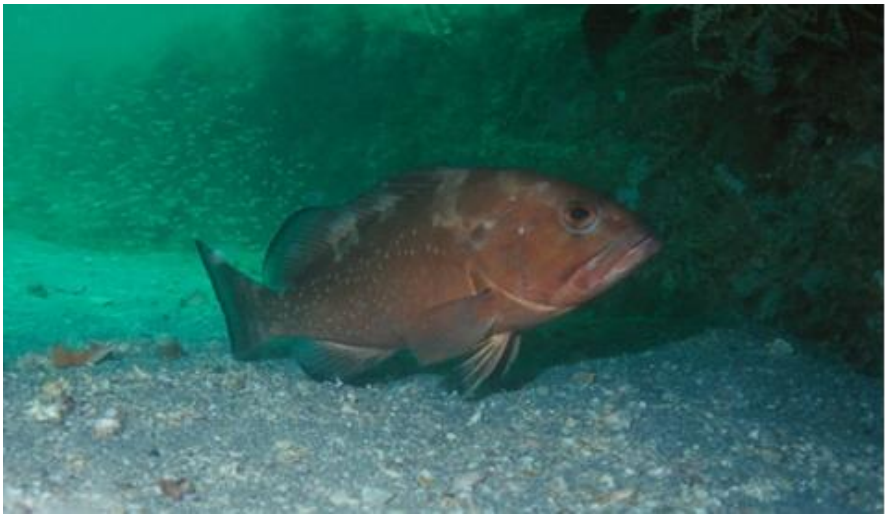
Red Grouper Commercial Quota Pool Under the Grouper/Tilefish Individual Fishing Quota Program



Draft Amendment 63

to the Fishery Management Plan for the Reef Fish Resources of the Gulf

Including Environmental Assessment, Fishery Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

April 2026

This is a publication of the Gulf Council pursuant to National Oceanic and Atmospheric Administration Award No. NA25NMF4410007C.

This page intentionally blank

Responsible Agencies and Contact Persons

Gulf Council (Council)
4107 W. Spruce Street, Suite 200
Tampa, Florida 33607
Assane Diagne (assane.diagne@gulfcouncil.org)

813-348-1630
813-348-1711 (fax)
gulfcouncil@gulfcouncil.org
http://www.gulfcouncil.org

National Marine Fisheries Service (Lead Agency)
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
Rich Malinowski (rich.malinowski@noaa.gov)

727-824-5305
727-824-5308 (fax)
http://sero.nmfs.noaa.gov

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
ALS	accumulated landings system
AM	accountability measures
APAIS	Access Point Angler Intercept Survey
BiOp	biological opinion
BSIA	best scientific information available
CFpA	net cash flow per angler
CFR	code of federal regulations
CHTS	Coastal Household Telephone Survey
Council	Gulf Council
Councils	Gulf and South Atlantic Fishery Management Councils
CS	consumer surplus
DPS	distinct population segments
E.O.	Executive Order
EA	Environmental Assessment
EEZ	exclusive economic zone
EFH	Essential Fish Habitat
EIS	economic impact statement
ESA	Endangered Species Act
FES	Fishing Effort Survey
FL	fork length
FMP	Fishery Management Plan
FMSY	maximum sustainable yield
FWC	Florida Fish and Wildlife Conservation Commission
GDP	gross domestic product
GFMC	Gulf Fishery Management Council
GMFMC	Gulf of Mexico Fishery Management Council
GRFS	Gulf Reef Fish Survey
GT	grouper-tilefish
Gulf	Gulf of America (Formerly Gulf of Mexico)
gw	gutted weight
HAPC	habitat areas of particular concern
IFQ	individual fishing quota
IRFA	initial regulatory flexibility analysis

LA Creel	Louisiana Department of Wildlife and Fisheries' recreational creel survey
LQ	local quotient
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammals Protection Act
mp	million pounds
MRFSS	Marine Recreational Fishery Statistics Survey
MRIP	Marine Recreational Information Program
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NAICS	North American Industry Classification System
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OMB	Office of Management and Budget
OST	Office of Science and Technology
Other SWG	Other Shallow-water Grouper complex
PS	producer surplus
Reef Fish FMP	Fishery Management Plan for the Reef Fish Resources in the Gulf
RFA	Regulatory flexibility analysis
RFFA	reasonably foreseeable future actions
RIR	Regulatory Impact Review
RQ	regional quotient
SBA	Small Business Association
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
South Atlantic Council	South Atlantic Fishery Management Council
SPR	spawning potential ratio
SRFS	Florida State Reef Fish Survey
SRHS	Southeast Region Headboat Survey
SSB	spawning stock biomass
SSC	Scientific and Statistical Committee
SWG	shallow-water grouper
TAC	total allowable catch
TL	total length
TNR	trip net revenue

TPWD	Texas Parks and Wildlife Department
WTP	willingness-to-pay
ww	whole weight

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

1.1 Background

The Southeast Data, Assessment, and Review (SEDAR) 88 (2025) stock assessment for Gulf of America (Gulf) Red Grouper indicated the stock was not overfished or undergoing overfishing. This assessment used updated recreational catch and effort data produced by the Florida State Reef Fish Survey (SRFS), Marine Recreational Information Program Fishing Effort Survey (MRIP-FES), MRIP For-Hire survey, Texas Parks and Wildlife Department survey, and the Louisiana Creel survey. The Council developed Amendment 62 to the Fishery Management Plan (FMP) for the Reef Fish Resources of the Gulf (Reef Fish FMP) to address the new catch level advice and voted to submit the amendment for review and implementation in January 2026. If implemented, Amendment 62 would increase the total annual catch limit (ACL) for red grouper to 6.62 mp gw in 2026, 7.45 mp gw in 2027, and 8.28 mp gw in 2028 and subsequent years. Amendment 62 would also increase the total commercial quota from 2.79 mp gw to 4.28 mp gw in 2026, 4.83 mp gw in 2027, and 5.37 mp gw in 2028 and subsequent years.

In anticipation of the substantial commercial quota increase in Amendment 62 and the desire to improve opportunity for participants to enter the Grouper-Tilefish Individual Fishing Quota (IFQ) and reduce bycatch the Council started development of this amendment, which would establish a pilot program for setting aside a portion of the red grouper commercial quota for a quota pool at its August 2025 meeting. The allocation from the quota pool would be redistributed on an annual basis with its own allocation category and would be non-transferable. This amendment considers alternatives for set-aside amounts, the eligibility criteria for participation in the quota pool, and the percentages of quota to be distributed to shareholding and non-shareholding accounts along with the method through which distribution would occur. This amendment's quota pool is intended to be a three-year pilot program from 2027 to 2029, using the substantial increase in red grouper quota as an opportunity to test a new mechanism to distribute allocation with the intention to improve opportunities for participation in the Grouper-Tilefish IFQ program and reduce bycatch and discards of red grouper.

Red Grouper in the Grouper-Tilefish IFQ Program

There are two IFQ programs in the Gulf. Amendment 26 to the Reef Fish FMP[1] (GMFMC 2006) established the Red Snapper IFQ (RS-IFQ) program, and Amendment 29 to the Reef Fish FMP[2] (GMFMC 2008) established the Grouper-Tilefish IFQ (GT-IFQ) program. The GT-IFQ program began on January 1, 2010. The GT-IFQ program is a multi-species program with five distinct share categories where red grouper constitutes the share category with the highest historic landings and ACL. Table 1.1.1 displays the reef fish species and share categories in the GT-IFQ program.

[1] Amendment 26: Establish a Red Snapper Individual Fishing Quota Program
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend26031606FINAL.pdf

[2] Amendment 29: Effort Management in the Commercial and Tilefish Fisheries
http://gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Reef%20Fish%20Amdt%2029-Dec%2008.pdf

Table 1.1.1. Reef fish species and share categories in the GT-IFQ program.

IFQ Category	Species
Gag (GG)	Gag
Red Grouper (RG)	Red grouper
Deep-water Grouper (DWG)	Snowy grouper
	Speckled hind
	Warsaw grouper
	Yellowedge grouper
Other Shallow-water Grouper (SWG)	Black grouper
	Scamp
	Yellowfin grouper
	Yellowmouth grouper
Tilefishes (TF)	Blueline tilefish (grey)
	Golden tilefish
	Goldface tilefish

Anyone commercially fishing for red grouper must possess a commercial reef fish permit and red grouper allocation under the IFQ program. IFQ allocation is determined at the beginning of each calendar year by multiplying a shareholder's IFQ red grouper share (represented as a percentage of the total commercial quota) times the commercial annual quota for red grouper. IFQ allocation may be transferred among eligible IFQ participants. The IFQ allocation may be increased during a calendar year but may not be decreased as allocation is distributed on January 1. The commercial annual catch target (ACT), or quota, is set at 5% below the ACL. The difference between the commercial ACL and quota allows for multi-use allocation, as described below. The IFQ program acts as the accountability measure (AM) for the commercial red grouper portion of the reef fish fishery.

Red Grouper Multi-use Allocation

At the time the commercial quota for red grouper is distributed to IFQ shareholders, a percentage of each shareholder's initial red grouper allocation is converted to red grouper multi-use allocation. This percentage is determined by a formula based on the red grouper and gag ACLs and quotas each year (Section 2.1; GFMC 2026). Red grouper multi-use allocation may be used to possess, land, or sell either red grouper or gag under certain conditions. Red grouper multi-use allocation can only be used to possess, land, or sell red grouper after an IFQ account holder's (shareholder or associated vessel accounts) red grouper allocation has been landed and sold, or transferred; and to possess, land, or sell gag, only after both gag and gag multi-use allocation have been landed and sold, or transferred from all the IFQ account holder's associated accounts. However, if gag is under a rebuilding plan, the percentage of red grouper multi-use allocation is equal to zero. Gag is currently under a rebuilding plan, and thus red grouper multi-use allocation is currently set to zero.

Gag Multi-use Allocation

At the time the commercial quota for gag is distributed to IFQ shareholders, a percentage of each shareholder's initial gag allocation (GG) is converted to gag multi-use allocation (GGM). This percentage is determined by a formula based on the gag and red grouper ACLs and annual quotas (Section 2.1; GFMC 2026). Gag multi-use allocation may be used to possess, land, or sell either gag or red grouper under certain conditions. Gag multi-use allocation can only be used to possess, land, or sell gag after an IFQ account holder's (shareholder or associated vessel accounts) gag allocation has been landed and sold, or transferred; and to possess, land, or sell red grouper, only after both red grouper and red grouper multi-use allocation have been landed and sold, or transferred from all the IFQ account holder's associated accounts. However, if red grouper is under a rebuilding plan, the percentage of gag multi-use allocation is equal to zero. Based on the results of the SEDAR 88 stock assessment, landing red grouper would be permissible in the gag multi-use allocation share category if the account has no red grouper or red grouper multi-use allocation.

Red Grouper Landings and Quota

Commercial red grouper landings have ranged from about 2.04 (2019) to 7.27 (1989) mp gw between 1986 and 2024. Although there have been higher historical landings prior to the implementation of the IFQ program, following the start of the program landings have reached up to 5.6 mp gw in 2014, and have decreased since. Table 1.1.2 displays commercial landings and quota starting from the first year of the GT-IFQ program (2010).

Table 1.1.2. Commercial landings and ACT for red grouper in pounds gw.

Year	Commercial Landings	Commercial ACT (Quota)
2010	2,910,970	5,750,000
2011	4,783,668	5,230,000
2012	5,219,133	5,370,000
2013	4,599,001	5,530,000
2014	5,601,144	5,630,000
2015	4,797,159	5,720,000
2016	4,497,582	7,780,000
2017	3,328,271	7,780,000
2018	2,363,280	7,780,000
2019	2,037,046	3,000,000
2020	2,368,322	3,000,000
2021	2,950,691	3,000,000
2022	2,428,938	3,000,000
2023	2,498,024	2,790,000
2024	2,527,545	2,790,000

Source: Commercial landings from SEFSC Commercial ACL Data (March 2025) and SERO Catch Share Database (March 2025).

Share Ownership and Patterns of Allocation Distribution

For red grouper, the percentage of shares held by small and medium shareholder accounts have decreased over time while the percentage of shares owned by larger shareholder accounts have increased. This is part of a broader trend observed throughout the GT-IFQ program as well as the RS-IFQ program. Table 1.1.3 illustrates the distribution of shareholder accounts by share volume for the red grouper share category. The number of allocation holders (accounts that hold allocation) who do not own shares has increased since the start of the program. Table 1.1.4 illustrates the number of accounts who receive red grouper allocation through share ownership and who receive their allocation through leasing (transfer) and not ownership. Accounts that only hold allocation may be related to accounts that hold shares, as industry will often hold their shares in separate accounts for business reasons.

Table 1.1.3. Distribution of shareholder accounts of red grouper in the GT-IFQ program by share volume and category.

RG	Small	Med.	Large	Total
	N (Share %)	N (Share %)	N (Share %)	
Initial	435 (5%)	248 (77%)	9 (18%)	692
2010	421 (4%)	237 (80%)	7 (16%)	665
2011	377 (3%)	227 (81%)	6 (16%)	610
2012	349 (3%)	212 (77%)	8 (20%)	569
2013	339 (3%)	200 (72%)	11 (25%)	550
2014	327 (3%)	192 (71%)	11 (26%)	530
2015	332 (3%)	186 (67%)	12 (30%)	530
2016	332 (3%)	185 (65%)	13 (32%)	530
2017	345 (3%)	190 (65%)	13 (32%)	548
2018	303 (3%)	190 (66%)	12 (31%)	505
2019	305 (3%)	179 (66%)	12 (31%)	496
2020	302 (3%)	172 (61%)	14 (36%)	488
2021	296 (3%)	165 (60%)	14 (37%)	475
2022	284 (3%)	159 (56%)	15 (41%)	458
2023	281 (3%)	158 (56%)	15 (41%)	454
2024	279 (3%)	154 (51%)	15 (41%)	448

Table 1.1.4. Allocation holders by share status.

RG	N	With shares	Via Transfer
2010	744	690 (93%)	54 (7%)
2011	739	675 (91%)	64 (9%)
2012	715	605 (85%)	110 (15%)
2013	683	563 (82%)	120 (18%)
2014	689	544 (79%)	145 (21%)
2015	716	522 (73%)	194 (27%)
2016	723	543 (75%)	180 (25%)
2017	750	525 (70%)	225 (30%)
2018	755	543 (72%)	212 (28%)
2019	687	494 (72%)	192 (28%)
2020	694	486 (70%)	208 (30%)
2021	689	480 (70%)	209 (30%)
2022	658	479 (73%)	179 (27%)
2023	669	450 (67%)	219 (33%)
2024	646	446 (69%)	200 (31%)

Detailed information relative to the IFQ programs, including information on program regulations, performance, evaluation, and on IFQ price information, enforcement and administrative actions is provided in the red snapper and grouper-tilefish annual reports. The 2024 Grouper-Tilefish IFQ Annual Report is available at: Grouper-Tilefish IFQ Annual Report.

1.2 Purpose and Need

The purpose of this action is to establish a three-year pilot commercial red grouper IFQ quota pool and distribute the resulting annual allocation to eligible participants in the GT-IFQ program.

The need for this action is to enhance economic profitability and reduce discards by improving access to red grouper annual allocation by fishermen engaged in the commercial harvest of red grouper and provide new opportunities for obtaining red grouper annual allocation.

1.3 History of Management

This summary includes management actions pertinent to red snapper, grouper, and tilefish for the commercial sector, including changes to commercial permit requirements. A complete history of management for the Reef Fish FMP is available on the Council's website[3].

The final rule for the **Reef Fish FMP**, with its associated environmental impact statement (EIS), was effective November 8, 1984, and defined the reef fish fishery management unit to include red snapper, red grouper, gag, the shallow-water groupers (scamp, black, yellowmouth, and yellowfin), and the deep-water groupers (snowy, warsaw, speckled hind, and yellowedge), as

[3] https://gulfcouncil.org/fishery-management/fishery-management-plans-amendments-process/

well as other important reef fish. Among the species currently managed under Gulf IFQ programs, only the tilefishes were not included in the original Reef Fish FMP.

The Reef Fish FMP included regulations designed to rebuild declining reef fish stocks and included a minimum size limit of 13 inches total length (TL) for red snapper, with exceptions that for-hire vessels were exempted until 1987 and each angler could keep 5 undersize fish.

Amendment 1, including environmental assessment (EA), regulatory impact review (RIR), and regulatory flexibility analyses (RFA), was implemented in 1990. The management measures included:

- The addition of 10 species to the management unit including the three species of tilefish that remain managed under the GT-IFQ program (goldface, golden, and blueline).
- Prohibited the sale of undersized red snapper and deleted the allowance to keep five undersized red snapper.
- Set a 20-inch TL minimum size limit on red, yellowfin, black, and gag groupers;
- SWG were defined as black grouper, gag, red grouper, Nassau grouper, yellowfin grouper, yellowmouth grouper, rock hind, red hind, speckled hind, and scamp. DWG were defined as misty grouper, snowy grouper, yellowedge grouper, warsaw grouper, and scamp. and
- Established a commercial reef fish vessel permit.

On November 7, 1989, NMFS announced that anyone entering the commercial reef fish fishery in the Gulf and South Atlantic after a control date of November 1, 1989, may not be assured of future access to the reef fish fishery if a management regime is developed and implemented that limits the number of participants in the fishery. The purpose of this announcement was to establish a public awareness of potential eligibility criteria for future access to the reef fish resource and does not prevent any other date for eligibility or other method for controlling fishing effort from being proposed and implemented.

Amendment 3, including EA and RIR and implemented in July 1991, transferred speckled hind from the SWG category to the DWG category.

Amendment 4, including EA, RIR and initial RFA (IRFA), was implemented in May 1992. The amendment established a moratorium on the issuance of new commercial reef fish permits for a maximum period of 3 years. The moratorium was created to moderate short-term future increases in fishing effort and to attempt to stabilize fishing mortality while the Council considered a more comprehensive effort limitation program. It allowed the transfer of permits between vessels owned by the permittee or between individuals when the permitted vessel is transferred.

Amendment 6, including EA, RIR and RFA, implemented in June 1993, extended the provisions of an emergency rule for red snapper endorsements for the remainder of 1993 and 1994, and it allowed the red snapper trip limits for qualifying and non-qualifying permitted vessels to be changed under the framework procedure for specification of the total allowable catch.

Amendment 7, including EA, RIR, and IRFA and implemented in February 1994, established reef fish dealer permitting and record keeping requirements, and allowed transfer of reef fish permits or endorsements in the event of the death or disability of the person who was the qualifier for the permit or endorsement. A proposed provision of this amendment that would have required permitted vessels to sell harvested reef fish only to permitted dealers was disapproved by the Secretary of Commerce and was not implemented.

Amendment 8, including EA, RIR and IRFA, proposed establishment of a red snapper individual transferable quota (ITQ) program. It was approved by the National Marine Fisheries Service (NMFS) and a final rule was published on November 29, 1995. However, concerns about future Congressional funding for the ITQ program to become operational made it advisable to delay implementation pending Congressional action. In October 1996, Congress, through reauthorization of the Magnuson- Stevens Act, repealed the red snapper ITQ program and prohibited regional councils from submitting, or NMFS from approving and implementing, any new IFQ program before October 1, 2000.

Amendment 9, including EA, RIR and IRFA, implemented in July 1994, provided for collection of red snapper landings and eligibility data from commercial fishermen for the years 1990 through 1992. This amendment also extended the reef fish permit moratorium and red snapper endorsement system through December 31, 1995, to continue the existing interim management regime until longer term measures could be implemented. The Council received the results of the data collection in November 1994, at which time consideration of Amendment 8 resumed.

Amendment 11, including EA, RIR and IRFA, was partially approved by NMFS and implemented in January 1996. The approved provisions included:

- Limited sale of Gulf reef fish by permitted vessels to permitted reef fish dealers;
- Required that permitted reef fish dealers purchase reef fish caught in Gulf federal waters only from permitted vessels;
- Allowed transfer of reef fish permits and fish trap endorsements in the event of death or disability;
- Implemented a new reef fish permit moratorium for no more than 5 years or until December 31, 2000, while the Council considers limited access for the reef fish fishery;
- Allowed permit transfers to other persons with vessels by vessel owners (not operators) who qualified for their reef fish permit.

Amendment 13, including EA, RIR and IRFA, was implemented in September 1996. The amendment further extended the red snapper endorsement system through the remainder of 1996 and, if necessary, through 1997, to give the Council time to develop a permanent limited access system that was in compliance with the new provisions of the Magnuson-Stevens Act.

Amendment 14, including EA, RIR and IRFA, was implemented in March and April 1997. The amendment provided the NMFS Regional Administrator with authority to reopen a fishery prematurely closed before the allocation was reached and modified the provisions for transfer of commercial reef fish vessel permits.

Amendment 15, including EA, RIR and IRFA and implemented in January 1998, included the following actions:

- Modified the red snapper endorsement system to create two classes of red snapper licenses. Class 1 licenses would have a 2,000-lb trip limit and would be issued to endorsement holders on March 1, 1997 and historical captains. Class 2 licenses would have a 500-lb trip limit and would be issued to other reef fish permit holders on March 1, 1997 with red snapper landings between January 1, 1990 and March 1, 1997. Licenses could be transferred without restriction. This red snapper license system was extended indefinitely or until replaced by an alternate license management system.
- Set monthly commercial red snapper openings to open at noon on the first day of each month and close at noon on the fifteenth day of each month until the commercial quota is reached. The commercial season is split into two time periods with the first period to begin on February 1 with two thirds of the quota, and the second period on September 1 with the remainder of the quota.

Amendment 16B, including EA, RIR and IRFA, was implemented on November 24, 1999. Among other actions, this amendment set the minimum size limit in fork length for scamp at 16 inches.

An August 1999 **regulatory amendment**, including EA, RIR, and IRFA and implemented June 19, 2000, increased the commercial size limit for gag from 20 to 24 inches TL, and prohibited the commercial sale of gag, black, and red grouper each year from February 15 to March 15 (the peak of gag spawning season).

Amendment 17, including EA, RIR and IRFA, was implemented in August 2000. This amendment extended the commercial reef fish permit moratorium for another 5 years from its previous expiration date of December 31, 2000 to December 31, 2005, unless replaced sooner by a comprehensive controlled access system. The purpose of the moratorium was to provide a stable environment in the fishery necessary for evaluation and development of a more comprehensive controlled access system for the entire commercial reef fish fishery.

Amendment 18A, including supplemental EIS, RIR and IRFA, was implemented by NMFS in September 2006. Among other actions, this amendment:

- Required a NMFS-approved vessel monitoring system on board vessels with a commercial reef fish permit, including charter vessels that also have a commercial reef fish permit;
- Prohibited persons on vessels with both commercial and charter vessel reef fish permits from retaining reef fish caught under the recreational size, bag, and possession limits when commercial quantities of reef fish are onboard;
- Adjusted the maximum crew size onboard a vessel issued a certificate of inspection (COI) when the vessel has both a commercial and charter/headboat permits for reef fish to the minimum crew size required under the COI.

As part of the implementing regulations, NMFS added provisions to change the permit application process for all permits to an annual rather than biennial procedure, as well as

simplifying the income qualification documentation requirements for fisheries having income criteria.

Secretarial Amendment 1, including a supplemental EIS, RIR, and IRFA, was initially submitted to NMFS in September 2002 and was implemented in July 2004. It contained a 10-year rebuilding plan for red grouper based on 3-year intervals.

Amendment 22, including supplemental EIS, RIR, and IRFA, was implemented in July 2005. It modified the red snapper rebuilding plan to rebuild the red snapper stock by 2032.

Amendment 24, including EA, RIR, and IRFA, was implemented August 2005. It established a permanent limited access system for the commercial sector for reef fish. Permits issued under the limited access system are renewable and transferable.

Amendment 26, including supplemental EIS, RIR, and IRFA and implemented in January 2007, established a commercial IFQ program for red snapper. The amendment required that, for any single fishing year, no person shall own IFQ shares that represent a percentage of the total, which exceeds the maximum percentage issued to a recipient at the time of the initial apportionment of IFQ shares. It also restricted initial eligibility to persons possessing a Class 1 or Class 2 license, and allocated initial IFQ shares proportionately among eligible participants based on average annual landings. During the first 5 years of the program, IFQ shares/allocations can be transferred only to individuals/vessels with a valid commercial reef fish permit and to United States citizens and permanent resident aliens thereafter.

