

Allocation-Based Management for Federally Permitted Charter Vessels

Draft Amendment 41 to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico

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Gulf of Mexico Reef Fish Amendment 41

Draft Environmental Impact Statement (DEIS) Cover Sheet

Draft Amendment 41 to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico: Allocation-Based Management for Federally Permitted Charter Vessels, including a Draft Environmental Impact Statement (DEIS)

Abstract:

This DEIS is prepared pursuant to the National Environmental Policy Act to assess the environmental impacts associated with a regulatory action. The DEIS will analyze the impacts of a range of alternatives for management actions to establish an allocation-based management program for the harvest of reef fish by vessels with a federal Gulf of Mexico charter/headboat permit for reef fish that are not eligible for the program being developed in Amendment 42.

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
ALS	accumulated landings system
AM	accountability measure
ASAP	Age Structured Assessment Program
Bi Op	biological opinion
Charter AP	Ad Hoc Red Snapper Charter For-hire Advisory Panel
COI	certificate of inspection
Council	Gulf of Mexico Fishery Management Council
CS	consumer surplus
DEIS	Draft Environmental Impact Statement
DLMTToolkit	Data Limited Methods Toolkit
DPS	distinct population segment
EA	Environmental assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
EJ	environmental justice
ESA	Endangered Species Act
For-hire permit	Gulf Charter/Headboat permit for Reef Fish
FL	Fork length
FMP	Fishery Management Plan
FWC	Florida Fish and Wildlife Conservation Commission
GDP	gross domestic product
GPS	global positioning system
GT-IFQ	grouper-tilefish individual fishing quota program
Gulf	Gulf of Mexico
gw	gutted weight
HBC	headboat collaborative
HMS	highly migratory species
IBQ	individual bluefin quota
IFQ	individual fishing quota
IPCC	Intergovernmental Panel on Climate Change
IRFA	Initial Regulatory Flexibility Analysis
ITQ	individual transferable quota
Joint AP	Ad Hoc Reef Fish Headboat and Red Snapper Charter Advisory Panels
LA Creel	Louisiana Recreational Creel Survey
LAPP	limited access privilege program
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
mp	million pounds
MRFSS	Marine Recreational Fisheries Survey and Statistics

MRIP	Marine Recreational Information Program
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOR	net operating revenue
NS	national standard
OFL	overfishing limit
OSY	optimum sustainable yield
OY	optimum yield
PAH	polyaromatic hydrocarbons
PFA	permit fishing allocation
PFQ	permit fishing quota
PIMS	permit information management system
PS	producer surplus
RA	Regional Administrator
RS-IFQ	red snapper individual fishing quota program
SEAMAP	Southeast Area Monitoring and Assessment Program
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fishery Science Center
SERO	Southeast Regional Office
SPR	spawning potential ratio
SRHS	Southeast Region Headboat Survey
SSASPM	State-Space Age-Structured Production Model
SSB	spawning stock biomass
SSBR	spawning stock biomass per recruit
SSC	Scientific and Statistical Committee
TAC	Total allowed catch
TL	total length
TPWD	Texas Parks and Wildlife Department
VMS	vessel monitoring system
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

The Gulf of Mexico Fishery Management Council (Council) has begun to provide more flexibility in managing various components of the reef fish recreational sector. In 2014, the Council approved Amendment 40 to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP) (GMFMC 2014a) which established separate private angling and federal for-hire components of the red snapper recreational sector in the Gulf of Mexico (Gulf), allocated the red snapper recreational annual catch limit (ACL) between these two components, and implemented separate closure provisions for each component. The federal for-hire component includes all for-hire operators with a valid or renewable Gulf charter/headboat permit for reef fish (reef fish for-hire permit). The private angling component includes all other for-hire operators and private recreational anglers. The decrease over time in the proportion of the red snapper recreational ACL harvested by anglers fishing from federal for-hire vessels and differences in regulatory environments faced by federal for-hire operators and private anglers - including changes in state regulations relative to red snapper - contributed to the Council's decision to restructure the red snapper recreational sector as discussed in Amendment 40 (GMFMC 2014a). Recreational fishing for other reef fish species has not been as restricted as red snapper, but fishing has closed for several species in federal waters in recent years for some of the same reasons. Also, some state fishing seasons have differed from federal fishing seasons. Thus, other species may also benefit from flexible management for different components of the recreational sector.

The National Marine Fisheries Service (NMFS) issues the same for-hire permit to charter vessels and headboats. Some federally permitted for-hire vessels have historically been selected to participate in the Southeast Region Headboat Survey (SRHS), and as a result, these participating vessels have recorded landings histories. The vessels in the SRHS were selected based on factors including passenger capacity and business operation. These vessels are required to submit landings data on a weekly basis. Over the years, a few vessels have been added or removed from the SRHS; however, vessel participation is relatively stable. The Council selected December 31, 2015, as a control date for an allocation-based program for Gulf reef fish headboats that participate in the SRHS (Amendment 42). Vessels that begin participating in the SRHS after the control date may not be able to participate in the program proposed in Amendment 42. As of December 31, 2015, there were 66 vessels with a for-hire permit in the Gulf that participate in the SRHS and have associated landings histories. The remaining vessels with a federal for-hire permit do not participate in the SRHS and instead, have their landings estimated through the Marine Recreational Information Program (MRIP). The MRIP For-Hire Survey includes a voluntary dockside intercept survey and a monthly phone survey sampling approximately 10% of federally permitted charter vessels.

Recognizing that some federally permitted for-hire vessels have landings histories and some do not, the Council expressed interest in further reorganizing the federal for-hire component and initiated development of separate amendments to evaluate flexible management approaches that could be tailored to vessels based on the presence or absence of recorded landings histories. This

is due to the fact that different management approaches may be possible for vessels with landings histories recorded through the SRHS compared with those who do not have these recorded landings histories.

Management approaches for federally permitted vessels participating in the SRHS with associated landings histories, referred to here as *headboats*, are being evaluated in Reef Fish Amendment 42. Federally permitted for-hire vessels that do not participate in the SRHS, and thus do not have recorded landings histories, are referred to here as *charter vessels*. Amendment 41 evaluates allocation-based management approaches for charter vessels. The distinction between charter vessels and headboats established for the purpose of this amendment is different than the definition of a charter vessel and headboat in the federal regulations at 50 C.F.R. § 622.2 (Appendix D). The management measures developed in this amendment would apply to vessels that meet the definition of a “headboat” as defined in 50 C.F.R. § 622.2 but are not eligible for the program being developed in Amendment 42.

In this amendment:

Charter vessels refer to all federally permitted for-hire vessels that do not participate in the Southeast Region Headboat Survey and thus do not have recorded landings histories.

Headboats refer to all federally permitted for-hire vessels that participate in the Southeast Region Headboat Survey and thus have recorded landings histories.

Definitions:

Gulf Charter/Headboat Permit for Reef Fish, referred to as a **for-hire permit**, is the limited access, federal for-hire permit required to take paying passengers fishing for reef fish in federal waters of the Gulf of Mexico.

