



Adding Bullet and Frigate Mackerel as Ecosystem Component Species in the Dolphin Wahoo Fishery Management Plan

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What is the Council considering?

- Adding bullet mackerel (*Auxis rochei*) and frigate mackerel (*Auxis thazard*) as ecosystem component (EC) species to the Dolphin Wahoo Fishery Management Plan (FMP).



Photo of a bullet mackerel (*Auxis rochei*).
Photo credit: www.ncfishes.com



Photo of a frigate mackerel (*Auxis thazard*).
Photo credit: www.ncfishes.com



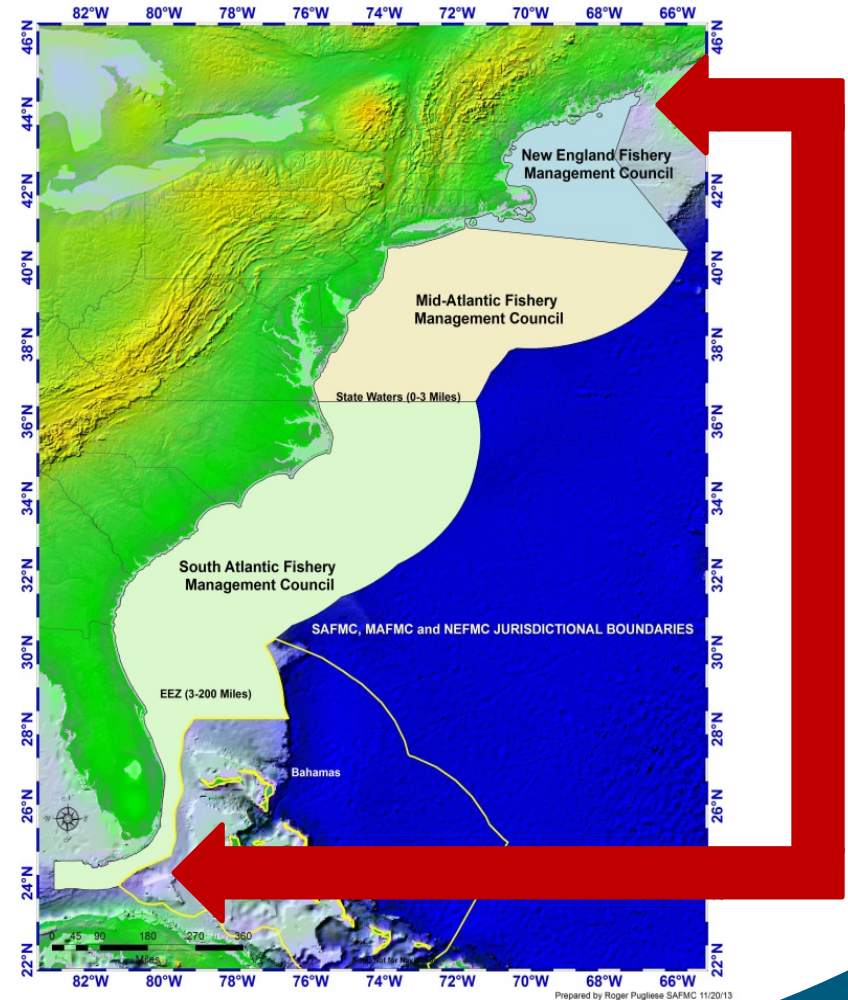
Why is the Council considering action?

- Acknowledgement of the role that the two unmanaged mackerel species play as important prey for both dolphin and wahoo.



What regions would be affected by this action?

- The Atlantic Dolphin Wahoo FMP which covers the U.S. Exclusive Economic Zone (EEZ) from Maine through the Florida Keys.
- A change to the FMP has the potential to affect some fisheries in the EEZ along the entire U.S. Atlantic coast.
- The SAFMC serves as the lead fishery management council but manages in cooperation with Mid-Atlantic Fishery Management Council (MAFMC) and New England Fishery Management Council (NEFMC).



Initial request to consider bullet and frigate mackerel as EC species

- In March 2018, the MAFMC requested that the SAFMC consider managing bullet mackerel and frigate mackerel as EC species in the Dolphin Wahoo FMP.
- Originally considered the two mackerel species for inclusion in MAFMC's Unmanaged Forage Omnibus Amendment but disapproved The National Marine Fisheries Service.
 - Concerns over inconsistency with National Standard 2 (Scientific Information) and an insufficient connection to the MAFMC's managed fisheries.



Distribution and connection to dolphin and wahoo

- Bullet mackerel are found from Cape Cod to the Gulf of Mexico.
- Frigate mackerel are mostly found from North Carolina to Florida.
- Both species have been identified in the diets of dolphin and wahoo in the North Atlantic.
 - Wahoo have a strong reliance on bullet and frigate mackerel as forage, and the two species have been observed as the most dominant forage species by mass and number in wahoo diets.
 - Dolphin tend to have more diverse diets and a lower reliance on the *Auxis* species, but bullet and frigate mackerel have been identified as important prey for dolphin at times.



