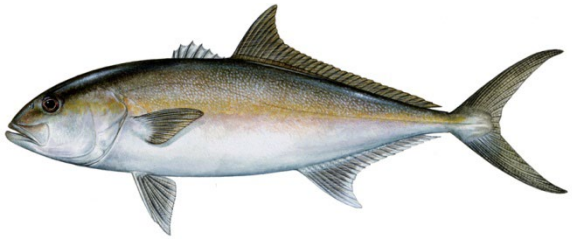
Draft Framework Action to Modify the Greater Amberjack Recreational Fixed Closed Season and Commercial Trip Limit



Draft Framework Action to the Fishery Management Plan for the Reef Fish Resources in the Gulf of Mexico

June 2023

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ENVIRONMENTAL ASSESSMENT COVER SHEET

Draft Framework Action to Modify the Greater Amberjack Recreational Fixed Closed Season and the Commercial Trip Limit

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This Environmental Assessment is being prepared using the 2020 CEQ NEPA Regulations as modified by the Phase I 2022 revisions. The effective date of the 2022 revisions was May 20, 2022, and reviews begun after this date are required to apply the 2020 regulations as modified by the Phase I revisions unless there is a clear and fundamental conflict with an applicable statute. This Environmental Assessment began on January 6, 2023 and accordingly proceeds under the 2020 regulations as modified by the Phase I revisions.

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
AM	accountability measure
BEA	Bureau of Economic Analysis
BiOp	biological opinion
BLL	bottom longline
CFR	code of federal regulations
CHTS	Coastal Household Telephone Survey
CFpA	cash flow per angler
Council	Gulf of Mexico Fishery Management Council
CS	consumer surplus
CV	coefficient of variation
Data Calibration FA	Gulf of Mexico Red Snapper Recreational Data Calibration and Recreational Catch Limits Framework Action
DLMToolkit	Data Limited Methods Toolkit
DPS	distinct population segment
EA	environmental assessment
EEZ	exclusive economic zone
EIS	economic impact statement
EFH	essential fish habitat
EFP	exempted fishing permit
EJ	environmental justice
E.O.	executive order
ESA	Endangered Species Act
F	fishing mortality rate
FES	fishing effort survey
FMP	Fishery Management Plan
GDP	Gross Domestic Product
GRSC	Great Red Snapper Count
GSAD	Gulf and South Atlantic Dealers
Gulf	Gulf of Mexico
gw	gutted weight
HCR	harvest control rule
IFQ	individual fishing quota
IPCC	Intergovernmental Panel on Climate Change
LDWF	Louisiana Department of Wildlife and Fisheries
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
mp	million pounds
MRIP	Marine Recreational Information Program
MSST	minimum stock size threshold
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

OFL	overfishing limit
PAH	polycyclic aromatic hydrocarbons
PS	producer surplus
PW	product weight
Reef Fish FMP	Fishery Management Plan for Reef Fish Resources in the Gulf of Mexico
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future actions
RIR	regulatory impact review
RQ	regional quotient
Secretary	Secretary of Commerce
SEDAR	Southeast Data and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SPR	spawning potential ratio
SRHS	Southeast Region Headboat Survey
SSC	Scientific and Statistical Committee
TAC	total allowable catch
TL	total length
TNR	trip net revenue
TPWD	Texas Parks and Wildlife Department
tpy	tons per year
UCB	uncharacterized bottom
VOC	volatile organic compounds
VMS	vessel monitoring system\
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

In 2020, a Southeast Data Assessment and Review (SEDAR) stock assessment was completed for Gulf of Mexico (Gulf) greater amberjack (SEDAR 70, 2020). The Gulf of Mexico Fishery Management Council's (Council) Scientific and Statistical Committee (SSC) reviewed the assessment results and concluded that greater amberjack is overfished and experiencing overfishing as of 2018. Since 2000, stock assessments have indicated the stock is overfished and undergoing overfishing and this condition has continued despite the implementation of several management measures to constrain catch and reduce the fishing mortality of juveniles (Table 1.1.1).

Table 1.1.1. Summary of stock assessments, outcomes, and subsequent management actions for greater amberjack.

Stock Assessment	Stock Status	Management Action
Turner et al. 2000	Overfished and overfishing	Secretarial Amendment 2 (GMFMC 2002)
SEDAR 9 2006	Overfished and overfishing	Amendment 30A (GMFMC 2008)
SEDAR 9 Update 2011	Overfished and overfishing	Amendment 35 (2012)
SEDAR 33 2014	Overfished and overfishing	Framework Action (2015)
SEDAR 33 Update 2016	Overfished and overfishing	Framework Action (2017)
SEDAR 70 2020	Overfished and overfishing	Amendment 54 (under review by Secretary of Commerce)

The results of SEDAR 70 required additional reductions to greater amberjack catch limits in order to meet the 2027 rebuilding timeline put in place through a 2017 framework action (GMFMC 2017a). The Council developed Reef Fish Amendment 54 (GMFMC 2023) to immediately end overfishing and modify the greater amberjack catch limits to target stock rebuilding by 2027. When implemented the amendment, when implemented will also adjust sector allocations.

Based on the results of SEDAR 70, the Council's SSC recommended a decrease in the overfishing level (OFL) and acceptable biological catch (ABC) to end overfishing of greater amberjack and allow the stock to meet its current rebuilding time. SEDAR 70 used updated recreational landings estimates from the Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES), which replaced the legacy Coastal Household Telephone Survey (CHTS) in 2018. Recreational landings estimates generated from MRIP–FES are generally higher than MRIP-CHTS estimates, and the Southeast Fisheries Science Center (SEFSC) completed an analysis that considered the resulting management advice from the prior stock assessment (SEDAR 33 Update) if MRIP-FES data had been available at the time. These results suggest that the stock annual catch limit (ACL) recommendations considered in Reef Fish

Amendment 54 would have resulted in a 65% - 83%[1] decrease in yield, depending on the year and allocation scenario. The harvest reductions in the projections necessary to end overfishing and rebuild the stock resulted in the Council requesting National Marine Fisheries Service (NMFS) to promulgate emergency regulations to modify the Gulf greater amberjack recreational fixed closed season, while development of Amendment 54 continued, to reduce overfishing and avoid a possible payback for the recreational sector from occurring that could have prevented a 2023/2024 fishing season (NMFS 2022).

In Amendment 54, the Council considered alternatives to modify the allocation of greater amberjack between the recreational and commercial sectors based on updated historical recreational harvest data and the associated alternative OFL and ABC recommendations provided by the SSC. The SSC's recommendations allowed for an increase in the allowable harvest over time. The Council determined that it was appropriate to update the allocation using the MRIP-FES adjusted data from 1993-2019 because this represented the longest time series during which commercial greater amberjack landings have been identified to species. However, the Council recognized that the greater amberjack stock is overfished and has not rebuilt as expected under the current and previous rebuilding plans. Thus, the Council determined that a more cautious approach was warranted and adopted a constant catch strategy, which retains lower catch levels than required by the SSC to increase likelihood of rebuilding the stock by 2027 (Table 1.1.2).

Table 1.1.2. OFL, ABC, total ACL, sector ACLs and sector ACTs, and allocation for greater amberjack as recommended by the Council in Reef Fish Amendment 54 (GMFMC 2023)[2]. Values are in lbs ww. The recreational portion of the catch limits uses MRIP-FES units.

Year	OFL	ABC	Total ACL	Rec ACL	Rec ACT	Com ACL	Com ACT	Allocation (Rec/Com)
2023 (22-23 Rec Fishing Year[3])	2,033,000	505,000	505,000	404,000	335,320	101,000	93,930	80:20

At its August 2022 meeting, the Council directed staff to begin of development of a framework action for greater amberjack to modify commercial and recreational management measures in order to extend the season for both sectors as much as possible under the reduced catch limits to be implemented with Amendment 54. These measures are addressed in this framework action and include modifications to the recreational fixed-closed season and modifications to the commercial trip limit.

Management Measures

[1] Based on the yield stream from 2023 through 2027.
[2] This amendment is under review and will be effective if approved by the Secretary of Commerce
[3] The recreational fishing year begins August 1 each year.