Recreational Sector Annual Catch Limit (ACL) – pounds of fish allowed to be landed by recreational fishers (consisting of the private angling component and the federal for-hire fishing component, which includes charter vessels, and headboats).

For-hire Quota – pounds of fish allowed to be landed by for-hire vessels (charter vessels and headboats).

Charter Quota – pounds of fish allowed to be landed by charter vessels under the program developed in this amendment.

Recreational Components – the recreational sector is comprised of for-hire and private angler components.

Recreational Sub-components – the for-hire component has two sub-components, charter vessels and headboats.

The Council established an Ad Hoc Red Snapper Charter For-hire Advisory Panel (Charter AP) to provide recommendations toward the design and implementation of flexible measures for the management of red snapper for charter vessels. The Charter AP met in May 2015 and in March 2016. The summary reports from the meetings, including the AP's recommendations to the Council, are provided in Appendix E. In addition to the Charter AP, the Council created a corresponding Headboat AP charged with making recommendations for the management of reef fish for the headboat sub-component that is being developed in Amendment 42.

Sub-Components of the Recreational Sector

A distinct federal charter quota is necessary for the establishment of management measures specific to charter vessels. Amendment 41 is the current vehicle the Council is using to develop

a management strategy for charter vessels harvesting reef fish. In addition, an action would be needed to determine the distribution of the recreational quota between the charter and headboat sub-components, if the Council continues to pursue separate management approaches for the sub-components. This action could be in either Amendment 41 or Amendment 42.

For red snapper, Amendment 40 included a 3-year sunset clause (GMFMC 2014a), meaning the management of the separate recreational components (for-hire and private angling) would expire on December 31, 2017, without further action by the Council for red snapper. Amendment 45 (GMFMC 2016) was implemented in January 2017 and extended the sunset an additional five years through December 31, 2022. If the Council implements an allocation-based recreational management program for red snapper and/or additional species, then an action in this amendment would establish species quotas for the charter management program.

For example, Figure 1.1.1 hypothetically demonstrates the division of the for-hire quota among charter vessels calculated from the red snapper recreational ACL. The 2016 recreational sector ACL for red snapper was 7.192 million pounds (mp) whole weight (ww). The federal for-hire component quota is 42.3% of the recreational quota, resulting in 3.042 mp ww. The other 57.7% of the recreational sector ACL for red snapper goes to private anglers. If the Council pursues separate management programs for the headboats and charter vessels, then the 3.042 mp ww for-hire quota would need to be divided between the two sub-components. For the purpose of this example only, an annual catch target (ACT, a buffer to the ACL) is not used, and the for-hire quota is based on headboats representing 28.4% of the for-hire component's harvest of red snapper. Thus, this hypothetical allocation of the for-hire quota is divided 71.6% for charter vessels and 28.4% for headboats. This division would result in a 2016 red snapper charter vessel quota of 2.178 mp. Similar calculations and distributions would be necessary for any additional species included in the charter and headboat management programs (Action 4, Allocation of Annual Catch Limit to Charter Vessels).

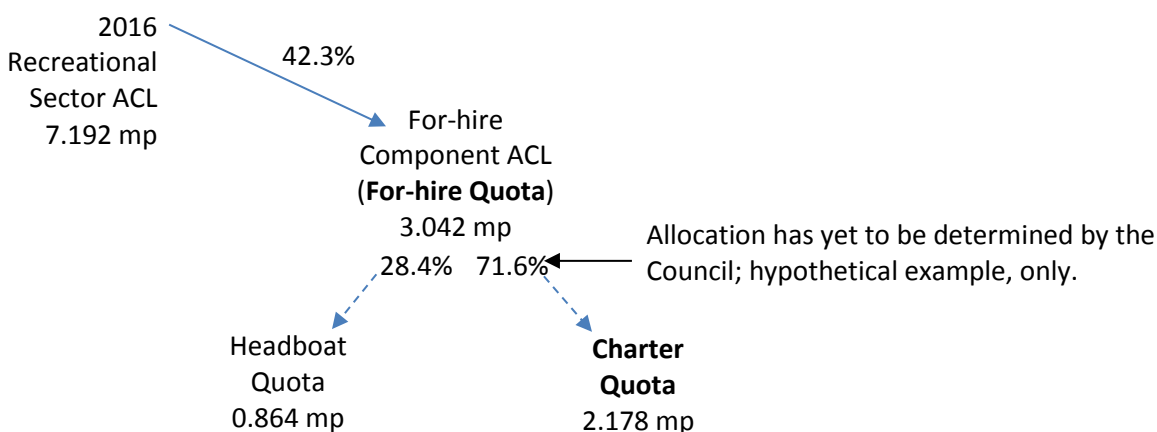


Figure 1.1.1. Diagram hypothetically demonstrating the division of the charter quota calculated for the red snapper for-hire quota between the headboat and charter vessels.

Charter Vessels with Gulf Charter/Headboat Permits for Reef Fish (for-hire permits)

Charter vessels with for-hire permits are distributed throughout the Gulf with a concentration of vessels along the Florida west coast. Based on the homeport listed on the permit application, approximately 58% of the for-hire permits are in west Florida, 11% in Alabama, 3% in Mississippi, 10% in Louisiana, and 17% in Texas (Table 1.1.1). Permits with a listed homeport on the east coast of Florida could be used for fishing along the east or west coast of Florida or are not currently being used. The number of permitted vessels actively engaged in reef fish charter fishing and the number of currently unused for-hire permits is unknown because there are no reporting requirements to maintain or renew the permit.

On October 24, 2016, there were 1,247 charter vessels and 65 headboats possessing valid or renewable for-hire permits. These 1,247 charter vessels possessing for-hire permits would constitute the universe of eligible program participants, as recommended by the Charter AP. As of October 24, 2016, 32 of these permits were valid or renewable historical captain for-hire permits. Historical captain permits are renewable, but may not be transferred to another person; a historical captain may transfer the permit to another vessel if operated by the same historical captain. Table 1.1.1 provides the regional distribution of charter vessels including the number of historical captain permits. The number of permits is provided for three regions of Florida, divided at the Dixie-Levy county line, and the Collier-Monroe County line, reflecting the geographical domains used in the MRIP For-hire Survey. These regions and respective counties are identified in Figure 1.1.2. In the MRIP For-hire Survey, Alabama, Mississippi, and Louisiana represent separate geographical domains; Texas does not participate in the MRIP For-hire Survey. If historical landings by region are used to distribute the charter quota among charter vessels (Action 6, Distributing the Charter Quota), some states could be combined into a single region.

For-hire permits can be held by an individual, business, or multiple individuals and/or businesses. The combined set of entities is considered a unique permit holder. An individual or business may be part of more than one unique permit holder (e.g., John Smith is part of John and Jane Smith as well as John Smith). A unique permit holder may hold more than one for-hire permit (e.g., ABC Inc holds a permit RR-1 for Vessel A and RR-2 for Vessel B). Multiple federal for-hire permits are not allowed on the same vessel. Therefore, if a unique permit holder holds more than one for-hire permit, these permits are associated with different vessels. The majority of unique for-hire permit holders hold only one permit (Table 1.1.4), but some unique permit holders hold in excess of four for-hire permits. The unique permit holders that have more than one permit, hold a total of 185 permits (15% of all for-hire permits).

