
March 1 – October 31

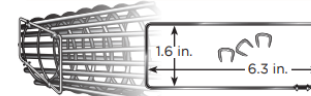
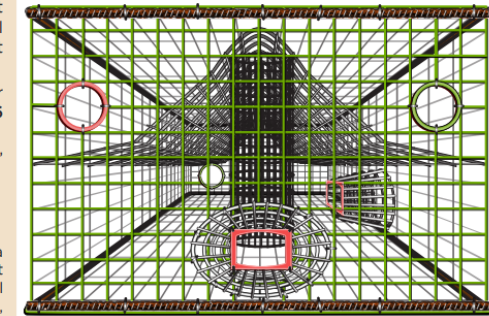
Approved Terrapin Bycatch Reduction Devices:

- (A.) Any shell height limiting excluders made from at least 10-gauge galvanized wire and hog rings with an internal opening no larger than 4 x 16 cm (1.6 x 6.3 in.) height by width;
- (B.) Any pre-made plastic shell height limiting excluder devices with an internal opening no larger than 4 x 16 cm (1.6 x 6.3 in.) height by width;
- (C.) or the pre-made plastic shell width limiting "SC design" measuring 5.1-6.4 x 7.5 cm (2-2.5 x 3.1 in)

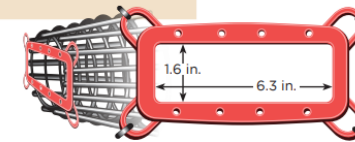
Devices must be securely attached by at least the four corners and used in all pot funnels.

A separate terrapin excluder device would not be required in a crab pot fished within a DTMA if all funnel openings in that pot were modified to measure no larger than the maximum internal opening of an Approved Terrapin Bycatch Reduction Device, and the funnel openings are made rigid in a manner to maintain these dimensions.

