



*Review of the N.C. Wildlife Federation's
Petition for Rulemaking*

January 17, 2017

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries





Review of the petition

- Assembled background information to provide context
- Identified general considerations for each component

No formal positions on the petition at this time

- Preparing detailed review for commission's February meeting
- Taking into account comments and recommendations from today's meeting

General comments

- Reviewed only the information provided by petitioner
 - Not able to immediately respond to new information or rule proposals.
- Seeking legal opinion from the DEQ Office of General Counsel on:
 - Proposed rule changes in relation to fishery management plan (FMP) procedures as outlined by statute and the recent 2015 Shrimp FMP actions and rules



Issues and management options evaluated and addressed in 2015

Shrimp FMP:

- Alternative and modified fishing gears
- Effort management - head rope lengths, net numbers, vessel lengths, adding one day to the weekend closure, closing shrimp trawling at night
- Area restrictions, management of New River trawling
- Bait shrimping

Relevant measures approved by the commission in 2015:

- Require two bycatch reduction devices (implement by proclamation)
- Collaborate with industry on a shrimp trawl gear study with a 40-percent bycatch reduction target
- Support NMFS requirement for turtle excluder devices in skimmer trawls
- Consider changing designation of Special Secondary Nursery Areas not opened since 1991 to permanent Secondary Nursery Areas

Organization of DMF's Review of Petition

1. Proposal to designate all coastal fishing waters (not otherwise designated as nursery areas) as a special secondary nursery area
2. Proposal to establish criteria for opening the shrimping season
3. Proposal to define the types of gear and how/when gear may be used (in the proposed special secondary nursery area during shrimping season)
4. Proposal to establish new size limits for Atlantic croaker and spot

1. Designation of Special Secondary Nursery Areas

Proposed: Designate all coastal fishing waters not otherwise designated as nursery areas as a Special Secondary Nursery Areas

There are different ecological functions across areas and habitats within the estuaries – not all habitats have equal function or management goals.

Background

General Definition of a Nursery Area (15A NCAC 03I .0101(4)(f))

Areas that for reasons such as food, cover, bottom type, salinity, temperature, and other factors, young finfish and crustaceans spend the major portion of their initial growing season.

Primary Nursery Areas were established by rule in the 1970s, based on field surveys and analysis of juvenile fish abundance and other environmental factors (e.g. temperature, salinity, circulation).

DMF protocol for new designations requires a minimum of three continuous years of sampling an area in order to fully evaluate habitat function.

1. Designation of Special Secondary Nursery Areas

Background

Primary Nursery Areas (PNA): those areas in the estuarine system where initial post-larval development takes place. These are areas where populations are uniformly early juveniles.

- PNAs are established based on juvenile sampling.
- PNAs represent approximately 4 percent of North Carolina estuaries
- Unlawful to use trawls, long haul seines, swipe nets and dredges in any PNAs (03N .0104)
- Avoid significant impacts to PNAs (07H .0208)
 - No new dredging, marinas restricted
 - Docking facilities and floating platforms restricted based on water depths
 - No replacement of bridges with culverts
- Waters designated as PNAs are classified as High Quality Water (02B .0101)

1. Designation of Special Secondary Nursery Areas



Background

Secondary Nursery Areas (SNA) are areas in the estuarine system where later juvenile development takes place. Populations are composed of developing sub-adults of similar size that have migrated from an upstream primary nursery area and are generally located in the middle portion of the estuarine system.

- SNAs represent approximately 2.4 percent of North Carolina's estuaries
- Trawling is prohibited
- DMF has no juvenile sampling program for ocean waters

Special Secondary Nursery Areas (SSNA) are areas designated to allow shrimping to occur once substantial migration of juvenile and sub-adult fish has occurred, allowing for shrimp harvest otherwise lost to migration.