Table 1.1.1. Regional distribution of charter vessels with for-hire permits, and historical captain permits, by homeport state. Vessels participating in the SRHS are not included.

State (Region)	Number of Charter Vessels	Number of Charter Vessels with Historical Captain permit	Total
Florida			
Panhandle (Escambia - Dixie)	290	9	299
Peninsula (Levy - Collier)	335	7	342
Keys (Monroe)	82	0	82
Alabama	128	4	132
Mississippi	30	2	32
Louisiana	113	6	119
Texas	215	4	219
Non-Gulf States	22	0	22
Total	1,215	32	1,247

Source: NMFS-Southeast Regional Office (SERO) permit office database accessed October 5, 2016. Non-Gulf states include Florida counties of Palm Beach, Broward, Miami-Dade, Alachua, and Putnam. Historical captain permits may be renewed but are only transferable to another vessel if operated by the same historical captain.

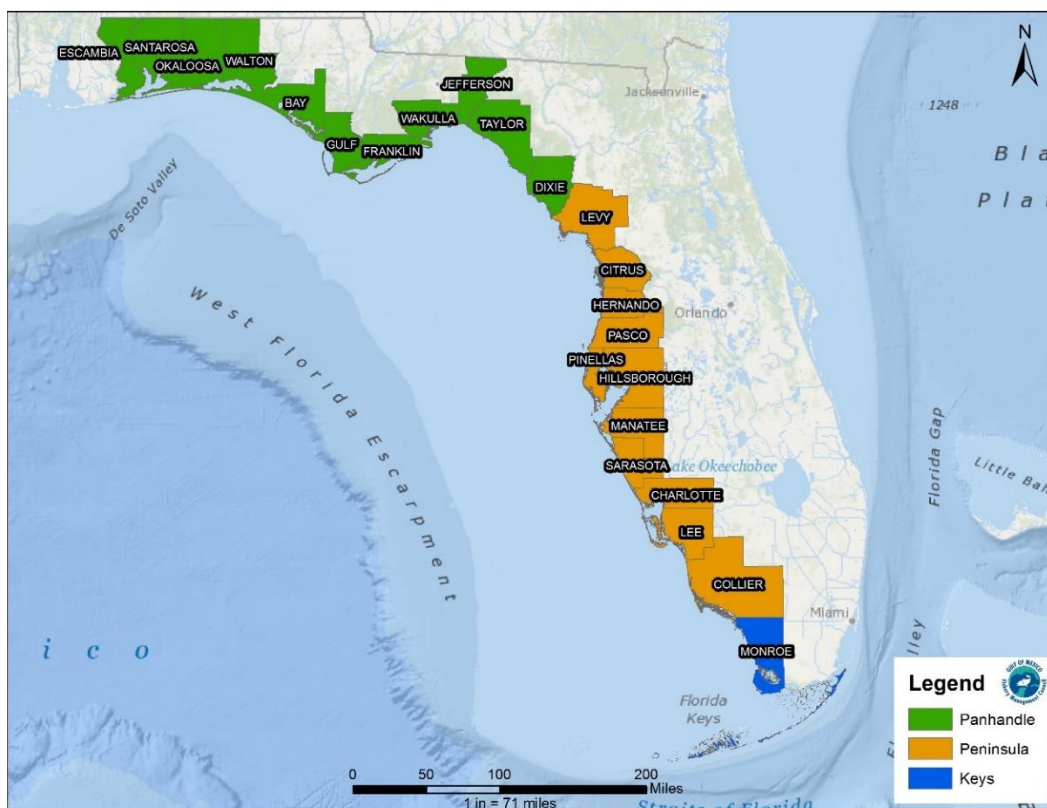


Figure 1.1.2. Map of west Florida county regions used in the MRIP for-hire survey.

Allocation-based Management and Limited Access Privilege Programs (LAPPs)

Management measures considered in this draft amendment focus on allocation-based management approaches, including recommendations made by the Charter AP. Traditional management instruments, such as adjustments to bag limits and the structure of the fishing season, are currently in place. Retaining use of these management tools is provided as the No Action alternative in Action 1 (Type of allocation-based management program). Should the Council decide to continue to manage charter vessels using these management measures, changes could be made through the Council's framework procedures. The remaining alternatives in Action 1 propose allocation-based management programs including individual fishing quota (IFQ) and permit fishing quota (PFQ) programs.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) provides the Council with flexibility in the type and design of limited access privilege programs (LAPP) and guidelines for the different types of programs. The most recent reauthorization of the Magnuson-Stevens Act expanded the flexibility in the design of such programs, specifically pertaining to the recipients of the limited access privileges, which may be distributed to individual entities or groups (Anderson and Holliday 2007, see pages 21, 38).

Under the Magnuson-Stevens Act, the term '**limited access system**' means "a system that limits participation in a fishery to those satisfying certain eligibility criteria or requirements contained in a fishery management plan or associated regulation." 16 U.S.C. § 1802(27). Federally permitted for-hire vessels in the Gulf are already managed under a limited access system in which there are a finite number of valid and renewable for-hire permits. In contrast, the private angling component is not a limited access system; it remains open access.

Under the Magnuson-Stevens Act, the term '**limited access privilege program**' means "a federal permit, issued as part of a limited access system under section 303A to harvest a quantity of fish expressed by a unit or units representing a portion of the total allowable catch of the fishery that may be received or held for exclusive use by a person," and includes IFQs. 16 U.S.C. § 1802(26). In designing a LAPP, the Council is advised to use the National Standards, other applicable law, and the management objectives of the particular fishery management plan as the criteria in the selection of a LAPP (Anderson and Holliday 2007). Further, the goals and objectives for the management of charter vessels should guide the selection of an appropriate management approach and corresponding program features.

Although not all allocation-based management approaches would be considered LAPPs under section 303A of the Magnuson-Stevens Act, both of the proposed programs under consideration in this amendment would be considered LAPPs, and more specifically IFQ programs. As such, should this amendment be approved, an initial detailed review would be conducted five years after implementation of the program (Magnuson-Stevens Act 303A(c)(1)(G)), with follow up reviews every five to seven years. Also, as mandated by the Magnuson-Stevens Act, an IFQ program in the Gulf must be approved by a majority of those voting in a referendum among eligible permit holders. The Magnuson-Stevens Act defines '**individual fishing quota**' as "a Federal permit under a limited access system to harvest a quantity of fish, expressed by a unit or units representing a percentage of the total allowable catch of a fishery that may be received or

held for exclusive use by a person.” Specifically, Section 303A(c)(6)(D) states in part that the Gulf Council “may not submit ... a fishery management plan or amendment that creates an individual fishing quota program ... unless such as system, as ultimately developed, has been approved ... by a majority of those voting in the referendum among eligible permit holders ... For multi-species permits in the Gulf of Mexico, only those participants who have substantially fished the species proposed to be included in the individual fishing quota program shall be eligible to vote in such a referendum.”