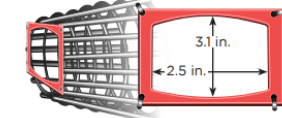
FOR ALL CRAB POTS



A. 10-gauge galvanized wire and hog rings 4 x 16 cm (1.6 x 6.3 in.)



B. 4 x 16 cm (1.6 x 6.3 in.)

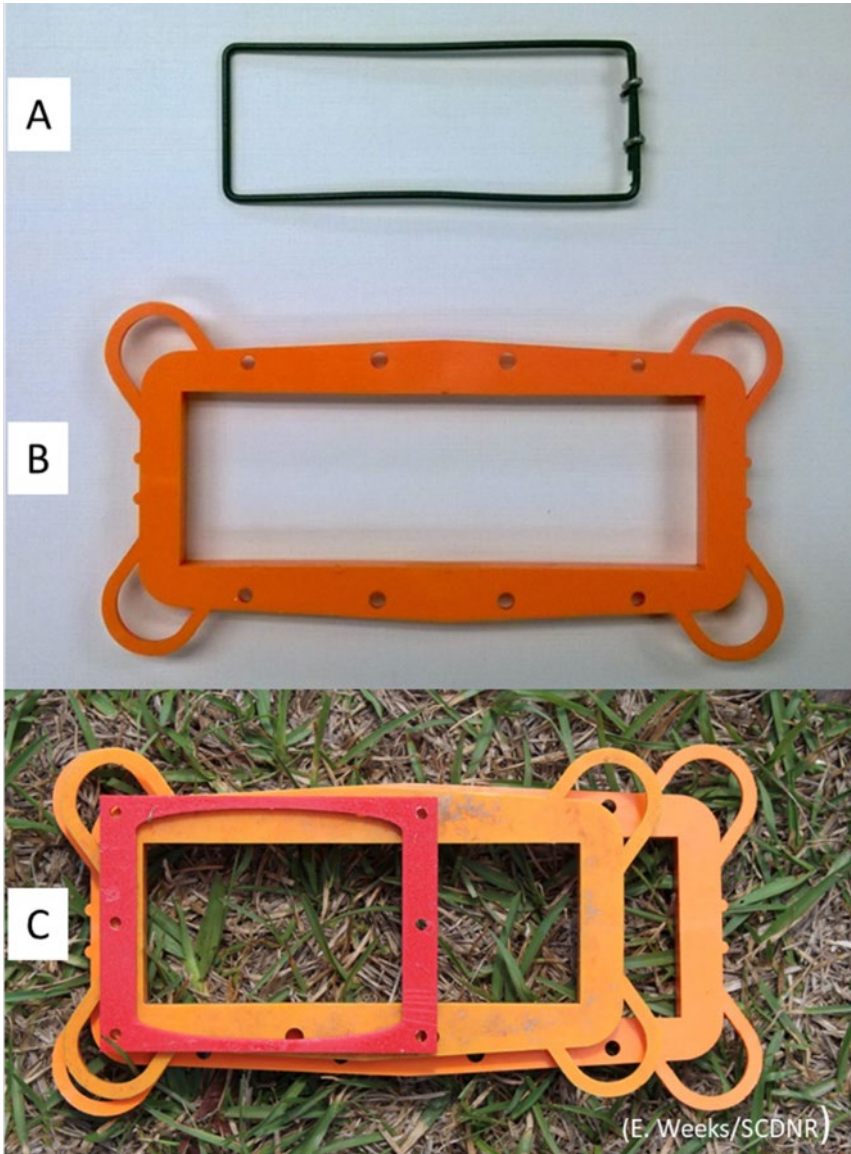


C. 5.1-6.4 x 7.5 cm (2-2.5 x 3.1 in)

For more information about crab pot requirements contact Blue Crab species lead biologist Daniel Zapf Daniel.Zapf@ncdenr.gov 252-948-3874