Fisheries for bullet and frigate mackerel - Commercial

- Commercial landings of bullet and frigate mackerel over the past 20 years were reported by dealers in the Mid-Atlantic and New England regions.
 - All reported as frigate mackerel.
- Commercial landings have been variable but typically are low.
 - 4,508 lbs/year on average from 1998 through 2017.
 - \$2,391 average annual ex-vessel value and average ex-vessel price of \$0.93/lbs (2017 \$).
 - There are some years where landings greatly increased.
 - Approximately 37,000 lbs in 1999 and 20,000 lbs in 2000.
 - Landings in recent years have typically been low.



Fisheries for bullet and frigate mackerel - Recreational

- Recreational landings of bullet and frigate mackerel have been variable and sporadic.
 - 4,730 lbs/year combined for both species on average.
 - Many years have no landings.
 - Approximately 52,000 lbs in 2012 and 18,000 lbs in 2013.
- Recreational catches of bullet and frigate mackerel have largely occurred in the South Atlantic Region.
 - Some catches reported from the Mid-Atlantic Region.



Regulatory parameters for adding EC species to an FMP

- There is no mention of "ecosystem component" in the Magnuson-Stevens Fishery Conservation and Management Act (MSA) itself.
- Basis for the concept presumably is derived from multiple references to "*ecosystem*" and authority for Councils "*to conserve target and non-target species and habitats*" through FMPs.
- Guidance on EC species is captured in the National Standard Guidelines.



Regulatory parameters- What are ecosystem component species?

- EC species are defined as *“stocks that a Council or the Secretary has determined do not require conservation and management, but desire to list in an FMP in order to achieve ecosystem management objectives.”*
- Specific “ecosystem management objectives” have not been fully developed in the Dolphin Wahoo FMP.
- Are being considered in the revised goals and objectives of the Dolphin Wahoo FMP.



Regulatory parameters- How can a Council designate a species as an EC?

- Under National Standards General guidelines, *“Councils may choose to identify stocks within their FMPs as ecosystem component (EC) species...if a Council determines that the stocks do not require conservation and management...”*
- *“...management measures can be adopted in order to, for example, collect data on the EC species, minimize bycatch or bycatch mortality of EC species, protect the associated role of EC species in the ecosystem, and/or to address other ecosystem issues.”*



Regulatory parameters- How can a Council designate a species as an EC?

- It appears that frigate mackerel and bullet mackerel may have the potential to be listed as EC species for dolphin and wahoo:
 - If the Council and the Secretary of Commerce agree that the species do not fit the requirements for implementing conservation and management measures.
 - If it is determined that the species are important in relation to ecosystem management of dolphin or wahoo stocks.



Mechanism for adding unmanaged prey species as EC species

- To add an EC species to a FMP, an amendment must take place.
 - Some Councils, such as the Pacific and Mid-Atlantic, have designated EC species through a comprehensive amendment that added the EC species to multiple FMPs at once.
 - A Council can add EC species to a single FMP.



How councils have designated unmanaged prey species as EC

Mid-Atlantic Fishery Management Council (MAFMC)

- Developed an Unmanaged Forage Omnibus Amendment.
- Comprehensively implemented management measures for 17 species and groups of species, with 16 of the species or groups being designated as ECs in all of the MAFMC's FMPs.
- Intended to prevent development of new or expansion of directed commercial fisheries for EC species until adequate information can be gathered to assess potential impacts.
- Received input from the MAFMC SSC on how to narrow down important forage species.



How councils have designated unmanaged prey species as EC

MAFMC (Continued)

- Established:
 - Possession limit: A 1,700 pound possession limit for all EC species combined.
 - Permit: All commercial vessels and operators that catch and/or possess EC species must be issued a commercial vessel and operator permit.
 - Transit provisions: Allows commercial vessels to transit the Mid-Atlantic Forage Species Management Unit with an amount of EC species onboard that exceeds the possession limit to land in a port outside of the management unit provided that the fish were harvested outside of the management unit and that all gear is stowed and not available for immediate use while transiting.
 - Record keeping and reporting: Requires vessel operators and seafood dealers to report the catch and sale of EC species on existing vessel trip reports and dealer reports.



How councils have designated unmanaged prey species as EC

Pacific Fishery Management Council (PFMC)

- Developed Comprehensive Ecosystem-Base Amendment 1 (CEBA 1).
- Comprehensively implemented management measures for multiple EC species in four of the PFMC's finfish FMPs.
- Intended to prevent development of new directed fisheries on unmanaged forage species until adequate information can be gathered to assess potential impacts.
- Adopted Council Operating Procedure 24.
 - Standard process to consider EFP proposals for EC species intended to develop scientific information that may lead to potential future directed fisheries.



How councils have designated unmanaged prey species as EC

PFMC (Continued)

- Established:

General measures:

- Retention limit: A prohibition on landing EC species without any other species onboard.
- Trip limit: A vessel trip limit of 10 metric tons combined weight of all EC species onboard.
- Annual limit: An annual vessel limit of 30 metric tons combined weight of all EC species in a calendar year.
- Processing limitation: A prohibition, with limited exceptions, of at-sea processing of EC species.