Non-adaptive versus Adaptive Catch Share Programs

Catch shares are a type of management method that dedicates a proportion of the quota to individual fishermen, businesses, cooperatives, or fishing communities for their exclusive use while providing flexibility and accountability in managing a fishery. Non-adaptive catch share programs allocate initial shares one time, often based, at least in part, on historical catches. In a non-adaptive catch share program with full share transferability, shares are redistributed through share transfers initiated by the participants themselves, typically for monetary compensation. While shares are a revocable privilege, shares are usually revoked only for egregious violations of regulations. Common critiques of non-adaptive catch shares focus on initial distribution of shares, one-time only distribution of shares, cost of shares and allocation, difficulty for new or replacement entrants to join the programs, and absentee ownership of shares and/or allocation. A program that uses adaptive management (adaptive catch share) could address some of these concerns. An adaptive catch share program is designed to reclaim and redistribute a portion of the shares at pre-determined periods, centered on three main components: cycle length, reclamation process, and redistribution process. Initial shares are distributed based on criteria chosen for the program. Once the program is implemented, within any cycle the program functions similar to a non-adaptive catch share. It is at the end of the cycle, where an adaptive catch share program differs from a non-adaptive program. Once a cycle is completed, based on criteria set forth by management, a portion of shares are reclaimed from all accounts and then redistributed to participants. The goal of an adaptive catch share program is to continuously redistribute shares to those participants who have harvested fish. Depending on how the adaptive catch share program is designed, it may be an appropriate choice if one or more of the following conditions are met:

- Prior landings history is unknown
- Initial share distribution may not be representative of the fishery
- Number of latent permits is unknown
- Absentee ownership is a concern
- A need exists to reduce barriers to new/replacement fishermen

The structure of the adaptive catch share program would progressively redistribute shares so that the shareholders are more representative of the current fishing industry than the initial distribution might be. This is intended to help ensure that shares are held by those active in the fishery.

Passenger Capacity

Each charter vessel has a permit passenger capacity associated with its for-hire permit, and a vessel passenger capacity based on the vessel's United States Coast Guard certificate of inspection (COI), or lack thereof. Prior to the 2004 moratorium on for-hire permits (GMFMC 2003), a permit's passenger capacity was equal to the passenger capacity specified on the vessel's COI, and a copy of the COI was required to renew or obtain the permit. The moratorium was put in place to limit overall fishing effort by for-hire vessels fishing in federal waters. Since the for-hire permit moratorium was implemented, the passenger capacity of each permit may not be increased even if a permit holder transfers the permit to a vessel with a COI that allows a greater passenger capacity. Effective August 30, 2013,¹ a copy of the COI is no longer required to renew or transfer a for-hire permit.

In most cases, the permit and vessel passenger capacities are the same; the majority of charter vessels do not have a COI, which limits the number of paying passengers to six (Table 1.1.2 and 1.1.3). However, there are cases where the permit's passenger capacity is greater than the vessel's passenger capacity, and vice versa. As of October 24, 2016, 108 charter vessels have a permit passenger capacity that is greater than the vessel's passenger capacity. The operators of these vessels would not currently be carrying the maximum amount of passengers allowed by their permit, as they are restricted by their vessel's COI (or lack thereof). Most of these vessels do not have a COI, and are able to take no more than 6 paying passengers, even though their permit would allow a greater number of passengers. In turn, there are 17 charter vessels with a vessel passenger capacity (based on the COI) that is greater than the permit passenger capacity. In these cases, the charter vessel is limited to its permit passenger capacity to take anglers fishing. However, these vessels may take paying passengers on separate non-fishing trips, such as dolphin watching tours, up to the number of passengers specified on the COI.

In general, charter vessels charge by the trip rather than by the individual angler as is typical of headboats. Although there are some charter vessels with passenger capacities (lesser of the permit or vessel passenger capacity) greater than some headboats, the average passenger capacity of charter vessels is generally less than headboats.

¹ Final Rule available at:

http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/2013/coi/documents/gulf_2013_coi_framework_final_rule.pdf

Table 1.1.2. Permit passenger capacity of charter vessels with Gulf Charter/Headboat Permits for Reef Fish, and Historical Captain permits.

Passenger Capacity	Number of Charter Vessels	Number of Charter Vessels with Historical Captain permit
6	1,042	23
9-15	19	1
16-19	25	0
20-24	51	1
25-30	20	1
31-40	15	3
41-50	21	0
51-80	11	2
>80	11	1
Total	1,215	32

Source: NMFS-SERO permit office database accessed March 3, 2016. Vessels participating in the SRHS are not included.

Table 1.1.3. Number of vessels in each state or region with the permit's passenger capacity including historical captain permits.

Passenger Capacity	FL Keys	FL Peninsula	FL Panhandle	AL	MS	LA	TX	Non-Gulf State	Total
6	78	319	212	102	26	114	196	18	1,065
9-15		2	15			1	2		20
16-19		2	19	1		1	1	1	25
20-24		7	26	15	2		2		52
25-30		2	12	3	1	1	2		21
31-40	1	1	4	6	3	1	1	1	18
41-50	1	3	6	3			8		21
51-80	1	2	3	2		1	4		13
>80	1	4	2				3	2	12
Total	82	342	299	132	32	119	219	22	1,247

Source: NMFS-SERO permit office database accessed March 3, 2016. Vessels participating in the SRHS are not included.

Passenger capacity is included among the proposed metrics for distributing the charter quota among participants (Action 6). Depending on the allocation-based management program selected (Action 1) and corresponding transferability provisions (Actions 8 and 10), implications may arise from the use of the permit or vessel's passenger capacity for those operators who have a for-hire permit with a baseline permit passenger capacity that is different than the passenger capacity provided by the vessel's COI. **For the purpose of distributing the charter quota**

among charter vessels for an IFQ or PFQ program, passenger capacity would be based on the permit's passenger capacity.

1.2 Purpose and Need

The purpose is to establish a management approach for federally permitted Gulf reef fish charter vessels to harvest reef fish that provides flexibility, reduces management uncertainty, improves economic conditions, and increases fishing opportunities for federal charter vessels and their angler passengers.

The need is to provide flexible management of federally permitted charter vessels when harvesting reef fish; to prevent overfishing while achieving, on a continuing basis, the optimum yield from the harvest of reef fish by the for-hire sector²; take into account and allow for variations among, and contingencies in the fisheries, fishery resources, and catches; and provide for the sustained participation of the fishing communities of the Gulf and to the extent practicable, minimize adverse economic impacts on such communities.

1.3 History of Management

The Reef Fish FMP (with its associated Environmental Impact Statement [EIS]) was implemented in November 1984. The original list of species included in the management unit consisted of snappers, groupers, and sea basses. Gray triggerfish and *Seriola* species, including greater amberjack, were in a second list of species included in the fishery, but not in the management unit.

This summary focuses on management actions pertinent to recreational harvest of the reef fish species considered for this management program (red snapper, greater amberjack, gray triggerfish, gag, and red grouper) and the management of vessels with a for-hire permit³.

