Tab C, No. 6
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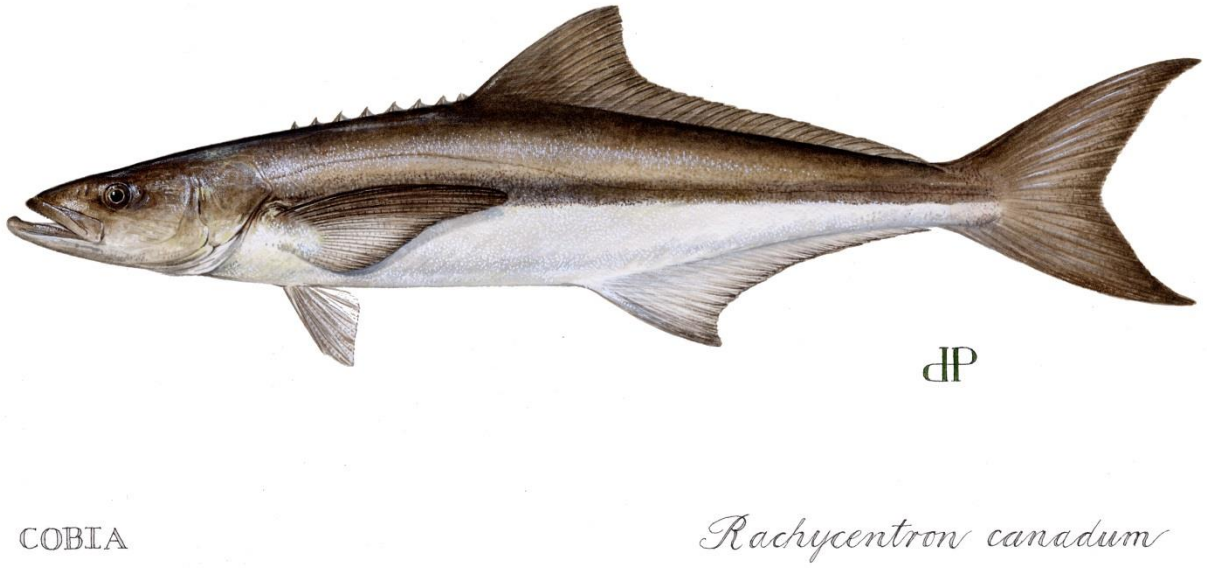
Modifications to Gulf of Mexico Migratory Group Cobia Size and Possession Limits



Draft Options Paper Framework Amendment 7 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region

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ENVIRONMENTAL ASSESSMENT COVER SHEET

Draft Options- Framework Amendment 7 to Modify Gulf of Mexico Migratory Group Cobia Size and Possession Limits

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Responsible Agencies:

National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
727-824-5305
727-824-5308 (fax)
http://sero.nmfs.noaa.gov
Contact: Kelli O'Donnell
kelli.odonnell@noaa.gov

Gulf of Mexico Fishery Management Council
2203 North Lois Avenue, Suite 1100
Tampa, Florida 33607
813-348-1630
813-348-1711 (fax)
http://www.gulfcouncil.org
Contact: Ryan Rindone
ryan.rindone@gulfcouncil.org

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
CMP	coastal migratory pelagics
Councils	Gulf of Mexico and South Atlantic Fishery Management Councils
EA	environmental assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FMP	fishery management plan
GMFMC	Gulf of Mexico Fishery Management Council
Gulf	Gulf of Mexico
Gulf Council	Gulf of Mexico Fishery Management Council
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Agency
SAFMC	South Atlantic Fishery Management Council
SEDAR	Southeast Data, Assessment, and Review
SERO	NMFS Southeast Regional Office
South Atlantic Council	South Atlantic Fishery Management Council
SSC	Scientific and Statistical Committee
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

