

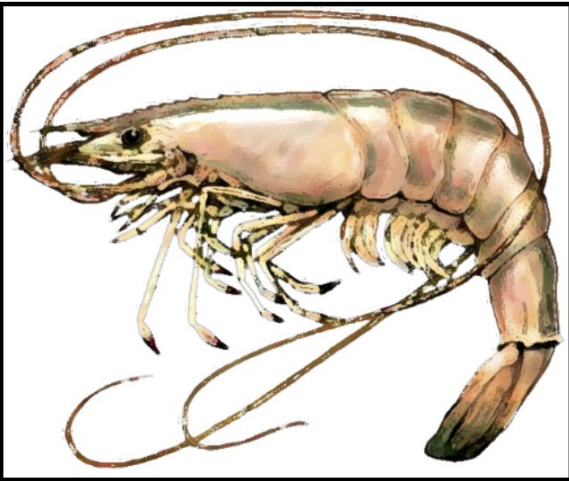
Scoping Document



Management Strategies for Amendment 2 to the Shrimp Fishery Management Plan



February 2020



The N.C. Division of Marine Fisheries seeks your input on management strategies for the Shrimp Fishery Management Plan.

A scoping period for public comment begins
Jan. 7, 2020 and ends Jan. 21, 2020.

Comments must be received/postmarked by
5 p.m. (EST) on Jan. 21, 2020.

Scoping Meetings

DMF staff will provide information about Amendment 2 to the Shrimp Fishery Management Plan (FMP) and will be available for questions from the public. A public comment period will follow.

Tuesday, Jan. 7, 2020 at 6 p.m. to 8 p.m.

N.C. Department of Environmental Quality
943 Washington Square Mall, Highway 17
Washington, NC 27889

Thursday, Jan. 9, 2020 at 6 p.m. to 8 p.m.

N.C. Department of Environmental Quality
Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405

Monday, Jan. 13, 2020 at 6 p.m. to 8 p.m.

Central District Office
5285 Highway 70 West
Morehead City, NC 28557

Can't attend but want to submit comments? Here's how!

Written comments can be submitted
by online form or by U.S. mail.
Comments sent by U.S. mail must be
postmarked by Jan. 21, 2020 to be
accepted. **The division will not accept
public comment through email.**

To comment by online form:

The online form can be accessed
through the Shrimp Amendment
Information Page [http://
portal.ncdenr.org/web/mf/shrimp-
fmp-amendment-2-topic](http://portal.ncdenr.org/web/mf/shrimp-fmp-amendment-2-topic). Please use
the link at the bottom of the
information page.

To comment by U.S. mail, please submit written comments to:

N.C. Division of Marine Fisheries
Shrimp FMP Amendment 2
Scoping Comments
P.O. Box 769
Morehead City, NC 28557

Questions about the shrimp stock, fishery, or Amendment 2 to the Shrimp Fishery Management Plan?



Contact the leads:

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Shrimp lead

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Shrimp co-lead

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Shrimp co-lead

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Questions about the FMP Process?

Kathy Rawls

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Purpose of the Scoping Document

The purpose of this document is to inform the public the review of the Shrimp FMP is underway and to provide an opportunity for the public to comment on identified management strategies or identify other relevant strategies in the management of the shrimp fishery. Input received at the start of the FMP review process may shape the final amendment and its management measures (solutions). To help focus the input received from the public, this document provides an overview of initially identified strategies, as well as background information on the fishery and the stock. A series of questions about each strategy is also provided for the public to consider when thinking about the strategies; in general: "What should shrimp management be? What changes are needed?"

Additional management strategies may be considered in Amendment 2 dependent on statutory requirements, available data, research needs, and the degree of impact the management strategy would have and how effective the solution would be. If the division determines a management strategy raised during the scoping period might have significant impacts on the species, additional examination of the strategy may be undertaken in the development of the FMP.