Management of the Recreational Sector

Since 1996, when **Amendment 11** was implemented, for-hire vessels fishing in federal waters are required to have a federal for-hire permit. The initial purpose of the permits was to address potential abuses in the bag limit allowances. It was thought that having a permit to which sanctions could be applied would improve compliance. In addition, the permit requirement was seen as a way to enhance monitoring of the for-hire component of the recreational sector.

In 2003, a 3-year moratorium on the issuance of new for-hire permits was established through **Amendment 20** (GMFMC 2003), to limit further expansion in the for-hire fisheries, an industry concern, while the Council considered the need for more comprehensive effort management

² National Standards 1, 6, and 8 found at:

http://www.fisheries.noaa.gov/sfa/laws_policies/national_standards/

³ A complete history of management for the Reef Fish FMP is available on the Council's website:

<http://gulfcouncil.org/fishery-management/implemented-plans/reef-fish/>

systems. This means that participation in the federal for-hire component is capped; no additional federal permits are available. The permit moratorium was extended indefinitely in 2006 through **Amendment 25** (GMFMC 2006). The number of for-hire permits has been decreasing since the establishment of the moratorium (GMFMC 2014a).

Regulatory Amendment, implemented in August 1999, closed two areas (i.e., created two marine reserves), 115 and 104 square nautical miles respectively, year-round to all fishing under the jurisdiction of the Council with a four-year sunset clause.

Amendment 30B (GMFMC 2008b) included an action requiring that vessels with federal commercial or for-hire permits comply with the more restrictive of federal or state regulations when fishing for reef fish, if regulations are different. The implementation of this provision reduced the fishing days available to vessels with a for-hire permit in comparison to the private recreational anglers, who were able to participate in the additional fishing opportunities provided in some state waters.

Generic Management Amendments

Generic Sustainable Fisheries Act Amendment, partially approved and implemented in November 1999, set the Maximum Fishing Mortality Threshold (MFMT) for most reef fish stocks at a fishing mortality rate corresponding to 30% spawning potential ratio ($F_{30\% SPR}$).

Generic Tortugas Marine Reserves, implemented in August 2002, amended all seven FMPs and created two marine reserves where all fishing is prohibited. One 60 square mile reserve was created on a spawning aggregation site for mutton snapper in the Gulf Council's jurisdiction. The other (125 square miles) was created in the jurisdictions of the National Park Service, Florida Keys National Marine Sanctuary, Gulf Council, and State of Florida.

Finally, an amendment to require electronic reporting by charter vessels and to modify electronic reporting by headboats was approved by the Council at their January 2017 meeting. The purpose of the amendment is to improve the monitoring of for-hire vessel landings, thereby reducing the likelihood of exceeding the recreational sector ACL. The amendment is currently under review by the Secretary of Commerce (Secretary).

Recreational Red Snapper Management

A summary of red snapper management through 2006 can be found in Amendment 27/14 (GMFMC 2007) and in Hood et al. (2007), and is incorporated herein by reference.

Prior to 1997, recreational fishing for all reef fish was open year round in federal waters of the Gulf. Although catch levels were controlled through minimum size limits and bag limits, the recreational sector exceeded its allocation of the red snapper total allowable catch; however, the overages were declining through more restrictive recreational management measures. The Sustainable Fisheries Act of 1996 required the establishment of quotas for recreational and commercial fishing that, when reached, result in a prohibition on the retention of fish caught for each sector, respectively, for the remainder of the fishing year. With the establishment of a

recreational quota in 1997, the Regional Administrator (RA) was authorized to close the recreational season when the quota is reached, as required by the Magnuson-Stevens Act. From 1997 through 1999, NMFS implemented the recreational red snapper quota requirement through an in-season monitoring process by establishing a quota monitoring team that, through monitoring landings data that were available, plus projecting landings based on past landings patterns, projected closing dates a few weeks in advance. Between 1996 and 2013, the recreational fishing season in federal waters decreased from 365 days to 42 days.⁴

An interim rule, published on April 2, 2007, reduced the red snapper total allowable catch to 6.50 mp, resulting in a recreational quota of 3.19 mp; reduced the red snapper recreational bag limit from four fish to two fish per person per day; prohibited the captain and crew of for-hire vessels from retaining the recreational bag limit; and established a target red snapper bycatch mortality reduction goal for the shrimp fishery that equates to 50% of the bycatch mortality that occurred during 2001-2003 and a level of shrimp effort equal to that observed in the fishery in 2005.

In 2008, joint **Amendment 27/Shrimp Amendment 14** (GMFMC 2007) revised the rebuilding plan for red snapper. For the recreational sector, the rule implemented a June 1 through September 30 fishing season in conjunction with a 2.45 mp recreational quota, 16-inch total length (TL) minimum size limit, 2-fish bag limit, and zero bag limit for captain and crew of for-hire vessels.

The Sustainable Fisheries Act required that the Regional Administrator close the recreational red snapper season when the quota is projected to be met. When Reef Fish **Amendment 27/Shrimp Amendment 14** (GMFMC 2007) was submitted to NMFS, the Council requested that the five Gulf states adopt compatible regulations in state waters. Florida adopted a compatible two-fish bag limit, but maintained its state red snapper fishing season of April 15 through October 31, 78 days longer than the federal fishing season. Texas also maintained its four-fish bag limit and year-round fishing season in its state waters. Prior to the start of the 2008 season, NMFS recalculated its projections for recreational red snapper catches in light of the state regulations, and projected that there would be a 75% probability that the recreational quota would not be exceeded if the season closed on August 5. As a result, NMFS took action to set the 2008 season to be June 1 to August 5.

A **February 2010 regulatory amendment** (GMFMC 2010) increased the red snapper total allowable catch from 5.00 mp to 6.95 mp, which increased the recreational quota from 2.45 mp to 3.40 mp. However, NMFS estimated that in 2009, the recreational sector overharvested its quota by approximately 75%. In recalculating the number of days needed to fill the recreational quota, even with the quota increase, NMFS projected that the 2010 season would need to be shortened to June 1 through July 24, and published notice of those dates prior to the start of the recreational fishing season.

In April 2010, the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. Because of the resulting oil spill, approximately one-third of the Gulf was

⁴ Upon availability of a quota increase in 2013, the 28-day recreational season was supplemented by a 14-day fall season for a total of 42 days.

closed to fishing for much of the summer months. The direct loss of fishing opportunities due to the closure, plus the reduction in tourism throughout the coastal Gulf, resulted in a much lower catch than had been projected. After the recreational season closed on July 24, NMFS estimated that 2.30 mp of the 3.40 mp recreational quota remained unharvested (NMFS 2010). However, due to the fixed October 1 to December 31 closed season, NMFS could not reopen the recreational season without an emergency rule to suspend the closure. Consequently, the Council requested an emergency rule to provide the Regional Administrator with the authority to reopen the recreational red snapper season. After considering various reopening scenarios, the Council requested that the season be reopened for eight consecutive weekends (Friday, Saturday and Sunday) from October 1 through November 21 (24 fishing days).

