

Background document on potential for the addition of frigate and bullet mackerel to the Dolphin Wahoo Fishery Management Plan

South Atlantic Fishery Management Council
Dolphin Wahoo Committee
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Background

The Mid-Atlantic Fishery Management Council (MAFMC) developed an Unmanaged Forage Omnibus Amendment intended “*to prohibit the development of new and expansion of existing directed commercial fisheries on unmanaged forage species in mid-Atlantic federal waters until the Council (MAFMC) has had an adequate opportunity to assess the scientific information relating to any new or expanded directed fisheries and consider potential impacts to existing fisheries, fishing communities, and the marine ecosystem*” (MAFMC 2017). This amendment implemented management measures for 17 species and groups of species, with 16 of the species or species groups being designated as ecosystem components (ECs) in all of the MAFMC’s fishery management plans (FMPs). The amendment established a possession limit of 1,700 pounds for all EC species combined, along with permit, transit, and reporting provisions. While initially proposed for inclusion in this amendment, frigate mackerel (*Auxis thazard*) and bullet mackerel (*Auxis rochet*) were excluded before the amendment’s implementation.

The amendment was approved by the MAFMC in August 2016 and partially implemented by NOAA Fisheries in September 2017. Of note was the disapproval by NOAA Fisheries of frigate mackerel and bullet mackerel, with the agency citing concerns over inconsistency with National Standard 2 and an insufficient connection to the MAFMC’s FMPs. In March 2018, the MAFMC requested that the South Atlantic Fishery Management Council (SAFMC) consider the possibility of managing frigate mackerel and bullet mackerel as ecosystem components in the Dolphin Wahoo Fishery Management Plan. The two species have been noted as important prey for dolphin and wahoo as well as highly migratory species such as tunas and billfish.

According to data provided by the Atlantic Coast Cooperative Statistics Program, commercial harvest of frigate and bullet mackerel has been relatively low, averaging 1,711 pounds whole weight annually over the past five years of available data (2013 through 2017). All reported commercial landings were from dealers in the Mid-Atlantic or New England region and were reported as frigate mackerel. Bullet mackerel and frigate mackerel are similar in appearance and it is possible that some landings of bullet mackerel may have been reported as frigate mackerel.

The following text is additional background information on bullet and frigate mackerel from the MAFMC’s Unmanaged Forage Omnibus Amendment:

“Bullet Mackerel (*Auxis rochei*)

Bullet mackerel are also called bullet tuna. They can reach about 20 inches in length and resemble frigate mackerel (*Auxis thazard*). They feed on a variety of prey, especially clupeoids (i.e. herrings and sardines), crustaceans, and squids. Bullet mackerel are found nearly worldwide in warm waters. In the western Atlantic, they are found from Cape Cod to the Gulf of Mexico and the Caribbean (Collette and Klein-MacPhee 2002). They form schools (Froese and Pauly 2016). Bullet mackerel are a dominant prey for tunas and billfish sampled from fishing tournaments in the Mid-Atlantic (personal communication, Dr. John Graves, Virginia Institute of Marine Science, July 2016). They are also prey for blue marlin and yellowfin tuna (Runderhausen et al. 2010).

Justification for Inclusion in Amendment

The Council (MAFMC) included bullet mackerel in this amendment due to their importance in the diet of tunas and billfishes, which support important recreational fisheries in the Mid-Atlantic. In addition, their schooling behavior could lend them to capture in commercial fisheries. There were no dealer-reported landings of bullet mackerel in the northeast during 1996-2015; however, there were dealer-reported landings of frigate mackerel, which resemble bullet mackerel. Some landings of bullet mackerel may have been reported as frigate mackerel. NEFOP (observer) data includes records of small amounts of bullet mackerel caught in bottom trawl tows which resulted in landings of longfin squid, black sea bass, and summer flounder.”

“Frigate Mackerel (*Auxis thazard*)

Frigate mackerel are also called frigate tuna. They can reach two feet in length and form schools. They feed on a variety of fish, squids, and small crustaceans. In the western North Atlantic they are mostly found from North Carolina to Florida (Kells and Carpenter 2011, Froese and Pauly 2016). They are a dominant prey item for tunas and billfish sampled from fishing tournaments in the Mid-Atlantic (personal communication, Dr. John Graves, Virginia Institute of Marine Science, July 2016). They are also prey for blue marlin and yellowfin tuna (Runderhausen et al. 2010).