Amendment 27, including supplemental EIS, RIR, and RFA, was implemented in February 2008. Among the actions, the commercial size limit for red snapper was reduced to 13 inches TL.

Amendment 29, including EIS, RIR, and RFA and implemented in January 2010, established the commercial IFQ program for groupers and tilefishes. As with the RS-IFQ program, during the first 5 years of the program, IFQ shares/allocations can be transferred only to individuals/vessels with a valid commercial reef fish permit and to United States citizens and permanent resident aliens thereafter.

Amendment 30B, including EIS, RIR, and RFA and implemented in 2009, addressed the overfishing of gag. Among other actions, the amendment set interim allocations of gag and red grouper catches between the recreational and commercial sectors. The amendment also required that all vessels with federal commercial or charter/headboat permits for reef fish must comply with the more restrictive of state or federal reef fish regulations when fishing in state waters.

Amendment 31, including EIS, RIR, and RFA, was implemented in May 2010. The amendment addressed sea turtle interactions with bottom longline fishing gear and included the following management actions:

- Longline endorsement requirement - Vessels must have average annual reef fish landings of 40,000 lbs gutted weight or more from 1999 through 2007;

- Reef fish bottom longline fishing was restricted to outside the 35-fathom depth contour from June – August.

Amendment 32, including EIS, RIR, and RFA and effective in March 2012, established annual catch limits (ACL) and annual catch targets for 2012 through 2015 for gag and for 2012 for red grouper. The amendment also:

- established a rebuilding plan for gag;
- contained a commercial gag and shallow-water grouper quota adjustment to account for dead discards;
- made adjustments to the multi-use IFQ allocation provisions in the GT-IFQ program; and
- reduced the commercial gag size limit;
- revised gag, red grouper, and shallow-water grouper accountability measures.

Amendment 34, including EA, RIR, and RFA, was implemented in November 2012. The amendment addressed crew size limits for dual-permitted vessels (i.e., vessels with both a charter/headboat and a commercial permit for reef fish), increasing the maximum crew size from three to four. It also eliminated the earned income qualification requirement for the renewal of commercial reef fish permits.

The **Framework Action** to Set the2013 Gag Recreational Fishing Season and Modify the February-March Shallow-water Grouper Closed Season, eliminated the February 1 through March 31 shallow-water grouper closure shoreward of 20 fathoms.

The **Framework Action** to Retain 2016 Red Snapper Commercial Quota was implemented in December 2015. The action withheld 4.9% of the 2016 commercial red snapper ACL prior to the annual distribution of red snapper allocation to the IFQ shareholders on January 1, 2016. This action allowed the allocations being established through Amendment 28 to be effective for the 2016 fishing year.

Amendment 28, including EIS, RIR, and RFA, was implemented in May 2016. The amendment revised the commercial and recreational sector allocations of the red snapper ACLs, by shifting 2.5% of the commercial sector's allocation to the recreational sector. The resulting sector allocations for red snapper were 48.5% commercial and 51.5% recreational and were applied to the 2016 quotas. On March 3, 2017, a U.S. district court vacated Amendment 28 and subsequently ordered that the sector quotas for 2017 be set consistent with the previous sector allocations of 51% commercial and 49% recreational.

Amendment 44, including EA, RIR, and RFA, was approved on December 21, 2017 (there was no rulemaking associated with this amendment, and therefore no implementation date). The amendment changed the minimum stock size threshold (MSST) for seven reef fish species, including gag, red grouper, and red snapper to be equal to 50% of the biomass at maximum sustainable yield. MSST is used to determine whether or not a stock is considered to be overfished; if the biomass of the stock falls below the threshold then the stock is considered to be overfished. Changing the MSST is not expected to affect management action as fishing is

primarily constrained by the overfishing definition. As long as overfishing is prevented, the stock biomass should never drop to the MSST level.

Amendment 36A, including EA, RIR, and RFA, required all reef fish permitted vessels landing federally managed reef-fish to land at approved locations and hail-in at least 3 hours, but no more than 24 hours before landing. The amendment returns red snapper and grouper-tilefish shares from non-activated IFQ accounts to NMFS for redistribution and allows NMFS to withhold a portion of IFQ allocation at the start of the year equal to an anticipated quota reduction. The actions to return non-activated shares and withhold quota in the event of an anticipated quota decrease became effective July 12, 2018. The advance notice of landing requirement became effective January 1, 2019.

The **Framework Action** to Modify Mutton Snapper and Gag Management Measures was effective on July 23, 2018. For gag, the action increased the commercial minimum size limit to 24 inches.

The **Framework Action** to Modify Red Grouper Annual Catch Limits and Annual Catch Targets was implemented October 31, 2019. It reduced the catch limits for red grouper consistent with a May 2019 emergency rule and following an interim red grouper assessment.

Amendment 53, including EIS, RIR, and RFA, implemented in June, 2022. Revised the red grouper allocation from 76% commercial and 24% recreational to 59.3% commercial and 40.7% recreational. The action also increased the ACT buffer from 8% to 9%, and modified the OFL, ABC, and sector ACLs and ACTs.

NMFS implemented interim measures to reduce gag overfishing for the 2023 fishing year on May 3, 2023. This temporary rule decreases the stock ABC for Gulf gag to 661,000 lb gw. The sector allocation was retained at 61% recreational and 39% commercial. The recreational fishing season was modified to open on September 1 and close on November 10. The purpose of this interim rule was to reduce overfishing ahead of the development of Amendment 56 to the Reef Fish FMP.

Amendment 56, including EA, RIR, and RFA, implemented in May, 2024 for gag grouper specifically,

- Updated the sector ACLs, ACTs, and commercial quota, consistent with the revised allocation, and the rebuilding plan.
- Revised the buffer between the recreational ACL and the recreational ACT from 10.25% to 20%.
- Revised the buffer between the commercial ACL and commercial quota from approximately 23% to 5% and set the commercial quota equal to the commercial ACT.
- Revised the federal recreational fishing season for Gulf gag such that it would open on September 1 instead of June 1.
- Modified the recreational AM to direct NMFS to prohibit harvest when the recreational ACT (rather than the ACL) is projected to be met. In addition, removed the provision

that requires NMFS to maintain the prior year's ACT if the ACL is exceeded in the previous year.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 – Commercial Quota Pool for Gulf of America (Gulf) Red Grouper

Alternative 1 - No Action: Do not establish a commercial quota pool for red grouper. The entirety of the commercial red grouper quota would continue to be allocated based on current individual fishing quota (IFQ) share ownership percentages.

Alternative 2: Establish a three-year commercial quota pool for Gulf red grouper beginning in 2027. If the commercial quota (ACT) is at or **below 2.79 million pounds gutted weight**[4], the quota pool is set at zero percent of the commercial quota (zero pounds). If the commercial quota is above 2.79 million pounds gutted weight, the quota pool would hold:

Option 2a: 15% of the commercial red grouper quota increase above 2.79 mp gw
Option 2b: 20% of the commercial red grouper quota increase above 2.79 mp gw
Option 2c: 25% of the commercial red grouper quota increase above 2.79 mp gw
Option 2d: 30% of the commercial red grouper quota increase above 2.79 mp gw

Alternative 3. Establish a three-year commercial quota pool for Gulf red grouper beginning in 2027. If the commercial quota (ACT) is at or below **4.28 million pounds gutted weight**[5], the quota pool is set at zero percent of the commercial quota (zero pounds). If the commercial quota is above 4.28 million pounds gutted weight, the quota pool would hold:

Option 3a: 15% of the commercial red grouper quota increase above 2.79 mp gw
Option 3b: 20% of the commercial red grouper quota increase above 2.79 mp gw
Option 3c: 25% of the commercial red grouper quota increase above 2.79 mp gw
Option 3d: 30% of the commercial red grouper quota increase above 2.79 mp gw

Discussion:

This action would allow for the creation of a commercial quota pool for red grouper based on the increase in the red grouper quota expected as a result of the SEDAR 88 stock assessment and the development of Reef Fish Amendment 62 to the Fishery Management Plan for the Reef Fish Resources of the Gulf (Reef Fish FMP). The alternatives in this action offer choices regarding the percentage of the quota increase above 2.79 mp gw that would be set aside for the quota pool. At the start of the year, the amount of quota held in this pool would be withheld from distribution to current IFQ shares, however, IFQ shareowners would be eligible to participate depending on the criteria established in Action 2 and the distribution patterns established in Action 3. The red grouper quota from the quota pool would be distributed annually under its own allocation

[4] Commercial red grouper quota (ACT) from 2023 until the 2025 Emergency Rule was 2.79 mp gw. This quota was established in Amendment 53 to the Reef Fish FMP (GMFMC 2022).
[5] 2026 commercial red grouper quota (ACT) established in Action 2, **Preferred Alternative 2** in Reef Fish Amendment 62 is 4.28 mp gw.

category before the end of the first quarter of the year to eligible recipients, to allow time for eligibility determination, appeals, and distribution of the quota pool allocation. Once received, this non-transferable allocation must be used for landings before other red grouper allocation categories (i.e., RG, RGM, GGM) can be used to land red grouper. The GT-IFQ system will automatically apply the correct allocation category for red grouper landed. This is a three-year pilot program that would start in 2027 and end on December 31, 2029.

Alternative 1 (No Action) would not establish a commercial quota pool for Gulf red grouper and would distribute quota based on current IFQ share ownership percentages. **Alternative 2** would establish a quota pool if the red grouper commercial quota is set at 2.79 mp gw or greater during the three-year period, while **Alternative 3** would establish a quota pool if the red grouper commercial quota is set at 4.28 mp gw or greater during the three-year period. The quota to be held in the pool is dependent upon the option selected in **Alternative 2** or **Alternative 3** (Table 2.1.1). As the options for each alternative are the percentages of commercial red grouper quota increase above 2.79 mp gw, the options for both alternatives are equivalent to each other, such that **Alternative 2**, **Option a** is the same number as **Alternative 3, Option a**.

Table 2.1.1. Total commercial quota and amount of quota available dependent upon options selected in **Alternative 2** and **Alternative 3**.

Quota Pool Year	Red Grouper Commercial Quota	Quota Increase above 2.79 mp	Red Grouper Quota in the Pool (% of Quota Increase)			
			Option a: 15%	Option b: 20%	Option c: 25%	Option d: 30%
2027	4,830,000	2,040,000	306,000	408,000	510,000	612,000
2028	5,370,000	2,580,000	387,000	516,000	645,000	774,000
2029	5,370,000	2,580,000	387,000	516,000	645,000	774,000

To address potential appeals, 10% of the quota in the pool would be initially withheld for each year of the quota pool. Potential participants will be notified of their eligibility for the quota pool and expected quota pool distribution through the Catch Share website after log-in. They will have 30 days to appeal the distribution amount. Distributions amounts will be solely based on IFQ transactions within the IFQ system. Hardships will not be considered for appeals, as the eligibility timelines considers two years of activity. Participants in the IFQ program can appeal eligibility related to permit status or landings histories by submitting a written petition of appeal to the National Marine Fisheries Service (NMFS) National Appeals Office. Participants cannot appeal based on hardship. Any quota remaining after appeals would be distributed among qualifying participants. The amount of quota available to be distributed prior to appeals is dependent upon the options selected in **Alternative 2** and **Alternative 3** (Table 2.1.2).

Table 2.1.2. Total commercial quota and amount of quota available prior to appeals dependent upon options selected in **Alternative 2** and **Alternative 3**.

Quota Pool Year	Quota Pool Amounts Distributed before Appeals			
	Option a: 15%	**Option b: 20%**	**Option c: 25%**	**Option d: 30%**
2027	275,400	367,200	459,000	550,800
2028	348,300	464,400	580,500	696,600
2029	348,300	464,400	580,500	696,600

The quota in the quota pool would not be available for distribution annually by January 1st, as time will be needed to determine eligibility and distributed allocation values. The remaining amount of the commercial quota (excluding the amount from the quota pool) would be distributed to current IFQ shares on January 1st. The initial 90% of quota in the pool would be distributed following data corrections and calculations at the end of the previous year, after which appeals can be submitted and processed. The timeline for the initial release of quota in the pool and the release following the appeals process are not set.

2.2 Action 2 – Eligibility Criteria for Participation in the Red Grouper Quota Pool

Alternative 1 - No Action: Do not establish eligibility criteria for participation in the red grouper quota pool.

Alternative 2: To receive annual allocation from the quota pool, IFQ account holders must possess a valid or renewable federal commercial reef fish permit and have minimum red grouper landings during a two-year reference period of at least:

Option 2a: 300 lbs gw
Option 2b: 500 lbs gw
Option 2c: 1,000 lbs gw

Reference periods for quota pool distributions between 2027 and 2029 are below:

Quota Pool Fishing Year	Reference Period
2027	Jan 1, 2025-Dec 31, 2026
2028	Jan 1, 2026-Dec 31, 2027
2029	Jan 1, 2027-Dec 31, 2028

Discussion:

Alternative 1 (No Action) would not establish requirements to obtain annual allocation from the red grouper quota pool. This would not be consistent with the purpose and need of this amendment. **Alternative 2** establishes a minimum threshold of red grouper harvested in order to ensure that participants in the quota pool land red grouper. The permit requirement on January 1, ensures that fishermen are potentially able to harvest the distributed Red Grouper Quota Pool (RGQP) allocation. Fishermen who begin landing red grouper with a federal commercial reef fish permit in 2027, the first year of the program, would not qualify for participation in the first year. However, as the two-year reference period is rolling, it is possible for those who have entered the fishery during the first year of this three-year pilot program to participate in the second and third years.

The current number of shareholder accounts (shareholding and non-shareholding) that have caught the red grouper landings proposed in **Alternative 2,** broken down by accounts with red grouper shares and accounts without red grouper shares, are listed in Table 2.2.1. The number of accounts listed in Table 2.2.1 is calculated for a two-year period from 2023-2024. This number is for illustrative purposes and is not equivalent to the number of accounts that would qualify based on the reference periods noted above.

Table 2.2.1. Current (2023-2024) number of accounts who land the minimum poundage listed in **Alternative 2**.

Minimum Pounds	Accounts	Shares	No Shares
300	235	102	133
500	212	86	126
1,000	188	79	109

Source: SERO Catch Share Database (February 2026)

As of 2024, the average pounds of red grouper caught for a single trip using vertical line gear was 417 lb, while for longline gear the amount is 3,401 lb (NMFS 2025). **Alternative 2**, **Option 2a** would allow accounts with less than the equivalent of one average vertical line trip over the course of two years to participate in the quota pool. **Option 2b** would allow accounts with the equivalent of close to one average vertical line trips to participate and **Option 2c** would allow accounts with the equivalent of close to two average vertical line trips to participate. One average longline trip exceeds the thresholds included in each Option, but vertical gears trips harvesting red grouper are nearly 3.5x the number of longline gear trips harvesting red grouper. The lower minimum pounds allow for accounts that encounter red grouper as incidental catch to now harvest the fish rather than discards legal size red grouper. Analyses of logbook data reveals that 50% of the trips landing red grouper only make up 1-25% of their overall reef fish catch, indicating that is mostly incidental catch versus targeted catch (Table 24; NMFS 2025). Red grouper discards in vertical line trips has increased in recent years, indicating a potential lack of allocation for incidentally caught red grouper, although discard mortality has remained low (Table 26; NMFS 2025). The threshold would exclude fishermen who do not land any or less than 300 lb over two years of red grouper. This would decrease the number of participants in the program, which would allow each participating account to receive more allocation.

The establishment of landings-based eligibility criteria may result in the inadvertent exclusion of IFQ accounts that meet the minimum landings requirements. Therefore, an appeals process would be available to correct potential errors in eligibility in relation to having a permit and meeting the minimum landings requirement. Appeals would need to be received by the NMFS National Appeals Office[6] within the time specified the final rule implementing the program. The determination for appeals must be based only on the landings recorded in the IFQ system and permit status in the SERO Permitting system. Hardship appeals would not be considered for this three-year pilot program.

[6] Appeals | NOAA Fisheries

2.3 Action 3 – Distribution of Quota Pool among Eligible IFQ Accounts

Alternative 1 - No Action: Do not distribute quota in the red grouper quota pool.

Alternative 2: Distribute **60%** of the quota pool quota among active IFQ accounts with a valid or renewable commercial reef fish permit and red grouper landings within the reference period, but with **no red grouper shares**. Distribute **40%** of the quota pool quota among active IFQ accounts with a valid or renewable commercial reef fish permit, red grouper landings within the reference period, and with **red grouper shares**. 10% of the quota pool would initially be set aside for appeals.

Option 2a: Quota would be distributed to qualifying participants with **no red grouper shares**:

(i) equally

(ii) proportionally based on red grouper landings

Option 2b: Quota would be distributed to qualifying participants with **red grouper shares**:

(i) equally

(ii) proportionally based on red grouper landings

Alternative 3: Distribute **50%** of the quota pool quota among active IFQ accounts with a valid or renewable commercial reef fish permit and red grouper landings within the reference period, but with **no red grouper shares**. Distribute **50%** of the quota pool quota among active IFQ accounts with a valid or renewable commercial reef fish permit, red grouper landings within the reference period, and with **red grouper shares**. 10% of the quota pool would initially be set aside for appeals.

Option 3a: Quota would be distributed to qualifying participants with **no red grouper shares**:

(i) equally

(ii) proportionally based on red grouper landings

Option 3b: Quota would be distributed to qualifying participants with **red grouper shares**:

(i) equally

(ii) proportionally based on red grouper landings

Discussion:

Alternative 1 (No Action) would not distribute quota. **Alternative 2** and **Alternative 3** divide active accounts into two groups: those with a valid or renewable commercial reef fish permit and red grouper landings within the reference period, but with **no red grouper shares** and those with a valid or renewable commercial reef fish permit, red grouper landings within the reference period, and **red grouper shares**. To be eligible to participate in the program both groups (non-shareholding and shareholding accounts) must possess a landings history and commercial reef fish permit during the reference period, mentioned in the discussion of Action 2.

Alternative 2 offers a 60/40 split between non-shareholding and shareholding accounts respectively, while **Alternative 3** offers a 50/50 split. **Alternative 2** resembles the existing pattern of distribution of accounts (2023-2024), where currently 58.9% of those with a valid or renewable commercial reef fish permit and red grouper landings do not hold shares and 41.1% currently hold shares (NMFS 2025). **Alternative 3** splits the quota pool evenly between the groups of shareholding and non-shareholding accounts. As there are currently a larger number of non-shareholding accounts (186) as opposed to shareholding accounts (130), individual non-shareholding accounts would likely receive less allocation if split evenly. **Alternative 2** is designed to distribute quota more evenly between eligible accounts.

The following tables display the total quota available in the quota pool and the distributions to shareholding and non-shareholding accounts based on accounts and landings numbers from a two-year period from 2023-2024 and using an equal distribution. These do not represent the numbers of accounts and amount of allocation per account that would qualify for participation in the quota pool. Those would be calculated based on the reference periods specified in Action 2 and permit status. As these reference periods are ongoing, it is not possible to predict the number of accounts that would qualify for participation in the program and the amount of allocation that they would receive. That would be decided at the end of the reference period and adjusted based on any appeals each year.

Alternative 2, Option 2a(i) and **Option 2b(i)** would use a 60/40 distribution between non-shareholding and shareholding accounts and would divide the quota equally within the groups. Each account would receive the same amount of quota as other accounts in their group (shareholding or non-shareholding). Tables 2.3.1 – 2.3.4 show the total amount of allocation in the quota pool and do not account for the 10% of the pool that would be initially withheld for appeals. Each table employs an equal 60/40 distribution and considers the various options taken in Action 1. Each table also shows the distribution per the number of accounts within the landing threshold considered in Action 2.

Table 2.3.1. Quota distribution between account types, 15% (Action 1, Option a), 60/40 equal distribution (Action 3, **Alternative 2, Option 2a(i), Option 2b(i)).**

Action 1, Option a: 15% of quota increase above 2.79 mp gw						
Alternative 2 (60/40 split), equal distribution (Option 2a(i) and 2b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	183,600	122,400	183,600	122,400	183,600	122,400
Allocation per account 2027	1,380	1,200	1,457	1,423	1,684	1,549
Quota Pool 2028, 2029	232,200	154,800	232,200	154,800	232,200	154,800
Allocation per account 2028, 2029	1,746	1,518	1,843	1,800	2,130	1,959

Table 2.3.2. Quota distribution between account types, 20% (Action 1, **Option b**), 60/40 equal distribution (Action 3, **Alternative 2, Option 2a(i), Option 2b(i)).**

Action 1, Option b: 20% of quota increase above 2.79 mp gw						
Alternative 2 (60/40 split), equal distribution (Option 2a(i) and 2b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	244,800	163,200	244,800	163,200	244,800	163,200
Allocation per account 2027	1,841	1,600	1,943	1,898	2,246	2,066
Quota Pool 2028, 2029	309,600	206,400	309,600	206,400	309,600	206,400
Allocation per account 2028, 2029	2,328	2,024	2,457	2,400	2,840	2,613

Table 2.3.3. Quota distribution between account types, 25% (Action 1, option c), 60/40 equal distribution (Action 3, **Alternative 2, Option 2a(i), Option 2b(i)).**

Action 1, Option c: 25% of quota increase above 2.79 mp gw						
Alternative 2 (60/40 split), equal distribution (Option 2a(i) and 2b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	306,000	204,000	306,000	204,000	306,000	204,000
Allocation per account 2027	2,301	2,000	2,429	2,372	2,807	2,582
Quota Pool 2028, 2029	387,000	258,000	387,000	258,000	387,000	258,000
Allocation per account 2028, 2029	2,910	2,529	3,071	3,000	3,550	3,266

Table 2.3.4. Quota distribution between account types, 30% (Action 1, option d), 60/40 equal distribution (Action 3, **Alternative 2, Option 2a(i), Option 2b(i)**).

Action 1, Option d: 30% of quota increase above 2.79 mp gw						
Alternative 2 (60/40 split), equal distribution (Option 2a(i) and 2b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	367,200	244,800	367,200	244,800	367,200	244,800
Allocation per account 2027	2,761	2,400	2,914	2,847	3,369	3,099
Quota Pool 2028, 2029	464,400	309,600	464,400	309,600	464,400	309,600
Allocation per account 2028, 2029	3,492	3,035	3,686	3,600	4,261	3,919

Alternative 3, **Option 3a(i)** and **Option 3b(i)** would use a 50/50 distribution between non-shareholding and shareholding accounts and would divide the quota equally within the groups. Each account would receive the same amount of quota as other accounts in their group (shareholding or non-shareholding). Tables 2.3.5 – 2.3.8 show the total amount of allocation in the quota pool and do account for the 10% of the pool that would be initially withheld for appeals. Each table employs an equal 50/50 distribution and considers the various options taken in Action 1. Each table also shows the distribution per the number of accounts within the landing threshold considered in Action 2.

Table 2.3.5. Quota distribution between account types, 15% (Action 1, **option a**), 50/50 equal distribution (Action 3, **Alternative 3, Option 3a(i), Option 3b(i)**).

Action 1, Option a: 15% of quota increase above 2.79 mp gw						
Alternative 3 (50/50 split), equal distribution (Option 3a(i) and 3b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	153,000	153,000	153,000	153,000	153,000	153,000
Allocation per account 2027	1,150	1,500	1,214	1,779	1,404	1,937
Quota Pool 2028, 2029	193,500	193,500	193,500	193,500	193,500	193,500
Allocation per account 2028, 2029	1,455	1,897	1,536	2,250	1,775	2,449

Table 2.3.6. Quota distribution between account types, 20% (Action 1, **Option a**), 50/50 equal distribution (Action 3, **Alternative 3, Option 3a(i), Option 3b(i)).**

Action 1, Option b: 20% of quota increase above 2.79 mp gw						
Alternative 3 (50/50 split), equal distribution (Option 3a(i) and 3b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	204,000	204,000	204,000	204,000	204,000	204,000
Allocation per account 2027	1,534	2,000	1,619	2,372	1,872	2,582
Quota Pool 2028, 2029	258,000	258,000	258,000	258,000	258,000	258,000
Allocation per account 2028, 2029	1,940	2,529	2,048	3,000	2,367	3,266

Table 2.3.7 Quota distribution between account types, 25% (Action 1, **Option a**), 50/50 equal distribution (Action 3, **Alternative 3, Option 3a(i), Option 3b(i)).**

Action 1, Option c: 25% of quota increase above 2.79 mp gw						
Alternative 3 (50/50 split), equal distribution (Option 3a(i) and 3b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	255,000	255,000	255,000	255,000	255,000	255,000
Allocation per account 2027	1,917	2,500	2,024	2,965	2,339	3,228
Quota Pool 2028, 2029	322,500	322,500	322,500	322,500	322,500	322,500
Allocation per account 2028, 2029	2,425	3,162	2,560	3,750	2,959	4,082

Table 2.3.8. Quota distribution between account types, 30% (Action 1, **Option a**), 50/50 equal distribution (Action 3, **Alternative 3, Option 3a(i), Option 3b(i)**).

