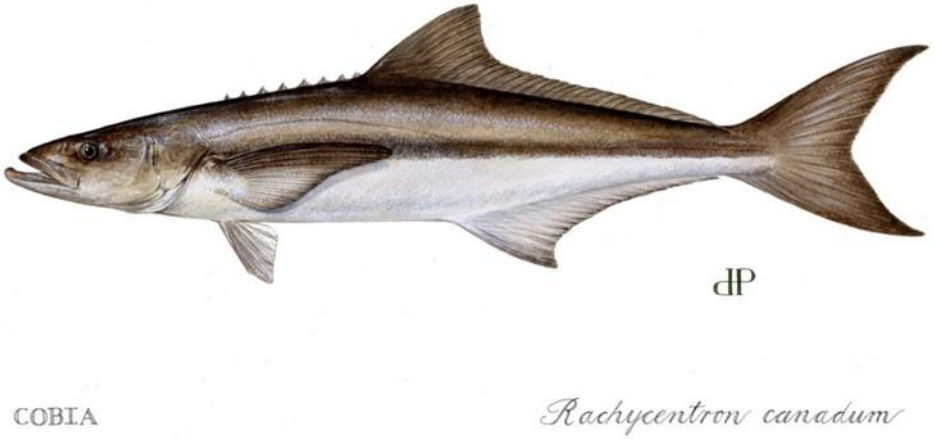
Modifications to the Gulf of Mexico Migratory Group Cobia Catch Limits, Possession Limits, Size Limits, and Framework Procedure



Amendment 32

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

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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 Group Cobia	Gulf migratory group of cobia
Gulf Council	Gulf of Mexico Fishery Management Council
LA Creel	Louisiana Department of Wildlife and Fisheries Creel Survey
lw	landed weight
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 Group Cobia) and the Gulf migratory group (Gulf Group Cobia), but only Gulf Group Cobia is managed in the CMP FMP. The current stock and management boundaries are shown in Figure 1.1.1.

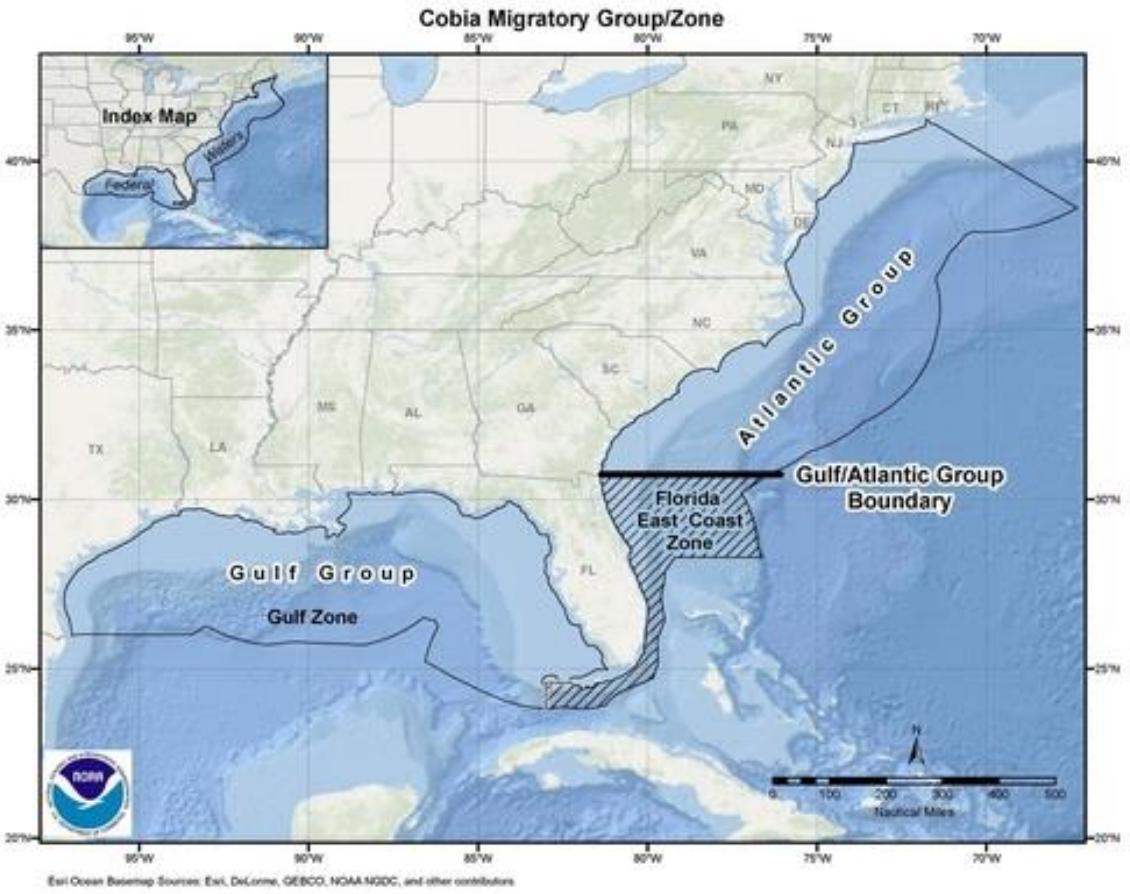

Figure 1.1.1. Gulf Group and Atlantic Group Cobia stock boundaries used for management purposes by the Councils and the Atlantic States Marine Fisheries Commission (ASMFC). The Gulf Group is divided into Gulf Zone (managed by GMFMC) and the Florida East Coast Zone (hash-marks, jointly managed between the Gulf Council and South Atlantic Council). The ASMFC manages Atlantic Group Cobia.[1]

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

Recently, Atlantic Group Cobia was removed from the CMP FMP and is no longer managed under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), because most of Atlantic Group cobia is landed in state waters (GMFMC and SAFMC 2018). Atlantic Group Cobia is now managed by the Atlantic States Marine Fisheries Commission (ASMFC) under the Atlantic Coastal Fisheries Cooperative Management Act.

Gulf Group Cobia is managed in federal waters under the CMP FMP from Texas to the Florida-Georgia state boundary (Figure 1.1.1), overlapping the jurisdictions of the Gulf and South Atlantic Councils. A percentage of the Gulf Group Cobia stock catch limit is apportioned 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, and/or gear restrictions. The Gulf Council is responsible for establishing management measures for Gulf Group Cobia in the Gulf Zone (Figure 1.1.1) and management measures for the FLEC Zone that are not specified in the Framework Procedure as responsibilities of the South Atlantic Council.

Gulf Group Cobia

Cobia migratory group that is found from Texas to the Florida-Georgia state boundary, and it's jointly managed between the Gulf and South Atlantic Councils.

Gulf Zone

Portion of the Gulf Group Cobia managed by the Gulf Council within its jurisdiction (Texas to the Gulf and South Atlantic Council boundary).

FLEC Zone

Portion of the Gulf Group Cobia partially managed by the South Atlantic Council (Atlantic side of the Florida Keys to the Florida-Georgia state boundary).

The Gulf Group 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 Group 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 Group 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 Group Cobia ABC between the two zones. The FLEC Zone apportionment of the Gulf Group Cobia ABC is 36%, and the Gulf Zone apportionment 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 allocated between sectors (8% commercial, 92% recreational). The recreational sector ACT is set equal to ACL * [(1-

Proportional Standard Error [PSE] of the recreational landings) or 0.5, whichever is greater], which equaled 83% of the ACL when established under CMP Amendment 18. There is no ACT for the commercial sector in the FLEC Zone.

The in-season accountability measure (AM) for Gulf Group Cobia in the Gulf Zone states that when the stock ACT is reached or projected to be reached, the fishing 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 those cobia that are sold as "commercial", and those cobia that are not sold as "recreational". The in-season AM for commercial cobia in the FLEC Zone states that when landings of commercial cobia reach or are projected to reach the commercial FLEC Zone ACL, the sale of cobia is prohibited for the remainder of the fishing year. The FLEC Zone has post-season AMs for the commercially and recreationally harvested cobia. For commercial cobia, if the total ACL for the FLEC Zone is exceeded, and Gulf Group 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 total ACL for the FLEC Zone is exceeded, the length of the following fishing season is reduced by the amount necessary to ensure that recreational landings achieve the ACT, but do not exceed the ACL in the following fishing year. Lastly, if the total ACL for the FLEC Zone is exceeded, and Gulf Group Cobia are overfished, the applicable ACL and ACT for the FLEC Zone will be reduced by the amount of the overage in the following fishing year.

Gulf Group 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). Gulf Group Cobia landings are monitored in terms of landed weight or "as reported", which is a combination of gutted and whole weight. For the purpose of this document, landed weight is considered as pounds (lbs) landed weight (lw). Gulf Group Cobia landings across both zones have been decreasing since 2011 (Figures 1.1.2, 1.1.3, and 1.1.4). Recreational harvest estimates are presented in the Marine Recreational Information Program's (MRIP) Coastal Household Telephone Survey (CHTS) data currency. In 2018, MRIP-CHTS was replaced by a mail survey (Fishing Effort Survey, FES) to estimate marine recreational fishing effort. A more detailed description of the recent changes to the collection of recreational catch and effort data can be found in Appendix B. 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 Group 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 Group Cobia stock.

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

Table 1.1.1. Gulf Zone landings of Gulf Group Cobia for the recreational (lbs ww, in MRIP-CHTS) and commercial (lbs lw) sectors compared to the current ACL and ACT (lbs lw) 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]).

Table 1.1.2. FLEC Zone landings of Gulf Group Cobia for the recreational (lbs ww, in MRIP-CHTS) and commercial (lbs lw) sectors, compared to the current ACL and ACT (lbs lw), 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]).

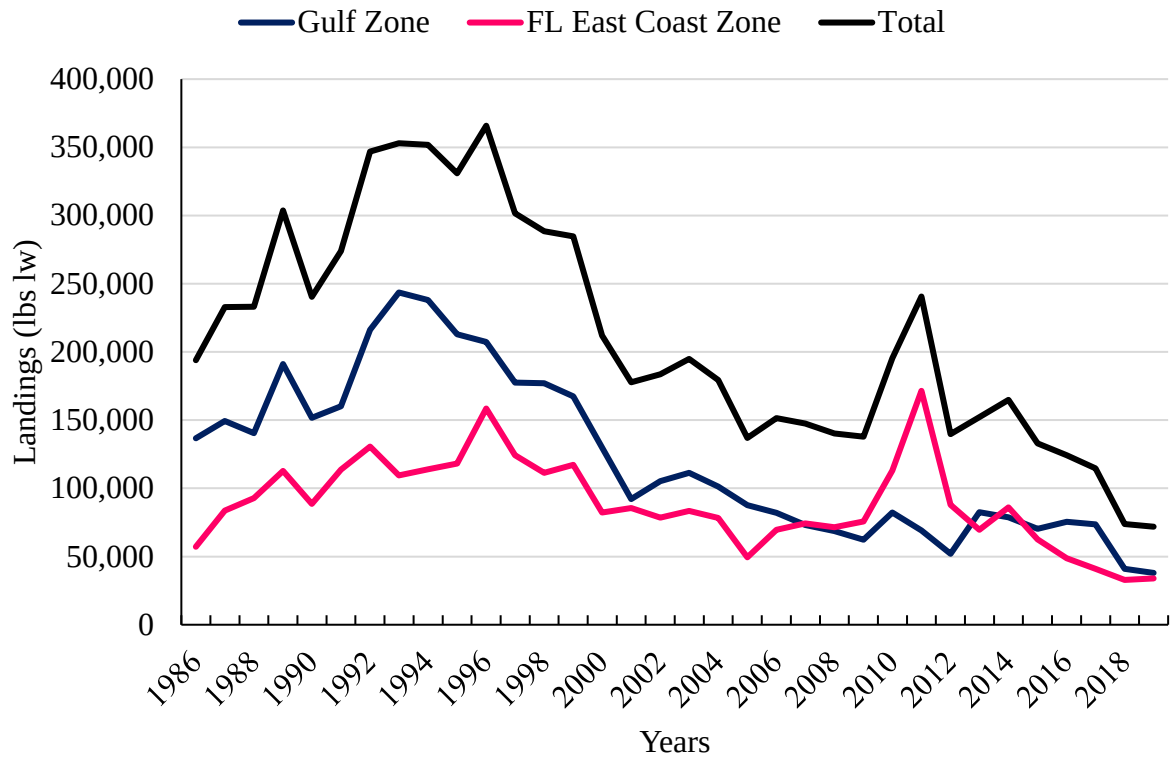

Figure 1.1.2. Commercial landings (lbs lw) history for Gulf Group Cobia for the Gulf and FLEC Zones from 1986 – 2019.
Source: SEFSC Commercial ACL data (Accessed August 21, 2020).

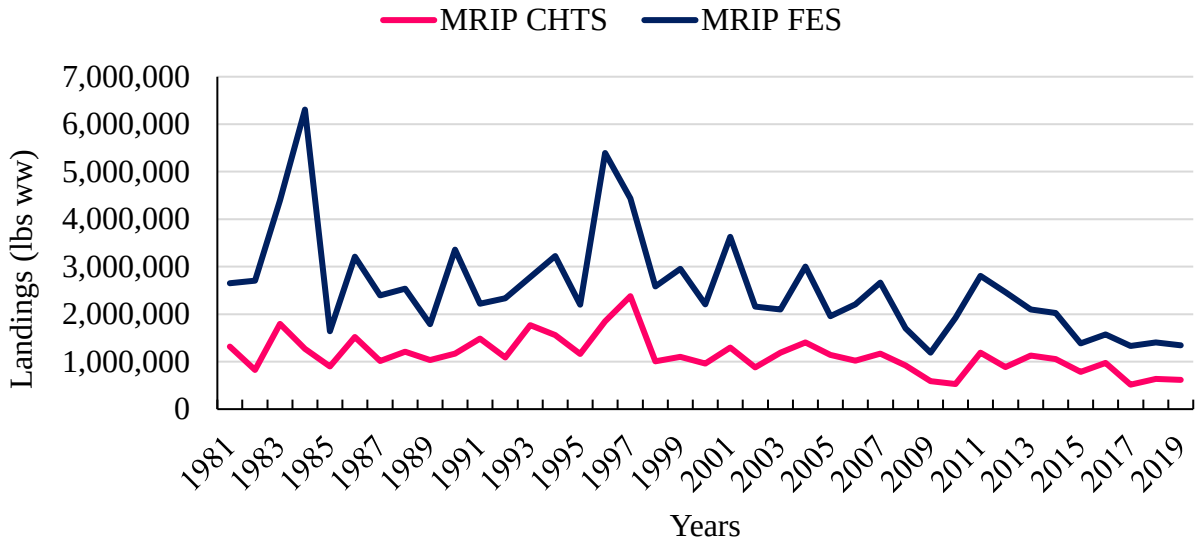

Figure 1.1.3. Recreational landings (lbs ww) history for Gulf Zone cobia from 1981 – 2019.
Source: SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

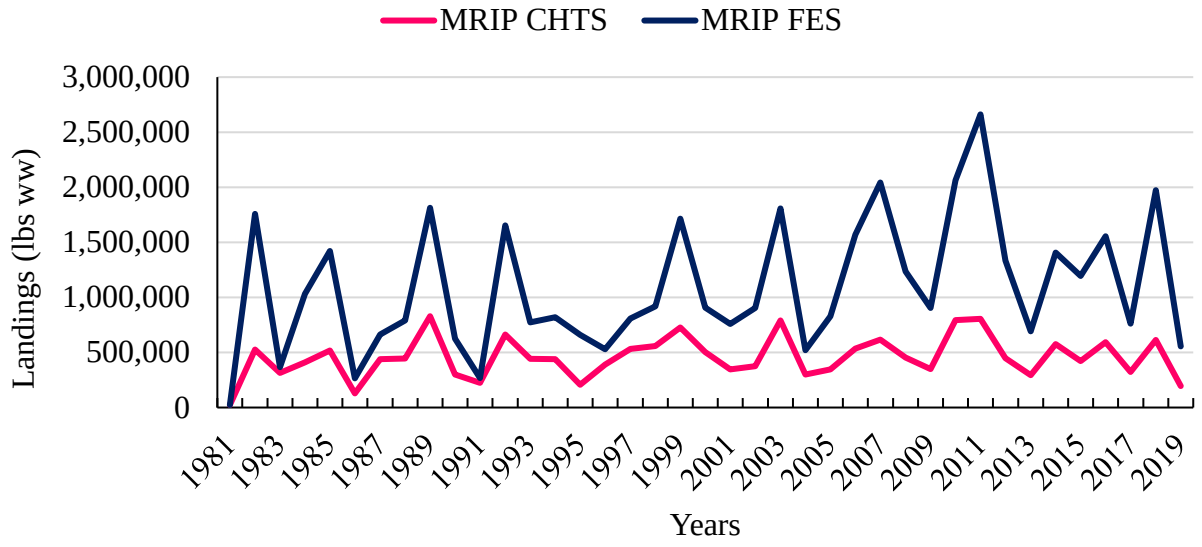

Figure 1.1.4. Recreational landings (lbs ww) history for the FLEC Zone from 1981 – 2019.
Source: SEFSC Recreational ACL data (Accessed September 14, 2020 [CHTS] and September 16, 2020 [FES]).

Most Recent Management Action

At its meeting in April 2018, the Gulf Council decided to explore options for reducing fishing mortality on Gulf Group Cobia, including modifications to minimum size and possession limits, while the results from a stock assessment update 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). The South Atlantic Council chose not to change the size limit (33 inches FL) in the FLEC Zone. The South Atlantic Council's intent was to review the Southeast Data, Assessment, and Review (SEDAR) 28 Update assessment before making any management changes

Though the last stock assessment (SEDAR 28 2013) did not indicate that Gulf Group Cobia were overfished or undergoing overfishing, the Gulf action in Framework Amendment 7 was designed to take a precautionary approach while the SEDAR 28 Update assessment (2020) was being conducted. The Gulf Council's intent was to reduce fishing mortality in response to constituent concerns, in case the observed decrease in landings indicated some presently unknown issue with the stock.

CMP FMP Framework Procedure

The CMP Framework Procedure (Appendix A) provides standardized procedures for implementing management changes pursuant to the provisions of the CMP FMP, which is

managed jointly by the Councils. The last revision to the CMP Framework Procedure was adopted in Amendment 26 to the CMP FMP by removing language that referred to the king mackerel Florida East Coast Subzone (GMFMC 2016). Currently, the South Atlantic Council is only allowed to modify the following specific management measures for Gulf Group Cobia in the FLEC Zone through the framework process: vessel trip limits, closed seasons or areas, and/or gear restrictions. The Gulf Council is required to be involved for changes to any other management measures within the FLEC Zone. The proposed changes in this document would expand the South Atlantic Council's responsibilities in the CMP Framework Procedure for cobia in the FLEC Zone beyond setting vessel trip limits, closed seasons or areas, or gear restrictions without requiring approval from the Gulf Council. This change would allow the South Atlantic Council to independently approve Framework Amendments specifically pertaining to management measures for the FLEC Zone for Gulf Group Cobia, similar to the division of each Council's responsibilities for king and Spanish mackerel. The proposed changes in this document would not allow the South Atlantic Council to make unilateral changes to management measures that affect the entire Gulf migratory group of cobia throughout its range, such as removing the FLEC Zone apportionment of the migratory group from the CMP FMP, or modifying the Gulf Group Cobia overfishing limit (OFL), ABC, or ACL.

Update Stock Assessment

The updated SEDAR 28 stock assessment for Gulf Group Cobia was completed in July 2020 with a terminal year for data 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 Group Cobia is undergoing overfishing with biomass at reduced levels, which puts the stock at risk of becoming overfished if no change in management is implemented. 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 Group Cobia, recommending an increasing yield stream for OFLs 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 Group Cobia stock for 2021 – 2023 and beyond, as recommended by the Councils' SSCs in July 2020. Values are in pounds landed weight and MRIP-FES.

Year	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 Group Cobia in both the Gulf and FLEC Zones.

Summary of Actions

Actions 1 – 4 of this amendment address the changes in catch limits for the entire stock and each of its zones. Figure 1.1.5 outlines the step-by-step progression of the Actions 1 – 4, and the regions affected by each change therein. Actions 5 and 6 are additional management measures to further reduce cobia fishing mortality by modifying the daily possession limits and minimum size limits. Action 7 updates the language outlining the responsibilities of each Council for the joint management of CMP resources through framework actions.

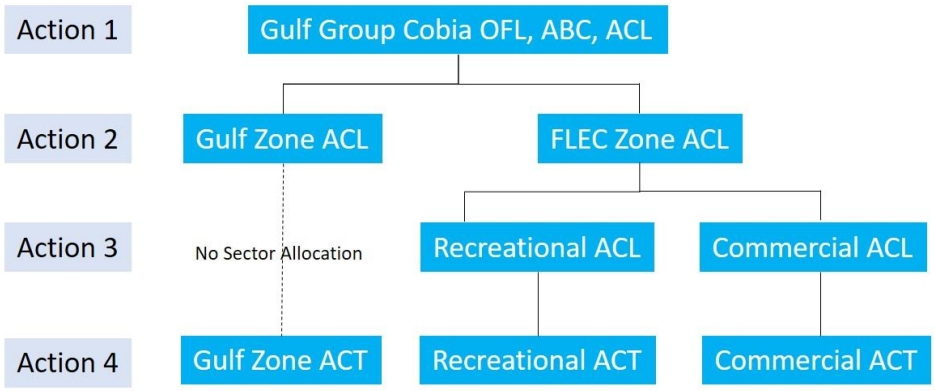

Figure 1.1.5. Step by step of the actions modifying catch limits of Gulf Group Cobia, it's Zones, and sectors.

1.2 Purpose and Need

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

The need is to end overfishing of Gulf Group Cobia as required by the Magnuson-Stevens Act, update existing Gulf Group 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 Group Cobia of two fish per person per day (recreational and commercial sectors).

Amendment 6, with EA, RIR, and regulatory flexibility analysis (RFA), implemented in December 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 Group 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 Group 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 26, with EA, RIR, and RFA, effective in May 2017, removed the Eastern Zone-East Coast Subzone for Gulf migratory group king mackerel from the Framework Procedure.

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.

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

CHAPTER 2. MANAGEMENT ALTERNATIVES

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

Alternative 1: No Action. Retain the Gulf Group Cobia stock 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).

	Gulf Group Cobia		
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 landed weight (lbs lw; combined gutted and whole). 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.

Preferred Alternative 2: Modify the Gulf Group Cobia stock OFL, ABC, and ACL based on the recommendation of the Gulf and South Atlantic (Councils)' Scientific and Statistical Committees (SSCs) 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.