Excluder Devices

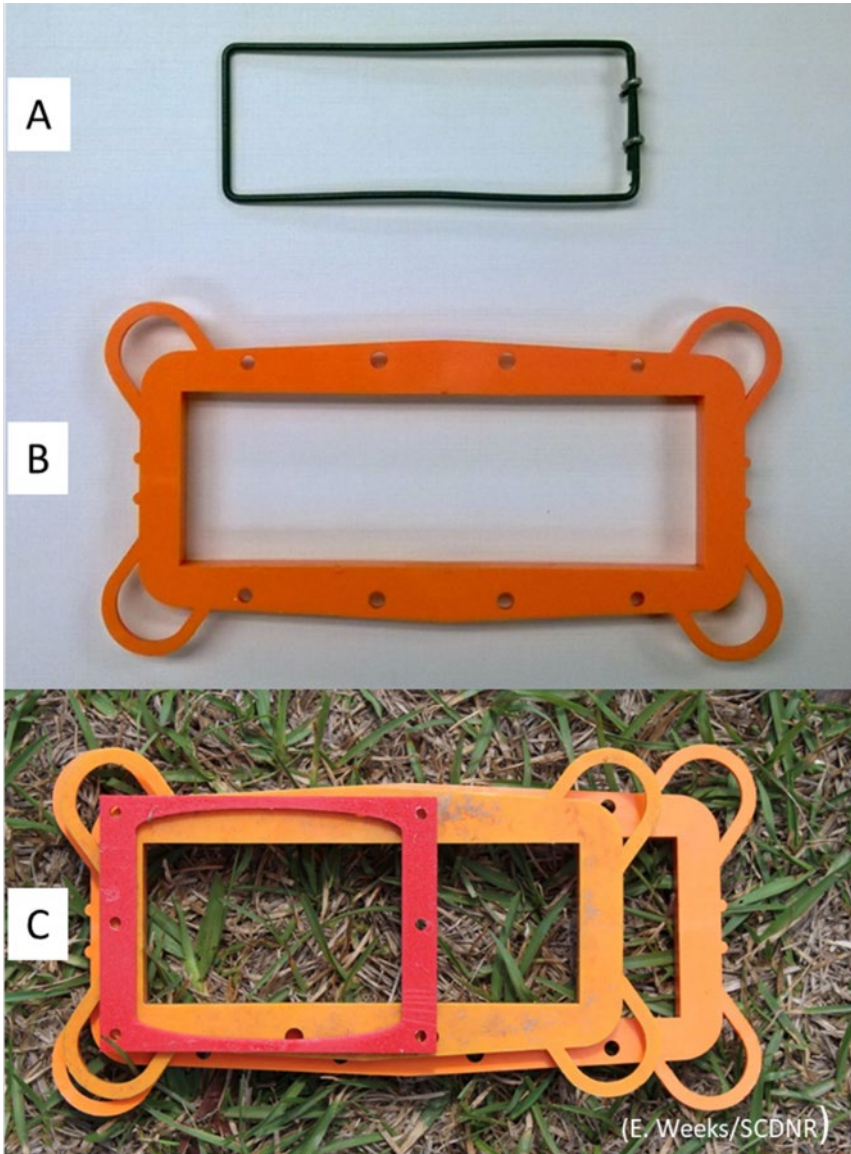


- Not effective / enforcement concerns

- No longer manufactured

- Hard to source

Excluder Devices



- Additional terrapin excluder devices shall be approved by DMF, in consultation with the Shellfish/Crustacean Advisory Committee
 - Reduce cost or impact to crab catch
 - Offer same or better protection as above

Collaborative Research



- Industry sourced gear modification
- Narrow Funnel Design “NFD”
- Industry, Resource Managers, Academia
- Field trials and observer trips



Collaborative Research

Marine Fisheries Commission

Commercial Industry

Academic Researchers (UNCW)