Cobia is managed jointly between the South Atlantic Fishery Management Council (South Atlantic Council) and the Gulf of Mexico (Gulf) Fishery Management Council (Gulf Council) (together: "Councils") under the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP)[1]. Two migratory groups of cobia exist in the southeastern US: the Atlantic and the Gulf migratory group. A recent stock identification workshop (April 2018) reviewed genetic, spatial distribution, movement, and life history data on cobia from both migratory groups, and found that a transition zone between these migratory groups may exist between Savannah, Georgia, and Cape Canaveral, Florida (SEDAR 2018). The current stock and management boundaries are shown in Figure 1.1.1. The Councils are presently considering removing the Atlantic migratory group of cobia (Atlantic cobia) from the CMP FMP, since the preponderance of Atlantic cobia are landed in state waters. If Atlantic cobia are removed from the CMP FMP, the Atlantic States Marine Fisheries Commission (ASMFC) will recommend management measures for federal waters under the Atlantic Coastal Fisheries Cooperative Management Act, which will be mirrored by the National Marine Fisheries Service in federal waters. If in the future the Councils determine that Atlantic cobia require federal management in federal waters, the Councils will again implement management measures, and management through the ASMFC will end.

- ***Gulf of Mexico and South Atlantic Fishery Management Councils*** – Develop the range of actions and alternatives and select preferred alternatives that are submitted to the National Marine Fisheries Service.
- ***National Marine Fisheries Service*** and ***Council staff*** – Assist in the development of alternatives based on guidance from the Council, and analyze the environmental impacts of those alternatives.
- ***Secretary of Commerce*** – Approves, disapproves, or partially approves the amendment as recommended by the Council.

[1] The Mid-Atlantic Fishery Management Council has granted authority to the South Atlantic Council for management of cobia in its jurisdictional area.