	Gulf Group Cobia		
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 lbs ww. The recreational portion of the OFL, ABC, and ACL are based on MRIP-FES data.

Alternative 3: Modify the Gulf Group Cobia stock 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.

	Gulf Group Cobia		
Year	**OFL**	**ABC**	**ACL**
2021+	3,030,000	2,340,000	2,340,000

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

Note: Landings are reported in mixed weight, meaning whole weight and gutted weight as landed are combined. Therefore, while the OFL, and ABC were recommended by the Council's SSCs in lbs ww, ACLs and annual catch targets will be in mixed weights consistent with current regulations (i.e., lbs landed weight [lw]).

Discussion:

Alternatives in Action 1 apply to the Gulf Group Cobia stock, which refers to the cobia that would be landed from the Texas/Mexico border to the Florida/Georgia state boundary. This action does not modify the apportionment of the stock ACL between the Gulf and the Florida East Coast (FLEC) Zone. Modifications to the ACL apportionment are covered under Action 2.

The Southeast Data Assessment and Review (SEDAR) 28 Update assessment (2020) indicated that Gulf Group 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 recommended increasing yields for the 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 Group 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 Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP) defined the ACL as equal to ABC (GMFMC and SAFMC 2011).

The actions in Amendment 18 provided the definition for the Gulf Group Cobia stock ACL being set equal to the ABC with no buffer, because: 1) there was no indication at the time that Gulf Group 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 Group Cobia is experiencing overfishing, the Gulf Group 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 Group Cobia stock assessment (SEDAR 28 2013). The ACL is equal to the ABC, as adopted in Amendment 18. This definition of the ACL was retained in Amendment 20B (GMFMC and SAFMC 2014), which set the ACL for the Gulf Group Cobia stock for the years 2014 – 2016 and beyond. The OFL, ABC and ACL in **Alternative 1** are based, in part, on Marine Recreational Information Program's (MRIP) Coastal Household Telephone Survey (CHTS) data. 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, which are considered by National Marine Fisheries Service to be is the best scientific information available. Therefore, retaining the OFL, ABC and ACL under **Alternative 1**, which are based on MRIP-CHTS data, is not a viable alternative.

Preferred Alternative 2 would modify the catch limits for the Gulf Group Cobia stock based on the recommendations of the Councils' SSCs from the SEDAR 28 Update. The revised Gulf Group Cobia stock ACL is consistent with the MRIP-FES transition in the recreational data and addresses the overfishing status of the Gulf Group Cobia stock. **Preferred Alternative 2** sets the stock ACL equal to the Councils' SSCs' 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 Group Cobia landings that are adjusted in FES currency to the 2021 OFL, ABC, and ACL in **Preferred Alternative 2** (the lowest of the 2021 – 2023 SSC-recommended catch limits), total Gulf Group Cobia landings would have exceeded the ACL in six of the eight years since ACLs were implemented (Table 2.1.1). Landings would have also exceeded the 2021 OFL in four of the eight years since the OFLs were implemented. When comparing historical Gulf Group Cobia landings that are adjusted in FES currency to the 2023 OFL, ABC, and ACL in **Preferred Alternative 2** (the highest of the 2021 – 2023 SSC-recommended catch limits), total Gulf Group Cobia landings would have exceeded the 2021 ACL in every year except three since 2012 (Table 2.1.1). Landings would have exceeded the 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.

Alternative 3 would modify the catch limits for Gulf Group Cobia stock as a constant catch based on the SSC's recommended OFL and ABC for 2021. Similar to **Alternative 1** and **Preferred Alternative 2,** the ACL for **Alternative 3** would remain equal to the ABC. Also, similar to **Preferred Alternative 2**, 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 Group 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. Gulf Group Cobia (Zones combined) recreational (lbs ww) and commercial landings (lbs lw) 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)	Proposed 2021 ACL (FES)	Proposed 2023+ ACL (FES)
2012	1,336,029	3,799,097	139,736	1,475,765	3,938,833	2,340,000	2,760,000
2013	1,421,717	2,790,938	152,131	1,573,848	2,943,069	2,340,000	2,760,000
2014	1,626,624	3,430,720	164,744	1,791,368	3,595,464	2,340,000	2,760,000
2015	1,205,233	2,575,262	132,834	1,338,067	2,708,096	2,340,000	2,760,000
2016	1,566,827	3,127,758	124,170	1,690,997	3,251,928	2,340,000	2,760,000
2017	838,773	2,089,986	114,647	953,420	2,204,633	2,340,000	2,760,000
2018	1,253,516	3,379,295	73,908	1,327,424	3,453,203	2,340,000	2,760,000
2019*	806,968	1,897,489	71,867	878,835	1,969,356	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 Group Cobia Stock 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 Group Cobia stock ACL apportionment of 64% to the Gulf Zone and 36% to the FLEC Zone based on MRIP-CHTS average landings for Gulf Group Cobia for the years 1998 – 2012.

Alternative 2: Retain the Gulf Group Cobia stock ACL apportionment between the zones at 64% to the Gulf Zone and 36% to the FLEC Zone, and use this apportionment to update both Zone ACLs using MRIP-FES units based on the Gulf Group Cobia stock ACL(s) selected in Action 1.

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

Alternative 4: Modify the Gulf Group Cobia stock ACL apportionment at 62% to the Gulf Zone and 38% to the FLEC Zone, based on the MRIP-FES average landings for Gulf Group Cobia for the years 2001 – 2015, and use this apportionment to update the Zone ACLs based on the Gulf Group Cobia ACL(s) in Action 1.
At its April 2021 meeting, the Gulf Council made a motion to move Alternative 4 to considered but rejected since the difference between Alternatives 3 and 4 is only 1%.

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

Discussion:

Alternatives in Action 2 apply to the apportionment of the Gulf Group Cobia stock between the two management zones: Gulf Zone and FLEC Zone. The ACLs for each zone are determined based on the Gulf Group Cobia ACL selected in Action 1.

The ACLs and ACTs for Gulf Group Cobia were modified, and a new FLEC Zone designated, in Amendment 20B (GMFMC and SAFMC 2014). Amendment 20B established zone apportionments for the Gulf Group Cobia ACL of 64% to the Gulf Zone and 36% to the FLEC Zone, based on the combined average landings of Gulf Group Cobia from 1998 – 2012 across its range (Texas east and north to the Florida/Georgia state boundary). This time period was selected as it included the landings from the most recent 15 years, which at the time was the longest time period that could capture long-term dynamics of the stock. At the time this decision was made, the results from SEDAR 28 (2013) determined Gulf Group Cobia to be healthy, and

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 sector and 8% to the commercial sector. These Zone 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 in the MRIP-FES data currency (SEDAR 28 Update 2020). Therefore, **Alternative 1** is not a viable alternative.

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. The ACL poundage for each Zone is summarized in Table 2.2.3. **Alternative 2** would transition recreational data monitoring from MRIP-CHTS to MRIP-FES, but the percentages used for the ACL apportionment would remain the same, and catch limits would be updated using this apportionment (Table 2.2.3 and 2.2.4). **Preferred Alternative 3** would transition recreational data monitoring from MRIP-CHTS to MRIP-FES, but retains the time period used in Amendment 20B (i.e., 1998 – 2012) 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 time periods 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 Group Cobia.

Table 2.2.1. Gulf Zone cobia recreational (lbs ww) and commercial (lbs lw) landings using MRIP-CHTS and MRIP-FES units, and the stock ACL (lbs lw) 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

Year	Recreational Landings (CHTS)	Recreational Landings (FES)	Commercial Landings	Stock Total Landings (CHTS)	Stock Total Landings (FES)	Stock ACL (CHTS)
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 (lbs ww) and commercial (lbs lw) landings and ACLs in pounds landed weight using MRIP-CHTS and MRIP-FES units, and ACLs (lbs lw) 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 (CHTS)
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 Group Cobia average landings for each alternative in Action 2, and the percent of the stock ACL attributable to each Zone for each alternative.

		Landings (lbs lw)			
Alternative	**Method/Years**	**Gulf Group Cobia**	**Gulf Zone**	**FLEC Zone**	**% ACL Gulf:FLEC Zone**
1	Average (1998-2012) in MRIP-CHTS	1,729,311	1,106,056	623,255	64:36
2	Retain Zone apportionment and set ACL in MRIP-FES	3,901,615	64% of the ACL selected in Action 1	36% of the ACL selected in Action 1	64:36
3	Average (1998-2012) in MRIP-FES	3,901,615	2,466,567	1,435,047	63:37
4	Average (2001-2015) in MRIP-FES	3,713,360	2,300,990	1,412,370	62:38
5	Average (2003-2019) in MRIP-FES	3,457,097	2,024,349	1,432,748	59:41

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]).
* Zone ACLs are not provided for Alt. 2 and only shows the MRIP-FES equivalent for total cobia landings and retains the current apportionment.

Table 2.2.4. ACLs for Gulf Zone and FLEC Zone based on the ACL selected in Action 1. All weights for OFL, ABC, and ACL are in pounds landed weight. Alternative 1 is in MRIP-CHTS units and Alternatives 2 – 5 are in MRIP-FES units. Sector allocation of FLEC Zone is addressed in Action 3.

			Action 1, Preferred Alternative 2		Action 2	
Alternative	% Gulf:FLEC Zone	Year	Gulf Group Cobia		Gulf Zone	FLEC Zone
			OFL	ABC	ACL	ACL
1	64:36	2021+	2,660,000	2,600,000	1,660,000	930,000
2	64:36	2021	3,030,000	2,340,000	1,497,600	842,400
		2022	3,210,000	2,600,000	1,664,000	936,000
		2023+	3,310,000	2,760,000	1,766,400	993,600
3	63:37	2021	3,030,000	2,340,000	1,474,200	865,800
		2022	3,210,000	2,600,000	1,638,000	962,000
		2023+	3,310,000	2,760,000	1,738,800	1,021,200
4	62:38	2021	3,030,000	2,340,000	1,450,800	889,200
		2022	3,210,000	2,600,000	1,612,000	988,000
		2023+	3,310,000	2,760,000	1,711,200	1,048,800
5	59:41	2021	3,030,000	2,340,000	1,380,600	959,400
		2022	3,210,000	2,600,000	1,534,000	1,066,000
		2023+	3,310,000	2,760,000	1,628,400	1,131,600

2.3 Action 3 – Modify the FLEC Zone Cobia Allocation Between the Commercial and Recreational Sectors, and Update each Sector's ACLs Based on the ACLs and Apportionments Selected in Actions 1 and 2

Alternative 1: No Action. Retain the FLEC Zone cobia ACL allocation of 8% to the commercial sector and 92% to the recreational sector based on the South Atlantic Council's allocation formula for Atlantic Group cobia based on MRIP-CHTS landings which balanced historical catches (2000 – 2008) with more recent landings (2006 – 2008).

Sector allocation = (50% * average of Atlantic cobia long catch range (lbs) 2000 – 2008 + (50% * average of recent catch trend (lbs) 2006 – 2008)[5].

Alternative 2: Modify the FLEC Zone cobia ACL allocation to 5% to the commercial sector and 95% to the recreational sector based on the South Atlantic Council's allocation formula for Atlantic Group cobia, which balanced historical catches landings (2000 – 2008) with more recent landings (2006 – 2008), but use MRIP-FES data.

Sector allocation = (50% * average of Atlantic Group cobia long catch range (lbs) 2000 – 2008 + (50% * average of recent catch trend (lbs) 2006 – 2008).

Alternative 3: Retain the FLEC Zone cobia ACL allocation of 8% to the commercial sector and 92% to the recreational sector and update the ACL(s) selected in Action 2 based on MRIP-FES landings.

Alternative 4: Modify the FLEC Zone cobia ACL allocations to be calculated based on maintaining the current commercial ACL (i.e., 70,000 lbs) beginning in the 2021 fishing season and allocating the remaining revised total ACL to the recreational sector. The allocation percentages will remain in following years.

Discussion:

This action only affects the allocation of the FLEC Zone ACL between the commercial and recreational sectors.

In Amendment 18, the Gulf and South Atlantic Councils established the ABCs, ACLs, and sector allocations for separate migratory groups of cobia using the Gulf and South Atlantic Councils' jurisdictional boundary in west of the Dry Tortugas. As a result, the east coast of Florida, including the Atlantic side of the Florida Keys, was considered part of the Atlantic migratory group of cobia (Atlantic Group Cobia). The South Atlantic Council chose an allocation formula for Atlantic Group Cobia that balanced historical catches (2000 – 2008) with more recent landings (2006 – 2008). This allocation formula, by function of using the years 2006 – 2008 on

[5] Com Sector % = $\frac{(50\% \times \text{Average Com 2000-2008}) + (50\% \times \text{Average Com 2006-2008})}{(50\% \times \text{Avg Com 2000-2008} + 50\% \times \text{Avg Com 2006-2008}) + (50\% \times \text{Avg Rec 2000-2008} + 50\% \times \text{Avg Rec 2006-2008})}$

Rec Sector % = $\frac{(50\% \times \text{Average Rec 2000-2008}) + (50\% \times \text{Average Rec 2006-2008})}{(50\% \times \text{Avg Rec 2000-2008} + 50\% \times \text{Avg Rec 2006-2008}) + (50\% \times \text{Avg Com 2000-2008} + 50\% \times \text{Avg Com 2006-2008})}$

both sides of the allocation equation, more heavily weights the landings data from these years. The resulting allocation was 92% to the recreational sector and 8% to the commercial sector. During SEDAR 28 (2013), panelists determined the biological boundary between the Gulf and Atlantic migratory groups of cobia to be at the Florida/Georgia border. To account for this change, management of the portion of the Gulf Group Cobia ACL attributable to the east coast of Florida and Atlantic side of the Florida Keys was designated to the South Atlantic Council via Amendment 20B (GMFMC to SAFMC 2014) as the FLEC Zone. The South Atlantic Council chose to maintain the current sector allocation percentages (i.e., 8% to the commercial sector and 92% to the recreational sector) for Gulf Group Cobia in the new FLEC Zone.

These sector allocations were based on historic Atlantic Group Cobia landings for the entire Mid-Atlantic and South Atlantic region using MRIP-CHTS, and would remain in effect under **Alternative 1** of this action. They would not be modified according to the SSCs' OFL and ABC recommendation based on the SEDAR 28 Update assessment to monitor recreational catch and effort in MRIP-FES data currency (SEDAR 28 Update 2020), nor would the calculation use FLEC Zone cobia-specific landings. Therefore, **Alternative 1** (No Action) is not a viable alternative.

Alternative 2 would use the same formula and time series used for **Alternative 1**; however, landings data for FLEC Zone cobia using MRIP-FES adjusted recreational data would be used. This formula results in an allocation under **Alternative 2** of 5% commercial, 95% recreational. Catch limits would be updated using this allocation (Table 2.3.1). **Alternative 3** would retain an allocation of 8% commercial and 92% recreational, with the resulting catch limits determined using MRIP-FES data (Table 2.3.2). **Alternative 4** would hold the commercial sector at their current catch limit of 70,000 lbs lw during the 2021 fishing season, determine the allocation percentage by this fixed commercial catch limit, and allocate the remaining revised FLEC Zone ACL (determined in Action 2) to the recreational sector. The commercial and recreational catch limits would then update based on the allocation percentages in place for the 2021 season for 2022, 2023, and beyond (Table 2.3.3).

Based on the possible ACLs, a commercial closure analysis and a projection of when the recreational ACL would be met was conducted for the FLEC Zone (Appendices C and D). The recreational ACLs are predicted to be met during the month of August under the ACLs projected for 2022 (Appendix C, Table 2). Similar results are predicted for the 2022 fishing year (Appendix C, Table 3). Recreational FLEC Zone cobia currently do not have an in-season closure accountability measure (AM). Their post season AM states that if the total FLEC Zone stock ACL is exceeded in one year, then in the following year, the recreational season will be projected to and closed when their annual catch target (ACT) is met. Based on the analyses of the most conservative FLEC Zone commercial sector ACLs, no closures are projected (Appendix D).

Table 2.3.1. ACLs for FLEC Zone cobia under Action 1 Alternative 2 and 3, Action 2 Alternatives 2 – 5, and Action 3 Alternative 2. ACLs are in lb lw. Alternatives 2 – 5 are in MRIP-FES units.

Action 2 Alternative	% apportionment to FLEC Zone	Year	Gulf Group Cobia ACL	Action 3 Alternative 2 FLEC Zone ACL	
				Commercial (5%)	Recreational (95%)
2	36	2021	2,340,000	42,120	800,280
		2022	2,600,000	46,800	889,200
		2023+	2,760,000	49,680	943,920
3	37	2021	2,340,000	43,290	822,510
		2022	2,600,000	48,100	913,900
		2023+	2,760,000	51,060	970,140
4	38	2021	2,340,000	44,460	844,740
		2022	2,600,000	49,400	938,600
		2023+	2,760,000	52,440	996,360
5	41	2021	2,340,000	47,970	911,430
		2022	2,600,000	53,300	1,012,700
		2023+	2,760,000	56,580	1,075,020

Note: Actions 1 and 2 Alternative 1 are not presented in this table because they use MRIP-CHTS units. Alternatives presented in this table are under the assumption that Alternative 1 in Actions 1 and 2 would not be selected.

Table 2.3.2. ACLs for FLEC Zone cobia under Action 1 Alternatives 2 and 3, Action 2 Alternatives 2 – 5, and Action 3 Alternatives 1 and 3 (result in same allocation). ACLs are in lbs lw. Alternatives 2 – 5 are in MRIP-FES units.

Action 2 Alternative	% apportionment to FLEC Zone	Year	Gulf Group Cobia ACL	Action 3 Alternative 3 FLEC Zone ACL	
				Commercial (8%)	Recreational (92%)
2	36	2021	2,340,000	67,392	775,008
		2022	2,600,000	74,880	861,120
		2023+	2,760,000	79,488	914,112
3	37	2021	2,340,000	69,264	796,536
		2022	2,600,000	76,960	885,040
		2023+	2,760,000	81,696	939,504
4	38	2021	2,340,000	71,136	818,064
		2022	2,600,000	79,040	908,960
		2023+	2,760,000	83,904	964,896
5	41	2021	2,340,000	76,752	882,648
		2022	2,600,000	85,280	980,720
		2023+	2,760,000	90,528	1,041,072

Note: Actions 1 and 2 Alternative 1 are not presented in this table because they use MRIP-CHTS units. Alternatives presented in this table are under the assumption that Alternative 1 in Actions 1 and 2 would not be selected.

Table 2.3.3. ACLs for FLEC Zone cobia under Action 1 Alternatives 2 and 3, Action 2 Alternatives 2 – 5, and Action 3 Alternative 4. ACLs are in lbs lw. Alternatives 2 – 5 are in MRIP-FES units.

Action 2 Alt.	% apportionment to FLEC Zone	Year	Gulf Group Cobia ACL	Action 3 Alternative 4 FLEC Zone ACL		Action 3 Alternative 4 FLEC Zone Percentages	
				Com.	Rec.	Com.	Rec.
2	36	2021	2,340,000	70,000	772,400	8.310%	91.690%
		2022	2,600,000	77,782	858,218	8.310%	91.690%
		2023+	2,760,000	82,568	911,032	8.310%	91.690%
3	37	2021	2,340,000	70,000	795,800	8.085%	91.915%
		2022	2,600,000	77,778	884,222	8.085%	91.915%
		2023+	2,760,000	82,564	938,636	8.085%	91.915%
4	38	2021	2,340,000	70,000	819,200	7.872%	92.128%
		2022	2,600,000	77,775	910,225	7.872%	92.128%
		2023+	2,760,000	82,562	966,238	7.872%	92.128%
5	41	2021	2,340,000	70,000	889,400	7.296%	92.704%
		2022	2,600,000	77,775	988,225	7.296%	92.704%
		2023+	2,760,000	82,562	1,049,038	7.296%	92.704%

Note: Actions 1 and 2 Alternative 1 are not presented in this table because they use MRIP-CHTS units. Alternatives presented in this table are under the assumption that Alternative 1 in Actions 1 and 2 would not be selected.

2.4 Action 4 – Update and/or Establish Annual Catch Targets (ACT) for the Gulf Group Cobia Zones Based on the Apportionment Selected in Action 2 and FLEC Zone Sector Allocation in Action 3.

Alternative 1: No Action. The Gulf Zone ACT equals 90% of the Gulf Zone ACL. 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 Group Cobia implemented with CMP Amendment 18 and 20B and proposed ACT calculations under Action 4.

Discussion:

Amendment 18 established the Gulf Group Cobia buffer of 10% between the ACL and ACT for the Gulf Zone, represented by **Alternative 1** (No action). Table 2.4.1 shows the results of the selected ACT calculation under **Alternative 1** for the Gulf Zone based on the alternatives selected in previous actions. The calculation for determining the FLEC Zone recreational sector ACT established in Amendment 20B 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 would be 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. The resulting FLEC Zone ACT would be 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 using MRIP-FES data than previously estimated under MRIP-CHTS. For Action 2, Alternative 5, the PSE for the recreational data was 0.25. The resulting FLEC Zone ACT would be 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. Tables 2.4.2, 2.4.3, and 2.4.4. show the results of the selected ACT calculation under **Alternative 1** for the FLEC Zone based on the alternatives selected in previous actions.

Alternatives 2 and **3** would update the calculation for determining the ACT by using the Gulf Council's ACL/ACT Control Rule (Appendix E). 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. Implementing an ACT would provide a mechanism to maintain harvest levels at below the FLEC Zone commercial ACL. Furthermore, if the quota monitoring system is operating properly, landings in excess of the commercial ACL would not be expected. If **Alternative 3** is selected for the commercial sector in the FLEC Zone, the AMs for FLEC Zone Cobia would need to be updated through an additional action since commercial landings for the FLEC Zone are currently managed to the FLEC Zone's commercial ACL for their in-season AM. Only the recreational sector has a post-season AM that utilizes an ACT. There would have to be mention of the commercial ACT if it is being used for management purposes. Tables 2.4.1, 2.4.2, 2.4.3, and 2.4.4 show the results of the selected ACT calculation under **Alternatives 1, 2** and/or **3** based on the ACL selected in Action 1, Alternatives 2 and 3, all Zone apportionments in Action 2, and for the FLEC Zone, the sector allocation chosen in Action 3.

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 Group Cobia in the FLEC Zone 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.