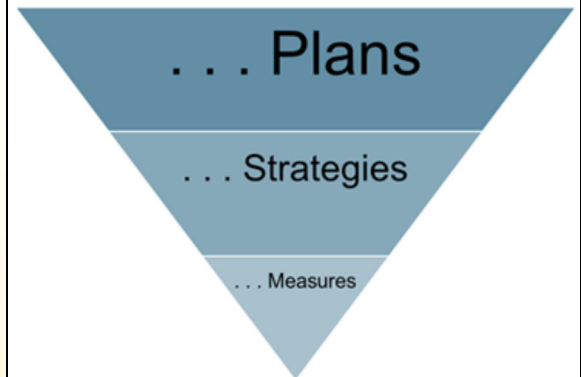
Scoping provides an opportunity for the public to comment on strategies identified by the division as well as any additional relevant strategies for possible consideration for the development of the FMP.

What is Scoping?

Scoping is the first stage of the process to determine the appropriate contents of an FMP. Scoping serves many purposes including: (1) to provide notice to the public that a formal review of the FMP is underway by the N.C. Division of Marine Fisheries (DMF or division), (2) inform the public of the stock status of the species (stock status is not available for shrimp as they are considered an annual crop), (3) solicit stakeholder input on a list of strategies identified by the DMF and identify other relevant strategies that may need to be addressed, and (4) recruit potential advisors to serve on the advisory committee (AC) for the FMP that is appointed by the N.C. Marine Fisheries Commission (MFC). The public will have more opportunity to provide comments as the amendment is developed; however, scoping is the first and best opportunity to provide input on potential strategies for DMF to consider before an amendment is developed.

FISHERY MANAGEMENT PLANS- A TIERED APPROACH

Fishery Management



Management PLANS are implemented to achieve specified management goals for a fishery, such as sustainable harvest, and include background information, data analyses, fishery habitat and water quality considerations consistent with Coastal Habitat Protection Plans, research recommendations, and management strategies.

Management STRATEGIES are adopted to help reach the goal and objectives of the plan. They are the sum of all the management measures selected to achieve the biological, ecological, economic, and social objectives of the fishery.

Management MEASURES are the actions implemented to help control the fishery as stipulated in the management strategies.

FMP Timeline (Assumes rulemaking not required)

Process Step	Date
Public scoping meetings	January 7-21, 2020
DMF prepares draft Amendment 2	January – June 2020
FMP AC and DMF work together to further develop Amendment 2	July – September 2020
DMF selects initial management recommendations	October 2020
MFC votes to send draft FMP for public and AC review	November 2020
Public comment and AC meetings for review of draft Amendment 2	December 2020 – January 2021
MFC selects preferred management options	February 2021
NC DEQ Secretary and legislature review draft FMP	March – April 2021
MFC votes on final adoption of Amendment 2	May 2021

Developing an amendment

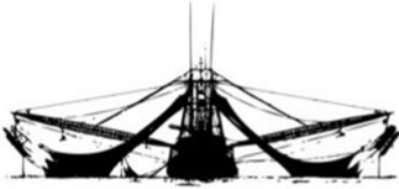
Annually, the DMF reviews all species for which there are FMPs for North Carolina and provides an update to the MFC. This review includes any recommended changes to the schedule for FMP review and amendment development. Per N.C. law, any changes to the schedule must be approved by the N.C. Department of Environmental Quality (N.C. DEQ) Secretary.

When a plan is opened for review, the first step of the formal amendment process is a scoping period. After relevant strategies have been identified by the DMF, the public (during the scoping period), and by the MFC, the division's plan development team (PDT) develops a preliminary draft amendment. The first draft will be completed before the FMP AC is appointed. Once appointed, the AC will meet with the PDT at a series of workshops to assist in developing the FMP by further refining the draft amendment.

Upon completion of this draft, the amendment is taken to the MFC for approval to go out for public comment and review by the MFC's standing and regional ACs. Following consideration of public and AC comment, the Commission selects its preferred management measures for Amendment 2. Next, draft Amendment 2 goes to the NC DEQ Secretary and the legislature for review before the MFC votes on final approval of the amendment.

Why is this happening now?