Justification for Inclusion in Amendment

The Council (MAFMC) included frigate mackerel in this amendment due to their importance in the diet of tunas and billfishes, which support important recreational fisheries in the Mid-Atlantic. In addition, frigate mackerel have been sold to federally-permitted dealers in recent years, indicating some level of demand and thus the potential for development of a directed commercial fishery.”

Photo of a bullet mackerel (*Auxis rochei*)



Source: www.ncfishes.com

Photo of a frigate mackerel (*Auxis thazard*)



Source: www.ncfishes.com

Other examples of councils and agencies addressing unmanaged forage fish

Pacific Fishery Management Council

The Pacific Fishery Management Council (PFMC) developed Comprehensive Ecosystem-Base Amendment 1 (CEBA 1), effective May 4, 2016, that “prohibits the development of new directed fisheries on forage species that are not currently managed by the Council (PFMC), or the States, until the Council (PFMC) has had an adequate opportunity to assess the science relating to any proposed fishery and any potential impacts to our existing fisheries and communities.” The amendment “is not a permanent moratorium on fishing for forage fish. Instead, the Council (PFMC) adopted COP (Council Operating Procedure) 24, which outlines a review process for any proposed fishery.” CEBA 1 amended four of the PFMC’s finfish FMPs and according to the amendment document, no new directed fishing can begin for EC species without a Council-related process to develop an exempted fishing permit. Shared EC species can continue to be taken incidentally and landed or discarded, unless regulated or restricted for other purposes, such as with bycatch minimization regulations. No long-term directed EEZ fisheries are possible for the EC species without a future FMP amendment to specify the targeted species as a fishery management unit (FMU) species and to meet Magnuson-Stevens Act requirements for FMU species, which include: developing harvest specifications, identifying essential fish habitat (EFH) for the species, and providing gear specifications for the fishery (PFMC 2016).

North Pacific Fishery Management Council

In the late 1990s, the North Pacific Fishery Management Council (NPFMC) prohibited directed fisheries for several previously unmanaged forage fish species through an amendment to the Gulf of Alaska and Bering Sea and Aleutian Island Groundfish FMPs while allowing a bycatch limit to account for when the species are caught incidentally (NPFMC 2018a and 2018b). The NPFMC amended the FMPs in 2010 to maintain the prohibition on directed fishing of forage fish species and designated them as ecosystem component species.

Florida Fish and Wildlife Conservation Commission

Fish and Wildlife Conservation Commission (FWC) and the Fish and Wildlife Institute (FWRI) monitors and manages several forage species. Monitoring has occurred for several decades and is ongoing. FWC also has a Special Activity License (SAL) in place to prevent the development of fisheries using new gear types that may have detrimental effects. Applicants must provide detailed information about the proposed gear, with testing and use monitored under the licensing conditions. The use of any new gear types must be approved by FWC before going into large scale use (FWC 2015). Additionally, in 2015 the FWC adopted a resolution confirming the importance of forage fish and their commitment to continue to monitor and manage forage fish species through current management measures and monitoring programs. The resolution can be found at <http://myfwc.com/media/3211614/forage-fish-resolution.pdf>.

Oregon Department of Fish and Wildlife

In 2016, the Oregon Department of Fish and Wildlife implemented a forage fish management plan. The plan covers identified forage species that are “not currently managed, regulated, or targeted” and prohibits new directed commercial harvest of the identified forage species. The plan follows a similar process outlined in the PFM’s COP 24 to allow new potential fisheries to develop for forage species (ODFW 2016).

Washington Department of Fish and Wildlife

In 1998, the Washington Department of Fish and Wildlife published a forage fish management plan. The plan recognizes the importance of forage species and encourages ecosystem management and a precautionary approach to forage fish management (WDFW 1998).

Habitat Protection and Ecosystem-Based Management Advisory Panel Recommendations

The Habitat Protection and Ecosystem-Based Management Advisory Panel discussed the ecological importance of frigate and bullet mackerel as prey for dolphin and wahoo at their meeting from November 6 to November 8, 2018. The discussion focused on the follow:

Issue: The MAFMC has requested the SAFMC to consider the possibility of managing prey species such as frigate and bullet mackerel as ecosystem components in the Dolphin/Wahoo FMP.