Gulf Zone cobia has an in-season closure AM that states both sectors will be closed when the stock ACT is met or projected to be met. Based on the possible ACTs, a closure analysis was conducted for the Gulf Zone (Appendix F). Under the most conservative ACTs proposed for fishing year 2021, the ACT is projected to be met between October and November (Appendix F, Table 2). On the other hand, under the most conservative ACTs for the fishing year 2022, a closure is not projected under most of the alternatives, except a potential December closure under the ACT associated with Action 2 Alternative 5 (Appendix F, Table 3).

Table 2.4.1. ACTs for Gulf Zone cobia for Action 1 Alternatives 2 and 3 and each combination of alternatives in Action 2 and Action 4 Alternatives 1 and 2. Weights for ACTs are in pounds landed weight. Alternative 1 under Actions 1, 2, and 4 is in MRIP-CHTS units, and Alternatives 2 – 5 under Actions 1, 2, and 4 are in MRIP-FES units.

Action 2 Alternatives	Action 1 Year	Action 4 Alternative 1	Action 4 Alternative 2
		Gulf Zone ACT	Gulf Zone ACT
1	2021+	1,500,000	N/A
2	2021	1,347,840	1,347,840
	2022	1,497,600	1,497,600
	2023+	1,589,760	1,589,760
3	2021	1,326,780	1,326,780
	2022	1,474,200	1,474,200
	2023+	1,564,920	1,564,920
4	2021	1,305,720	1,305,720
	2022	1,450,800	1,450,800
	2023+	1,540,080	1,540,080
5	2021	1,242,540	1,242,540
	2022	1,380,600	1,380,600
	2023+	1,465,560	1,465,560

Table 2.4.2. ACTs for FLEC Zone cobia for Action 1 Alternatives 2 and 3 each combination of alternatives in Action 2 and Action 4, and Action 3 Alternatives 1 and 3. ACTs are in lbs lw. Alternative 1 under Actions 1, 2, 3, and 4 is in MRIP-CHTS units, and Alternatives 2 – 5 under Actions 1, 2, 3, and 4 are in MRIP-FES units.

Action 3, Alternatives 1 and 3 FLEC Zone Allocation 92% Rec. 8% Comm.				
Action 2 Alternatives	**Action 1 Year**	**Action 4 Alternative 1**	**Action 4 Alternative 2**	**Action 4 Alternative 3**
		FLEC Zone Rec. ACT	**FLEC Zone Rec. ACT**	**FLEC Zone Comm. ACT**
1	2021+	710,000	N/A	N/A
2	2021	589,006	697,507	60,653
	2022	654,451	775,008	67,392
	2023+	694,725	822,701	71,539
3	2021	605,367	716,882	62,338
	2022	672,630	796,536	69,264
	2023+	714,023	845,554	73,526
4	2021	621,729	736,258	64,022
	2022	690,810	818,064	71,136
	2023+	733,321	868,406	75,514
5	2021	661,986	794,383	69,077
	2022	735,540	882,648	76,752
	2023+	780,804	936,965	81,475

Table 2.4.3. ACTs for FLEC Zone cobia for Action 1 Alternatives 2 and 3, each combination of alternatives in Action 2 and Action 4, and Action 3 Alternative 2. ACTs are in lbs lw. Alternative 1 under Actions 1, 2, 3, and 4 is in MRIP-CHTS units, and Alternatives 2 – 5 under Actions 1, 2, 3, and 4 are in MRIP-FES units.

Action 3, Alternative 2 FLEC Zone Allocation 95% Rec. 5% Comm.				
Action 2 Alternatives	**Action 1 Year**	**Action 4 Alternative 1**	**Action 4 Alternative 2**	**Action 4 Alternative 3**
		FLEC Zone Rec. ACT	**FLEC Zone Rec. ACT**	**FLEC Zone Comm. ACT**
1	2021+	710,000	N/A	N/A
2	2021	608,213	720,252	37,908
	2022	675,792	800,280	42,120
	2023+	717,379	849,528	44,712
3	2021	625,108	740,259	38,961
	2022	694,564	822,510	43,290
	2023+	737,306	873,126	45,954
4	2021	642,002	760,266	40,014
	2022	713,336	844,740	44,460
	2023+	757,234	896,724	47,196
5	2021	683,573	820,287	43,173
	2022	795,525	911,430	47,970
	2023+	806,265	967,518	50,922

Table 2.4.4. ACTs for FLEC Zone cobia for Action 1 Alternatives 2 and 3, each combination of alternatives in Action 2 and Action 4, and Action 3 Alternatives 1 and 3. ACTs are in lbs lw. Alternative 1 under Actions 1, 2, 3, and 4 is in MRIP-CHTS units, and Alternatives 2 – 5 under Actions 1, 2, 3, and 4 are in MRIP-FES units.

Action 3, Alternative 4 FLEC Zone based on retaining 70,000 Comm. ACL for 2021, recalculating allocation, and retaining those percentages for 2022, and 2023+				
Action 2 Alternatives	**Action 1 Year**	**Action 4 Alternative 1**	**Action 4 Alternative 2**	**Action 4 Alternative 3**
		FLEC Zone Rec. ACT	**FLEC Zone Rec. ACT**	**FLEC Zone Comm. ACT**
1	2021+	710,000	N/A	N/A
2	2021	587,024	695,160	63,000
	2022	652,246	772,397	70,003
	2023+	692.384	819,929	74,311
3	2021	604,808	716,220	63,000
	2022	672,009	795,800	70,000
	2023+	713,363	844,772	74,308
4	2021	622,592	737,280	63,000
	2022	691,771	819,202	69,998
	2023+	743,341	869,615	74,305
5	2021	667,050	800,460	63,000
	2022	741,168	889,402	69,998
	2023+	786,779	944,135	74,305

2.5 Action 5 – Modification of Gulf Zone and FLEC Zone Cobia Possession, Vessel, and Trip Limits

2.5.1 Action 5.1 – Modify the Possession, Vessel, and Trip Limits in the Gulf Zone

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. No vessel limit or trip limit is currently defined.

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

Preferred Option 2a: for the recreational sector
~~Preferred~~ **Option 2b:** for the commercial sector

At its April 2021 meeting, the Gulf Council passed a motion to remove the "Preferred" from Alternative 2 Option 2b.

Preferred Alternative 3: Create a recreational vessel limit. Fishermen may not exceed the per person daily possession limit.

Preferred Option 3a: The vessel limit is two fish per trip
Option 3b: The vessel limit is four fish per trip
Option 3c: The vessel limit is six fish per trip.

Preferred Alternative 4: Create a commercial trip limit. Fishermen may not exceed the per person daily possession limit.

Preferred Option 4a: The trip limit is two fish.
Option 4b: The trip limit is four fish.
Option 4c: The trip limit is six fish.

Note: Alternative 2 may be selected with Alternative 3 and/or Alternative 4.

Discussion:

Action 5 has been divided into sub-actions to provide the Councils the opportunity to select changes to the possession, vessel, or trip limit by zones: Action 5.1 for the Gulf Zone and Action 5.2 for the FLEC Zone. The range of alternatives and data analyses are consistent in both zones.

The Councils are considering options to reduce fishing mortality and constrain Gulf Group Cobia harvest to the ACL. Reducing the number of legal-size cobia caught on a fishing trip which may be retained would be expected to constrain harvest on Gulf Group Cobia, however, analyses shows the reductions have minimal effects (Table 2.5.1.1).

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.

In determining the effects of changing the per person daily possession limits, or the addition of vessel or trip limits, the cobia harvest per person and per vessel on each trip for Gulf Zone Cobia was analyzed in a similar way as for Framework Amendment 7. However, data were updated and summarized for 2017 – 2019 (Appendix G). This was done for the commercial, charter for-hire, private angling, and headboat harvest data. The data include trips that harvested cobia. As with Framework Amendment 7, the majority of both recreational and commercial trips in the Gulf Zone harvested one or less than one cobia per person (Figures 2.5.1.1, and 2.5.1.2). Some trips harvested less than one cobia per person. For example, if a trip harvested two cobia and had four people on the boat, this would be half a cobia per person. To avoid confusion with fractions of fish, any trips that harvested less than one cobia per person was grouped with the trips that harvested one cobia per person. Data were also examined for cobia harvested per vessel per trip. These data revealed that the majority of the commercial and recreational trips harvested one cobia per vessel per trip (Figures 2.5.1.3, and 2.5.1.4).

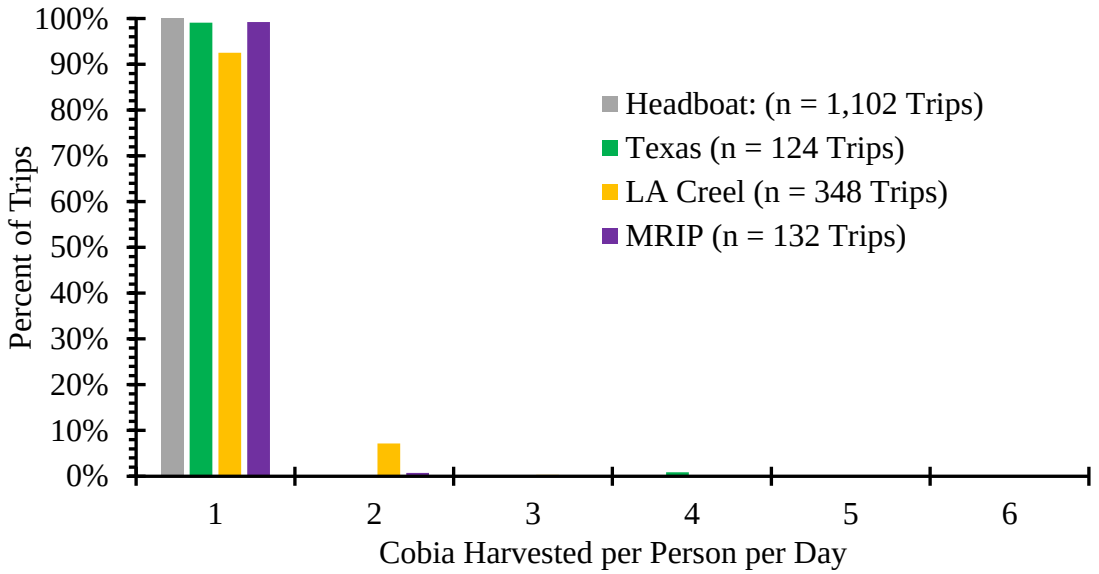

Figure 2.5.1.1. Distribution of the recreational cobia harvested (numbers of fish) per person per day in the Gulf of Mexico from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states and Florida, and MRIP operates in Mississippi, Alabama, and west 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).

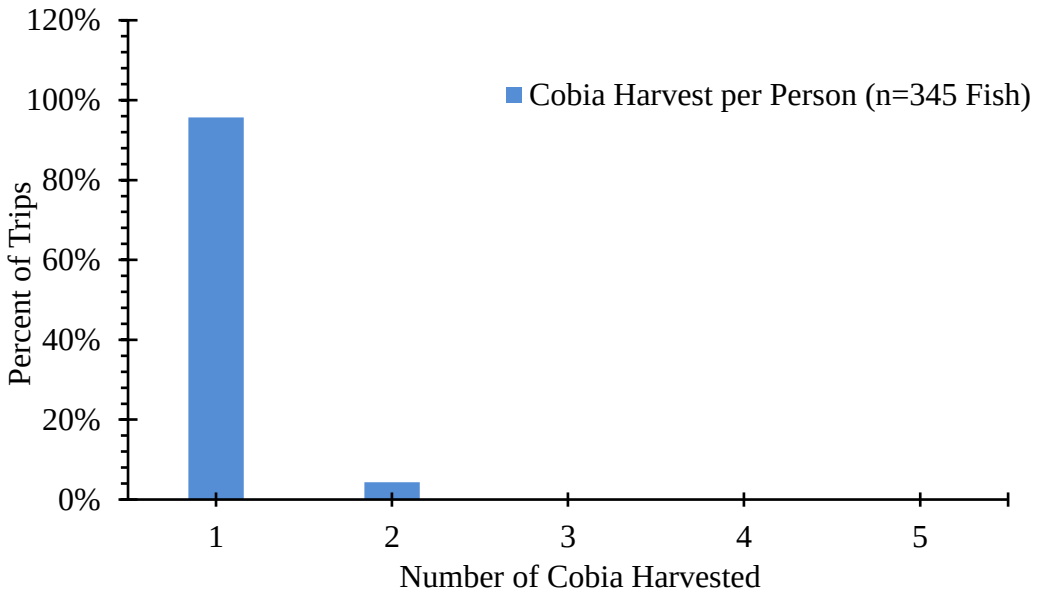

Figure 2.5.1.2. Distribution of the commercial cobia harvested (numbers of fish) per person in the Gulf of Mexico from 2017 to 2019. This was generated from the TIP data and resulted in a sample size of 275 trips.
Source: Southeast Fisheries Science Center (SEFSC) Trip Interview Program (TIP) Accessed November 27, 2020.

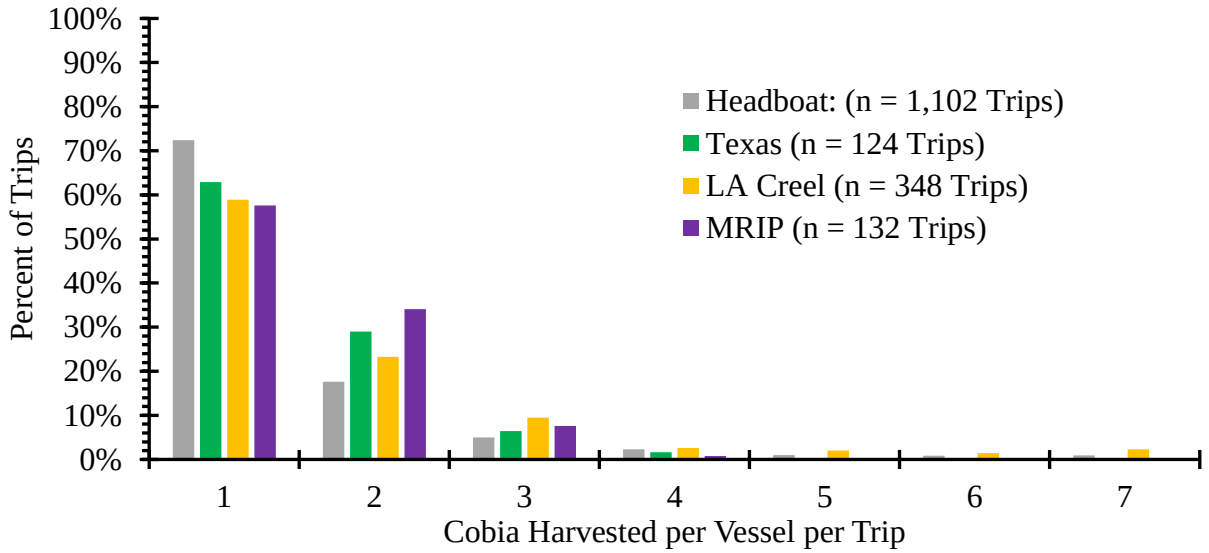

Figure 2.5.1.3. Distribution of the recreational cobia harvested (numbers of fish) per vessel per trip in the Gulf of Mexico from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states, and MRIP operates in Mississippi, Alabama, and Florida.
Source: MRIP (Accessed May 20, 2020), SRHS (Accessed July 10, 2020), LA Creel (Accessed April 24, 2020), and TPWD (Accessed August 17, 2020).

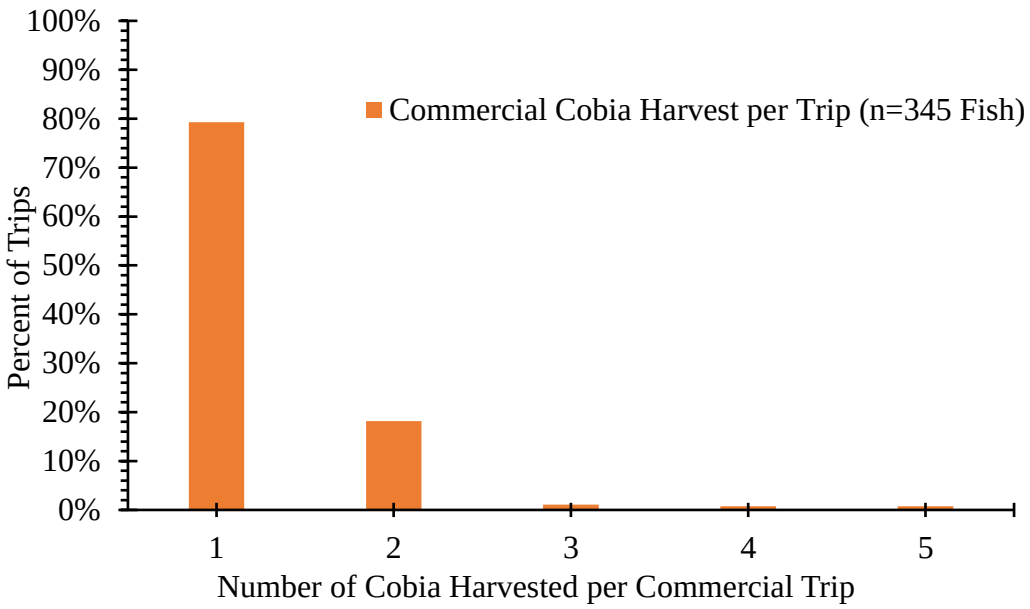

Figure 2.5.1.4. Distribution of the commercial cobia harvested (numbers of fish) per trip in the Gulf Zone from 2017 to 2019.
Source: SEFSC TIP Accessed November 27, 2020.

Alternative 1 would maintain the current daily possession limit for Gulf Zone cobia of two fish per person for both sectors, without a vessel or trip 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 reduce fishing mortality or reduce harvest from the status quo.

Preferred Alternative 2 would decrease the per person daily possession limit for Gulf Zone cobia from two to one fish per person per day, regardless of the number or duration of trips taken, resulting in halving the maximum possible harvest per person. This alternative provides the Councils the opportunity to select this change for the recreational sector (**Preferred Option 2a)** and/or for the commercial sector (**Option 2b**). Less than one cobia per angler is already retained, on average, on all trips in the Gulf Zone (Figures 2.5.1.1, and 2.5.1.2). Therefore, reducing the per person possession limit to one fish per day is projected to result in minimal reductions to harvest rate (Figure 2.5.1.4 and Table 2.5.1.1). While not expected to significantly the reduce harvest rate, **Alternative 2** is expected to reduce the complexity of complying with the regulations in waters off the west coast of Florida because the daily possession limit in state waters is currently one fish per person per day. Further details on the precedence and distribution of cobia landings by the recreational sector are included in Tables 1 and 2 of Appendix G.

Table 2.5.1.1. Estimated percent reduction in Gulf Zone cobia landings, generated from 2017 – 2019 landings data.

Alternative	Details	Percent Reduction of Total Cobia Landings
1	2 Fish per Person per Day Commercial and Recreational Sector	0%
Preferred Alternative 2: 1 Fish per Person per Day		
Preferred 2a	Recreational Sector	1.2%
2b	Commercial Sector	<1%
Preferred Alternative 3 Recreational Vessel Limit per Trip		
Preferred 3a	2 Fish per Vessel per Trip	9.0%
3b	4 Fish per Vessel per Trip	<1%
3c	6 Fish per Vessel per Trip	<1%
Preferred Alternative 4 Commercial Trip Limit		
Preferred 4a	2 Fish per Trip	<1%
4b	4 Fish per Trip	<1%
4c	6 Fish per Trip	0%

Preferred Alternative 3 would create a recreational vessel limit for Gulf Zone cobia. The vessel limit would be either two fish (**Preferred Option 3a**), four fish (**Option 3b**), or six fish (**Option 3c**) per trip. However, anglers would not be permitted to exceed the per person daily possession limit. For example, if there were three anglers on a vessel, and the daily possession limit was two fish per person (**Alternative 1**) with a two fish vessel limit (**Preferred Option 3a**), then the maximum number of cobia that could be retained on that vessel for all anglers combined would be two fish, as opposed to six fish in the absence of a vessel limit. However, since the majority of trips catching cobia retain one fish per vessel (Figure 2.5.1.3), the predicted reductions in harvest from the options in **Preferred Alternative 3** are low (Table 2.5.1.1). **Preferred Option 3a,** like **Preferred Option 2a** would reduce the complexity of complying with the regulations in waters off the west coast of Florida because the vessel limit in state waters is currently two fish per vessel.

Preferred Alternative 4 would create a commercial trip limit for Gulf Zone cobia. The trip limits would be either two fish (**Preferred Option 4a**), four fish (**Option 4b**), or six fish (**Option 4c**). However, commercial fishermen would not be permitted to exceed the per person daily possession limit. Similar to the recreational sector, the majority of the commercial trips average one cobia per trip and the predicted reduction from this management measure is also low (Table 2.5.1.1). Further, harvest reduction projections show regardless of the commercial trip limits options presented, a 0% reduction in harvest is anticipated (Table 2.5.1.1). However, **Preferred Option 4a,** like **Preferred Option 2a** and **Preferred Option 3a,** would reduce the

complexity of complying with the regulations in waters off the west coast of Florida because the vessel limit in state waters is currently two fish per vessel.

2.5.2 Action 5.2 – Modify the Possession, Vessel, and Trip Limits in the FLEC Zone

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 FLEC Zone. No vessel limit or trip limit is currently defined.

At its April 2021 meeting, the Gulf Council concurred with of the South Atlantic preferred alternatives and options in Action 5.2.

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

Preferred Option 2a: for the recreational sector
Preferred Option 2b: for the commercial sector

Preferred Alternative 3: Create a recreational vessel limit. Fishermen may not exceed the per person daily possession limit.

Preferred Option 3a: The vessel limit is two fish per trip
Option 3b: The vessel limit is four fish per trip
Option 3c: The vessel limit is six fish per trip.

Preferred Alternative 4: Create a commercial vessel trip limit. Fishermen may not exceed the per person daily possession limit.

Preferred Option 4a: The vessel trip limit is two fish.
Option 4b: The vessel trip limit is four fish.
Option 4c: The vessel trip limit is six fish.

Note: Alternative 2 may be selected with Alternative 3 and/or Alternative 4.

Discussion:

Action 5.2 is considering modifying the possession, vessel, and trip limit for cobia landed in the FLEC Zone. The range of alternatives included in this action are the same as those included in Action 5.1 for cobia landed in the Gulf Zone. The Councils have received public testimony recommending possession limits similar to those established by the State of 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.