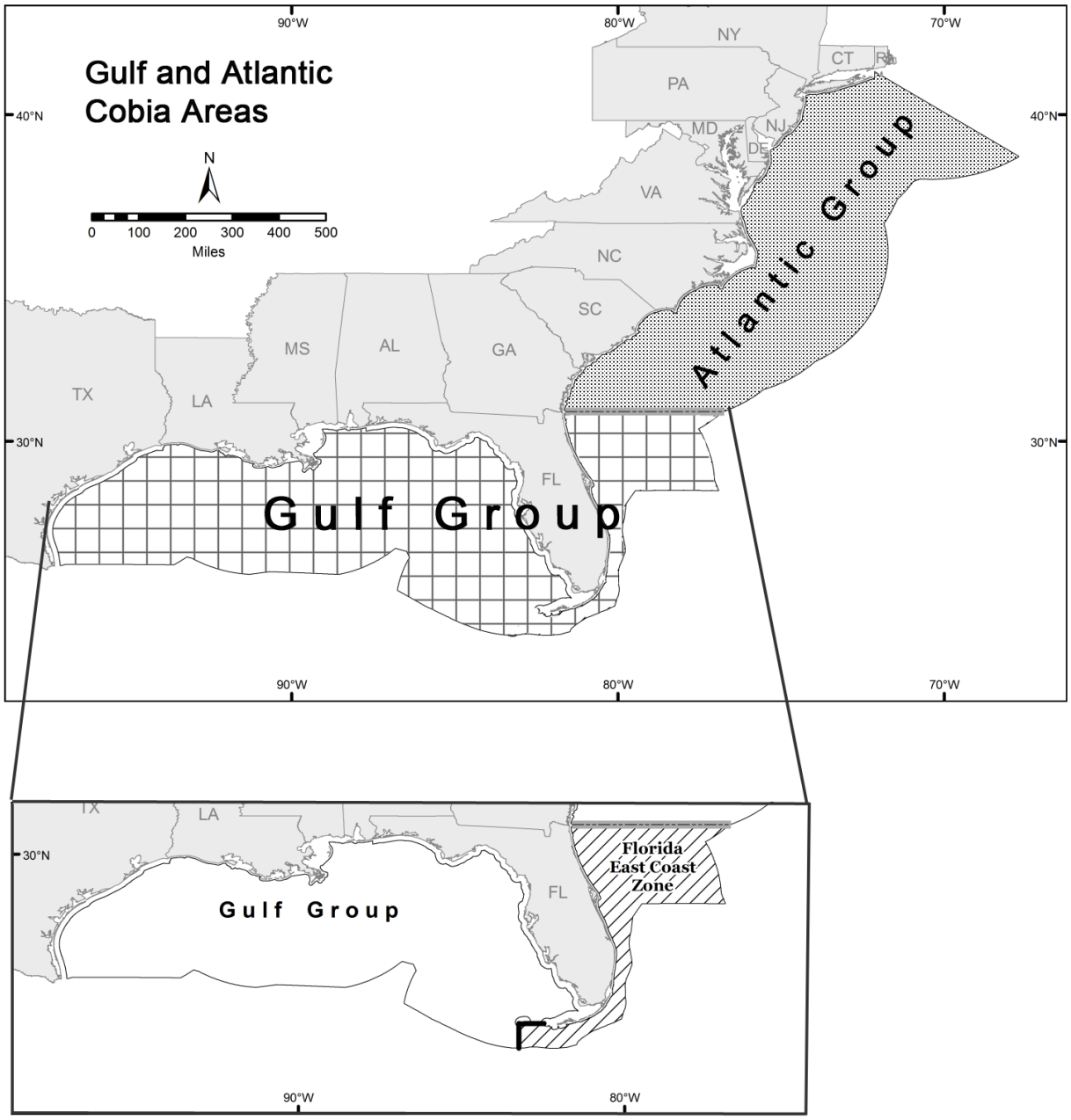

Figure 1.1.1. Current cobia stock boundaries used for management purposes by the Councils, per CMP Amendment 20B (GMFMC and SAFMC 2014).

The Gulf migratory group of cobia (Gulf cobia) is managed using a single stock annual catch limit (ACL), meaning that there are no sector-specific allocations for the recreational and commercial fishing sectors. Landings of cobia remained relatively consistent from 2012 – 2016; however, a decrease in landings was observed in the preliminary 2017 landings data (Table 1.1.1). Fishermen attending Gulf Council meetings have provided public testimony as to a decrease in the presence of cobia and asked the Gulf Council to address this as a potential problem with the status of the Gulf cobia stock.

Table 1.1.1. Landings history for Gulf cobia from 2012 – 2017 in pounds (lbs) whole weight (ww). Data from 2017 are preliminary.

Year	Recreational Landings	Commercial Landings	Total Landings	ACT	ACL	% ACT	% ACL
2012	924,697	51,911	976,608	1,310,000	1,460,000	74.6%	66.9%
2013	1,211,101	82,531	1,293,632	1,310,000	1,460,000	98.8%	88.6%
2014	923,426	78,481	1,001,907	1,310,000	1,460,000	76.5%	68.6%
2015	811,564	70,314	881,878	1,450,000	1,610,000	60.8%	54.8%
2016	888,898	74,608	963,506	1,500,000	1,660,000	64.2%	58.0%
2017*	643,048	55,868	698,916	1,500,000	1,660,000	46.6%	42.1%

Source: 2012-2016 data are from the SERO ACL Monitoring webpage, accessed 25 April 2018. * 2017 data are preliminary, and are from MRIP.

The most recent stock assessment of Gulf cobia (SEDAR 28 2013) determined that Gulf cobia were not overfished and were not undergoing overfishing. The Gulf Council's Scientific and Statistical Committee (SSC) accepted the stock assessment for management advice. Because a portion of the Gulf cobia stock occurs in the South Atlantic Council's jurisdiction, that portion of the stock was apportioned to the South Atlantic Council to manage (Florida East Coast Zone) and the rest of the stock remained under the Gulf Council jurisdiction (Gulf Zone). The SSC recommended the overfishing limit (OFL) and acceptable biological catch (ABC) levels for the entire Gulf cobia stock, including the Florida East Coast Zone. Subsequently, the Gulf Council recommended ACL and annual catch target (ACT) levels for the Gulf Zone (Table 1.1.2).

Table 1.1.2. Harvest limits for Gulf cobia for 2014 – 2016 and subsequent fishing years. Values are in pounds whole weight.

	Gulf Group Cobia		Gulf Council Zone	
Year	OFL*	ABC*	ACL**	ACT**
2014	2,560,000	2,460,000	1,460,000	1,310,000
2015	2,590,000	2,520,000	1,610,000	1,450,000
2016+	2,660,000	2,600,000	1,660,000	1,500,000

* OFL and ABC values are for the entire Gulf cobia stock, including the portion which occurs in the South Atlantic Council's jurisdiction.
** ACL and ACT values are only for the portion of the Gulf cobia stock which occurs in the Gulf Council's jurisdiction.