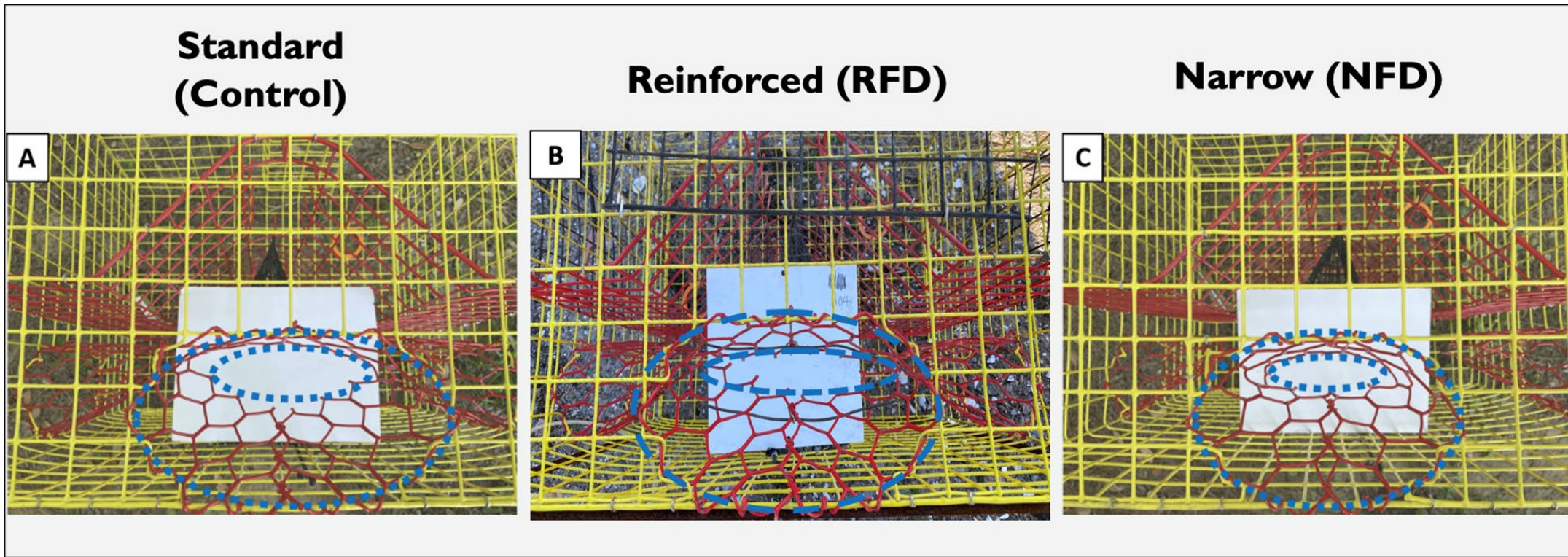
Division of Marine Fisheries

N.C. Commercial Fishing Resource
Fund Committees



Research Results

Impact to Terrapin Bycatch in Field Trials



**Standard
(Control)**

Reinforced (RFD)

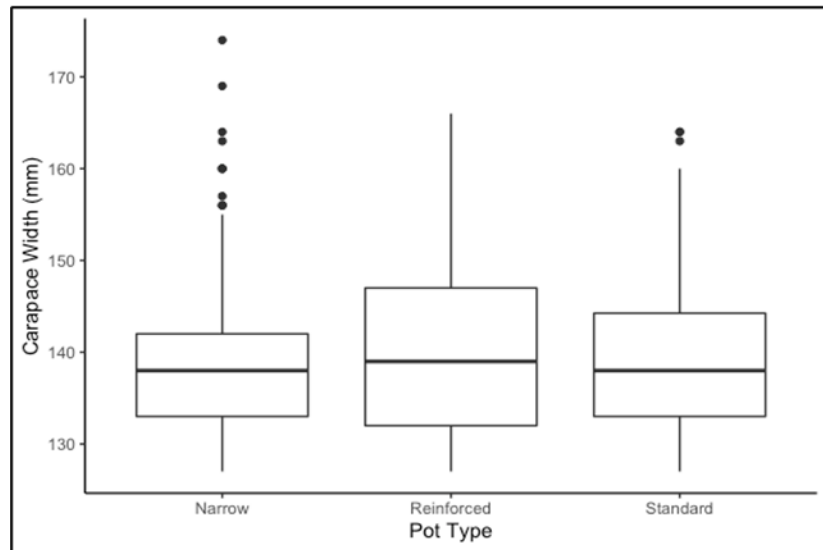
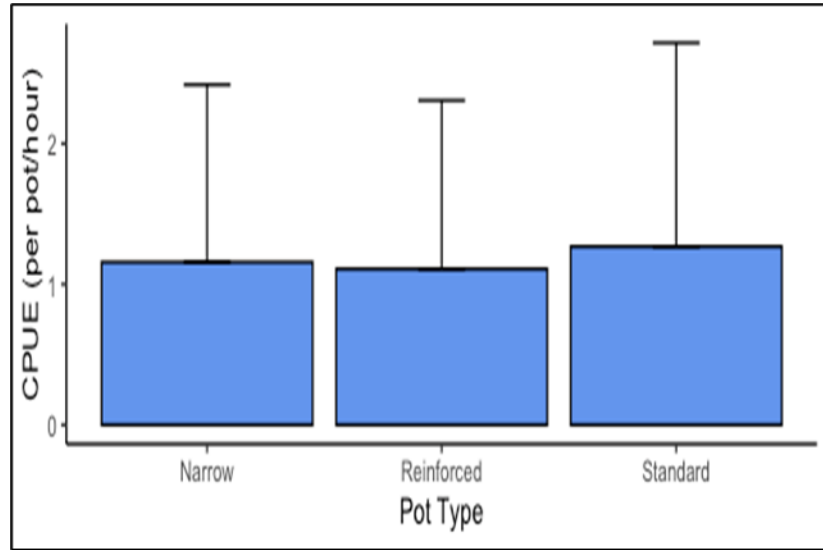
Narrow (NFD)