The analyses to determine the effects of changing the per person possession limits, and the addition of a vessel or trip limit were performed in a similar way to the analyses in Framework Amendment 7 to the CMP FMP and in Action 5.1. Data were also updated and summarized for 2017 – 2019 in the FLEC Zone (Appendix H). Some trips harvested less than one cobia per person. For example, if a trip harvested two cobia and had four people on the boat, this would be

half a cobia per person. To avoid confusion with fractions of fish, any trips that harvested less than one cobia per person was grouped with the trips that harvested one cobia per person. In the FLEC Zone, the majority of recreational trips (Figure 2.5.2.1) and commercial trips (Figure 2.5.2.2) harvested one or less than one cobia per person. In addition, the majority of recreational and commercial trips in the FLEC Zone harvested one cobia per vessel per trip (Figures 2.5.2.3 and 2.5.2.4).

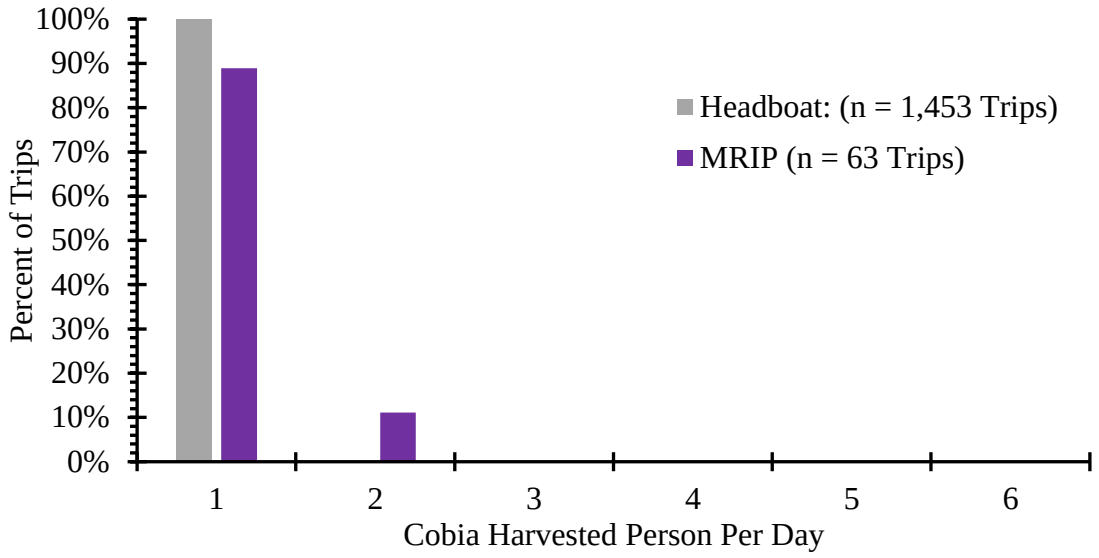

Figure 2.5.2.1 Distribution of the recreational cobia harvested (numbers of fish) per person per day in the FLEC Zone from 2017 to 2019. Only results from Headboat and MRIP are provided because these are the only two recreational surveys that operate on the east coast of Florida.
Source: MRIP (Accessed May 20, 2020) and SRHS (Accessed July 10, 2020).

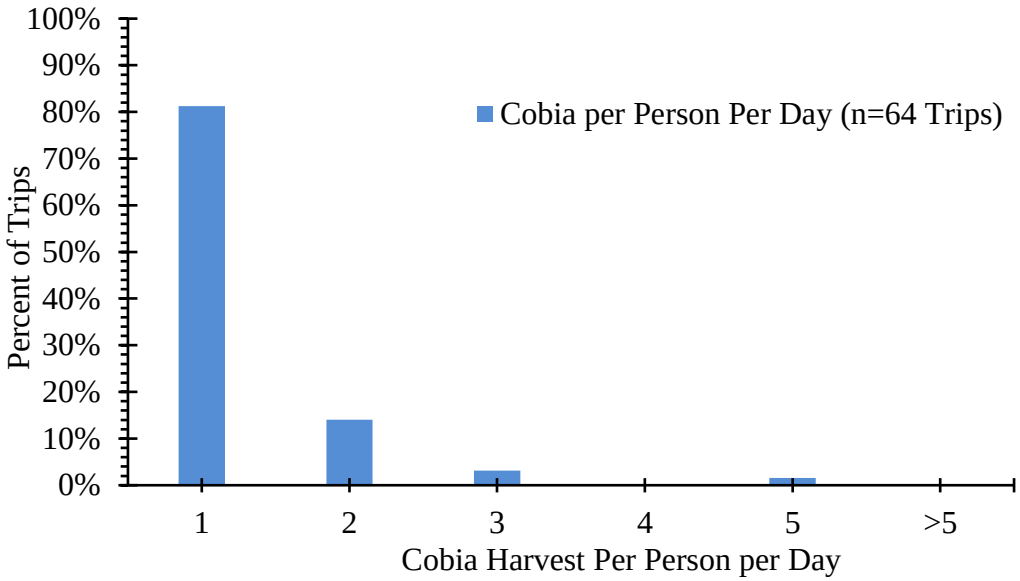

Figure 2.5.2.2. Distribution of the commercial cobia harvested (numbers of fish) per person per day in the FLEC Zones from 2017 to 2019.
Source: Southeast Fisheries Science Center (SEFSC) Trip Interview Program (TIP) Accessed November 27, 2020.

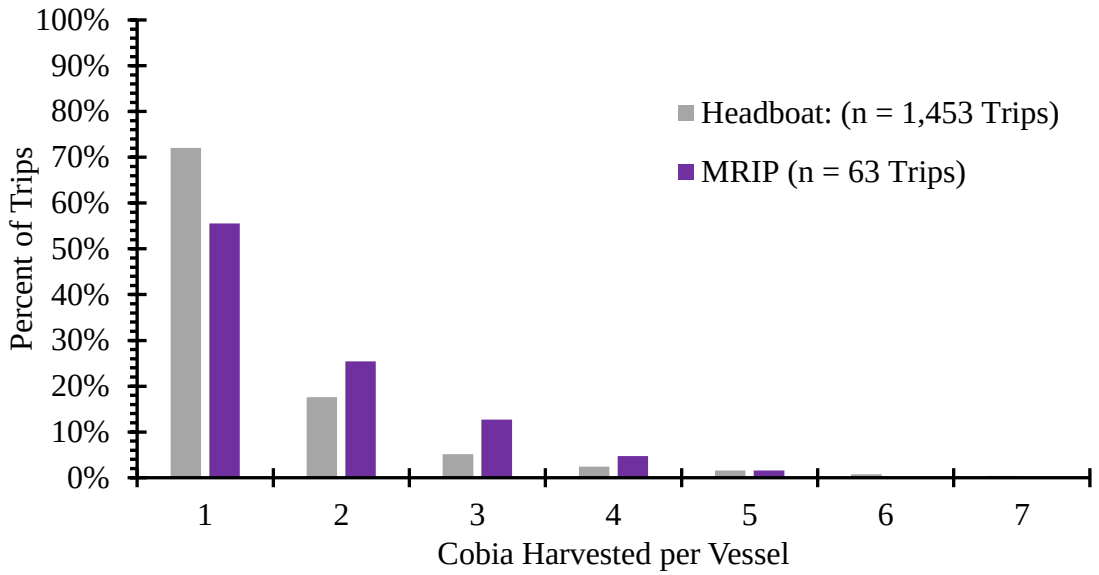

Figure 2.5.2.3. Distribution of the recreational cobia harvested (numbers of fish) per vessel per trip in the FLEC Zone from 2017 to 2019. Only results from Headboat and MRIP are provided because these are the only two recreational surveys that operate on the east coast of Florida.
Source: MRIP (Accessed May 20, 2020) and SRHS (Accessed July 10, 2020).

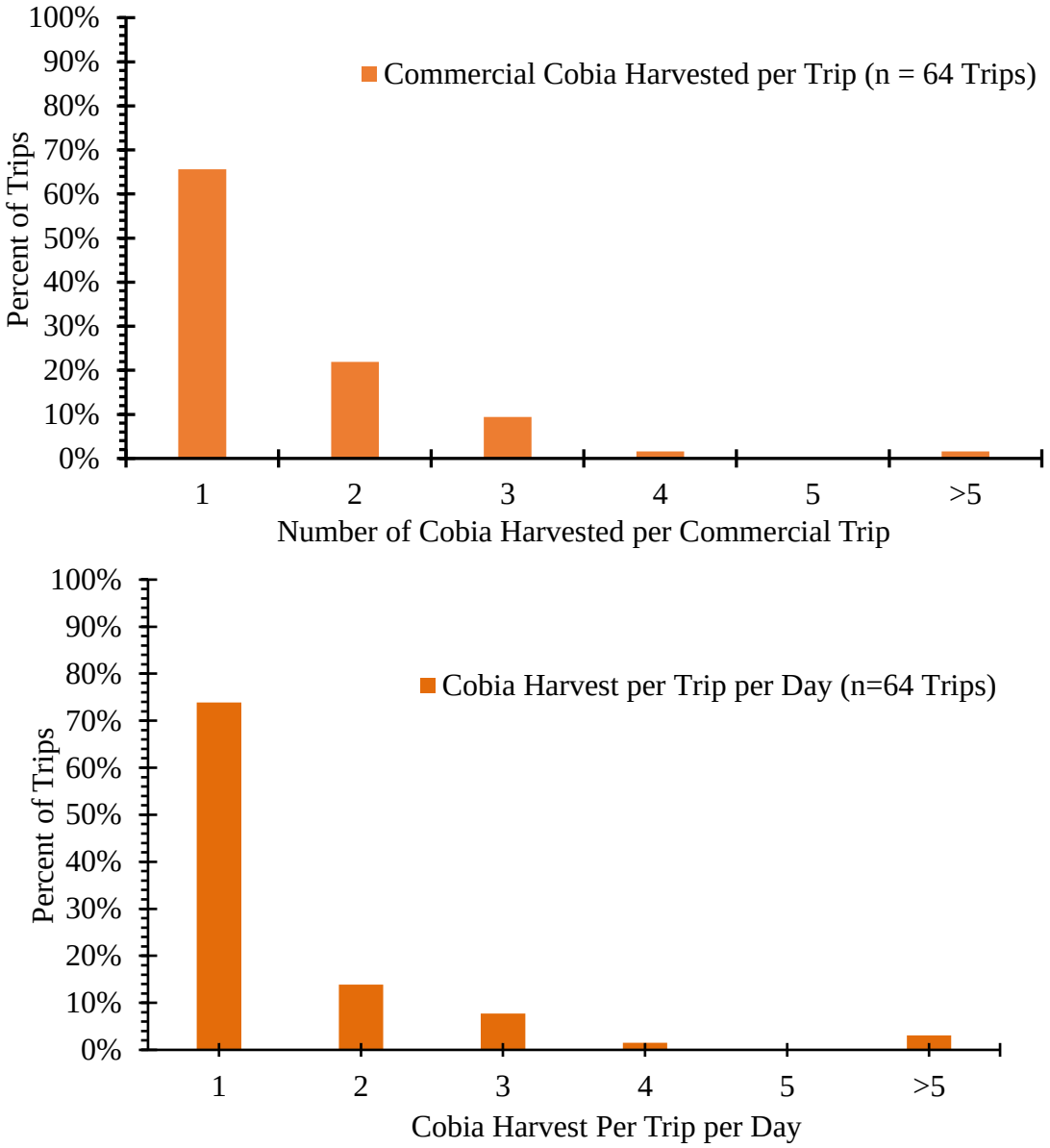

Figure 2.5.2.4. Distribution of the commercial cobia harvested (numbers of fish) per trip in the FLEC Zone from 2017 to 2019.
Source: SEFSC TIP Accessed November 27, 2020.

Alternative 1 would maintain the current daily possession limit for FLEC Zone cobia of two fish per person for both sectors, without a vessel or trip limit, which has been in effect since the implementation of Amendment 5 (GMFMC 1990). Therefore, **Alternative 1** is not expected to result in any change to fishing mortality or reduce fishing harvest from the status quo.

Preferred Alternative 2 would decrease the per person daily possession limit for FLEC Zone cobia from two to one fish per person per day, regardless of the number or duration of trips taken. **Preferred Alternative 2** would halve the maximum possible harvest per person. **Preferred Options 2a** and **2b** provide the Councils the opportunity to select this change by sector. However, like in the Gulf Zone, less than two cobia per angler are already retained on

average on all trips in the FLEC Zone (Figures 2.5.2.1, and 2.5.2.2). Therefore, reducing the per person possession limit to one fish per day would be expected to result in only minimal reductions in harvest levels (Tables 2.5.2.1, and 2.5.2.2). The reduction is slightly more pronounced in the commercial sector with a reduction in landings of 14% as compared to 11% in the recreational sector. (Table 2.5.2.2, and 2.5.2.2). **Preferred Alternative 2** would also reduce the complexity of complying with the regulations in waters off the east coast of Florida because the possession in state waters is currently 1 fish per person per day.

Preferred Alternative 3 would create a recreational vessel limit for FLEC Zone cobia. The vessel limit would be either two fish (**Preferred Option 3a**), four fish (**Option 3b**), or six fish (**Option 3c**) per trip. However, anglers would not be permitted to exceed the per person daily possession limit. For example, if there were three anglers on a vessel, and the possession limit was two fish per person (**Alternative 1**) with a two fish vessel limit (**Preferred Option 3a**), then the maximum number of cobia that could be retained on that vessel for all anglers combined would be two fish, as opposed to six fish in the absence of a vessel limit. However, while the majority of trips catching cobia average one fish retained per vessel (Figures 2.5.2.3), the predicted reductions in harvest in **Preferred Option 3a** are almost 20% (Table 2.5.2.1). **Preferred Option 3a** would not reduce the complexity of complying with the regulations in waters off the east coast of Florida because the vessel limit in state waters is currently six fish per vessel **(Option 3c)**. Like **Preferred Alternative 2**, **Preferred Alternative 3** provides another option to change a recreational management measure that is likely needed to prevent triggering of a postseason AM.

Preferred Alternative 4 would create a commercial trip limit for FLEC Zone cobia. The trip limits would be either two fish (**Preferred Option 4a**), four fish (**Option 4b**), or six fish (**Option 4c**). Commercial fishermen would not be permitted to exceed the per person daily possession limit. Similarly, to the recreational sector, the majority of the commercial trips average one cobia per trip (Figure 2.5.2.4). However, predicted reductions in commercial harvest for **Preferred Option 4a** are half of what they are for the recreational sector because fewer commercial trips land more than one cobia (Table 2.5.2.2). Further, **Preferred Option 4a** would not reduce the complexity of complying with the regulations in waters off the east coast of Florida because the vessel limit in state waters is currently six fish per vessel **(Option 4c)**. **Preferred Alternative 4** would also serve as a conservative management measure given Gulf Group Cobia is undergoing overfishing.

Table 2.5.2.1. Calculated percent reduction in recreational landings in the FLEC Zone for Action 5.2 using recent recreational data (2017 – 2019). The results were weighted by the contribution each recreational dataset made to the total recreational landings.

Alternative	Details	% Reduction
1	2 Fish per Person per Day Commercial and Recreational Sector	0%
Alternative 2: 1 Fish per Person per Day		
2a	Recreational Sector	11%
Alternative 3 Recreational Vessel Limit per Trip		
3a	2 Fish per Vessel per Trip	18.9%
3b	4 Fish per Vessel per Trip	4.6
3c	6 Fish per Vessel per Trip	<1%

Source: MRIP (Accessed May 20, 2020) and SRHS (Accessed July 10, 2020).

Table 2.5.2.2. Calculated percent reduction in commercial landings in the FLEC Zone for Action 5.2 using recent commercial data (2017 – 2019).

Alternative	Details	% Reduction
1	2 Fish per Person per Day Commercial and Recreational Sector	0%
Alternative 2: 1 Fish per Person per Day		
2b	Commercial Sector	14%
Alternative 4 Commercial Trip Limit		
4a	2 Fish per Trip	9%
4b	4 Fish per Trip	3%
4c	6 Fish per Trip	3%

Source: SEFSC TIP Accessed November 27, 2020.

2.6 Action 6 – Modify the Gulf Group 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.

Preferred 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:

Action 6 considers alternatives to increase the recreational and commercial minimum size limit. In general, an increase in the minimum size limit is expected to reduce the harvest rate and potentially the total harvested catch. This can support the management objectives to increase the season length or reduce the allowable harvest. Decreasing the minimum size limit would be expected to increase landings by allowing retention of cobia that are currently being released. Given that Gulf Group Cobia is currently experiencing overfishing, decreasing the minimum size limit is not being considered by the Councils in this action.

As with Action 5, determining the effects of changing the minimum size limit for Gulf Group Cobia was analyzed in the same way as was done for Framework Amendment 7 (GMFMC 2019). Data on fork length distribution were compiled and summarized for the recreational and commercial sectors, and for the Gulf and FLEC Zones, during the years 2017 – 2019 (Appendix I). On March 25, 2020, Framework Amendment 7 increased the minimum size limit from 33 inches FL 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 2.6.1, 2.6.2, 2.6.3, and 2.6.4). This could be in part to the use of gaffing and the difficulty of determining fish length until the fish is brought on board. The use of a gaff to land cobia is widespread and expected to result in substantially higher discard mortality than the 5% discard mortality rate currently presumed in the SEDAR 28 Update stock assessment (2020) and carried over from SEDAR 28 (2013).

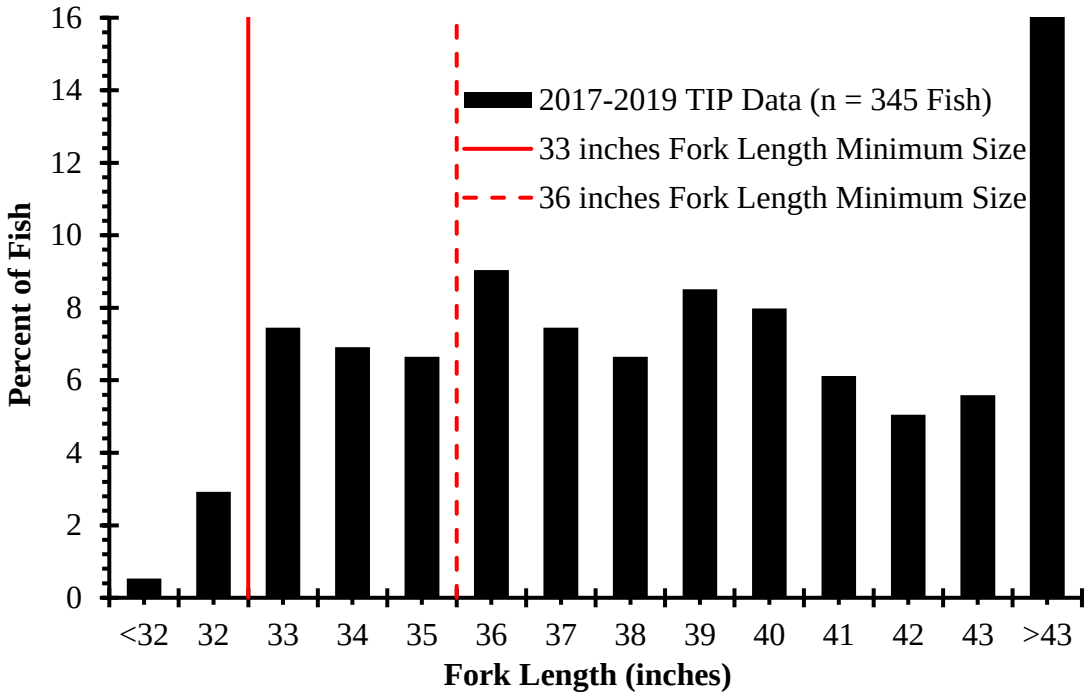

Figure 2.6.1. Length distribution of cobia harvested in the commercial sector in the Gulf Zone. Two different minimum size limits are shown (red lines) in the figure because Framework Amendment 7 recently (March 2020) increased the minimum size limit from 33 to 36 inches FL in the Gulf of Mexico.
Source: SEFSC TIP Accessed November 27, 2020.

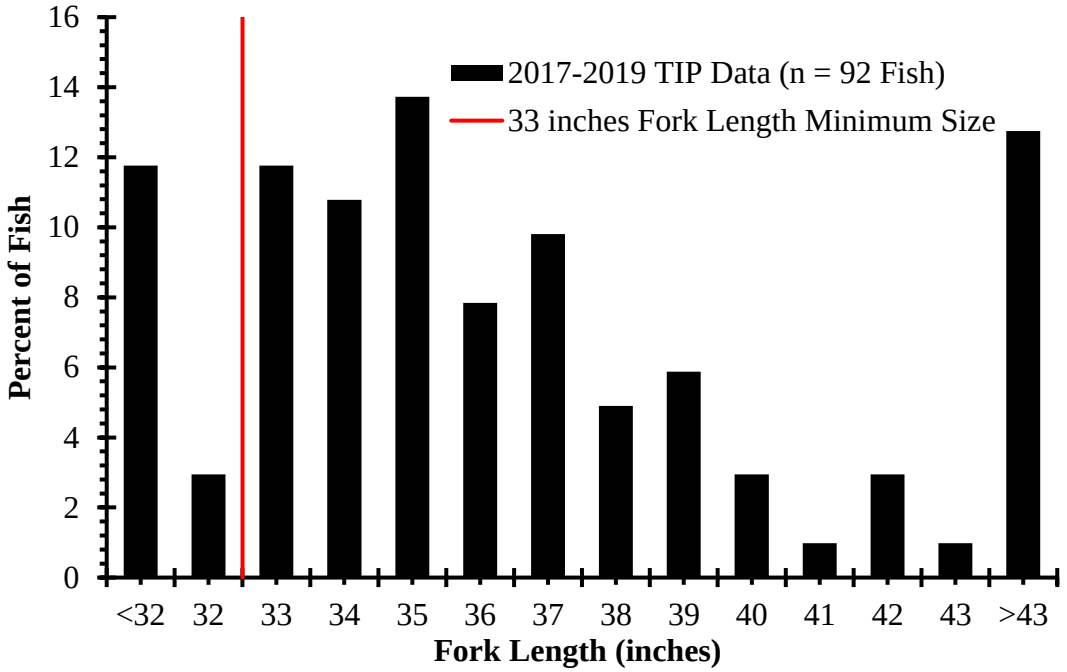

Figure 2.6.2. Length distribution of cobia harvested in the commercial sector in the FLEC Zone. The red line is the current minimum size limit (33 inches FL) for the FLEC Zone.
Source: SEFSC TIP Accessed November 27, 2020.

