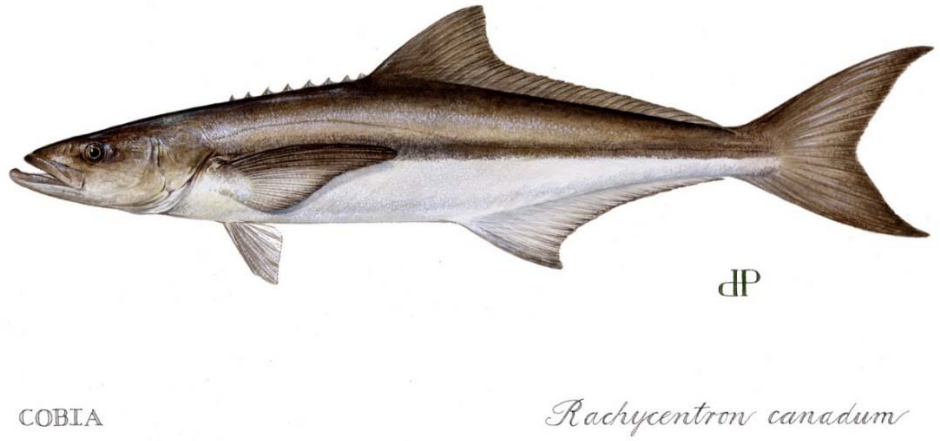
Tab C, No. 5
01/19/2021

Modifications to the Gulf of Mexico Migratory Group Cobia Catch Limits, Possession Limits, Size Limits, and Framework Procedure



Amendment 32

to the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region

January 2021

This is a publication of the Gulf of Mexico Fishery Management Council Pursuant to National Oceanic and Atmospheric Administration Award No. NA15NMF4410011.

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AMENDMENT 32 TO THE FISHERY MANAGEMENT PLAN FOR COASTAL MIGRATORY PELAGIC RESOURCES IN THE GULF OF MEXICO AND ATLANTIC REGION

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Type of Action

( ) Administrative	( ) Legislative
(X) Draft	( ) Final

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measure
CMP	coastal migratory pelagics
CHTS	coastal household telephone survey
Councils	Gulf of Mexico and South Atlantic Fishery Management Councils
EA	environmental assessment
EIS	environmental impact statement
F	fishing mortality
FES	Fishing Effort Survey
FL	fork length
FLEC	Florida East Coast Zone
FMP	Fishery Management Plan
FWC	Florida Fish and Wildlife
GMFMC	Gulf of Mexico Fishery Management Council
Gulf	Gulf of Mexico
Gulf Cobia	Gulf migratory group of cobia
Gulf Council	Gulf of Mexico Fishery Management Council
LA Creel	Louisiana Department of Wildlife and Fisheries Creel Survey
MRIP	Marine Recreational Information Program
MSY	maximum sustainable yield
OFL	overfishing limit
PSE	Proportional Standard Error
RFA	regulatory flexibility analysis
RIR	regulatory impact review
SAFMC	South Atlantic Fishery Management Council
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
South Atlantic Council	South Atlantic Fishery Management Council
SSC	Scientific & Statistical Committee
TPWD	Texas Parks and Wildlife Department
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

Cobia is managed jointly by 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). Two migratory groups of cobia are managed in the southeastern US: the Atlantic migratory group (Atlantic cobia) and the Gulf migratory group (Gulf cobia). The current stock and management boundaries are shown in Figure 1.1.1. Recently, Atlantic cobia was removed from the CMP FMP, because most of Atlantic cobia is landed in state waters (GMFMC and SAFMC 2018). The Atlantic States Marine Fisheries Commission (ASMFC) has assumed management of that stock under the Atlantic Coastal Fisheries Cooperative Management Act. In the future, if the Councils determine that Atlantic cobia requires federal management in federal waters, they can add Atlantic cobia back into the CMP FMP and implement all necessary management measures, and management through the ASMFC will end.

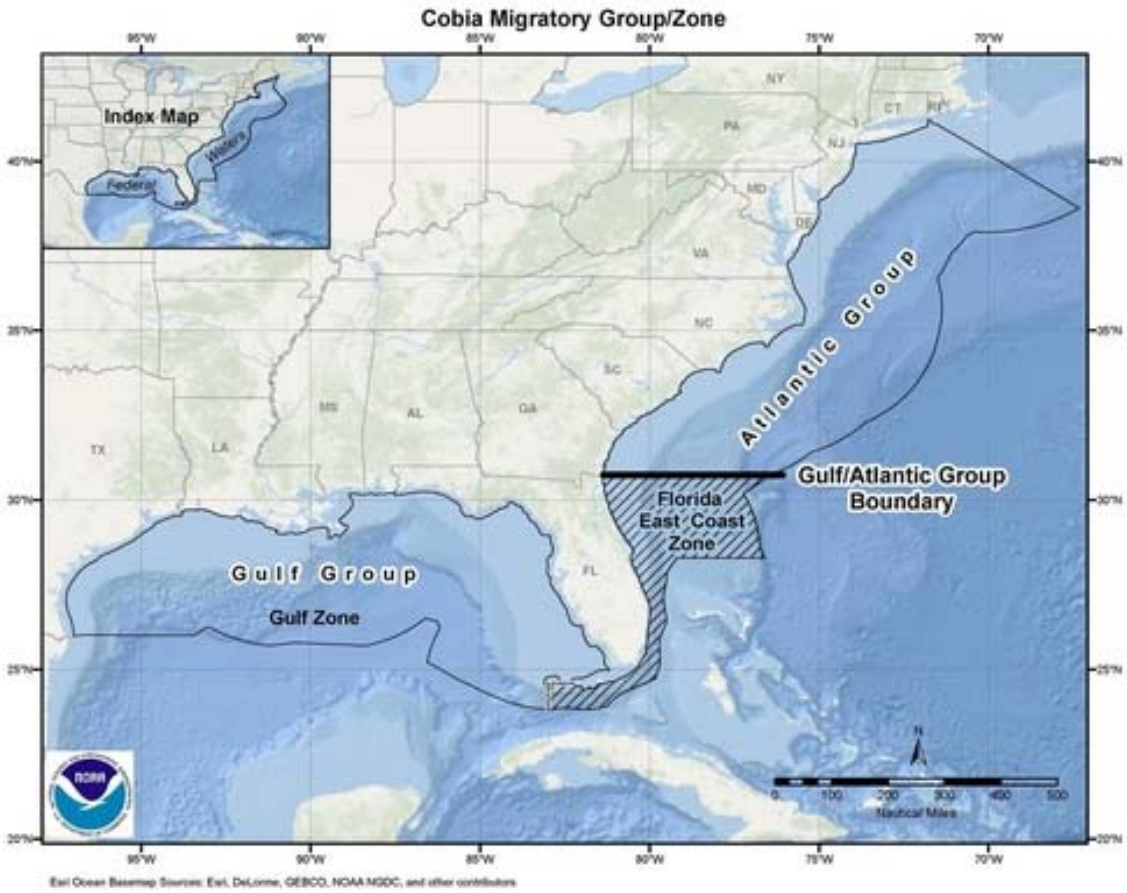

Figure 1.1.1. Gulf and Atlantic cobia stock boundaries used for management purposes by the Councils and ASMFC. The Gulf Group is divided into Gulf Zone (managed by GMFMC) and

the Florida East Coast Zone (hash-marks, jointly managed between the Gulf Council and South Atlantic Council). The ASMFC management area is defined by the inner polygon line (economic exclusive zone boundary) to shore of the Atlantic Group area. ASMFC regulations are extended into federal waters (Atlantic Group polygon).[1]

Gulf cobia is found from Texas to the Florida-Georgia state line (Figure 1.1.1), overlapping the jurisdictions of the Gulf and South Atlantic Councils. Each Council manages Gulf cobia within its respective jurisdiction. A percentage Gulf cobia catch limit is allocated to the Florida East Coast (FLEC) Zone (hash-marked section in Figure 1.1.1) and the South Atlantic Council is responsible for establishing the specific management actions in this area as outlined in the CMP framework procedure (Appendix A): trip limits, closed seasons or areas, or gear restrictions. The Gulf Council is responsible for establishing management measures for Gulf cobia in the Gulf Zone, which extends from Texas to the Gulf and South Atlantic Council jurisdiction, and management measures for the FLEC Zone not specified in the framework procedure as responsibilities of the South Atlantic Council.

The Gulf cobia fishing season is open year-round from January 1 – December 31 with no seasonal closure. There is a 2-cobia per person, per day, possession limit for commercial and recreational anglers across both zones. The annual catch limit (ACL) and annual catch target (ACT) were established for Gulf cobia in Amendment 18 to the CMP FMP, with the ACL being set equal to the acceptable biological catch (ABC) (GMFMC and SAMFC 2011). The apportionment of Gulf cobia to the FLEC Zone was established in Amendment 20B to the CMP FMP (GMFMC and SAFMC 2014), using the average landings across both zones from 1998 – 2012 to establish the percentage split for the Gulf cobia ABC between the Councils. The FLEC Zone apportionment for Gulf cobia ABC is 36% and the Gulf Zone apportionment of the Gulf cobia ABC is 64%. Gulf Zone cobia is managed as a stock, without sector allocations, with an ACT set at 90% of the ACL. The FLEC Zone cobia ACL is divided by sector (8% commercial, 92% recreational). The recreational sector ACT is set equal to ACL * [(1-Proportional Standard Error [PSE]) or 0.5, whichever is greater], which equaled 90% of the ACL. The commercial sector does not have an ACT.

An in-season accountability measure (AM) for the Gulf cobia in the Gulf Zone states when the stock ACT is reached, or projected to be reached, the season is closed within that zone. The Gulf Zone does not have a post-season AM. In the FLEC Zone, there are separate AMs for cobia that are sold and cobia that are not sold. For ease of reference, this document refers to cobia that are sold as “commercial” and cobia that are not sold as “recreational”. An in-season AM applies to commercial cobia. When landings of commercial cobia reach, or are projected to reach, the commercial FLEC Zone ACL, sale of cobia is prohibited for the remained of the fishing year. The FLEC Zone has post-season AMs. For commercial cobia, if the FLEC Zone total ACL is exceeded, and Gulf cobia are overfished, the FLEC Zone commercial sector ACL will be reduced in the following year by the amount of the overage. For recreational cobia, if the FLEC Zone total ACL is exceeded, the length of the following fishing season is reduced by the amount necessary to ensure landings achieve the ACT, but do not exceed the ACL in the following

[1] Source: https://www.fisheries.noaa.gov/resource/map/cobia-migratory-group-zones-fishery-management-areas-map-gis-data

fishing year. Lastly, if the FLEC Zone total ACL is exceeded, and Gulf cobia are overfished, the applicable ACL and ACT for the FLEC Zone will be reduced by the amount of the overage in the following year.

Gulf Cobia Landings

The Gulf Zone and FLEC Zone cobia ACLs have never been exceeded since their implementation in 2015 (Table 1.1.1 and 1.1.2) and have been decreasing since 2011 (Figures 1.1.2, 1.1.3, and 1.1.4). While recreational harvest estimates are presented in the Marine Recreational Information Program's (MRIP) Coastal Household Telephone Survey (CHTS) data currency, a more detailed description on the recent changes to the collection of recreational catch and effort data can be found in Appendix B. Appendix B presents landings in MRIP-CHTS as well as MRIP's Fishing Effort Survey (FES) data currency back to 1986 for comparison. Furthermore, this change in data currency results in an update to the ACL apportionment between the Zones. Gulf stakeholders, predominantly federal for-hire operators and recreational fishermen, provided public testimony during several Gulf Council meetings between 2018 and 2020[2], reporting a decrease in the presence of Gulf Zone cobia. Similar comments were received through the Gulf Council's Something's Fishy sentiment analysis tool[3]. The majority of those respondents identified as recreational fishermen. The results from Something's Fishy indicated a negative trend in the perception of the Gulf cobia stock's abundance, and noted a reduction in the lengths of the fish being observed. The public asked the Gulf Council to address this negative trend as a potential problem with the status of the Gulf cobia stock.

Table 1.1.1. Gulf Zone landings of Gulf cobia for the recreational (in MRIP-CHTS) and commercial sectors in pounds whole weight compared to the current ACL and ACT for years 2015 through 2019.

Year	Recreational Landings	Commercial Landings	Total Landings	ACT	ACL	% ACT	% ACL
2015	784,457	70,370	854,827	1,450,000	1,610,000	59.0	53.1
2016	974,015	75,559	1,049,574	1,500,000	1,660,000	70.0	63.2
2017	515,257	73,604	588,861	1,500,000	1,660,000	39.3	35.5
2018	638,909	41,069	679,978	1,500,000	1,660,000	45.3	41.0
2019	612,842	37,993	650,835	1,500,000	1,660,000	43.4	39.2

Source: SEFSC Commercial ACL data (Accessed August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).).

[2] https://gulfcouncil.org/meetings/council/archive/
[3] https://gulfcouncil.org/wp-content/uploads/C-5c-Somethings-Fishy-Cobia-Summary.pdf

Table 1.1.2. Florida East Coast Zone landings of Gulf cobia for the recreational (in MRIP-CHTS) and commercial sectors in pounds whole weight, compared to the current ACL and ACT, for years 2015 through 2019.

Year	Rec. Landings	Com. Landings	Total Landings	Rec. ACT	Rec. ACL	Rec. % ACT	Rec. % ACL	Com. ACL	Com.% ACL
2015	420,776	62,464	483,240	680,000	830,000	61.9	50.7	70,000	89.2
2016	592,812	48,611	641,423	710,000	860,000	83.5	68.9	70,000	69.4
2017	323,516	41,043	364,559	710,000	860,000	45.6	37.6	70,000	58.6
2018	614,607	32,839	647,446	710,000	860,000	86.6	71.5	70,000	46.9
2019	194,126	33,874	228,000	710,000	860,000	27.3	22.6	70,000	48.4

Source: SEFSC Commercial ACL data (Accessed August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

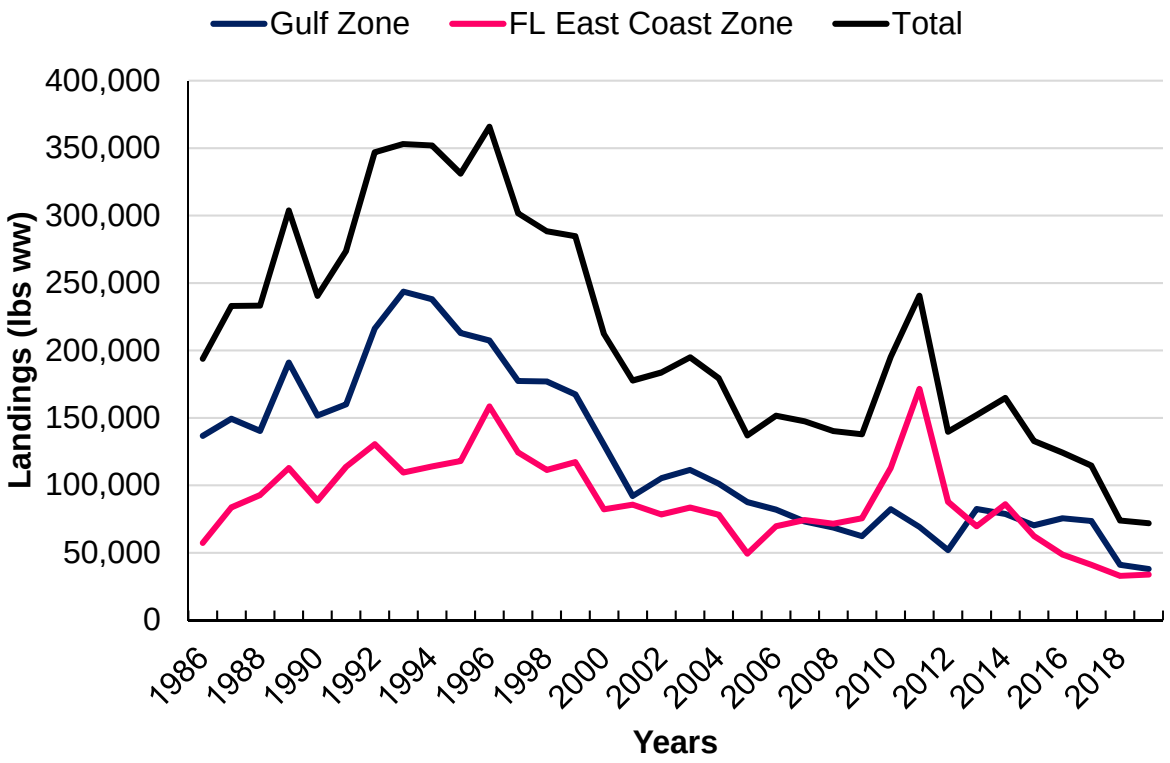

Figure 1.1.2. Commercial landings history for Gulf cobia for the Gulf and FLEC Zones from 1986 – 2019 in pounds whole weight.
Source: SEFSC Commercial ACL data (Accessed August 21, 2020).