In January 2011, the Council submitted a **regulatory amendment** (GMFMC 2011a) to NMFS to increase the red snapper total allowable catch to 7.19 mp, with a 3.52 mp recreational quota. The final rule implemented the increase and established a 48-day recreational red snapper season that was June 1 through July 18.

On August 12, 2011, NMFS published an emergency rule that, in part, increased the recreational red snapper quota by 345,000 lbs for the 2011 fishing year and provided the agency with the authority to reopen the recreational red snapper season later in the year, if the recreational quota had not been filled by the July 19 closing date. However, in August of that year, based on headboat data plus charter boat and private recreational landings through June, NMFS calculated that 80% of the recreational quota had been caught. With the addition of July landings data plus Texas survey data, NMFS estimated that 4.40 to 4.80 mp were caught, well above the 3.87 mp quota. Thus, no unused quota was available to reopen the recreational fishing season.

A **March 2012 regulatory amendment** (GMFMC 2012b) set the 2012 recreational quota for red snapper at 3.96 mp based on a recent population assessment which showed that overfishing had ended. The regulatory amendment also eliminated the fixed recreational red snapper closed season of October 1 - December 31. By eliminating the closure date, NMFS can re-open the recreational harvest for red snapper if any remaining quota is available, without the delay of additional rulemaking. On May 30, 2012, NMFS published a final rule to increase the sector quotas and establish the 2012 recreational red snapper fishing season as June 1 through July 11. However, the north-central Gulf experienced extended severe weather during the first 26 days of the 2012 recreational red snapper fishing season, including Tropical Storm Debby. Due to the severe tropical weather, the season was extended by 6 days and closed on July 17.

On March 25, 2013, an emergency rule [78 FR 17882] was published in the *Federal Register* giving NMFS the authority to set separate closure dates for the recreational red snapper season in federal waters off individual Gulf states. The closure dates would depend on whether state regulations were consistent with federal regulations for the recreational red snapper season length or bag limit.

A **March 2013 framework action**⁵ (GMFMC 2013a) modified the 2013 recreational red snapper quota to 4.15 mp. Based on the emergency rule to allow separate closure dates, NMFS

⁵ Prior to 2013, regulatory actions made under the Reef Fish framework procedure for setting total allowable catch,

announced that the recreational red snapper season in federal waters would open on June 1. Off Mississippi and Alabama, which had consistent state regulations, the season would be 34 days and close on July 5. The other Gulf States had inconsistent state regulations, and the fishing seasons in federal waters were announced as follows. Off Texas, the season would be 17 days and close on June 18. Off Louisiana, the season would be 24 days and close on June 25. Off Florida, the season would be 26 days and close on June 27.

Texas and Louisiana filed a legal challenge to the separate closure dates, and on May 31, 2013, the U.S. District Court in Brownsville, Texas, set aside the emergency rule. As a result of this Court decision, the recreational red snapper season in federal waters was changed to make it the same in federal waters off all five Gulf states. Considering the catches expected later in the year during the extended state-water seasons off Texas, Louisiana, and Florida, NMFS established a Gulf-wide federal recreational red snapper season at 28 days long, opening on June 1 and closing to recreational red snapper harvest at 12:01 a.m., June 29, 2013.

A July 2013 framework action (GMFMC 2013b) increased the 2013 recreational quota from 4.15 mp to 5.39 mp. The quota increase was implemented by re-opening federal waters to red snapper recreational fishing for 14 days beginning on October 1, 2013, at 12:01 a.m. and closing on October 15, 2013, at 12:01 a.m. Therefore, the total fishing days for 2013 was 42 days.

On March 26, 2014, in response to a legal challenge from commercial fishermen, the U.S. District Court for the District of Columbia ruled that NMFS failed to require adequate accountability measures for the recreational sector, failed to prohibit the retention of fish after the recreational quota had been harvested, and failed to use the best scientific information available when determining whether there should be a 2013 fall fishing season. In response to the Court's decision and to reduce the probability of the recreational sector exceeding its quota, the Council requested, through an emergency rule, that NMFS implement an ACT that is 20% less than the 2014 recreational quota; the ACT would be used to set the season length in federal waters. The emergency rule, published on May 15, 2014 [79 FR 27768], resulted in a recreational ACT of 4.31 mp. In addition, several Gulf states announced extended state-water fishing seasons. Given the additional harvest estimated to come from state waters, a 9-day fishing season in federal waters was established for 2014.

In October 2014, the Council approved a framework action to formally adopt the ACT as a buffer to the recreational sector ACL. The framework action also adopted a quota overage adjustment such that if the recreational quota is exceeded in a fishing season, the amount of the overage is deducted from the following year's quota (GMFMC 2014b). The final rule became effective April 20, 2015.

Amendment 40 (GMFMC 2014a) divided the recreational quota into a federal for-hire component quota (42.3%) and a private angling component quota (57.7%) for the recreational harvest of red snapper. In 2015, this resulted in an ACT of 2.371 mp for the federally permitted for-hire component (45 federal fishing days) and 3.234 mp for the private angling component (10

or the generic framework procedure in the Generic Annual Catch Limits/Accountability Measures Amendment, were referred to as either framework actions or regulatory amendments. Beginning in 2013, such actions were referred to only as framework actions.

federal fishing days), respectively. The 2015 season closures for the recreational harvest of red snapper were determined separately for each component based on each component's ACT. **Amendment 40** also included a 3-year sunset provision on the separation of the recreational sector into distinct components.

At its August 2015 meeting, the Council approved **Amendment 28** (GMFMC 2015) which 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 are 48.5% commercial and 51.5% recreational. This amendment became effective on May 31, 2016. The **Framework Action** to Retain 2016 Red Snapper Commercial Quota became effective December 28, 2015, which allowed the revised allocations established through Amendment 28 to be effective for the 2016 fishing year. 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 45 (GMFMC 2016) extended the separate management of the federal for-hire and private angling components for an additional 5 years through the 2022 red snapper fishing season.

Recreational Greater Amberjack Management

Amendment 1 [with its associated environmental assessment (EA), regulatory impact review (RIR), and initial regulatory flexibility analysis (IRFA)] to the Reef Fish FMP, implemented in 1990, added greater amberjack and lesser amberjack to the list of species in the management unit. It set a greater amberjack recreational minimum size limit of 28 inches fork length (FL), a three-fish recreational bag limit. This amendment's objective was to stabilize the long-term population levels of all reef fish species by establishing a survival rate of biomass into the stock of spawning age to achieve at least 20% spawning stock biomass per recruit (SSBR), relative to the SSBR that would occur with no fishing. A framework procedure for specification of total allowable catch (TAC) was created to allow for annual management changes.

Amendment 12, implemented in January 1997, reduced the greater amberjack bag limit from three fish to one fish per person, and created an aggregate bag limit of 20 reef fish for all reef fish species not having a bag limit (including lesser amberjack, banded rudderfish, almaco jack and gray triggerfish). NMFS disapproved proposed provisions to include lesser amberjack and banded rudderfish along with greater amberjack in an aggregate one-fish bag limit and to establish a 28-inch FL minimum size limit for those species.