The 2019 N.C. Fishery Management Plan (FMP) Review Schedule shows the review of the Shrimp FMP is underway. To begin the development of the Shrimp FMP Amendment 2, the division is examining management strategies to further reduce bycatch of non-target species in the shrimp trawl fishery and potential changes to existing shrimp management strategies that were adopted in the 2006 FMP, 2015 Amendment 1, and 2018 Revision to Amendment 1. The division is also taking into consideration input received from the Marine Fisheries Commission through motions passed at its August 2018 and February 2019 meetings regarding general areas of focus and possible goals and objectives for Amendment 2.



Amendment 2 Background

Shrimp in North Carolina

There are three primary shrimp species (brown, pink, and white) that are harvested recreationally and commercially in North Carolina. In 2018, shrimp was the most economically important commercial fishery in North Carolina with a total ex-vessel revenue of \$20,047,148. Shrimp are harvested throughout the state by otter trawls, skimmer trawls, channel nets, seine nets, cast nets, shrimp pots, and pounds. In 2018, 78% of commercial shrimp landings were harvested in estuarine waters and 18% were harvested in the Atlantic Ocean (less than 3 miles) by otter trawls. Commercial landings have averaged 7,345,451 pounds a year from 1994 to 2018 (Figure 1). Total landings from the recreational fishery are unknown; however, estimates from the recreational cast net and seine survey indicate that 168,010 trips were made from 2012 to 2018.