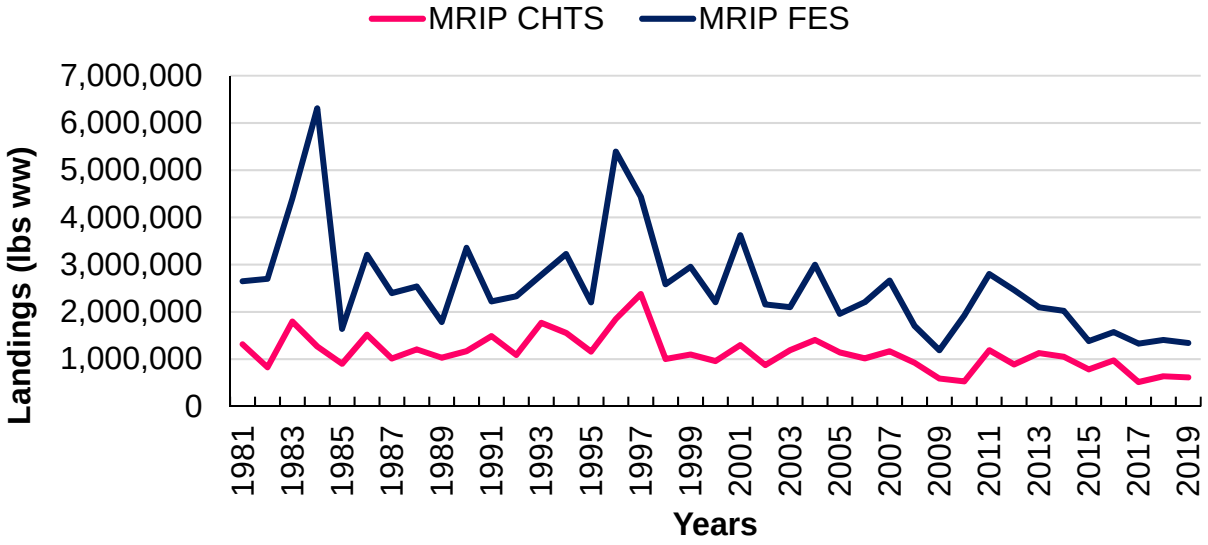

Figure 1.1.3. Recreational landings history for Gulf Zone cobia from 1981 – 2019 in pounds whole weight.
Source: SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

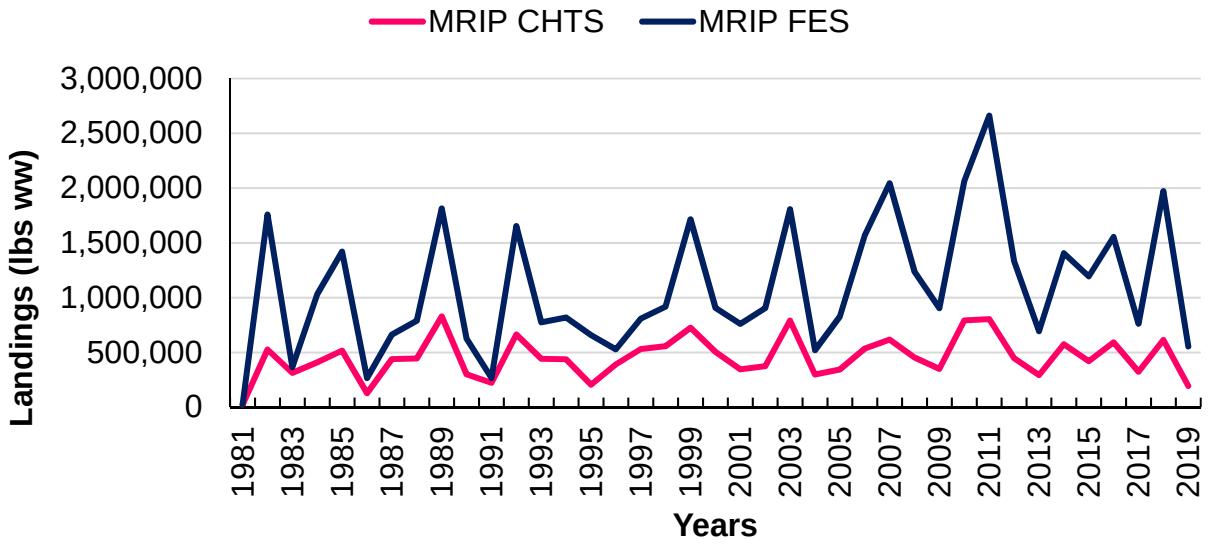

Figure 1.1.4. Recreational landings history for the Florida East Coast Zone from 1981 – 2019 in pounds whole weight.
Source: SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

Most Recent Management Action

At its meeting in April 2018, the Gulf Council decided to explore options for reducing fishing mortality on Gulf cobia, including modifications to minimum size and possession limits while the results from the update stock assessment were underway. Subsequently, Framework

Amendment 7 (GMFMC 2019) to the CMP FMP increased the minimum size limit of Gulf Zone cobia from 33 inches fork length (FL) to 36 inches FL for the commercial and recreational sectors. Increasing the Gulf Zone minimum size limit was expected to reduce fishing mortality by reducing catch and increasing the probability of a fish reproducing and contributing to the biomass of the stock. Analyses in Framework Amendment 7 estimated that increasing the Gulf Zone minimum size limit to 36 inches FL would decrease fishing mortality by 10.3% for the commercial sector, and 26.1% for the recreational sector (Table 2.1.2 of Framework Amendment 7).

Though the last stock assessment (Southeast Data, Assessment, and Review [SEDAR] 28 2013) did not indicate that Gulf cobia were overfished or undergoing overfishing, the Gulf action was designed to take a precautionary approach while the SEDAR 28 Update assessment (2020) was being conducted by reducing fishing mortality in response to constituent concerns, in case the observed decrease in landings indicated some presently unknown issue with the stock.

Update Stock Assessment

The updated SEDAR 28 stock assessment for Gulf cobia was completed in July 2020 with a terminal year of 2018 (SEDAR 28 Update 2020). SEDAR 28 Update included updated recreational catch and effort data derived using MRIP-FES, which formally replaced MRIP-CHTS in 2018. This change resulted in increased estimates of virgin spawning stock biomass, recruitment, and projected yields. The results from SEDAR 28 Update indicated that Gulf cobia is undergoing overfishing with biomass at reduced levels, which puts the stock at risk of becoming overfished without management action. Moreover, SEDAR 28 Update suggests that the stock has experienced overfishing every year from 1975 through 2018, with the exceptions of 1983 and 2009. Since the stock is not considered to be overfished, a rebuilding plan is not required at this time. SEDAR 28 Update did not capture any changes to stock status related to the increase in the minimum size limit to 36 inches FL in Framework Amendment 7 to the CMP FMP (GMFMC 2019), as that regulatory change was not implemented until 2020.

Upon reviewing SEDAR 28 Update, the Councils' Scientific and Statistical Committees (SSC) determined the results to be the best scientific information available for Gulf cobia, recommending an increasing yield stream for overfishing limits (OFL) and ABCs for 2021 – 2023 and beyond (Table 1.1.3). It is worth noting that the increase in the stock catch limits is solely a result of converting the recreational catch and effort data to the MRIP-FES data currency. Had MRIP-FES recreational data been available for SEDAR 28 in 2013, the current ACL recommendations would represent approximately a 33% decrease in yield from SEDAR 28 (SEDAR 2020).

Table 1.1.3. Catch limits for Gulf cobia for 2021 – 2023 and beyond, as recommended by the Councils' SSCs in July 2020. Values are in pounds whole weight and MRIP-FES.

Year	Gulf Cobia (Total)	
	OFL*	ABC*
2021	3,030,000	2,340,000
2022	3,210,000	2,600,000
2023	3,310,000	2,760,000

* OFL and ABC values are for Gulf cobia in both the Gulf and FLEC Zones.

1.2 Purpose and Need

The purpose of this plan amendment is to consider modifying Gulf cobia catch limits, modify management measures related to size and possession limits, revise the apportionment between the Gulf Zone and the FLEC Zone for Gulf cobia in response to new information on the stock provided in the SEDAR 28 Update stock assessment, and to clarify language in the CMP Framework Procedure regarding the responsibilities of the Gulf and South Atlantic Councils for management of Gulf cobia.

The need is to end overfishing of Gulf cobia as required by the Magnuson-Stevens Fishery Conservation and Management Act, update existing Gulf cobia catch limits to be consistent with best scientific information available and contemporary data collection methods, and to clarify the Gulf and South Atlantic Councils' responsibilities in the CMP Framework Procedure.

1.3 History of Management

The **CMP FMP**, with environmental impact statement (EIS) and regulatory impact review (RIR), 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 CMP FMP treated king and Spanish mackerel as unit stocks in the Atlantic and Gulf and set the minimum size limit for cobia at 33 inches FL. A history of management for all CMP species can be found in CMP **Amendment 18** (GMFMC and SAFMC 2011), **Amendment 20B** (GMFMC and SAFMC 2014), and **Amendment 26** (GMFMC 2016) and are incorporated here by reference. A complete history of management for CMP species is provided on the Gulf Council website.[4]

Amendment 5, with environmental assessment (EA) and RIR, implemented in August 1990, set the current federal possession limit for Gulf cobia of two fish per person per day (recreational and commercial sectors).

[4] https://gulfcouncil.org/fishery-management/implemented-plans/coastal-migratory-pelagics/

Amendment 6, with EA, RIR, and regulatory flexibility analysis (RFA), implemented in November 1992, changed the cobia size limit measure to fork length only, and set the commercial cobia fishing year to the calendar year.

Amendment 16—July 2003 Regulatory Amendment, with EA, RIR, and RFA, implemented in April 2004, defined maximum sustainable yield, optimum yield, the overfishing threshold, and the overfished condition for Gulf cobia.

Amendment 18, with EA, RIR, and RFA, implemented in January 2012, separated cobia into Atlantic and Gulf migratory groups and established ACLs, ACTs, and AMs for Gulf cobia.

Amendment 20B, with EA, RIR, and RFA, implemented in March 2015, created a FLEC Zone for Gulf migratory group cobia with a separate apportionment of the ABC, which would be partially managed by the South Atlantic Council.

Amendment 31, with EA, RIR, and RFA, implemented in March 2019, removed the Atlantic migratory group of cobia from the CMP FMP.

Framework Amendment 7, with EA, RIR, and RFA, implemented in March 2020, increased the minimum size limit for Gulf Zone cobia to 36 inches FL for commercial and recreational sectors.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 – Modify the Gulf of Mexico (Gulf) Migratory Group Cobia (Gulf Cobia) Overfishing Limit (OFL), Acceptable Biological Catch (ABC), and Annual Catch Limit (ACL).

Alternative 1: No Action. Retain the Gulf cobia OFL, ABC, ACL as implemented in 2015 by Amendment 20B to the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Regions (CMP FMP).

Year	OFL	ABC	ACL
2016+	2,660,000	2,600,000	2,600,000
MRIP-FES equivalent	4,870,000	4,500,000	4,500,000

Note: Catch limits in pounds whole weight (lb ww). The recreational portion of the current OFL, ABC, and ACL are based on Marine Recreational Information Program Coastal Household Telephone Survey (MRIP-CHTS) data. The recreational portion of the MRIP Fishing Effort Survey (FES) equivalent was calculated in the SEDAR 28 Update stock assessment (2020) and is provided for comparison only.

Alternative 2: Modify the Gulf cobia OFL, ABC, and ACL based on recommendation of the Gulf Scientific and Statistical Committee (SSC) as presented in July 2020, for an increasing yield stream for 2021 to 2023, and then maintain the 2023 levels for subsequent fishing years or until changed by a management action. The stock ACL is set equal to the stock ABC.

Year	OFL	ABC	ACL
2021	3,030,000	2,340,000	2,340,000
2022	3,210,000	2,600,000	2,600,000
2023+	3,310,000	2,760,000	2,760,000

Note: Catch limits in pounds whole weight. The recreational portion of the OFL, ABC, and ACL are based on MRIP-FES data.

Alternative 3: Modify the Gulf cobia OFL, ABC, and ACL as a constant catch value for 2021 and subsequent fishing years or until changed by a management action. The stock ACL is set equal to the stock ABC.

Year	OFL	ABC	ACL
2021+	3,030,000	2,340,000	2,340,000

Discussion:
The Southeast Data Assessment and Review (SEDAR) 28 Update assessment (2020) indicated that Gulf cobia was not overfished, but was undergoing overfishing. The Gulf of Mexico Fishery Management Council (Gulf Council) SSC determined SEDAR 28 Update to be the best scientific information available and offered increasing yield catch recommendations for OFL and ABC based on the assessment for 2021 – 2023. A buffer between the OFL and the ABC remains due to scientific uncertainty, and was fixed at 75% of the fishing mortality rate (F) at maximum sustainable yield (MSY) which, in the case of Gulf cobia, is set at the proxy value of 30% of the spawning potential ratio (i.e., the projected yield at 75% of $F_{SPR30\%}$). Amendment 18 to the CMP FMP defined the ACL as equal to ABC (GMFMC and SAFMC 2011).

The actions in Amendment 18 to the CMP FMP provided the definition for the Gulf cobia stock ACL being set equal to the ABC (GMFMC and SAFMC 2011). Amendment 18 set the ACL equal to the stock ABC, with no buffer, because: 1) there was no indication at the time that Gulf cobia was overfished or experiencing overfishing; 2) the accountability measures (AM) implemented through Amendment 18 are in place to account for any ACL overages should they occur; and 3) repeated ACL overages are not expected due to improved commercial monitoring mechanisms, proposed improvements to dealer reporting, and proposed improvements to the reporting of recreational data. Although the current stock assessment indicates that Gulf cobia is experiencing overfishing, the Gulf cobia OFL has never been exceeded. However, a larger buffer between the OFL and ABC is now recommended by the SSC to account for additional scientific uncertainty, and annual catch targets (ACT) will continue to be used to address management uncertainty. AMs remain in place to correct for ACL overages.

Alternative 1 (No Action) retains the existing OFL, ABC, and ACL, all of which are based on the previous Gulf cobia stock assessment (SEDAR 28 2013). The ACL is equal to the ABC, as adopted in Amendment 18 to the CMP FMP (GMFMC and SAFMC 2011). This definition of the ACL was retained in Amendment 20B to the CMP FMP, which set the ACL for Gulf cobia for the years 2014 – 2016 and beyond. The OFL, ABC and ACL in **Alternative 1** are presented in the Marine Recreational Information Program's (MRIP) Coastal Household Telephone Survey (CHTS) data currency, which no longer represents the best scientific information available, and therefore is inconsistent with National Standard 1 Guidelines. Furthermore, one of the major changes between the SEDAR 28 (2013) and SEDAR 28 Update (2020) base models is the incorporation of the MRIP Fishing Effort Survey (FES) adjustments to the recreational catch and effort estimates, and for producing yield projections. Due to this transition in data currency and MRIP-FES being deemed the best scientific information available by NMFS, retaining the OFL, ABC and ACL as presented in the MRIP-CHTS data currency in **Alternative 1** is not a viable option.

Alternative 2 would modify the catch limits for Gulf cobia based on the recommendations of the Gulf SSC from the SEDAR 28 Update. The revised Gulf cobia stock ACL is consistent with the MRIP-FES transition in the recreational data and addresses the overfishing status of the Gulf cobia stock. **Alternative 2** sets the stock ACL equal to the Gulf SSC's recommendation for the stock ABC for 2021 – 2023, and then maintains the ABC and ACL at the 2023 level for subsequent years until changed by future management action. When comparing historical Gulf cobia FES-adjusted landings to the recommended 2021 OFL, ABC, and ACL in **Alternative 2**

(the lowest of the 2021 – 2023 SSC-recommended catch limits), total Gulf cobia landings would have exceeded the **Alternative 2** 2021 ACL in every year but two since ACLs were implemented in 2012 (Table 2.1.1), and exceeded the proposed 2021 OFL in four of the eight years since the OFLs were implemented. When comparing historical Gulf cobia FES-adjusted landings to the recommended 2023 OFL, ABC, and ACL in **Alternative 2** (the highest of the 2021 – 2023 SSC-recommended catch limits), total Gulf cobia landings would have exceeded the **Alternative 2** 2021 ACL in every year except three since ACLs were implemented in 2012 (table 2.1.1), and exceeded the proposed 2023 OFL in three of the eight years since OFLs were implemented. Therefore, changes to other management measures may be needed to constrain harvest to the ACL and prevent an overage of the OFL.

While not provided as a recommendation from the SSC, **Alternative 3** would modify the catch limits for Gulf cobia as a constant catch based on the OFL and ABC recommendations for 2021. Similar to **Alternatives 1** and **2,** the ACL for **Alternative 3** would remain equal to the ABC. When comparing historical Gulf cobia FES-adjusted landings to the **Alternative 3** OFL, ABC, and ACL, total Gulf cobia landings would have exceeded the **Alternative 3** ACL in every year except two since ACLs were implemented in 2012 (Table 2.1.1), and exceeded the proposed OFL in four of the eight years since OFLs were implemented. Therefore, changes to other management measures may still be needed to constrain harvest to the ACL and prevent an overage of the OFL. It should be noted that the SSC did not recommend a constant catch scenario for Gulf cobia because, as the stock is currently experiencing overfishing, more fine-scale annually projected catch limits may benefit the stock to ensure that it can recover from its "experiencing overfishing" stock status in a timely manner, assuming that catches are constrained to the ACL.

Table 2.1.1. Total Gulf cobia recreational and commercial landings in pounds whole weight using MRIP-CHTS and MRIP-FES units, and total ACL in MRIP-CHTS units for the years 2012 – 2019.

Year	Rec. Landings (CHTS)	Rec. Landings (FES)	Com. Landings	Total Landings (CHTS)	Total Landings (FES)	ACL (CHTS)	Proposed 2021 ACL (FES)	Proposed 2023+ ACL (FES)
2012	1,336,029	3,799,097	139,736	1,475,765	3,938,833	1,460,000	2,340,000	2,760,000
2013	1,421,717	2,790,938	152,131	1,573,848	2,943,069	1,460,000	2,340,000	2,760,000
2014	1,626,624	3,430,720	164,744	1,791,368	3,595,464	2,460,000	2,340,000	2,760,000
2015	1,205,233	2,575,262	132,834	1,338,067	2,708,096	2,520,000	2,340,000	2,760,000
2016	1,566,827	3,127,758	124,170	1,690,997	3,251,928	2,600,000	2,340,000	2,760,000
2017	838,773	2,089,986	114,647	953,420	2,204,633	2,600,000	2,340,000	2,760,000
2018	1,253,516	3,379,295	73,908	1,327,424	3,453,203	2,600,000	2,340,000	2,760,000
2019*	806,968	1,897,489	71,867	878,835	1,969,356	2,600,000	2,340,000	2,760,000

Source: SEFSC Commercial ACL data (Accessed August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

2.2 Action 2 – Modify the Gulf Cobia Apportionment Between the Gulf Zone and the Florida East Coast (FLEC) Zone, and Update the Zones' ACLs Based on the ACL Selected in Action 1.

Alternative 1: No Action. Retain the current Gulf cobia stock ACL apportionment of 64% to the Gulf Zone and 36% to the FLEC Zone based on MRIP-CHTS average landings for Gulf cobia for the years 1998 – 2012.

Alternative 2: Retain the Gulf cobia stock ACL apportionment of 64% to the Gulf Zone and 36% to the FLEC Zone, recognizing that the Zone's ACLs will be monitored in MRIP-FES.

Alternative 3: Modify the Gulf cobia stock ACL apportionment to be 63% for the Gulf Zone and 37% for the FLEC Zone, based on the MRIP-FES average landings for Gulf cobia for the years 1998 – 2012, and use this apportionment to update the Zone ACLs based on the Gulf Cobia ACL(s) in Action 1.

Alternative 4: Modify the Gulf cobia stock ACL apportionment to be 62% for the Gulf Zone and 38% for the FLEC Zone, based on the MRIP-FES average landings for Gulf cobia for the years 2001 – 2015, and use this apportionment to update the Zone ACLs based on the Gulf Cobia ACL(s) in Action 1.

Alternative 5: Modify the Gulf cobia stock ACL apportionment to be 59% for the Gulf Zone and 41% for the FLEC Zone, based on the MRIP-FES average landings for Gulf cobia for the years 2003 – 2019, and use this apportionment to update the Zone ACLs based on the Gulf Cobia ACL(s) in Action 1.

Discussion:

The ACLs and ACTs for Gulf cobia were modified, and a new FLEC Zone designated, in Amendment 20B to the CMP FMP (GMFMC and SAFMC 2014). Amendment 20B established zone allocations of the Gulf cobia ACL of 64% to the Gulf Zone and 36% to the FLEC Zone, based on the combined average landings of Gulf cobia from 1998 – 2012 across its range (Texas east and north to the Florida/Georgia state line). At the time this decision was made, the results from SEDAR 28 (2013) determined Gulf cobia to be healthy, and the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils) considered this apportionment to be a fair and equitable distribution of the resource between their jurisdictions. The FLEC Zone ACL was further allocated 92% to the recreational and 8% to the commercial sector. These apportionments based on historic landings in MRIP-CHTS would remain in effect under **Alternative 1** of this action. They would not be modified according to the SSCs' recommendation based on the SEDAR 28 Update assessment to monitor catch and effort MRIP-FES data currency (SEDAR 28 Update 2020). Therefore, **Alternative 1** is no longer a viable option.