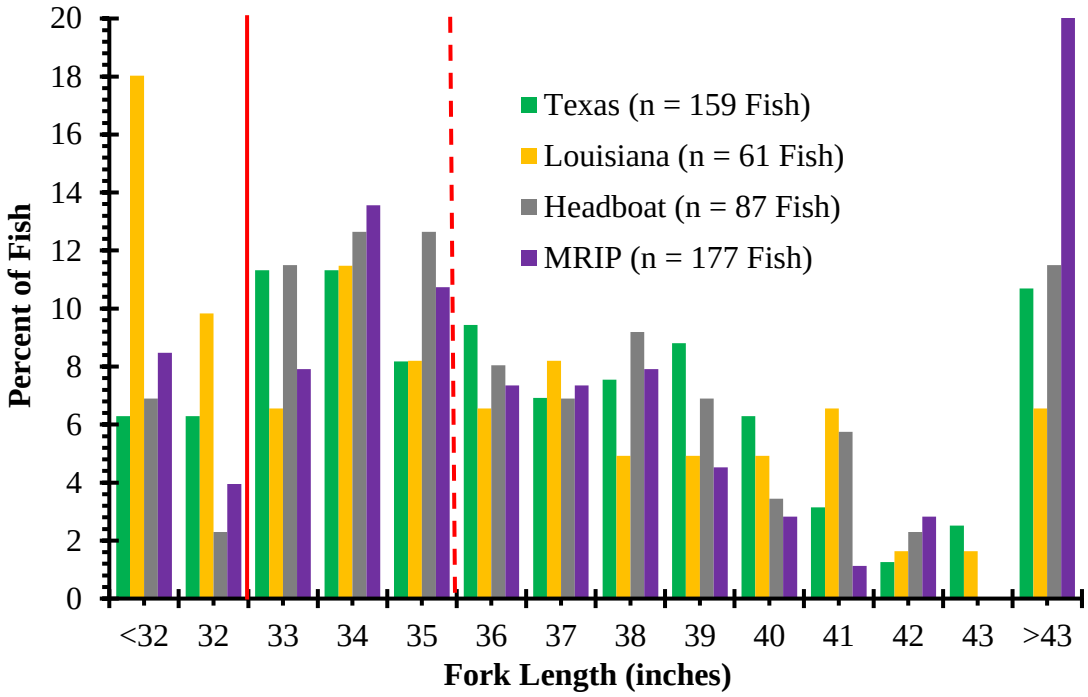

Figure 2.6.3. Fork length distribution of the recreational cobia harvested in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Headboat operates in all of the Gulf of Mexico states, Texas 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).

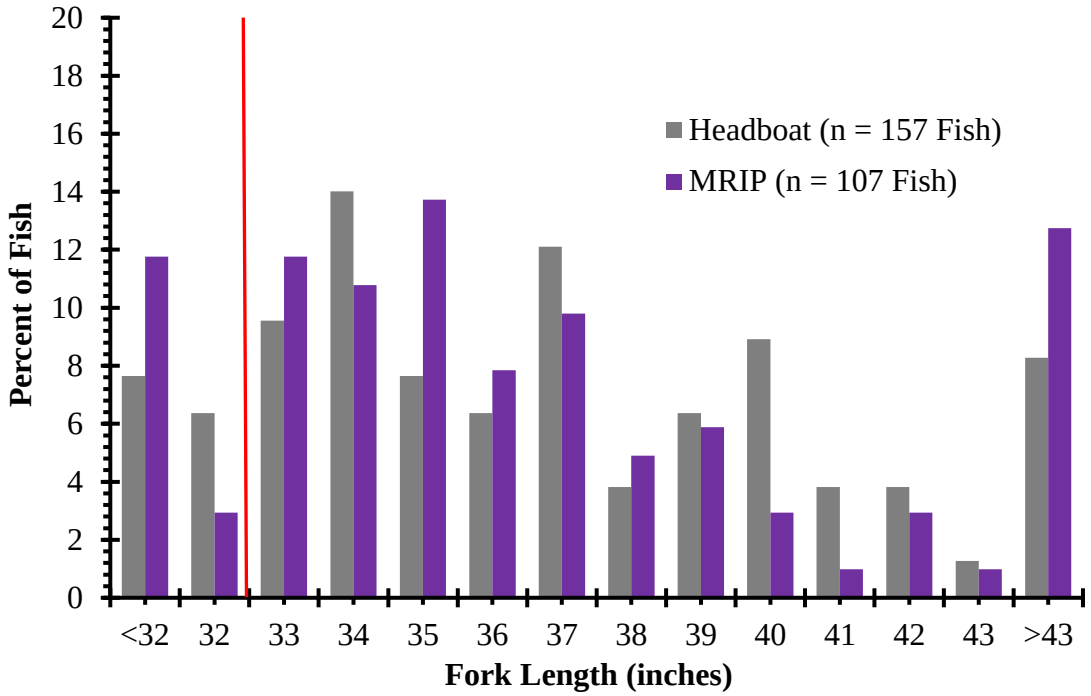

Figure 2.6.4. Fork length distribution of the recreational cobia harvested in the FLEC Zone from 2017 to 2019. Only the recreational surveys of Headboat and MRIP operate on the east coast of Florida. The red line is the current minimum size limit (33 inches FL) for east Florida.
Source: MRIP (Accessed May 20, 2020 and SRHS (Accessed July 10, 2020).

Alternative 1 would not change the minimum size limit of 36 inches FL for the Gulf Zone, or 33 inches FL for the FLEC Zone. The increase from 33 inches FL to 36 inches FL for Gulf Zone cobia was implemented in March 2020 through Framework Amendment 7 (GMFMC 2019) to reduce fishing mortality in the near-term while a stock assessment (SEDAR 28 Update 2020) was underway. SEDAR 28 Update was completed in July 2020, and determined Gulf Group Cobia to not be overfished, but undergoing overfishing; however, the increase in the minimum size limit was not captured in that assessment.

Preferred 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 FLEC Zone landings for both sectors (Table 2.6.1 and Table 2.6.2). Increasing the minimum size limit under **Preferred Alternative 2** for the FLEC Zone, or under **Alternative 3** or **Alternative 4** is expected to reduce fishing harvest 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, **Preferred 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 what is

predicted in Action 5. That being said, an increase in the minimum size limit **(Alternatives 2 - 4)** 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. A 27% reduction in harvest is predicted for the FLEC Zone commercial sector under **Preferred Alternative 2.** Increasing the minimum size limit in the FLEC zone to match that in the Gulf Zone would reduce the complexity of complying with the regulations in federal waters.

Table 2.6.1. Estimated percent reduction in commercial landings for the Gulf and FLEC Zones for the proposed alternatives in Action 6.

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

Table 2.6.2. Estimated percent reduction in recreational landings for the Gulf and FLEC Zones for the proposed alternatives in Action 6.

Alternative	Size Limit (Inches FL)	Gulf Zone % Reduction	FLEC Zone % Reduction
Texas			
Alternative 1 No Action	36	0	NA
Gulf Preferred 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
Gulf Preferred 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
Gulf Preferred 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	Size Limit (Inches FL)	Gulf Zone % Reduction	FLEC Zone % Reduction
Alternative 1 No Action	33	NA	0
Gulf Preferred Alternative 2	36	0	33.9
Alternative 3b	39	19.6	55.4
Alternative 4, Option 4b	42	38.7	74.4

2.7 Action 7 – Modify the Framework Procedure

Alternative 1: No Action. Retain the CMP Framework Procedure as last revised in Amendment 26. The current language in the Framework Procedure is:

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.

Gulf Preferred Alternative 2: Modify the Framework Procedure to update the responsibilities of each Council for setting regulations for the Gulf Group Cobia.
At its April 2021 meeting, the Gulf Council passed a motion to select Alternative 2 as preferred.

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 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.

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 when a portion of the ACL for one migratory group has been apportioned to a zone in the other Council's jurisdiction, like is the case for Gulf migratory group of cobia Gulf Zone or Florida East Coast Zone, only need to involve the affected Council.

After discussions with the IPT regarding both Council's concerns on which management actions may be included with the proposed change, the IPT recommends the following modifications:
Alternative 2: Modify the Framework Procedure to update the responsibilities of each Council for setting regulations for the Gulf Group Cobia. The responsibilities of each Council would be modified as follows:

1. Recommendations with respect to the Atlantic migratory groups of king mackerel, and 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:
    b. The South Atlantic Council will have the responsibility to:
        - set vessel trip limits;

- closed seasons or areas;
- gear restrictions;
- per person bag and possession limits;
- size limits;
- in-season and post-season accountability measures;
- specification of ACTs or sector ACTs

for the east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia (i.e., Florida East Coast Zone).

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

Discussion:

The CMP Framework Procedure allows the Councils to change specific management measures through framework amendments. Typically, these changes can be implemented within a shorter timeframe than a plan amendment. The current language for the CMP Framework Procedure, **Alternative 1** (Appendix A), was last revised in Amendment 26 by removing language that referred to the king mackerel Florida East Coast Subzone (GMFMC and SAFMC 2016). **Alternative 1** allows the South Atlantic to modify specific management measures for Gulf Group Cobia in the FLEC Zone: vessel trip limits, closed seasons or areas, and/or gear restrictions. **Alternative 1** would retain the current CMP Framework Procedure without any changes

Alternative 2 would expand the South Atlantic Council's responsibilities beyond setting vessel trip limits, closed seasons or areas, and/or gear restrictions without a majority 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 Group Cobia. Explicitly defining additional management measures that the South Atlantic Council may recommend independently will allow the South Atlantic Council to react more quickly to new information. The ability of the South Atlantic Council to be more responsive to updated scientific information or changes in fishing harvest is expected to yield biological, economic, and social benefits, by simultaneously ensuring the sustainability of the stock and access to that stock for stakeholders. **Alternative 2** would not allow the South Atlantic Council to make unilateral changes to management measures that affect an entire Gulf migratory group throughout its range, such as removing the FLEC Zone apportionment of Gulf Group cobia from the CMP FMP, or modifying the OFL, ABC, or Gulf Group cobia ACL. These actions will continue to be modified via a joint CMP FMP document. Therefore, Gulf Council input and consent would be required for these types of actions to move forward.

Two additional corrections are being included to the Framework Procedure via this amendment. Atlantic migratory group of cobia (Atlantic Cobia) was removed from the CMP FMP with Amendment 31 (SAFMC and GMFMC 2018). However, the CMP Framework Procedure was not updated at that time to remove reference to Atlantic Cobia. Therefore, the Councils are making that update to CMP Framework Procedure through this amendment. In addition, the CMP Framework language referencing the ABC Control rule is incorrect because there is no

ABC/ACL control rule. Instead, this should refer to the ABC and ACL/ACT control rules, and the Councils are making that correction through this amendment.

CHAPTER 3. REFERENCES

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APPENDIX A. COASTAL MIGRATORY PELAGICS (CMP) FRAMEWORK PROCEDURE

Last modified by CMP Amendment 26 – December 2017

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:

7. 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.

8. 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

9. 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.

10. 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.

11. 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.

12. 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*:

4. 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;
5. Reopen any sector of the fishery that had been prematurely closed;
6. 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:

4. 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.

5. 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.

6. 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 cobia, 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) landed weight (lw) 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
2015	784,457	1,381,507	70,370	854,827	1,451,877	1,610,000

Year	Recreational Landings (CHTS)	Recreational Landings (FES)	Commercial Landings	Stock Total Landings (CHTS)	Stock Total Landings (FES)	Stock ACL (CHTS)
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 landed 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 (CHTS)
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
2012	448,804	1,334,859	N/A	87,825	N/A	536,629	1,422,684	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 (CHTS)
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. FLORIDA EAST COAST ZONE COBIA RECREATIONAL ACL 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 Florida East Coast (FLEC) Zone (Atlantic side of the Florida Keys to the Florida/Georgia border) cobia annual catch limit (ACL). Specifically, Action 3 of Amendment 32 is exploring modification to the ACL sector allocation for the FLEC Zone cobia stock. There are a range of recreational ACLs being considered in Amendment 32 that are dependent on previous Actions. However, to simplify this analysis only the lowest recreational ACLs for 2021 and 2022 (Action 1 Alternatives 2 and 3, Action 2 Alternatives 1 – 5, and Action 3 Alternative 4) are used to determine if the ACL will be met. This analysis assumed the commercial sector 70,000 pounds (lbs) landed weight (ww) ACL would be retained in 2021, determine the allocation percentage by this catch limit, and allocate the remaining revised FLEC Zone ACL (determined in Action 2) to the recreational sector in subsequent years. The recreational ACLs of 2021 are lower than the recreational ACLs of 2022 however, if Action 1 Alternative 3 is selected, the 2021 ACL would remain constant. It's also likely that Amendment 32 will be implemented in 2022. Therefore, the 2022 ACL is presented in case Action 1 Alternative 2 is selected. Table 1 provides the lowest 2021 and 2022 ACLs being considered for this Amendment and analysis.

Table 1. Recreational ACLs for FLEC Zone cobia in 2021 and 2022 under, all Action 2 Alternatives, and assumed the commercial sector would retain a 70,000 lbs lw in 2021 and be adjusted for subsequent years (Action 3 Alternative 4). Each ACL is in lbs lw using MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

Action 2 Alternatives	FLEC Zone Recreational ACL under Action 3 Alternative 4 2021/2022
1	860,000/860,000
2	772,400/858,218
3	795,800/884,222
4	819,200/910,225
5	889,400/988,225

Recreational landings data were provided from the Southeast Fisheries Science Center on September 16, 2020. The recreational landings are a summary of different recreational landings surveys that are conducted in the FLEC Zone. The recreational landings came from the two different recreational surveys of Southeast Region Headboat Survey and Marine Recreational Information Program (MRIP). The MRIP landings data were generated from the Fishing Effort Survey (FES). Figure 1 provides the historical recreational landings over the past 10 years (2010 through 2019) of available landings, and the Amendment 32 ACLs in 2021 (most conservative) listed in Table 1, all Action 2 Alternatives, and that assumed the commercial sector would retain a 70,000 lbs lw ACL in 2021 (Action 3 Alternative 4).

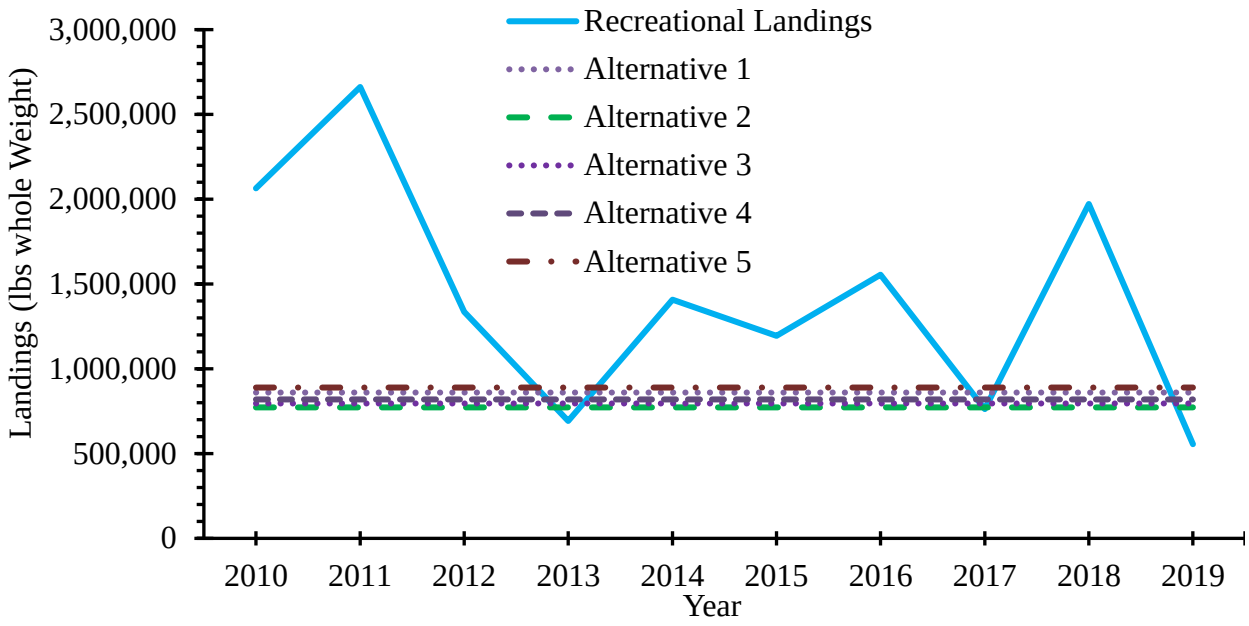

Figure 1. FLEC Zone cobia recreational landings plotted with the ACLs in 2021 (most conservative) under all Action 2 Alternatives and that assumed the commercial sector would retain a 70,000 lbs lw ACL in 2021 (Action 3 Alternative 4). The recreational landings are in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

The average 2017 through 2019 FLEC Zone cobia recreational landings were used as a proxy for future landings. The recreational landings were broken down into two-month wave (such as January/February, March/April) and the landings were assumed to be uniform within each wave. The average 2017 through 2019 landings were cumulatively summed following a calendar year, and the dates the ACLs is predicted to be met were determined when the landings reached the Action 3 Alternative 4 ACLs for 2021 and 2022 under all Action 2 Alternatives. Table 2 provides the dates the 2021 recreational ACLs are predicted to be met, and Table 2 provides the dates the 2022 recreational ACLs are predicted to be met. Recreational FLEC Zone cobia currently do not have an in-season closure accountability measure (AM). Their post season AM states that if the total FLEC Zone stock ACL is exceeded in one year, then in the following year, the recreational season will be projected to and closed when the annual catch target is met. The recreational ACLs are predicted to be met under all the scenarios (Tables 2 and 3). Alternative 1 (860,000 lbs lw) for both Tables 2 and 3 is not considered a viable alternative as it retains the use of MRIP-CHTS units, which are no longer considered best available science.

Table 2. Dates when the FLEC Zone recreational ACLs are predicted to be met for the Action 3 Alternative 4 (most conservative) ACLs for 2021 under all Action 2 Alternatives. These dates were predicted from cumulatively summing the combined average 2017 through 2019 recreational landings. The ACL is in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

Alternative	ACL	ACL Met Date
1	860,000	23-Aug

2	772,400	13-Aug
3	795,800	16-Aug
4	819,200	18-Aug
5	889,400	26-Aug

Table 3. Dates when the FLEC Zone recreational ACLs are predicted to be met for the Action 3 Alternative 4 (most conservative) ACLs for 2022 under all Action 2 Alternatives. These dates were predicted from cumulatively summing the combined average 2017 through 2019 recreational landings. The ACL is in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

Alternative	ACL	ACL Met Date
1	860,000	23-Aug
2	858,218	22-Aug
3	884,222	25-Aug
4	910,225	28-Aug
5	988,225	7-Nov

Will there be a closure in the recreational sector?

The FLEC Zone cobia recreational sector has a postseason accountability measure where the recreational sector will have a closure projection completed, which will be constrained to the sector annual catch target for the following fishing year, if the total (recreational and commercial combined) FLEC Zone ACL has been exceeded. Therefore, the recreational and commercial landings need to be combined to determine if the total FLEC Zone ACL will be met. If they are determined to be met, it is assumed any fishing past that date will exceed the total FLEC Zone ACL. A prediction of the recreational landings was already discussed earlier in this document. However, a prediction of total FLEC Zone landings is needed. Commercial landings data for cobia were obtained from the Southeast Fisheries Science Center (SEFSC) on August 21, 2020. Figure 2 provides the historical commercial landings over the past 10 years (2010 through 2019) of available commercial landings.

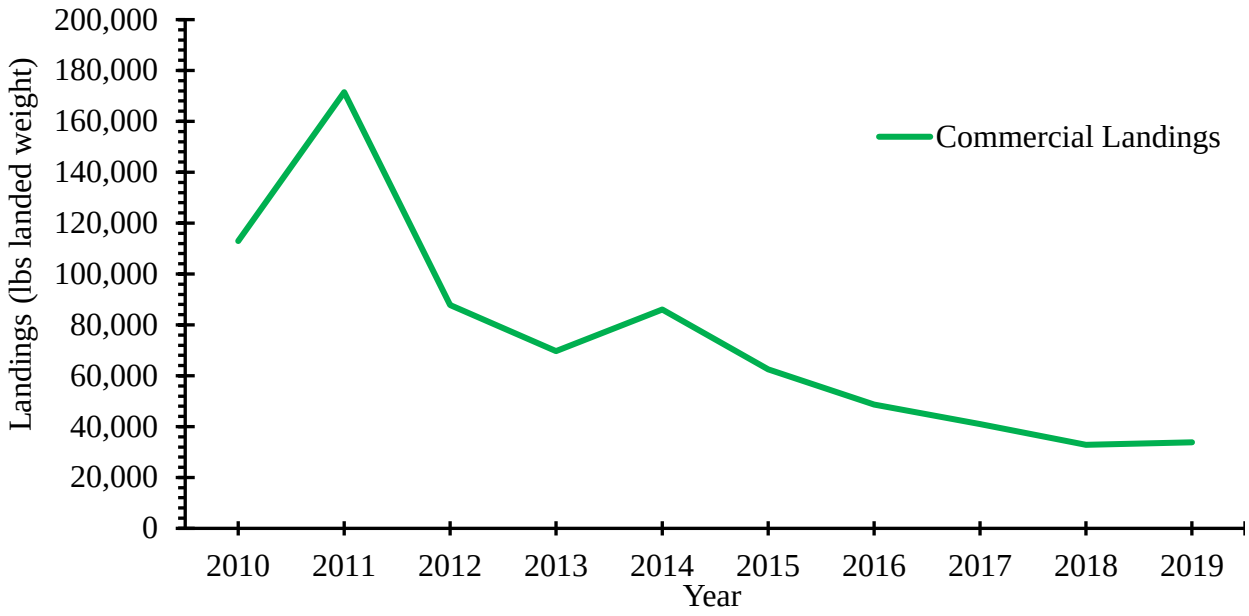

Figure 2. FLEC Zone cobia commercial landings from 2010 through 2019.

The average 2017 through 2019 FLEC Zone cobia total (recreational and commercial) landings were used as a proxy for future landings. These landings were cumulatively summed following a calendar year, and compared to Amendment 32 Action 2 total FLEC Zone ACLs from 2021 and 2022 (Table 4). Table 5 provides the dates when the predicted landings meet the ACLs being considered.