Generic Sustainable Fisheries Act Amendment, partially approved and implemented in November 1999, set the MFMT for greater amberjack at the fishing mortality necessary to achieve 30% of the unfished spawning potential $F_{30\% SPR}$. Estimates of maximum sustainable yield (MSY), minimum stock size threshold (MSST), and optimum yield (OY) were disapproved because they were based on spawning potential ratio (SPR) proxies rather than biomass-based estimates.

Secretarial Amendment 2, implemented in July 2003, for greater amberjack, specified MSY as the yield associated with $F_{30\% SPR}$ (proxy for F_{MSY}) when the stock is at equilibrium, OY as the yield associated with an $F_{40\% SPR}$ when the stock is at equilibrium, MFMT equal to $F_{30\% SPR}$, and MSST equal to $(1-M)*B_{MSY}$ (where M = natural mortality) or 75% of B_{MSY} . It also set a rebuilding plan limiting the harvest to 2,900,000 lbs for 2003-2005, 5,200,000 lbs for 2006-2008, 7,000,000 lbs for 2009-2011, and for 7,900,000 lbs for 2012. This was expected to rebuild the stock in seven years. Regulations implemented in 1997 and 1998 (Amendments 12 and 15 to the Reef Fish FMP) were deemed sufficient to comply with the rebuilding plan so no new regulations were implemented.

Amendment 30A, implemented August 2008, was developed to stop overfishing of gray triggerfish and greater amberjack. The amendment established ACLs and accountability measures (AM) for greater amberjack and gray triggerfish. For greater amberjack, the rebuilding plan was modified, increasing the recreational minimum size limit to 30 inches FL, implementing a zero bag limit for captain and crew of for-hire vessels, and setting commercial and recreational quotas.

Regulatory Amendment, implemented in June 2011, specified the greater amberjack recreational closed season from June 1 – July 31. The intended effect of this final rule was to mitigate the social and economic impacts associated with implementing in-season closures.

Amendment 35, implemented in 2012, in response to a 2010 update stock assessment, established a new ACL equal to the acceptable biological catch (ABC) at 1,780,000 lbs, which was less than the current annual catch limit of 1,830,000 lbs. Reducing the stock ACL by 18% from no action was expected to end overfishing. The council also considered bag limits and closed season management measures for the recreational fishing sector but did not alter any recreational management measures.

Recreational Gray Triggerfish Management

A complete description of the management can be found in Reef Fish Amendment 46 (GMFMC 2017a) which is currently under development, and is incorporated here by reference.

Reef Fish **Amendment 30A** (GMFMC 2008a) established a stock rebuilding plan beginning in 2008 as required by the Magnuson-Stevens Act. Commercial and recreational ACTs, ACLs, and accountability measures (AM) were also established in **Amendment 30A**, along with the 21% commercial and 79% recreational sector allocation. For the recreational sector, a post-season AM was established. If the ACL for a single year, or the 3-year running average of recreational landings, resulted in the ACL being exceeded, then the length of the fishing season would be shortened the next year based on the amount by which the ACT was exceeded.

An **interim rule**, implemented in 2012 reduced the recreational ACL to 241,200 lbs ww and the recreational ACT to 217,100 lbs ww. The **interim rule** also established in-season closure authority for the recreational sector based on the ACT. Therefore, if the recreational gray triggerfish ACT is reached or projected to be reached within a fishing year, the Assistant Administrator for Fisheries can close the recreational sector from harvesting gray triggerfish for

the rest of the year (78 FR 27084). The **interim rule** reduced fishing levels until long-term management measures were implemented.

Amendment 37 (GMFMC 2012a), implemented in 2013, adjusted the commercial and recreational ACLs and ACTs, established a two-fish recreational daily bag limit, established an annual fishing season closure from June 1 through July 31 for the commercial and recreational sectors, and revised the in-season AM for the recreational sector by eliminating the 3-year running average ACL. In addition, an overage adjustment for the recreational sector was added.

In November 2016, NMFS published a **temporary rule**⁶ for the recreational sector's harvest of gray triggerfish in 2017 that determined the recreational season would not reopen on January 1, 2017 and would remain closed the entire 2017 fishing year. This determination was based on the 2016 adjusted recreational ACL and ACT for gray triggerfish being exceeded by 215% and 245%, respectively. The gray triggerfish stock is overfished and this closure is necessary to protect the resource.

Recreational Gag Management

Federal management of gag began in November 1984 with the implementation of the Reef Fish Fishery Management Plan and its associated EIS. The initial regulations, designed to rebuild declining reef fish stocks, included prohibitions on the use of fish traps, roller trawls, and powerhead-equipped spear guns within an inshore stressed area and directed the NMFS to develop data reporting requirements in the reef fish fishery.

In July 1985, the Florida Marine Fisheries Commission (now Florida Fish and Wildlife Conservation Commission (FWC)) established a Florida state regulation to set a minimum size limit of 18 inches TL for gag, black grouper, and several other shallow-water grouper species. In December 1986, FWC implemented a state recreational bag limit of five grouper per person per day, with an off-the-water possession limit of 10 per person, for any combination of groupers excluding rock hind and red hind.

Amendment 1, implemented in February 1990, established several reef fish management measures including a 20-inch TL minimum size limit on gag. Florida modified its regulations in 1990 to be consistent with the federal regulations.

A **regulatory amendment**, implemented in June 2000, increased the recreational size limit for gag from 20 to 22 inches TL and established two marine reserves (Steamboat Lumps and Madison-Swanson) that are closed year-round to fishing for all species under the Council's jurisdiction. An additional action to further increase the recreational minimum size limit for gag and black grouper by one inch per year until it reached 24 inches TL was disapproved by NMFS. [65 FR 31827].

⁶http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/reef_fish/2017/am46_gray_trigger/documents/pdfs/gulf_reef_trigger_closure_frnotice.pdf

In August 2009, the Council was notified by NMFS that the Gulf gag stock was both overfished and undergoing overfishing based on the results of a 2009 update stock assessment. The remaining summary focuses on the history of gag management since the stock was declared overfished. For a full history of grouper management, refer to Amendment 30B, History of Management Activities Affecting Grouper Harvest (GMFMC 2008b).

Amendment 30B (GMFMC 2008b), implemented in May 2009, established ACLs and AMs for gag and red grouper; managed shallow-water grouper to achieve OY and improve the effectiveness of federal management measures; defined the gag MSST and OY; set interim allocations of gag and red grouper between recreational and commercial fisheries; made adjustments to the gag and red grouper ACLs to reflect the current status of these stocks; established ACLs and AMs for the commercial and recreational gag harvest, and commercial aggregate shallow-water grouper harvest; adjusted recreational grouper bag limits and seasons; adjusted commercial grouper quotas; eliminated the end date for the Madison-Swanson and Steamboat Lumps marine reserves; and required that vessels with federal commercial or charter reef fish permits comply with the more restrictive of state or federal reef fish regulations when fishing in state waters.

An **Interim Rule**, published December 1, 2010 [75 FR 74654]. While management measures for the gag rebuilding plan were being developed through Amendment 32, the **Interim Rule** reduced gag landings consistent with ending overfishing; implemented conservative management measures while a rerun of the update stock assessment was being completed; and temporarily halted the recreational harvest of gag until recreational fishing management measures being developed in Amendment 32 could be implemented to allow harvest at the appropriate levels.