Tables 2.2.1 and 2.2.2 summarize the recreational and commercial landings data for the time series used to calculate the ACL apportionment between the Gulf and FLEC Zones, which is summarized in Table 2.2.3. **Alternative 2** would transition recreational data monitoring from MRIP-CHTS to MRIP-FES; however, the current apportionment set under Amendment 20B would remain the same, and catch limits would be updated using this apportionment (Table 2.2.3 and 2.2.4). **Alternative 3** would transition recreational data monitoring from MRIP-CHTS to MRIP-FES, but retains the timeline used in Amendment 20B to calculate the apportionment. Catch limits would be updated using this apportionment (Table 2.2.4). **Alternatives 4** and **5** would update the apportionments and catch limits (Table 2.2.4) by incorporating transitioning the recreational data from MRIP-CHTS to MRIP-FES and by considering more recent timeframes in the calculation of average landings (Tables 2.2.1 and 2.2.2). **Alternative 4** would modify the Zone ACLs based on an apportionment using MRIP-FES landings for the years 2001 – 2015. **Alternative 5** would modify the Zone ACLs based on an apportionment using MRIP-FES landings for the years 2003 – 2019. It is important to note that the time series under **Alternative 5** may be biased by recent changes in the management of Gulf cobia.

Table 2.2.1. Gulf Zone cobia recreational and commercial landings in pounds whole weight using MRIP-CHTS and MRIP-FES units, and the stock ACL in MRIP-CHTS units for the years 1998 – 2019.

Year	Recreational Landings (CHTS)	Recreational Landings (FES)	Commercial Landings	Stock Total Landings (CHTS)	Stock Total Landings (FES)	Stock ACL (CHTS)
1998	1,003,506	2,583,814	176,978	1,180,484	2,760,792	N/A
1999	1,099,709	2,954,532	167,416	1,267,125	3,121,948	N/A
2000	959,280	2,206,198	129,890	1,089,170	2,336,088	N/A
2001	1,296,703	3,625,034	92,108	1,388,811	3,717,142	N/A
2002	876,253	2,157,024	105,252	981,505	2,262,276	N/A
2003	1,191,268	2,101,349	111,436	1,302,704	2,212,785	N/A
2004	1,407,228	2,998,358	101,211	1,508,439	3,099,569	N/A
2005	1,143,814	1,958,920	87,582	1,231,396	2,046,502	N/A
2006	1,017,720	2,204,813	81,948	1,099,668	2,286,761	N/A
2007	1,165,878	2,662,004	73,208	1,239,086	2,735,212	N/A
2008	922,218	1,703,737	68,723	990,941	1,772,460	N/A
2009	591,469	1,189,342	62,239	653,708	1,251,581	N/A
2010	530,123	1,924,253	82,361	612,484	2,006,614	N/A
2011	1,189,851	2,803,465	69,168	1,259,019	2,872,633	N/A
2012	887,225	2,464,238	51,911	939,136	2,516,149	1,460,000
2013	1,128,765	2,098,096	82,508	1,211,273	2,180,604	1,460,000
2014	1,051,304	2,023,921	78,762	1,130,066	2,102,683	1,460,000
2015	784,457	1,381,507	70,370	854,827	1,451,877	1,610,000
2016	974,015	1,573,088	75,559	1,049,574	1,648,647	1,660,000
2017	515,257	1,328,116	73,604	588,861	1,401,720	1,660,000
2018	638,909	1,406,879	41,069	679,978	1,447,948	1,660,000
2019	612,842	1,342,194	37,993	650,835	1,380,187	1,660,000

Source: SEFSC Commercial ACL data (August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

Table 2.2.2. FLEC Zone cobia recreational and commercial landings and ACLs in pounds whole weight using MRIP-CHTS and MRIP-FES units, and ACLs in MRIP-CHTS for the years 1998 – 2019.

Year	Rec. Landings (CHTS)	Rec. Landings (FES)	Rec. ACL (CHTS)	Com. Landings	Com. ACL (CHTS)	Total Landings (CHTS)	Total Landings (FES)	FLEC total ACL
1998	557,850	918,091	N/A	111,452	N/A	669,302	1,029,543	N/A
1999	726,302	1,715,939	N/A	117,262	N/A	843,564	1,833,201	N/A
2000	504,606	906,654	N/A	82,229	N/A	586,835	988,883	N/A
2001	345,791	760,075	N/A	85,605	N/A	431,396	845,680	N/A
2002	374,498	905,328	N/A	78,441	N/A	452,939	983,769	N/A
2003	791,831	1,807,656	N/A	83,488	N/A	875,319	1,891,144	N/A
2004	298,901	521,113	N/A	78,219	N/A	377,120	599,332	N/A
2005	345,091	828,307	N/A	49,415	N/A	394,506	877,722	N/A
2006	535,747	1,569,137	N/A	69,639	N/A	605,386	1,638,776	N/A
2007	616,904	2,043,940	N/A	74,278	N/A	691,182	2,118,218	N/A
2008	453,807	1,236,012	N/A	71,525	N/A	525,332	1,307,537	N/A
2009	350,111	903,567	N/A	75,604	N/A	425,715	979,171	N/A
2010	792,410	2,063,955	N/A	112,942	N/A	905,352	2,176,897	N/A
2011	805,024	2,661,682	N/A	171,472	N/A	976,496	2,833,154	N/A
2012	448,804	1,334,859	N/A	87,825	N/A	536,629	1,422,684	N/A
2013	292,952	692,842	N/A	69,623	N/A	362,575	762,465	N/A
2014	575,320	1,406,799	N/A	85,982	N/A	661,302	1,492,781	N/A
2015	420,776	1,193,755	830,000	62,464	70,000	483,240	1,256,219	900,000
2016	592,812	1,554,670	860,000	48,611	70,000	641,423	1,603,281	930,000
2017	323,516	761,870	860,000	41,043	70,000	364,559	802,913	930,000
2018	614,607	1,972,416	860,000	32,839	70,000	647,446	2,005,255	930,000
2019	194,126	555,295	860,000	33,874	70,000	228,000	589,169	930,000

Source: SEFSC Commercial ACL data (August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

Table 2.2.3. Gulf cobia average landings for each alternative in Action 2, and the percent of the stock ACL attributable to the FLEC Zone for each alternative. The Zone boundaries remain as defined by Amendment 20B to the CMP FMP.

		Landings (lbs ww)			
Alternative	**Method/Years**	**Gulf Total**	**FLEC Zone**	**Gulf Zone**	**% FLEC Zone**
1	Average (1998-2012) in MRIP-CHTS	1,729,311	623,255	1,106,056	36
2	1998-2012 MRIP-FES equivalent retaining FLEC Zone apportionment set with CMP 20B	3,901,615	*	*	36
3	Average (1998-2012) in MRIP-FES	3,901,615	1,435,047	2,466,567	37
4	Average (2001-2015) in MRIP-FES	3,713,360	1,412,370	2,300,990	38
5	Average (2003-2019) in MRIP-FES	3,457,097	1,432,748	2,024,349	41

Source: Alt. 1: CMP Amendment 20B; Alt. 2-5: SEFSC Commercial ACL data (August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).
*No Zone landings are presented as Alt. 2 only shows the MRIP-FES equivalent total landings and retains the apportionment set with CMP Amendment 20B. See Alternative 3 for actual Zone landings in MRIP-FES units, which show an update to the apportionment.

Table 2.2.4. ACLs for Gulf Zone and FLEC Zone for each alternative in Action 1 Alternatives 2 and 3 and each alternative in Action 2. All weights for OFL, ABC, and ACL are in pounds whole weight. Alternative 1 is in MRIP-CHTS units and Alternatives 2 – 5 are in MRIP-FES units.

Alternative	% landings from FLEC	Year	Gulf Migratory Group		FLEC Zone ACL		Gulf Zone ACL
			OFL	ABC	Commercial (8%)	Recreational (92%)	Stock
1	36	2021+	2,660,000	2,600,000	70,000	860,000	1,660,000
2	36	2021	3,030,000	2,340,000	67,392	775,008	1,497,600
		2022	3,210,000	2,600,000	74,880	861,120	1,664,000
		2023+	3,310,000	2,760,000	79,488	914,112	1,766,400
3	37	2021	3,030,000	2,340,000	69,264	796,536	1,474,200
		2022	3,210,000	2,600,000	76,960	885,040	1,638,000
		2023+	3,310,000	2,760,000	81,696	939,504	1,738,800
4	38	2021	3,030,000	2,340,000	71,136	818,064	1,450,800
		2022	3,210,000	2,600,000	79,040	908,960	1,612,000
		2023+	3,310,000	2,760,000	83,904	964,896	1,711,200
5	41	2021	3,030,000	2,340,000	76,752	882,648	1,380,600
		2022	3,210,000	2,600,000	85,280	980,720	1,534,000
		2023+	3,310,000	2,760,000	90,528	1,041,072	1,628,400

2.3 Action 3 – Update and/or Establish Annual Catch Targets (ACT) for the Gulf Cobia Zones Based on the Apportionment Selected in Action 2.

Alternative 1: No Action. The Gulf Zone ACT equals 90% of the Gulf Zone ACL, based on the Gulf Council's ACL/ACT Control Rule. The FLEC Zone ACT equals the FLEC Zone ACL multiplied by [(1-Proportional Standard Error [PSE] of the FLEC Zone recreational landings) or 0.5, whichever is greater].

Alternative 2: Use the Gulf Council's ACL/ACT Control Rule to calculate ACTs for the Gulf Zone and the recreational sector in the FLEC Zone.

Alternative 3: Establish an ACT for the commercial sector in the FLEC Zone using the Gulf Council's ACL/ACT Control Rule.

Gulf Migratory Group	
Gulf Zone	**FL East Coast Zone**
Stock ACT = 90% ACL **Or use** Gulf ACL/ACT Control Rule calculations	Recreational ACT = ACL * [(1-PSE) or 0.5, whichever is greater] **Or use** Gulf ACL/ACT Control Rule calculations

Currently established ACT calculations for Gulf cobia implemented with CMP Amendment 18 and 20B and proposed ACT calculations under Action 3.

Discussion:

Under **Alternative 1**, the Amendment 18 to the CMP FMP established Gulf cobia buffer of 10% between the ACL and ACT for the Gulf Zone, and the calculation for determining the FLEC Zone recreational sector ACT established in Amendment 20B to the CMP FMP is retained (Recreational ACT = ACL * [(1-PSE) or 0.5, whichever is greater]). The PSE expresses the standard error of an estimate as a percentage of the estimate and is a measure of precision.

In Amendment 20B, the buffer between the ACT and the ACL for the recreational sector in the FLEC Zone was determined using the time series selected under Alternative 1 of Action 2, which determined that the **Alternative 1** PSE for the recreational data was 0.17. As such, the FLEC Zone ACT was set equal to the FLEC Zone ACL multiplied by (1-0.17), or 0.83, setting the FLEC Zone ACT at 83% of the FLEC Zone ACL. For the time series in Action 2, Alternatives 2 – 4, the PSE for the recreational data was 0.24. As such, the FLEC Zone ACT was set equal to the FLEC Zone ACL multiplied by (1-0.24), or 0.76, setting the FLEC Zone ACT at 76% of the FLEC Zone ACL. While Alternatives 2 and 3 in Action 2 use the same time series as Alternative 1 of Action 2, the calculated buffer has increased due to the PSE increasing, which is an acknowledgement that those landings are known with less precision than previously

estimated. For Action 2, Alternative 5 (using the years 2003 – 2019), the Proportional Standard Error (PSE) for the recreational data was 0.25. As such, the FLEC Zone ACT was set equal to the FLEC Zone ACL multiplied by (1-0.25), or 0.75, setting the FLEC Zone ACT at 75% of the FLEC Zone ACL. Table 2.3.1 shows the results of the selected ACT calculation under **Alternative 1** based on the ACL selected in Action 1**.**

Alternatives 2 and **3** would update the calculation for determining the ACT by using the Gulf Council's ACL/ACT Control Rule (Appendix C). Under this control rule, the ACTs for the Gulf Zone and for the recreational sector in the FLEC Zone would be set 10% below their respective zone ACLs, based on the PSEs for the most recent four years of landings data (2016 – 2019) and the factors considered in the Gulf Council's ACL/ACT Control Rule. **Alternative 3** provides an option to establish an ACT for the commercial sector in the FLEC Zone, which would also be set 10% below the commercial ACL for the FLEC Zone. If **Alternative 3** is selected for the commercial sector in the FLEC Zone, the AMs for Gulf cobia would need to be updated since the commercial and recreational landings for the FLEC Zone are currently managed to the FLEC Zone's combined ACL, and there would have to be mention of the commercial ACT if it is being used for management purposes. Table 2.3.1 shows the results of the selected ACT calculation under **Alternatives 2** and **3** based on the ACL selected in Action 1, Alternatives 1 and 2. Table 2.3.1 also shows the results of the selected ACT calculation under **Alternatives 2** and **3** based on the ACL selected in Action 1, Alternative 3 since the ACL under Alternative 3 in Action 1 equals the ACL under Alternative 2 in Action 1 for 2022.

While **Alternative 1** results in a larger buffer for the FLEC Zone, selecting **Alternative 2** and/or **Alternative 3** would standardize ACT calculations for Gulf cobia similar to how they are calculated for other Gulf federally-managed species for consistency. Similarly, for the Gulf Zone, selection of **Alternative 2** would standardize the ACT calculation. Even though currently, **Alternative 1** and **Alternative 2** result in the same buffer, the selection of **Alternative 2** would also allow for changes to the buffer as other factors in the Gulf Council's ACL/ACT Control Rule are considered.

Table 2.3.1. ACTs for Gulf cobia for each combination of alternatives in Action 2 and 3. Weights for ACTs are in pounds whole weight. Alternative 1 under Actions 2 and 3 is in MRIP-CHTS units, and Alternatives 2 – 5 under Actions 2 and 3 are in MRIP-FES units.

Action 2 Alternatives	Year	Action 3				
		FLEC Zone ACT Alternative 1	FLEC Zone ACT Alternative 2	FLEC Zone ACT Alternative 3	Gulf Zone ACT Alternative 1	Gulf Zone ACT Alternative 2
		Recreational	Recreational	Commercial	Stock	Stock
1	2021+	710,000	N/A	N/A	1,500,000	N/A
2	2021	589,006	697,507	60,653	1,347,840	1,347,840
	2022	654,451	775,008	67,392	1,497,600	1,497,600
	2023+	694,725	822,701	71,539	1,589,760	1,589,760
3	2021	605,367	716,882	62,338	1,326,780	1,326,780
	2022	672,630	796,536	69,264	1,474,200	1,474,200
	2023+	714,023	845,554	73,526	1,564,920	1,564,920
4	2021	621,729	736,258	64,022	1,305,720	1,305,720
	2022	690,810	818,064	71,136	1,450,800	1,450,800
	2023+	733,321	868,406	75,514	1,540,080	1,540,080
5	2021	661,986	794,383	69,077	1,242,540	1,242,540
	2022	735,540	882,648	76,752	1,380,600	1,380,600
	2023+	780,804	936,965	81,475	1,465,560	1,465,560

2.4 Action 4 – Modify the Gulf Cobia Possession Limit and/or Establish a Trip Limit

Alternative 1: No Action. Retain the current recreational and commercial daily possession limit of 2 fish per person, regardless of the number or duration of trips, in the Gulf Zone and the FLEC Zone.

Alternative 2: Reduce the recreational and commercial daily possession limit to 1 fish per person, regardless of the number or duration of trips.

Option 2a: in the Gulf Zone
Option 2b: in the FLEC Zone

Alternative 3: Create a recreational and commercial daily trip limit. Fishermen may not exceed the per person daily possession limit.

Option 3a: in the Gulf Zone
Suboption i: The trip limit for cobia is two fish.
Suboption ii: The trip limit for cobia is four fish.
Suboption iii: The trip limit for cobia is six fish.

Option 3b: in the FLEC Zone
Suboption i: The trip limit for cobia is two fish.
Suboption ii: The trip limit for cobia is four fish.
Suboption iii: The trip limit for cobia is six fish.

*Councils may select more than one Alternative, Option, and Suboption. Selected suboptions under Options 3a and 3b do not need to match.

Discussion:

The Gulf Council is considering options to reduce the fishing mortality on Gulf cobia and constrain harvest to the ACL. 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).

During its September 2020 meeting, the Gulf Council received public testimony recommending that it explore possession limits similar to those established by the State of Florida. The Florida Fish and Wildlife Conservation Commission (FWC) enforces a daily bag limit of one fish per person or two per vessel, whichever is less, for cobia caught in Gulf state waters off Florida. For cobia caught in South Atlantic state waters off Florida, FWC enforces a daily bag limit of one fish per person or six per vessel, whichever is less.

Determining the effects of changing the per person possession limits, or the addition of trip limits, the cobia harvest per person and per vessel on each trip for Gulf cobia was analyzed in a similar way as for Framework Amendment 7 (GMFMC 2019). However, data were updated and summarized for 2017 – 2019 and the FLEC Zone (Appendix D). This was done for the commercial, charter for-hire, private angling, and headboat harvest data. As with Framework Amendment 7 to the CMP FMP, the majority of both commercial and recreational trips for both zones harvested less than one cobia per person (Figures 2.4.1, 2.4.2, and 2.4.3). This is possible because the number of anglers exceeds the number of cobia harvested per trip. For example, a trip with four anglers that harvested two cobia would result in less than one cobia per angler (0.5 cobia per angler is this example). Examination of these data revealed that the majority of the commercial and recreational trips in both zones harvested only one cobia per vessel per trip (Figures 2.4.4, 2.4.5, and 2.4.6).

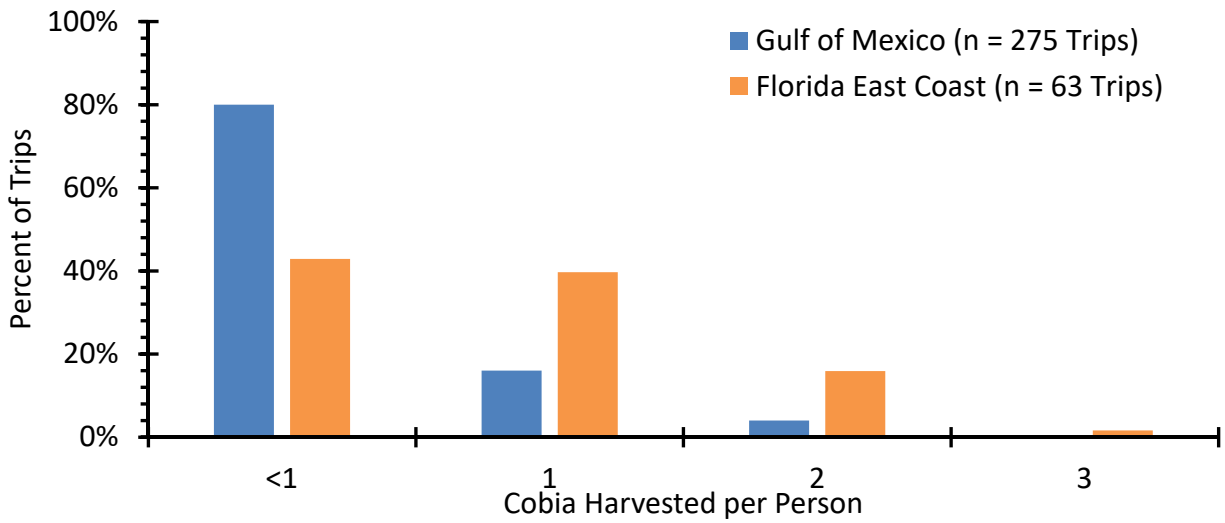

Figure 2.4.1. Distribution of the commercial cobia harvested (numbers of fish) per person per day in the Gulf and FLEC Zones from 2017 to 2019.
Source: Southeast Fisheries Science Center (SEFSC) Trip Interview Program (TIP) Accessed November 27, 2020.