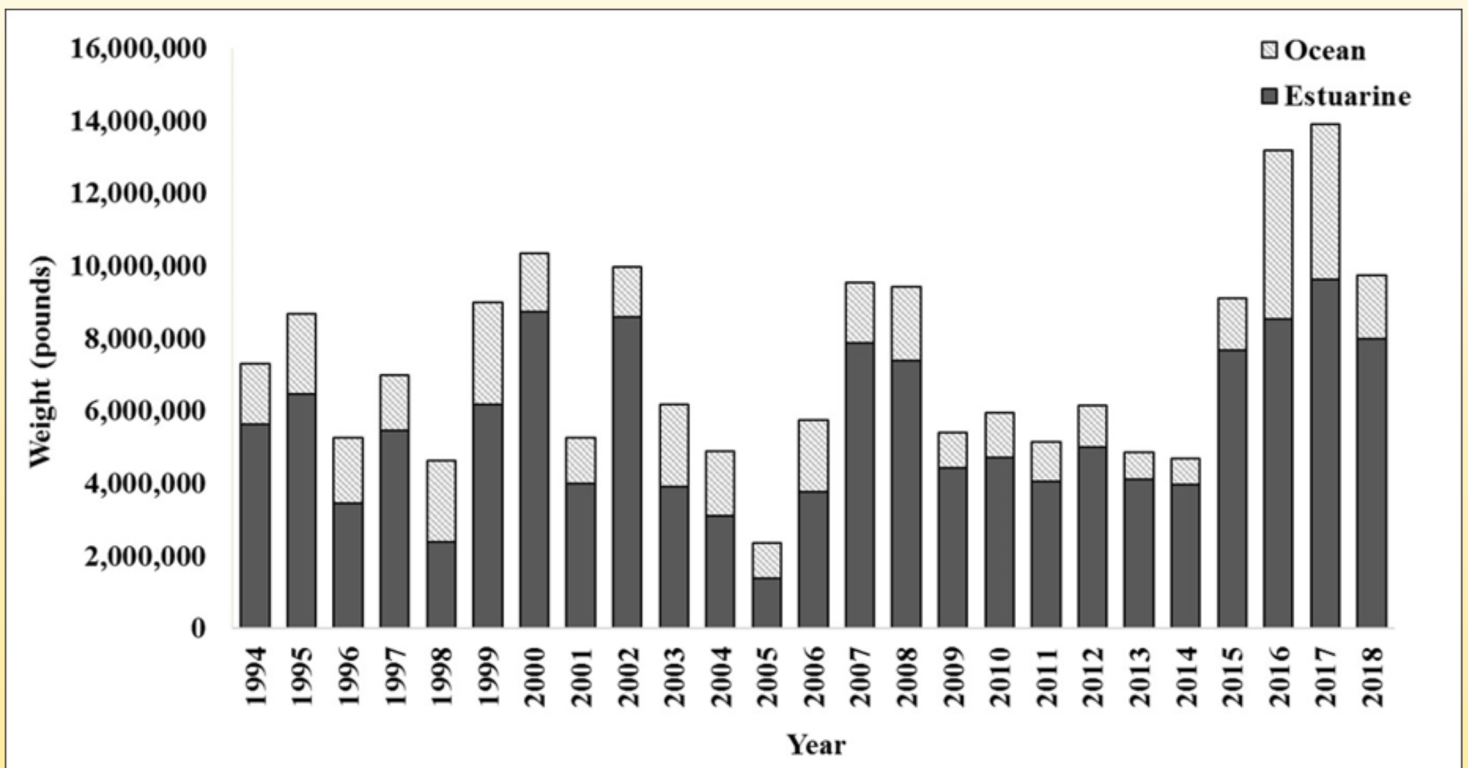


Figure 1. Annual commercial shrimp landings (pounds, heads-on) by area from all three shrimp species combined in North Carolina, 1994-2018. (Source: North Carolina Trip Ticket Program).

Stock Status

Stock status is not available for shrimp as they are considered an annual crop. Shrimp population size is heavily influenced by environmental conditions, and while fishing reduces the population over the season, fishing mortality is not believed to have any impact on subsequent year class strength unless the spawning stock is reduced below a minimum threshold. Because of their high reproductive output and migratory behavior, all three species are capable of rebounding from a very low population size in one year to a large population size in the next, provided environmental conditions are favorable.

Estimates of population size are not available and there are no juvenile or adult indices of abundance for white and pink shrimp in North Carolina; however, estimates of brown shrimp recruitment are available. The only other data available for shrimp are commercial landings and associated effort from the N.C. Trip Ticket Program. Since the fishery is considered an annual crop and fished near maximum levels, annual landings are likely a good indication of relative abundance. Annual variations in landings are presumed to be due to a combination of prevailing environmental conditions, fishing effort, and market forces.

Annual crop species are short-lived and the annual abundance of the stock is a function of the strength of the incoming year class.



Amendment 2 Management Strategies

Bycatch Reduction

Effort Controls

Background

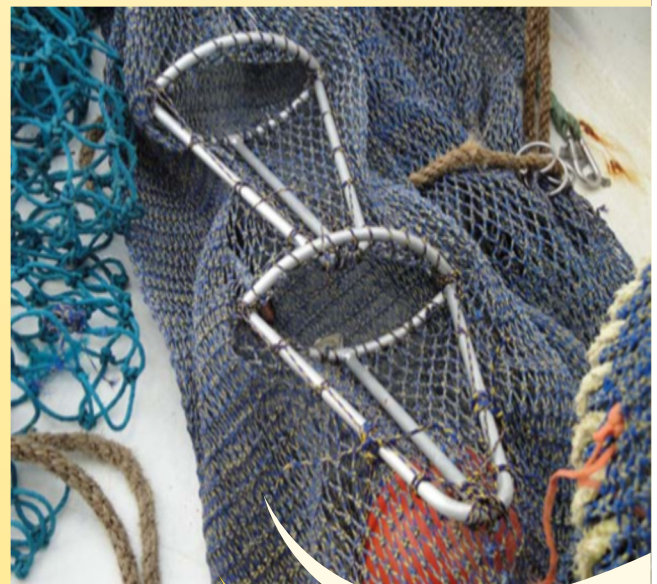
Bycatch is an important topic in fisheries management and marine conservation in the United States and around the world (NCDMF 2015). North Carolina became the first state to require the use of Bycatch Reduction Devices (BRDs) in all shrimp trawls in 1992. Many of the management strategies examined in Amendment 1 focused on limiting effort to reduce bycatch and could be considered again, or refined, they include:

Bycatch is defined as the portion of a catch taken incidentally to the targeted catch because of non-selectivity of the fishing gear to either species or size differences (ASMFC 1994).