Recreational and commercial management measures for the harvest of greater amberjack are summarized in Table 1.1.3. The fishing year for commercial greater amberjack is January 1 – December 31 with a fixed-closed season from March 1 – May 31 (GMFMC 1981 and 1997). The fishing year for recreational greater amberjack is August 1 – July 31 with fixed closed seasons from November 1 – April 30 and June 1 – July 31 (GMFMC 2017a and 2017b) [4]. The minimum size limits for greater amberjack are: 36-inch fork length (FL) for the commercial sector (GMFMC 1989); and, 34-inch FL for the recreational sector (GMFMC 2015). The commercial trip limit is 1,000 lbs gutted weight (gw) with a step down to 250 lbs gw when 75% of the ACT has been harvested (GMFMC 2019). The recreational bag limit is one fish per person per day (GMFMC 1995).

Table 1.1.3. Recreational and commercial management measures for the harvest of greater amberjack.

	Recreational	Commercial
Fishing Year	Aug 1 – July 31	Jan 1 – Dec 31
Fixed Closed Season(s)	Nov 1 – Apr 30 and June 1 – July 31	Mar 1 – May 31
Minimum Size Limit	34-inch FL	36-inch FL
Bag/Trip Limit	1 fish per person per day	1,000 lbs gw until 75% of ACT is reached, then 250 lbs gw

Currently, the commercial and recreational sectors have ACTs set at 13% and 17% below their respective ACLs (GMFMC 2017a). If Reef Fish Amendment 54 (GMFMC 2023) is approved by the Secretary of Commerce, the buffer between the commercial ACL and ACT will be reduced from 13% to 7% while the recreational sector will maintain a 17% buffer. Both sectors have an in-season accountability measure (AM) such that when either sector's landings reach or are projected to reach its ACT, that sector is closed to harvest for the remainder of its fishing year. If either sector's landings exceed its ACL, then in the following fishing year, a post-season AM overage adjustment ("payback") is applied that reduces that sector's ACL in the following fishing year by the amount of the overage in the previous fishing year and adjusts the ACT accordingly (GMFMC 2008). Table 1.1.4 provides recreational landings, commercial landings, and total landings for greater amberjack from 1981 to 2021 compared to the reduced catch limits and OFL to be implemented with Amendment 54

Table 1.1.4. Commercial and recreational landings of greater amberjack for calendar years 1981-2021. Units in lbs whole weight (ww). Recreational portion of the landings in MRIP- FES units.

[4] An emergency rule, effective for 180 days starting July 25, 2022, modified the recreational fixed closed season to be August 1 – 31, 2022 and November 1, 2022 through July 31, 2023. On January 23, 2023, NMFS extended the emergency rule an additional 186 days. At the end of the emergency rule time period, or implementation of Reef Fish Amendment 54, whichever comes first, the recreational fixed closed season will revert back to what is presented in Table 1.1.3.

Year	Commercial	Recreational	Total (Com + Rec)
1981	232,739	1,535,588	1,768,327
1982	221,683	14,249,538	14,471,221
1983	276,074	8,744,054	9,020,128
1984	523,645	1,933,531	2,457,176
1985	761,646	5,788,808	6,550,454
1986	1,129,479	7,741,413	8,870,892
1987	1,561,381	18,301,807	19,863,188
1988	2,077,356	3,267,167	5,344,523
1989	1,968,751	8,948,748	10,917,499
1990	1,264,664	1,417,110	2,681,774
1991	1,782,934	6,030,388	7,813,322
1992	1,062,769	11,920,679	12,983,448
1993	1,623,943	4,857,808	6,481,751
1994	1,287,402	3,364,206	4,651,608
1995	1,243,250	1,109,144	2,352,394
1996	1,246,440	2,623,428	3,869,868
1997	1,069,462	2,211,032	3,280,494
1998	655,805	1,901,048	2,556,853
1999	728,441	2,540,025	3,268,466
2000	850,537	2,369,875	3,220,412
2001	706,405	2,270,655	2,977,060
2002	768,941	4,339,407	5,108,348
2003	960,552	6,463,326	7,423,878
2004	951,048	6,671,435	7,622,483
2005	717,170	3,262,366	3,979,536
2006	591,947	3,034,526	3,626,473
2007	587,865	1,287,113	1,874,978
2008	468,859	2,561,504	3,030,363
2009	594,833	2,482,621	3,077,454
2010	554,510	2,992,744	3,547,254
2011	519,564	2,082,231	2,601,795
2012	315,165	2,987,024	3,302,189
2013	471,301	3,217,306	3,688,607
2014	532,032	2,327,463	2,859,495
2015	500,613	2,618,841	3,119,454
2016	478,545	2,353,695	2,832,240
2017	484,024	1,011,487	1,495,511
2018	325,545	2,508,766	2,834,311
2019	362,126	701,480	1,063,606
2020	311,484	1,451,031	1,762,515
2021	328,092	945,542	1,273,634

2022	261,455	660,311	921,766

Source: Recreational landings from ACL dataset MRIP_FES_rec81_22wv6_01Mar23w2014to2021LAcreel.xlsx. Commercial landings from SEDAR 70 (2020) for 1981-2018 and ACL dataset WH_ACLs_2014-2022_12APR2023.xlsx for 2019-2022.

Modifications of the Greater Amberjack Fixed Closed Season

In January 2018, NMFS implemented a framework action[5] (GMFMC, 2017a) that modified the recreational fixed closed season for greater amberjack from June 1 through July 31 (established in Amendment 35 to the FMP [GMFMC, 2012]) to a longer closure that spanned each year from January 1 through June 30. The intent of the rule was to protect greater amberjack during their peak spawning months (March through April) in the majority of the Gulf, and modify catch limits to contribute to rebuilding the stock while a second framework was being developed, which would modify the recreational fishing year and again modify the recreational fixed closed season.

In April 2018, NMFS implemented a second framework action (GMFMC 2017b) that changed the Gulf recreational greater amberjack fishing year from January 1 – December 31 to August 1 – July 31. The intent of this change was to allow for greater amberjack recreational harvest to occur later in the year and provide an opportunity to harvest greater amberjack when harvest of many other reef fish species was prohibited due to in-season closures. In this framework action, the Council modified the recreation fixed closed season to be November 1 – April 30 and June 1 – July 31, to be more closely aligned with the newly modified fishing year, still protect greater amberjack during the spawning season, and allow for regional access. Starting the fishing year in August permitted the year's allowable harvest to begin in the fall, when harvest was historically lower. NMFS and the Council expected the recreational fixed closed season to reduce recreational landings, the likelihood of an in-season closure, and landings exceeding the recreational ACL, while still allowing for fishing to occur in different areas of the Gulf during different peak times (spring or fall) for fishermen depending on their location.

At the Council's request, NMFS recently issued (87 FR 44027; July 25, 2022), and extended (87 FR 77526; December 19, 2022), an emergency rule that adjusted the recreational fixed closed season to only allow recreational harvest from September 1 through October 31 for the 2022-2023 fishing year. This emergency rule will be in effect only through the end of the 2022-2023 fishing year (i.e., expires July 28, 2023), or until Reef Fish Amendment 54 becomes effective, after which previous measures will return to being effective (Table 1.1.3).

Because the emergency rule will expire at the end of the 2022/2023 greater amberjack recreational fishing year, the Council is considering more permanent changes to the fixed closed season in order to reduce the likelihood of exceeding the recreational ACL, while also allowing recreational fishermen the longest opportunity to harvest greater amberjack.

[5] https://www.federalregister.gov/documents/2018/01/26/2018-01374/fisheries-of-the-caribbean-gulf-of-mexico-and-south-atlantic-reef-fish-fishery-of-the-gulf-of-mexico

Modifications of Greater Amberjack Commercial Trip Limits

A commercial trip limit is a cap on the amount of fish (either numbers or weight) that may be possessed on board or landed, purchased, or sold from a federally permitted commercial vessel per trip. Federal commercial trip limits may not be combined with any trip or possession limits applicable to state waters. Greater amberjack harvested in the Exclusive Economic Zone (EEZ) cannot be transferred at sea, regardless of where such transfer takes place. The commercial sector harvest of greater amberjack is managed to an ACT and harvest is closed for the remainder of the fishing year when the ACT is met or projected to be met. The commercial season opens January 1 each year, has a fixed closed season from March 1 through May 31 to protect the stock during the spawning period, and re-opens on June 1 if the ACT has not yet been met. Greater amberjack is no longer a common target species for the reef fish commercial sector and is typically caught while fishermen are targeting other reef fish. As a result, the majority (greater than 50%) of Gulf reef fish commercial trips land less than 500 lbs gutted weight (gw) of greater amberjack.