Trawl gear measures:

- Trip limit: A vessel trip limit of 1 metric ton combined weight of all EC species onboard, with the exception of EC squid species.
- Annual limit: An annual vessel limit of 40 metric tons combined weight of any EC squid species in a calendar year.



How councils have designated unmanaged prey species as EC

North Pacific Fishery Management Council (NPFMC)

- Recently classified squids as EC species through amendments to their Bering Sea Aleutian Islands (BSAI) Groundfish and Gulf of Alaska (GOA) Groundfish FMPs.
- The NPFMC noted that *“squid are important prey species for marine mammals, fish, and other squid.”*
- and *“although squid do not require conservation and management, it is still appropriate to take measures to minimize squid bycatch to the extent practicable.”*



How councils have designated unmanaged prey species as EC

NPFMC (Continued)

- Established:
 - Record keeping and reporting: catch, discard, and production of squid must be recorded in logbooks or on catch or production reports.
 - Retention limit: the maximum retainable amount of squid is not to exceed 20 percent of the total landings retained.



How councils have designated unmanaged prey species as EC

South Atlantic Fishery Management Council (SAFMC)

- The SAFMC has listed several EC species in the Snapper Grouper FMP.
 - Not directly implemented due to concerns over the protection of prey species.
 - No regulations associated with the EC species listing but the species stay within the Fishery Management Unit.
 - Listing as EC species has prioritized the species for continued data collection that may help with future ecosystem modeling and ecosystem-based fishery management efforts.



Implications of listing unmanaged prey species an EC

- Implications vary and are highly dependent on the management measures put in place around that species.

Recognizes the ecosystem role of the species as prey for species that a Council directly manages.

Can provide protection for the species from unexpected rapid ramp-up in directed effort or landings.

Allows for orderly growth of directed fisheries if desired.

Can address bycatch concerns.

May prioritize a species for research and monitoring.

Potential cost to fishery participants by capping potential revenue streams if management measures are put in place.

Also cost to Council and NMFS by dedicating resources to adding EC species to a FMP, implementing regulations, and providing monitoring.



Potential options for addressing EC species

- As shown through past actions of the SAFMC and other Councils, there are several options that the SAFMC may have if designating bullet and frigate mackerel as ecosystem components.
- The seemingly somewhat flexible guidance in the Nation Standard Guidelines appears to also encourage novel ideas on the part of a Council provided that ideas remain within the existing constraints.



Potential options for addressing EC species

- Option 1: Request guidance from the SSC
 - Request guidance from the SSC on identifying prey species to be listed as ecosystem components.
- Option 2: Designate EC species with no management related items
 - Designate EC species with no management related items such as trip or possession limits. This is similar to actions taken to list some snapper grouper species as EC species in the Snapper Grouper FMP and may elevate the importance of the species for research and monitoring purposes.



Potential options for addressing EC species

- Option 3: Prohibit or limit a directed fishery through a trip limit
 - Prohibit directed fisheries for designated EC species by establishing a trip limit which can be based on a total amount or a percent of total trip landings. This trip limit can apply across all gears or can focus on specific gears.
- Option 4: Prohibit or limit a directed fishery through an annual vessel limit
 - Prohibit directed fisheries for designated EC species by establishing an annual vessel limit.



Potential options for addressing EC species

- Option 5: Implement a reporting requirement
 - Establish or focus reporting requirements towards EC species such as through logbooks or dealer reports.
- Option 6: Implement a permit requirement
 - Establish permit requirements for landing EC species.
- Option 7: Implement a protocol for building directed fisheries for EC species
 - Establish a mechanism or protocol for allowing the development of a directed fishery for species listed as ecosystem components.



Potential options for addressing EC species

- Option 8: Other options???
 - Under National Standards General guidelines “*management measures can be adopted in order to...address other ecosystem issues.*” Are there “other ecosystem issues” not listed that need to be addressed in the Dolphin Wahoo FMP and what management measures could be created to do so?
- In addition to the options that are based on actions that other councils have taken in regards to protecting unmanaged forage species, the South Atlantic Council also expressed interest in exploring a prohibition on sale of bullet and frigate mackerel.



Where this issue stands now

- Scoped in May 2019
 - Vast majority of commenters expressed support for the Council moving forward with adding bullet and frigate mackerel as EC species in the Dolphin Wahoo FMP.
 - The Habitat and Ecosystem AP strongly recommended that the Council take proactive actions for bullet and frigate mackerel due to sound existing science regarding their importance as prey for wahoo and dolphin.
- At the June 2019 meeting, the Council voted to begin working on Amendment 12 to the Dolphin Wahoo FMP.



Potential Timing

Process Steps	Dates
Scoping webinar hearings	May 2019
Review scoping comments and decides how to move forward	June 2019
Review options paper	September 2019
Review draft amendment including action/alternatives	December 2019
Review revised actions/alternatives and approve amendment for public hearings	March 2020
Public hearings	Spring 2020
Review public hearing comments and approve all actions/alternatives	June 2020
Final action to approve amendment for Secretarial review	September 2020
Final rule publishes	Spring 2021