- Additional day(s) of week closure
- Develop closed seasons in internal coastal waters (estuarine) and the Atlantic Ocean (0-3 miles)
- Headrope reductions

Questions for the Public

- Do you support additional day(s) of the week closures to reduce bycatch in internal coastal waters or Atlantic Ocean (0-3 miles)? If so, how many additional days?
- Should an additional day of the week closure in internal coastal waters be continuous with the current weekend closure (9:00 p.m. Friday through 5:00 p.m. Sunday) or should it be in the middle of the week (for example Tuesday or Thursday)?
- Do you support the use of closed seasons to reduce bycatch? If so, when should closed seasons be implemented?
 - Should there be closed seasons in internal coastal waters, the Atlantic Ocean, or both?
 - Should the seasons have static opening and closing dates?
 - Should the current season (August 16 to May 14) allowing special secondary nursery areas to be opened by proclamation be adjusted?
- Do you support reducing headrope lengths in shrimp trawls in internal coastal waters, the Atlantic Ocean, or both? If so, what maximum headrope length should be considered in each area?



Area Restrictions

Background

In the 1980s, Special Secondary Nursery Areas (SSNAs) were established to allow shrimp harvest to occur after most fish have migrated out of the bays. Many of these areas, such as portions of the Intracoastal Waterway, function as nursery areas and act as migration corridors. Corridors provide connectivity among various habitats and are critical to the dispersal of larvae and the overall health of the habitats they connect. Closing these migration corridors may help reduce bycatch of juvenile finfish and invertebrates as they migrate through estuarine bays toward coastal inlets.

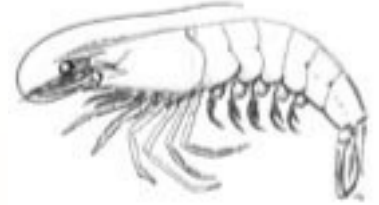
In areas closed to the harvest of shrimp, only cast nets are allowed but are limited to no more than four quarts (heads-on) or two and one-half quarts (heads-off) of shrimp per person per day. If additional areas are closed to shrimp trawling, increased catch limits and the use of alternate gears may provide fishermen additional opportunities to harvest shrimp for bait and food consumption while minimizing bycatch and protecting habitat from bottom disturbing gears. Further, non-quantifiable, reductions in bycatch could be achieved if shrimp trawls were phased out as a recreational commercial gear in areas opened to shrimp trawls. Several management strategies could be introduced or refined to reduce bycatch in the shrimp fishery while still allowing harvest in some areas closed to shrimp trawling, including:

- Close additional areas to shrimp trawling, for example potential bycatch hotspots in internal coastal waters, Intracoastal Waterway, and SSNAs
- Develop migration corridors closed to shrimp trawling

Questions for the Public

- Do you support additional area closures to reduce bycatch?
- Should special secondary nursery areas be closed to shrimp trawling?
- Do you support the creation of migration corridors? If so, are there specific areas that should be considered?
- Should inlets be closed to shrimp trawling to create migration corridors?
- Should migration corridors be considered in areas identified as bycatch hotspots?
- If additional areas are closed to shrimp trawling, should shrimp harvest limits in closed areas be increased?
- If additional areas are closed to shrimp trawling, should alternate gears (e.g., shrimp pots and pounds, seines, cast nets) be allowed for use in commercial harvest?
- Should shrimp trawls be phased out as a recreational commercial gear?