As catch limits have been reduced for greater amberjack, the Council has reduced the commercial trip limits to 2,000 lbs whole weight (ww) (1,923 lbs gw) in 2013 (GMFMC 2012), and to 1,500 lbs gw in 2016 (GMFMC 2015). In a 2020 final rule (85 FR 20611; April 14, 2020), the Gulf greater amberjack commercial trip limit (was reduced again, this time to 1,000 lbs gw, with a step down to 250 lbs gw when 75% of the commercial ACT has been landed) (GMFMC 2019). Before the implementation of the current trip limit, commercial landings for greater amberjack routinely met the ACT before the end of the commercial fishing year, requiring an in-season closure and, if necessary, a payback of any overage in excess of the commercial ACL. Because greater amberjack is now mostly caught incidentally and may or may not be specifically targeted, the majority of commercial fishermen have expressed during public comment to the Council that they prefer as long of a fishing season as possible (as opposed to a higher trip limit). However, there still is a portion of the fishery that prefers higher trip limits so direct harvest can continue.

In order to meet the need to extend the commercial season as long as possible under reduced greater amberjack catch limits that have occurred over the years while still allowing direct harvest to continue, the Council has reduced the commercial trip limit to 2,000 lbs whole weight (ww) (1,923 lbs gw) in 2013 (GMFMC 2012) and to 1,500 lbs gw in 2016 (GMFMC 2015). Under the current trip limit, an in-season closure of the commercial sector for greater amberjack was still expected to occur as a result of the commercial ACT being reached, but was expected to occur later in the fishing year than in-season closures in prior years. Since implementation of the 1,000-lbs gw trip limit, the commercial ACT has not been met, nor has the 250-lbs gw trip limit that is put in place when 75% of the ACT is met been triggered. However, the expected substantial catch limit reductions expected with the implementation of Amendment 54, it is necessary to reevaluate the commercial trip limit. Further, commercial trip limit reductions may increase the commercial fishing season duration, thereby potentially extending potential opportunities for more of the fishing year.

1.2 Purpose and Need

The purpose of this framework action is to modify the greater amberjack recreational fixed-closed season and commercial trip limit to extend the fishing season durations.

The need for this framework action is to maintain recreational and commercial access to the greater amberjack component of the reef fish fishery with expected substantial decreases to the ACL as part of Amendment 54 while targeting the objectives of the greater amberjack rebuilding plan.

1.3 History of Management

The **Reef Fish FMP** (with environmental impact statement [EIS]) was implemented in November 1984 and set a calendar fishing year for those species in the FMP. The original list of species included in the management unit consisted of snappers, groupers, and sea basses. *Seriola* species, including greater amberjack, were in a second list of species included in the fishery, but not in the management unit. The species in this list were not considered to be target species, because they were generally taken incidentally to the directed fishery for species in the management unit. Their inclusion in the Reef Fish FMP was for purposes of data collection, and their take was not regulated. This history of management covers actions pertinent to the harvest of Gulf greater amberjack. A complete history of management for the Reef Fish Fishery Management Plan (Reef Fish FMP) is available on the Council's website.[6]

Amendment 1 (with environmental assessment [EA], regulatory impact review [RIR], and regulatory flexibility analyses [RFA]) implemented in 1990, added greater amberjack and lesser amberjack to the list of species in the management unit. It set a greater amberjack recreational minimum size limit of 28 inches fork length (FL), a 3-fish recreational bag limit, and a commercial minimum size limit of 36 inches FL.

Amendment 12 (with EA, RIR, and RFA), implemented in 1997, reduced the greater amberjack bag limit from three fish to one fish per person, and created an aggregate bag limit of 20 reef fish for all reef fish species not having a bag limit (including lesser amberjack, banded rudderfish, and almaco jack). Check about minimum size limit for jacks

Amendment 15 (with EA, RIR, and RFA), implemented in 1998, established a fixed closed season for the commercial harvest of greater amberjack in the Gulf during the months of March, April, and May.

Amendment 16b set a slot limit for banded rudderfish and lesser amberjack of 14 inches to 22 inches FL, and set an aggregate recreational bag limit of 5 fish for banded rudderfish and lesser amberjack to reduce harvest of misidentified juvenile greater amberjack.

[6] http://www.gulfcouncil.org/fishery_management_plans/reef_fish_management.php

Generic Sustainable Fisheries Act Amendment (with EA), partially approved and implemented in 1999, set the maximum fishing mortality threshold (MFMT) for greater amberjack at the fishing mortality necessary to achieve 30% of the unfished spawning potential ratio (SPR) F30% SPR.

Secretarial Amendment 2 (with EA, RIR, and RFA), implemented in 2003, specified maximum sustainable yield (MSY) for greater amberjack as the yield associated with $F_{30\% SPR}$ (proxy for fishing mortality rate corresponding to an equilibrium yield of MSY [F_{MSY}]) when the stock is at equilibrium, optimum yield as the yield associated with an $F_{40\% SPR}$ when the stock is at equilibrium, MFMT equal to $F_{30\%SPR}$, and minimum stock size threshold (MSST) equal to (1-M)*B_{MSY} (where M = natural mortality and B_{MSY} = stock biomass level capable of producing an equilibrium yield of MSY) or 75% of B_{MSY}. It also set a rebuilding plan expected to rebuild the stock in 7 years (by 2009). Regulations implemented in 1997 and 1998 (Amendments 12 and 15) were deemed sufficient to comply with the rebuilding plan so no new regulations were implemented.

Amendment 30A (with EIS, RIR, and RFA), implemented in 2008, was developed to stop overfishing of greater amberjack. The amendment established ACLs and AMs for greater amberjack. The rebuilding plan was modified to be rebuilt by 2012, the recreational minimum size limit was increased to 30 inches FL, and a zero bag limit was implemented for captain and crew of for-hire vessels. **Amendment 30A** also established an allocation for greater amberjack harvest of 73% recreational and 27% commercial, which would be in effect until such time that the Council, through the recommendations of an Ad Hoc Allocation Committee, could implement a separate amendment that fairly and equitably allocated Reef Fish FMP resources between recreational and commercial sectors.

A Regulatory Amendment (with EA, RIR, and RFA), implemented in 2011, specified the greater amberjack recreational fixed closed season during the months of June and July. The intended effect of this final rule was to mitigate the social and economic impacts associated with implementing in-season closures.

Amendment 35 (with EA, RIR, and RFA), implemented in 2012 in response to a 2010 update stock assessment, modified the greater amberjack rebuilding plan and established a reduced the total stock ACL and set it equal to the ABC. Reducing the ABC by 18% was expected to end overfishing. The rule also established a commercial trip limit of 2,000 lbs ww throughout the fishing year and set commercial and recreational ACTs.

2015 Framework Action (with EA, RIR, and RFA), implemented in 2016 created a new rebuilding plan (stock rebuilt by 2019), reduced the total stock ACL, reduced the commercial trip limit from 2,000 lbs ww to 1,500 lbs gw, and increased the recreational minimum size limit from 30 inches FL to 34 inches FL.

Amendment 44 (with EA), was implemented in December 21, 2017. This amendment changed the MSST for seven species in the Reef Fish FMP. For greater amberjack the MSST was set as (1-M)* $B_{30\% SPR}$. After the approval of Amendment 44, the greater amberjack stock was still classified as overfished and undergoing overfishing.

The Council approved two framework actions in 2017 that addressed management of Gulf greater amberjack. **Modifications to Greater Amberjack Allowable Harvest and Rebuilding Plan** (with EA, RIR, and RFA), implemented on January 27, 2018 modified the rebuilding time period to end in 2027 and set the sector-specific ACLs and ACTs for 2018 to 2020 and beyond. In addition, this framework action modified the fixed season closure for the recreational sector to be January 1 through June 30 each year.

Modifications to the Greater Amberjack Fishing Year and the Recreational Fixed Closed Season (with EA, RIR, and RFA), implemented on April 20, 2018 modified the recreational fishing year to begin on August 1 and run through July 31 of the following year. It also modified the fixed closed season so that recreational harvest is prohibited from November 1 – April 30 and June 1 – July 31. The framework was implemented on April 30, 2018.

2019 Framework Action (with EA, RIR, and RFA), implemented in 2020 reduced the commercial trip limit from 1,500 lbs gw to 1,000 lbs gw with a step down to 250 lbs gw when 75% of the commercial ACL was harvested.

2022 Emergency Rule modified the recreational fixed closed season to be August 1 – 31, 2022 and November 1, 2022 through July 31, 2023. The rule became effective July 25, 2022 and was extended on January 23, 2023.