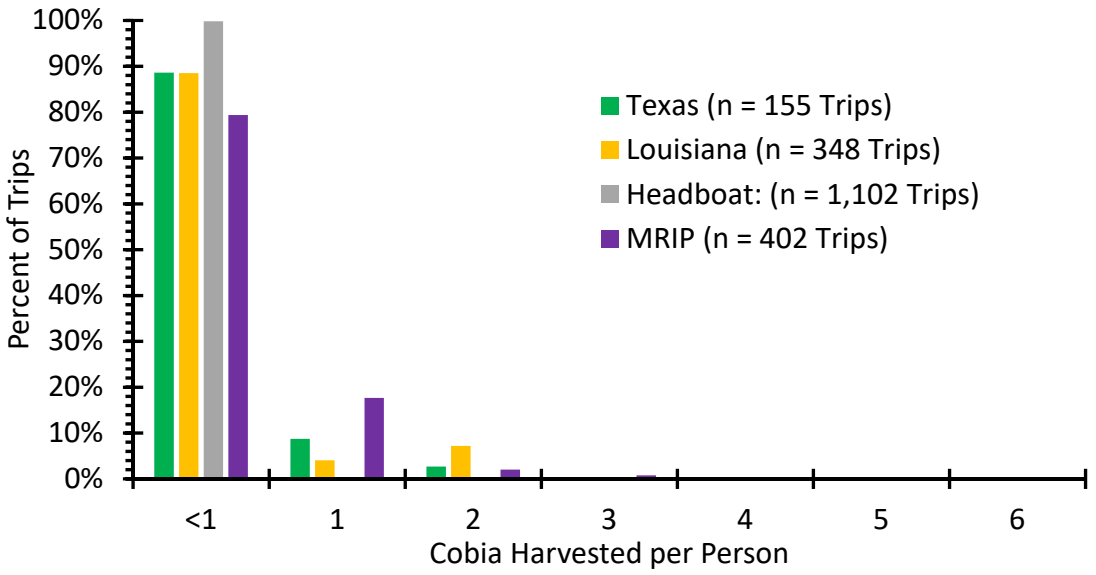

Figure 2.4.2. Distribution of the recreational cobia harvested (numbers of fish) per person per day in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because of the different recreational surveys that operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states and Florida, and MRIP operates in Mississippi, Alabama, and Florida.
Source: MRIP (Accessed May 20, 2020), Southeast Regional Headboat Survey (SRHS) (Accessed July 10, 2020), Louisiana Creel Survey (LA Creel) (Accessed April 24, 2020), and Texas Parks and Wildlife Department Recreational Survey (TPWD) (Accessed August 17, 2020).

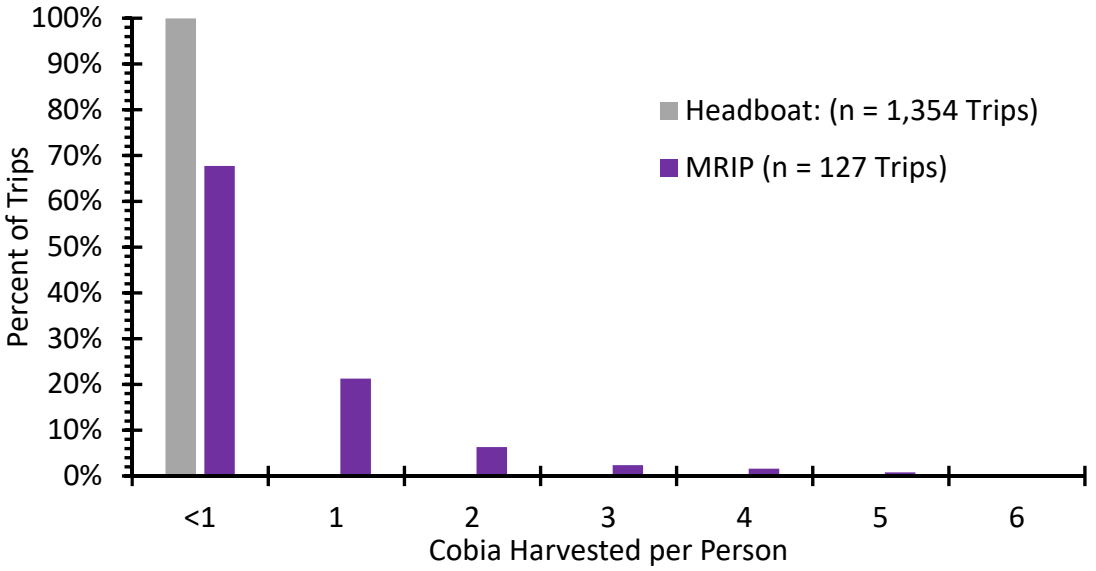

Figure 2.4.3. Distribution of the recreational cobia harvested (numbers of fish) per person per day in the FLEC Zone from 2017 to 2019. Only results from Headboat and MRIP are provided because these are the only two recreational surveys that operate on the east coast of Florida.
Source: MRIP (Accessed May 20, 2020) and SRHS (Accessed July 10, 2020).

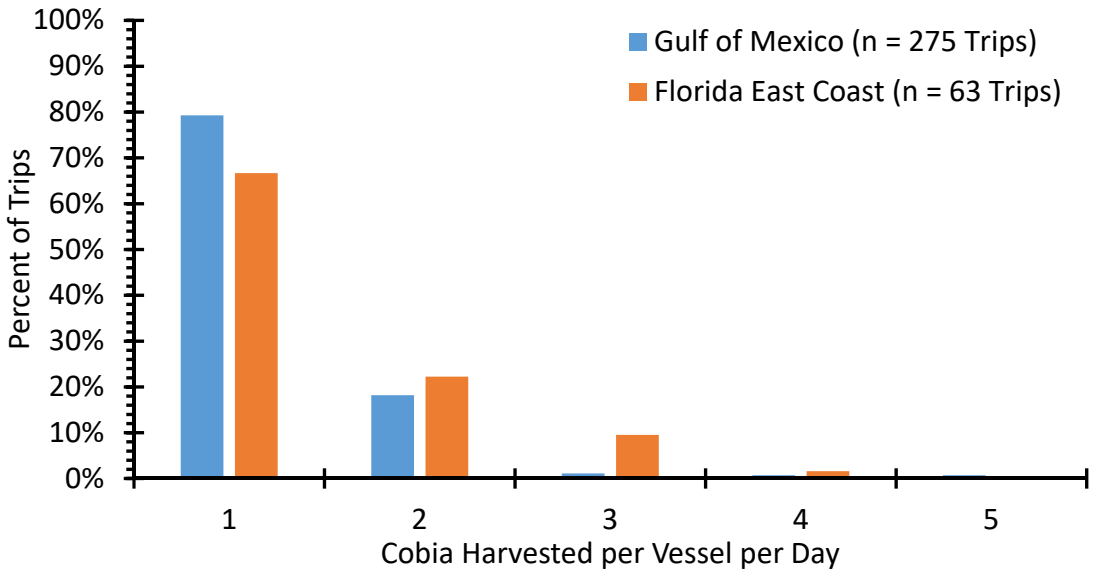

Figure 2.4.4. Distribution of the commercial cobia harvested (numbers of fish) per vessel per day in the Gulf and FLEC Zones from 2017 to 2019.
Source: SEFSC TIP Accessed November 27, 2020.

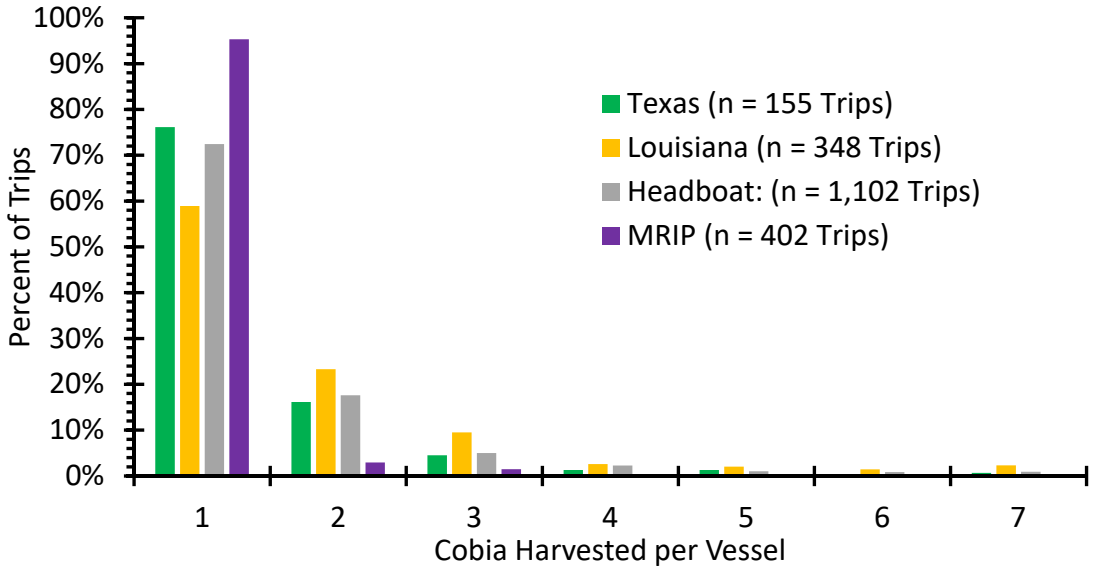

Figure 2.4.5. Distribution of the recreational cobia harvested (numbers of fish) per vessel per day in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states, and MRIP operates in Mississippi, Alabama, and Florida.
Source: MRIP (Accessed May 20, 2020), SRHS (Accessed July 10, 2020), LA Creel (Accessed April 24, 2020), and TPWD (Accessed August 17, 2020).

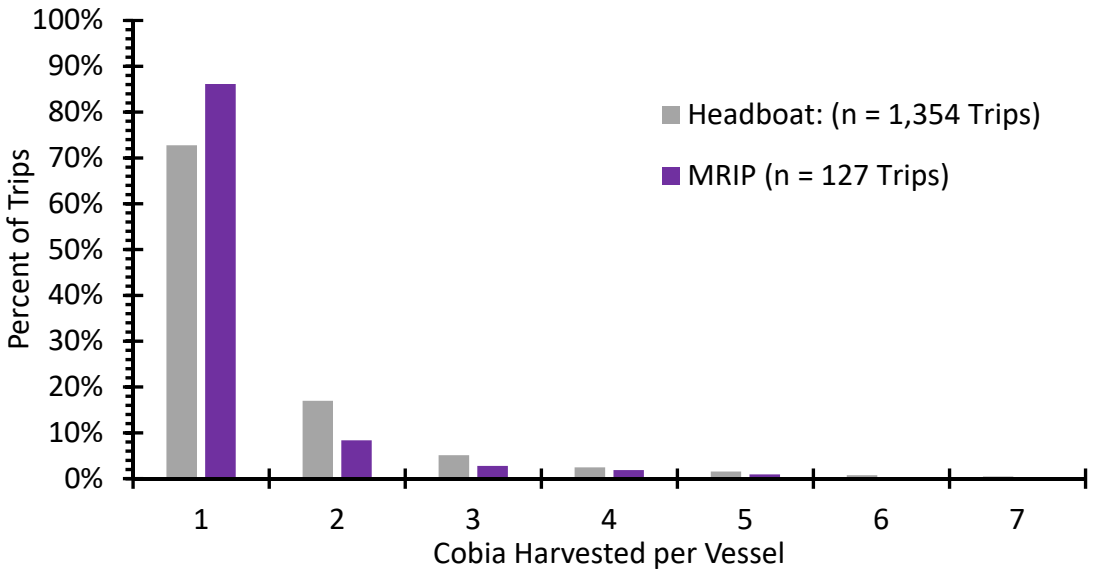

Figure 2.4.6. Distribution of the recreational cobia harvested (numbers of fish) per vessel per day in the FLEC Zone from 2017 to 2019. Only results from Headboat and MRIP are provided because these are the only two recreational surveys that operate on the east coast of Florida.
Source: MRIP (Accessed May 20, 2020) and SRHS (Accessed July 10, 2020).

Alternative 1 would maintain the current daily possession limit for Gulf Zone and FLEC Zone cobia of two fish per person for both sectors, without a vessel limit, which has been in effect since the implementation of Amendment 5 to the CMP FMP (GMFMC 1990). Therefore, **Alternative 1** is not expected to result in any change to fishing mortality from the status quo. While the ACL under Action 1, Alternative 1 has never been exceeded, changes to the data currency from MRIP-CHTS to MRIP-FES under Action 1, **Alternatives 2 – 4** may result in in the ACL being harvested more quickly under **Alternative 1**.

Alternative 2 would decrease the per person daily recreational and commercial possession limit for Gulf cobia from two to one fish per person per day, regardless of the number or duration of trips taken. Since Gulf cobia are managed under a stock ACL in the Gulf Zone with equivalent harvest restrictions for both recreational anglers and commercial fishermen, separate possession limits are not currently being considered. However, **Options 2a** and **2b** provide the Councils the opportunity to select this change per Zone. **Alternative 2** would halve the maximum possible harvest per person. However, less than one cobia per angler is retained, on average, on all trips in the Gulf Zone or FLEC Zone (Figures 2.4.1, 2.4.2, and 2.4.3). Therefore, reducing the per person possession limit to one fish per day would be expected to result in only minimal reductions in fishing mortality (Tables 2.4.1 and 2.4.2). **Alternative 2** is expected to slow down harvest compared to **Alternative 1**, which would extend the season under the lower ACLs possibly selected under Action 1. **Alternative 2** would also reduce workload for fishermen as a possession limit of 1 fish per person per day in federal waters off Florida would match what the state waters bag limit is off Florida in both the Gulf Zone and the FLEC Zone.

Table 2.4.1. Calculated percent reduction in commercial landings for the proposed Alternative 2 of Action 4 using recent SEFSC TIP data (2017 – 2019).

	Gulf Zone	FLEC Zone
Commercial Sector		
Alternative 1: 2 Cobia per Person per Day	0%	0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	8%	31%

Table 2.4.2. Calculated percent reduction in recreational landings for the proposed Alternative 2 in Action 4 using recent recreational data (2017 – 2019). The results are separated by the different recreational datasets because of the different recreational surveys that operate in different states. "NA" stands for not applicable and is listed for the FLEC Zone column results for the Texas and Louisiana rows because these recreational surveys do not operate on the east coast of Florida.

	Gulf Zone	FLEC Zone
Texas		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	2.7%	NA
Louisiana		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	7.5%	NA
Headboat: All Gulf of Mexico States and Both Coasts of Florida		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	<1%	0.0%
MRIP: Mississippi, Alabama, and Florida		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	2.0%	6.3%

Alternative 3 would create a recreational and commercial trip limit for Gulf cobia for the Gulf Zone (**Option 3a**) and/or the FLEC Zone (**Option 3b**). The trip limit would be either two fish (**Suboption i**), four fish (**Suboption ii**), or six fish (**Suboption iii**) per vessel. Anglers would not be permitted to exceed the per person possession limit. For example, if there were three anglers on a vessel, and the daily bag limit was two fish per person (**Alternative 1**) with a two fish vessel trip limit (**Alternative 3, Option 3a, Suboption i**), then the maximum number of cobia that could be retained on that trip for all anglers combined would be two fish, as opposed to six fish in the absence of a trip limit. However, since the majority of trips catching cobia average only one fish retained per vessel (Figures 2.4.4, 2.4.5, and 2.4.6), the predicted reductions in harvest from the suboptions in **Alternative 3** are low (Tables 2.4.3 and 2.4.4). However, like **Alternative 2, Alternative 3** could slow down harvest compared to **Alternative 1**, which would

extend the season under the lower ACLs possibly selected under Action 1. While there is a want for similar regulations in federal waters off Florida, state waters off Florida currently have two different trip limits based on being off the East or West coast.

Table 2.4.3. Calculated percent reduction in commercial landings for the proposed suboptions under Alternative 3 of Action 4 using recent SEFSC TIP data (2017 – 2019).

	Gulf Zone	FLEC Zone
Commercial Sector		
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	3%	13%
Suboption ii: 4 Cobia per Trip per Day	1%	0%
Suboption iii: 6 Cobia per Trip per Day	0%	0%

Table 2.4.4. Calculated percent reduction in recreational landings for the proposed suboptions under Alternative 3 in Action 4 using recent recreational data (2017 – 2019). The results are separated by the different recreational datasets because of the different recreational surveys that operate in different states. "NA" stands for not applicable and is listed for the Florida East Coast column results for the Texas and Louisiana rows because these recreational surveys do not operate on the east coast of Florida.

	Gulf Zone	FLEC Zone
Texas		
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	7.7%	NA
Suboption ii: 4 Cobia per Trip per Day	1.9%	NA
Suboption iii: 6 Cobia per Tripper Day	0.6%	NA
Louisiana		
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	17.8%	NA
Suboption ii: 4 Cobia per Trip per Day	5.7%	NA
Suboption iii: 6 Cobia per Trip per Day	2.3%	NA
Headboat: All Gulf of Mexico States and Both Coasts of Florida		
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	10.0%	10.3%
Suboption ii: 4 Cobia per Trip per Day	2.7%	2.7%
Suboption iii: 6 Cobia per Trip per Day	<1%	<1%
MRIP: Mississippi, Alabama, and Florida		
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	1.8%	5.6%
Suboption ii: 4 Cobia per Trip per Day	0.0%	<1%
Suboption iii: 6 Cobia per Trip per Day	0.0%	0.0%

2.5 Action 5 – Modify the Gulf Cobia Minimum Size Limit

Alternative 1: No Action. Retain the current recreational and commercial minimum size limit of 36 inches fork length (FL) in the Gulf Zone and 33 inches FL in the FLEC Zone.

Alternative 2: Retain the current recreational and commercial minimum size limit of 36 inches FL in the Gulf Zone and increase the recreational and commercial minimum size limit to 36 inches FL in the FLEC Zone.

Alternative 3: Increase the recreational and commercial minimum size limit to 39 inches FL.
Option 3a: in the Gulf Zone
Option 3b: in the FLEC Zone

Alternative 4: Increase the recreational and commercial minimum size limit to 42 inches FL.
Option 4a: in the Gulf Zone
Option 4b: in the FLEC Zone

*Councils may select more than one Alternative and Option. The selected size limits are not required to match for both Zones.

Discussion:

Decreasing the minimum size limit would be expected to increase landings by allowing retention of cobia that are currently being released. Given the overfishing status of Gulf cobia, decreasing the minimum size limit is not being considered in this action.

As with Action 4, determining the effects of changing the size limit for Gulf cobia was analyzed in the same way as for Framework Amendment 7 to the CMP FMP (GMFMC 2019). However, data were updated and summarized for 2017 – 2019, and now include the FLEC zone (Appendix E). On March 25, 2020, Framework Amendment 7 increased the minimum size limit from 33 to 36 inches FL for cobia harvested in the Gulf Zone. Thus, the effects of this change are not reflected in the time series included in this Action. Overall, commercial fishermen in both zones and recreational fishermen in the FLEC Zone, harvested larger cobia than Gulf Zone recreational fishermen. However, possible illegal harvest of fish under 33 inches FL for this time series in both zones is occurring (Figures 2.5.1, 2.5.2, 2.5.3, and 2.5.4). The use of gaffs to land fish could also be contributing to a currently unaccounted increase in discard mortality.