Action 1, Option d: 30% of quota increase above 2.79 mp gw						
Alternative 3 (50/50 split), equal distribution (Option 3a(i) and 3b(i))						
	2.2.2a: 300 lbs		**2.2.2b: 500 lbs**		**2.2.2c: 1000 lbs**	
	No Shares	Shares	No Shares	Shares	No Shares	Shares
Account numbers	133	102	126	86	109	79
Quota Pool 2027	306,000	306,000	306,000	306,000	306,000	306,000
Allocation per account 2027	2,301	3,000	2,429	3,558	2,807	3,873
Quota Pool 2028, 2029	387,000	387,000	387,000	387,000	387,000	387,000
Allocation per account 2028, 2029	2,910	3,794	3,071	4,500	3,550	4,899

With a 60/40 equal distribution (**Alternative 2**, **Option 2a(i)**, **and 2b(i)**), the smallest amount of allocation would be distributed if Action 1, **Option a** (15% of quota increase) and Action 2, **Alternative 2, Option 2a** (300 lbs minimum landings) are selected as the preferred alternatives. For non-shareholding accounts this would be 1,380 lbs gw in 2027 and 1,746 lbs gw in 2028-2029, and for shareholding accounts this would be 1,200 lbs gw in 2027 and 1,518 lbs gw in 2028-2029. The largest amount of allocation would be distributed if Action 1, **Option d** (30% of quota increase) and Action 2, **Alternative 2, Option 2c** (1000 lbs minimum landings) are selected as the preferred alternatives. For non-shareholding accounts this would be 3,389 lbs gw in 2027 and 4,261 lbs gw in 2028-2029, and for shareholding accounts this would be 3,099 lbs gw in 2027 and 3,919 lbs gw in 2028-2029.

A similar result would occur with a 50/50 distribution (**Alternative 3, Option 3a(i)** and **3b(i)**). The smallest amount of allocation would be distributed if Action 1, **Option a** (15% of quota increase) and Action 2, **Alternative 2, Option 2a** (300 lbs minimum landings) are selected as the preferred alternatives. For non-shareholding accounts this would be 1,150 lbs gw in 2027 and 1,455 lbs gw in 2028-2029, and for shareholding accounts this would be 1,500 lbs gw in 2027 and 1,897 lbs gw in 2028-2029. The largest amount of allocation would be distributed if Action 1, **Option d** (30% of quota increase) and Action 2, **Alternative 2, Option 2c** (1000 lbs minimum landings) are selected as the preferred alternatives. For non-shareholding accounts this would be 2,807 lbs gw in 2027 and 3,550 lbs gw in 2028-2029, and for shareholding accounts this would be 3,873 lbs gw in 2027 and 4,899 lbs gw in 2028-2029.

The proportional distribution (**Options 2a(ii)** and **2b(ii)** and **Options 3a(ii)** and **3b(ii)**) would be calculated through the formula listed below, where the landings of one participating account is divided by the total landings in their respective pool (with or without shares) and multiplied by the proportion of quota in their respective pool.

$$QB\ Allocation_{Share\ Status} = \frac{Account_{Landings}}{\sum Landings_{Share\ pool}} * Proportion\ QB_{Share\ pool}$$

Each account would likely have a different amount of quota distributed to it, as the amount is dependent upon the account, their landings history and the total landings history during the reference period. There are no set upper limits for one participant as the landings history creates a proportion that is applied to the available quota pool. A number of participating accounts could receive no allocation because their proportional percentage is less than one pound.

The bar charts below (Figures 2.3.1-2.3.3) show patterns of quota distribution if the proportional distribution options were chosen and accounts were split on a 60/40 basis (**Alternative 2, Options 2a(ii)** and **2b(ii)**). These figures assume that Action 1, **Option a** is selected where the quota pool contained 15% of the increase. They explore the distributions based on the choices in Action 2. They also assume a 2023-2024 reference period. Each bar in the graph shows the number of participants who could have quota distributed in the ranges of 0-249, 250-499, 500-999, 1000-2499, 2500-4999, 5000-7499, and 7500+.

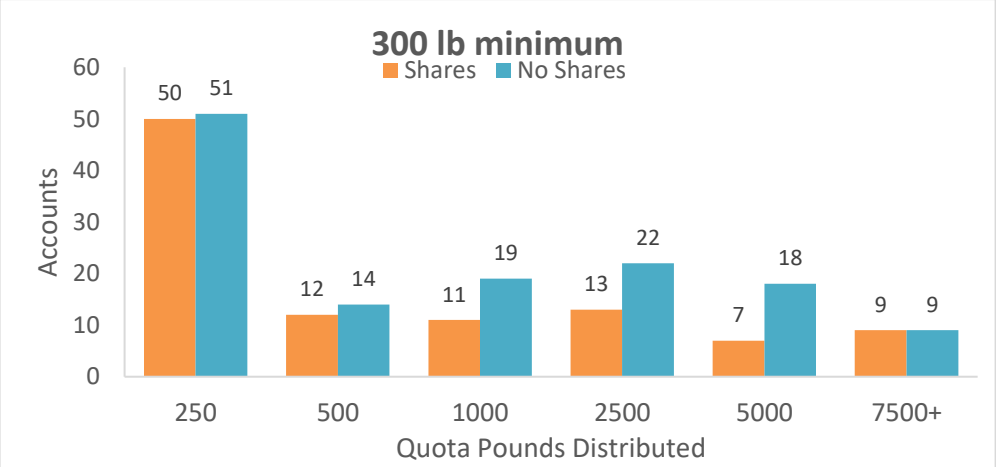


Figure 2.3.1. Proportional distribution if Action 1, **Option a,** Action 2, **Option 2a**, and Action 3, **Option 2a(ii) and Option 2b(ii)** are selected, resulting in a 15% of the increase in the quota pool, a 300 lb minimum, and a 60/40 split.

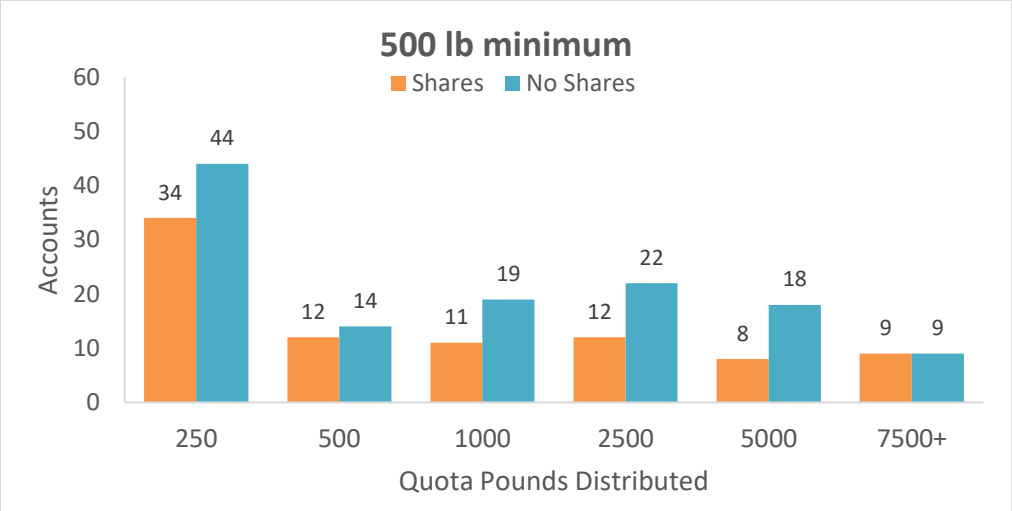


Figure 2.3.2. Proportional distribution if Action 1, **Option a**, Action 2, **Option 2b**, and Action 3, **Option 2a(ii)** and **Option 2b(ii)** are selected, resulting in a 15% of the increase in the quota pool, a 500 lb minimum, and a 60/40 split.

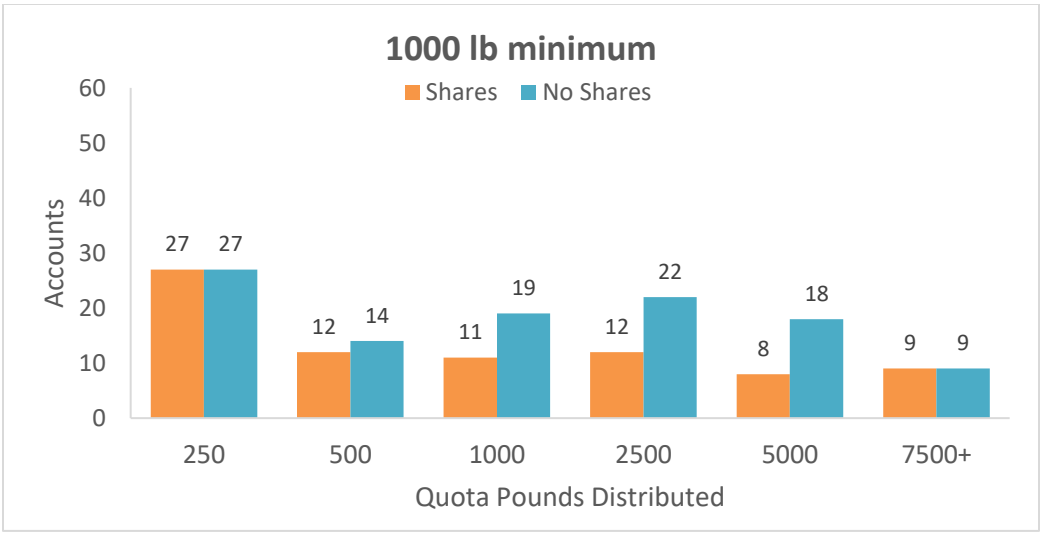


Figure 2.3.3. Proportional distribution if Action 1, **Option a**, Action 2, **Option 2c**, and Action 3, **Option 2a(ii)** and **Option 2b(ii)** are selected, resulting in a 15% of the increase in the quota pool, a 1000 lb minimum, and a 60/40 split.

The distributions depicted would differ depending on the other options selected in this and the earlier actions. The number of active accounts in each category and landings histories would likely be different from the depicted 2023-2024 reference period compared to the reference periods of the quota pool (discussed in Action 2).

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Physical Environment

General Description of the Physical Environment

The physical environment for Gulf of America (Gulf) reef fish is detailed in the Environmental Impact Statement (EIS) for the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2004), Generic EFH Amendment 3 (GMFMC 2005), and the Generic Annual Catch Limit/Accountability Measure (ACL/AM) Amendment (GMFMC 2011), which are incorporated by reference and summarized below.

The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.1.1).

Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Gulf water temperatures range from 54º F to 84º F (12º C to 29º C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73º F through 83º F (23-28º C), including bays and bayous (Figure 3.1.1), between 1982 and 2009, according to satellite-derived measurements (NODC 2011).[7] In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

[7] http://accession.nodc.noaa.gov/0072888

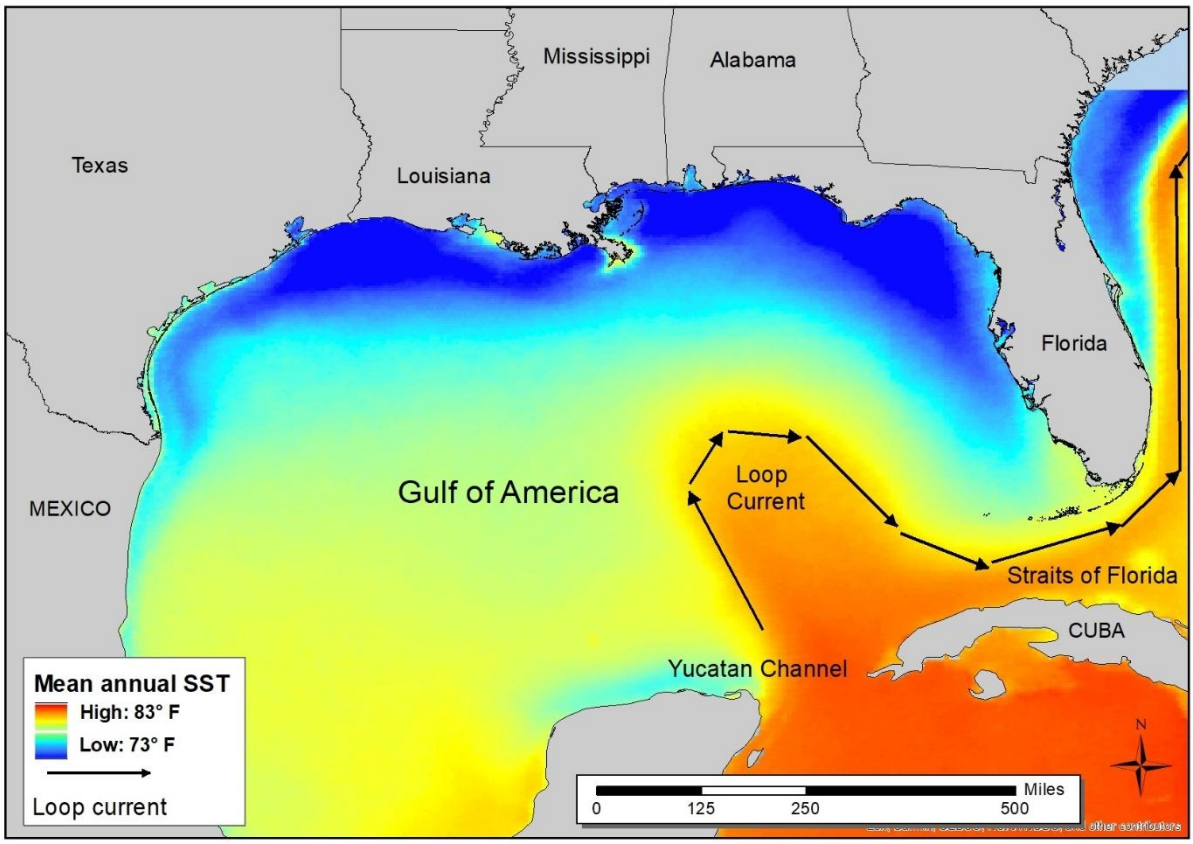


Figure 3.1.1. Mean annual sea surface temperature derived from the Advanced Very High-Resolution Radiometer Pathfinder Version 5 sea surface temperature data set.[8]

General Description of the Reef Fish Physical Environment

In general, reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. They generally have a planktonic larval stage that lives in the water column and feeds on zooplankton and phytoplankton (GMFMC 2004). Juvenile and adult reef fish are typically demersal and usually associated with bottom topographies on the continental shelf (less than 100 m) which have high relief, i.e., coral reefs, artificial reefs, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings. However, several species are found over sand and soft-bottom substrates. For example, some juvenile snapper (e.g., mutton, gray, red, dog, lane, and yellowtail snappers) and grouper (e.g., goliath, red, gag, and yellowfin groupers) are associated with inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems.

[8] http://pathfinder.nodc.noaa.gov

Habitat Areas of Particular Concern (HAPC) and Environmental Sites of Special Interest

Detailed information pertaining to HAPCs is provided in Generic Amendment 3 (GMFMC 2005) and Amendment 9 to the Fishery Management Plan for the Coral and Coral Reefs of the Gulf, U.S. Waters (GMFMC 2018). Detailed information pertaining to the Gulf area closures and marine reserves is provided in Amendment 32 to the Fishery Management Plan for the Reef Fish Resources in the Gulf (Reef Fish FMP; GMFMC 2011b). There are environmental sites of special interest that are discussed in the Generic EFH Amendment (GMFMC 2004) that are relevant to Reef Fish management. These documents are hereby incorporated by reference.

Northern Gulf Hypoxic Zone

A large hypoxic zone forms every summer in the northern Gulf. It is the result of allochthonous materials and runoff from agricultural lands resulting in increasing nutrient inputs to multiple rivers. These tributaries feed into the Mississippi River, which disperses to the Gulf, and creates a temperature and salinity dependent layering of waters. The nutrient rich fresh waters from the Mississippi create seasonal, large algal blooms at the surface that eventually die, sink to the bottom, and decompose. This creates the oxygen-poor, hypoxic, bottom water layer unless front or storm events occur, which allow for mixing of the layers (Rabalais and Turner 2019). Mapping of the hypoxic zone began in 1985. For 2021, the extent of the hypoxic area was 6,334 square miles, almost triple what it was in 2020 (2,116 square miles), but still less than the extent of the 2017 hypoxic area (8,776 square miles). The changes in hypoxic area can be attributed to changing amounts of river discharge and its associated nutrient load and storm events. The major factor for the reduced size in 2020 was the active storm season with Hurricane Hanna passing right over the zone, allowing for mixing of the waters. The 2021 hypoxic area was higher than the 5-year hypoxic area average (5,408 square miles) and much larger than the 1,930 square mile goal set by the Interagency Mississippi River and Gulf of America Hypoxia Task Force to be reached by 2035.[9] The hypoxic conditions in the northern Gulf directly impact less mobile benthic macroinvertebrates (e.g., polychaetes) by influencing density, species richness, and community composition (Baustian and Rabalais 2009; Breitburg et al. 2018). More mobile macroinvertebrates and demersal fishes are able to detect lower dissolved oxygen levels and move away from hypoxic conditions. Thus, these organisms are indirectly affected by limited prey availability and constrained available habitat (Baustian and Rabalais 2009; Craig 2012).

Environmental Variability

Projections predict increases in sea-surface temperature and sea level; decreases in sea-ice cover; and changes in salinity, wave climate, and ocean circulation (Intergovernmental Panel on Climate Change). These changes are likely to affect plankton biomass and fish larvae abundance that could adversely impact fish, marine mammals, seabirds, and ocean biodiversity. Kennedy et al. (2002) and Osgood (2008) have suggested global climate variation could affect temperature changes in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; change precipitation patterns and cause a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influence the

[9] http://gulfhypoxia.net

productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs. The National Oceanic and Atmospheric Association (NOAA) Climate Web Portal predicts the average sea surface temperature in the Gulf will increase by approximately 2ºC for 2006-2100 compared to the average sea surface temperature from 1956-2005.

3.2 Description of the Biological/Ecological Environment

The biological environment of the Gulf, including for red grouper, is described in detail in the Generic EFH Amendment (GMFMC 2004), Generic ACL/AM Amendment (GMFMC 2011a), Reef Fish Amendments 30B (GMFMC 2008) and 32 (GMFMC 2011b), and in Reef Fish Amendment 53 (GMFMC 2021), and are incorporated here by reference and summarized below.

Red Grouper Biology

Larval red grouper is found in the plankton across the west-Florida shelf (SEDAR 42 2015). Red grouper juveniles are generally found in shallow waters around structures and patch reefs. When juveniles reach approximately 16 inches (40 cm) total length (TL), and after they become sexually mature, they move offshore (Moe 1969). Red grouper can reach a maximum length and weight of 43 inches (110 cm TL) and 50.7 pounds (lb) (23 kg) (Robins et al. 1986). Maximum age of red grouper in the Gulf has been estimated at 29 years (SEDAR 61 2019). Clear determinations of size and age at maturity have been difficult for red grouper (Fitzhugh et al. 2006 and references cited therein). Fitzhugh et al. (2006) estimated the size and age at which 50% of females were sexually mature at 11 inches (279 mm) fork length (FL) and approximately age 2. For SEDAR 42, the values were approximated at 11.5 inches (292 mm) FL and 2.8 years following the addition of samples collected from the West Florida Shelf by the Florida Fish and Wildlife Conservation Commission (FWC)/Fish and Wildlife Research Institute (FWRI) (Lowerre-Barbieri et al. 2014); however, the inclusion of 2014-2017 data led to a slightly younger age of 2.2 years in SEDAR 61. These values were retained in SEDAR 88 (2024).

Red grouper spawns from February until mid-July, with peak spawning occurring in the eastern Gulf during March through May (Fitzhugh et al. 2006). Red grouper is a protogynous hermaphrodite, transitioning from female to male at older ages (7-14 years), and forms harems for spawning (Domeier and Colin 1997). Age and size at sexual transition is approximately 10.5 years and 30 inches (76.5 cm) TL (Fitzhugh et al. 2006). Size and age at sexual transition was re-estimated for both SEDAR 42 and SEDAR 61 at 11.2 and 11.4 years and 707- and 708-mm (~28 inches) TL, respectively. Over the last 25-30 years, there has been little change in the sex ratio of red grouper (Lowerre-Barbieri et al 2014), likely because they do not aggregate (Coleman et al. 1996). Red grouper is also known as a "habitat engineer" because it creates and maintains excavations in the bottom substrate. These excavations also support other species that use them for food and shelter (Coleman et al 2010).

Red grouper is susceptible to red tide as outlined in Chagaris and Sinnickson (2018) and Coleman and Koenig (2010). Chagaris and Sinnickson (2018) found the percent of total biomass of red grouper killed by red tides has been relatively low since 2002 with the exception of the severe red tide bloom that occurred in 2005 (note that this manuscript did not include the 2017-

2018 red tide event). These studies suggest that in general, severe red tide blooms occur at specific locations, not over the whole area where red grouper is found.

Status of the Stock

See Chapter 1.1 for more information. In summary, the Scientific and Statistical Committee, based on its review of SEDAR 88, indicated that the stock was not overfished or undergoing overfishing and recommended increases to the overfishing limit and acceptable biological catch relative to the current harvest limits. The SEDAR 88 stock assessment results indicated an increase in the red grouper stock size relative to the previous SEDAR 61 assessment; the primary driver of this outcome was the increase in the estimated natural mortality of red grouper relative to the previous stock assessment.

Bycatch

Many of the reef fish species co-occur with each other and can be incidentally caught when fishermen target certain species. In some cases, these fish may be discarded for regulatory reasons and thus are considered bycatch. Bycatch practicability analyses have been completed for red snapper (GMFMC 2004b, GMFMC 2007, GMFMC 2014, GMFMC 2015a), grouper (GMFMC 2008a, GMFMC 2010, GMFMC 2011b, GMFMC 2011c, GMFMC 2012a; and red grouper specifically in GMFMC 2021), vermilion snapper (GMFMC 2004c, GMFMC 2017), greater amberjack (GMFMC 2008c, GMFMC 2012b, GMFMC 2015b), gray triggerfish (GMFMC 2012c), and hogfish (GMFMC 2016). These analyses examined the effects of fishing on these species. In general, these analyses have found that reducing bycatch provides biological benefits, as well as benefits to the fishery through less waste, higher yields, and less forgone yield. However, in some cases, actions are approved that can increase bycatch through regulatory discards, such as increased minimum sizes and closed seasons. Under these circumstances, there is some biological benefit to the managed species that outweigh any increases in discards from the action. For a full description of the effects of this Amendment on bycatch, please see the bycatch practicability analysis in Appendix A of Amendment 62.

SEDAR 88 employed the same protocol in estimating discard mortality as the previous stock assessment, SEDAR 61 (2019). In SEDAR 61 (2019), the commercial discard mortality in the Post-IFQ bottom longline fishery was estimated at 44.1% (+0.5% from SEDAR 42 2015), while the Pre-IFQ estimate remained at 41.4%. In the commercial vertical line fishery, estimated discard mortality at 19.0%. The discard mortality rate used for recreational discards was 11.6%. This estimate included all sources of latent discard mortality for fish that were able to re-submerge and those that were alive and floating after release. Dead discards were included in recreational landings estimates, and therefore, no immediate mortality was applied to recreational discards.

The main benefits of reducing grouper bycatch are: 1) less waste and 2) increased yield in the directed fishery. Reducing discards and discard mortality rates would result in less forgone yield. Increasing ACLs in the commercial sector is expected to increase discards due to the greater number of regulatory discards (such as discard of undersized fish) that is expected to occur with the increased fishing effort associated with the higher commercial quota. The effects

of increasing the recreational quota on bycatch is less clear. This is because the recreational season is projected to remain open for the entire year due to the increased catch limits, which would eliminate regulatory discards that have occurred in recent years after closure of the recreation fishing season due to harvesting the quota. However, because recreational effort is expected to increase due to the lack of a closed season, it is also expected that other regulatory discards (such as discards of undersized fish) would increase with the increased catch limits. In any case, although the effects of the increasing catch limits are unclear for the recreational sector, there is expected to be a slight increase in bycatch overall due to increased regulatory discards across both sectors. This is especially true for smaller fish (less than the legal-size limit), since they are more likely to be discarded. Since smaller fish are generally caught in shallower waters and red grouper caught in shallow water have better survival rates, these released fish are expected to have higher survival rates relative to the larger fish caught in deeper water. Legal size fish would be less likely to be discarded under the increased catch limits because there would be no requirement to release them at any time of the year due to a season closure.