Amendment 54 (with EA, RIR, and RFA), which was completed in response to a 2020 stock assessment, modified the greater amberjack rebuilding plan including changes to catch limits and sector allocations. This Amendment was transmitted to the Secretary in January 2023 and is currently in the rulemaking process[7].

[7] https://www.federalregister.gov/documents/2023/03/02/2023-04219/fisheries-of-the-caribbean-gulf-of-mexico-and-south-atlantic-reef-fish-fishery-of-the-gulf-of-mexico

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modify the Recreational Fixed Closed Season for Greater Amberjack

Alternative 1: No Action. Do not modify the current recreational fixed closed season. The current fixed closed season is November 1 – April 30 and June 1 – July 31 (open August 1 – October 31 and May 1 – May 31).[8]

Alternative 2: Modify the recreational fixed closed season to be September 1 – July 31 (open August 1 – August 31).

Alternative 3: Modify the recreational fixed closed season to be August 1 – August 31 and November 1 – July 31 (open September 1 – October 31).

Alternative 4: Modify the recreational fixed closed season to be August 1 – October 31 and January 1 – July 31 (open November 1 – December 31).

Alternative 5: Modify the recreational fixed closed season to be August 1 – August 31, November 1 – April 30, and June 1 - July 31 (open September 1 – October 31 and May 1 - 31).

Alternative 6: Modify the recreational fixed closed season to be August 1 – August 31, October 1 – April 30, and June 1 - July 31 (open September 1 – 31 and May 1 - 31).

Discussion:

An analysis of the projected season duration for each alternative was prepared and can be found in Appendix A. **Alternative 1** maintains the current regulatory recreational fixed closed season from November 1 – April 30 and June 1 – July 31. The current recreational fixed closed season was originally put in place to extend the season, allow for harvest of a species when others are closed, and to provide better regional access to greater amberjack (GMFMC 2017). Fishermen expressed interest in regional access due to varied timing for when they prefer to fish for greater amberjack; fall for the western Gulf of Mexico (Gulf) and spring for the eastern and northern Gulf. Due to the reduction in allowable harvest in Amendment 54 to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP; GMFMC 2023) the Council is considering changing the recreational fixed closed season to extend fishing opportunities for more of the recreational fishing year.

Splitting recreational fishing into two open seasons was intended to allow greater amberjack to be harvested during times of the year when the harvest of many other reef fish species was

[8] An emergency rule, effective July 25, 2022, modified the recreational fixed closed season to be August 1 – 31, 2022 and November 1, 2022 through July 31, 2023 for the 2022/2023 fishing year. The emergency rule was extended so that it would last the full 2022/2023 fishing year on January 23, 2023.

prohibited due to in-season closures. By starting the fishing year in August, when fishing effort is lower than in the peak spring months, the National Marine Fisheries Service (NMFS) and the Gulf of Mexico Fishery Management Council (Council) expected enough of the recreational annual catch target (ACT) to remain to allow for harvesting fish during May of the following calendar year, and allow for regional considerations for the fishing season. The split season (i.e., open August 1 – October 31, open May 1 – 31) has not always worked as intended. In the 2018/2019 fishing year, the May recreational season did not open because the recreational catch limit was caught in the August 1 – October 31 fishing season. However, this may have occurred due to initial change in fishing effort that occurred after multiple changes to the recreational fixed closed season in a short timeframe. The May season has occurred in every fishing year since then until the emergency rule[9] was implemented. Based on the current projections of recreational harvest under the proposed catch limits from Amendment 54, the estimated harvest is expected to reach the ACT by mid-August (Table 2.1.1) under **Alternatives 1** and **2**. By modifying the fixed closed season under **Alternatives 3 - 6,** the season is expected to be longer. However, the recreational sector is subject to in-season closure whenever the ACT is projected to be met. The recreational season duration projection analyses (Appendix A) indicated, that for every considered alternative, it was likely the season would close before attaining the maximum possible number of fishing season days.

Alternative 1 results in a very short projected season duration of only 21 days (Table 2.1.1). The projections in **Alternative 1** and **2** rely on the assumption that future year harvest rates will be similar to recent past years; however, it is possible that fishing effort may change from previous seasons due to the shorter season set in either **Alternative 1** or **2.** Due to the short projected season duration under the proposed Reef Fish Amendment 54 (GMFMC 2023) catch limits, "derby-like" (a race to fish before the season ends) effort from recreational anglers may occur resulting in an even shorter season in the future. This also increases the possibility of the annual catch limit (ACL) being exceeded as it is difficult to accurately estimate landings within the season given the lag between when fishing takes place and landing estimates are available (e.g. recreational landing estimates from August would not be available until mid-October, and landings estimates from September and October would not be available until mid-December). When fishing seasons open and close within a data collection wave[10], there is no time to evaluate those landings data to ensure precision in closing the fishery when the ACL is expected to be met. Therefore, a season closure date would be projected prior to receiving any landings data in a given year. Large overages of the ACL under **Alternative 1** could still occur even if a projection shows the ACL isn't expected to be reached. Since greater amberjack is under a rebuilding plan until 2027, reduced catch limits will continue. Therefore, short seasons under **Alternative 1** are expected for the next five years.

Like **Alternative 1, Alternative 2** results in the same projected season duration of 21 days (Table 2.1.1) since both alternatives open on the same day. The same shifts in effort are also

[9] An emergency rule, effective July 25, 2022, modified the recreational fixed closed season to be August 1 – 31, 2022 and November 1, 2022 through July 31, 2023 for the 2022/2023 fishing year. The emergency rule was extended so that it would last the full 2022/2023 fishing year on January 23, 2023.

[10] MRIP-FES collects data in six 2-month waves (wave 1: January and February; wave 2: March and April; and so on), with preliminary landings estimates from those waves available beginning 45 days after the end of that wave.

expected with **Alternative 2**. Retaining an August 1 open date under either **Alternative 1** or **2** could also result in greater fishing effort (or catch rate) relative to the other alternatives due to fishermen concentrating effort during the fall. As noted above, these projections rely on the assumption that future year harvest rates will be similar to recent past years; however, it is possible that fishing effort may change from previous seasons due to the shorter season duration set in **Alternative 1** and **2** and an ACL overage could occur.

The projected season duration under **Alternative 3** is longer than either **Alternative 1** or **2** (56 days, Table 2.1.1). **Alternative 3** is consistent with the 2022 Emergency Rule that modified the recreational fixed closed season to be August 1 – 31, 2022 and November 1, 2022 through July 31, 2023. **Alternative 3** is projected to result in lower landings than **Alternatives 1** and **2** due to less fishing pressure historically occurring later in the fall (Appendix A: Figure 1). Additionally, the increase in season duration length may reduce "derby-like" behavior compared to **Alternatives 1** and **2.** Modifying the fixed closed season on a could increase daily effort in the season in comparison to previous fishing years. Heavy effort like is seen for an August 1 start date may switch to September 1 as fishermen adjust their fishing practices to meet the new season requirements.

There is not enough recent data to support a season duration projection for **Alternative 4** (Table 2.1.1). Landings for the months of November and December have not occurred for over a decade. Additionally, multiple management measure changes have occurred for greater amberjack and the recreational sector during this time. However, it could be assumed that similar fishing pressure as **Alternative 3** would be observed because fishing pressure is generally lower in the fall when compared to the current fixed closed seasons.

While **Alternative 5** results in the same season duration projections as **Alternative 3** (56 days), final landings under the emergency rule for the 2022/2023 fishing year were approximately 5,000 lbs under the Amendment 54 ACT of 335,320 lbs. Adding the month of May to be open under **Alternative 5** would allow the season to be extended if the ACT were not harvested in the fall; however, it is unlikely that the fishing season would reopen in May if only a small portion of the recreational ACT remains (e.g. 5,000 lbs). This Alternative is intended to provide improved regional access to greater amberjack by allowing for harvest in the fall (preference of fishermen in the western Gulf) and, landings depending, in the spring (preference of fishermen in the eastern and northern Gulf). However, it should be noted that a large amount of uncertainty surrounds future landings due to unknowns about how effort may shift under a permanent change to the fixed closed season. Therefore, it is possible that a May opening will not occur under **Alternative 5** based on the catch limits in Amendment 54.

Alternative 6 meets the same need as **Alternative 1** and **Alternative 5** to provide the opportunity for improved regional access to greater amberjack and also provides a higher probability that improved access occurs due to fishing only being open one month in the fall and one month in the spring. While uncertainty surrounds future landings due to possible effort shifting, there has been a historic trend of lower landings occurring later in the fall. Looking at the landings per year or averaged for the month of September results in some fish left over to be harvested in May. However, like **Alternative 5,** a May season may not be realized under

Alternative 6 if landings increase substantially for the month of September to levels observed during the August openings.