Table 4. Total (recreational and commercial) ACLs for FLEC Zone cobia in 2021 and 2022 under Action 2 of Amendment 32. Each ACL is in lbs lw using MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

Alternative	2021 Stock ACL	2022 Stock ACL
1	930,000	930,000
2	842,400	936,000
3	865,800	962,000
4	889,200	988,000
5	959,400	1,066,000

Table 5. Dates when the predicted landings are expected to reach the Action 2 total FLEC Zone ACLs for the years of 2021 and 2022 (Table 4). These dates were predicted from cumulatively summing the combined average 2017 through 2019 recreational and commercial landings. The ACL is in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

Alternative	2021 ACL	2021 ACL Met Date	2022 ACL	2022 ACL Met Date
1	930,000	27-Aug	930,000	27-Aug
2	842,400	18-Aug	936,000	27-Aug
3	865,800	20-Aug	962,000	30-Aug

4	889,200	23-Aug	988,000	26-Sep
5	959,400	30-Aug	1,066,000	30-Nov

Under all scenarios explored in this analysis the total FLEC Zone ACL is projected to be met. It seems likely a recreational closure will occur in 2023 (based on implementation timeline in 2022) if no other management measures (e.g., reduced possession limit, increased size limit) are changed for the recreational sector.

APPENDIX D. FLORIDA EAST COAST ZONE COBIA COMMERCIAL CLOSURE 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 Florida East Coast (FLEC) Zone (Atlantic side of the Florida Keys to the Florida/Georgia border) cobia annual catch limit (ACL). Specifically, Action 3 of Amendment 32 is exploring modifying the commercial ACL for the FLEC Zone cobia stock. There are a range of commercial ACLs being considered in Amendment 32 that are dependent on previous actions. However, to simplify this analysis only the lowest commercial ACLs for 2021 under all Action 2 alternatives, and a shift in allocation to 5% commercial and 95% recreational in Action 3 Alternative 2, were considered. Table 1 provides the ACLs being considered under this analysis.

Table 1. Commercial ACLs for FLEC Zone cobia for 2021 under all Action 2 Alternatives and assuming Action 3 Alternative 2 was selected (allocation 5% commercial, 95% recreational). Each ACL is in pounds landed weight.

Action 2 Alternatives	FLEC Zone Commercial ACL under Action 3 Alternative 2
1	70,000
2	42,120
3	43,290
4	44,460
5	47,970

Commercial landings data for cobia were obtained from the Southeast Fisheries Science Center (SEFSC) on August 21, 2020. Figure 1 provides the historical commercial landings over the past 10 years (2010 through 2019) of available landings, and the Amendment 32 Action 3 Alternative 2 ACLs in 2021 (most conservative) listed in Table 1, under all Action 2 Alternatives.

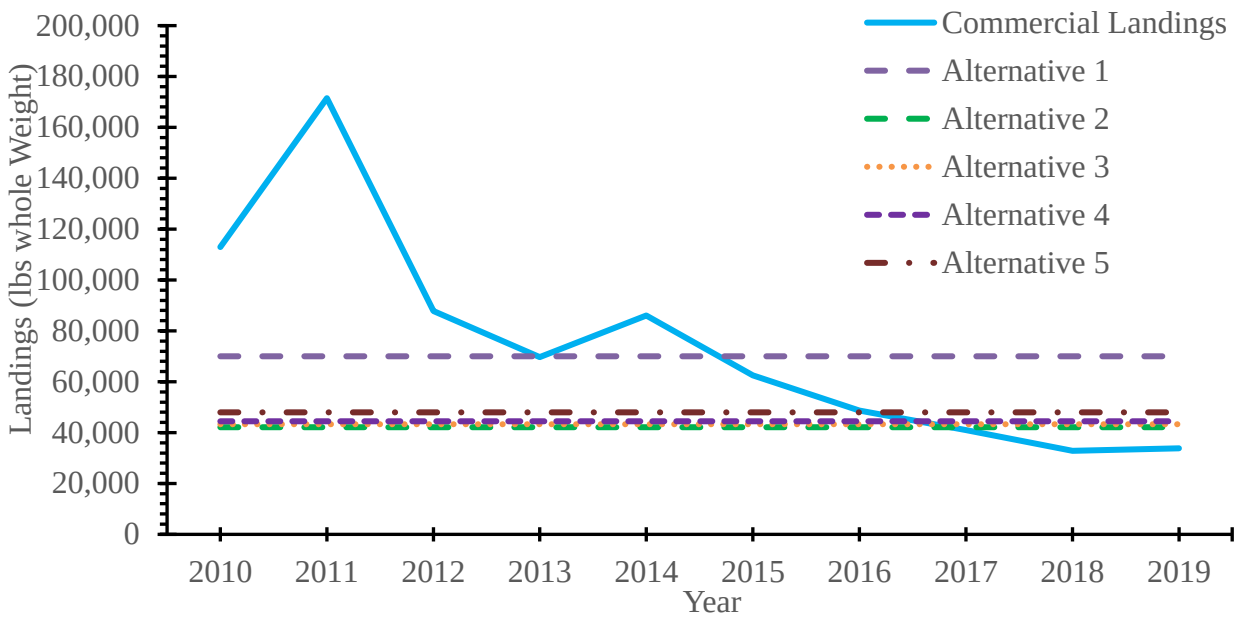

Figure 1. FLEC Zone cobia commercial landings plotted with the Action 3 Alternative 2 ACL allocation alternatives (5% commercial, 95% recreational) in 2021 (most conservative) under all Action 2 Alternatives.

The FLEC Zone cobia commercial landings have been stable over the past three recent years of 2017 through 2019 (Figure 1). The average landings from this recent time period was used as a proxy for future landings. The commercial landings were broken down into the monthly landings and were assumed to be uniform within a month. The average 2017 through 2019 landings were cumulatively summed following a calendar year, and closure dates were determined when the landings reached the Action 3 Alternative 2 ACLs. The total annual average 2017 through 2019 landings are 35,919 pounds. All of the ACLs presented in Table 1 are above 35,919 pounds. Therefore, no closures are expected for the FLEC Zone commercial sector, regardless of if the current sector allocation of 8% commercial 92% recreational remains or it is reduced to 5% commercial and 95% recreational. Furthermore, while Amendment 32 is not expected to be implemented until 2022, 2022 values were not analyzed due to the most conservative 2021 ACLs not being projected to be met.

APPENDIX E. 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 F. GULF ZONE COBIA CLOSURE 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 Gulf of Mexico Gulf of Mexico migratory group cobia (Gulf Group Cobia) annual catch target (ACT). This analysis focuses on the Gulf Zone (Texas to Gulf and South Atlantic Council's jurisdictional boundary). Table 1 provides the stock ACTs in pounds landed weight (lbs lw) being considered under Amendment 32 Action 4 for the Gulf Zone. Some Action 4 alternatives have different stock ACTs for different years. For example, Alternative 2 of Action 4 under Action 2 Alternative 2 has a different ACT for the years of 2021, 2022, and 2023 if Action 1 Alternative 2 is selected. If Action 1 Alternative 3 is selected then the 2021 ACT is maintained. Additionally, closure dates for the 2022 ACTs were also analyzed because Amendment 32 expected to be implemented in 2022.

Table 1. Stock ACTs for Gulf Zone cobia Action 4 Alternatives, under each Action 2 Alternative. Each ACT is in pounds landed weight using MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5.

Action 2 Alternatives	Action 1 Year	Action 4 Alternative 1	Action 4 Alternative 2
		Gulf Zone ACT	Gulf Zone ACT
1	2021+	1,500,000	N/A
2	2021	1,347,840	1,347,840
	2022	1,497,600	1,497,600
	2023+	1,589,760	1,589,760
3	2021	1,326,780	1,326,780
	2022	1,474,200	1,474,200
	2023+	1,564,920	1,564,920
4	2021	1,305,720	1,305,720
	2022	1,450,800	1,450,800
	2023+	1,540,080	1,540,080
5	2021	1,242,540	1,242,540
	2022	1,380,600	1,380,600
	2023+	1,465,560	1,465,560

Gulf Zone cobia is managed as a stock that combines both the commercial and recreational landings. Commercial landings data for cobia were obtained from the Southeast Fisheries Science Center (SEFSC) on August 21, 2020. Recreational landings data were provided from

the SEFSC on September 16, 2020. The recreational landings are a summary of the different recreational landings surveys that are conducted in the Gulf of Mexico. The recreational landings came from the four different recreational surveys of Southeast Region Headboat Survey, Texas Parks and Wildlife recreational survey, Louisiana Department of Wildlife and Fisheries creel survey, and Marine Recreational Information Program Fishing Effort Survey. Figure 1 provides the historical commercial and recreational landings over the past 10 years (2010 through 2019) of available landings, and the Amendment 32 Action 4 Alternative ACTs for 2021 (most conservative) under all Action 2 Alternatives.

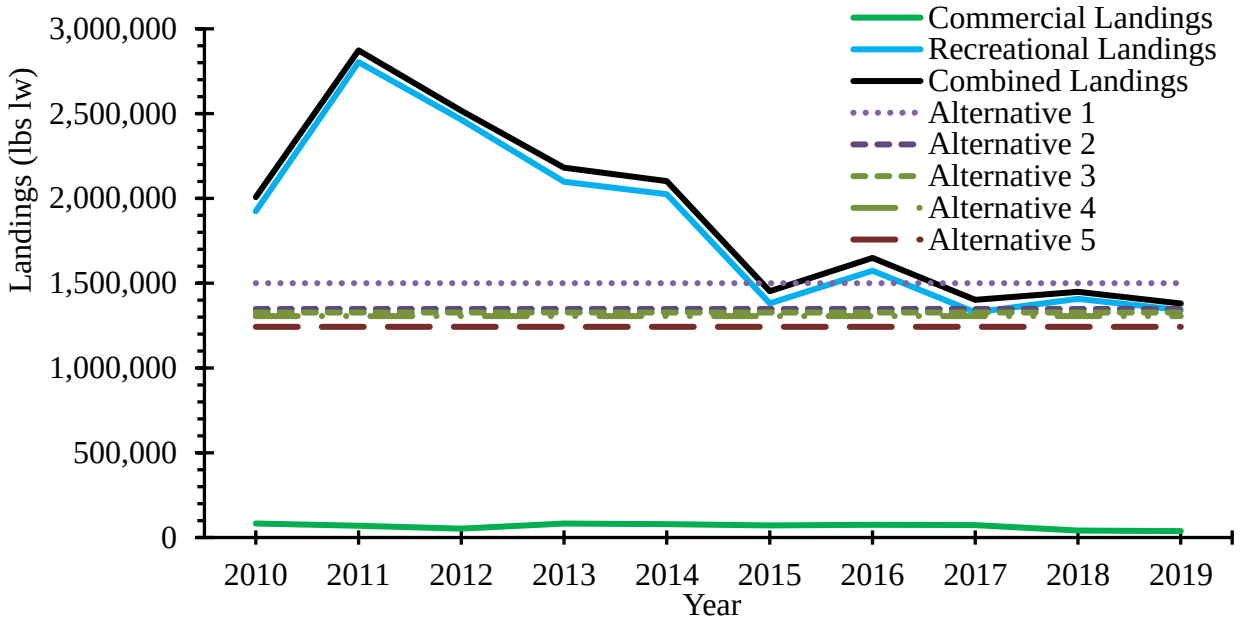

Figure 1. Commercial, recreational, and combined Gulf Zone cobia landings plotted with the Action 4 ACT alternatives for 2021 (most conservative) under all Action 2 Alternatives. The alternatives are in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alternatives 2-5. The recreational landings are the Marine Recreational Information Program Fishing Effort Survey landings.

The Gulf Zone cobia landings (commercial and recreational landings) have been stable over the past three recent years of 2017 through 2019 (Figure 1). The average landings from this recent time period was used as a proxy for future landings. The commercial landings were broken down into the monthly landings, and the recreational landings were broken down into two-month wave (such as January/February, March/April). Commercial landings were assumed to be uniform within a month and recreational landings were assumed to be uniform within a two-month wave. The average 2017 through 2019 landings were cumulatively summed following a calendar year, and closure dates were determined with the combined commercial and recreational landings reached the Action 4 Alternative ACTs under Action 2 Alternatives. Table 2 provides the closure dates when the 2021 ACTs were predicted to be reached. Gulf Zone cobia have an in-season closure accountability measure (AM) that states both sectors will be closed when the stock ACT is met or projected to be met. The Gulf Zone cobia stock does not have a post season AM. All of the ACTs used in this analysis for 2021 except Alternative 1 predict the ACT to be met (Table 2). Amendment 32 is expected to be implemented in 2022, so 2022 ACTs

are presented as well to give a more realistic picture of what would happen if Action 1 Alternative 2 is selected (Table 3). Only the Action 4 alternatives under the Action 2 Alternative 5 ACT used in this analysis for 2022 predict the ACT to be met. Action 1 Alternative 1 (1,500,000 lbs ww) for both Tables 2 and 3 is not considered a viable alternative as it retains the use of MRIP-CHTS units, which are no longer considered best available science.

Table 2. Predicted closure dates for the Action 4 Alternative ACTs for 2021 (most conservative) under all Action 2 Alternatives. These closure dates were predicted from cumulatively summing the combined average 2017 through 2019 commercial and recreational landings. The ACT is in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alterative 2-5.

Alternative	ACT	Closure Date
1	1,500,000	None
2	1,347,840	23-Nov
3	1,326,780	10-Nov
4	1,305,720	30-Oct
5	1,242,540	14-Oct

Table 3. Predicted closure dates for the Action 4 Alternative ACTs for 2022 (most likely when implemented) under all Action 2 Alternatives. These closure dates were predicted from cumulatively summing the combined average 2017 through 2019 commercial and recreational landings. The ACT is in MRIP-CHTS units for Alternative 1 and MRIP-FES units for Alterative 2-5.

Alternative	ACT	Closure Date
1	1,500,000	None
2	1,497,600	None
3	1,474,200	None
4	1,450,800	None
5	1,380,600	13-Dec

APPENDIX G. GULF ZONE 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 5.1 of Amendment 32 is exploring modification to the cobia possession limit in the Gulf Zone (Texas to west Florida).

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 is 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 was 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.

All available 2017 to 2019 TIP data that had cobia harvest were isolated. The Gulf Zone 2017-2019 TIP data had 275 commercial trips and a harvest of 345 cobia. The distribution of the cobia harvested per trip is shown in Figure 1. The distribution of the cobia harvested per person is shown in Figure 2.

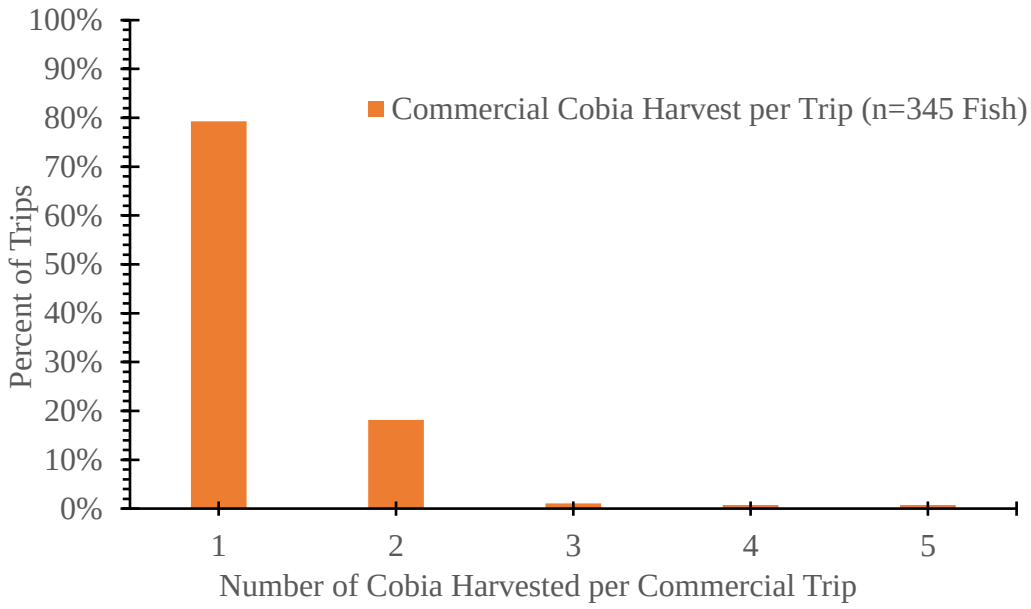

Figure 1. Distribution of the commercial cobia harvested (numbers of fish) per trip in the Gulf Zone from 2017 to 2019. This was generated from the TIP data and resulted in a sample size of 275 trips.

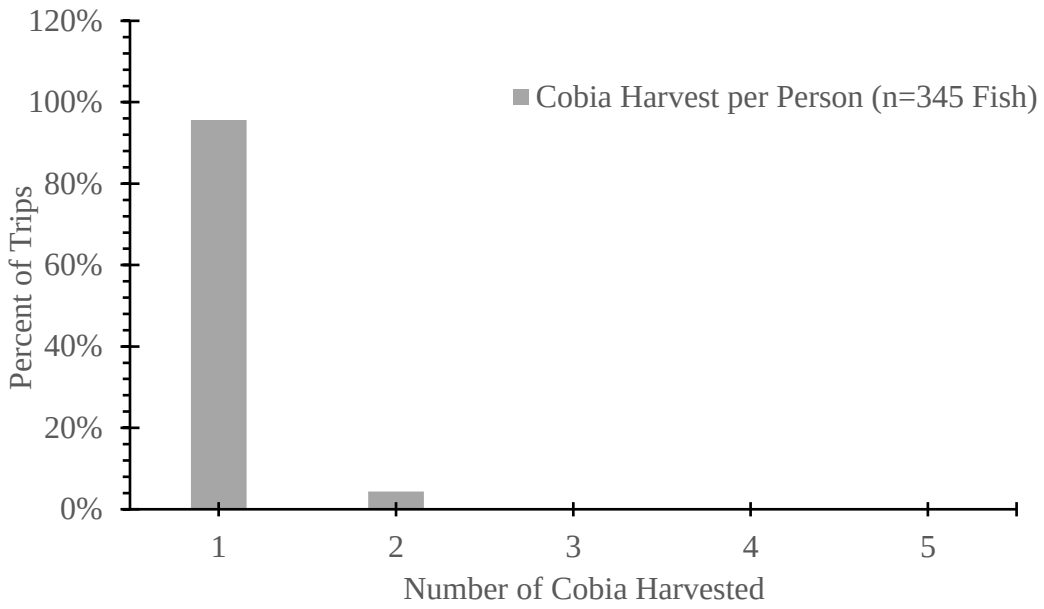

Figure 2. Distribution of the commercial cobia harvested (numbers of fish) per person in the Gulf Zone from 2017 to 2019. This was generated from the TIP data and resulted in a sample size of 275 trips.

Amendment 32 is considering possession limits that are influenced by the number of days (cobia per day) and the number of people on the trip (cobia per trip). The commercial data were analyzed to provide the distribution of the number of days for a commercial cobia trip (Figure 3). The cobia commercial trips from 2017 to 2019 range from 1 to 25 days and have an average of 6.4 days (standard deviation of 4.2 days).

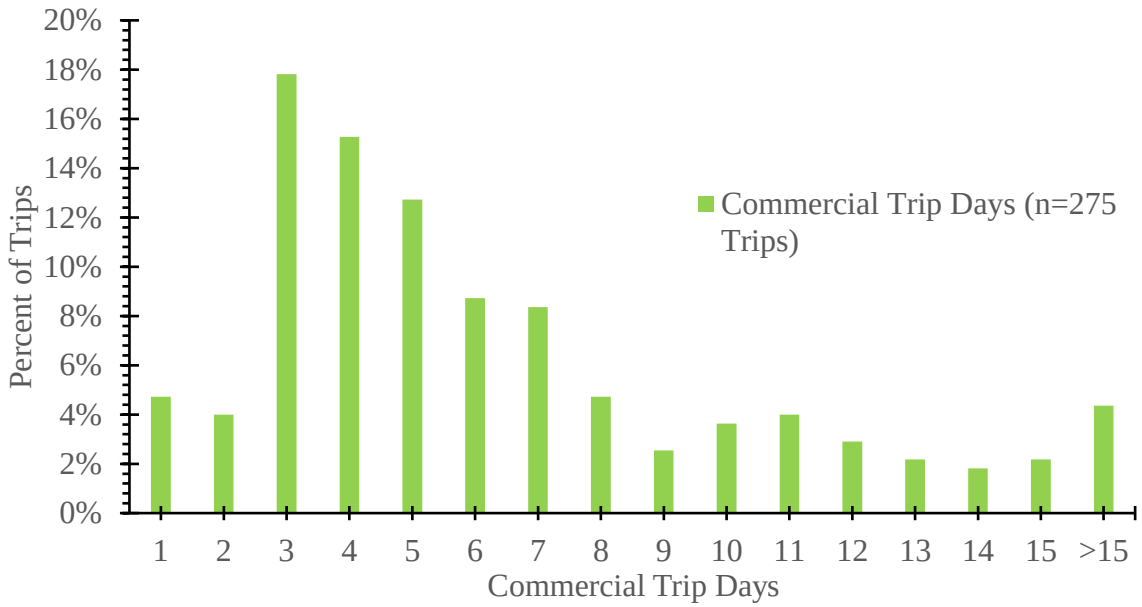

Figure 3. Distribution of the number of days for a commercial cobia trip in the Gulf Zone from 2017 to 2019. This was generated from the TIP data.

Amendment 32 is also considering possession limits that are influenced by the number of people on the trip (cobia per trip). The commercial data were analyzed to provide the distribution of the number of people on a commercial cobia trip (Figure 4). The cobia commercial trips from 2017 to 2019 had a range of 1 to 7 people, and have an average of 3.1 people (standard deviation of 1.4 people).