Protected Species and Protected Species Bycatch

The National Marine Fisheries Services manages marine protected species in the Southeast region under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). A brief summary of these two laws and more information is available on NMFS Office of Protected Resources website.[10] ESA-listed species of marine mammals, sea turtles, fish, and corals occur in the exclusive economic zone (EEZ) of the Gulf. There are numerous stocks of marine mammals managed within the Southeast region. All marine mammals in U.S. waters are protected under the MMPA.

The five whale species that may be present in the Gulf (blue, sperm, sei, fin, and Rice's[11]) are listed as endangered under the ESA. Rice's whales are the only resident baleen whales in the Gulf. Manatees, listed as threatened under the ESA, also occur in the Gulf and are the only marine mammal species in this area managed by the U.S. Fish and Wildlife Service.

Sea turtles, fish, and corals that are listed as threatened or endangered under the ESA occur in the Gulf. These include the following: five species of sea turtles (Kemp's ridley, loggerhead (Northwest Atlantic Ocean distinct population segment (DPS)), green (North Atlantic DPS), leatherback, and hawksbill); five species of fish (Gulf sturgeon, smalltooth sawfish, Nassau grouper, oceanic whitetip shark, and giant manta ray); and six species of coral (elkhorn, staghorn, lobed star, mountainous star, boulder star, and rough cactus). Critical habitat designated under the ESA for smalltooth sawfish, Gulf sturgeon, the Northwest Atlantic Ocean DPS of loggerhead sea turtles, and five of the listed coral species occur in the Gulf, though only loggerhead and coral critical habitat occurs in federal waters. Critical habitat has been proposed in the Gulf for the North Atlantic DPS of green sea turtles and Rice's whale.

[10] https://www.fisheries.noaa.gov/about/office-protected-resources

[11] The Rice's whale (*Balaenoptera ricei*) was previously classified as the Gulf Bryde's whale but was later identified as morphologically and genetically distinct from other whales under the Bryde's whale complex, warranting classification as a new species of baleen whale living in the Gulf.

The most recent biological opinion (BiOp) for the fishery management plan (FMP) was completed on September 30, 2011. The BiOp determined the operation of the Gulf reef fish fishery managed under the Reef Fish FMP is not likely to adversely affect ESA-listed marine mammals or coral and was not likely to jeopardize the continued existence of sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback) or smalltooth sawfish. Since issuing the opinion, in memoranda dated September 16, 2014, and October 7, 2014, NMFS concluded that the activities associated with the Reef Fish FMP are not likely to adversely affect critical habitat for the Northwest Atlantic Ocean loggerhead sea turtle DPS and four species of corals (lobed star, mountainous star, boulder star, and rough cactus).

On April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule (81 FR 20057) removing the range-wide and breeding population ESA-listings of the green sea turtle and listing eight DPSs as threatened and three DPSs as endangered. The North Atlantic DPS of green sea turtle occurs in the Gulf and is listed as threatened. In addition, on June 29, 2016, NMFS published a final rule (81 FR 42268) listing Nassau grouper as threatened under the ESA. NMFS has reinitiated consultation on the FMP to address these listings. In a memorandum dated September 29, 2016, NMFS determined that fishing under the Reef Fish FMP during the re-initiation period is not likely to jeopardize the continued existence of the North Atlantic DPS of green sea turtles or Nassau grouper.[12]

On January 22, 2018, NMFS published a final rule (83 FR 2916) listing the giant manta ray as threatened under the ESA. On January 30, 2018, NMFS published a final rule (83 FR 4153) listing the oceanic whitetip shark as threatened under the ESA. In a memorandum dated March 6, 2018, NMFS revised the request for re-initiation of consultation on the Reef Fish FMP to address the listings of the giant manta and oceanic whitetip. In that memorandum, NMFS also determined that fishing under the Reef Fish FMP during the extended re-initiation period will not jeopardize the continued existence of the giant manta ray, oceanic whitetip shark, Nassau grouper, or the North Atlantic and South Atlantic DPSs of green sea turtles.

NMFS published a final rule on April 15, 2019, listing the Gulf Bryde's whale (now Rice's whale, see footnote 18 above) as endangered. In a memorandum dated June 20, 2019, NMFS revised the re-initiation request to include the Gulf Bryde's whale (Rice's whale) and determined that fishing under the Reef Fish FMP during the re-initiation period will not jeopardize the continued existence of any of the newly listed species discussed above.[13]

There is no information to indicate marine mammals and birds rely on red grouper for food, and they are not generally caught by fishermen harvesting red grouper. The primary gear in the Gulf Reef Fish fishery used to harvest red grouper is hook-and-line and bottom longlines. These gear types are classified in the proposed 2025 Marine Mammal Protection Act List of Fisheries as a Category III fishery (89 FR 77789; September 24, 2024), meaning the annual mortality and

[12] The memo also addressed the South Atlantic DPS of green sea turtle because at that time, NMFS thought that individuals from that DPS would be found in the Gulf based on a study that found that approximately 5% of the turtles sampled off the Atlantic coast of Florida came from the South Atlantic DPS. However, with additional research, NMFS has determined that South Atlantic juveniles are not likely to be occurring in U.S. mainland coastal waters in anything more than negligible numbers.

[13] The official change to the name has no effect on NMFS's conclusion that the activities associated with the Reef Fish FMP will not jeopardize the continued existence of the species during the revised reinitiation period.

serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. Additionally, there is no evidence that the red grouper portion of the reef fish fishery as a whole is adversely affecting seabirds. Dolphins are the only species documented as interacting with the reef fish fishery. Bottlenose dolphin prey upon bait, catch, and/or discarded fish from the reef fish fishery.

3.3 Description of the Economic Environment

3.3.1 Commercial Sector

Any fishing vessel that harvests and sells any of the reef fish species managed under the Reef Fish FMP from the Gulf EEZ must have a valid Gulf reef fish permit. As of July 8, 2021, there were 825 limited access valid or renewable reef fish permits (SERO Permits Database, May 2022). Note more recent permit information is currently unavailable. To harvest red grouper, a vessel permit must also be linked to an IFQ account and possess sufficient allocation for this species. IFQ accounts can be opened, and valid permits can be linked to IFQ accounts at any time during the year. Eligible vessels can receive red grouper allocation from other IFQ participants. On average from 2020 through 2024, there were 671 IFQ accounts that held red grouper allocation and 68% of those held red grouper shares (NMFS 2025).

Although many fishing businesses only own one permitted vessel, some hold or own multiple permits and vessels. Detailed discussions on the business composition of IFQ participants are provided in the description of the economic environment sections of the 2019 Red Grouper Framework Action to modify ACLs and ACTs (GMFMC 2019), as well as Amendment 53 (GMFMC 2021) and are incorporated herein by reference.

Commercial harvest of reef fish in the EEZ may only be sold to dealers with a federal dealer permit. As of December 21, 2021, there were 341 entities with a federal Gulf and South Atlantic Dealers (GSAD) permit (J. Dudley, NMFS SERO, pers. comm. 2022). To purchase IFQ species, including red grouper, dealers are also required to have a Gulf IFQ dealer endorsement. As of July 22, 2022, there were 166 eligible IFQ dealers; however, the total number of dealers can vary over the course of the year and from year to year.

Vessels, Landings, and Dockside Revenue

The information in Table 3.3.1.1 describes the landings and revenue for vessels that harvested red grouper each year from 2020 through 2024, including their revenue from other IFQ species, Gulf non-IFQ fisheries, and South Atlantic fisheries. From 2020 to 2024, the number of Gulf red grouper vessels fluctuated but showed an overall decline. Vessel participation decreased by 8% from 2020 to 2021 and continued to decline by about 5% in 2022. While there was an increase of around 5% in 2023, vessel participation in the commercial Gulf red grouper fishery declined again by 1% in 2024.

Revenue from landings of Gulf red grouper increased by 15% from 2020 to 2021 but declined by 7% in 2022. Revenue from landings of Gulf red grouper increased 11% in 2023 and recently decreased by less than 1% in 2024. Revenue from landings of other IFQ species by Gulf red grouper vessels increased by 16% in 2021 declined by 17% in 2023, and further by 18% in 2024, indicating a steady decline in recent years of revenue from landings of other IFQ species. Revenue from Gulf non-IFQ species decreased by 4% in 2021 and slightly further in 2022. Revenue from Gulf non-IFQ species increased by 18% in 2023, followed by a decline of over 16% in 2024. Thus, revenue from Gulf non-IFQ species fluctuated overall on average during this timeframe. Revenue from South Atlantic species showed large fluctuations from year-to-year changes. Revenue from South Atlantic species landings increased by 136% from 2020 to 2021 and further by 74% in 2022. However, revenue from South Atlantic species declined by over 50% in 2023 then increased by 68% in 2024. Average total ex-vessel revenue per vessel increased by a 23% from 2020 to 2021, and by 2% again in 2022. However, average total ex-vessel revenue per vessel has declined since, with consecutive declines of approximately 9% in 2023 and 10% in 2024. Although not shown in the table, the maximum annual value of all landings by a single Gulf red grouper vessel from 2020 through 2023 was approximately $1.24 million (2024 dollars[14]) in 2022.

Table 3.3.1.1. Landings, in pounds gutted weight (lb gw), and revenue for vessels harvesting red grouper species (2024 dollars).

Year	# of Vessels	Red grouper landings lb gw	Red grouper ex-vessel revenue	Other IFQ species ex-vessel revenue	Gulf Non-IFQ species ex-vessel revenue	South Atlantic all species ex-vessel revenue	Average ex-vessel revenue per vessel
2020	351	2,259,579	$13,571,298	$23,367,265	$5,525,958	$206,040	$121,569
2021	323	2,640,318	$15,535,713	$27,092,660	$5,323,849	$486,164	$149,964
2022	306	2,270,991	$14,479,587	$26,326,506	$5,297,679	$843,496	$153,422
2023	320	2,497,118	$16,012,728	$21,835,892	$6,248,546	$416,004	$139,104
2024	318	2,527,088	$15,893,495	$17,883,189	$5,225,094	$696,518	$124,837
Average	**324**	**2,439,019**	**$15,098,564**	**$23,301,102**	**$5,524,225**	**$529,644**	**$137,779**

Source: NMFS SERO IFQ database (accessed 5/1/2024) and Southeast Fisheries Science Center (SEFSC) Socioeconomic Panel (January 2025 version).

IFQ Share Transfer, IFQ Allocation Transfer, and Ex-vessel Prices

Price information is important for evaluating the performance of a catch share program. Theoretically, allocation prices should reflect the expected annual profit from harvesting one unit of quota, whereas share prices should reflect the net present value of the expected profit from harvesting one unit of quota in the long run. Dockside or ex-vessel price is the price the vessel receives at the first sale of harvest. Average share transfer[15] prices increased from 2021 through 2023, with a notable increase from 2021 to 2022. Allocation transfer prices generally increased

[14] Dollar values have been adjusted for inflation using the U.S. Bureau of Economic Analysis Gross domestic product implicit price deflator series (A191RD3A086NBEA). Accessed 07/15/2025.

[15] Share transfer price refers to the price paid to purchase a share percentage that equates to one pound of red grouper allocation at the time the transfer occurs (NMFS 2025).

as well, but ex-vessels prices fluctuated from year to year (Table 3.3.1.2). Ex-vessel price increased on average by less than a percent each year over this period; the average allocation transfer price increased on average by 41%; and the average share price increased by 38% in each year.

Table 3.3.1.2. Average red grouper share transfer, allocation transfer, and ex-vessel prices per pound-gutted weight in 2024 dollars.

Year	Share Transfer	Allocation Transfer	Ex-Vessel
2020	$7.33	$0.56	$6.04
2021	$7.28	$0.74	$5.95
2022	$19.83	$1.71	$6.37
2023	$18.72	$1.82	$6.44
2024	$15.94	$1.71	$6.30
Average	**$13.82**	**$1.31**	**$6.22**

Source: NMFS (2025)

Liese (2023) provides estimates of economic returns such as annual vessel-level estimates of costs (as a percentage of revenue) and net revenue from operations for vessels for vessels that harvested red grouper during 2020-2024[16]. Estimates of producer surplus (PS) can be calculated from the cost information contained in Liese (2023) in conjunction with estimates of annual revenue from the SERO IFQ database and the SEFSC Social Science Research Group Socioeconomic Panel. PS is total annual revenue minus variable costs, including the costs for fuel, other supplies, and hired crew, as well as the opportunity cost of an owner's time as captain. Net revenue from operations, which most closely represents economic profits to the owner(s), is total annual revenue minus variable and fixed costs, including the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, and overhead, as well as the opportunity cost of an owner's time as captain and the vessel's depreciation. According to Liese (2023), PS for commercial vessels that harvested Gulf red grouper was approximately 47.6% of their annual gross revenue, on average, from 2014 through 2018. Net revenue from operations was 28.1% of their annual gross revenue, on average, during this period. Applying these percentages to the results provided in Table 3.3.1.1 would result in an estimated per vessel average annual PS of $ $65,583 (2024 dollars) and an average annual net revenue from operations of $38,716 per year. Liese (2023) also provides annual trip-level estimates of costs (as a percentage of trip revenue) and trip net revenue for vessels that harvested snappers and groupers in the South Atlantic. According to Liese (2023), labor, including both hired and owner's time, consumed 37.1% of trip revenue and fuel and supplies consumed 19.5%, leaving a trip net revenue margin of 43.4%, on average, from 2014 through 2018.

Dealers

The information in Table 3.3.1.3 illustrates the purchasing activities of dealers that bought Gulf red grouper landed from vessels during 2020 through 2024. From 2020-2024 dealer

[16] This report is available at: https://repository.library.noaa.gov/view/noaa/56480.

participation declined by an average of 5% each year in the Gulf red grouper IFQ program. On average, purchases of IFQ species accounted for 41% of dealer's revenue during this period, with red grouper specifically accounting for 13% of total revenue. While the total value of red grouper purchases fluctuated annually, the total value of red grouper purchases in 2024 increased by 27% relative to 2020. Additionally, the average annual value of all dealer purchases increased from 2020 through 2023 before declining slightly in 2024. Although not included in the table, the maximum annual value of all purchases made by a single dealer between 2020 and 2024 was approximately $16.1 million (in 2024 dollars) in 2022.

Table 3.3.1.3. Purchase statistics for dealers that bought red grouper (2024 dollars).

Year	Number of Dealers	Red Grouper Purchases	Other IFQ Purchases	Gulf Non-IFQ Purchases	South Atlantic Purchases	Average total purchases per dealer
2020	121	$15,019,504	$36,841,420	$44,647,281	$22,048,188	$979,805
2021	102	$16,462,022	$38,203,116	$55,073,442	$24,665,534	$1,317,687
2022	105	$18,744,744	$39,298,680	$59,021,599	$27,631,320	$1,378,060
2023	98	$15,864,054	$38,658,752	$52,115,020	$29,536,980	$1,389,539
2024	97	$16,080,594	$31,904,811	$45,090,788	$26,284,615	$1,230,524
Average	**105**	**$16,434,184**	**$36,981,356**	**$51,189,626**	**$26,033,327**	**$1,259,123**

Source: SEFSC Fishing Communities Web Query Tool (Version Jan 14, 2026, Years: 2000-2024).

Imports

Imports of foreign seafood products compete within the domestic seafood market, and in the U.S., imports dominate many segments of that market. Imports also tend to be price setters (products that are able to set prices in a market, due to the influence of having a majority of market share). Seafood imports can have downstream effects on the local fish market. At the harvest level, imports can affect ex-vessel prices fishermen receive for landings. As substitutes to domestic production, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings. Imports that directly compete with domestic reef fish, including red grouper, are described in this section.

Groupers

According to NMFS' foreign trade data,[17] grouper are not exported. Imports of fresh and frozen grouper products, which also directly compete with domestic harvest of Gulf reef fish species, are described in this section. As shown in Table 3.3.1.4, imports of fresh grouper products peaked in 2023. Total value of fresh grouper imports has been increasing in recent years and averaged $63.0 million (2024 dollars) annually. The average price per pound (lb) product weight (pw) for fresh grouper products was $5.32 from 2020-2024. Although not shown in the table, these products primarily originated from Mexico, Brazil, and Panama from 2020-2024.

[17] https://www.fisheries.noaa.gov/foss/

Table 3.3.1.4. Annual pounds and value of fresh grouper imports 2020-2024.

Year	Total Pounds (lbs.)	Total Value	Price per Pound ($/lbs.)
2020	10,449,994	$46,394,887	$4.43
2021	12,246,904	$65,449,667	$5.34
2022	11,700,388	$66,946,463	$5.72
2023	12,628,176	$68,236,890	$5.41
2024	11,995,196	$68,346,048	$5.70
Average	**11,804,132**	**$63,074,791**	**$5.32**

Source: NOAA Foreign Trade Query Tool, accessed 10/20/24.

As shown in Table 3.3.1.5, imports of frozen grouper products peaked at 2.2 million lb pw in 2021 and have been declining since. Total revenue from frozen grouper increased sharply from $1.7 to $5.8 million from 2020 to 2021, but also declined nearly as sharply in 2022 to $2.9 million. The average price per lb pw for frozen grouper products was $2.30 from 2020-2024. Although not shown in the table, imports of frozen grouper products primarily originated in Brazil, Suriname, and Indonesia from 2020-2024.

Table 3.3.1.5. Annual pounds and value of frozen grouper imports and share of imports by country, 2020-2024.

Year	Total Pounds (lbs.)	Total Value	Price per Pound ($/lbs.)
2020	814,426	$1,718,333	$2.10
2021	2,190,003	$5,818,759	$2.66
2022	1,339,501	$2,942,717	$2.20
2023	1,154,097	$2,676,394	$2.31
2024	1,097,656	$2,459,846	$2.24
Average	**1,319,137**	**$3,123,210**	**$2.30**

Source: NOAA Foreign Trade Query Tool, accessed 08/18/24.

Snappers

Imports of fresh and frozen snapper products, which directly compete with domestic harvest of Gulf reef fish species are described in this section. As shown in Table 3.3.1.6, imports of fresh snapper products were 32.4 million lb pw in 2020. They peaked at 36.0 million lb pw in 2021. Total revenue from snapper imports increased to a five-year high of $169 million in 2021 (2024 dollars). The average price per pound for fresh snapper products was $4.48 from 2020-2024 and prices varied over this period. Although not shown in the table, imports of fresh snapper products primarily originated in Mexico, Nicaragua, or Panama from 2020-2024.

Table 3.3.1.6. Annual pounds and value of fresh snapper imports and share of imports by country, 2020-2024. All monetary estimates are in 2024$.

Year	Total Pounds (lbs.)	Total Value	Price per Pound ($/lbs.)
2020	32,394,316	$129,401,869	$3.99
2021	35,969,857	$169,002,918	$4.70
2022	32,180,318	$150,937,686	$4.69
2023	32,108,363	$142,592,355	$4.44
2024	30,474,645	$139,494,605	$4.58
Average	**32,625,500**	**$146,285,887**	**$4.48**

Source: NOAA Foreign Trade Query Tool, accessed 10/20/24.

As shown in Table 3.3.1.7, total revenue from imports of frozen snapper increased from $55.2 million (2024 dollars) in 2020 to a five-year high of $75.7 million in 2021 (2024 dollars) followed by a 40% decrease through 2023. The average price per pound for frozen snapper products was $3.86, with a notable decrease from 2022 to 2023. Although not shown in the table, imports of frozen snapper product primarily originated in Brazil or Suriname, from 2020-2024.

Table 3.3.1.7. Annual pounds and value of frozen snapper imports and share of imports by country, 2020-2024.

Year	Total Pounds (lbs.)	Total Value	Price per Pound ($/lbs.)
2020	15,873,809	$55,208,728	$3.48
2021	18,224,848	$75,715,262	$4.15
2022	16,941,442	$70,812,484	$4.18
2023	11,701,409	$42,501,474	$3.64
2024	14,836,601	$57,206,691	$3.86
Average	**15,515,622**	**$60,288,928**	**$3.86**

Source: NOAA Foreign Trade Query Tool, accessed 10/20/24.

Business Activity

The commercial harvest and subsequent sales and consumption of fish generates business activity as fishermen expend funds to harvest the fish and consumers spend money on goods and services, such as grouper purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers

would spend their money on substitute goods, such as other finfish or seafood products, and services, such as visits to different food service establishments. As a result, the analysis presented below represents a distributional analysis that only shows how economic impacts may be distributed through regional markets. It should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

Economic impact models can be used to determine the sources of the impacts. Each impact can be broken down into direct, indirect, and induced economic impacts. "Direct" economic impacts are the results of the money initially spent in the study area (e.g., country, region, state, or community) by the fishery or industry being studied. This includes money spent to pay for labor, supplies, raw materials, and operating expenses. The direct economic impacts from the initial spending create additional activity in the local economy, i.e., "indirect" economic impacts. Indirect economic impacts are the results of business-to-business transactions indirectly caused by the direct impacts. For example, businesses initially benefiting from the direct impacts will subsequently increase spending at other local businesses. The indirect economic impact is a measure of this increase in business-to-business activity, excluding the initial round of spending which is included in the estimate of direct impacts. "Induced" economic impacts are the results of increased personal income caused by the direct and indirect economic impacts. For example, businesses experiencing increased revenue from the direct and indirect impacts will subsequently increase spending on labor by hiring more employees, increasing work hours, raising salaries/wage rates, etc. In turn, households will increase spending at local businesses. The induced impact is a measure of this increase in household-to-business activity.

Estimates of the U.S. average annual business activity associated with the commercial harvest of all Gulf reef fish species were derived using the model developed for and applied in NMFS (2024a)[18] and are provided in Table 3.3.1.8. Specifically, these impact estimates reflect the expected impacts from average annual gross revenues generated by landings of red grouper IFQ species from 2020 through 2024. This business activity is characterized as jobs (full- and part-time equivalents), income impacts (wages, salaries, and self-employed income), value-added impacts (the difference between the value of goods or services and the cost of materials, supplies, and labor across the supply chain), and output impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

The results provided here should be interpreted with caution. The results are based on average relationships developed through the analysis of many fishing operations that harvest many different species.

[18] A detailed description of the input/output model is provided in NMFS (2011).

Table 3.3.1.8. Average annual business activity (2020 through 2024) associated with the commercial harvest of red grouper in the Gulf. All monetary estimates are in thousands of 2024 dollars.

Harvesters	Direct	Indirect	Induced	Total
Employment impacts	284	44	58	387
Income impacts	$8,152	$1,513	$3,660	$13,325
Total value-added impacts	$8,689	$5,449	$6,262	$20,400
Output Impacts	$15,099	$12,284	$12,156	$39,539
Primary dealers/processors	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	59	24	41	124
Income impacts	$2,660	$2,451	$2,318	$7,429
Total value-added impacts	$2,835	$3,128	$4,365	$10,328
Output impacts	$8,561	$6,448	$8,532	$23,541
Secondary wholesalers/ distributors	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	27	6	27	60
Income impacts	$1,585	$471	$1,667	$3,722
Total value-added impacts	$1,689	$790	$2,847	$5,326
Output impacts	$4,244	$1,547	$5,536	$11,328
Grocers	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	118	13	26	157
Income impacts	$3,260	$1,083	$1,636	$5,979
Total value-added impacts	$3,474	$1,745	$2,770	$7,989
Output impacts	$5,571	$2,834	$5,438	$13,843
Restaurants	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	733	49	120	901
Income impacts	$13,075	$3,966	$7,490	$24,530
Total value-added impacts	$13,938	$7,088	$12,619	$33,645
Output impacts	$25,485	$11,092	$24,901	$61,479
Harvesters and seafood industry	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	1,221	136	272	1,629
Income impacts	$28,731	$9,485	$16,770	$54,986
Total value-added impacts	$30,626	$18,201	$28,862	$77,689
Output impacts	$58,960	$34,207	$56,563	$149,730

3.3.2 Description of the Social Environment

This amendment affects the commercial management of red grouper in the Gulf. The following description presents baseline information on fishing participants and fishing communities. This description includes the current status of the fishery in order to present the communities that are expected to be primarily affected by the actions in this amendment because they are the most engaged in and/or reliant on the fishery and is used to inform the social effects. Community level data are presented whenever possible to meet the requirements of National Standard 8 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), which requires consideration of the importance of fishery resources to human communities when changes to fishing regulations are considered.