Overall, **Alternatives 1** and **2** result in the least amount of open fishing days. Additionally, neither Alternative meets the original needs of the 2017 Framework (GMFMC 2017) to extend the season duration, allow for harvest of a species when others are closed, and provide improved regional access to greater amberjack. **Alternatives 3, 5,** and **6** all result in a similar number of open fishing days and address the need to extend the season duration and allow for harvest of a species when others are closed. However, only **Alternatives 5** and **6** still address the original need to allow the opportunity for improved regional access. It is difficult to compare **Alternative 4** to the other alternatives because it is not possible to estimate the season duration. However, due to historic lower fishing pressure occurring in the fall and the maximum amount of possible open fishing days, it is assumed to be similar to **Alternatives 3, 5,** and **6,** but does not provide the regional access opportunity like **Alternatives 5** and **6.**

Table 2.1.1. Summary of the open months, maximum season duration, recreational ACL, recreational ACT, projected ACT met date, and resulting open fishing days.

Recreational Open Month Alternatives	Max Open Days	Rec ACL	Rec ACT	Projected ACT Met Date	Projected Days Open
Alt. 1: Aug 1-Oct 31; May 1-31	123	404,000	335,320	August 21	21
Alt. 2: Aug 1-31	31	404,000	335,320	August 21	21
Alt. 3: Sep 1-Oct 31	61	404,000	335,320	October 26	56
Alt. 4: Nov 1-Dec 31	61	404,000	335,320	Not projected due to lack of landings data	N/A
Alt. 5: Sep 1-Oct 31 and May 1-31	92	404,000	335,320	October 26	56
Alt. 6: Sep 1-31 and May 1-31	61	404,000	335,320	May 18	49

Note: Values are in pounds whole weight. The ACL and ACT listed are from Reef Fish Amendment 54 and are in MRIP-FES units.

2.2 Action 2: Modify the Greater Amberjack Commercial Trip Limit

Alternative 1: No Action. Do not modify the current commercial trip limit for Gulf greater amberjack of 1,000 lbs gutted weight (gw) (1,040 lbs whole weight [ww]). When 75% of the ACT is projected to be met, reduce the commercial trip limit to 250 lbs gw (260 lbs ww).

Alternative 2: Establish a commercial trip limit for Gulf greater amberjack of 250 lbs gw (260 lbs ww).

Alternative 3: Establish a commercial trip limit of 7 fish (~ 210 lbs gw [218 lbs ww]).

Alternative 4: Establish a commercial trip limit of 5 fish (~ 150 lbs gw [155 lbs ww]).

Discussion:

Commercially harvested greater amberjack are typically landed gutted rather than whole. Therefore, the management alternatives are provided in gw with equivalent ww conversions noted in parentheses where applicable.

In 2020, the commercial trip limit was reduced from 1,500 lb gw to 1,000 lbs gw with a step-down to 250 lbs gutted weight (gw) when 75% of the commercial ACT is harvested. This reduced the number of trips presumed to directly target greater amberjack (those trips with landings equal to or greater than 500 lb ww); although, some still do occur (Figure 2.2.1). Most commercial fishermen have moved to incidentally harvesting greater amberjack (500 lbs or less) as they stated a trip limit of less than 1,500 lbs made greater amberjack no longer economically viable as a direct harvest species. As with Action 1 for the recreational sector, further reductions in the commercial trip limit are considered in this action in order to extend the days open. While this would further reduce or possibly eliminate direct harvest of greater amberjack, commercial fishermen have expressed a desire for a longer season. A description of the commercial season projection analyses for each alternative can be found in Appendix B.

Since the effectiveness of the current trip limit in May 2020 (i.e. **Alternative 1**), approximately 60% of trips harvest less than 500 lbs gw. (Figure 2.2.1). Approximately 22% percent of trips

harvested between 751 lbs gw and 1,000 lbs gw per trip, suggest some commercial harvest up to the allowable trip limit with approximately 6% of commercial harvest in excess of the trip limit. However, this could be a result of fishermen underestimating the weight of their fish while out at sea. The step-down provision to 250 lbs gw has never been implemented because 75% of the commercial ACT has never been reached since the step-down provision has been effective. However, given the 83% decrease in commercial catch limits that would be implemented under Reef Fish Amendment 54, it is more likely that the lower ACT in future fishing seasons will be fully utilized, even with the step-down provision (**Alternative 1)** that is intended to slow harvest as the ACT is approached (Table 2.2.1).

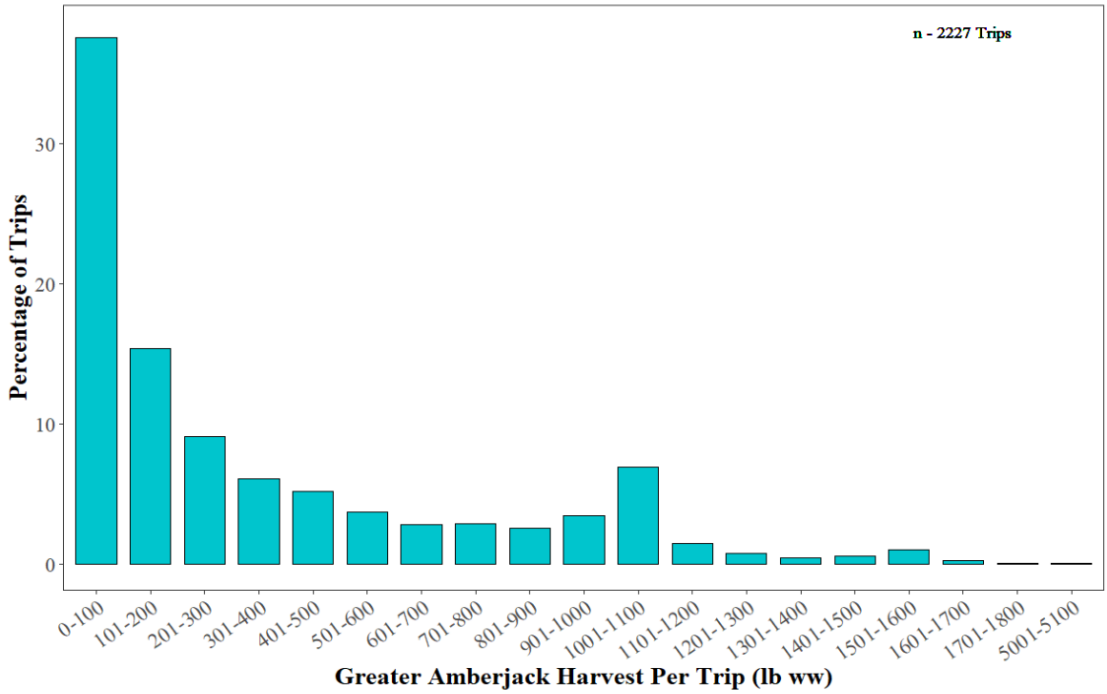

Figure 2.2.1. Distribution of Gulf of Mexico greater amberjack harvested per trip from the SEFSC Commercial Logbook program between 2020 and 2022, all years combined (lbs ww). Commercial logbook data were provided by the SEFSC on March 1, 2023.

Table 2.2.1. Summary of commercial season projection analyses results. These analyses targeted an ACL of 101,000 lbs gw and ACT of 93,930 lbs gw. The maximum season duration is 273 days.

Commercial Trip Limit Alternatives	Projected Closure Date	Days Open	Predicted Change in Annual Landings (%)	Proportion of Trips Landing the Trip Limit or less (%)
Alt. 1: No Action	June 5 (Step down – February 4)	63	0.0	93.6
Alt 2: 250 lbs gw (260 lbs ww)	September 5	155	-55.9	58.6
Alt 3: 7 fish ~210 lbs gw (218 lbs ww)	October 5	185	-60.8	54.6

Commercial Trip Limit Alternatives	Projected Closure Date	Days Open	Predicted Change in Annual Landings (%)	Proportion of Trips Landing the Trip Limit or less (%)
Alt 4: 5 fish ~150 lbs gw (155 lbs ww)	None	273	-69.2	47.5

The Council's Reef Fish Advisory Panel (Reef Fish AP) discussed greater amberjack commercial trip limits at its October 2022 meeting. The Reef Fish AP discussed that the stock is depleted and that the commercial reef fish fishery currently treats greater amberjack as a bycatch fishery given the low abundance and previous implementation of trip limits. The Reef Fish AP discussed that further reductions in trip limits may be necessary to promote recovery of the stock and allow for an extended season. The Reef Fish AP also discussed the variability in the weights observed of greater amberjack and recommended setting a trip limit in numbers of fish instead of pounds.