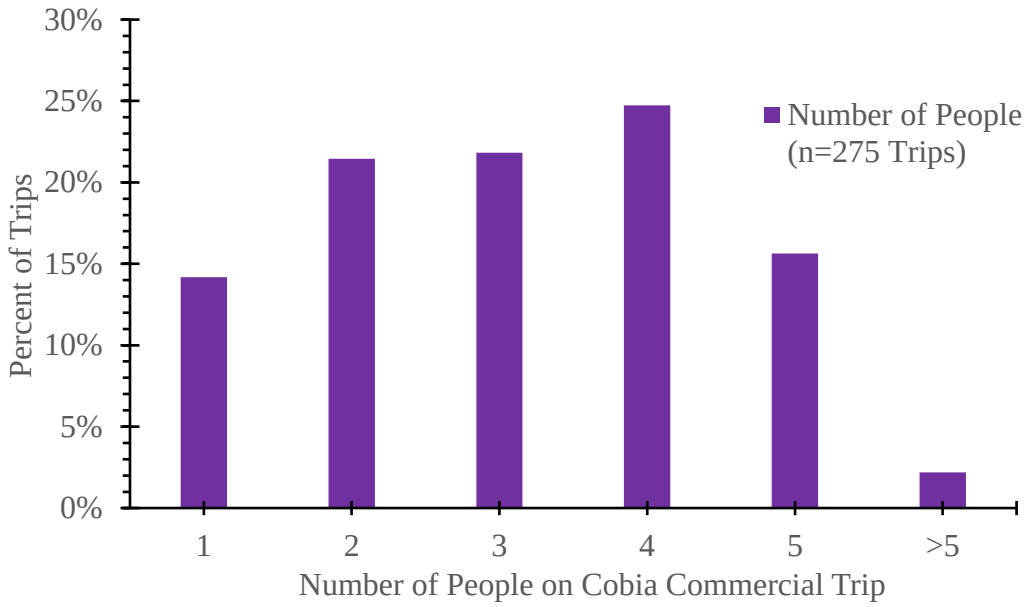

Figure 4. Distribution of the number of people on commercial cobia trips in the Gulf Zone from 2017 to 2019. This was generated from the TIP data.

Alternative 1 of Amendment 32 is the status quo regulation of 2 cobia per person per day. The majority of the commercial cobia trips are multiple days (Figure 3) and have multiple people (Figure 4). Therefore, the 2 cobia per person per day possession limit is rarely reached. Using the available commercial data from 2017 to 2019 none of the 275 trips met the 2 cobia per person per day possession limit. Alternative 2b of Amendment 32 states a possession limit of 1 cobia per person per day and this limit would have little impact on the commercial landings because it would influence less than 1% of the commercial trips.

Alternative 4 (4a, 4b, and 4c) of Amendment 32 considers commercial trip limits for only the commercial sector. Alternative 4 considers the commercial trip limits of 2, 4, and 6 cobia per trip per day. The Alternative 4 limits are not expected to impact the commercial landings because most of the commercial trips are multiple day trips (95% two or more days, Figure 3) and most of the commercial trips harvested only 1 cobia per trip (79% of commercial trips, Figure 1).

Recreational Sector

Recreational data for cobia in the Gulf Zone 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 (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 was obtained from the Texas Parks and Wildlife Department on August 17, 2020. Data from LA creel was obtained from the Louisiana Department of Wildlife and Fisheries on April 24, 2020. Data from Headboat was obtained from Southeast Fisheries Science Center on July 10, 2020. Data for MRIP was obtained from the NOAA Fisheries Recreational Fishing Data website (www.fisheries.noaa.gov/topic/recreational-fishing-data) on May 20, 2020.

Data with cobia harvest from all four recreational datasets from 2017 to 2019 were isolated. The Texas data had 124 trips that harvested cobia which resulted in the harvest of 182 cobia. The Texas recreational survey does collect information on trip duration and all of the 124 Texas cobia harvest trips were one-day trips. The majority (99%) of the Texas trips harvested 1 cobia per person per day. The LA creel data had 348 trips that harvested cobia which resulted in the harvest of 633 cobia. LA creel does not have any data on multi-day cobia trips because LA creel only collects information for one-day trips. If LA Creel intercepts a multi-day fishing trip then they only collect data on the day of the interview. For example if a LA Creel interview had a trip that fished on Tuesday and Wednesday and they LA Creel folks interviewed them on Wednesday then they would only collect harvest and other trip data for Wednesday. The headboat data had 1,102 trips that harvested cobia which resulted in the harvest of 1,694 cobia. The majority (91%) of the headboat trips were for a single day, however, there were 9% of the headboat trips that were multi-day trips (2 to 7 days). None of the 1,102 headboat trips exceeded the one fish per person per day limit. The MRIP data had 132 trips that resulted in the harvest of 149 cobia. MRIP does record the duration of the fishing trip and all of the 132 MRIP trips that harvested cobia were single day trips. The Gulf Zone distribution of the recreational cobia harvested per person per day by recreational dataset are shown in Figure 5. The Gulf Zone distribution of the recreational cobia harvested per vessel per trip are shown in Figure 6.

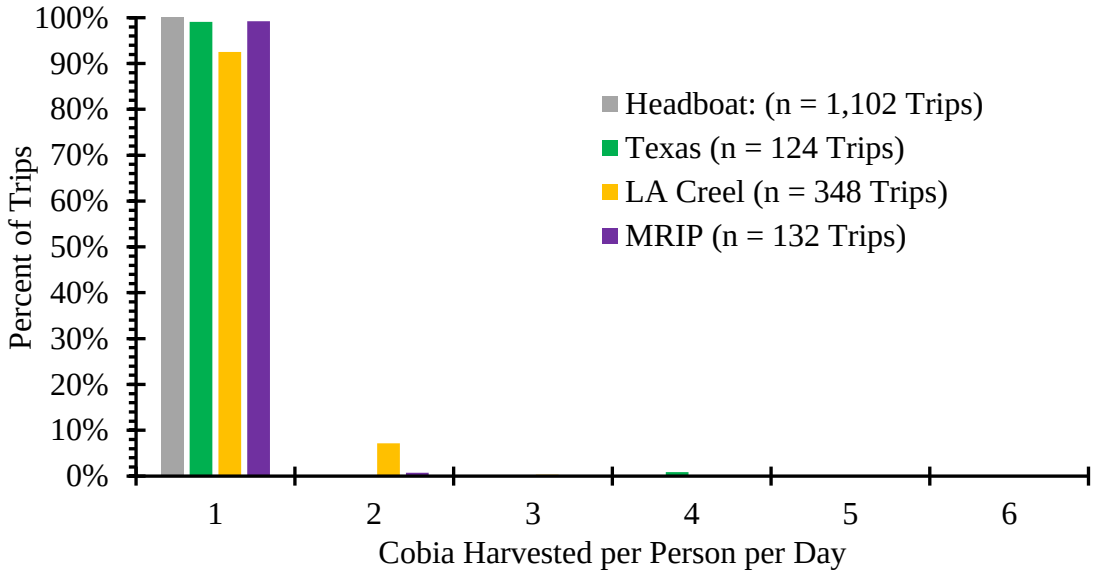

Figure 5. Distribution of the recreational cobia harvested (numbers of fish) per person per day in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Texas and Louisiana only operate within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

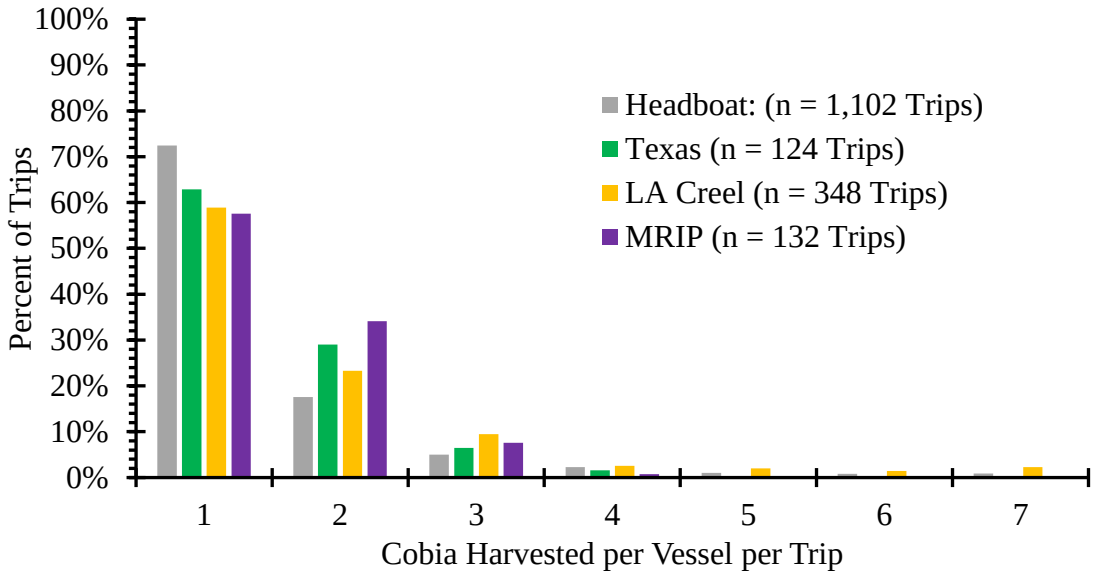

Figure 6. Distribution of the recreational cobia harvested (numbers of fish) per vessel per day in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Texas and Louisiana only operate within their own states, Headboat operates in all of the Gulf of Mexico states, and MRIP operates in Mississippi, Alabama, and Florida.

Percent Reduction in Landings

Percent reductions in landings were calculated for the Amendment 32 Action 5.1 alternatives by modifying recent trips that harvested cobia. The commercial and recreational data from 2017 through 2019 were used, and any trips that harvested less than the Action 5.1 limit being considered were not modified. Trips that met or exceeded the Action 5.1 limit being considered were changed to meet the limit being considered. For example, if a 1 fish per person per day limit of cobia is being analyzed then a trip that landed 2 cobia per person per day would be changed to a harvest of 1 fish per person per day limit. The unmodified data was compared to the new Action 5.1 limit modified data to determine percent reduction in landings. The results of the percent reduction in landings are shown in Table 1.

Table 1. Calculated percent reduction by dataset in Gulf Zone cobia landings for each of the Amendment 32 Action 5.1 alternatives. The percent reductions were generated from landings data from 2017 to 2019.

Alternative	Details	Dataset				
		Commercial	Recreational Texas	Recreational LA Creel	Recreational Headboat	Recreational MRIP
1	2 Fish per Person per Day Commercial and Recreational Sector	0	0	0	0	0
Alternative 2: 1 Fish per Person per Day						
2a	Recreational Sector	NA	<1%	7%	0	<1%
2b	Commercial Sector	<1%	NA	NA	NA	NA
Alternative 3 Recreational Vessel Limit per Trip						
3a	2 Fish per Vessel per Trip	NA	8%	18%	10%	8%
3b	4 Fish per Vessel per Trip	NA	0	6%	3%	0
3c	6 Fish per Vessel per Trip	NA	0	2%	1%	0
Alternative 4 Commercial Trip Limit per Day						
4a	2 Fish per Trip	3%	NA	NA	NA	NA
4b	4 Fish per Trip	1%	NA	NA	NA	NA
4c	6 Fish per Trip	0	NA	NA	NA	NA

Since this analysis used five different datasets (commercial, Texas, LA Creel, Headboat, and MRIP) the percent reductions were simplified by weighting the impact of the percent reductions by each datasets contribution to the total Gulf Zone cobia landings. Using the 2017 to 2019 landings data the contribution of the total landings by dataset are shown in Table 2. The simplified percent reductions are shown in Table 3.

Table 2. Percent contribution of the total Gulf Zone cobia landings by each dataset. This was generated from the 2017 to 2019 Gulf of Mexico cobia landings.

Dataset	Percentage of Total Landings
Commercial	4%
Recreational Texas	1%
Recreational LA Creel	10%
Recreational Headboat	1%
Recreational MRIP	84%

Table 3. Calculated percent reductions of the total Gulf Zone cobia landings for each of the Amendment 32 Action 5.1 alternatives. The percent reductions were generated from landings data from 2017 to 2019.

Alternative	Details	Percent Reduction of Total Cobia Landings
1	2 Fish per Person per Day Commercial and Recreational Sector	0
Alternative 2: 1 Fish per Person per Day		
2a	Recreational Sector	1.2%
2b	Commercial Sector	<1%
Alternative 3 Recreational Vessel Limit per Trip		
3a	2 Fish per Vessel per Trip	9.0%
3b	4 Fish per Vessel per Trip	<1%
3c	6 Fish per Vessel per Trip	<1%
Alternative 4 Commercial Trip Limit		
4a	2 Fish per Trip	<1%
4b	4 Fish per Trip	<1%
4c	6 Fish per Trip	0

APPENDIX H. FLORIDA EAST COAST ZONE COBIA POSSESSION LIMIT

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 5.2 of Amendment 32 is exploring modification to the cobia possession limit in the Florida East Coast (FLEC) Zone (Atlantic side of the Florida Keys to the Florida-Georgia state line).

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 is 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 was 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.

All available 2017 to 2019 TIP data that had cobia harvest were isolated. The FLEC Zone 2017-2019 TIP data had 64 commercial trips and a harvest of 102 cobia. The distribution of the commercial cobia harvested per trip is shown in Figure 1.

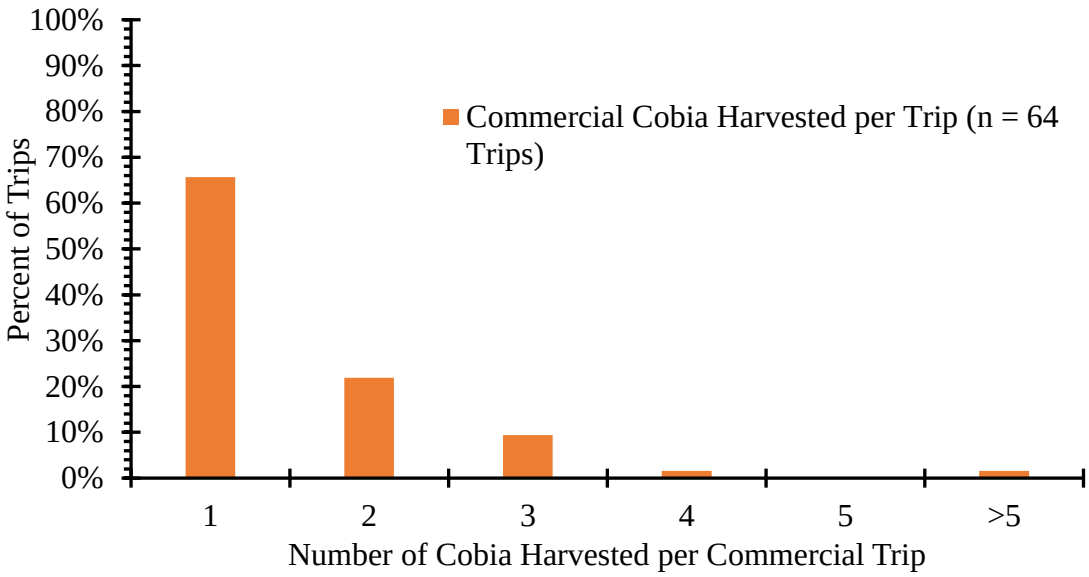

Figure 1. Distribution of the commercial cobia harvested (numbers of fish) per trip in the FLEC Zone from 2017 to 2019. This was generated from the TIP data and resulted in a sample size of 64 trips.

Amendment 32 is considering possession limits for the FLEC Zone that are influenced by the number of days (cobia per day). The commercial data were analyzed to provide the distribution of the number of days for a commercial cobia trip in the FLEC Zone (Figure 2). The cobia commercial trips from 2017 to 2019 range from 1 to 15 days and have an average of 2.24 days (standard deviation of 2.6 days).

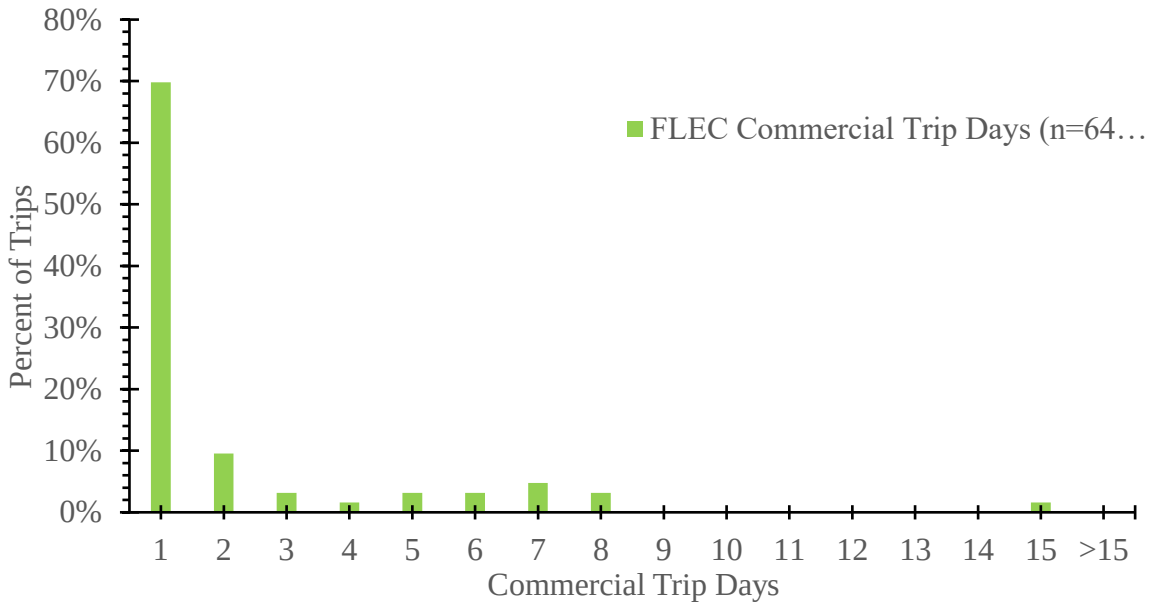

Figure 2. Distribution of the number of days for a commercial cobia trip in the FLEC Zone from 2017 to 2019. This was generated from the TIP data.

Amendment 32 is also considering possession limits in the FLEC Zone that are influenced by the number of people on the trip (cobia per trip). The commercial data were analyzed to provide the distribution of the number of people on a commercial cobia trip (Figure 3). The cobia commercial trips from 2017 to 2019 had a range of 1 to 4 people, and have an average of 1.7 people (standard deviation of 0.76 people).

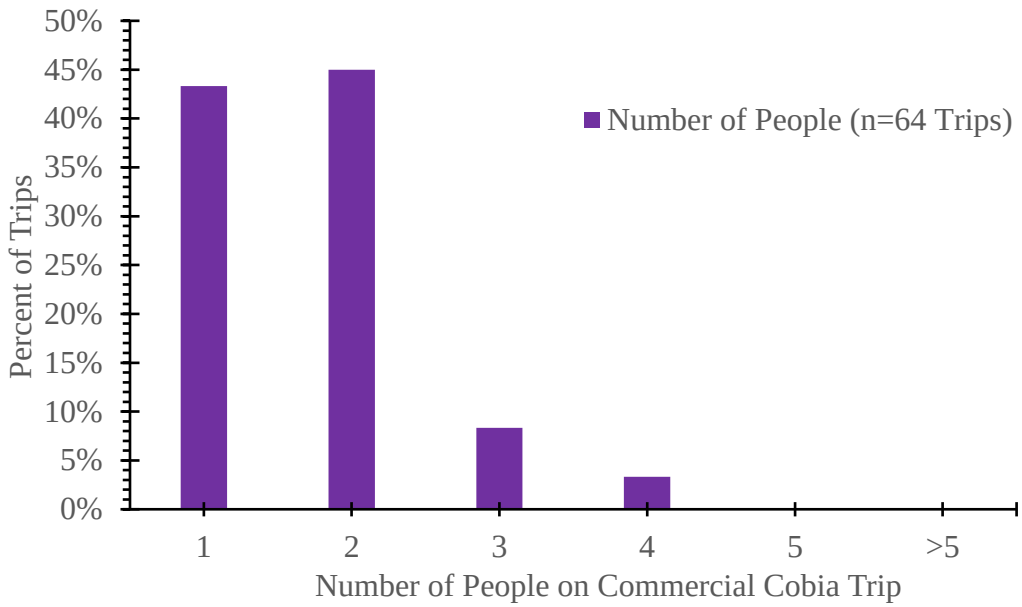

Figure 3. Distribution of the number of people on commercial cobia trips in the FLEC Zone from 2017 to 2019. This was generated from the TIP data.

Alternative 1 of Action 5.2 of Amendment 32 is the status quo regulation of 2 cobia per person per day. Figure 4 provides the distribution of the cobia per person per day from the FLEC Zone commercial data. About 14% of the trips met the current 2 cobia per person per day, and 5% of the trips exceeded the 2 cobia per person per day limit.

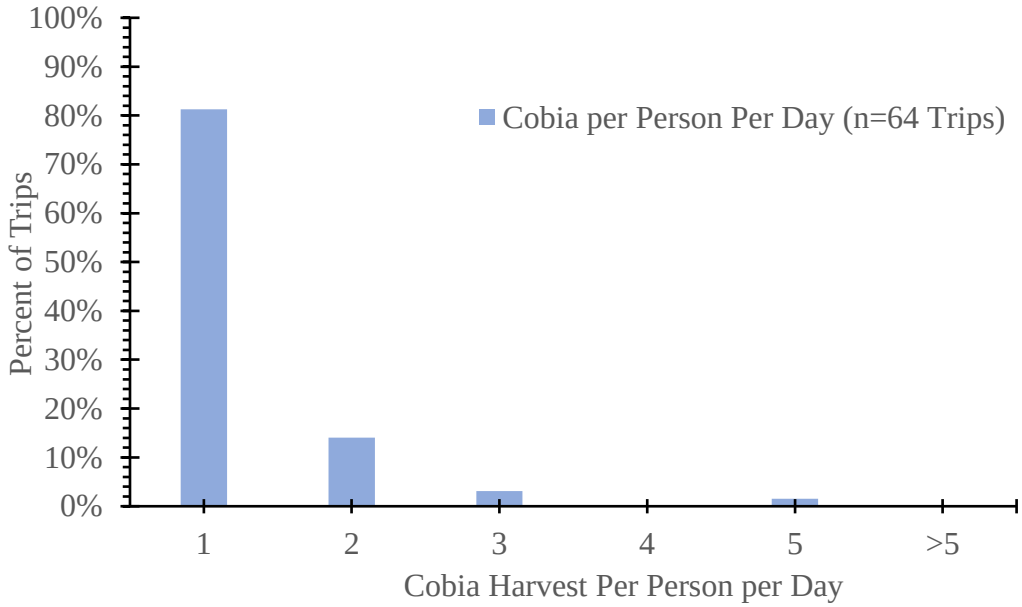

Figure 4. Distribution of the number of cobia harvested per person per day on commercial trips in the FLEC Zone from 2017 to 2019. This was generated from the TIP data.

Alternative 4 (4a, 4b, and 4c) of Action 5.2 of Amendment 32 considers commercial trip limits for only the commercial sector. Alternative 4 considers the commercial trip limits of 2, 4, and 6 cobia per trip. Figure 5 provides the distribution of the number of cobia harvested per trip. The majority of the trips (88%) harvested 2 or less cobia per trip per day, but there is some harvest above 2, 4, and 6 cobia per trip per day.