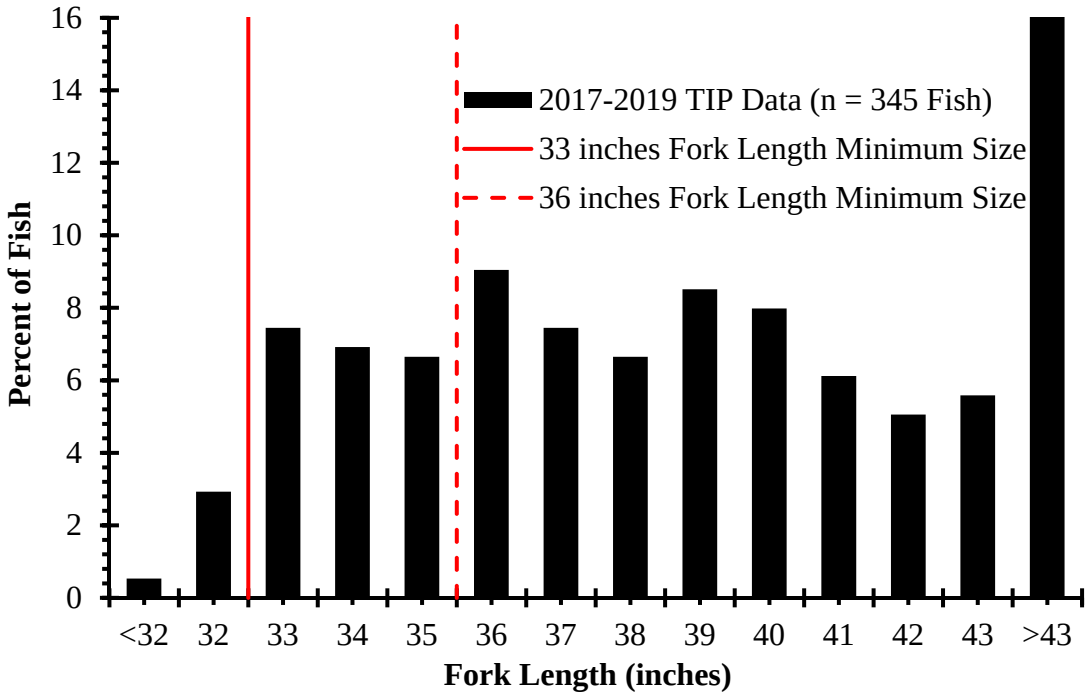

Figure 2.5.1. Length distribution of cobia harvested in the commercial sector in the Gulf Zone. Two different minimum size limits are shown (red lines) in the figure because Framework Amendment 7 recently (March 2020) increased the minimum size limit from 33 to 36 inches FL in the Gulf of Mexico.
Source: SEFSC TIP Accessed November 27, 2020.

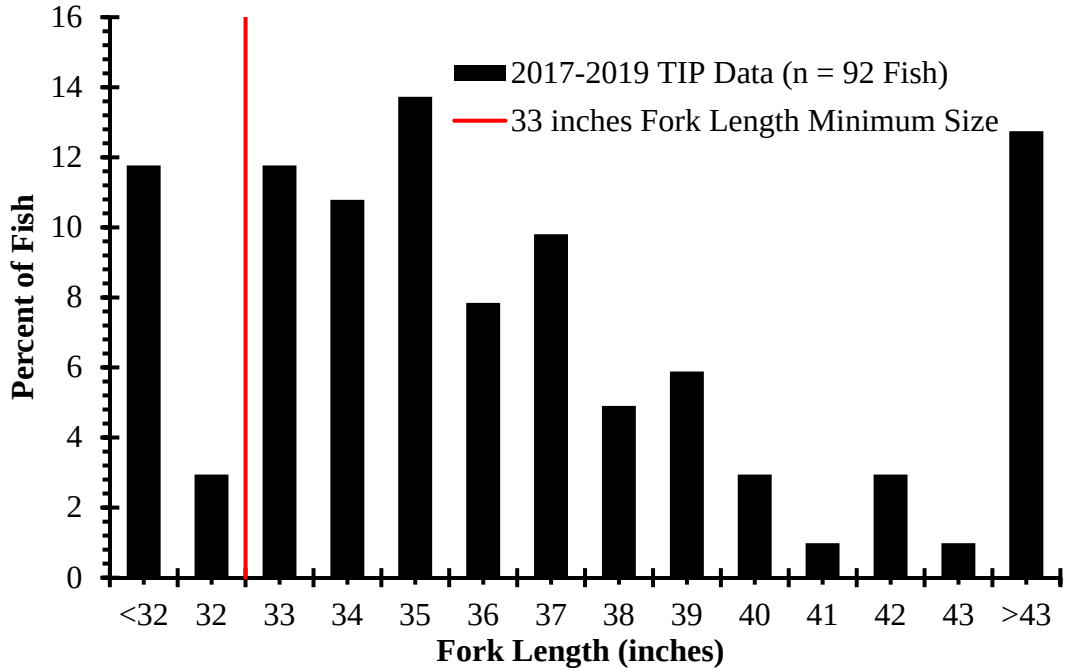

Figure 2.5.2. Length distribution of cobia harvested in the commercial sector in the FLEC Zone. The red line is the current minimum size limit (33 inches FL) for the FLEC Zone.
Source: SEFSC TIP Accessed November 27, 2020.

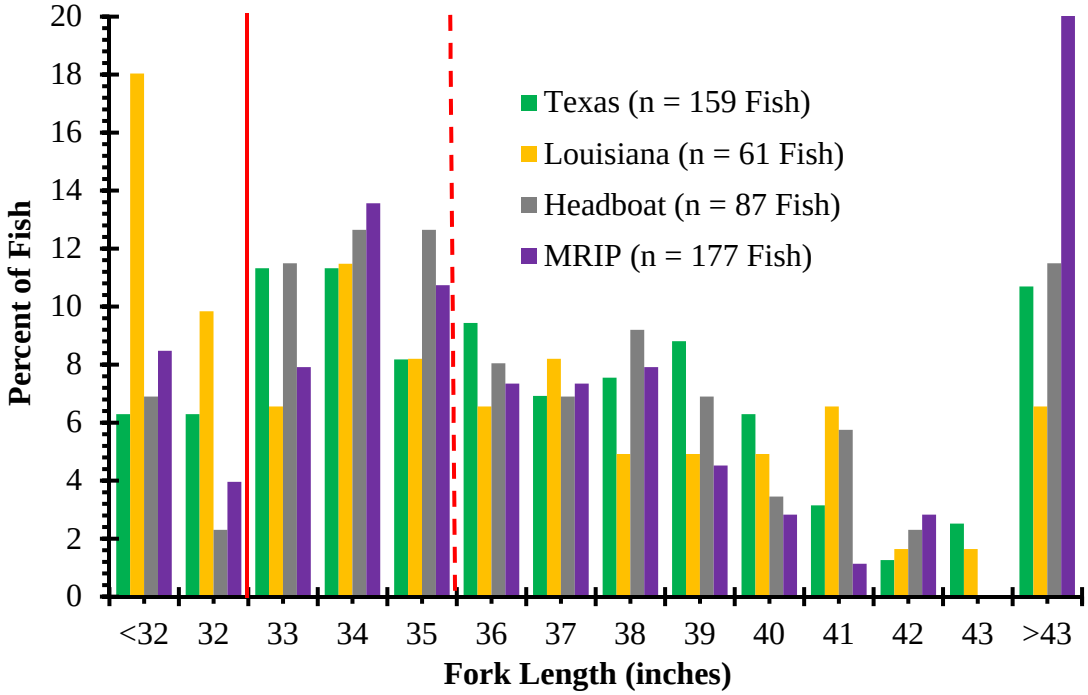

Figure 2.5.3. Fork length distribution of the recreational cobia harvested in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Headboat operates in all of the Gulf of Mexico states, Texas and Louisiana only operate within their own states, and MRIP operates in Mississippi, Alabama, and Florida. Two different minimum size limits are shown (red lines) on the figure because Framework Amendment 7 recently (March 2020) increased the minimum size limit from 33 to 36 inches FL in the Gulf of Mexico.

Source: MRIP (Accessed May 20, 2020), SRHS (Accessed July 10, 2020), LA Creel (Accessed April 24, 2020), and TPWD (Accessed August 17, 2020).

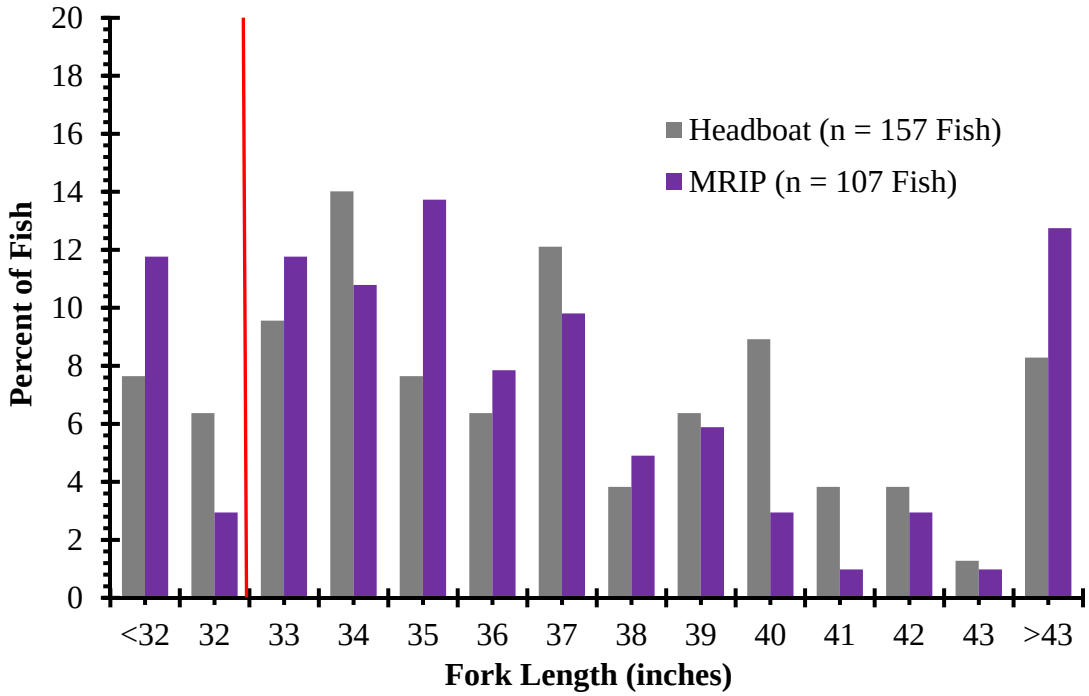

Figure 2.5.4. Fork length distribution of the recreational cobia harvested in the FLEC Zone from 2017 to 2019. Only the recreational surveys of Headboat and MRIP operate on the east coast of Florida. The red line is the current minimum size limit (33 inches FL) for east Florida.
Source: MRIP (Accessed May 20, 2020 and SRHS (Accessed July 10, 2020).

Alternative 1 would not change the minimum size limit of 36 inches FL for Gulf Zone cobia or the 33 inches FL for the FLEC Zone. The increase from 33 inches to 36 inches FL for Gulf Zone cobia was implemented in March 2020 through Framework Amendment 7 (GMFMC) to reduce fishing mortality in the near-term while a stock assessment was underway. SEDAR 28 Update was completed in July 2020, and determined Gulf cobia to not be overfished, but undergoing overfishing; however, the increase in the minimum size limit was not captured in that assessment.

Alternative 2 would increase the minimum size limit for the FLEC Zone from 33 inches FL to 36 inches FL, to be equal to the minimum size limit in the Gulf Zone, and is expected to reduce landings regardless of sector (Table 2.5.1). Increasing the minimum size limit under **Alternative 2** for the FLEC Zone, **Alternative 3,** or **Alternative 4** is expected to reduce fishing mortality in two ways: by increasing the minimum size limit, anglers would be expected to release cobia that they would otherwise retain under the current regulations (**Alternative 1**); and, by increasing the probability of a fish reproducing, perhaps more than once, before being selected by the fishery. However, **Alternative 2, Alternative 3,** and **Alternative 4** would be expected to increase regulatory discards of undersized cobia, especially those brought on board by a gaff. Furthermore, increasing the minimum size limit under **Alternatives 3** and **4** would indirectly drive fishing efforts to target more fecund female cobia, which may have a negative effect on the spawning stock biomass. The length at which 50% of cobia are thought to be sexually mature is 33 inches FL, with female cobia being observed to be larger than males of the same age. However, an increase in the minimum size limit is predicted to reduce harvest more so than by reducing the possession limit in Action 4 (Tables 2.4.3 and 2.4.4). That being said, an increase

in the minimum size limit would result in an increase in the weight of fish landed, and may result in a shorter fishing season under the lower ACLs in Alternatives 2 and 3 of Action 1.

Table 2.5.1. Estimated percent reduction in commercial landings for the Gulf and FLEC Zones for the proposed alternatives in Action 5.

Alternative	Size Limit (Inches FL)	% Reduction
Gulf Zone		
Alternative 1 No Action	36	0
Alternative 2	36	0
Alternative 3a	39	20.3
Alternative 4a	42	45.2
FLEC Zone		
Alternative 1 No Action	33	0
Alternative 2	36	27.2
Alternative 3b	39	48.9
Alternative 4b	42	60.3

Table 2.5.2. Estimated percent reduction in recreational landings for the Gulf and FLEC Zones for the proposed alternatives in Action 5.

Alternative	Size Limit (Inches FL)	Gulf Zone % Reduction	FLEC Zone
Texas			
Alternative 1 No Action	36	0	NA
Alternative 2	36	0	NA
Alternative 3a	39	20.3	NA
Alternative 4a	42	39.9	NA
Louisiana			
Alternative 1 No Action	36	0	NA
Alternative 2	36	0	NA
Alternative 3b	39	20.3	NA
Alternative 4b	42	46.5	NA
Headboat: All Gulf of Mexico States and Both Coasts of Florida			
Alternative 1 No Action	33	NA	0
Alternative 2	36	0	23.4
Alternative 3b	39	19.3	43
Alternative 4b	42	37.6	65.2
MRIP: Mississippi, Alabama, and Florida			
Alternative 1 No Action	33	NA	0

Alternative	Size Limit (Inches FL)	Gulf Zone % Reduction	FLEC Zone
Alternative 2	36	0	33.9
Alternative 3b	39	19.6	55.4
Alternative 4, Option 4b	42	38.7	74.4

2.6 Action 6 – Modify the Framework Procedure

Alternative 1: No Action. Retain the current framework procedure for the responsibilities of each Council to set regulations for the Gulf cobia as adopted in Amendment 20B and revised in Amendment 26 to the CMP FMP.

With respect to
Responsibilities of each Council:

1. Recommendations with respect to the Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the Gulf Council, with the following exceptions:
    a. The South Atlantic Council will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for 1) the east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia.

2. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned to the appropriate zone, but management measures for that zone will be the responsibility of the Council within whose management area that zone is located.

3. Both Councils must concur on recommendations that affect both migratory groups.

Alternative 2: Modify the framework procedure to update the responsibility to each Council for setting regulations for the Gulf cobia.

This pertains to:
Responsibilities of each Council:

1. Recommendations with respect to the Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the Gulf Council, with the following exceptions:
    a. ~~The South Atlantic Council will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for 1) the east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia~~

    <u>Replace with</u>:
    a. The South Atlantic Council will have the responsibility to specify management measures that affect only the east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia.

2. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned ~~the appropriate zone, but management measures for that zone will be the responsibility of the Council within whose management area that~~

~~zone is located.~~

Replace with:

2. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned to a zone in the other Council's jurisdiction.

3. Both Councils must concur on recommendations that affect both migratory groups

Replace with:

3. Both Councils must concur on recommendations that affect the whole range for each migratory group. Recommendations specific to each Council's jurisdiction, such as the case for Gulf migratory group of cobia Gulf Zone or Florida East Coast Zone, only need to involve the affected Council.

Discussion:

The current language for the CMP Framework Procedure, **Alternative 1** (Appendix A with proposed areas for change highlighted), was adopted in Amendment 20B to the CMP FMP (GMFMC and SAFMC 2014) and revised in Amendment 26 to the CMP FMP by removing language that referred to the king mackerel Florida East Coast Subzone (GMFMC 2016). **Alternative 1** would retain the current CMP Framework Procedure without any changes. **Alternative 2** would modify the CMP Framework Procedure for more clarity on what cobia management measures the South Atlantic Council is responsible for concerning Gulf cobia in the FLEC Zone. **Alternative 1** allows the South Atlantic to modify specific management measures for Gulf cobia in the FLEC Zone: vessel trip limits, closed seasons or areas, or gear restrictions. There was no objection to this limitation when Amendment 20B was discussed by the South Atlantic Council and Joint Gulf and South Atlantic Councils Mackerel Committee in March 2013 and by the Gulf Council in April 2013. However, the discussion of the preferred alternative in Amendment 20B, stated that it "grants authority to the South Atlantic Council to manage Gulf migratory zones of CMP species that fall within their jurisdictional area". Further CMP Framework Procedure language clarifies that if a CMP "migratory group has a different boundary than the Gulf and South Atlantic jurisdictional management boundary, then a portion of the ACL for that migratory group may be apportioned to an appropriate zone within the other Council's jurisdiction and management measures for that zone will be the responsibility of the Council within whose management area that zone is located". Meaning if an apportionment of the ACL is given to the other Council within whose jurisdiction the ACL pertains to, that Council will have full responsibility within that zone. Language in Framework Amendment 7 to the CMP FMP stated the South Atlantic Council has full responsibility for Gulf cobia management measures in the FLEC Zone and that was why only the Gulf Zone management measures concerning the minimum size limit and the possession limit were being considered at that time. However, this statement in Framework Amendment 7 was not consistent with the current language in the CMP Framework Procedure. **Alternative 2** would expand the South Atlantic Council's responsibilities beyond setting vessel trip limits, closed seasons or areas, or gear restrictions without a vote from the Gulf Council, allowing the South Atlantic Council to independently approve Framework Amendments specifically pertaining to management

measures for the FLEC Zone for Gulf cobia. **Alternative 2** would not allow the South Atlantic Council to make unilateral changes to management measures that affect the entire migratory group throughout its range, such as removing the FLEC Zone apportionment of the migratory group from the CMP FMP, or modifying the OFL, ABC, or Gulf group ACL. Therefore, Gulf Council input would be required for these types of Actions to move forward. **Alternative 2** would not change the authority of a Council manage a CMP stock if its migratory boundary goes into another Council's jurisdiction (see Gulf migratory groups of king mackerel and Spanish mackerel).