Alternatives 2-4 would establish a new commercial trip limit lower than specified in **Alternative 1**. **Alternative 2** will implement a commercial trip limit of 250 lbs gw and is intended to reduce greater amberjack harvest rate by the commercial fleet in an effort to extend the season duration while retaining a trip limit reduction that was originally acceptable as a step-down amount by stakeholders. If implemented, this alternative will likely further reduce the commercial greater amberjack fishery to an opportunistic (rather than targeted) fishery. **Alternative 2** is expected to result in markedly reduced harvest of greater amberjack on trips where greater amberjack are harvested, because only 46% of trips from recent years harvested less than 250 lb (Figure 2.2.1). Thus, **Alternative 2** is expected to reduce greater amberjack harvest on 54% of trips landing greater amberjack and is expected to extend the season duration as compared to **Alternative 1**. **Alternatives 3** and **4** incorporate trip limits expressed in numbers of fish rather than pounds in response to the Reef Fish AP's recommendation.

Alternative 3 would implement a commercial trip limit of 7 greater amberjack while **Alternative 4** would implement a commercial trip limit of 5 greater amberjack. The intent of **Alternatives 3** and **4** is to make it easier for commercial fishermen to know when they have harvested their trip limit as recommended by the Reef Fish AP while extending the season longer than **Alternatives 1** and **2**. Figure 2.2.1 demonstrates that approximately 6% of trips that harvest greater amberjack exceed the current commercial trip limit. Although there may be several reasons for this, at least some of the reason may be attributable to difficulty in accurately estimating the weight of landed greater amberjack. In comparison to **Alternatives 1** and **2**, **Alternative 3** is intended to further reduce trip limits while retaining a trip limit that is similar to what is caught on most commercial trips harvesting greater amberjack. Using commercial data from 2019-2021, the average weight of greater amberjack is 30 lb gw and on average, equivalent to a 210 lb gw trip limit. **Alternative 4** is the most restrictive of the alternatives; however, the intent is to reduce the trip limit in order to result in the longest commercial season duration compared to **Alternatives 1-3**.

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GMFMC = Gulf of Mexico Fishery Management Council; NOAA GC = National Oceanic and Atmospheric Administration General Counsel; SEFSC = Southeast Fisheries Science Center; SERO = Southeast Regional Office of the National Marine Fisheries Service

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APPENDIX A: RECREATIONAL SEASON PROJECTION ANALYSES

Greater amberjack (*Seriola dumerili*) are one of 31 reef fish species managed by the Gulf of Mexico Fishery Management Council (Council). Greater amberjack are in the Council's Fishery Management Plan (FMP) for the Reef Fish Resources of the Gulf of Mexico. The FMP provides management for reef fish species in the federal waters of the Gulf of Mexico.

In 2020, a stock assessment was conducted for the Gulf of Mexico greater amberjack (SEDAR 70). Results from the assessment showed the greater amberjack stock is overfished and experiencing overfishing. A Framework Action is currently being drafted and its purpose is to restrict harvest by modifying the recreational fixed closed season. The current management measures for the recreational sector are a closed fixed season from November 1 through April 30 and June 1 through July 31 (open May 1 – May 31 and August 1 – October 31), minimum size of 34 inches fork length, and one greater amberjack per angler bag limit. Additionally, the current fishing year is from August 1st to July 31st. The Framework Action is looking to change the fixed closed season to be January 1 – July 31, September 1 – December 31 (open August 1 – August 31), January 1 – August 31, November 1 – December 31 (open September 1 – October 31), or January 1 – October 31, (open November 1 – December 31), August 1 – August 31, November 1 – April 30, and June 1 - July 31 (open September 1 – October 31 and May 1 - 31), and August 1 – August 31, October 1 – April 30, and June 1 - July 31 (open September 1 – 31 and May 1 - 31).

The Framework Action is considering different fixed season with the goal of reducing harvest to prevent the 2023 proposed ACT alternatives in Reef Fish Amendment 54 from being exceeded. Amendment 54 is still under development however the current preferred alternative ACT is 335,320 pounds whole weight (lbs ww). Therefore, this analysis of the fixed closed seasons compares predicted landings to the ACT of 335,320 lbs ww.

Data Sources

Recreational landings data for Gulf of Mexico greater amberjack are a collection of recreational landings from the Marine Recreational Information Program (MRIP), the Texas Parks and Wildlife Department (TPWD) Creel Survey, Louisiana Creel survey (LA Creel) and the Headboat Survey (Headboat). This data was provided from the Southeast Fisheries Science Center on March 1, 2023, and following SEDAR 70 the MRIP data used is from the Fishing Effort Survey. MRIP, TPWD, and LA Creel conducted dockside intercepts to collect information on the size and number of greater amberjack. Headboat collected size and number of greater amberjack through logbooks completed by headboat operators.

Predicted Landings

The Framework Action currently being drafted will be imposed on future fishing years. However, the proposed Reef Fish Amendment 54 has 2023 catch limits assigned to the 2023/2024 recreational fishing year. An estimate of future landings are required to explore the impact of different fixed seasons and estimate when the ACT from Amendment 54 is expected to be met. The greater amberjack recreational fishery has had several regulatory changes over the

past seven years. For example, there have been changes to the start of the fishing year, bag limit, size limit, and changes to the periods of time when the recreational sector was open. Additionally, there have been numerous closures of the recreational sector since 2014. Since the recreational sector has had numerous regulation changes and closures over the past seven years it was assumed that landings in recent years are the best predictor of future landings. The Framework Acton is only considering changes to the fixed closed season in the months of May and from August through December, therefore predicted landings are only needed for these specific months. The landings were separated from two-month waves into single months by assuming the landings were uniform within a wave. However, if one of the months in a wave had a fixed closure then it was assumed all of the landings in that wave came from the open month in the wave. For example, the recreational sector has a fixed closure of July so all of the landings from the July/August wave were assumed to come from August. Predicted August recreational landings came from a three-year average of monthly landings from 2019, 2020, and 2021. Landings from August of 2022 were not used because there was a closure of the recreational sector at that time. Predicted October and September recreational landings came from a three-year average of 2020, 2021, and 2022 landings. Predicted May recreational landings came from a three-year average of 2020, 2021, and 2022 landings. Table 1 and Figure 1 provide the predicted landings from August through September. Alternative 4 of Action 1 considers having a closed season the entire year except November 1 through December 31. A reliable prediction of recreational landings for November and December is not possible because the greater amberjack recreational sector has been closed in these two months for over a decade. The last time the greater amberjack recreational sector was open in these two months was 2013. The greater amberjack recreational sector has had numerous changes since 2013 such as a change to the size limit, changes in stock abundance, changes in average size, and these changes prevents using recreational landings before 2013 for a reliable prediction of recreational landings in November and December.

Table 1. Predicted Gulf of Mexico greater amberjack recreational landings for August through October. These landings were generated from 2019 through 2022 landings.