The following description includes permits related to the commercial and recreational reef fish fishing by state and to provide a geographic distribution of fishing involvement. The most recent data available has been utilized in the following section; however, the year range or date presented may not match what is included elsewhere because some sources of data are not available at the community or state level. Top communities based on the number of permits are presented. Commercial landings by state are included to provide information on the geographic distribution of fishing involvement.

Descriptions of red grouper IFQ accounts with shares, red grouper IFQ accounts with shares and permits, red grouper IFQ accounts with allocation but without shares, red grouper IFQ accounts with allocation but without shares and with a permit, and red grouper IFQ species dealers are included at the state and community level. The top communities in the Gulf by commercial landings are identified and their commercial engagement and reliance are described. Lastly, social vulnerability data are presented for all top-ranking communities.

3.3.3 Commercial Sector

Description of the IFQ Program

Commercial fishing for red grouper is part of a multi-species reef fish fishery with species commonly co-occurring and co-caught and is conducted through the Grouper-Tilefish (GT) IFQ program. The GT IFQ program includes five share categories including a red grouper IFQ share category. There is a high degree of overlap in participation among share categories within the GT IFQ program, with the majority of shareholders holding shares in three or more share categories since the start of the program (NMFS 2024c). There is also great overlap between vessels that land GT IFQ and those that land Red Snapper IFQ, a separate, but related IFQ program (94% of GT IFQ vessels landed Red Snapper IFQ in 2023, NMFS 2024c).

Participants in the IFQ program include shareholders (those who hold shares and receive annual allocation from those shares), allocation only holders (those who purchase or use annual allocation from other shareholders; however, these accounts may be related to shareholder accounts), vessel owners, permit owners, hired captains, crew, or fish dealers. Shareholders can include such categories of participants as commercial and for-hire fishermen, fish dealers, brokers (those who own shares and sell their allocation to others), and restaurant owners.

Shareholders can be involved in the program in multiple ways and through a variety of business arrangements; for example, a shareholder can include an individual or company that owns a vessel and permit, owns shares, fishes their allocation, and purchases additional allocation from others. Another example of a shareholder is a business that owns a vessel, owns a permit, owns shares, and acts as a fish dealer. Some fish dealers acquire shares and allocation for use by the vessels that supply fish for their fish house, with in some cases, a fleet of vessels reliant on the allocation that they procure. Dealers must have an IFQ account and an IFQ dealer endorsement in order to receive landings of IFQ species.

Interactions between participants within the IFQ program are critical to the way that fishermen operate within the system and comply with the rules and regulations. Anecdotally, it has been reported that fishermen frequently rely on their social networks, the people they know, to find shares and allocation for sale. In particular, it has been described that fishermen frequently rely on their fish dealers for allocation. Some fishermen also rely on their dealer or more technically inclined connections to help them to fill out paperwork required for permit applications or IFQ requirements.

Red grouper allocation is distributed annually to shareholders. The amount of allocation received by each shareholder is based on a proportion of the quota for the year, with the initial issuance of share amounts based on past participation. Shares and allocation can be bought and sold, and the number of shares held by particular shareholders and number of entities holding shares has declined over time (692 shareholders at the beginning of the program compared to 454 in 2023, NMFS 2024c). The greatest proportion 56% of shares in 2023) of red grouper IFQ shares are held by medium shareholders (medium is categorized as holding between 0.05-1.4999% of shares), followed by large shareholders (41%, large is categorized as holding greater than or equal to 1.5% of shares), and small (3%, small is categorized as holding less than 0.05% of shares, NMFS 2024c). Conversely, the greatest number of red grouper IFQ shareholders are small (62% of shareholders in 2023), followed by medium shareholders (35%), and large shareholders (3%). New shareholders can participate through the purchase of shares from other shareholders and those without shares are able to participate and land red grouper species through the purchase or use of another shareholder's allocation through a transfer.

Annual allocation can be transferred resulting from the purchase of allocation (commonly referred to as leasing quota) or through other arrangements, for example, such as the transfer of allocation to a related account (such as another account held by the same shareholder) or for example, a transfer to a vessel that is delivering fish to the shareholder's fish house. A sizable proportion of participants (33% of red grouper allocation holders in 2023, NMFS 2024c) acquire red grouper allocation via transfer and do not hold red grouper shares; however, some may receive allocation from a related account that holds shares. In addition, those without shares land the majority of landings of red grouper (65% in 2023, NMFS 2024c). Allocation is transferred more than the total amount of the quota and may often be transferred multiple times before being used to account for landings. For example, in 2023, 294% of the red grouper quota was transferred through 3,839 allocation transfers (NMFS 2024c).

Permits

Gulf reef fish permits are limited access, but transferrable. The name listed on the permit must match the name listed on the IFQ account in order to harvest IFQ species. Gulf reef fish permits are issued to entities, such as individuals and/or businesses in Florida (81.4% of Gulf reef fish vessels), Texas (7.8%), Alabama (4.5%), Louisiana (3.8%), and Mississippi (0.9%) (SERO permit office, July 8, 2021). Residents of other states (Arkansas, Georgia, Illinois, Maryland, Missouri, North Carolina, New York, Oklahoma, and South Carolina) also hold commercial reef fish permits, but these states represent a smaller percentage of the total number of issued permits.

Gulf reef fish permits are held by those with mailing addresses in 232 communities (SERO permit office, July 8, 2021). Communities with the most commercial reef fish permits are located in Florida and Texas (Table 3.4.1.1). The communities with the most reef fish permits are Panama City, Florida (9.1% of reef fish permits), Key West, Florida (4.8%), and St. Petersburg, Florida (3.3%).

Table 3.4.1.1. Top communities by number of Gulf reef fish permits.

State	Community	Reef Fish Permits (RR)
FL	Panama City	82
FL	Key West	43
FL	St. Petersburg	30
FL	Largo	26
TX	Galveston	22
FL	Destin	22
FL	Cortez	21
FL	Pensacola	21
FL	Seminole	20
FL	Clearwater	16
FL	Tampa	16
FL	Lynn Haven	13
FL	Naples	13
FL	Steinhatchee	13
FL	Apalachicola	11
FL	Tarpon Springs	11

Source: SERO permit office, July 8, 2021.

Landings

Nearly all of the commercial catch of red grouper is landed along the west coast of Florida (average of 99.9% from 2016-2020), with small proportions landed in Louisiana, Alabama, and Texas (NMFS SERO IFQ database accessed 4/2/25).

IFQ Accounts

To land IFQ-managed species, such as red grouper, fishermen need a permitted vessel with an activated VMS unit, and sufficient IFQ allocation in the vessel's account to land the fish. Like permits, some accounts are held in the name of an individual, or more than one individual, while others form business entities and open accounts in the name of the business. This makes it more difficult to talk about the social environment as there may be multiple individuals behind the account, and they may not reside in the same area. In the following analysis, accounts are described at the state and community level based on the mailing address of the self-designated primary entity (e.g., individual, business, or primary entity listed on the permit or IFQ application when held by more than one entity).

An IFQ account, also called shareholder account, is required to hold shares and allocation. The number of accounts is used here as a proxy to represent the number of participants and may represent more than one entity.

Shareholders

As of July 8, 2021, a total of 480 IFQ accounts held shares of red grouper IFQ (IFQ database; includes active and suspended accounts). The majority of accounts with red grouper IFQ shares have a mailing address in Florida (86% of accounts with red grouper IFQ shares, Table 3.4.1.2), followed by Alabama (4.2%), Texas (2.7%), Louisiana (2.5%), and Mississippi (0.8%). Accounts with mailing addresses in other states (Arkansas, Georgia, Michigan, North Carolina, New York, Ohio, Oregon, South Carolina, Tennessee, Utah, and Wyoming) also hold red grouper IFQ shares, but these states represent a smaller percentage of the total number of accounts with shares.

The majority of red grouper IFQ shares are held in accounts with mailing addresses in Florida, followed by Texas (Table 3.4.1.2). Accounts in Alabama, Louisiana, Mississippi, and other states also hold red grouper IFQ shares, but these states represent a smaller percentage of shares.

Table 3.4.1.2. Number of IFQ accounts with red grouper shares by state, including the percentage of shares by state.

State	Accounts	Red Grouper Shares (%)
AL	20	0.870
FL	413	83.162
LA	12	0.028
MS	4	0.141
TX	13	6.172
Other	18	9.425
Total	480	99.799

Source: NMFS SERO IFQ database accessed 7/8/21.
Note: Includes active and suspended accounts.

Accounts with red grouper IFQ shares are held by people with mailing addresses in a total of 166 communities (IFQ database accessed 7/8/21). Communities with the most accounts with red grouper IFQ shares are located in Florida (Table 3.4.1.3). The community with the most accounts with red grouper IFQ shares is Panama City, Florida (8.3% of accounts with shares), followed by Key West, Florida (4.8%), and Largo, Florida (3.8%).

Table 3.4.1.3. Top communities by number of IFQ accounts with red grouper shares, including the percentage of shares by community.

State	Community	Accounts	Red Grouper Shares (%)
FL	Panama City	40	4.827
FL	Key West	23	0.456
FL	Largo	18	8.416
FL	Cortez	15	6.342
FL	St. Petersburg	15	4.990
FL	Destin	12	0.177
FL	Pensacola	12	0.038
FL	Tarpon Springs	10	2.054
FL	Apalachicola	9	2.284
FL	Steinhatchee	9	2.452
FL	Clearwater	8	6.781
FL	Seminole	8	3.602
FL	Tampa	8	0.327

Source: NMFS SERO IFQ database accessed 7/8/21.

The largest percent of red grouper IFQ shares held in a community is 8.416% is in Largo, Florida (IFQ database accessed 7/8/21). The percentage of shares by community varies widely and a large number of accounts with shares may not necessarily correlate to a large percentage of shares in a particular category (Table 3.4.1.3). Some communities with a relatively smaller number of accounts may have a larger percentage of shares.

Shareholders with Permits

As of July 8, 2021, a total of 275 IFQ accounts held shares of red grouper IFQ and a reef fish permit (IFQ database; includes active and suspended accounts). Shareholders with an IFQ account with shares of red grouper and a reef fish permit held approximately 68.7% of the red grouper shares (Table 3.4.1.4). The majority of accounts with red grouper IFQ shares and a reef fish permit have a mailing address in Florida (90.9% of accounts with red grouper IFQ shares and a reef fish permit), followed by Alabama and Texas (each with 3.3%), and Louisiana and Mississippi (1.8%). Louisiana and Mississippi are combined to maintain confidentiality. Accounts with mailing addresses in other states (Arkansas and New York) also hold red grouper IFQ shares and a reef fish permit, but these states represent a smaller percentage of the total number of accounts with shares and a permit.

The majority of red grouper IFQ shares held by accounts with red grouper shares and a reef fish permit are held by those with mailing addresses in Florida, followed by Texas (Table 3.4.1.2). Accounts in Alabama, Louisiana, Mississippi, and other states also hold red grouper IFQ shares and a reef fish permits, but these states represent a smaller percentage of shares.

Table 3.4.1.4. Number of IFQ accounts with red grouper shares and a reef fish permit by state, including the percentage of shares by state.

State	Accounts	Red Grouper Shares (%)
AL	9	0.848
FL	250	62.049
LA/MS	5	0.160
TX	9	5.532
Other	2	0.069
Total	275	68.657

Source: NMFS SERO IFQ database accessed 7/8/21.
Note: Includes active and suspended accounts.

Accounts with red grouper IFQ shares and a reef fish permit are held by people with mailing addresses in a total of 112 communities (IFQ database accessed 7/8/21). Communities with the most accounts with red grouper IFQ shares and a reef fish permit are located in Florida (Table 3.4.1.5). The community with the most accounts with red grouper IFQ shares and a permit is Panama City, Florida (9.8% of accounts with shares and a permit), followed by Cortez and Key West, Florida (each with 5.1%), and St. Petersburg, Florida (3.6%).

Table 3.4.1.5. Top communities by number of IFQ accounts with red grouper shares and a permit, including the percentage of shares by community.

State	Community	Accounts	Red Grouper Shares (%)
FL	Panama City	27	4.264
FL	Cortez	14	6.303
FL	Key West	14	0.249
FL	St. Petersburg	10	4.626
FL	Steinhatchee	8	2.279
FL	Destin	7	0.029
FL	Apalachicola	6	2.196
FL	Largo	6	6.019
FL	Seminole	6	2.811
FL	Tarpon Springs	6	2.011
FL	Clearwater	5	5.769
FL	Tampa	5	0.311

Source: NMFS SERO IFQ database accessed 7/8/21.

The largest percent of red grouper IFQ shares held in a community by IFQ accounts with red grouper shares and a permit is 6.303% in Cortez, Florida (IFQ database accessed 7/8/21). The percentage of shares by community varies widely and a large number of accounts with shares may not necessarily correlate to a large percentage of shares in a particular category (Table 3.4.1.5).

Allocation Only Holders

In 2020, a total of 207 IFQ accounts held red grouper IFQ allocation without red grouper IFQ shares (IFQ database accessed 2/25/22). However, some of these accounts may be related to accounts with red grouper shares. The majority of accounts with red grouper IFQ allocation, but without red grouper IFQ shares have mailing addresses in Florida (90.8% of accounts with red grouper allocation, but without red grouper shares, Table 3.4.1.6), followed by Alabama and Louisiana (each with 2.4%), and Texas (1.4%). Account holders with red grouper allocation, but without red grouper shares also have mailing addresses in other states (Georgia, Illinois, Massachusetts, North Carolina, Ohio, and South Carolina), but these states represent a smaller percentage of the total number of accounts with allocation, but without shares.

Table 3.4.1.6. Number of IFQ accounts with red grouper allocation, but without red grouper shares by state, 2020.

State	Accounts
AL	5
FL	188
LA	5
MS	0
TX	3
Other	6
Total	207

Source: NMFS SERO IFQ database accessed 2/25/22.

IFQ accounts with red grouper IFQ allocation, but without red grouper IFQ shares, have mailing addresses in a total of 92 communities (IFQ database accessed 2/25/22). Communities with the most accounts with allocation, but without shares are located in Florida (Table 3.4.1.7). The community with the most accounts with allocation, but without shares is Panama City, Florida (8.2% of accounts with allocation, but without shares, Table 3.4.1.7), followed by St. Petersburg, Florida (5.8%) and Largo, Florida (5.3%).

Table 3.4.1.7. Top communities by number of IFQ accounts with red grouper allocation, but without red grouper shares, 2020.

State	Community	Accounts
FL	Panama City	17
FL	St. Petersburg	12
FL	Largo	11
FL	Madeira Beach	8
FL	Seminole	7
FL	Key West	6
FL	Pensacola	5
FL	Cape Coral	4
FL	Clearwater	4
FL	Crawfordville	4
FL	Hernando Beach	4
FL	Indian Shores	4
FL	Lecanto	4
FL	Tampa	4

Source: NMFS SERO IFQ database accessed 2/25/22.

Allocation Only Holders with Permits

In order to describe IFQ accounts that held red grouper IFQ allocation without red grouper shares and also held a reef fish permit at the state and community level, IFQ account data for the year 2020 was compiled with permits data as of July, 8 2021. If an account could not be matched, the permits database was queried manually to check if a reef fish permit was held in the name or business of the account holder. This analysis resulted in a total of 192 IFQ accounts that

held red grouper IFQ allocation without red grouper IFQ shares, but were associated with a reef fish permit. However, some of these accounts may be related to accounts with red grouper shares. The majority of accounts with red grouper allocation only with a reef fish permit have mailing addresses in Florida (93.2% of red grouper allocation only holders with permits, Table 3.4.1.8), followed by Louisiana and Texas (2.6%), and Alabama (1.6%). Louisiana and Texas are combined to maintain confidentiality. Red grouper allocation only accounts with permits also have mailing addresses in other states (Georgia, Illinois, North Carolina, Ohio, and South Carolina), but these states represent a smaller percentage of accounts with red grouper allocation only and with a reef fish permit.

Table 3.4.1.8. Number of IFQ accounts with red grouper allocation, but without red grouper shares and with a permit by state, 2020.

State	Accounts
AL	3
FL	179
LA/TX	5
MS	0
Other	5
Total	192

Source: NMFS SERO IFQ database accessed 2/25/22; SERO permit office, July 8, 2021; and SERO permit database accessed March 13, 2026.

Red Grouper allocation only accounts with permits have mailing addresses in a total of 85 communities (IFQ database accessed 2/25/22; SERO Permit Office, July 8, 2021, and SERO Permit database accessed March 13, 2026). Communities with the most accounts with red grouper allocation only with a permit are located in Florida (Table 3.4.1.9). The community with the most accounts with red grouper allocation only with a permit is Panama City, Florida (8.9% of accounts with allocation, but without shares, Table 3.4.1.7), followed by Largo, Florida (5.7%) and St. Petersburg, Florida (4.7%).

Table 3.4.1.9. Top communities by number of IFQ accounts with red grouper allocation, but without red grouper shares and with a permit, 2020.

State	Community	Accounts
FL	Panama City	17
FL	Largo	11
FL	St. Petersburg	9
FL	Madeira Beach	8
FL	Seminole	7
FL	Key West	6
FL	Pensacola	5
FL	Cape Coral	4
FL	Clearwater	4
FL	Crawfordville	4
FL	Hernando Beach	4
FL	Indian Shores	4
FL	Lecanto	4
FL	Tampa	4

Source: NMFS SERO IFQ database accessed 2/25/22; SERO permit office, July 8, 2021; and SERO permit database accessed March 13, 2026.

Dealers

The majority of dealer facilities with red grouper IFQ landings are located in Florida (average of 95.1% of Gulf red grouper IFQ species dealer facilities for 2016-2020, Table 3.4.1.8); followed by Alabama, Louisiana, and Texas combined (4.9%). Alabama, Louisiana, and Texas are combined to protect confidentiality.

Table 3.4.1.10. Number of Gulf red grouper IFQ dealer facilities by state for 2016-2020.

Year	FL	AL/LA/TX
2016	111	8
2017	113	5
2018	110	6
2019	111	6
2020	101	3

Source: NMFS SERO IFQ database accessed 4/2/25.

Gulf red grouper IFQ species dealers are located in a total 74 communities (IFQ database accessed 4/2/25, includes dealers with landings of red grouper from 2016-2020). Communities with the most Gulf red grouper IFQ dealer facilities are located in Florida (Table 3.4.1.9). The community with the most Gulf red grouper IFQ dealer facilities is Panama City, Florida (7% of Gulf red grouper IFQ dealer facilities, Table 3.4.1.9), followed by Key West, Florida (6.5%); and Madeira Beach, Florida (6%).

Table 3.4.1.11. Top communities by number of dealer facilities with red grouper IFQ landings during 2016-2020.

State	Community	*Dealer Facilities
FL	Panama City	15
FL	Key West	14
FL	Madeira Beach	13
FL	Steinhatchee	8
FL	Bokeelia	7
FL	St. James City	7
FL	St. Petersburg	7
FL	Venice	7
FL	Panacea	6
FL	Crystal River	5
FL	Fort Myers	5
FL	Pensacola	5

Source: NMFS SERO IFQ database accessed 4/2/25.
*Multiple dealers can use the same facility and a dealer can operate at multiple facilities.

Regional Quotient

Regional Quotient (RQ) is the proportion of red grouper landings within a community out of the total amount of red grouper landed within the Southeast region. It is an indicator of the percent contribution in pounds or value of red grouper IFQ landed within that community relative to the regional fishery. The RQ is reported individually only for the top 10 communities by total landings for the years of 2016 through 2020. All other communities that landed red grouper IFQ are grouped as "Other." Figure 3.4.1.1 shows the RQ in percentage of pounds from 2016 to 2020. The dominant communities for red grouper IFQ pounds landed include the communities of Madeira Beach, Cortez, and Redington Shores, Florida (Figure 3.4.1.1). The top community of Madeira Beach, Florida is frequently referred to as the "Grouper Capital of the World," and includes an average of 43.7% of landings of red grouper IFQ species over the time series. Several of the top 10 communities are located in Pinellas County (Madeira Beach, Redington Shores, Tarpon Springs, Indian Shores, and St. Petersburg) and are within close proximity to each other. In addition, although Cortez, Florida (ranked second) is located in an adjacent county, Manatee County, it is also located within close proximity to Pinellas County. Two of the top 10 communities are located in the Florida Panhandle (Apalachicola and Panama City).

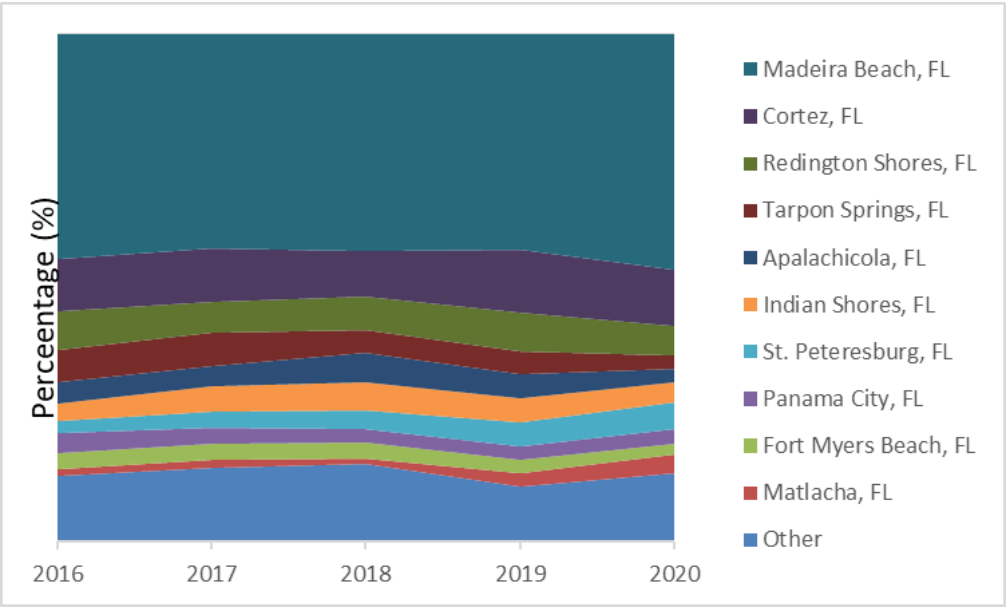


Figure 3.4.1.1. Regional Quotient (pounds) for top communities by landings of Gulf red grouper IFQ from 2016 through 2020.
Source: IFQ database accessed 4/2/25.

Engagement and Reliance

In addition to examining the RQs and LQs to understand how Gulf communities are engaged and reliant on fishing, indices were created using secondary data from permit and landings information for the commercial sector (Jepson and Colburn 2013, Jacob et al. 2013). Fishing engagement is primarily based on the absolute numbers of permits, landings, and value. The analysis used the number of vessels designated commercial by homeport and owner address, value of landings, and total number of commercial permits for each community. Fishing reliance includes the same variables as fishing engagement divided by population to give an indication of the per capita influence of this activity.

Taking the communities with the highest RQs, factor scores of both engagement and reliance for commercial fishing were plotted. Two thresholds of one and one-half standard deviation above the mean are plotted onto the graphs to help determine a threshold for significance. The factor scores are standardized; therefore, a score above one is also above one standard deviation. A score above one-half standard deviation is considered engaged or reliant, with anything above one standard deviation to be very engaged or reliant.

Figure 3.4.1.2 is an overall measure of a community's commercial fishing engagement and reliance and includes the communities with the strongest relationship to the commercial sector for red grouper as depicted in Figure 3.4.1.1. Most communities in Figure 3.4.1.2 would be considered to be highly engaged in commercial fishing, as many are at or above one standard deviation of the mean factor score. Redington Shores, Indian Shores, and Matlacha, Florida show the least amount of engagement in commercial fishing overall. Madeira Beach, Cortez, Apalachicola, Fort Myers Beach, and Matlacha, Florida demonstrate a moderate to high level of commercial reliance.