49% Reduction

74% Reduction



Research Results

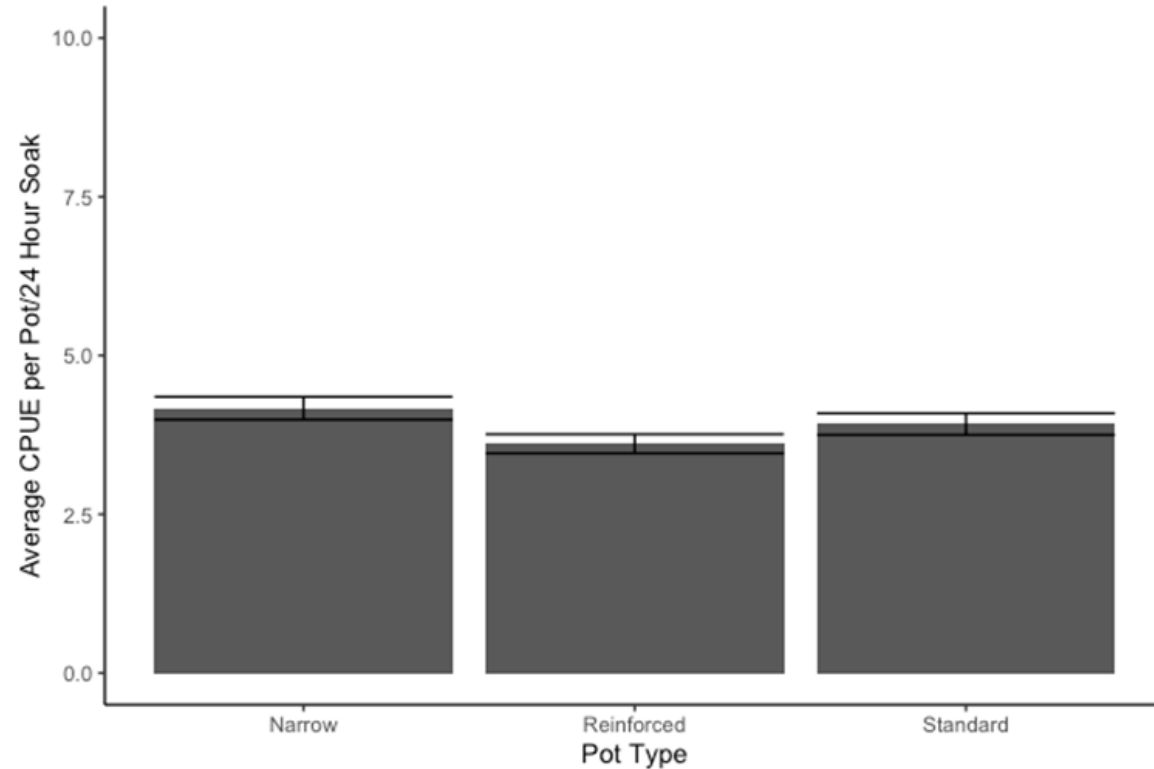


Blue Crab Catch in Field Trials

- No significant difference in catch rates
- No significant difference in crab size