Month	Average Landings
August	519,272
September	182,194
October	188,267
May	271,215

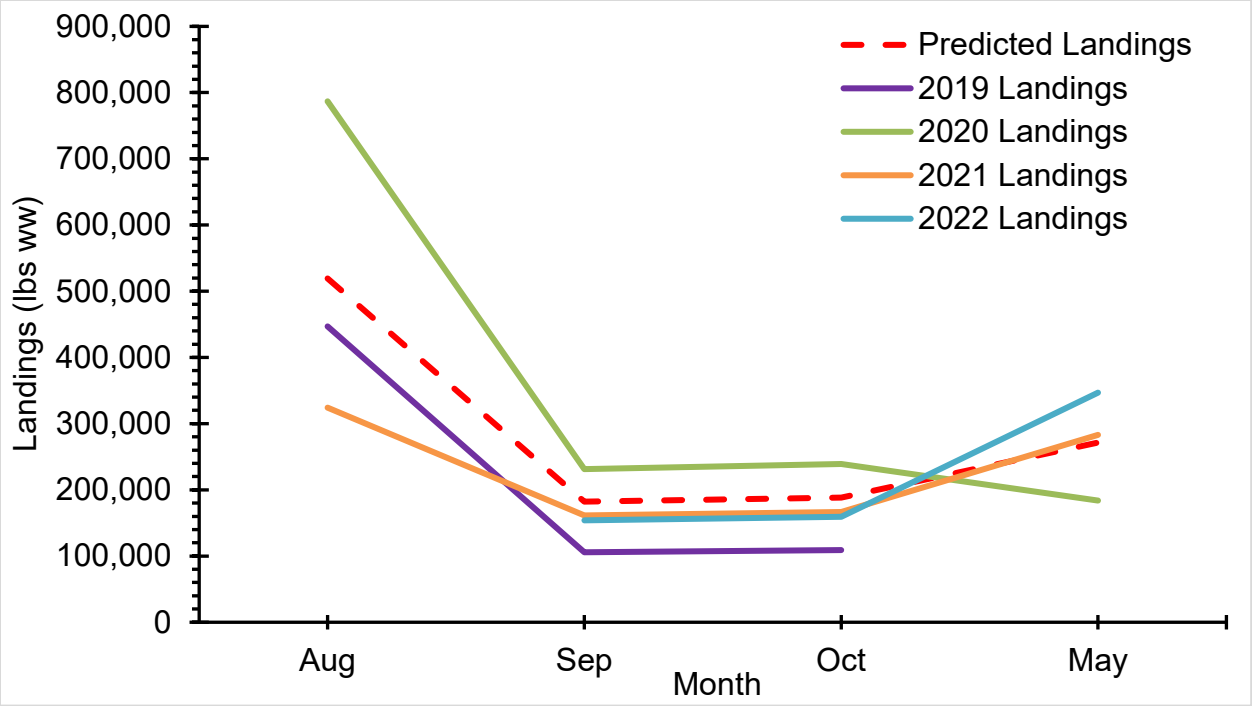

Figure 1. Gulf of Mexico greater amberjack recreational landings by month for August through October then for May from 2019, 2020, 2021, and 2022, and also an average of these landings (Predicted Landings). Only landings for years and month when the recreational sector was open are provided in the figure. All landings are in pounds whole weight (lbs ww).

Predicted Closure Dates

Closure dates were determined from assuming uniform landings in each month and determining the landings per day for the predicted landings. Then the landings per day are cumulatively summed and comparing them to the preferred Alternative 2023 ACT stated in Reef Fish Amendment 54. Table 2 provides the predicted closure dates under the various proposed fixed closed seasons for the Framework Action.

Table 2. The projected dates the proposed Amendment 54 2023 ACT (335,320 lbs ww) would be met for the greater amberjack recreational sector for the range of fixed closed seasons from the Framework Action. No prediction was made for November and December due to lack of recreational landings from closures during these two months.

Alternative	Open Period	ACT Met Date
1	August 1-October 31, May 1-31	21-Aug
2	August 1-31	21-Aug
3	September 1-October 31	26-Oct
4	November 1-December 31	Not Predicted (due to lack of landings data)
5	September 1-October 31, May 1-31	26-Oct
6	September 1-30, May 1-31	18-May

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APPENDIX B: COMMERCIAL SEASON PROJECTION ANALYSES

The Gulf of Mexico Fisheries Management Council is considering changes to the commercial greater amberjack (*Seriola dumerili*) trip limit implemented in April 2020 with a 2019 Framework Action. The current commercial trip limit is 1,040 pounds whole weight (1,000 pounds gutted weight) per trip, with a reduction to 260 pound whole weight (250 pounds gutted weight) per trip when 75% of the commercial Annual Catch Target (ACT) has been landed. Reef Fish Amendment 54 proposes a 75% reduction in the greater amberjack ACT, from 421,411 lb ww to 93,930 lb ww. The following analysis explores how proposed changes to the trip limit in a 2023 Framework Action may impact commercial landings and season length for greater amberjack, with the modified ACT. This analysis evaluates the impact of four trip limit alternatives stated in the 2023 Framework Action: no action (current trip limit), 260 lb ww (250 lb gw), 218 lb ww (210 lb gw), and 155 lb ww (150 lb gw) trip limits, under a reduced ACT.

Commercial Trip Limit Analysis

Gulf of Mexico commercial catch-effort data (years: 2018-2022, provided March 1, 2023) from the Southeast Fisheries Science Center (SEFSC) Commercial Logbook Program (CLB) had records for 3,140 trips that reported greater amberjack harvest. The distribution of landings per trip were investigated for the 5 most recent years to determine which years of data were most representative of the current landing behavior (**Figure 1**). A change in the distribution of trip landings is evident starting in 2020, likely as a function of the change in commercial trip limit in April of that year from the Framework Action. Starting in 2020, the proportion of trips landings more than 1,000 pounds per trip drops dramatically. For this reason, only data from 2020 through 2022 was used to evaluate the proposed trip limits in the 2023 Framework Action. **Figure 2** shows the distribution of greater amberjack landings per trip, for the three most representative years, with all years combined.

A scalar was calculated to simulate the reduction of greater amberjack landings as a result of each alternative. For each trip limit scenario, the logbook records were modified by changing any per trip landings that exceeded the proposed trip limit to instead equal the proposed trip limit. For example, for Alternative 2, if a trip landed more than 250 lb ww, the pounds landed was changed to 250 lb ww. For all trips that did not exceed each proposed trip limit, the landings were not modified. Next, the total greater amberjack landings in the 3 most recent years were summed to represent the No Action alternative (Alternative 1 – 1,040 lb ww trip limit). The final scalar was calculated by dividing the modified landings totals for each scenario by the un-modified No Action alternative landings sum. The predicted change in landings, based on this scalar is presented in **Table 1**. The predicted changes represent a potential shift in effort that removes the possibility of high landings trips, but maximizes the opportunity for incidental catch at each proposed trip limit value. It is not possible to predict exactly how fishers will change their practices to account for trips where high landings of greater amberjack would no longer be possible, but assumes that a similar number of trips would be taken by fishermen and estimates the total landings possible within each proposed trip limit alternative.

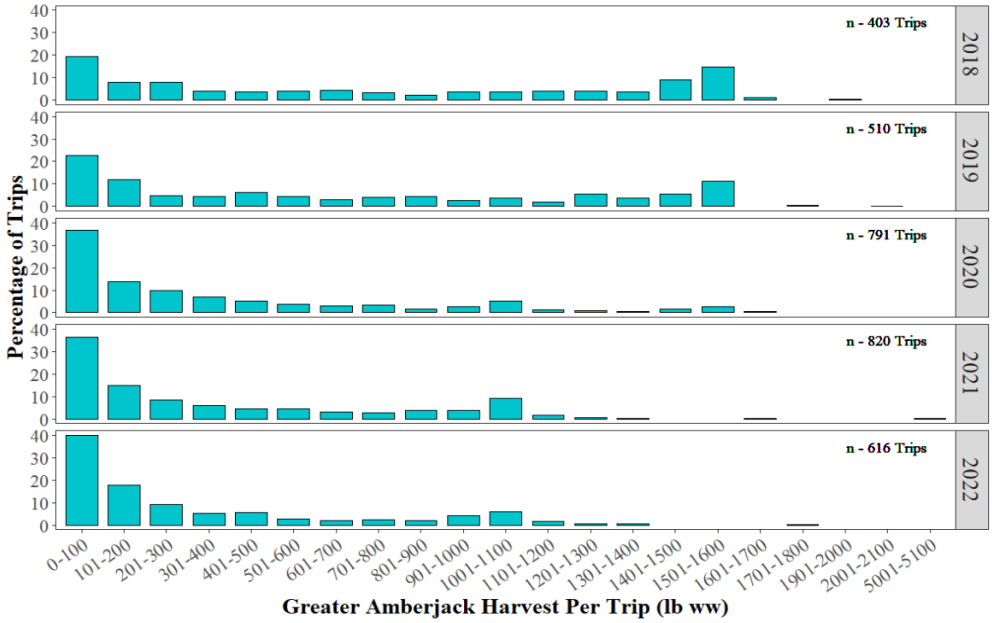

Figure 1. Distribution of Gulf of Mexico greater amberjack harvested per trip from the SEFSC Commercial Logbook program between 2018 and 2022, in pounds whole weight. Commercial logbook data were provided by the SEFSC on March 1, 2023.