The minimum size limit for Gulf cobia has been set at 33 inches fork length (FL) since the implementation of the original CMP FMP in 1983 (GMFMC and SAFMC 1983). This minimum size limit applies to the recreational and commercial fishing sectors, and corresponds with the length at which life history information indicate that 50% of cobia are sexually mature (sexes combined) and capable of reproduction (SEDAR 28 2013). The current daily federal possession limit of two fish per person has been in effect since Amendment 5 to the CMP FMP was implemented in 1990, and applies to both sectors of the fishery (GMFMC and SAFMC 1990).

Stakeholders have expressed concern to the Gulf Council regarding the condition of the Gulf cobia stock since 2016, with increasing frequency in public comment on the issue in 2017 and

2018 (see recordings of public testimony from Gulf Council meetings for more information[2]). At its meeting in April 018, the Gulf Council decided to explore options for reducing fishing pressure on Gulf cobia, including modifications to minimum size and possession limits. The Gulf Council's stated intent is to explore reducing fishing mortality ahead of a stock assessment, which is currently scheduled to be conducted in 2019 and available for management advice in 2020. Though the 2013 stock assessment (SEDAR 28 2013) does not indicate that Gulf cobia are overfished or undergoing overfishing, the actions presented in this framework action are designed to take a precautionary approach and reduce fishing mortality, in case the decrease in landings observed in 2017 indicate some presently unknown issue with the stock.

1.2 Purpose and Need

The purpose of this document is to consider proactive management measures to reduce Gulf cobia harvest by increasing the minimum size limit and reducing the possession limit. The need is to prevent potential overfishing of Gulf cobia until more information on the stock status becomes available.

1.3 History of Management

The **CMP FMP**, with environmental impact statement (EIS), was approved in 1982 and implemented by regulations effective in February 1983 (GMFMC and SAFMC 1983). The management unit includes king mackerel, Spanish mackerel, and cobia. The FMP treated king and Spanish mackerel as unit stocks in the Atlantic and Gulf and set the minimum size limit for cobia. The following is a list of management changes relevant to this amendment. A full history of CMP management can be found in **Amendment 18** to the CMP FMP (GMFMC and SAFMC 2011), and is incorporated here by reference.

Amendment 2, with environmental assessment (EA), implemented in June 1987, established annual permits for for-hire vessels fishing for CMP species. Qualifying for-hire vessels (charter and headboats) could obtain commercial permits to fish under the commercial quotas but must adhere to bag limits when under charter or when more than three persons are aboard.

Amendment 5, with EA, implemented in August 1990, set the current federal possession limit for cobia of two fish per person.

Amendment 6, with EA, implemented in November 1992, changed all size limit measures to fork length only, and set the commercial cobia fishing year to the calendar year.

Amendment 14, with EA, implemented in July 2002, established a 3-year moratorium on the issuance of federal charter vessel/headboat permits unless sooner replaced by a comprehensive effort limitation system.

[2] http://gulfcouncil.org/meetings/council/archive/

Amendment 16, with EA, implemented in May 2003, defined maximum sustainable yield (MSY), optimum yield (OY), the overfishing threshold, and the overfished condition for Gulf cobia.

Amendment 17, with supplemental EIS, implemented in May 2006, established a limited access system on for-hire reef fish and CMP permits.

Amendment 18, with EA, implemented in January 2012, separated cobia into Atlantic and Gulf migratory groups and established ACLs and accountability measures for Gulf cobia.

Amendment 20B, with EA, implemented in March 2015, created a Florida east coast subzone for Gulf cobia with a separate ACL, which would be managed by SAFMC.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modify the Minimum Size Limit for the Gulf of Mexico Migratory Group Cobia

Alternative 1: No Action – Do not change the current recreational and commercial 33-inch fork length (FL) minimum size limit for the Gulf of Mexico (Gulf) migratory group of cobia (Gulf cobia).

Alternative 2: Increase the recreational and commercial minimum size limit for Gulf cobia to 36 inches FL.

Alternative 3: Increase the recreational and commercial minimum size limit for Gulf cobia to 39 inches FL.

Alternative 4: Increase the recreational and commercial minimum size limit for Gulf cobia to 42 inches FL.

Note: There is no specific rationale for changing the minimum size limit; life history data on cobia are based more on size at maturity than age at maturity. These alternatives may be revised once a size frequency distribution of landings is made available.