CHAPTER 3. REFERENCES

GMFMC. 1990. Amendment 5 to the fishery management plan for coastal migratory pelagic resources (mackerels) including environmental assessment and regulatory impact review. Gulf of Mexico Fishery Management Council, Tampa, Florida. 44 pp. https://gulfcouncil.org/wp-content/uploads/Coastal-Migratory-Pelagics-Amendment-5.pdf

GMFMC. 2016. Amendment 26 to the fishery management plan for the coastal migratory pelagics fishery of the Gulf of Mexico and Atlantic Region: Changes in allocations, stock boundaries and sale provisions for Gulf of Mexico and Atlantic migratory groups of king mackerel. Includes environmental assessment, supplemental regulatory impact review, and initial regulatory flexibility analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida. 254 pp. http://gulfcouncil.org/wp-content/uploads/Final-CMP-Amendment-26-070816.pdf

GMFMC. 2019. Framework amendment 7 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic region: Modifications to Gulf of Mexico migratory group cobia size and possession limits. Gulf of Mexico Fishery Management Council. Tampa, Florida. 109 pp. https://gulfcouncil.org/wp-content/uploads/Final-CMP-Framework-Amendment-7-020819-1.pdf

GMFMC and SAFMC. 1983. Fishery management plan, final environmental impact statement, regulatory impact review, final regulations for the coastal migratory pelagic resources (mackerels). Gulf of Mexico Fishery Management Council. Tampa, Florida. and South Atlantic Fishery Management Council. North Charleston, South Carolina. 321 pp. https://gulfcouncil.org/wp-content/uploads/Original-Migratory-Pelagics-Fishery-Management-Plan-.pdf

GMFMC and SAFMC. 2011. Final amendment 18 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida; South Atlantic Fishery Management Council. North Charleston, South Carolina. 399 pp. http://www.gulfcouncil.org/docs/amendments/Final%20CMP%20Amendment%2018%20092311%20w-o%20appendices.pdf

GMFMC and SAFMC. 2014. Final amendment 20b to the fishery management plan for the coastal migratory pelagic resources in the Gulf of Mexico and Atlantic Region, including environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis: modifications to the coastal migratory pelagics zone management. Gulf of Mexico Fishery Management Council. Tampa, Florida; South Atlantic Fishery Management Council. North Charleston, South Carolina. 168 pp with appendices. http://gulfcouncil.org/wp-content/uploads/CMP-Amendment-20B.pdf

GMFMC and SAFMC. 2018. Atlantic Migratory Group Cobia Management. Final Amendment 31 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico

and Atlantic region including environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis: Atlantic Migratory Group Cobia Management. Gulf of Mexico Fishery Management Council, Tampa, Florida, and South Atlantic Fishery Management Council, North Charleston, South Carolina. 209 pp. https://safmc.net/cmp-amendment-31/

SEDAR 28. 2013. Gulf of Mexico cobia stock assessment report. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 616 pp. http://sedarweb.org/docs/sar/S28_SAR_GoM.Cobia_4.29.2013.pdf

SEDAR 28. 2020. Gulf of Mexico cobia update assessment report. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 147 pp. http://sedarweb.org/docs/sar/2019_S28UpdateSAR_V2.pdf

APPENDIX A. COASTAL MIGRATORY PELAGICS (CMP) FRAMEWORK PROCEDURE

As Approved by the Gulf Council – April 2013
And the South Atlantic Council – March 2013
Modified by Amendment 26 – December 2017
Proposed areas for change are highlighted in yellow

This framework procedure provides standardized procedures for implementing management changes pursuant to the provisions of the Coastal Migratory Pelagic Fishery Management Plan (FMP) managed jointly between the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils). Two basic processes are included: the open framework process and the closed framework process. The open framework process/procedure addresses issues where more policy discretion exists in selecting among various management options developed to address an identified management issue, such as changing a size limit to reduce harvest. The closed framework process addresses much more specific factual circumstances, where the FMP and implementing regulations identify specific action to be taken in the event of specific facts occurring, such as closing a sector of a fishery when the quota is or is projected to be harvested.

Open Framework Procedure:

1. Situations under which this framework procedure may be used to implement management changes include the following:
    a. A new stock assessment resulting in changes to the overfishing limit, acceptable biological catch, or other associated management parameters. In such instances the Councils may, as part of a proposed framework action, propose an annual catch limit (ACL) or series of ACLs and optionally an annual catch target (ACT) or series of ACTs, as well as any corresponding adjustments to MSY, OY, and related management parameters.
    b. New information or circumstances. The Councils will, as part of a proposed framework action, identify the new information and provide rationale as to why this new information indicates that management measures should be changed.
    c. Changes are required to comply with applicable law such as the Magnuson-Stevens Fishery Conservation and Management Act, Endangered Species Act, Marine Mammal Protection Act, or are required as a result of a court order. In such instances the NMFS Regional Administrator (RA) will notify the Councils in writing of the issue and that action is required. If there is a legal deadline for taking action, the deadline will be included in the notification.

2. Open framework actions may be implemented in either of two ways: abbreviated documentation or standard documentation process.
    a. Abbreviated documentation process: Regulatory changes that may be categorized as a routine or insignificant may be proposed in the form of a letter or memo from the Councils to the RA containing the proposed action, and the relevant biological, social and economic information to support the action. Either Council may initiate the letter or memo, but both Councils must approve it. If multiple

actions are proposed, a finding that the actions are also routine or insignificant must also be included. If the RA concurs with the determination and approves the proposed action, the action will be implemented through publication of appropriate notification in the Federal Register. Changes that may be viewed as routine or insignificant include, among others:

i. Reporting and monitoring requirements;
ii. Permitting requirements;
iii. Gear marking requirements;
iv. Vessel marking requirements;
v. Restrictions relating to maintaining fish in a specific condition (whole condition, filleting, use as bait, etc.);
vi. Bag and possession limit changes of not more than one fish;
vii. Size limit changes of not more than 10% of the prior size limit;
viii. Vessel trip limit changes of not more than 10% of the prior trip limit;
ix. Closed seasons of not more than 10% of the overall open fishing season,
x. Species complex composition;
xi. Restricted areas (seasonal or year-round) affecting no more than a total of 100 nautical square miles;
xii. Re-specification of ACL, ACT or quotas that had been previously approved as part of a series of ACLs, ACTs or quotas;
xiii. Specification of MSY proxy, OY, and associated management parameters (such as overfished and overfishing definitions) where new values are calculated based on previously approved specifications;
xiv. Gear restrictions, except those that result significant changes in the fishery, such as complete prohibitions on gear types;
xv. Quota changes of not more than 10%, or retention of portion of an annual quota in anticipation of future regulatory changes during the same fishing year.

b. Standard documentation process: Regulatory changes that do not qualify as a routine or insignificant may be proposed in the form of a framework document with supporting analyses. Non-routine or significant actions that may be implemented under a framework action include:

i. Specification of ACTs or sector ACTs;
ii. Specification of ABC and ABC/ACL control rules;
iii. Rebuilding plans and revisions to approved rebuilding plans;
iv. The addition of new species to existing limited access privilege programs (LAPP);
v. Changes specified in section 2(a) that exceed the established thresholds;
vi. Changes to AMs including:

In-season AMs

1. Closures and closure procedures
2. Trip limit reductions or increases
3. Designation of an existing IFQ program as the AM for species in the IFQ program
4. Implementation of gear restrictions

Post-season AMs

5. Adjustment of season length
6. Implementation of closed seasons/time periods
7. Adjustment or implementation of bag, trip, or possession limit
8. Reduction of the ACL/ACT to account for the previous year overage
9. Revoking a scheduled increase in the ACL/ACT if the ACL was exceeded in the previous year
10. Implementation of gear restrictions
11. Reporting and monitoring requirements

3. Either Council may initiate the open framework process to inform the public of the issues and develop potential alternatives to address those issues. The framework process will include the development of documentation and public discussion during at least one meeting for each Council.

4. Prior to taking final action on the proposed framework action, each Council may convene their advisory committees and panels, as appropriate, to provide recommendations on the proposed actions.

5. For all framework actions, the initiating Council will provide the letter, memo, or completed framework document along with proposed regulations to the RA in a timely manner following final action by both Councils.

6. For all framework action requests, the RA will review the Councils' recommendations and supporting information and notify the Councils of the determinations, in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (Section 304) and other applicable law.

Closed Framework Procedure:
Consistent with existing requirements in the FMP and implementing regulations, the RA is authorized to conduct the following framework actions through appropriate notification in the *Federal Register*:

1. Close or adjust harvest any sector of the fishery for a species, sub-species, or species group that has a quota or sub-quota at such time as projected to be necessary to prevent the sector from exceeding its sector-quota for the remainder of the fishing year or sub-quota season;
2. Reopen any sector of the fishery that had been prematurely closed;
3. Implement an in-season AM for a sector that has reached or is projected to reach, or is approaching or is projected to approach its ACL, or implement a post-season AM for a sector that exceeded its ACL in the current year.

Responsibilities of Each Council:

1. Recommendations with respect to the Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the Gulf Council, with the following exceptions:

The South Atlantic Council will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for:

a. The east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia.

2. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned to the appropriate zone, but management measures for that zone will be the responsibility of the Council within whose management area that zone is located.

3. Both councils must concur on recommendations that affect both migratory groups.

APPENDIX B. CHANGES TO RECREATIONAL DATA COLLECTION

Changes to the Recreational Data Collection Survey

The Marine Recreational Fisheries Statistics Survey (MRFSS) was created in 1979 by NMFS. In the Gulf, MRFSS collected data on catch and effort in recreational fisheries, including vermilion snapper, since 1981. The program included the APAIS, which consists of onsite interviews at marinas and other points where recreational anglers fish, to determine catch. MRFSS also included CHTS, which used random-digit dialing of homes in coastal counties to contact anglers to determine fishing effort. In 2000, the For-Hire Survey (FHS) was implemented to incorporate for-hire effort due to lack of coverage of charter boat anglers by the CHTS. The FHS used a directory of all known charter boats and a weekly telephone sample of the charter boat operators to obtain effort information.

MRFSS included both offsite telephone surveys and onsite interviews at marinas and other points where recreational anglers fish. In 2012 a new design was certified and subsequently implemented in 2013: MRIP replaced MRFSS to meet increasing demand for more precise, accurate, and timely recreational catch estimates. MRIP is a more scientifically sound methodology for estimating catch because it reduces some sources of potential bias as compared to MRFSS resulting in more accurate catch estimates. Specifically, CHTS was improved to better estimate private angling effort. Instead of random telephone calls, MRIP-CHTS used targeted calls to anglers registered with a federal or state saltwater fishing registry. The MRIP Access Point Angler Intercept Survey (APAIS) began incorporating a new survey design in 2013. This new design addressed concerns regarding the validity of the survey approach, specifically that trips recorded during a given time period are representative of trips for a full day (Foster et al. 2018). The more complete temporal coverage with the new survey design provides for consistent increases or decreases in APAIS angler catch rate statistics, which are used in stock assessments and management, for at least some species (NOAA Fisheries 2019).

MRIP also transitioned from the legacy Coastal Household Telephone Survey (CHTS) to a new mail survey (Fishing Effort Survey, FES) beginning in 2015, and in 2018, the FES replaced the CHTS. Both survey methods collect data needed to estimate marine recreational fishing effort (number of fishing trips) by shore and private/rental boat anglers on the Atlantic and Gulf coasts. The CHTS used random-digit dialing of homes in coastal counties to contact anglers. The new mail-based FES uses angler license and registration information as one way to identify and contact anglers (supplemented with data from the U.S. Postal Service, which includes virtually all U.S. households). Because the FES and CHTS are so different, NMFS conducted side-by side testing of the two methods from 2015 to 2018 and developed calibration procedures to convert the historical catch estimates (MRFSS, MRIP-CHTS, MRIP-APAIS [collectively MRFSS]) into MRIP-FES. In general, landings estimates are higher using the MRIP-FES as compared to the MRFSS estimates. This is because the FES is designed to more accurately measure fishing activity than the CHTS, not because there was a sudden rise in fishing effort. NMFS developed a calibration model to adjust historic effort estimates so that they can be accurately compared to new estimates from the FES. The new effort estimates alone do not lead

to definitive conclusions about stock size or status in the past or at current. NMFS determined that the MRIP-FES data, when fully calibrated to ensure comparability among years and across states, produced the best available data for use in stock assessments and management (NOAA Fisheries 2019). Table 1 reports Gulf Zone cobia landings for 1986 through 2019 fishing years comparing MRIP-CHTS harvest data to MRIP-FES harvest data. Table 2 reports Gulf FLEC Zone cobia landings for 1986 through 2019 fishing years comparing MRIP-CHTS harvest data to MRIP-FES harvest data.

Table 1. Gulf Zone cobia recreational and commercial landings in pounds (lbs) whole weight (ww) using MRIP-CHTS and MRIP-FES units, and stock ACL in MRIP-CHTS for the years 1986 – 2019.

Year	Recreational Landings (CHTS)	Recreational Landings (FES)	Commercial Landings	Stock Total Landings (CHTS)	Stock Total Landings (FES)	Stock ACL (CHTS)
1986	1,518,149	3,209,741	136,649	1,654,798	3,346,390	N/A
1987	1,014,022	2,397,839	149,344	1,163,366	2,547,183	N/A
1988	1,206,395	2,538,052	140,383	1,346,778	2,678,435	N/A
1989	1,031,077	1,785,434	191,015	1,222,092	1,976,449	N/A
1990	1,169,343	3,358,411	151,775	1,321,118	3,510,186	N/A
1991	1,486,789	2,222,832	160,063	1,646,852	2,382,895	N/A
1992	1,088,573	2,332,832	216,325	1,304,898	2,549,157	N/A
1993	1,769,740	2,782,140	243,583	2,013,323	3,025,723	N/A
1994	1,556,208	3,224,655	237,976	1,794,184	3,462,631	N/A
1995	1,159,243	2,200,853	212,991	1,372,234	2,413,844	N/A
1996	1,851,629	5,392,514	207,324	2,058,953	5,599,838	N/A
1997	2,378,464	4,438,797	177,404	2,555,868	4,616,201	N/A
1998	1,003,506	2,583,814	176,978	1,180,484	2,760,792	N/A
1999	1,099,709	2,954,532	167,416	1,267,125	3,121,948	N/A
2000	959,280	2,206,198	129,890	1,089,170	2,336,088	N/A
2001	1,296,703	3,625,034	92,108	1,388,811	3,717,142	N/A
2002	876,253	2,157,024	105,252	981,505	2,262,276	N/A
2003	1,191,268	2,101,349	111,436	1,302,704	2,212,785	N/A
2004	1,407,228	2,998,358	101,211	1,508,439	3,099,569	N/A
2005	1,143,814	1,958,920	87,582	1,231,396	2,046,502	N/A
2006	1,017,720	2,204,813	81,948	1,099,668	2,286,761	N/A
2007	1,165,878	2,662,004	73,208	1,239,086	2,735,212	N/A
2008	922,218	1,703,737	68,723	990,941	1,772,460	N/A
2009	591,469	1,189,342	62,239	653,708	1,251,581	N/A
2010	530,123	1,924,253	82,361	612,484	2,006,614	N/A
2011	1,189,851	2,803,465	69,168	1,259,019	2,872,633	N/A
2012	887,225	2,464,238	51,911	939,136	2,516,149	1,460,000
2013	1,128,765	2,098,096	82,508	1,211,273	2,180,604	1,460,000
2014	1,051,304	2,023,921	78,762	1,130,066	2,102,683	1,460,000

Year	Recreational Landings (CHTS)	Recreational Landings (FES)	Commercial Landings	Stock Total Landings (CHTS)	Stock Total Landings (FES)	Stock ACL (CHTS)
2015	784,457	1,381,507	70,370	854,827	1,451,877	1,610,000
2016	974,015	1,573,088	75,559	1,049,574	1,648,647	1,660,000
2017	515,257	1,328,116	73,604	588,861	1,401,720	1,660,000
2018	638,909	1,406,879	41,069	679,978	1,447,948	1,660,000
2019	612,842	1,342,194	37,993	650,835	1,380,187	1,660,000

Source: SEFSC Commercial ACL data (August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

Table 2. FLEC Zone cobia recreational and commercial landings and ACLs in pounds whole weight using MRIP-CHTS and MRIP-FES units, and ACLs in MRIP-CHTS for the years 1986 – 2019.

Year	Rec. Landings (CHTS)	Rec. Landings (FES)	Rec. ACL (CHTS)	Com. Landings	Com. ACL (CHTS)	Total Landings (CHTS)	Total Landings (FES)	FLEC total ACL
1986	127,898	266,279	N/A	57,251	N/A	185,149	323,530	N/A
1987	439,713	662,451	N/A	83,660	N/A	523,373	746,111	N/A
1988	444,929	790,084	N/A	92,812	N/A	537,741	882,896	N/A
1989	829,226	1,814,832	N/A	112,803	N/A	942,029	1,927,635	N/A
1990	300,056	625,675	N/A	88,647	N/A	388,703	714,322	N/A
1991	223,959	266,944	N/A	113,797	N/A	337,756	380,741	N/A
1992	664,137	1,654,027	N/A	130,525	N/A	794,662	1,784,552	N/A
1993	442,422	774,592	N/A	109,499	N/A	551,921	884,091	N/A
1994	438,355	819,174	N/A	113,956	N/A	552,311	933,130	N/A
1995	206,474	658,851	N/A	118,064	N/A	324,538	776,915	N/A
1996	390,922	527,938	N/A	158,535	N/A	549,457	686,473	N/A
1997	531,406	808,283	N/A	124,325	N/A	655,731	932,608	N/A
1998	557,850	918,091	N/A	111,452	N/A	669,302	1,029,543	N/A
1999	726,302	1,715,939	N/A	117,262	N/A	843,564	1,833,201	N/A
2000	504,606	906,654	N/A	82,229	N/A	586,835	988,883	N/A
2001	345,791	760,075	N/A	85,605	N/A	431,396	845,680	N/A
2002	374,498	905,328	N/A	78,441	N/A	452,939	983,769	N/A
2003	791,831	1,807,656	N/A	83,488	N/A	875,319	1,891,144	N/A
2004	298,901	521,113	N/A	78,219	N/A	377,120	599,332	N/A
2005	345,091	828,307	N/A	49,415	N/A	394,506	877,722	N/A
2006	535,747	1,569,137	N/A	69,639	N/A	605,386	1,638,776	N/A
2007	616,904	2,043,940	N/A	74,278	N/A	691,182	2,118,218	N/A
2008	453,807	1,236,012	N/A	71,525	N/A	525,332	1,307,537	N/A
2009	350,111	903,567	N/A	75,604	N/A	425,715	979,171	N/A
2010	792,410	2,063,955	N/A	112,942	N/A	905,352	2,176,897	N/A
2011	805,024	2,661,682	N/A	171,472	N/A	976,496	2,833,154	N/A

Year	Rec. Landings (CHTS)	Rec. Landings (FES)	Rec. ACL (CHTS)	Com. Landings	Com. ACL (CHTS)	Total Landings (CHTS)	Total Landings (FES)	FLEC total ACL
2012	448,804	1,334,859	N/A	87,825	N/A	536,629	1,422,684	N/A
2013	292,952	692,842	N/A	69,623	N/A	362,575	762,465	N/A
2014	575,320	1,406,799	N/A	85,982	N/A	661,302	1,492,781	N/A
2015	420,776	1,193,755	830,000	62,464	70,000	483,240	1,256,219	900,000
2016	592,812	1,554,670	860,000	48,611	70,000	641,423	1,603,281	930,000
2017	323,516	761,870	860,000	41,043	70,000	364,559	802,913	930,000
2018	614,607	1,972,416	860,000	32,839	70,000	647,446	2,005,255	930,000
2019	194,126	555,295	860,000	33,874	70,000	228,000	589,169	930,000

Source: SEFSC Commercial ACL data (August 21, 2020), and SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

APPENDIX C. ACL/ACT CONTROL RULE FOR GULF OF MEXICO MIGRATORY GROUP COBIA

As of 011/16/2020				**Gulf Cobia**	
ACL/ACT Buffer Spreadsheet			version 4.1 - April 2011	**Sector: Combined**	
sum of points	3			**Data: 2016-2019**	
max points	7.0		Buffer between ACL and ACT (or ABC and ACL)	Unweighted	8
Min. Buffer	**0**	**min. buffer**	User adjustable	Weighted	**10**
Max Unw.Buff	19	max unwt. Buff			
Max Wtd Buff	**25**	**max wtd. buffe**	User adjustable		
	Component	Element score	Element	Selection	Element result
	Stock assemblag	0	This ACL/ACT is for a single stock.	x	0
		1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		
	Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years	x	0
		1	Catch limit has been exceeded 2 or more times in last 4 years		
			For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL	0.0	
			Not applicable (there is no catch limit)		
			Apply this component to recreational fisheries, not commercial or IFQ fisheries		
		0	Method of absolute counting		2
	Precision of	1	MRIP proportional standard error (PSE) <= 20		
	Landings Data	2	MRIP proportional standard error (PSE) > 20	x	
	Recreational		Not applicable (will not be included in buffer calculation)		
			Apply this component to commercial fisheries or any fishery under an IFQ program		
	Precision of	0	Landings from IFQ program		1
		1	Landings based on dealer reporting	x	
	Landings Data	2	Landings based on other		
	Commercial		Not applicable (will not be included in buffer calculation)		
	Timeliness	0	In-season accountability measures used or fishery is under an IFQ	x	0
		1	In-season accountability measures not used		
				Sum	3
	Weighting factor				
		Element weight	Element	Selection	Weighting
	Overfished statu	0	1. Stock biomass is at or above B_{OY} (or proxy).		0.2
		0.1	2. Stock biomass is below B_{OY} (or proxy) but at or above B_{MSY} (or proxy).		
		0.2	3. Stock biomass is below B_{MSY} (or proxy) but at or above minimum stock size threshold (M	x	
		0.3	4. Stock is overfished, below MSST.		
		0.3	5. Status criterion is unknown.		
Data used: 2020 NOAA Fisheries ACL Monitoring Data, for 2016-2019, retrieved 16 November 2020.					