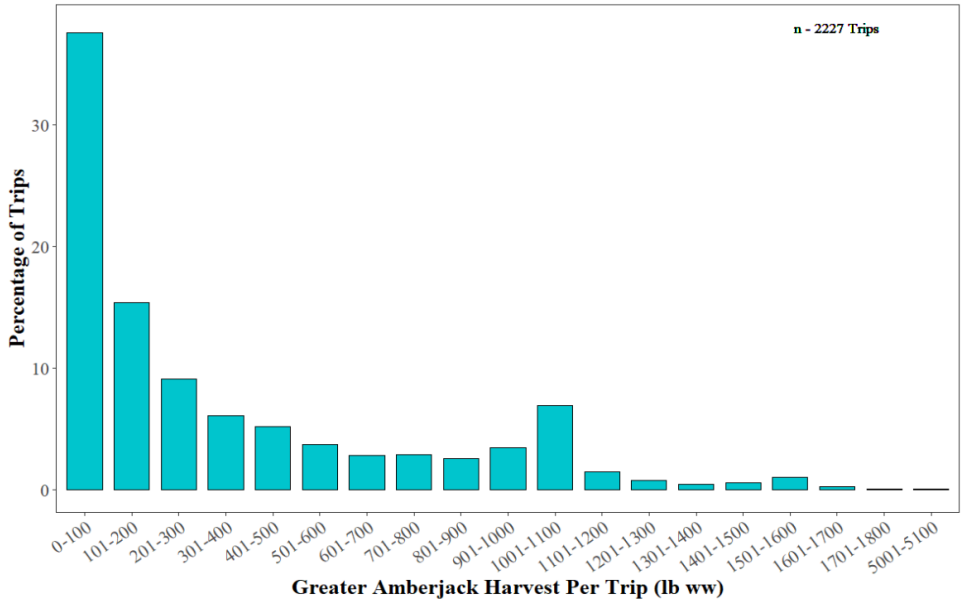

Figure 2. Distribution of Gulf of Mexico greater amberjack harvested per trip from the SEFSC Commercial Logbook program between 2020 and 2022, all years combined, in pounds whole weight. Commercial logbook data were provided by the SEFSC on March 1, 2023.

Table 1. The predicted change in landings from the current 1000 lb gw per trip limit. The predicted season length is no more than 273 days because of the fixed closed commercial season from March 1 through May 31.

Trip Limit Alternatives	Predicted Change in Annual Landings (%)	Predicted Closure Date	Predicted Season Length (Days)
Alternative 1: No Action	0.0%	Jun 6 (Step Down – Feb 4)	63
Alternative 2: 250 lb gw (260 lb ww)	-55.9%	Sep 11	155
Alternative 3: 210 lb gw (218 lb ww)	-60.8%	Oct 13	185
Alternative 4: 150 lb gw (155 lb ww)	-69.2%	-	273

Seasonal Closure Analysis

The SEFSC provided commercial landings in their ACL dataset on April 12, 2023. These landings were summed by month and year for the five most recent years of data (2018-2022). These data were evaluated to determine which years are most representative of recent trends in landings, by month (**Figure 3**). The trip limit change in 2020 impacted the landings per month in more recent years, so only landings for 2020-2022 were used to project for potential seasonal closures. The landings per month were averaged for 2020-2022 to generate a monthly-projected landings estimate. Landings for each year in the analysis and the projected landings were plotted in **Figure 4**. The projected monthly landings were divided by the number of days in each month to provide a daily catch rate. The projected change in landings value was multiplied by the daily catch rate for each alternative. The projected daily landings for each alternative were then summed cumulatively to determine what day, if any, would result in a closure for greater amberjack. Alternative 1, the No Action Alternative, required a step down in landings when 75% of the ACT was landed. For this Alternative, the step down was estimated to be triggered on February 4th. At this point, the daily catch rate was reduced to represent the daily landings associated with a 260 lb ww per trip limit, to incorporate the trip limit step down. Alternatives 2-4 represent a larger reduction in the per trip limit for greater amberjack, with no stepdown provision included. Alternative 4 is the only alternative that does not trigger a closure (**Table 1**).

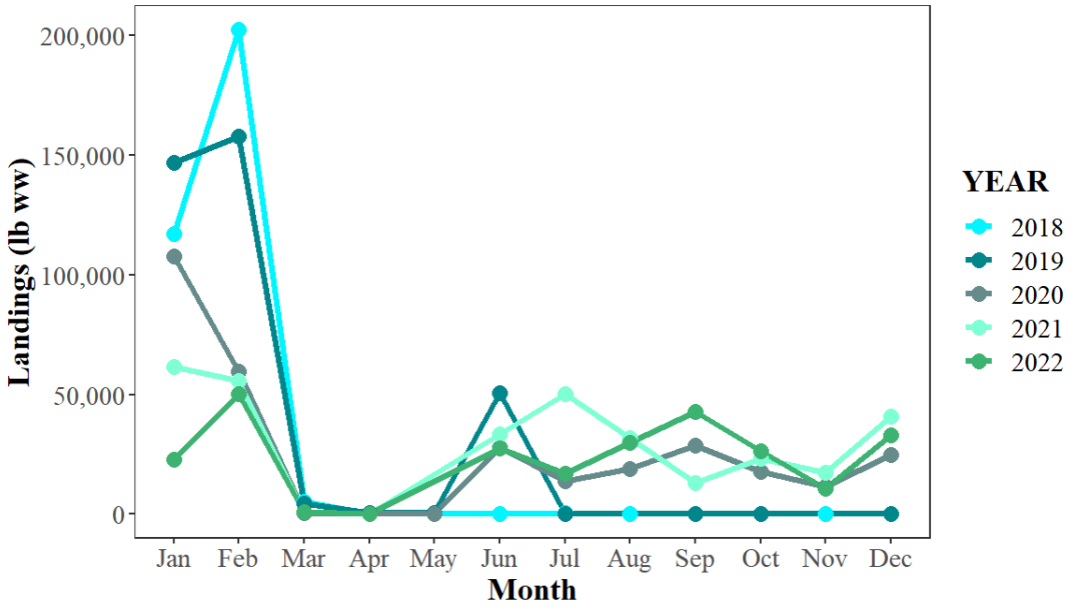

Figure 3. Gulf greater amberjack monthly commercial landings (lb ww) for 2018 to 2022. Commercial landings were obtained from the Southeast Fisheries Science Center's commercial ACL dataset provided on April 12, 2023.

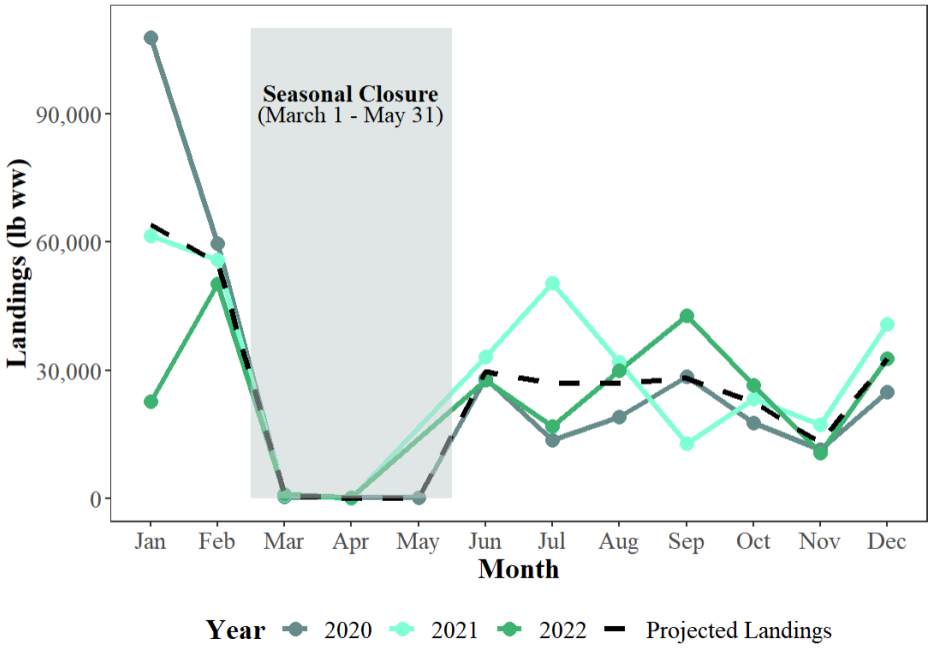

Figure 4. Gulf greater amberjack monthly commercial landings (lb ww) for 2020-2022, and projected landings (average landings from 2020-2022). Commercial landings were obtained from the Southeast Fisheries Science Center's commercial ACL dataset provided on April 12, 2023.