- SSNAs represent approximately 1.9 percent of North Carolina's estuaries
- Trawling is prohibited from May 15 - Aug.15



1. Designation of Special Secondary Nursery Areas



Considerations

- Of the 2.2 million acres of estuarine waters, 900,000 (45 percent) are closed to shrimp trawling, including:
 - Primary Nursery Areas
 - Secondary Nursery Areas
 - Other areas prohibited to shrimp trawling by rule:
 - Albemarle Sound
 - Submerged Aquatic Vegetation designated area
 - Upper Neuse River
 - Upper Pamlico River
 - Pungo River
- Potential role of Strategic Habitat Areas (SHAs) as outlined in the Coastal Habitat Protection Plan

1. Designation of Special Secondary Nursery Areas



Considerations

- Clarification on management of proposed Special Secondary Nursery Areas as opposed to existing Special Secondary Nursery Areas
 - Changes to 15A NCAC 3N .0105 would provide an exception for existing special secondary nursery areas, with less restrictive harvest practices.

Proposed SSNAs	Already Designated SSNAs
Daytime trawling only	Daytime and nighttime trawling
Three days a week	Five days a week
45-minute tow times	Unlimited tow times

- Potential displacement of fishing effort from proposed SSNAs to existing SSNAs



Miles
0 15 30

Miles
0 0.25 0.5

Miles
0 2.5 5

Nursery Areas in Pamlico, Stump, and Core Sounds

- Primary Nursery Areas
- Permanent Secondary Nursery Areas
- Special Secondary Nursery Areas



1. Designation of Special Secondary Nursery Areas



Considerations

- Other fisheries would be impacted and/or be eliminated by new Special Secondary Nursery Area designations:
 - Crab trawling/peeler trawling
 - Clam kicking/trawling
 - Finfish trawling in the ocean
 - Flynet
 - Flounder
 - Striped bass
 - Permitted live bait harvest



2. Proposal to change opening of shrimp season

Proposed: Restrict the Marine Fisheries Director in use of proclamation authority from opening the shrimp season until the shrimp count reaches 60 shrimp per pound (heads on) in the Pamlico Sound.

Background

The current 2015 Shrimp FMP defines size-count-per-area criteria used as guidance for opening specific areas. The criteria take into account environmental and biological factors, including bycatch.

Considerations

- May or may not reduce trawling effort and bycatch because of environmental conditions that influence size and migration

2. Proposal to change opening of shrimp season



Considerations

- Petition is unclear on how to manage the proposed Special Secondary Nursery Area, including:
 - Will likely require significant new DMF sampling efforts and protocol in Pamlico Sound
 - Pamlico Sound would serve as a proxy for determining coast-wide season opening
 - The opening, as proposed, does not take into account the seasonal and geographic component of the three species of shrimp

3. Proposal for new gear restrictions in SSNAs

Proposed: Set maximum headrope length at 90 feet for estuarine waters and in the ocean from 0 to 3 miles.

Background

- 90-foot headrope length is already in place for all waters, except Pamlico Sound and the ocean
- 2015 Shrimp FMP addressed and established a maximum headrope length of 220 feet to cap fleet capacity (not necessarily related to bycatch reduction)

3. Proposal for new gear restrictions in SSNAs

Considerations

Average Headrope Lengths (2010 and 2011)

Waterbody	2010	2011
Pamlico Sound	128 feet	117 feet
Rivers (Lower Pamlico, Lower Neuse)	55 feet	52 feet
Carteret County	47 feet	46 feet
South of Carteret County	38 feet	39 feet
Ocean	120 feet	120 feet

3. Proposal for new gear restrictions in SSNAs

Proposed: Adopt rule requiring two bycatch reduction devices in shrimp trawls correctly installed and operational.

Background

Required by the 2015 Shrimp FMP through proclamation (SH-2-2015), which provides descriptions of authorized bycatch reduction devices that may be used in North Carolina coastal fishing waters

Considerations

- Ongoing, three-year bycatch reduction gear study with a 40-percent bycatch reduction goal, as specified in the 2015 Shrimp FMP
 - Initial results are promising, with preliminary bycatch reductions results as high as 50 percent.
 - Study will be completed at the end of 2017 and results will be evaluated and presented to the commission.