APPENDIX D. GULF OF MEXICO COBIA POSSESSION LIMIT ANALYSIS

Amendment 32 to the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Regions (Amendment 32) is exploring changes to the cobia possession limit. Specifically, Action 4 of Amendment 32 is exploring modification to the cobia possession limit in the Gulf of Mexico (Texas to west Florida) and on the eastern side of Florida (Florida east coast).

Commercial Sector

Commercial data for cobia were obtained from the Southeast Fisheries Science Center's Trip Interview Program (TIP) on November 27, 2020. TIP data are collected by port samplers that interview commercial fishers and collect information on the length, weight, and numbers of fish harvested, the gear used, and information on the fishing trip (e.g., date, location). TIP data were used instead of other commercial data because it provides details of the number of cobia caught on each commercial trip. Other commercial datasets provide the pounds of harvest of cobia for the trip and do not provide the number of cobia harvested.

TIP data from 2017 to 2019 that had cobia harvest were isolated. This resulted in 338 commercial trips that harvested 437 cobia. The distribution of the cobia harvested per person per day is shown in Figure 1. The distribution of the cobia harvested per vessel per day is shown in Figure 2.

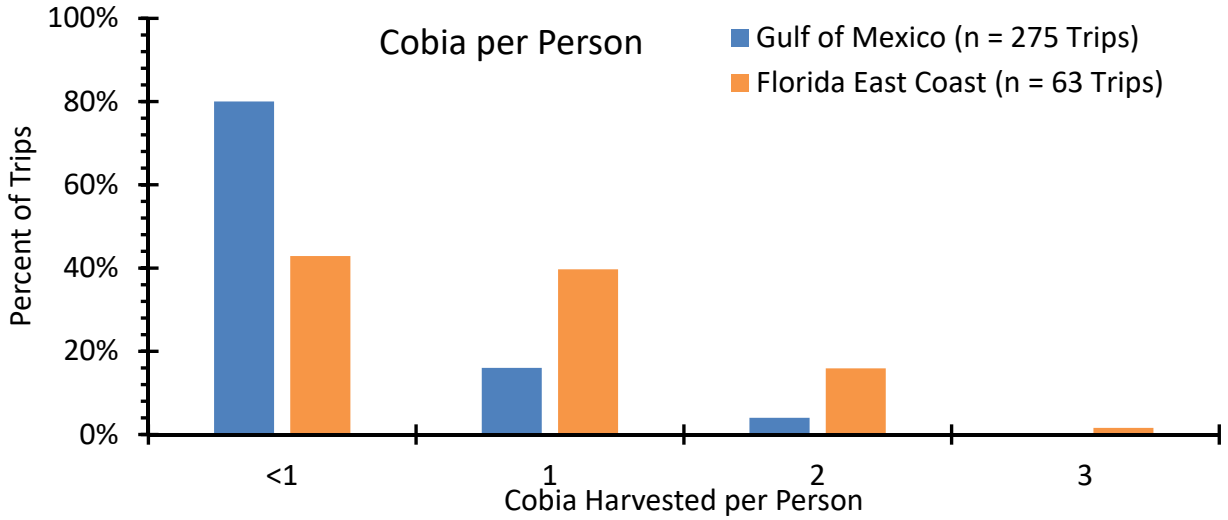

Figure 1. Distribution of the commercial cobia harvested (numbers of fish) per person per day in the Gulf of Mexico and east Florida from 2017 to 2019. These data came from the Southeast Fisheries Science Center's Trip Interview Program.

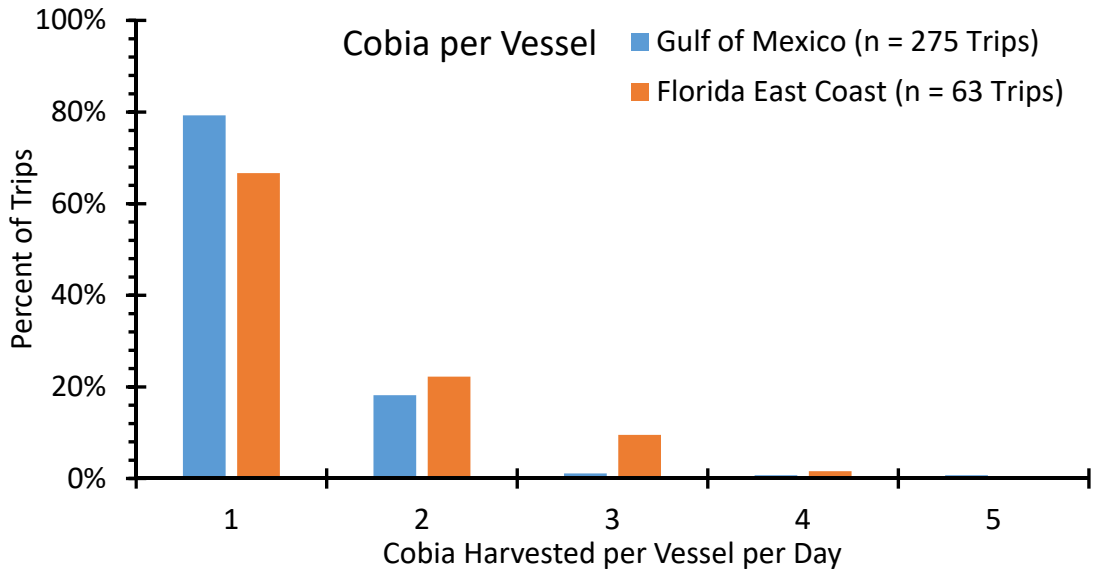

Figure 2. Distribution of the commercial cobia harvested (numbers of fish) per vessel per day in the Gulf of Mexico and east Florida from 2017 to 2019. These data came from the Southeast Fisheries Science Center's Trip Interview Program.

Action 4 of Amendment 32 is considering a reduction of the possession limit and/or the establishment of a vessel limit. The current possession limit is two cobia per person per day. Alternative 2 of Action 4 proposes a reduction down to one cobia per person. Alternative 2 was analyzed by using the recent TIP data (2017 – 2019) and removing the trips that harvested two cobia per person and replace them with a harvest of one cobia per person. Trips that exceeded the current status quo of two cobia per person harvest were left alone following the assumption that any illegal harvest would continue in the future, and these illegal catches accounted for less than 1% of the commercial trips (Figure 1). A percent reduction in landings was calculated by comparing the original TIP data with the modified reduced bag limit TIP data. Alternative 3 explores a possession limit of two cobia, four cobia, and six cobia per vessel per day.

Alternative 3 was analyzed by using the recent TIP data (2017 – 2019) and removing the trips that exceeded the harvest of two, four, or six cobia per vessel, and replace them with the vessel limit being considered. For example, for the alternative considering the daily vessel limit of four fish any trips that harvested more than four cobia per vessel per day were replaced with a four fish vessel limit. Following this example, a trip with five cobia per vessel would be reduced to four cobia per vessel. A percent reduction to the landings was calculated by comparing the original TIP data with the modified vessel limit TIP data. The results of the analysis are shown in Table 1.

Table 1. Calculated percent reduction in commercial landings for the different Amendment 32 Action 4 alternatives using recent TIP data (2017 – 2019).

	Gulf of Mexico	Florida East Coast
Commercial Sector		
Alternative 1: 2 Cobia per Person per Day	0%	0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	8%	31%
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	3%	13%
Suboption ii: 4 Cobia per Trip per Day	1%	0%
Suboption iii: 6 Cobia per Trip per Day	0%	0%

Recreational Sector

Recreational data for cobia in the Gulf of Mexico come from four different recreational surveys. They are the Texas Parks and Wildlife Department's Recreational Survey (Texas), and Louisiana Department of Wildlife and Fisheries Creel Survey (LA Creel), Southeast Region Headboat Survey (Headboat), and the Marine Recreational Information Program (MRIP). Texas covers private and charter modes in Texas, and LA Creel covers private and charter modes in Louisiana. Headboat covers headboat activity for the entire Gulf of Mexico and all of Florida. MRIP covers the private and charter modes in Mississippi, Alabama, and Florida. Data from Texas were obtained from the Texas Parks and Wildlife Department on August 17, 2020. Data from LA creel were obtained from the Louisiana Department of Wildlife and Fisheries on April 24, 2020. Data for MRIP were obtained from the NOAA Fisheries Recreational Fishing Data website (www.fisheries.noaa.gov/topic/recreational-fishing-data) on May 20, 2020. Data from Headboat were obtained from Southeast Fisheries Science Center on July 10, 2020.

Data with cobia harvest from all four datasets from 2017 to 2019 were isolated and plotted. The distribution of the recreational cobia harvested per person per day is shown in Figure 3 for the Gulf of Mexico and Figure 4 for east Florida. The distribution of the recreational cobia harvested per vessel is shown in Figure 5 for the Gulf of Mexico and Figure 6 for east Florida.

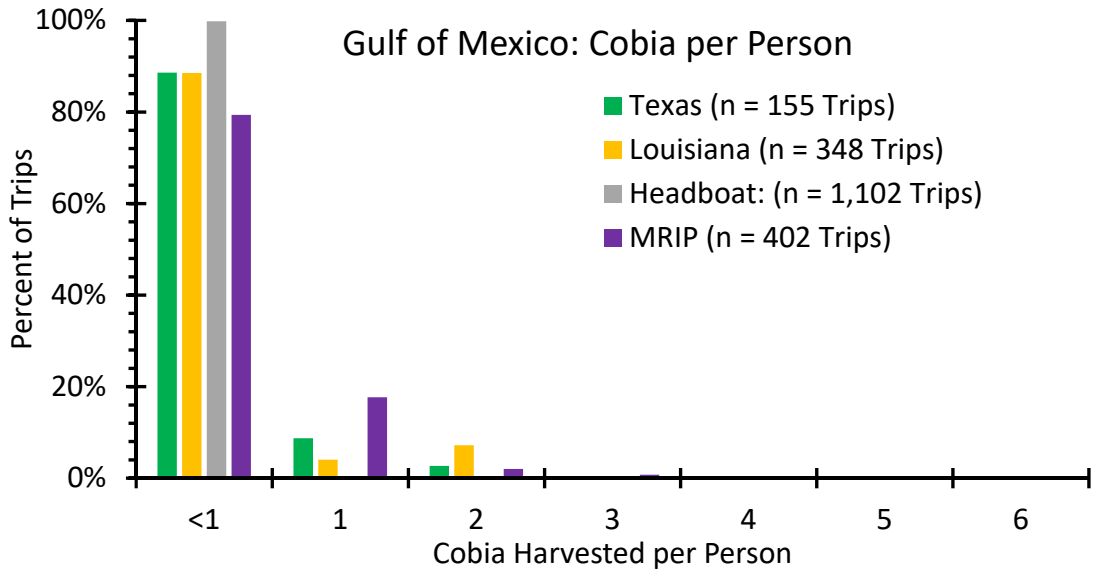

Figure 3. Distribution of the recreational cobia harvested (numbers of fish) per person per day in the Gulf of Mexico from 2017 to 2019. The data are separated by the different recreational datasets because of the different recreational surveys that operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states and Florida, and MRIP operates in Mississippi, Alabama, and Florida.

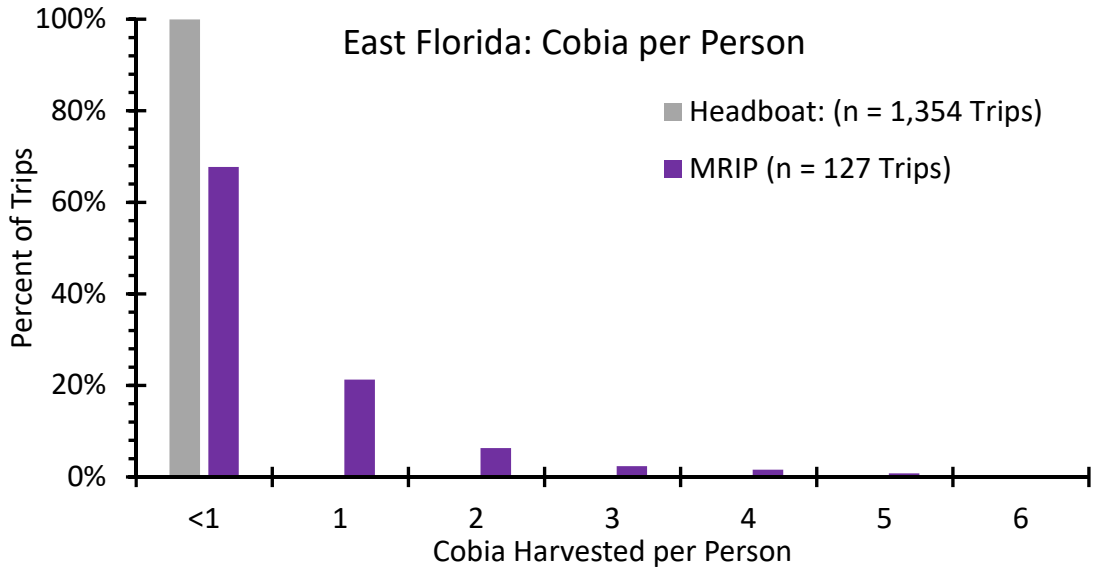

Figure 4. Distribution of the recreational cobia harvested (numbers of fish) per person per day in east Florida from 2017 to 2019. Only results from Headboat and MRIP are provided because these are the only two recreational surveys that operate on the east coast of Florida.

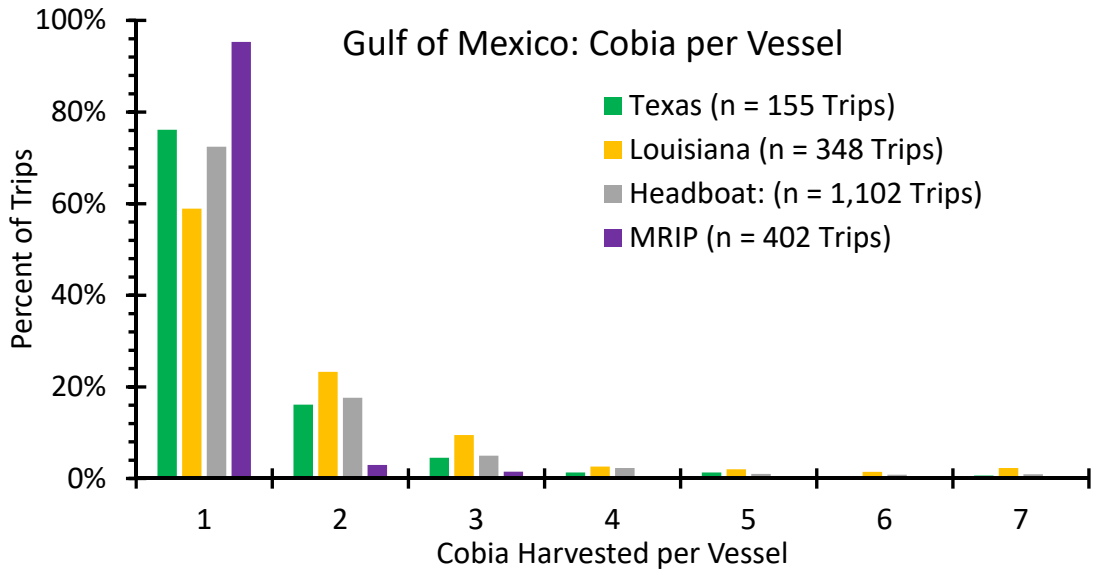

Figure 5. Distribution of the recreational cobia harvested (numbers of fish) per vessel per day in the Gulf of Mexico from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states, and MRIP operates in Mississippi, Alabama, and Florida.

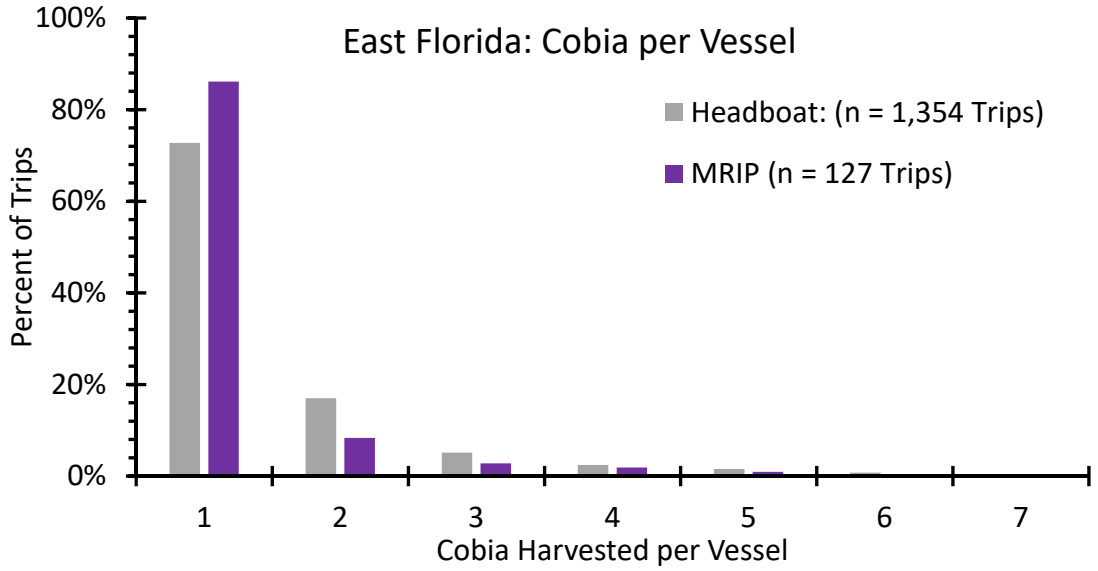

Figure 6. Distribution of the recreational cobia harvested (numbers of fish) per vessel per day in east Florida from 2017 to 2019. Only results from Headboat and MRIP are provided because these are the only two recreational surveys that operate on the east coast of Florida.