Shrimp Management

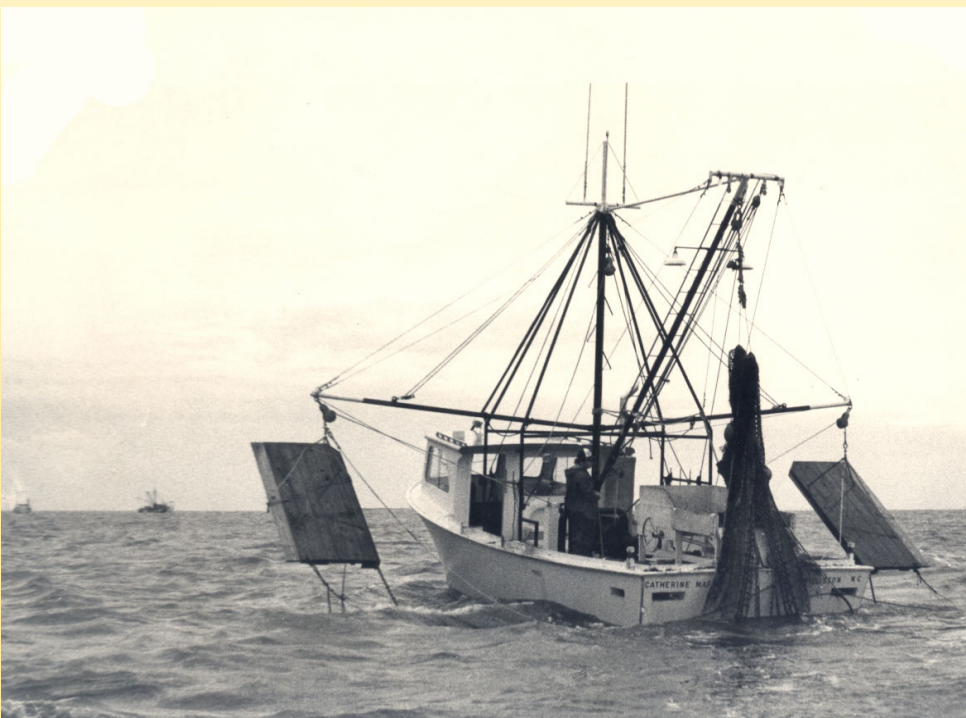


Size Restrictions

Background

Shrimp are spawned offshore in the winter. Post-larval shrimp move from the ocean into the estuaries on wind and tide driven currents in early spring and move high up into the upper reaches of small creeks to grow. As shrimp grow, they migrate from the creeks to deeper saltier rivers and sounds and finally to the ocean. When shrimp enter the estuaries, growth is rapid and is dependent on salinity and temperature. DMF conducts independent sampling in some SSNAs to determine openings, which are based on count size (number of shrimp per pound) as well as the abundance of bycatch. The division Director can open these areas by proclamation authority from August 16 through May 14. This strategy was originally put in place to allow fishermen to catch shrimp late in the season that have not migrated out into the larger estuaries. However, the occurrence of unusual weather patterns and changes in market demands (bait use versus human consumption), have complicated the division's ability to minimize bycatch, while allowing harvest. Current efforts to manage shrimp by size could be refined or eliminated to allow a greater size range of shrimp to be harvested, these strategies could include:

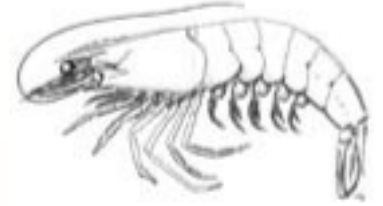
- Evaluate the current shrimp management strategies that determine season openings in SSNAs based on shrimp count size and finfish abundance within set dates



Questions for the Public

- Should shrimp management by size be eliminated?
- Should target count sizes used to determine opening be adjusted?
- Should the bait shrimp fishery be exempt from target opening sizes?

Habitat



Area Restrictions

Background

A number of criteria have been used to determine if trawling should be allowed in estuarine waters. These criteria include habitat qualities such as structure, aquatic vegetation, water depth, and bottom types. The closure of nursery areas and the protection of habitat through MFC rules and proclamations are designed to minimize the bottom-disturbing effects of some fishing gears such as dredges and trawls. The Coastal Habitat Protection Plan (CHPP) recommends that some areas of fish habitat be designated as “Strategic Habitat Areas” (SHAs; NCDEQ 2016). SHAs are defined as general locations of individual fish habitat or systems of habitat that have been identified to provide critical habitat functions or that are particularly at risk due to imminent threats, vulnerability, or rarity. Additionally, the CHPP focuses on the fish habitat and threats to the habitat. The process of identifying SHAs was completed in 2018 with the approval of nominated SHAs by the MFC and the next phase of field verification is underway.