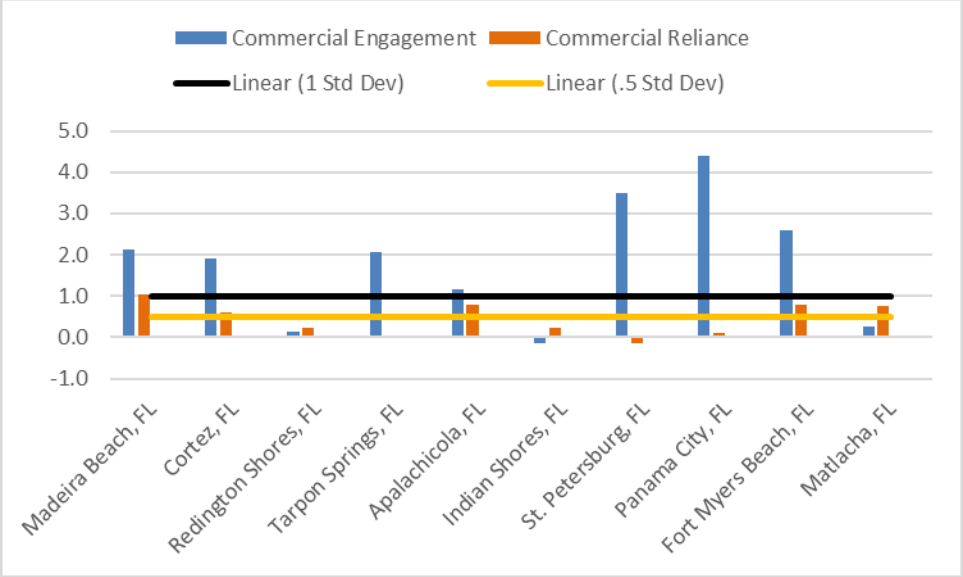


Figure 3.4.1.2. Commercial fishing engagement and reliance for top red grouper communities.
Source: SERO Community Social Vulnerability Indicators Database 2021.

3.3.4 Social Vulnerability

A suite of indices was created using census data to examine the social vulnerability of coastal communities. The three indices are poverty, population composition, and personal disruption. The variables included in each of these indices have been identified through the literature as being important components that contribute to a community's vulnerability. Poverty includes poverty rates for different groups; population composition includes more single female-headed households, households with children under the age of five, minority populations, and those that speak English less than well; and personal disruption includes disruptions such as higher separation rates, higher crime rates, and unemployment. Increased rates in the indicators are signs of populations experiencing vulnerabilities. Again, for those communities that exceed the threshold it would be expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

Figures 3.4.2.1 and 3.4.2.2 provide social vulnerability rankings for place-based communities identified in Section 3.4 as important to commercial fishing for red grouper specifically or for reef fish. Several communities in Florida exceed the threshold of one standard deviation above the mean for at least one of the indices (Bokeelia, Panacea, and Steinhatchee). These communities would be the most likely to exhibit vulnerabilities to social or economic disruption resulting from regulatory change.

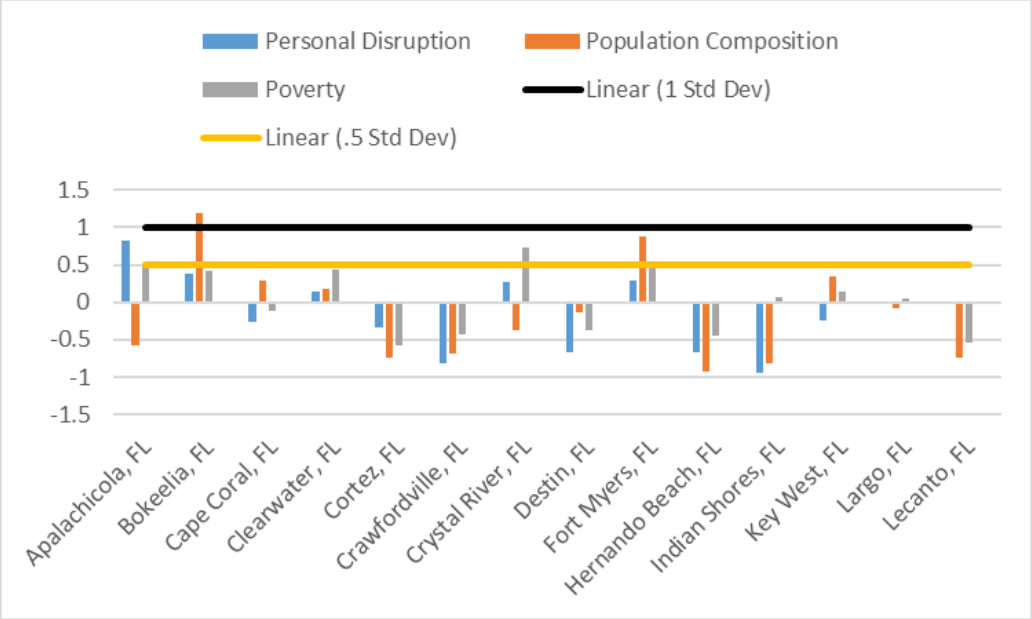


Figure 3.4.2.1. Social vulnerability indices for top commercial reef fish and red grouper communities.
Source: SERO, Community Social Vulnerability Indicators Database 2022.

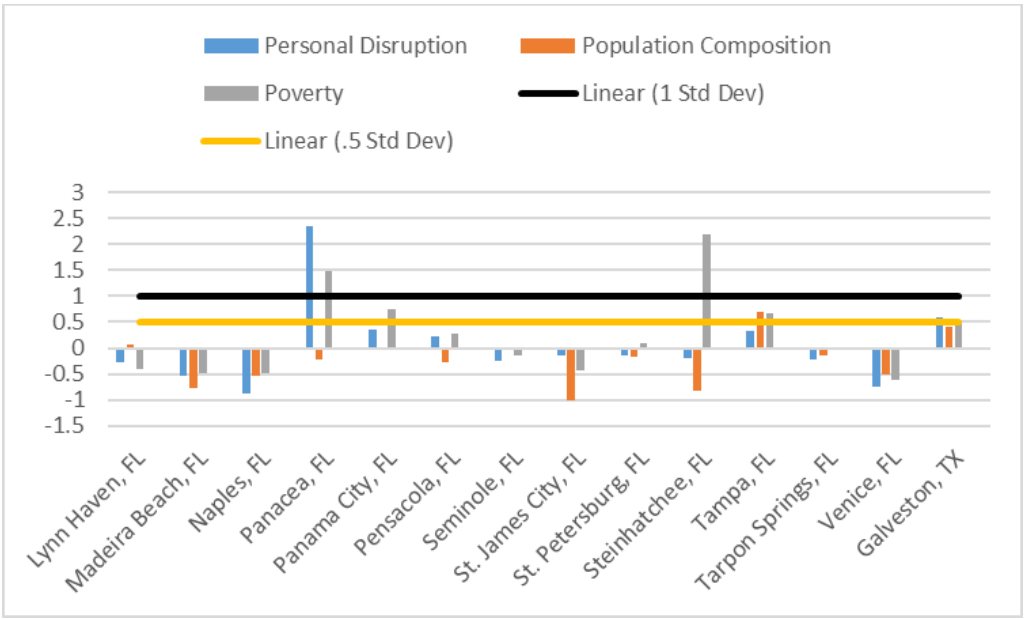


Figure 3.4.2.2. Social vulnerability indices for top commercial reef fish and red grouper communities continued.
Source: SERO, Community Social Vulnerability Indicators Database 2022.

The description of fishing activities presented here highlights which communities may be most involved in commercial Gulf red grouper fishing. It is expected that the impacts from the regulatory action in this amendment, whether positive or negative, will most likely affect those communities identified above.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1 – Commercial Quota Pool for Gulf of America (Gulf) Red Grouper

4.1.1 Effects on the Physical Environment

The status quo **Alternative 1** would not establish a commercial red grouper quota pool. **Alternative 2** in this action establishes a three-year commercial quota pool for Gulf red grouper beginning in 2027. If the commercial red grouper annual catch target (quota) is below 2.79 million pounds gutted weight (mp gw)[19], the quota pool is set at zero percent of the commercial quota (zero pounds). If the commercial quota is at or above 2.79 mp gw, the quota pool would hold: 15, 20, 25, or 30 percent over the increase of 2.7979 mp gw. **Alternative 3** would establish a quota pool if the commercial quota is below 4.28 mp gw[20], the quota pool is set at zero percent of the commercial quota (zero pounds). If the commercial quota is at or above 4.28 mp gw, the quota pool would hold: 15, 20, 25, or 30 percent over the increase of 2.7979 mp gw.

This action would only affect the commercial sector harvesting red grouper. The commercial sector of the reef fish fishery mainly uses vertical line (i.e., electric reel, bandit rig, hook-and-line, and trolling) and longline gear. Generally, reef fish are also harvested by spearfishing in the commercial sectors.

Anchor damage is also associated with vertical line fishing vessels, particularly by the recreational sector, where fishermen may repeatedly visit well marked or known fishing locations. Hamilton (2000) pointed out that "favorite" fishing areas such as reefs are targeted and revisited multiple times, particularly with the advent of GPS technology. The cumulative effects of repeated anchoring could damage the hard bottom areas where reef fish fishing occurs, which may be exacerbated by repeated drops of weighted fishing rigs onto the reef. Commercial vessels that use vertical line gear are typically known to anchor more frequently over reef sites.

Commercial harvesting for reef fish using longline gear occurs over hard bottom habitats using weights to keep the gear in direct contact with the bottom. The potential for this gear to adversely impact the bottom depends on the type of habitat it is set on, the presence or absence of currents, and the behavior of fish after being hooked. This gear can abrade, snag, and dislodge smaller rocks, corals, and sessile invertebrates (Hamilton 2000; Barnette 2001). Direct underwater observations of longline gear in the Pacific halibut fishery by High (1980) noted that the gear could sweep across the bottom. A study that directly observed deployed longline gear (Atlantic tilefish portion of the snapper-grouper fishery) found no evidence that the gear shifted significantly, even when set in currents (Grimes et al. 1982). **Alternative 2** and **Alternative 3** would not affect allowable harvest of red grouper and is not expected to result in measurable effects to the physical environment compared to each other or compared to **Alternative 1**.

[19] Commercial red grouper quota (ACT) from 2023 until the 2025 Emergency Rule was 2.79 mp gw. This quota was established in Amendment 53 to the Reef Fish FMP (GMFMC 2022).
[20] 2026 Commercial red grouper quota established in Action 2, Preferred Alternative 2 in Amendment 62 to the Reef Fish FMP is 4.28 mp gw.

4.1.2 Effects on the Biological/Ecological Environment

Effects from fishery management actions as they relate to red grouper have been discussed in detail in GMFMC (2011a),), GMFMC (2021),), and GFMC (2026) and are incorporated here by reference. Management actions that affect the biological and ecological environments primarily relate to the impacts of fishing on a species' population size, life history, and the role of the species within its habitat. Removal of fish from a population through fishing reduces the overall population size. Fishing gear types have different selectivity patterns, which refer to a fishing method's ability to target and capture a species by size (length) and age. Selectivity patterns also include discards, which are mostly comprised of sublegal sized fish or fish caught during seasonal closures, and the mortality associated with releasing these fish. Potential impacts of the 2010 *Deepwater Horizon* MC252 oil spill on the biological/ecological environment are discussed in Section 3.2 and in the *Deepwater Horizon* Programmatic Damage Assessment and Restoration Plan (DWH Trustees 2016) and are also incorporated here by reference. These impacts include potential recruitment failure and reduced fish health.

Fishing can affect life history characteristics of reef fish, such as growth and maturation rates. Grouper reproduction may also be impacted by fishing. As an example, Fitzhugh et al. (2006) reported the size at which 50% of female gag (*Mycteroperca microlepis*) are sexually mature, and the size at which 50% of females transition to males, was smaller in their studies compared to earlier years. In addition, for hermaphroditic species (like red grouper), fishing pressure has been suggested as influential to changes in sex ratios. A decline in the ratio of male to female grouper could be an ongoing source of concern depending on the reproductive strategy of a particular species. However, for species that do not aggregate to spawn like red grouper, there is less vulnerability to sex-specific fishing mortality because fishing pressure on the stock is generally diffuse across its distribution. Of note though, red grouper is vulnerable to mortality from barotrauma when hooked at depth and then reeled to the surface.

The status quo **Alternative 1** would not establish a commercial red grouper quota pool and the quota increase resulting from Amendment 62 to the Fishery Management Plan for the Reef Fish Fishery of the Gulf (Reef Fish FMP) would be distributed to shareholders based on standard business practices. If the quota pool is established in **Alternative 2** or **3**, the selected portion of the quota increase would be distributed based on the selected parameters in this amendment beginning in 2027. This action would only affect how active fishermen receive available quota. Thus, this action is not expected to change how the reef fish fishery, which is a multi-species fishery, is prosecuted as a whole. No negative biological effects on red grouper are expected because removals are projected to be sustainable based on the results of the SEDAR 88 stock assessment.

Expected effects to discards and co-occurring species

Bycatch occurs within the reef fish fishery, and includes fish released due to catch limits, seasons, or other regulatory measures. In general, reducing bycatch provides biological benefits to managed species and the reef fish fishery through less waste, higher yields, and thus, less forgone yield. Increasing ACLs in the commercial sector as a result of Amendment 62 is expected to increase discards due to the greater number of regulatory discards (such as discard of undersized fish) that is expected to occur with the increased fishing effort associated with the

higher commercial quota. However, the actions in this amendment are not expected to increase fishing effort for red grouper in addition to potential effects from the increased catch limits from Amendment 62 and are thus unlikely to have negative effects on co-occurring species. Establishment of the quota pool may reduce discards of red grouper if the distribution methods provide allocation to accounts that otherwise not have the allocation need to land the fish caught.

Expected effects to protected species

The actions in this amendment would not significantly modify the way in which the reef fish fishery is prosecuted. Therefore, there are no additional impacts on ESA-listed species or designated critical habitats anticipated as a result of this action (see Section 3.2 for a more detailed description of ESA-listed species and critical habitat in the action area).

None of the Action 1 alternatives are expected to have measurable impacts on any other component of the biological environment overall or relative to each other, because of the multi-species nature of the reef fish fishery for the commercial sector. Fishing effort may shift to or from other species and away or towards red grouper specifically but is not expected to change the prosecution of the fishery as a whole. The effects are consistent across all actions in this amendment.

4.1.3 Effects on the Economic Environment

Alternative 1 (No Action) would not establish a commercial quota pool for red grouper. The commercial red grouper quota would continue to be distributed to IFQ shareholders solely based on share ownership percentages. Therefore, **Alternative 1** would not be expected to result in economic effects.

Alternatives 2 and **3** would establish a three-year commercial quota pool for red grouper beginning in 2027. The lowest and greatest quota amounts to be held in the pool range from a minimum of 306,000 lbs in 2027 (**Options 2a and 3a**) to a maximum of 774,000 lbs in 2028 and 2029 (**Option 2d and 3d**). The establishment of a red grouper quota pool would not affect red grouper shares or the aggregate amount of red grouper annual allocation available to harvest each year. Therefore, **Alternatives 2** and **3** would not be expected to result in economic effects. However, in conjunction with the alternative criteria for eligibility to receive allocation from the quota pool (Action 2) as well as the methods used to distribute the annual allocation (Action 3), the establishment of a quota pool through **Alternatives 2** or **3** would be expected to result in economic effects on various subset of participants in the individual fishing quota (IFQ) program. These expected economic effects are discussed in Section 4.3.3.

4.1.4 Effects on the Social Environment

Alternative 1 (No Action) would continue to see the entirety of Gulf red grouper quota distributed to existing IFQ red grouper shares. **Alternative 2** and **3** would establish a quota pool that would hold a percentage of the increase of the red grouper quota. The quota in this pool would be non-transferable and once received must be used prior to the transfer of regularly distributed quota. The quota in the pool would be distributed to eligible participants depending

on the parameters discussed in Action 2 and Action 3. The effects on eligible and ineligible participants will be further discussed with those actions.

Options a establish the smallest amount of quota in the quota pool at 15% of the commercial red grouper quota increase above 2.79 mp gw (projected to be 306,000 in 2027, 387,000 in 2028-9) and **Options d** have the largest amount at 30% of the commercial red grouper quota increase above 2.79 mp gw (projected to be 612,000 in 2027, 774,000 in 2028-9). As the quota pool would set aside an amount of quota, a higher amount of quota in the quota pool corresponds to a higher amount withheld from distribution to shares. For a shareholder who does not qualify for participation in the quota pool (as decided in Action 2) **Options d** in this action would have the most negative effects, followed by **Options c**, and **Options b**, while **Options a** would be less negative. For an allocation-only fisherman eligible for participation in the quota pool, **Options d** would have the most positive effects as they could have access to more quota, followed by **Options c,** and **Options b,** while **Options a** would be less positive with less quota available in the quota pool. The effects on shareholders who are eligible for participation in the quota pool depends on what percentage of shares they own and the amount of quota that they would be eligible for. The specific effects on these groups will be discussed in further detail in Section 4.3.4.

Establishing options to eliminate the quota pool if the commercial quota drops below a certain point could be valuable to fishery participants due to the historic instability of the red grouper stock and quota. Red grouper has had the largest fluctuation of quota of all share categories throughout the IFQ programs of the Gulf (NMFS 2025). Anecdotally, it has been discussed that the quota increase expected as a result of Amendment 62 could be too high and may not correspond to the availability of fish for harvest. Further, stakeholder insights reveal that the red grouper stock can be highly variable due to red tide kills (SEDAR 2025, 22; Sagarse et al. 2020). Since the founding of the IFQ program, landings of red grouper have not exceeded 5,601,144 (2014). During 2016-2018 when red grouper quota was set at its highest (7,780,000), quota utilization ranged from 31-60% (2,363,280 to 4,497,582 gw). In 2019, the quota was brought down to 3,000,000 lb gw following an interim analysis developed after fishermen expressed concern about the health of the stock due to the fact that the historically high quota did not correspond with historically low landings (GMFMC 2019). As there has been a moment in recent history where the stock was set high followed by a substantial decline in the abundance of the stock, **Alternative 2** and **Alternative 3** eliminate the quota pool in the possibility that a similar pattern occurs.

A mechanism to eliminate the quota pool if the quota decreases to a certain level can address concerns that the stock might be too variable to handle increased fishing pressure due to the quota increase established in Amendment 62. If the quota were to drop, fishermen who own shares might struggle to find enough allocation from their shares to land their catch and fishery participants who sell allocation will have a limited supply to sell to their existing networks of lease-buying fishermen or dealers. Further, as quota held in the quota pool would decrease if the quota decreases, the amount available for distribution could not be enough to meaningfully supplement the allocation needed for the fishermen who had been able to harvest red grouper during landing periods when there was more quota available. As the quota of the quota bank is non-transferable, if the quota becomes too low to support the number of permitted vessels active during the reference period, there could be unutilized quota (distributed through the quota pool) sitting in the accounts of fishermen who cannot afford to fish during a period of limited quota.

Alternative 3 would eliminate the quota pool if the available commercial quota falls below the quota to be initially established by Amendment 62 while **Alternative 2** would eliminate the quota pool if the available commercial quota falls below the commercial quota from 2023 until the 2025 Emergency Rule, which is the second lowest commercial quota for red grouper since the start of the IFQ program.

There are other non-direct and unintentional effects than could result from this action. It is unknown when quota from the quota pool would be released into accounts, however, this would occur after January 1st. After the initial release of quota, additional quota could be distributed following an appeals process. Once released in accounts, shareholding participants must use the quota from the quota pool before they use or lease out their allocation. This, accompanied with the uncertainty in timeline could disrupt existing patterns and plans of allocation transfer activity and could affect prices.

4.1.5 Effects on the Administrative Environment

Alternative 1 would not establish a commercial red grouper quota pool and would not result in any additional burden to NMFS. **Alternatives 2** and **3** would involve determining the individual quotas for red grouper IFQ fishers in the IFQ reef fish fishery and would result in additional burden to NMFS determining these quantities associated with each account and applying it to the IFQ accounts. The effects on the administrative from both **Alternative 2** and **Alternative 3** are expected to be similar.

4.2 Action 2 – Eligibility Criteria for Participation in the Red Grouper Quota Pool

4.2.1 Effects on the Physical Environment

Alternative 1 (No Action) would not establish requirements to obtain annual allocation from the red grouper quota pool. This would not be consistent with the purpose and need of this amendment. **Alternative 2** would define the universe of IFQ accounts eligible for the distribution of red grouper allocation from the quota pool by creating a minimum landings threshold for participation in the quota pool. However, **Alternative 2** is not expected to result in measurable effects to the physical environment compared to **Alternative 1** because it would not substantially change how the reef fish fishery is prosecuted.

4.2.2 Effects on the Biological/Ecological Environment

Alternative 1 (No Action) is not consistent with the purpose and need of this amendment. **Alternative 2** would change the distribution of red grouper allocation by creating a threshold for participation in the quota pool. However, **Alternative 2** is not expected to result in measurable effects to the biological environment compared to **Alternative 1** because it would not substantially change how the reef fish fishery is prosecuted.

4.2.3 Effects on the Economic Environment

Alternative 1 (No Action) would not set eligibility criteria for participating in the red grouper quota pool. **Alternative 1** would not be expected to result in economic effects because it would not affect red grouper share ownership, annual allocation availability, or the fishing practices and red grouper commercial landings. However, the absence of eligibility criteria would not be consistent with the establishment of a quota pool.

In addition to the possession of a valid or renewable commercial reef fish permit, **Alternative 2** would set eligibility criteria to receive annual allocation from the quota pool based on minimum red grouper landings thresholds during preset reference periods. **Options 2a**, **2b**, and **2c** would require minimum red grouper landings of 300 lbs, 500 lbs, and 1,000 lbs during rolling two-year reference periods, respectively. For quota pool distributions in 2027, 2028, and 2029, the rolling reference periods are January 1, 2025, to December 31, 2026, January 1, 2026, to December 31, 2027, and January 1, 2027, to December 31, 2028. Because the reference periods extend into the future, it is not possible to determine the number of IFQ accounts that would be eligible to receive red grouper annual allocation once the quota pool is established. For illustrative purposes, Table 4.3.2.1 provides the numbers and percentages of IFQ accounts eligible to receive annual allocation from the quota pool based on minimum landings thresholds.

Table 4.3.2.1. IFQ accounts eligible to receive quota from the pool and minimum red grouper landings requirements for a 2023-2024 reference period.

Minimum Landings (lbs)	With Shares		Without Shares		Total
	Number	Percent	Number	Percent	Number
300	102	43.4%	133	56.6%	235
500	86	40.6%	126	59.4%	212
1,000	79	42.0%	109	58.0%	188

For accounts with red grouper shares or those without shares, the numbers of eligible accounts logically decrease as minimum landings required increase. In other words, as the minimum poundage to be landed increases, the number of accounts excluded from receiving annual allocation from the pool increases. However, for a fixed quota pool, as the number of eligible accounts decreases, the annual allocation received per account would increase. Losses to accounts excluded from the pool would be offset by gains to accounts remaining in the pool. Although it would be expected to result in changes to the numbers and distribution of accounts eligible to participate in the pool, and to the amounts received by each eligible account, the establishment of minimum landings requirements, in and of itself, would not be expected to result economic effects for the commercial sector as a whole. Economic effects expected to result from the establishment of the quota pool, the selection of eligibility requirements, and the specification of distribution methods are discussed in in Section 4.3.3.

4.2.4 Effects on the Social Environment

Alternative 1 (No Action) does not establish criteria for participation in the quota pool which is not consistent with the purpose of this amendment, which is to improve access to red grouper allocation for those who are currently engaged in the harvest of red grouper. **Alternative 2 Option 2a, Option 2b,** and **Option 2c** establish a permit requirement and a threshold of minimum landings to measure engagement in the harvest of red grouper. This action specifies the two-year reference periods in which these minimum landings occur. These reference periods occur in the two consecutive years prior to the year when the quota of the quota pool is dispersed. For the first year of the program, allocation from the quota pool would be dispersed to eligible participants early in 2027 and must be used by the end of 2027. Those participants who can receive allocation from that year's quota pool would have caught 300 lbs gw (**Option 2a**), 500 lbs gw (**Option 2b**), or 1,000 lbs gw (**Option 2c**) of red grouper from January 1, 2025-December 31, 2026. These reference periods are calculated on a rolling basis, so participation in the 2028 year of the quota pool requires minimum landings from January 1, 2026-December 31, 2027, and participation in 2029 requires minimum landings from January 1, 2027-December 31, 2028.