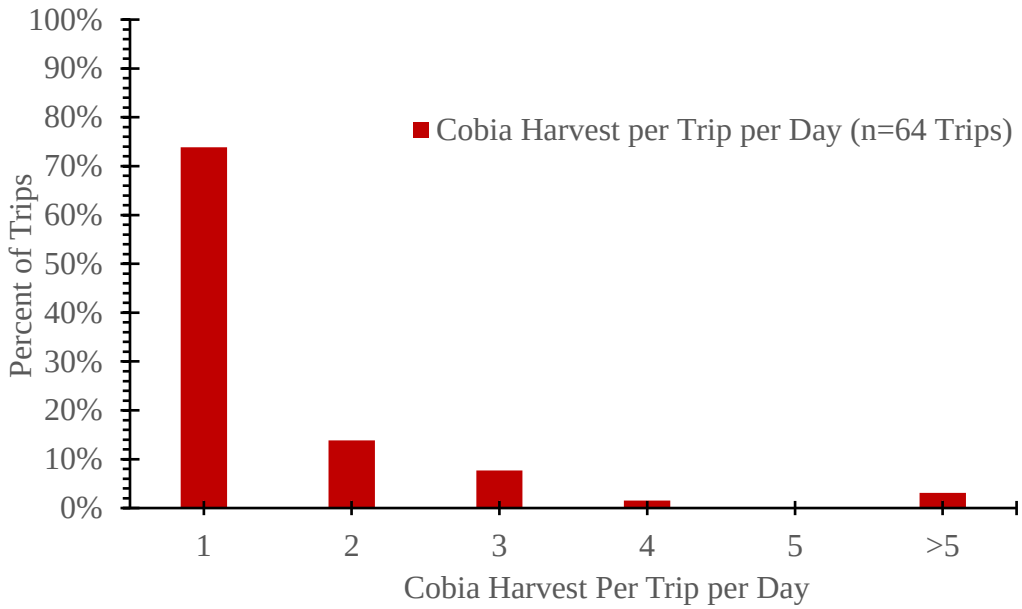

Figure 5. Distribution of the number of cobia harvested per trip per day on commercial trips in the FLEC Zone from 2017 to 2019. This was generated from the TIP data.

Recreational Sector

Recreational data for cobia in the FLEC Zone comes from two different recreational surveys. They Southeast Region Headboat Survey (Headboat) and the Marine Recreational Information Program (MRIP). Headboat covers headboat activity and MRIP covers the private and charter modes of the recreational sector. Data from Headboat was obtained from Southeast Fisheries Science Center on July 10, 2020. Data for MRIP was obtained from the NOAA Fisheries Recreational Fishing Data website (www.fisheries.noaa.gov/topic/recreational-fishing-data) on May 20, 2020.

Data with cobia harvest from the two recreational datasets from 2017 to 2019 were isolated. The headboat data had 1,453 trips that harvested cobia that resulted in the harvest of 2,149 cobia. The majority (99%) of the headboat trips were for a single day. None of the 1,453 headboat trips exceeded the one fish per person per day limit. The MRIP data had 63 trips that harvested cobia that resulted in the harvest of 94 cobia. MRIP does record the duration of the fishing trip and all of the 63 MRIP trips that harvested cobia were single day trips. The FLEC Zone distribution of the recreational cobia harvested per person per day by recreational datasets are shown in Figure 6. The FLEC Zone distribution of the recreational cobia harvested per vessel per trip are shown in Figure 7.

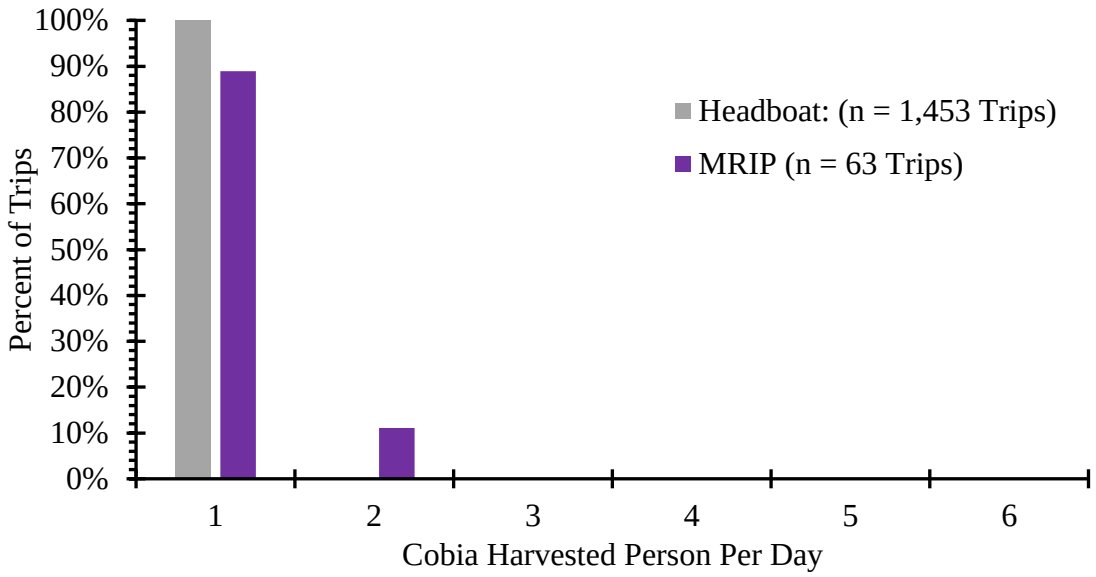

Figure 6. Distribution of the recreational cobia harvested (numbers of fish) per person per day in the FLEC Zone from 2017 to 2019. The data are separated by the different recreational datasets.

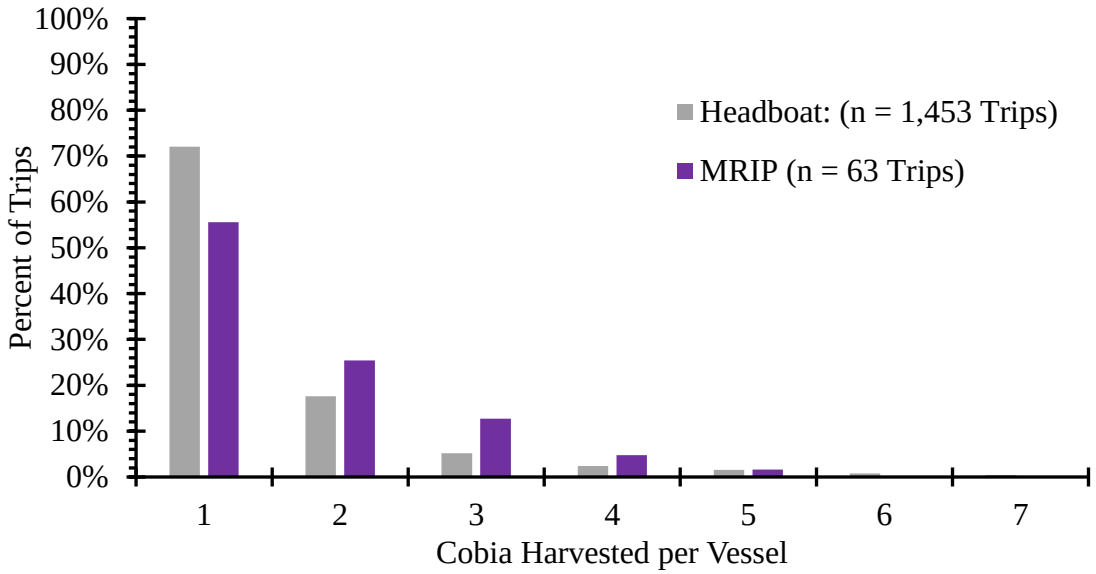

Figure 7. Distribution of the recreational cobia harvested (numbers of fish) per vessel per trip in the FLEC Zone from 2017 to 2019. The data are separated by the different recreational datasets.

Percent Reduction in Landings

Percent reductions in landings were calculated for the Amendment 32 Action 5.2 alternatives by modifying recent trips that harvested cobia. The commercial and recreational data from 2017 through 2019 were used, and any trips that harvested less than the Action 5.2 limit being considered were not modified. Trips that met or exceeded the Action 5.2 limit being considered were changed to meet the limit being considered. For example if a 1 fish per person per day

limit of cobia is being analyzed then a trip that landed 2 cobia per person per day would be changed to a harvest of 1 fish per person per day limit. The unmodified data was compared to the new Action 5.2 limit modified data to determine percent reduction in landings. The results of the percent reduction in landings are shown in Table 1.

Table 1. Calculated percent reduction in landings by dataset for FLEC Zone cobia for each of the Amendment 32 Action 5.2 alternatives. The percent reductions were generated from landings data from 2017 to 2019.

Alternative	Details	Dataset		
		Commercial	Recreational Headboat	Recreational MRIP
1	2 Fish per Person per Day Commercial and Recreational Sector	0	0	0
Alternative 2: 1 Fish per Person per Day				
2a	Recreational Sector	NA	0	11%
2b	Commercial Sector	14%	NA	NA
Alternative 3 Recreational Vessel Limit per Trip				
3a	2 Fish per Vessel per Trip	NA	10%	19%
3b	4 Fish per Vessel per Trip	NA	3%	2%
3c	6 Fish per Vessel per Trip	NA	<1%	0%
Alternative 4 Commercial Trip Limit				
4a	2 Fish per Trip	9%	NA	NA
4b	4 Fish per Trip	3%	NA	NA
4c	6 Fish per Trip	3%	NA	NA

Since this analysis used two different datasets (Headboat and MRIP) for the recreational sector the percent reductions were simplified by weighting the impact of the percent reductions by each datasets contribution to the total FLEC Zone recreational landings. Using the 2017 to 2019 recreational landings data the contribution to the total recreational landings by dataset are shown in Table 2. The percent reductions were weighted by the contribution of each dataset to the total recreational landings, and are shown in Table 3. Table 3 only provides alternatives that apply to the recreational sector.

Table 2. Percent contribution of the total recreational FLEC Zone cobia landings by each dataset. These values were generated from the 2017 to 2019 FLEC Zone cobia recreational landings.

Dataset	Percentage of Total Landings
Recreational Headboat	1.2%
Recreational MRIP	98.8%

Table 3. Calculated percent reductions of the recreational FLEC zone cobia landings for each of the Amendment 32 Action 5.2 alternatives. The percent reductions were generated from the 2017 to 2019 recreational landings, and the percent reductions were weighted by the contribution each recreational dataset made to the total recreational landings.

Alternative	Details	Percent Reduction of Cobia Recreational Landings
1	2 Fish per Person per Day Commercial and Recreational Sector	0
Alternative 2: 1 Fish per Person per Day		
2a	Recreational Sector	11%
Alternative 3 Recreational Vessel Limit per Trip		
3a	2 Fish per Vessel per Trip	18.9%
3b	4 Fish per Vessel per Trip	4.6
3c	6 Fish per Vessel per Trip	<1%

APPENDIX I. 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 6 of Amendment 32 is exploring modifications to the cobia minimum size limit in the Gulf Zone (Texas to west Florida) and from the Councils jurisdictional boundary to the eastern side of Florida (FLEC Zone).

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 Zone are shown in Figure 1. The length distribution of the harvested cobia for the FLEC Zone 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 Zone. 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 the FLEC Zone. 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 Zone and a 33-inch fork length minimum size limit for the FLEC Zone.

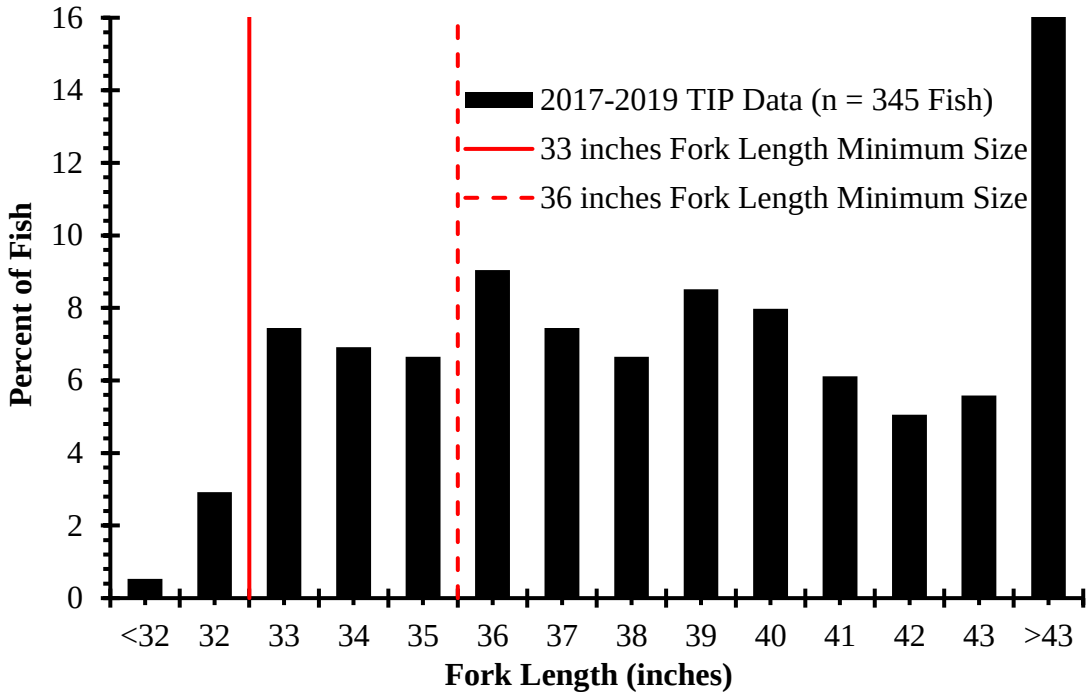

Figure 1. Length distribution of cobia harvested in the commercial sector in the Gulf Zone. Data come from 2017 to 2019 TIP data. Two different minimum size limits are shown (red lines) in the figure because Framework Amendment 7 recently (March of 2020) increased the minimum size limit from 33 to 36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

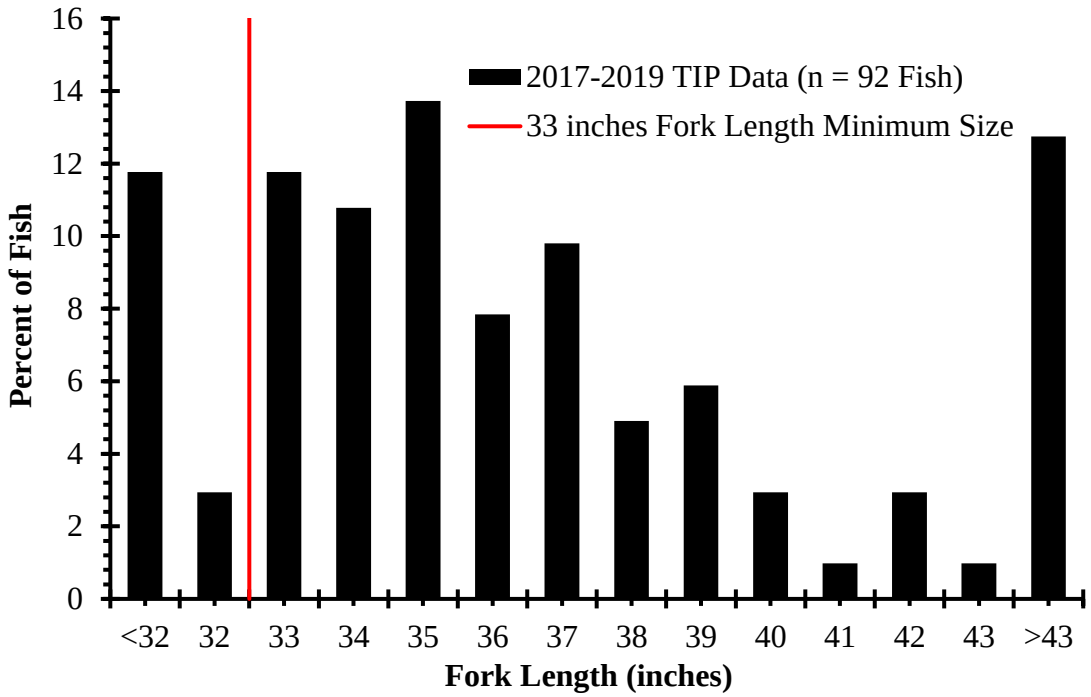

Figure 2. Length distribution of cobia harvested in the commercial sector in the FLEC Zone. Data are from 2017 to 2019 TIP data. The red line is the current minimum size limit (33 inches fork length) for the FLEC Zone.

Action 6 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 Zone and 33 inches for FLEC Zone. 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 6 of Amendment 32.

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

Recreational Sector

Recreational data for cobia in the Gulf Zone 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 Zone and Figure 4 for the FLEC Zone.

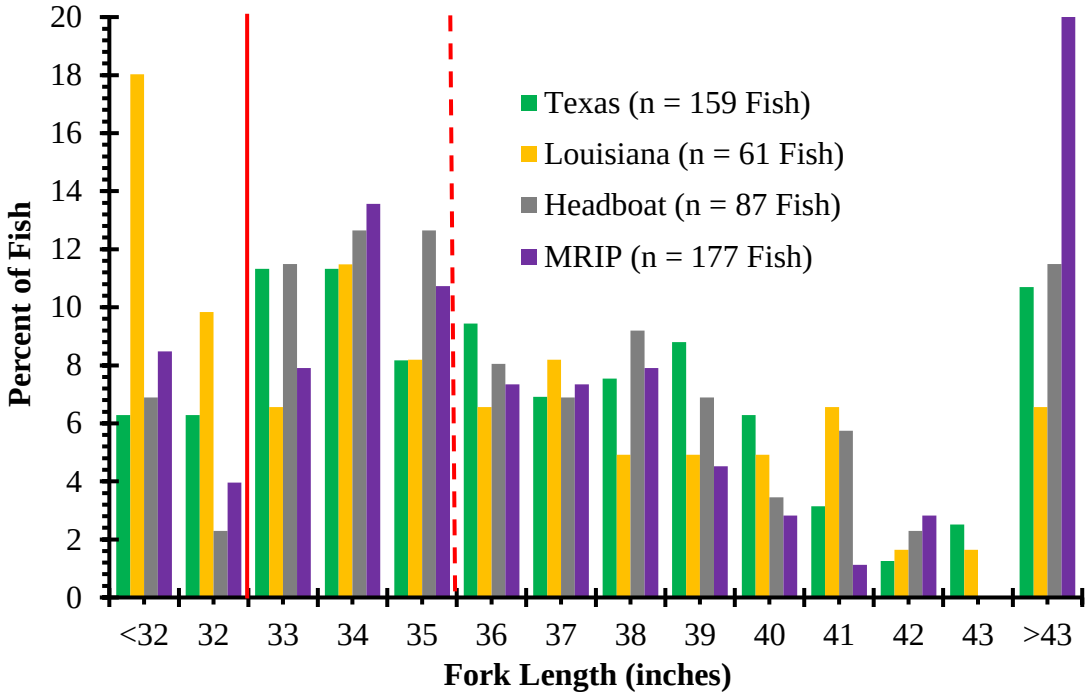

Figure 3. Fork length distribution of the recreational cobia harvested in the Gulf Zone from 2017 to 2019. The data are separated by the different recreational datasets because the different recreational surveys operate in different states. Headboat operates in all of the Gulf of Mexico states, Texas 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 of 2020) increased the minimum size limit from 33 to 36 inches fork length in the Gulf Zone.

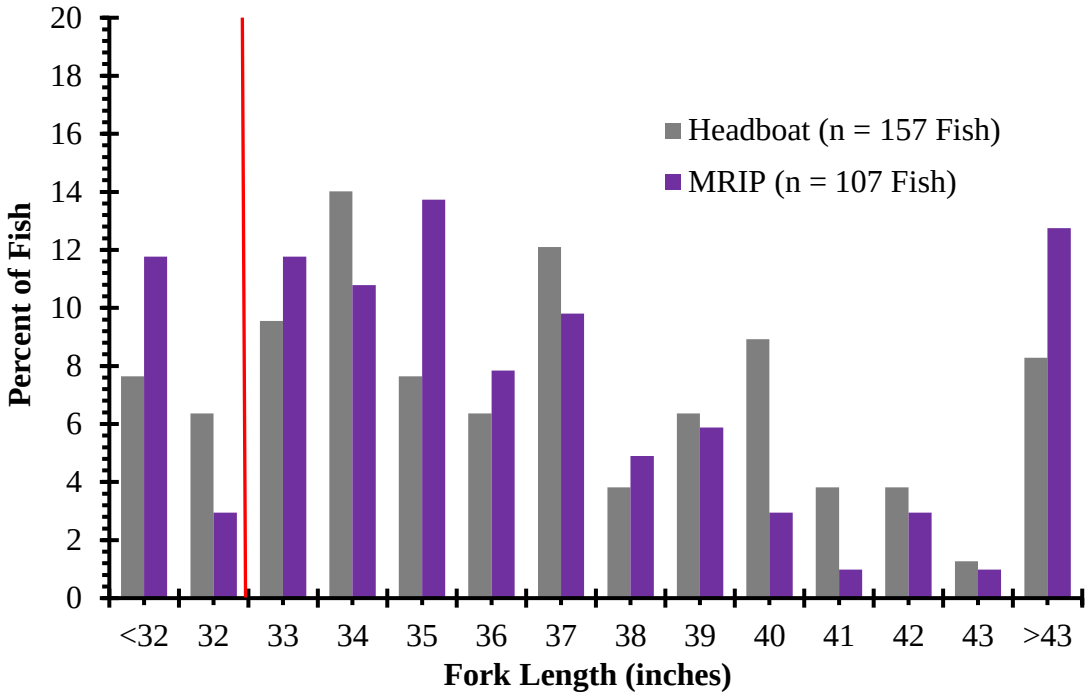

Figure 4. Fork length distribution of the recreational cobia harvested in the FLEC Zone from 2017 to 2019. Only the recreational surveys of Headboat and MRIP operate on the east coast of Florida. The red line is the current minimum size limit (33 inches fork length) for the FLEC Zone.

As stated above, Action 6 of Amendment 32 is considering changes to the minimum size limit in both the Gulf Zone and the FLEC Zone. The current minimum size limit is 36 inches fork length for the Gulf Zone and 33 inches fork length for the FLEC Zone. 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 6 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 FLEC Zone 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 Zone % Reduction	FLEC Zone % Reduction
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