Discussion:

Gulf cobia have been managed with a 33-inch FL minimum size limit since the implementation of the original Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources (CMP) in the Gulf of Mexico and Atlantic Regions (CMP FMP) in 1983 (GMFMC and SAFMC 1983). This minimum size limit is the same as current federal regulations for the Atlantic migratory group of cobia (GMFMC and SAFMC 1985), and is commensurate with those in other parts of the world with both commercial and recreational fishing pressure, like Australia (750 mm total length [29.5 inches]; Fry and Griffiths 2010). Unfortunately, detailed data on size or age at maturity for cobia in the Gulf are sparse, resulting in insufficient data to provide reliable estimates (SEDAR 28 2013; references therein).

Anglers have expressed a desire for management changes for Gulf cobia which would reduce fishing mortality, thereby providing additional harvest protection for the stock. Increasing the minimum size limit would achieve this purpose in two ways: by increasing the minimum size, anglers would ostensibly release cobia that they would otherwise retain under the current regulations (**Alternative 1**); and raising the minimum size limit would increase the probability of a fish reproducing, perhaps more than once, before being selected by the fishery.

The purpose of this amendment is to reduce fishing mortality on Gulf cobia in response to concerns that harvest rates are decreasing. Decreasing the minimum size limit would be expected to increase landings by allowing the retention of cobia which are currently being

released, thereby increasing fishing mortality from the status quo (**Alternative 1**). Therefore, decreasing the minimum size limit is not being considered in this action.

Alternative 1 would not modify the current recreational and commercial 33-inch FL minimum size limit for Gulf cobia, and would not be expected to result in any change in the current level of fishing mortality. **Alternatives 2 – 4** would increase the recreational and commercial minimum size limit, which would be expected to increase regulatory discards of undersized cobia; however, discarded cobia only have an estimated 5% discard mortality rate (SEDAR 28 2013). Concurrently, those fish which survive being released by anglers may have the opportunity to reproduce multiple times prior to being harvested, depending on which alternative is selected as preferred. The probability of a cobia being able to reproduce more than once before being harvested increases with the size limit, if for no other reason than the time it takes for a cobia to grow to a larger size (SEDAR 28 2013; Figures 2.1.1 and 2.1.2). Further, the larger a cobia is compared to the size at which 50% of cobia (sexes combined) are thought to be mature (presently 33 inches), the greater the probability of that particular cobia being sexually mature. Since females have been observed to be larger than males of the same age, an increase in the size limit may also increase the probability of female fish reproducing more so than the same for male fish. The SEDAR 28 (2013) stock assessment estimated a 1:1 ratio of males to females in the Gulf cobia stock.