As stated above, Action 4 of Amendment 32 to the CMP is considering both a reduction and an increase to the possession limit. The current possession limit is two cobia per person per day. Alternative 2 of Action 4 proposes a reduction down to one cobia per person. Alternative 2 was analyzed by using recent recreational data (2017 – 2019) and removing the trips that harvested

two cobia per person, and replace them with a harvest of one cobia per person. Trips that exceeded the current status quo of two cobia per person harvest were left alone following the assumption that any illegal harvest would continue in the future, and these illegal catches account for less than 5% of the recreational trips (Figures 3 and 4). A percent reduction in landings was calculated by comparing the original recreational data with the modified reduced bag limit recreational data. Alternative 3 explores a possession limit of two cobia, four cobia, and six cobia per vessel per day. Alternative 3 was analyzed by using recent recreational data (2017 – 2019) and removing the trips that exceeded the harvest of two, four, or six cobia per vessel, and replace them with the vessel limit being considered. For example, for the alternative considering the daily vessel limit of four fish any trips that harvested more than four cobia per vessel per day were replaced with a four fish vessel limit. Following this example, a trip with five cobia per vessel would be reduced to four cobia per vessel. A percent reduction to the landings was calculated by comparing the original recreational data with the modified vessel limit recreational data. The results of the analysis are shown in Table 2.

Table 2. Calculated percent reduction in recreational landings for the different Amendment 32 Action 4 alternatives using recent recreational data (2017 – 2019). The results are separated by the different recreational datasets because of the different recreational surveys that operate in different states. "NA" stands for not applicable and is listed for the Florida East Coast column results for the Texas and Louisiana rows because these recreational surveys do not operate on the east coast of Florida.

	Gulf of Mexico	Florida East Coast
Texas		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	2.7%	NA
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	7.7%	NA
Suboption ii: 4 Cobia per Trip per Day	1.9%	NA
Suboption iii: 6 Cobia per Trip per Day	0.6%	NA
Louisiana		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	7.5%	NA
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Tripper Day	17.8%	NA
Suboption ii: 4 Cobia per Trip per Day	5.7%	NA
Suboption iii: 6 Cobia per Trip per Day	2.3%	NA
Headboat: All Gulf of Mexico States and Both Coasts of Florida		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	<1%	0.0%
Alternative 3	Option 3a	Option 3b

Suboption i: 2 Cobia per Trip per Day	10.0%	10.3%
Suboption ii: 4 Cobia per Trip per Day	2.7%	2.7%
Suboption iii: 6 Cobia per Trip per Day	<1%	<1%
MRIP: Mississippi, Alabama, and Florida		
Alternative 1: 2 Cobia per Person per Day	0.0%	0.0%
Alternative 2	Option 2a	Option 2b
Alternative 2: 1 Cobia per Person per Day	2.0%	6.3%
Alternative 3	Option 3a	Option 3b
Suboption i: 2 Cobia per Trip per Day	1.8%	5.6%
Suboption ii: 4 Cobia per Trip per Day	0.0%	<1%
Suboption iii: 6 Cobia per Trip per Day	0.0%	0.0%

APPENDIX E. GULF OF MEXICO COBIA MINIMUM SIZE LIMIT ANALYSIS

Amendment 32 to the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Regions (Amendment 32) is exploring changes to the cobia minimum size limit. Specifically, Action 5 of Amendment 32 is exploring modifications to the cobia minimum size limit in the Gulf of Mexico (Texas to west Florida) and on the eastern side of Florida (Florida east coast).

Commercial Sector

Commercial length data for cobia were obtained from the Southeast Fisheries Science Center's Trip Interview Program (TIP) on November 27, 2020. TIP data were collected by port samplers that interviewed commercial fishers and collected information on the length and numbers of cobia landed, gear used, and information on the fishing trip (e.g., date, location). TIP data were used instead of other commercial data because it provides information on the length and weight of the individual of cobia that were landed.

TIP data from 2017 to 2019 that had cobia harvest were isolated. This resulted in 338 commercial trips that harvested 437 cobia. The length distribution of the harvested commercial cobia in the Gulf of Mexico are shown in Figure 1. The length distribution of the harvested cobia for east Florida are shown in Figure 2. On March 25, 2020 Framework Amendment 7 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (Framework 7) increased the cobia minimum size limit from 33 to 36 inches fork length in the Gulf of Mexico. This explains the high percentage of fish harvested that were below the minimum size limit in Figure 1. Framework Amendment 7 did not change the 33-inch minimum size limit for east Florida. TIP data for 2020 is not available at this time, therefore this analysis moved forward assuming the status quo minimum size limit of 36 inches fork length for the Gulf of Mexico and a 33-inch fork length minimum size limit for east Florida.

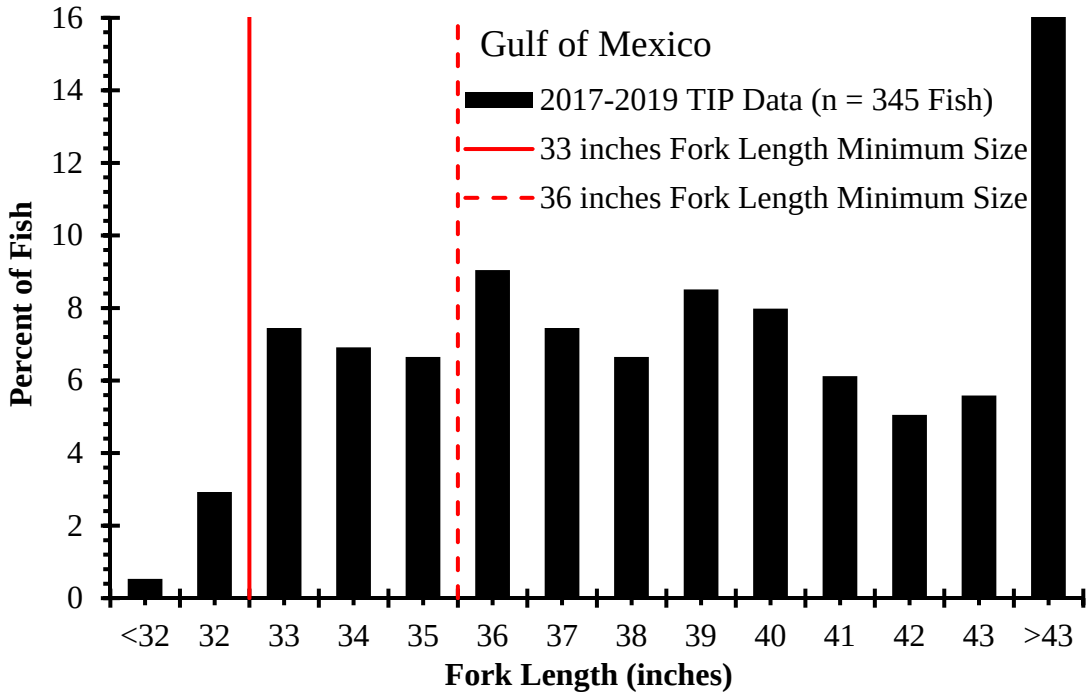

Figure 1. Length distribution of cobia harvested in the commercial sector in the Gulf of Mexico. Data come from 2017 to 2019 TIP data. Two different minimum size limits are shown (red lines) in the figure because Framework Amendment 7 recently (March of 2020) increased the minimum size limit from 33 to 36 inches fork length in the Gulf of Mexico.

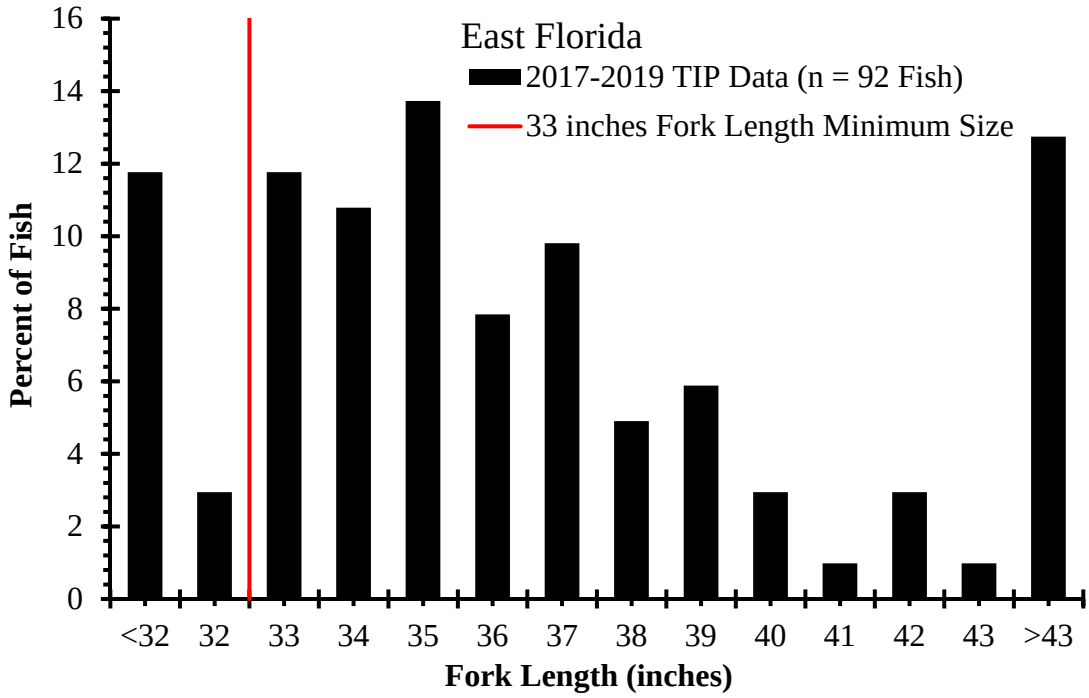

Figure 2. Length distribution of cobia harvested in the commercial sector in east Florida. Data are from 2017 to 2019 TIP data. The red line is the current minimum size limit (33 inches fork length) for east Florida.

Action 5 of Amendment 32 has alternatives which propose increasing the minimum size limit. The TIP data has both lengths and weights available for the cobia sampled, however some TIP samples only had length available. The weight of the cobia was generated for TIP data with length but no weight data by applying the SEDAR 28 length-weight conversion equation.

Percent reductions in harvest weight were calculated for the different Action 5 minimum size limits as follows:

Percent reduction = *((C – G) - B)/C*, where:
C = catch in pounds whole weight
G = weight of fish that are greater than or equal to the minimum size limit
B = weight of fish smaller than the 36-inch minimum size limit for the Gulf of Mexico and the 33-inch minimum size limit for east Florida.

Percent reductions associated with minimum size limit were normalized to a 0% reduction at the commercial status quo of 36 inches fork length for the Gulf of Mexico and 33 inches for east Florida. Due to concerns about low sample sizes, the output was pooled for 2017 – 2019 data. Table 1 provides the calculated percent reduction in landings for the commercial sector.

Table 1. Estimated percent reduction in commercial cobia landings for the proposed alternatives of Action 5 of Amendment 32.

Alternative	Size Limit (Inches FL)	% Reduction
Gulf of Mexico		
Alternative 1 No Action	36	0
Alternative 2	36	0
Alternative 3a	39	20.3
Alternative 4a	42	45.2
East Florida		
Alternative 1 No Action	33	0
Alternative 2	36	27.2
Alternative 3b	39	48.9
Alternative 4b	42	60.3

Recreational Sector

Recreational data for cobia in the Gulf of Mexico comes from four different recreational surveys. They are the Texas Parks and Wildlife Department's Recreational Survey (Texas), and Louisiana Department of Wildlife and Fisheries Creel Survey (Louisiana), Southeast Region Headboat Survey (Headboat), and the Marine Recreational Information Program (MRIP). Texas covers private and charter modes in Texas, and Louisiana covers private and charter modes in Louisiana. Headboat covers headboats for the entire Gulf of Mexico and east Florida. MRIP covers the private and charter modes in Mississippi, Alabama, and both coasts of Florida. Data from Texas were obtained from the Texas Parks and Wildlife Department on August 17, 2020. Data from Louisiana were obtained from the Louisiana Department of Wildlife and Fisheries on April 24, 2020. Data from Headboat were obtained from Southeast Fisheries Science Center on

July 10, 2020. Data for MRIP were obtained from the NOAA Fisheries Recreational Fishing Data website (www.fisheries.noaa.gov/topic/recreational-fishing-data) on May 20, 2020.

Recreational data that had cobia harvest from 2017 to 2019 for all four datasets were isolated and plotted. The fork length distribution of the recreational cobia harvested for each dataset are shown in Figure 3 for the Gulf of Mexico and Figure 4 for east Florida.

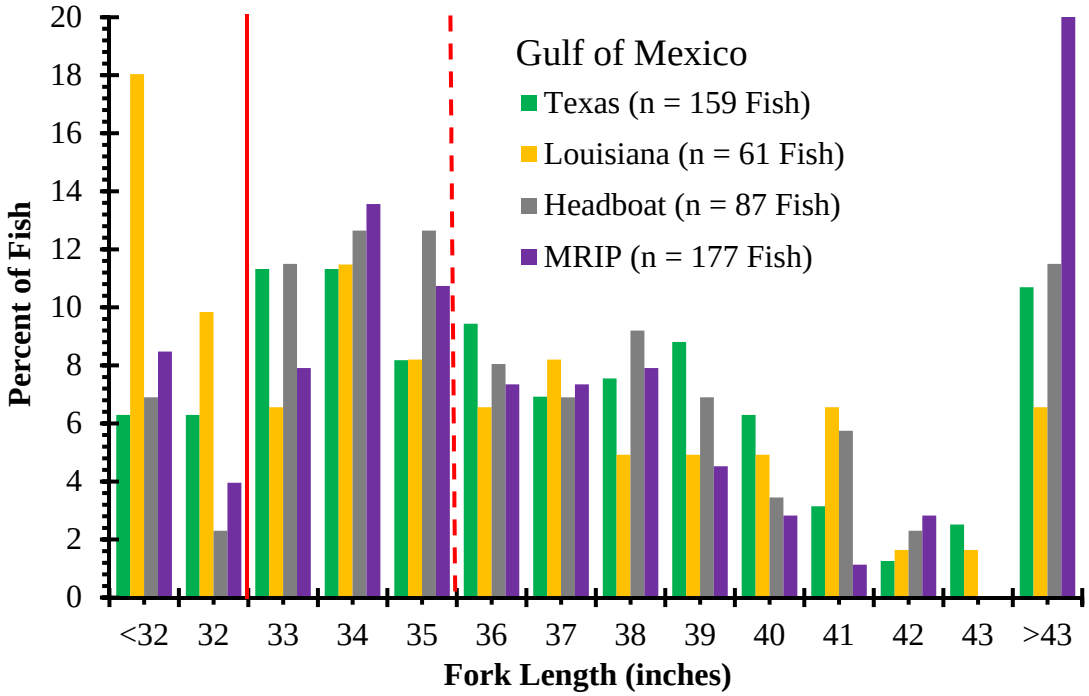

Figure 3. Fork length distribution of the recreational cobia harvested in the Gulf of Mexico from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Headboat operates in all of the Gulf of Mexico states, Texas and Louisiana only operate within their own states, and MRIP operates in Mississippi, Alabama, and Florida. Two different minimum size limits are shown (red lines) on the figure because Framework Amendment 7 recently (March of 2020) increased the minimum size limit from 33 to 36 inches fork length in the Gulf of Mexico.

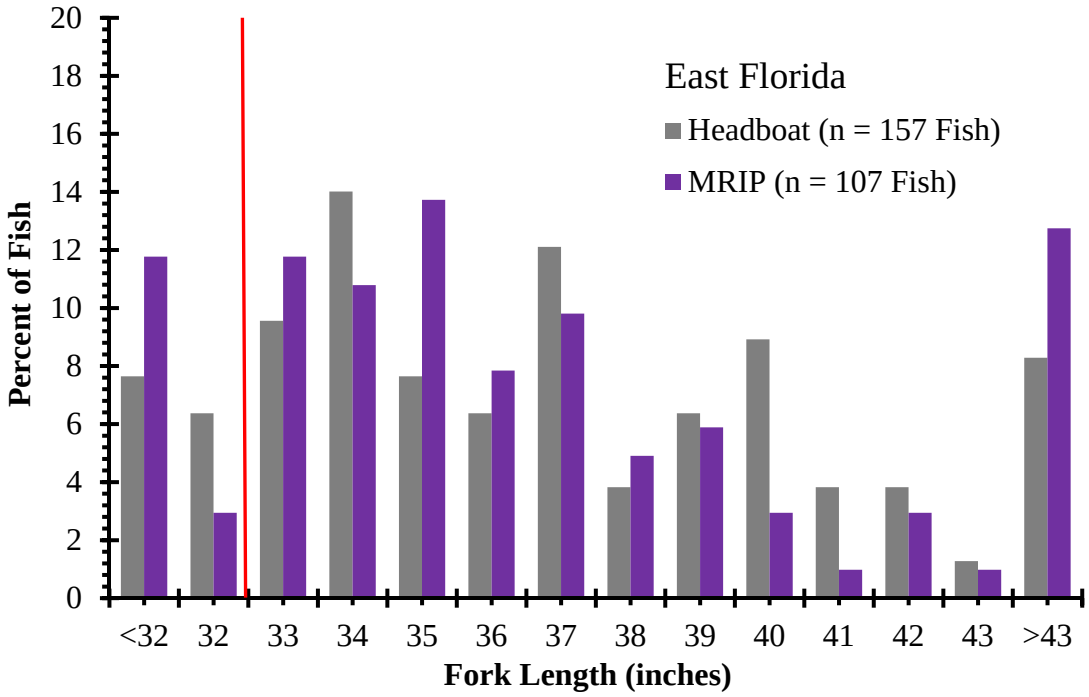

Figure 4. Fork length distribution of the recreational cobia harvested in east Florida from 2017 to 2019. Only the recreational surveys of Headboat and MRIP operate on the east coast of Florida. The red line is the current minimum size limit (33 inches fork length) for east Florida.

As stated above, Action 5 of Amendment 32 is considering changes to the minimum size limit in both the Gulf of Mexico and east Florida. The current minimum size limit is 36 inches fork length for the Gulf of Mexico and 33 inches fork length for east Florida. The alternatives of Action 5 were analyzed for the recreational sector using the same method that was described above for the commercial sector. Table 2 provides the calculated percent reduction in landings for the recreational sector.

Table 2. Calculated percent reduction in recreational landings for the different Amendment 32 Action 5 alternatives using the recent recreational data (2017 – 2019). The results are separated by the different recreational datasets because the different recreational surveys operate in different states. "NA" stands for not applicable and is listed for the Florida East Coast column for the Texas and Louisiana rows because these recreational surveys do not operate on the east coast of Florida.

Alternative	Size Limit (Inches FL)	Gulf of Mexico % Reduction	Florida East Coast
Texas			
Alternative 1 No Action	36	0	NA
Alternative 2	36	0	NA
Alternative 3a	39	20.3	NA

Alternative 4a	42	39.9	NA
Louisiana			
Alternative 1 No Action	36	0	NA
Alternative 2	36	0	NA
Alternative 3b	39	20.3	NA
Alternative 4b	42	46.5	NA
Headboat: All Gulf of Mexico States and Both Coasts of Florida			
Alternative 1 No Action	33	NA	0
Alternative 2	36	0	23.4
Alternative 3b	39	19.3	43
Alternative 4b	42	37.6	65.2
MRIP: Mississippi, Alabama, and Florida			
Alternative 1 No Action	33	NA	0
Alternative 2	36	0	33.9
Alternative 3b	39	19.6	55.4
Alternative 4b	42	38.7	74.4