There are positive and negative consequences to bounding the years to these reference periods. All years during the reference period will be periods where the quota is relatively high, compared to previous years. During 2019 to the first half of 2025 quota ranged from a relative low of 2.4 mp gw to 3.0 mp gw. From 2018 to 2019, vessels harvesting red grouper decreased from 376 to 359 and at the lowest 318 in 2024 (NMFS 2025). In periods of low quota, allocation is limited

and can be challenging to procure especially for those who do not own shares. The reference periods are a period when the quota is higher than in recent history and allocation prices may be lower and there are less barriers to enter the fishery. Allocation prices for red grouper, for example, have been steadily decreasing since 2025. This could mean a larger number of fishermen can participate than in years prior to 2025. As the quota will be gradually increasing for each of the reference periods, it is possible that later years of the pilot program could have more participants.

It is also possible that many fishermen have exited the fishery during the earlier period of low quota and potential fleet contraction and cannot afford the start-up costs of re-entering the fishery by the dates of the first reference period. The planned rolling reference period allows flexibility and would allow fishermen to participate who have started or re-started landing red grouper after the pilot program has begun. The existence of the quota pool accompanied with the flexibility of the rolling qualification period could incentivize more participants in the fishery to produce more qualifying accounts, which could cause the amount of allocation distributed to each participant (discussed in Action 3) to decrease.

To be eligible for the quota pool, permits and landings are required, as specified in this action. This is concurrent with discussions in the Gulf Council and NMFS on re-implementing a permit requirement (see Amendment 59A to the Reef Fish FMP, in development). These discussions revisit the decision for the Grouper-Tilefish IFQ program to remove the permit requirement after 5 years of its initial implementation, which has allowed share-ownership to be available to public participants (those who do not own a federal reef-fish permit). The eligibility qualifications listed in this action could encourage more IFQ participants, particularly those who own permits but have dispersed their assets, to attach a reef-fish permit to their shareholder account.

As mentioned in the discussion for Action 2 (Section 2.2), the average pounds of red grouper caught for a single trip using vertical line gear was 417 pounds per trip, and for longline gear that amount is 3,401 pounds per trip (NMFS 2025). It is possible that fishermen who primarily lease allocation might have landings below the average, due to the challenges of accessing allocation without share ownership. With this consideration, **Option 2a**, **Option 2b**, and **Option 2c** are all set at numbers that should be accessible over a 2-year period for fishermen actively engaged in the harvest of red grouper.

The social value of these options depends on the metrics through which they are assessed. **Option 2a** benefits the largest number of people, followed by **Option 2b** and then **Option 2c**—which incorporates the lowest number of participants in the quota pool. **Option 2a** and **Option 2b** could better achieve the stated goal of reducing discards by having a higher likelihood of including those who catch red grouper incidentally. However, as will be discussed in further depth in Section 4.3.4, by allowing a lower threshold for eligibility in the quota pool, it could be possible that the allocation awarded to participants could exceed their landings, depending on the options taken in Action 3. Although this could benefit those who have caught but been forced to discard red grouper, this would not benefit those substantially engaged in the commercial harvest of red grouper. **Option 2c** limits the number of participants, so that those participants involved are those who are more likely to be engaged in the commercial harvest of red grouper. **Option 2c** allows the highest amount of allocation to be distributed to each participant, followed by **Option 2b**, and **Option 2a**—which allows the lowest amount of allocation to be distributed to each participant. These amounts based on current account activity are explored in the discussion

for Action 3 and analyzed in Section 4.3.4.[21] **Option 2c**, by limiting the number of participants based on landings provides the most benefits for those actively engaged in the commercial harvest of red grouper, however, this occurs at the expense of including a wider range of people including those who might catch and discard red grouper.

4.2.5 Effects on the Administrative Environment

Alternative 1 would not establish eligibility criteria requirements to obtain annual allocation from the commercial red grouper quota pool. This would not be consistent with the purpose and need of this amendment. By allowing access to all participants of the Grouper-Tilefish IFQ program **Alternative 1** would not help bring allocation into the accounts of those that are currently harvesting IFQ species. **Alternative 2** establishes a minimum threshold of red grouper harvested in order to include participants in the quota pool who actively fish and target red grouper. **Alternative 2** would involve determining the individual quotas for red grouper fishermen and applying it to their IFQ accounts. This would result in additional burden to NMFS in calculating these quantities associated with each account. The effects on the administrative from both **Alternative 2** is expected to be greater than **Alternative 1**.

[21] As mentioned throughout this document, those specific amounts are for a separate reference period and do not reflect the exact amounts that will be distributed by the quota pool.

4.3 Action 3 – Distribution of Quota Pool among Eligible Participants

4.3.1 Effects on the Physical Environment

Alternative 1 (No Action) would not distribute quota and would be inconsistent with the establishment of the quota pool. **Alternative 2** and **Alternative 3** divide active accounts into two groups: those with a valid or renewable commercial reef fish permit and red grouper landings within the reference period, but with no red grouper shares and those with a valid or renewable commercial reef fish permit, red grouper landings within the reference period, and red grouper shares. Any effects on the physical environment from this action are not expected to be significant because this action is not expected to change how the reef fish fishery, which is a multi-species fishery, is prosecuted as a whole. This action would only affect the commercial portion of the fishery targeting red grouper.

4.3.2 Effects on the Biological/Ecological Environment

Any effects from this action on the biological environment are not expected to be significant because this action is not expected to change how the reef fish fishery, which is a multi-species fishery, is prosecuted as a whole. This action would only affect the commercial portion of the fishery targeting red grouper.

4.3.3 Effects on the Economic Environment

Alternative 1 (No Action) would not distribute the red grouper annual allocation held in the quota pool. **Alternative 1** would not be expected to result in economic effects because it would not allow for the implementation of the quota pool.

Alternative 2 would evenly split the annual allocation held in the quota pool between the group of eligible IFQ accounts with red grouper shares and the group of eligible accounts without red grouper shares. **Alternative 3** would distribute 40% of the annual allocation in the pool among eligible IFQ accounts with red grouper shares and 60% among those without red grouper shares. For eligible IFQ accounts without red grouper shares, **Alternatives 2** and **3** consider equal distribution among accounts (**Options 2(a)i** and **3(a)i**) or proportional distribution based on red grouper landings (**Options 2(a)ii** and **3(a)ii**). For eligible IFQ accounts with red grouper shares, equal distribution among accounts correspond to **Options 2(b)i** and **3(b)i**. Landings-based proportional distribution corresponds to (**Options 2(b)ii and 3(b)ii**).
As previously indicated, the number of IFQ accounts eligible to receive annual allocation from the pool is not known at this time because the rolling reference periods are in the future. Therefore, ensuing analyses are provided for illustrative purposes and do not represent the expected distribution of annual allocation to IFQ accounts once this amendment is implemented.

For a quota pool with 15% of the quota increase above 2.79 mp, Table 4.3.3.1 provides the apportionment between the group of eligible IFQ accounts with shares and the group without shares.

Table 4.3.3.1. Eligible IFQ accounts and pounds of annual allocation by group. Quota pool with 15% of the quota increase above 2.79 mp.

Year	Eligible IFQ Accounts With Red Grouper Shares		Eligible IFQ Accounts Without Red Grouper Shares	
	Alternative 2 (50/50) (lbs)	Alternative 3 (60/40) (lbs)	Alternative 2 (50/50) (lbs)	Alternative 3 (60/40) (lbs)
2027	153,000	122,400	153,000	183,600
2028	193,500	154,800	193,500	232,200
2029	193,500	154,800	193,500	232,200

Regardless of the distribution method selected, pounds of red grouper annual allocation distributed to the group of eligible IFQ accounts with red grouper shares are not lost to the group. These amounts are simply apportioned among eligible IFQ accounts based on a method (equal or proportional based on landings) different from the distribution based on share ownership. In other terms, at a group level, pounds distributed to eligible IFQ accounts with shares would not result in economic losses to the group. However, the alternative distribution methods considered in this action would be expected to result in economic losses to those accounts receiving less red grouper annual allocation than they would have received if the distribution solely relied on red grouper share ownership. Conversely, economic benefits would be expected to accrue to accounts receiving more annual allocation than they would have received under status quo distribution.

Red grouper annual allocation distributed to the group of eligible IFQ accounts without red grouper shares are transferred from accounts with shares to those without shares. For example, a 50/50 split of the quota pool would transfer 153,000 lbs of red grouper annual allocation in 2027 from accounts with shares to accounts without shares. Therefore, amounts transferred would be considered as economic losses to those with shares and as economic gains to those without shares.

At an individual account level, Table 4.3.3.2 compares pounds that would be received in 2027 through equal or proportional distribution of the quota pool holding 15% of the quota increase above 2.79 mp. For proportional distributions, minimum and maximum values received are provided.

Table 4.3.3.2. Pounds received in 2027 by accounts via equal and proportional distributions by minimum landings requirements. Quota pool with 15% of the quota increase above 2.79 mp.

	50/50 Scenario (Equal)		60/40 Scenario (Equal)	
	With Shares (lbs)	Without Shares (lbs)	With Shares (lbs)	Without Shares (lbs)
Min. 300 lbs	1,500	1,150	1,200	1,380
Min. 500 lbs	1,779	1,214	1,423	1,457
Min. 1,000 lbs	1,937	1,404	1,549	1,684

	50/50 Scenario (Proportional)		60/40 Scenario (Proportional)	
	With Shares (lbs)	Without Shares (lbs)	With Shares (lbs)	Without Shares (lbs)
Min. 300 lbs	27 – 11,669	15 – 7,660	22 – 9,335	19 – 9,193
Min. 500 lbs	50 – 11,712	27 – 7,666	40 – 9,370	32 – 9,200
Min. 1,000 lbs	91 – 11,748	52 – 7,697	73 – 9,399	63 – 9,237

With an equal distribution among eligible IFQ accounts, the amount received per account would logically decrease as the minimum landings requirements becomes less stringent, i.e., as number of eligible accounts increases. Conversely, requiring more pounds to be landed would reduce the number of eligible accounts and, all else equal, result in more pounds received per account. This argument would also be applicable to amounts of annual allocation received via landings-based proportional distribution. Based on Table 4.3.2.2, the minimum and maximum amounts distributed to an account using equal distribution are 1,150 lbs and 1,937 lbs, respectively. With landings-based proportional distributions, minimum and maximum amounts distributed would be 15 lbs and 11,748 lbs, respectively. Examples given here would be prorated if the amount held in the quota pool changes. For example, if the pool holds 30 % of the quota increase above 2.79 mp instead of 15%, the pounds distributed would be doubled.

4.3.4 Effects on the Social Environment

Alternative 1 (No Action) would not provide an option for distributing the quota of the quota pool. The alternatives in this action divide the quota of the quota pool into groups made up of accounts without shares and accounts with shares. **Alternative 2** (60-40) would likely result in more benefits for participants in the accounts without shares group than **Alternative 3** (50-50). Currently (for a 2023-2024 reference period) there is a larger number of accounts without shares than accounts with shares. If the quota was distributed to each group on a 50-50 basis, each participant in the accounts with shares category would receive more quota from the quota pool than the participants in the accounts without shares category, if **Options i** (equal distribution) was taken. If quota was distributed proportionally, as in **Options ii**, the ratio between groups could be more unbalanced particularly for those with higher landings. The ratio between accounts with shares and accounts without shares who would be eligible to receive more than

7500 lbs of quota could be 10:5 for a 50/50 distribution and 9:9 for the 60/40 distribution[22]. The highest landing fishermen of the accounts with shares in the 50/50 option would receive substantially more quota than the highest landing fishermen of the accounts without shares group, while this number is more balanced in the 60/40 scenario. As the proportional distribution is decided based upon landings numbers and numbers of accounts during the quota pools reference period, it is not clear if these patterns would continue for a different reference period.

Options i (equal distribution) could be considered to better benefit participants with smaller landings. **Options i** would likely better improve access, by distributing more quota to those with lower landings. One challenge with distributing equally, is that when quota is distributed to those eligible participants, a participant might receive more quota from the red grouper quota pool than they land. Currently, there are 47 accounts that land between 300-1000 lbs gw of red grouper over a two-year period (Table 2.2.1). If distributed equally these accounts would receive more red grouper allocation than they land[23]. It is possible that some fishermen have captured higher numbers of red grouper but had to discard them due to a lack of access to allocation. If given more allocation than their landings, these fishermen would likely be able to land that amount. However, many fishermen have likely landed a smaller amount of red grouper because they fish in regions like the Western and Northern Gulf where red grouper is not abundant and may only be caught incidentally. It would be unlikely that these fishermen will be able to use allocation in excess of their historical landings. This could result in an amount of unutilized quota and will not achieve the stated objective of improving access to allocation for fishermen engaged in the commercial harvest of red grouper. The proportional distribution, **Options ii,** might serve to better benefit accounts with higher landings and as a result, would benefit those with a more substantial engagement in the red grouper fishery. By distributing more allocation to those who already have high landings, this could do little to address the trend of consolidation that had been noted in the Grouper-Tilefish IFQ program (Griffith et al. 2016).

It is unclear what the effect of a combination of Options, for example, **Option 2(a)(i)** (equal distribution for participants with no shares) paired with **Option 2(b)(ii)** (proportional distribution for participants with shares), might be, as the landings and numbers of participating accounts per each group will likely change from now until the quota pool's reference period. Further, separate mechanisms of distribution between shareholding and non-shareholding accounts might incentivize participants to move their assets between groups in a way that could skew the distribution numbers from the predictions based on 2023-2024 landings.

Effects on Types of Participants

Participants in the IFQ programs throughout the Gulf (Grouper-Tilefish, implemented 2010 and Red Snapper, implemented 2007) operate a diverse range of business practices. These practices cannot be completely captured in the data made available by the SERO Catch Shares Program which tracks data at the level of the account (shareholder, vessel, or dealer) and aggregates data for the sake of the confidentiality of participants. Accounts are not equivalent to individuals or types of users. It is possible for an account to be constituted by multiple entities (individuals or companies) and it is possible for an entity to hold multiple qualifying accounts. As such, "non-

[22] These numbers are calculated based on a 15% of increase quota pool and a 500 lb minimum.
[23] It is important to note, as stated earlier, these numbers are for a separate reference period than will be used for the quota pool.

shareholding accounts" should not be considered equivalent to "non-shareholders" and the same is true for "shareholding accounts" and "shareholders" and each of these cannot with certainty be identified as "fishermen," "dealers," "brokers", or other types of socio-economic roles participating in the fishery.

Because this action identifies participants at the account level, it is not clear what social role the entities eligible for participation might have. Ropicki et al. (2018) has identified types of participants based on permit ownership, share ownership, and landing history for the Red Snapper IFQ program. He identifies examples of participant types as investors (no reef permit, share ownership, no landings, sells allocation), investor fishers (reef permit, share ownership, possible landings, sells allocation), share fishers (reef permit, share ownership, landings, does not sell allocation), supplementer (reef permit, share ownership, landings, buys allocation) allocation-dependent fisher (reef permit, no share ownership, landings, buys allocation), and allocation broker (possible reef permit, no share ownership, no landings, buys and sells allocation) (2018). Ropicki further develops these by adding the category of inactive/retired fisher, which shares the characteristics of the investor group, with the caveat that this group previously fished and likely was awarded shares at the start of the IFQ program[24]. Not all fishermen in this program fit neatly into these categories and there are differences in the social structure of the Red Snapper and Grouper-Tilefish IFQ programs.

For the types of participants listed as they relate to this action: inactive/retired fishermen, investors, and allocation brokers will not qualify for this program, investor fishermen, supplementers, and share fishers could qualify in the category of accounts with shares while allocation-dependent fishermen could qualify in the category of accounts without shares. As will be discussed later, share-owning fishermen have more flexibility to qualify as accounts without shares as well, depending on the allocation of their assets between accounts. The eligibility of these participants depends on if they have the minimum landings discussed in Action 2. The consequence of this action would see negative effects for the groups that do not qualify for the program. The effects on shareholding fishermen could be either neutral, positive, or negative, depending on their percentage of share ownership, opportunity costs, the amount of quota distributed depending on the alternatives and options, and the ways in which the community of shareholders respond to this action (thus affecting the amount of quota available for distribution in each group). The effects on allocation-only fishermen would likely be positive. Indirect negative consequences, however, are possible, given that this action could negatively affect those who sell these fishermen allocation.

Effects on Non-Participants (Investors, Brokers, Retired Fishermen)

This group will experience some negative effects from the quota pool. Retired fishermen could be the largest group of participants to experience this action negatively. This first generation of fishermen in catch share programs have an important social and economic role in brokering access to later generations in catch share programs. Many newer entrants and allocation-dependent fishermen often depend on these retired fishermen to broker access to the fishery. This action could be viewed as negative for these retired fishermen. Due to their substantial social role brokering access to fishery resources, effects on this group of first generation IFQ fishermen could have social repercussions experienced by second generation IFQ fishermen.

[24] Presentation shared February 2026.

The adverse consequences could be understood in terms of the loss of allocation and the loss of revenue from leasing. The amount of the quota held in the quota pool would be withheld from distribution to shares. For participants, the amount withheld could be equivalent to or less than the amount distributed by the quota pool. Non-participants, however, would not receive quota from the quota pool. Table 4.3.4.1 demonstrates for a 1% shareholder, considered a medium shareholder (NMFS 2025)[25], how much quota would be distributed to their shares in 2027 based on the options taken in Action 1 and how this differs from the status quo (Action 1**, Alternative 1**) patterns of allocation distribution.

Table 4.3.4.1. Quota available in the quota pool (2027) dependent upon the options, the amount available for distribution to shareholders, the amount available for a 1% (medium) shareholder, and the difference from Action 1, **Alternative 1**, potential loss of income from leasing.

Option	Quota available in the Quota Pool (2027)	Quota available for distribution to shares (2027)	Allocation distributed to 1% shareholder (2027)	Difference from Alternative 1 (No Action)	Loss of Income (from leasing)*
Action 1, **Alternative 1:** No Action	0	4,830,000	48,300	0	0
Action 1, **Options a:** 15%	306,000	4,524,000	45,240	3,060	-$1,958.4
Action 1, **Options b:** 20%	408,000	4,422,000	44,220	4,080	-$2,611.2
Action 1, **Options c:** 25%	510,000	4,320,000	43,200	5,100	-$3,264
Action 1, **Options d:** 30%	612,000	4,218,000	42,180	6,120	-$3,916.8

*Loss of income per shareholder is estimated using the allocation rolling average of the date range Dec 2025-Feb 2026 from the SERO Catch Shares website (accessed 3/16/26), this average will likely change.

In comparison, if the highest amount of quota is withheld from distribution to shares (Action 1, **Options d**), a large shareholder (2% share ownership) could not have access to approximately $7,833.6 from leasing, while a small shareholder (.04%) could not access $156.67 from leasing.[26] As such, the adverse consequences, experienced as the loss of income from leasing the full amount of the red grouper commercial quota, is larger for large shareholders and smaller for small shareholders. The relative cost might better be understood in comparison with the cost of shares. If 1% of shares were bought in 2023, when the quota was at its second lowest (2.79 mp), and when quota utilization (91%) and average share prices ($18.72/lb) were high, they could

[25] Although NMFS considers 1% to be a medium shareholder (2025, 14), according to the SERO Catch Shares website (accessed 3/16/26) only 25 accounts have over 1% of shares of Red Grouper, indicating that this would be a relatively large shareholder compared to most Red Grouper shareowners.

[26] Both of these use the Dec 2025-Feb 2026 allocation rolling average of $0.64 from the SERO Catch Shares website, which may differ from actual average allocation prices, is likely to change, and does not represent the price of allocation transfer for all participants.

have been bought for $522,288. If 1% of shares were bought in 2017, when the quota was at its highest (7.78 mp), and when quota utilization (43%) and average share prices were low ($6.47), they could have been bought for $503,366. This loss of opportunity to lease the full commercial quota following the establishment of the quota pool is relatively small compared to the price of these shares.

Although negative effects on this group of participants are to be expected, loss of income from leasing is an expected consequence of quota decreases. As this amendment results in a withholding of an amount of the quota that was projected to be made available following Amendment 62, the effects could be similar to a quota decrease. However, this amendment differs in that the scale caused by withholding quota for the quota pool is much smaller than most decreases and the quota increase is yet to be implemented. As such, this amendment does not result in a taking away of revenue from leasing, but rather, does not release the full commercial quota to all participants. Unlike a quota decrease, which is applied universally, here, particular groups of participants are deemed ineligible to access amounts of quota that will be released, and there could be unintended social consequences.

Effects on Share-owning Fishermen

Investor fishermen, supplementers, and share fishers—all groups of fishermen who have shares—could qualify for participation for the quota pool, if they meet the participation criteria (Action 2). They could experience this action as positive, negative, or neutral. Fishermen who own a higher percentage of shares are more likely to experience negative effects than those fishermen with a lower percentage of shares, especially if quota was distributed equally. If the amount of allocation withheld from disbursement to shares is less than the amount disbursed through the quota pool, this action could be experienced as positive, and if the amount of allocation withheld from disbursement to shares is more than the amount disbursed through the quota pool, this action could be experienced as negative.

The amount withheld for a 1% shareholder (Table 4.3.4.1.) is a higher number than the amount of quota that would be distributed from the quota pool if the equal distribution was taken **(Option 2(b)(i))** and **Option 3(b)(i))** (Tables 2.3.1-2.3.8), regardless of which alternatives are taken in Action 1 and Action 2. For a small shareholder (< 0.05%) the amount withheld from distribution to shares would be lower than the amounts that would be distributed in the quota pool if quota was distributed equally **(Option 2(b)(i))** and **Option 3(b)(i))** given the reference period utilized in this discussion. Small and smaller-medium shareholders could likely benefit from the equal distribution, while large and larger-medium shareholders would not benefit from the equal distribution. Large and medium shareholders could experience the proportional option (**Option 2(b)(ii))** and **Option 3(b)(ii))** as positive or neutral if they land more than others in their category, while small and smaller-medium shareholders might experience this option as negative, neutral, or less positive, if they are landing a smaller amount and thus would be given a smaller amount of allocation in the quota pool. The amount of allocation available for distribution and the number of participants depends on the activity in the qualifying reference period of the quota pool.

Of participants in this quota pool, share-owning fishermen have the most flexibility to maneuver their landings, permits, and shareholder accounts so that their holdings could qualify as accounts with shares, accounts without shares, or both. The benefit of qualifying in one category versus

another would depend on the earlier actions taken, the patterns of distribution established in this action, the number of participants in each category and the amount distributed to participants in each category.

There are other non-direct and unintentional effects than can result from this action. It is unknown when quota from the quota pool would be released into accounts, however, this would occur at an unspecified time after January 1st. Once released in accounts, shareholding participants must use the quota from the quota pool before they use or lease out their allocation. This could disrupt existing patterns of allocation transfer activity, and this could particularly affect investor fishermen, who both land their fish and sell allocation.

Effects on Allocation-Dependent Fishermen

Allocation-dependent fishermen are those who do not own shares and rely on buying allocation (leasing quota) from shareowners or brokers to land their fish. The exact number of allocation-only fishermen is not known for the Grouper-Tilefish program. The SERO Catch Share database demonstrates that the number of allocation-only accounts have increased for red grouper from 7-31% from 2010-2024 (Table 1.1.4), however, this scale of increase does not necessarily correspond to the same scale of increase of allocation-dependent fishermen. It is common, for example, for shareholding fishermen to diversify their holdings into multiple accounts, so that one or multiple non-shareholding accounts might be owned by a shareholder. Participants who have accounts without shares are not always allocation-dependent fishermen, but allocation-dependent fishermen are likely to participate in the quota pool in the non-shareholding group and will likely have less opportunity than shareowners to qualify for the other group.

Allocation-dependent fishermen, as participants in the accounts without shares category, are more likely to benefit from **Alternative 2**, which would distribute 60% of the quota from the quota pool to their category, rather than **Alternative 3,** which would distribute 50%. If it is possible that allocation-dependent fishermen are landing less fish due to the financial burdens of having to buy allocation, instead of accessing it through share ownership, then **Option 2(a)(i)** and **Option 3(a)(i)** (equal distribution) could serve to benefit them. **Option 2(a)(ii)** and **Option 3(a)(ii)** (proportional distribution) might serve to better benefit those shareholders who participate in the accounts without shares category due to the distribution of their assets, as they have fewer financial hurdles to landing fish.