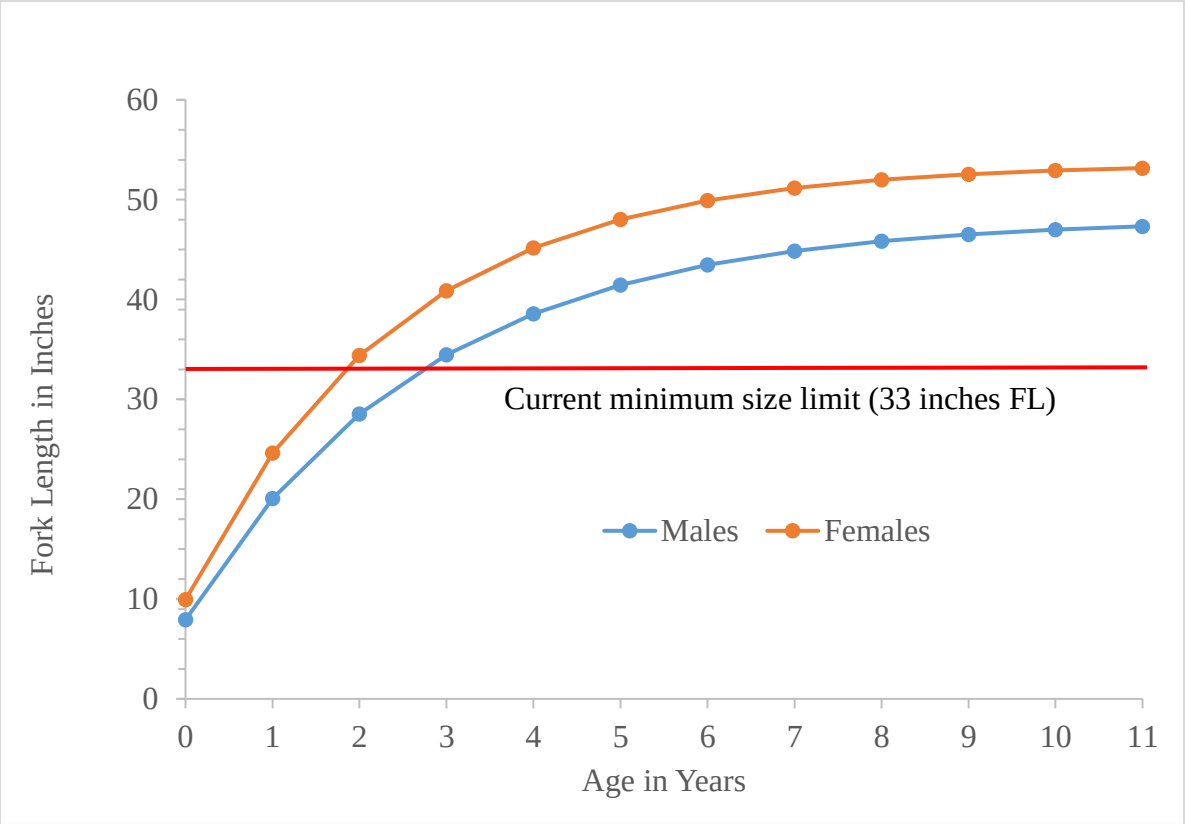

Figure 2.1.1. Gulf cobia sex-specific length-at-age data using von Bertalanffy growth parameters from SEDAR 28 (2013), using Diaz et al. (2004) correction and inverse weighting by sample size.