Questions for the Public

- Do you support closing additional critical fish habitat areas to shrimp trawling? If so, how should these areas be determined?





Questions for the Public about Potential Management Strategies



1. What management strategies already under consideration do you support for long-term management?
2. Are there other relevant strategies not included here that the division should consider for Amendment 2?

Additional management strategies may be considered in Amendment 2 dependent on statutory requirements, available data, research needs, and the degree of impact the management strategy would have and how effective the solution would be. If the division determines a management strategy raised during the scoping period might have significant impacts on the species, additional examination of the strategy may be undertaken in the development of the FMP.

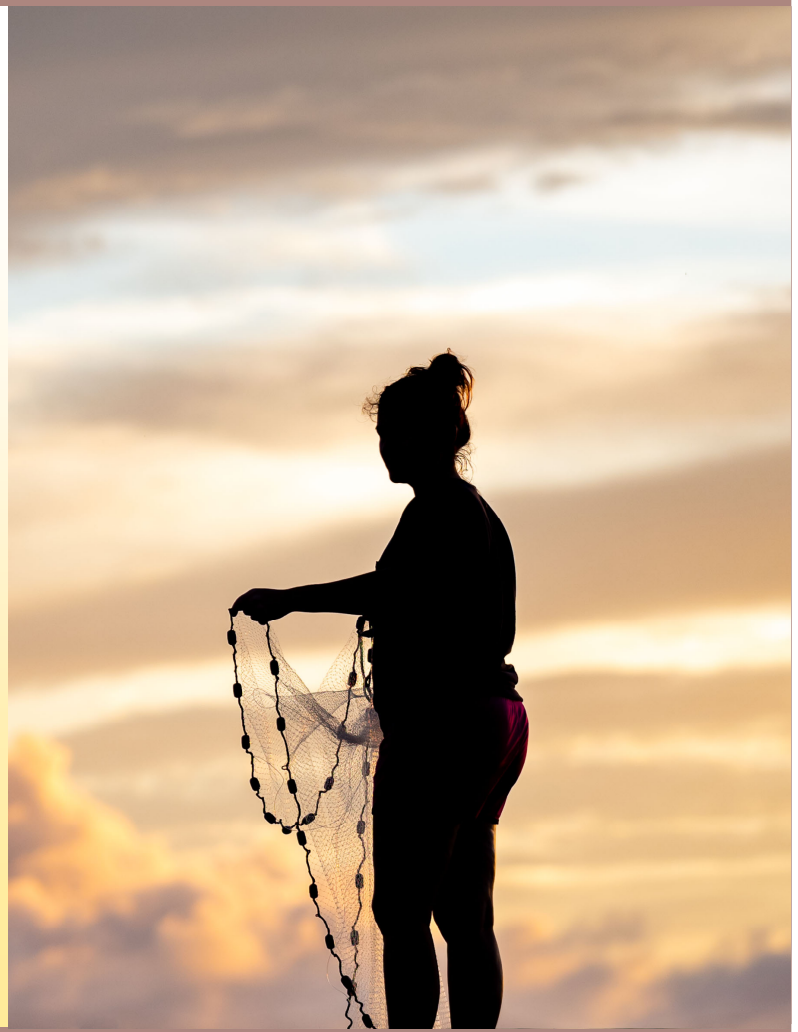


Literature Cited

ASMFC (Atlantic States Marine Fisheries Commission). 1994. Acronyms, abbreviations, and technical terms used in ASMFC fishery management programs. Special Report No. 33 of the Atlantic States Marine Fisheries Commission, Washington D.C. 22p.

NCDEQ (North Carolina Department of Environmental Quality). 2016. North Carolina Coastal Habitat Protection Plan Source Document, Division of Marine Fisheries, Morehead City, N.C. 475 p.

NCDMF (North Carolina Division of Marine Fisheries). 2015. North Carolina Shrimp Fishery Management Plan, Amendment 1. North Carolina Department of Environment and Natural Resources, Division of Marine Fisheries, Morehead City, N.C. 514 p.



Scoping Document

Management Strategies for Amendment 2 to the Shrimp Fishery Management Plan

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