One major challenge with the structure of many IFQ programs is that "the first generation of quota holders is 'gifted' with quota but future generations of quota holders must either purchase or lease it" (Jacob 2016; cf. Copes and Charles 2004). This can contribute to a "graying of the fleet" (NAS 2021, 136) where those in the generation who had initially been awarded shares due to their historical participation prior to the implementation of the IFQ program have financial incentives to hold on to their shares and remain in the fishery. The next generation to participate in the IFQ fishery would enter the fishery with higher barriers to entry than the previous generation. The creation of a new method of distributing quota through a quota pool, established in this amendment, could have a positive effect on the longevity of the IFQ programs of the Gulf and on the overall socio-economic health of the fishery. By providing new opportunities for fishermen without shares to receive allocation, this could lower their barriers to share ownership.

4.3.5 Effects on the Administrative Environment

Alternative 1 would not distribute quota and is not a viable alternative and would not result in any additional burden to NMFS. **Alternatives 2** and **3** would involve determining the allocation to be distributed to eligible accounts fishermen would result in additional burden to NMFS. The effects on the administrative from both **Alternative 2** and **Alternative 3** are expected to be the same and would be expected to have a greater burden to NMFS than **Alternative 1** (No Action).

CHAPTER 5. REGULATORY IMPACT REVIEW

To be completed once the Council selects Preferred Alternatives

CHAPTER 6. INITIAL REGULATORY FLEXIBILITY ANALYSIS

To be completed once the Council selects Preferred Alternatives

CHAPTER 7. OTHER APPLICABLE LAWS

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.) provides the authority for management of stocks included in fishery management plans (FMP) in federal waters of the exclusive economic zone. However, management decision-making is also affected by a number of other federal statutes and executive directives designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws and executive directives that affect federal fishery management decision-making include the Endangered Species Act (Section 3.2) and Executive Order (E.O.) 12866 (Regulatory Planning and Review, Chapter 5). Other applicable laws are summarized below.

1.1 Administrative Procedure Act (APA)

All federal rulemaking is governed under the provisions of the APA (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Among other things under the APA, the National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it takes effect, with some exceptions. Any proposed rule associated with Amendment 63 to the FMP Reef Fish Resources of the Gulf (Amendment 63) will have a request for public comments, which complies with the APA, and upon publication of the final rule, unless the rule falls within an APA exception, there will be a 30-day waiting period before the regulations are effective.

1.2 Information Quality Act (IQA)

The IQA (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1 ensure information quality and develop a pre-dissemination review process; (2 establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and (3 report periodically to the OMB on the number and nature of complaints received.

Scientific information and data are key components of FMPs, amendments, and regulations, consistent with National Standard 2 of the Magnuson-Stevens Act, which requires the use of best scientific information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review. Amendment 63 is based on BSIA, and in consistent with the directives of the IQA.

1.3 Coastal Zone Management Act (CZMA)

Section 307(c)(1) of the federal CZMA of 1972 requires that all federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. While it is the goal of the Council to have management measures that complement those of the states, federal and state administrative procedures vary and regulatory changes are unlikely to be fully instituted at the same time. The Council believes the actions in this plan amendment are consistent to the maximum extent practicable with the Coastal Zone Management Plans of Alabama, Florida, Louisiana, Mississippi, and Texas. Pursuant to Section 307 of the CZMA, this determination will be submitted to the responsible state agencies who administer the approved Coastal Zone Management Programs in the States of Alabama, Florida, Louisiana, Mississippi, and Texas.

1.4 National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, (Public Law 89-665; 16 U.S.C. 470 *et seq.*) is intended to preserve historical and archaeological sites in the United States of America. Section 106 of the NHPA requires federal agencies to evaluate the impact of all federally funded or permitted projects for sites on listed on, or eligible for listing on, the National Register of Historic Places and aims to minimize damage to such places.

Historical research indicates that over 2,000 ships have sunk on the Federal Outer Continental Shelf between 1625 and 1951; thousands more have sunk closer to shore in state waters during the same period. Only a handful of these have been scientifically excavated by archaeologists for the benefit of generations to come. Further information can be found at: http://www.boem.gov/Environmental-Stewardship/Archaeology/Shipwrecks.aspx

The proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor is it expected to cause loss or destruction of significant scientific, cultural, or historical resources. In the Gulf of America (Gulf), the *U.S.S. Hatteras*, located in federal waters off Texas, is listed in the National Register of Historic Places. Fishing activity already occurs in the vicinity of this site, but the proposed action would have no additional adverse impacts on listed historic resources, nor would they alter any regulations intended to protect them.

1.5 Executive Order 12612: Federalism

E.O. 12612 requires agencies to be guided by the fundamental federalism principles when formulating and implementing policies that have federalism implications. The purpose of the Order is to guarantee the division of governmental responsibilities between the federal government and the states, as intended by the framers of the Constitution. No federalism issues have been identified relative to the actions proposed in this document and associated regulations. Therefore, preparation of a Federalism assessment under E.O. 12612 is not necessary.

1.6 Executive Order 12962: Recreational Fisheries

E.O. 12962 requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods. Additionally, the E.O. establishes a seven-member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The National Recreational Fisheries Coordination Council also is responsible for developing, in cooperation with federal agencies, states and tribes, a Recreational Fishery Resource Conservation Plan to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

The alternatives considered in Amendment 63 are consistent with the directives of E.O. 12962.

1.7 Executive Order 13089: Coral Reef Protection

The E.O. on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems, and, to the extent permitted by law, ensure actions that they authorize, fund, or carry out do not degrade the condition of that ecosystem. By definition, a U.S. coral reef ecosystem means those species, habitats, and other national resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., federal, state, territorial, or commonwealth waters).

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, NMFS approved and implemented Generic Amendment 3 for Essential Fish Habitat (GMFMC 2005) and Coral Amendment 9 (GMFMC 2018), which established additional habitat areas of particular concern (HAPCs) and gear restrictions to protect corals throughout the Gulf. There are no implications to coral reefs by the actions proposed in Amendment 63.

1.8 Executive Order 13158: Marine Protected Areas (MPAs)

E.O. 13158 was signed on May 26, 2000, to strengthen the protection of U.S. ocean and coastal resources through the use of MPAs. The E.O. defined MPAs as "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein." It directs federal agencies to work closely with state, local and non-governmental partners to create a comprehensive network of MPAs "representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources." There are several marine protected areas, HAPCs, and gear-restricted areas in the eastern and northwestern Gulf. The existing areas are entirely within federal waters of the Gulf. They do not affect any areas reserved by federal, state, territorial, tribal or local jurisdictions

The alternatives considered in Amendment 63 are consistent with the directives of E.O. 13158.

1.9 Small Business Act (SBA)

Enacted in 1953, the SBA requires that agencies assist and protect small-business interests to the extent possible to preserve free competitive enterprise. The objectives of the SBA are to foster business ownership by individuals who are both socially and economically disadvantaged; and to promote the competitive viability of such firms by providing business development assistance including, but not limited to, management and technical assistance, access to capital and other forms of financial assistance, business training, and counseling, and access to sole source and limited competition federal contract opportunities, to help firms achieve competitive viability. Because most businesses associated with fishing are considered small businesses, NMFS, in implementing regulations, must make an assessment of how those regulations will affect small businesses. Amendment 63 contain an assessment of how the regulations being implemented will affect small businesses.

1.10 Public Law 99-659: Vessel Safety

Public Law 99-659 amended the Magnuson-Stevens Act to require that an FMP amendment must consider, and may provide for, temporary adjustments (after consultation with the U.S. Coast Guard and persons utilizing the fishery) regarding access to a fishery for vessels that would be otherwise prevented from participating in the fishery because of safety concerns related to weather or to other ocean conditions. No vessel would be forced to participate in Gulf fisheries under adverse weather or ocean conditions as a result of management regulations proposed in this amendment. No concerns have been raised by Gulf fishermen or by the U.S. Coast Guard that the proposed management measures directly or indirectly pose a hazard to crew or vessel safety under adverse weather or ocean conditions.

CHAPTER 8. LIST OF PREPARERS/AGENCIES CONSULTED

Name	Expertise	Responsibility
Assane Diagne, Gulf Council	Economist	Co-Team Lead – amendment development, Economic effects, Regulatory Impact Review
Rich Malinowski NMFS/SF	Fishery Biologist	Co-Team Lead – amendment development, physical and biological/ecological environments and effects, and administrative effects
Anabelle Suitor, Gulf Council	Social Scientist	Amendment development, introduction, management alternatives, social effects
Adam Stemle, NMFS/SF	Economist	Economic Environment and Regulatory Flexibility Act Analysis
Christina Package-Ward, NMFS/SF	Anthropologist	Social environment
Jessica Stephen, NMFS/SF	Limited Access Privilege Program	Amendment development, data analysis and administrative effects

Name	Discipline/Expertise	Role in EA Preparation
Mara Levy, NOAA GC	Attorney	Legal review
Alisha Gray, NMFS/SF	Fishery Biologist	Review
Alexandria Taylor, NMFS/SF	Fishery Biologist	Review
David Dale, NMFS/HC	EFH Specialist	Habitat review
Scott Sandorf, NMFS/SF	Regulatory Writer	Regulatory preparation and review
Dave Records, NMFS/SF	Economist	Economic review
Juan Agar, NMFS SEFSC	Economist	Economic review
Carrie Simmons, Gulf Council	Fishery Biologist	Review
John Froeschke, Gulf Council	Fishery Biologist	Review
Frank Helies, NMFS/SF	Fishery Biologist	Review
Matthew Walia, NOAA OLE	Compliance Liaison	Review

NMFS = National Marine Fisheries Service, SF = Sustainable Fisheries Division, PR = Protected Resources Division, HC = Habitat Conservation Division, GC = General Counsel, OLE = Office of Law Enforcement

Agencies Consulted

- Environmental Protection Agency
- United States Coast Guard
- United States Fish and Wildlife Services
- Texas Parks and Wildlife Department
- Alabama Department of Conservation and Natural Resources/Marine Resources Division
- Louisiana Department of Wildlife and Fisheries
- Mississippi Department of Marine Resources
- Florida Fish and Wildlife Conservation Commission

CHAPTER 9. REFERENCES

Abbott, J. and D. Willard. 2017. Rights-based management for recreational for-hire fisheries: Evidence from a policy trial. Fisheries Research. Volume 196, Pg. 106-116

Barnette, M. C. 2001. A review of the fishing gear utilized within the Southeast Region and their potential impacts on essential fish habitat. NOAA Technical. Memorandum. NMFS-SEFSC-449. National Marine Fisheries Service. St. Petersburg, Florida. 68 pp. https://repository.library.noaa.gov/view/noaa/8527

Baustian, M.M. and N.N. Rabalais. 2009. Seasonal composition of benthic macroinfauna exposed to hypoxia in the northern Gulf of Mexico. Estuaries and Coasts 32:975–983.

Breitburg, D., L.A. Levin, A. Oschiles, M. Gregoire, F.P. Chavez, D.J. Conley, V. Garcon, D. Gilbert, D. Gutierrez, K. Isensee, G.S. Jacinto, K.E. Limburg, I. Montes, S.W.A. Naqvi, G.C. Pitcher, N.N. Rabalais, M.R. Roman, K.A. Rose, B.A. Seibel, M. Telszewski, M. Yasuhara, and J. Zhang. 2018. Declining oxygen in the global ocean and coastal waters. Science 359(6371). https://doi.org/10.1126/science.aam7240

Carter, D. W. and C. Liese. 2012. The Economic Value of Catching and Keeping or Releasing Saltwater Sport Fish in the Southeast USA. North American Journal of Fisheries Management, 32:4, 613-625. https://afspubs.onlinelibrary.wiley.com/doi/10.1080/02755947.2012.675943.

Chagaris, D. and D. Sinnickson. 2018. An index of red tide mortality on red grouper in the eastern Gulf of Mexico. SEDAR61-WP-06. SEDAR. North Charleston, South Carolina. 16 pp. https://sedarweb.org/docs/wpapers/S61_WP_06_red_tide_mortality_index.pdf

Coleman, F.C., C.C. Koenig, and L.A. Collins. 1996. Reproductive styles of shallow-water groupers (Pisces: Serranidae) in the eastern Gulf of Mexico and the consequences of fishing on spawning aggregations. Environmental Biology of Fishes 47: 129-141.

Coleman, F. C., C. C. Koenig, K. M. Scanlon, S. Heppell, S. Heppell, and M. W. Miller. 2010. Benthic habitat modification through excavation by red grouper, *Epinephelus morio*, in the Northeastern Gulf of Mexico. The Open Fish Science Journal, 3:1-15.

Copes, P. and Charles, A. 2004. Socioeconomics of Individual Transferable Quotas and Community Based Fishery Management. Agricultural and Resource Economics Review 33:171-181.

Craig, J.K. 2012. Aggregation on the edge: Effects of hypoxia avoidance on the spatial distribution of brown shrimp and demersal fishes in the Northern Gulf of Mexico. Marine Ecology Progress Series 445:75–95

Domeier, M.L., and P.L. Colin. 1997. Tropical reef fish spawning aggregations: Defined and reviewed. Bulletin of Marine Science 60:698-726.

Fitzhugh, G.R., H.M. Lyon, W.T. Walling, C.F. Levins, and L.A. Lombardi-Carlson. 2006. An update of Gulf of Mexico red grouper reproductive data and parameters for SEDAR 12. Draft working document for SEDAR 12 Data Workshop. 17pp. SEDAR 12-DW-04.

GMFMC. 2004a. Final environmental impact statement for the generic essential fish habitat amendment to the following fishery management plans of the Gulf of Mexico: Shrimp fishery of the Gulf of Mexico, red drum fishery of the Gulf of Mexico, reef fish fishery of the Gulf of Mexico, stone crab fishery of the Gulf of Mexico, coral and coral reef fishery of the Gulf of Mexico, spiny lobster fishery of the Gulf of Mexico and South Atlantic, coastal migratory pelagic resources of the Gulf of Mexico of Mexico and South Atlantic. Volume 1. Gulf of Mexico Fishery Management Council. Tampa, Florida. 682 pp. https://gulf-council-media.s3.amazonaws.com/uploads/2025/03/March-2004-Final-EFH-EIS-1.pdf

GMFMC. 2005. Final generic amendment number 3 for addressing essential fish habitat requirements, habitat areas of particular concern, and adverse effects of fishing in the following fishery management plans of the Gulf of Mexico: Shrimp fishery of the Gulf of Mexico, United States waters, red drum fishery of the Gulf of Mexico, reef fish fishery of the Gulf of Mexico, coastal migratory pelagic resources (mackerels) in the Gulf of Mexico and South Atlantic, stone crab fishery of the Gulf of Mexico, spiny lobster fishery of the Gulf of Mexico and South Atlantic, coral and coral reefs of the Gulf of Mexico. Gulf of Mexico Fishery Management Council, Tampa, Florida. 106 pp. Microsoft Word - FINAL3_EFH_Amendment.doc

GMFMC. 2011a. Final generic annual catch limits/accountability measures amendment for the Gulf of Mexico Fishery Management Council's red drum, reef fish, shrimp, coral and coral reefs fishery management plans, including environmental impact statement, regulatory impact review, regulatory flexibility analysis, and fishery impact statement. Gulf of Mexico Fishery Management Council, Tampa, Florida. 378 pp.
Microsoft Word - Final Generic ACL_AM_Amendment-September 9 2011 v

GMFMC. 2011b. Final reef fish amendment 32 – gag grouper – rebuilding plan, annual catch limits, management measures. Red grouper – annual catch limits, management measures, and grouper accountability measures, including final environmental impact statement, regulatory impact review, regulatory flexibility analysis, and fishery impact statement. Gulf of Mexico Fishery Management Council, Tampa, Florida. 406 pp. gulf-council-media.s3.amazonaws.com/uploads/2025/03/Final-RF32_EIS_October_21_2011-Revised.pdf

Amendment 9 to the Fishery Management Plan for the Coral and Coral Reefs of the Gulf, U.S. Waters (GMFMC 2018).

GMFMC 2019 Final Framework Action to the Fishery Management Plan for Reef Fish Resources in the Gulf of Mexico: Modification of Gulf of Mexico Red Grouper Annual Catch Limits and Annual Catch Targets including Environmental Assessment, Regulatory Impact Review,and Regulatory Flexibility Act Analysis. 87pp. https://gulf-council-media.s3.amazonaws.com/uploads/2025/03/FINAL-Red-Grouper-2019-ACL-Modification-042919-1.pdf

GMFMC. 2021a. Final amendment 53 to the fishery management plan for the reef fish resources of the Gulf of Mexico: Red Grouper Allocations and Annual Catch Levels and Targets Including Final Environmental Impact Statement, Fishery Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida. 323 pp. https://gulfcouncil.org/wp-content/uploads/RF-AM-53-Red-Grouper_9_24_2021_Final.pdf

GFMC. 2026. Amendment 62: Modifications to Gulf Red Grouper Management Measures: Final Amendment to the Fishery Management Plan for Reef Fish Resources in the Gulf including Fishery Impact Statement, Regulatory Impact Review, Regulatory Flexibility Act Analysis, and Bycatch Practicability Analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida. 176 pp. https://gulf-council-media.s3.amazonaws.com/uploads/2026/03/RF-AM-62-Red-Grouper-Transmit_Final_3_13_26_.pdf

Gore, R. H. 1992. The Gulf of Mexico: A treasury of resources in the American Mediterranean. Pineapple Press. Sarasota, Florida.

Griffith, D., Halmo, D., Jacob, S., Overbey, M., & Weeks, P. 2016. Private Fish, Public Resource: Socioeconomic Impacts of the Grouper-Tilefish Individual Fishery Quota (IFQ) Program on Gulf of Mexico Communities Volume II: Regional Studies.

Grimes, C. B., K. W. Able, and S. C. Turner. 1982. Direct observation from a submersible vessel of commercial longlines for tilefish. Transactions of the American Fisheries Society 111(1): 94-98.

Haab, T., Hicks, R.L., Schnier, K., Whitehead, J.C. 2012. Angler heterogeneity and the species-specific demand for marine recreational fishing. Appalachian State University, Department of Economics, Working Paper, Number 10-02. 47 pp.

Hamilton, A. N., Jr. 2000. Gear impacts on essential fish habitat in the Southeastern Region. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center, Pascagoula, Mississippi. 41 pp.

High, W.L. 1980. Bait loss from halibut longline gear observed from a submersible. Marine Fisheries Review February 42: 26-29.

Jacob, Steve, Priscilla Weeks, Ben Blount, and Michael Jepson. 2013. Development and evaluation of social indicators of vulnerability and resiliency for fishing communities in the Gulf of Mexico. Marine Policy 37:86-95.

Jacob, Steve. 2016. Background and Literature Review: Theory and Practice in the Operation of IFQ Programs. In D. Griffith, D. Halmo, S. Jacob, M. Overbey, & P. Weeks (Eds.), Private Fish, Public Resource: Socioeconomic Impacts of the Grouper-Tilefish Individual Fishery Quota (IFQ) Program on Gulf of Mexico Communities Volume I: Regional Studies.

Jepson, Michael and Lisa L. Colburn. 2013. Development of Social Indicators of Fishing Community Vulnerability and Resilience in the U.S. Southeast and Northeast Regions. U.S. Dept. of Commerce., NOAA Technical Memorandum NMFS-F/SPO-129, 64 p.

Kennedy, V.S., R.R. Twilley, J.A. Kleypas, J.H. Cowan, and S.R. Hare. 2002. Coastal and marine ecosystems & global climate change: Potential effects on U.S. resources. Pew Center on Global Climate Change, Arlington, Virginia. 52 pp. https://www.c2es.org/site/assets/uploads/2002/08/marine_ecosystems.pdf

Liese. 2023. Economics of the Gulf of Mexico reef fish fishery-2018. NOAA Technical Memorandum NMFS-SEFSC-772. SEFSC, Miami. 154 pp. https://repository.library.noaa.gov/view/noaa/56481NMFS. 2024a. Fisheries Economics of the United States, 2022. U.S. Dept. of Commerce, NOAA. Tech. Memo. NMFS-F/SPO-248A, 28 p

Lovell, S., S. Steinback, and J. Hilger. 2013. The Economic Contribution of Marine Angler Expenditures in the United States, 2011. U.S. Dep. Commerce, NOAA Technical Memorandum NMFS-F/SPO-134, 188 p. https://spo.nmfs.noaa.gov/sites/default/files/TM134.pdf

Lowerre-Barbieri, S., L. Crabtree, T.S. Switzer, and R.H. McMichael, Jr. 2014. Maturity, sexual transition, and spawning seasonality in the protogynous red grouper on the West Florida Shelf. SEDAR42-DW-7. SEDAR, North Charleston, SC. 21 pp.

McEachran, J.D. and J.D. Fechhelm. 2005. Fishes of the Gulf of Mexico, Vol. 2. *Scorpaeniformes* to *Tetraodontiformes*. University of Texas Press, Austin, Texas.

Moe, M. A., Jr. 1969. Biology of red grouper (*Epinephelus morio* Valenciennes) from the eastern Gulf of Mexico. Prof. Pap. Ser. Mar. Lab. Fla. 10, 95 p.

National Academies of Sciences, Engineering, and Medicine. 2021. The Use of Limited Access Privilege Programs in Mixed-Use Fisheries. Washington, DC: The National Academies Press. https://doi.org/10.17226/3085.

NMFS. 2024a. Fisheries Economics of the United States, 2022. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-248A, 28 p.

NMFS. 2024b. Draft Gulf of Mexico grouper-tilefish individual fishing quota report (2025 Update). National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida.

NMFS. 2024c. Gulf of Mexico Grouper-Tilefish Individual Fishing Quota Report (2023 update). NMFS Southeast Regional Office. 100 pp.

NMFS. 2025. Gulf of America Grouper-Tilefish Individual Fishing Quota Report (2024 update). National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. 106pp. SERO-LAPP-2025-2.

Osgood, K. E., editor. 2008. Climate impacts on U.S. living marine resources: National Marine Fisheries Service concerns, activities and needs. U.S. Dep. Commerce, NOAA Technical Memo. NMFSF/SPO-89. NOAA Office of Science and Technology, Silver Spring, Maryland. 118 pp. https://spo.nmfs.noaa.gov/sites/default/files/tm89.pdf

Rabalais, N.N. and R.E. Turner. 2019. Gulf of Mexico hypoxia: Past, present, and future. Limnology and Oceanography Bulletin 28(4):117-124

Robins, C. R., G. C. Rey, and J. Douglass. 1986. A field guide to Atlantic coast fishes. Houghton Mifflin Co., New York City, NY. 354 p.

Ropicki, A., Willard, D., & Larkin, S. L. (2018). Proposed policy changes to the Gulf of Mexico red snapper IFQ program: Evaluating differential impacts by participant type. *Ocean & Coastal Management*, *152*, 48–56. https://doi.org/10.1016/j.ocecoaman.2017.11.010

Sagarese, S. R., Vaughan, N. R., Walter III, J. F., & Karnauskas, M. (2021). Enhancing single-species stock assessments with diverse ecosystem perspectives: A case study for Gulf of Mexico red grouper (Epinephelus morio) and red tides. *Canadian Journal of Fisheries and Aquatic Sciences*, *78*, 1168–1180.

Savolainen, M.A., R.H. Caffey, and R.F. Kazmierczak, Jr. 2012. Economic and attitudinal perspectives of the recreational for-hire fishing industry in the U.S. Gulf of Mexico. Center for Natural Resource Economics and Policy, LSU AgCenter and Louisiana Sea Grant College Program, Department of Agricultural Economics and Agribusiness, Louisiana State University, Baton Rouge, LA. 171 pp. www.laseagrant.org/wp-content/uploads/Gulf-RFH-Survey-Final-Report-2012.pdf

SEDAR 42. 2015. Stock assessment report of Gulf of Mexico red grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 612 pp. http://sedarweb.org/docs/sar/S42_SAR_0.pdf

SEDAR 61. 2019. Stock assessment report of Gulf of Mexico red grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 285 pp. sedarweb.org/docs/sar/S61_Final_SAR.pdf

SEDAR 88. 2025. Gulf of Mexico red grouper stock assessment report. SEDAR, North Charleston South Carolina. 265 pp. https://sedarweb.org/documents/sedar-88-gulf-of-mexico-red-grouper-final-stock-assessment-report/

Souza, P. M., Jr. and C. Liese. 2019. Economics of the Federal For-Hire Fleet in the Southeast - 2017. NOAA Technical Memorandum NMFS-SEFSC-740, 42 p.

APPENDIX A. SUMMARY OF PUBLIC HEARING COMMENTS

To be Completed after Public Hearings