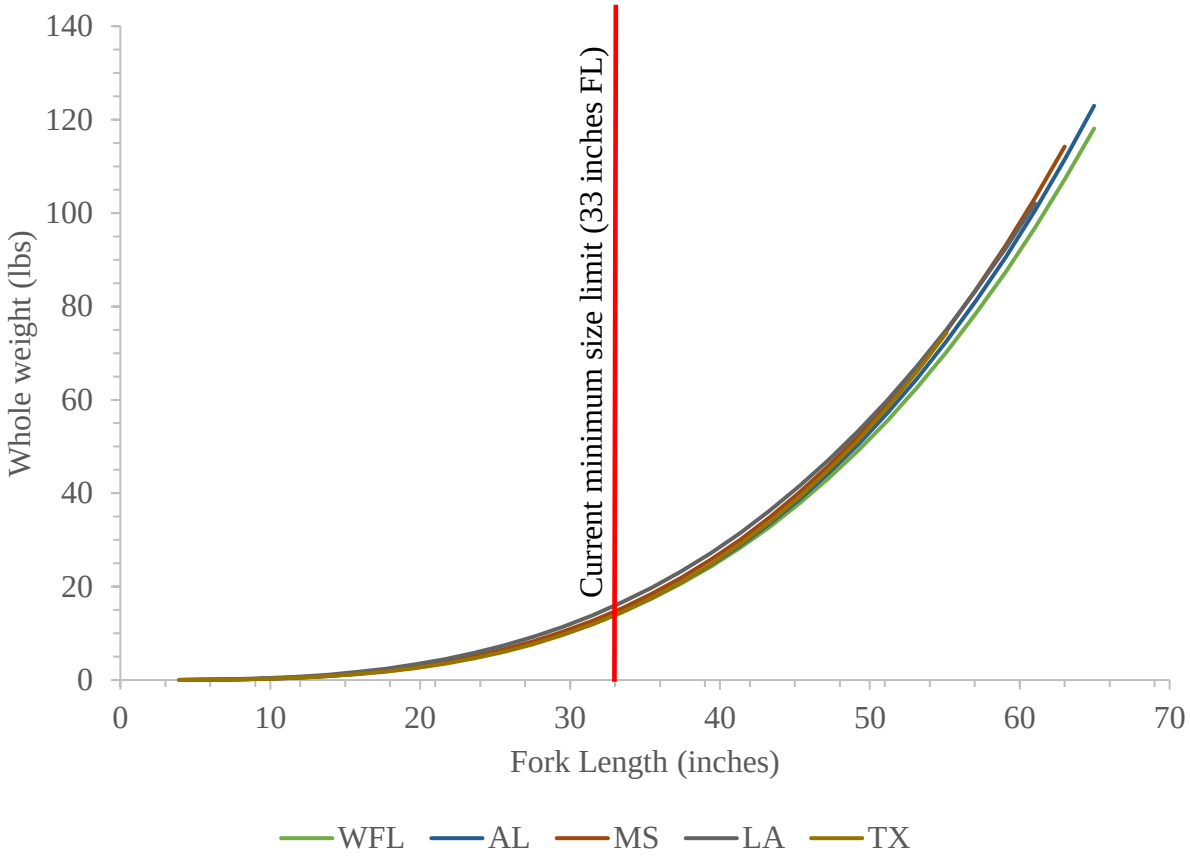

Figure 2.1.2. Gulf cobia length-at-weight data by Gulf state from the SEDAR 58 Stock ID Workshop (2013).

2.2 Action 2: Modify the Possession Limit for the Gulf Cobia

Alternative 1: No Action – Do not change the current two fish per person daily recreational and commercial possession limit for Gulf cobia.

Alternative 2: Decrease the per person recreational and commercial possession limit for Gulf cobia to one fish per day.

Alternative 3: Create a recreational and commercial daily vessel limit for Gulf cobia. Anglers may not exceed the per person possession limit.

Option 3a: The recreational and commercial daily vessel limit for cobia is two fish.
Option 3b: The recreational and commercial daily vessel limit for cobia is four fish.
Option 3c: The recreational and commercial daily vessel limit for cobia is six fish.

Note: The Gulf of Mexico Fishery Management Council (Gulf Council) may select more than one alternative as preferred. Doing so would require anglers to abide by the more restrictive of the resultant regulations.

Discussion:

The daily possession limit for cobia is currently two fish per angler for both sectors, and has been in effect since 1990 (GMFMC and SAFMC 1990). The fishing year for cobia is year-round, with no closed seasons. The Gulf Council is considering pre-emptive options to reduce the fishing mortality on Gulf cobia. Reducing the number of legal-size cobia caught on a fishing trip which may be retained would be expected to reduce overall fishing mortality on Gulf cobia. Fish that are released after capture are assumed to be subject to a 5% discard mortality rate (SEDAR 28 2013). **Alternative 1** would not change the current two fish per person recreational and commercial possession limit for Gulf cobia, and would therefore not be expected to result in any change in fishing mortality from the status quo.

Alternative 2 would decrease the per person daily recreational and commercial possession limit for Gulf cobia to one fish. Since cobia are managed under a stock ACL with equivalent harvest restrictions for both recreational and commercial anglers, separate possession limits are not currently being considered herein. **Alternative 2** would halve the maximum possible harvest per angler. A possession limit analysis will be performed to determine the potential effect of this alternative on Gulf cobia landings.

Alternative 3 would create a recreational and commercial daily vessel limit for Gulf cobia of either two fish (**Option 3a**), four fish (**Option 3b**), or six fish (**Option 3c**) per vessel. A recreational and commercial daily vessel limit would be expected to reduce fishing mortality on Gulf cobia for trips where there are two or more anglers present on the same vessel. Further, anglers would not be permitted to exceed the per person possession limit. For example, if there are three anglers on a vessel, and the daily possession limit is two fish per person (**Alternative 1**) with a two fish daily vessel limit (**Alternative 3**, **Option 3a**), then the maximum number of cobia that could be retained on that trip for all anglers combined would be two fish per day, as opposed to six fish in the absence of a daily vessel limit.

More than one alternative and accompanying option may be selected as preferred in Action 2. For example, a daily possession limit of one fish per person (**Alternative 2**) could be paired with a four fish daily vessel limit (**Alternative 3**, **Option 3b**). More restrictive possession and/or vessel limits would likely result in larger reductions in fishing mortality; however, without analyzing these management changes with a stock assessment, their effect on the Gulf cobia stock cannot be fully understood.

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