Review: The Habitat and Ecosystem Advisory Panel reviewed current information on the prey forage base of these predators. These prey species are currently neither overfished nor facing any

immediate threats to their respective populations. Current levels of these prey species and others also appear to be stable over the last few years relative to dolphin and wahoo populations in the South Atlantic.

Recommendation: The Habitat and Ecosystem Advisory Panel feels that a proactive approach to monitoring these prey species by the SAFMC is both warranted and potentially valuable as management of these predator species transitions to a more ecosystem based management approach.

Committee action

The Committee is being asked to provide guidance on how to move forward with responding to the MAFMC's request to consider the management of frigate mackerel and bullet mackerel as ecosystem components in the Dolphin Wahoo Fishery Management Plan. Is there interest in pursuing management of these two species or would the Committee prefer to not take such action at this time?

While not an exhaustive list of options, the Committee could:

- SEND A RESPONSE LETTER TO THE MAFMC (COMMITTEE TO PROVIDE GENERAL CONTENT OF LETTER)
- CONSIDER THE ADDITION OF FRIGATE AND BULLET MACKEREL IN THE DOLPHIN WAHOO FISHERY MANAGEMENT PLAN THROUGH DOLPHIN WAHOO AMENDMENT 10 OR A FUTURE DOLPHIN WAHOO AMENDMENT
- CONSIDER THE ADDITION OF FRIGATE AND BULLET MACKEREL IN ANOTHER FISHERY MANAGEMENT PLAN
- DO NOT CONSIDER THE ADDITION OF FRIGATE AND BULLET MACKEREL IN A FISHERY MANAGEMENT PLAN AT THIS TIME
- OTHER?

Sources Cited:

- Collette, B. B and G. Klein-MacPhee, editors. 2002. *Bigelow and Schroeder's Fishes of the Gulf of Maine*, third edition. Smithsonian Institution Press. Washington, D.C
- Froese, R. and D. Pauly (editors). 2016. FishBase. <http://www.fishbase.org/search.php>
- FWC (Florida Fish and Wildlife Conservation Commission). 2015. *Forage Fish Review and Discussion*. Presentation slides available at: <http://myfwc.com/media/3062868/22-ForageFishPresentation.pdf>. Accessed November 13, 2018.
- Kells, V. and K. Carpenter. 2011. *A Field Guide to Coastal Fishes from Maine to Texas*. The Johns Hopkins University Press.
- MAFMC (Mid-Atlantic Fishery Management Council). 2017. *Unmanaged Forage Omnibus Amendment*. Mid-Atlantic Fishery Management Council, 800 North State Street, Dover, DE 19901.
- NPFMC (North Pacific Fishery Management Council). 2018a. *Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area*. North Pacific Fishery Management Council, 605 W. 4th Avenue, Suite 306, Anchorage, AK 99501.
- NPFMC (North Pacific Fishery Management Council). 2018b. *Fishery Management Plan for Groundfish of the Gulf of Alaska*. North Pacific Fishery Management Council, 605 W. 4th Avenue, Suite 306, Anchorage, AK 99501.
- ODFW (Oregon Department of Fish and Wildlife). 2016. *Oregon Forage Fish Management Plan*. Oregon Department of Fish and Wildlife, Marine Resources Program, 2040 SE Marine Science Drive, Newport, OR 97365.
- PFMC (Pacific Fishery Management Council). 2016. *Comprehensive Ecosystem-Based Amendment 1: Protecting unfished and unmanaged forage fish species*. Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 101, Portland, OR 97220.
- WDFW (Washington Fish and Wildlife Commission). 1998. *Forage Fish Management Plan: A plan for managing the forage fish resources and fisheries of Washington*. Washington Fish and Wildlife Commission, 600 Capitol Way North, Olympia, WA 98501.
- Rudershausen, P. J., J. A. Buckel, J. Edwards, D. P. Gannon, C. M. Butler, and T. W. Averett. 2010. *Feeding ecology of blue marlins, dolphinfish, yellowfin tuna, and wahoos from the North Atlantic Ocean and comparisons with other oceans*. Transactions of the American Fisheries Society. 139(5): 1335-1359.