Research Results



Observer Trip Results

- No significant difference in catch rates for blue crab

24 Terrapins Captured

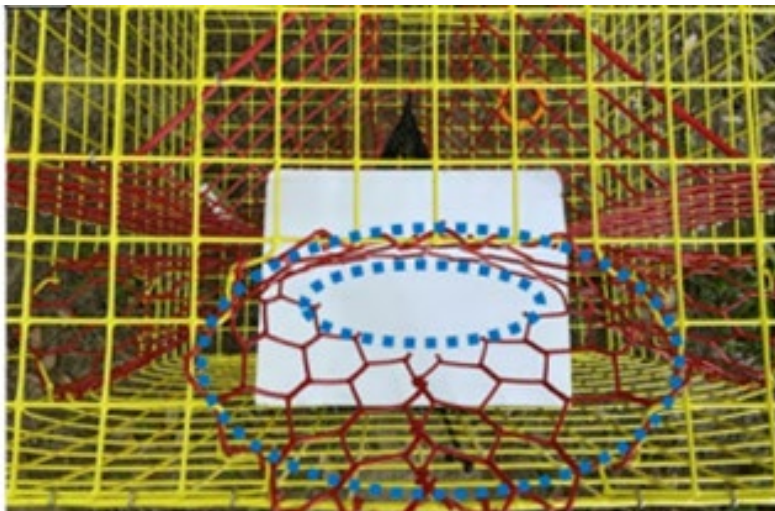
- 0 NFD
- 1 RFD
- 23 Standard



AC Consultation

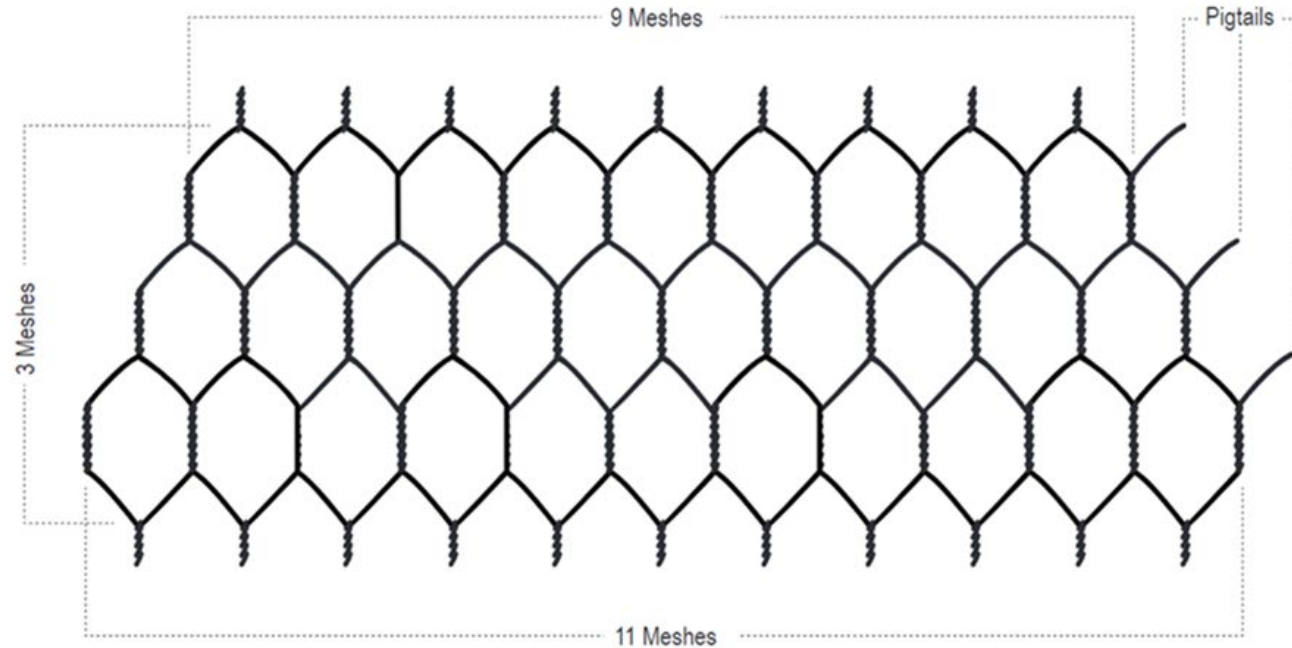


- Approve gear modification Narrow Funnel for use in DTMAs
 - Reduce cost and impact to crab catch
 - Offers high level of protection to terrapins
- Remove the option to use a 4 x 16 cm (1.6 x 6.3 in.) plastic or 10-gauge wire, and “made rigid” language
 - 4 cm excluder height has greatest reduction to crab catch
 - 10-gauge wire “reinforced” ineffective at excluding terrapins
 - Plastic pre-made no longer available
 - Marine Patrol enforcement concerns