3. Proposal for new gear restrictions in SSNAs

Proposed: Restrict shrimp and crab trawling to three days a week

Background

Currently, shrimp trawling is prohibited on weekends.
(9 p.m. Friday to 5 p.m. Sunday).

Considerations

- Best catches of shrimp occur after the weekend closure
- Recoupment (delay in catch) may occur.
 - May yield higher shrimp catch on the first open day of the week
 - Unclear impact on bycatch as effort may increase on opened days (number of vessels and tows per day)
- Does not take into account days lost by weather, tide, moon phases
- Petition does not recommend which days to close.



3. Proposal for new gear restrictions in SSNAs



Proposed: Prohibit nighttime shrimp and crab trawling.

Background

Some areas of North Carolina are already restricted to daytime trawling

Considerations

- Daytime and nighttime trawling determined by life histories of shrimp species
 - Brown and pink shrimp more active at night
 - White shrimp more active during the day
 - Data are limited on nighttime trawling
- Enforcing nighttime closures would likely increase the need for additional nighttime patrol by Marine Patrol officers.



3. Proposal for new gear restrictions in SSNAs

Proposed: Limit shrimp and crab trawling to a maximum of 45-minute tows.

Background

- Restricting tow times was considered as a management option in the 2015 Shrimp FMP
- Skimmer trawls are required to have maximum tow times based on season

Considerations

- May reduce bycatch mortality
- Recoupment of shrimp and bycatch may occur due to additional tow times
- Enforcement of a tow time is difficult without significant Marine Patrol oversight or costly monitoring systems



4. Changing Size Limits for Spot and Croaker

Proposed: Establish size limit for spot at 8-inch total length

Background: Spot

- Managed by the Atlantic States Marine Fisheries Commission's FMP and the N.C. FMP for Interjurisdictional Fisheries.
- Stock Status - *Concern*
 - No coast-wide stock assessment
 - Unable to determine if overfishing is occurring or if overfished
 - Declining trends in abundance and harvest
 - Management triggers not met; abundance just below the threshold
- Short-lived
 - Mature at age 2
 - Average size at maturity: 7.9 inches total length for males and 8.4 inches total length for females (SEAMAP)



4. Changing Size Limits for Spot and Croaker

Proposed: Establish size limit for Atlantic Croaker at 10-inch total length

Background: Atlantic Croaker

- Managed by the Atlantic States Marine Fisheries Commission's FMP and by the N.C. FMP for Interjurisdictional Fisheries
- Stock Status - *Concern*
 - Not experiencing overfishing, unable to determine if overfished
 - Biomass increasing
 - Age structure expanding
 - Fishing mortality decreasing
 - Recruitment variable but generally increasing
 - Management triggers not met; no action needed.
 - Inadequate data on magnitude of discards in South Atlantic shrimp trawl fishery
- Short-lived
 - Mature at age 2
 - Average size at maturity: 7.25 inches total length for males and 7.5 inches total length for females (SEAMAP)



4. Changing Size Limits for Spot and Croaker

Considerations

- Spot and Atlantic croaker are managed as coastwide stocks by the Atlantic States Marine Fisheries Commission (ASMFC).
- NC adopts ASMFC and South Atlantic and Mid-Atlantic Fishery Management Council FMPs through the N.C. FMP for Interjurisdictional Fisheries
 - Provides for proclamation authority to comply with mandated measures from ASMFC/council plans
 - Allows for Marine Fisheries Commission to take action(s), if needed, to comply with other plans.
- NC can adopt a state-specific plan outside of the N.C. FMP for Interjurisdictional Fisheries, such as red drum, but must still comply with commission/council plan.
- Potential increase of regulatory discards





Questions ?