Blue Crab FMP Amendment 3 Adaptive Management

- Approved gear modification Narrow Funnel for use in DTMAs
 - Developed pattern for NFD construction
 - Set maximum opening dimension for NFD (5.25")
- Removed the option to use a 4 x 16 cm (1.6 x 6.3 in.) plastic or 10-gauge wire, and “made rigid” language



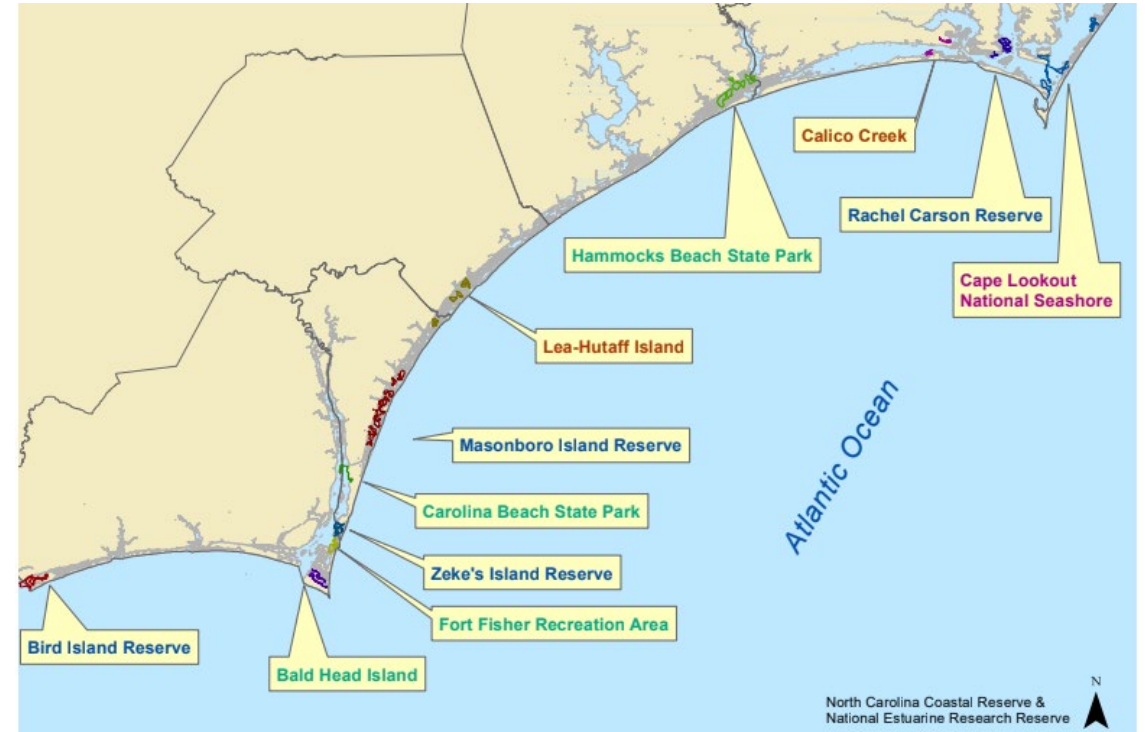
Future Work

NC Wildlife Resources Commission in Partnership with Other NGOs and Agencies Expanded Data Collection

- Cape Lookout National Seashore
- Rachel Carson Reserve
- Calico Creek
- Hammocks Beach State Park
- Lee Hutaff Island
- Bird Island Reserve

UNCW phase II of CFRF grant funded research

- Partner with additional crabbers
across a broader region
- Test “pinched” funnels
- Outreach and education



QUESTIONS?