An **Interim Rule**, effective from June 1, 2011 through November 27, 2011, and was extended for another 186 days or until Amendment 32 was implemented [76 FR 31874]. The gag 2009 update stock assessment was rerun in December 2010 addressing the problems with discards identified earlier in 2010. This assessment was reviewed in January 2011 by the Council's SSC and presented to the Council at its February 2011 meeting. The assessment indicated that the gag commercial quota implemented in the December 1, 2010 interim rule could be increased and that a longer recreational season could be implemented. In response, the Council requested an interim rule while they continued to work on long-term measures including a gag rebuilding plan in Amendment 32. The interim rule set a two-month recreational gag fishing season from September 16 through November 15.

Amendment 32, implemented March 2012, set the commercial and recreational gag ACLs and ACTs for 2012 through 2015 and beyond; set the gag recreational season from July 1 through October 31 (the bag limit remained two gag in the four-grouper aggregate bag limit); and added an overage adjustment and in-season closure to the gag and red grouper recreational AMs to avoid exceeding the ACL.

Amendment 38, implemented March 1, 2013, revised the post-season recreational AM that reduces the length of the recreational season for all shallow-water grouper in the year following a year in which the ACL for gag or red grouper is exceeded. The modified AM reduces the recreational season of only the species for which the ACL was exceeded.

Recreational Red Grouper Management

Similar to the management of gag, the federal management of red grouper began in November 1984 with the implementation of the Reef Fish FMP and its associated EIS.

Amendment 1, implemented in 1990, set objectives to stabilize long-term population levels of all reef fish species by establishing a survival rate of biomass into the stock of spawning age fish to achieve at least 20% SSBR by January 1, 2000. Among the red grouper management measures implemented included setting a 20-inch TL minimum size limit on red grouper, and a five-grouper recreational daily bag limit.

Secretarial Amendment 1, implemented in July 2004, established a rebuilding plan, a 5.31 mp gw commercial quota, and a 1.25 mp gw recreational target catch level for red grouper. The recreational bag limit for red grouper was reduced to two fish per person per day.

Amendment 27, implemented in February 2008, except for reef fish bycatch reduction measures that became effective in June 2008 addressed the use of non-stainless steel circle hooks when using natural baits to fish for Gulf reef fish effective June 1, 2008, and required the use of venting tools and dehooking devices when participating in the commercial or recreational reef fish fisheries effective June 1, 2008.

Amendment 30B, implemented May 2009, proposed to end overfishing of gag, revise red grouper management measures as a result of changes in the stock condition, establish ACLs and AMs for gag and red grouper, manage shallow-water grouper to achieve OY, and improve the effectiveness of federal management measures. The amendment: (1) defined the gag minimum stock size threshold and optimum yield; (2) set interim allocations of gag and red grouper between recreational and commercial fisheries; (3) made adjustments to the gag and red grouper TACs to reflect the current status of these stocks; (4) established ACLs and AMs for the commercial and recreational red grouper fisheries (5) adjusted recreational grouper bag limits and seasons; (6) eliminated the end date for the Madison-Swanson and Steamboat Lumps marine reserves; and (7) required that vessels with a federal charter vessel/headboat permit for Gulf reef fish must comply with the more restrictive of state or federal reef fish regulations when fishing in state waters.

Amendment 32, implemented in March 2012, set the constant catch red grouper commercial ACL at 6.03 mp and the red grouper recreational ACL at 1.90 mp. It also added an overage adjustment and in-season measures to the gag and red grouper recreational AMs to avoid exceeding the ACL and an AM for the red grouper bag limit that would reduce the four red grouper bag limit in the future to three red grouper, and then to two red grouper, if the red grouper recreational ACL is exceeded.

Amendment 38, implemented in March 2013, revised the post-season recreational accountability measure that reduces the length of the recreational season for all shallow-water grouper in the year following a year in which the ACL for gag or red grouper is exceeded. The modified accountability measure reduces the recreational season of only the species for which the ACL was exceeded. Additionally, the reef fish framework procedure was modified to

include the addition of accountability measures to the list of items that can be changed through the standard framework procedure. This allows for faster implementation of measures designed to maintain harvest at or below the ACL. General language was added to the framework to accommodate future changes in naming of the Council's advisory committees and panels.

An **interim rule**, published July 25, 2005, proposed for the period August 9, 2005 through January 23, 2006, a temporary reduction in the red grouper recreational bag limit from two to one fish per person per day, in the aggregate grouper bag limit from five to three grouper per day, and a closure of the recreational sector, from November - December 2005, for all grouper species [70 FR 42510]. These measures were proposed in response to an overharvest of the recreational allocation of red grouper under the Secretarial Amendment 1 red grouper rebuilding plan. The closed season was applied to all grouper to prevent effort shifting from red grouper to other grouper species and an increased bycatch mortality of incidentally caught red grouper. However, the rule was challenged by organizations representing recreational fishing interests. On October 31, 2005, a U.S. District Court judge ruled that an interim rule to end overfishing can only be applied to the species that is undergoing overfishing. Consequently, the reduction in the aggregate grouper bag limit and the application of the closed season to all grouper were overturned. The reduction in the red grouper bag limit to one per person and the November-December 2005 recreational closed season on red grouper only were allowed to proceed. The approved measures were subsequently extended through July 22, 2006 by a temporary rule extension published January 19, 2006 [71 FR 3018].

A March 2006 **regulatory amendment** (GMFMC 2005), implemented in July 2006, established a red grouper recreational bag limit of one fish per person per day as part of the five grouper per person aggregate bag limit, and prohibited for-hire vessel captains and crews from retaining bag limits of any grouper while under charter [71 FR 34534]. An additional provision established a recreational closed season for red grouper, gag and black grouper from February 15 to March 15 each year (matching a previously established commercial closed season) beginning with the 2007 season.

An August 2010 **regulatory amendment**, implemented in January 2011, reduced the total allowable catch for red grouper from 7.57 mp gw to 5.68 mp gw, based on the optimum yield projection from a March 2010 re-run of the projections from the 2009 red grouper update assessment. Although the stock was found to be neither overfished nor undergoing overfishing, the update assessment found that spawning stock biomass levels had decreased since 2005, apparently due to an episodic mortality event in 2005 which appeared to be related to an extensive red tide that year. Based on the 76%:34% commercial and recreational allocation of red grouper, the commercial quota was reduced from 5.75 to 4.32 mp gutted weight (gw), and the recreational allocation was reduced from 1.82 to 1.36 mp gw. No changes were made to the recreational fishing regulations as the recreational landings were already below the adjusted allocation in recent years.

An August 2011 **regulatory amendment** increased the 2011 red grouper TAC to 6.88 mp gw with subsequent increases each year from 2012 to 2015. These catch limits were subsequently replaced by a constant catch ACL and ACT under Amendment 32, which was being developed concurrently. The amendment also increased the red grouper bag limit to 4 fish per person.

However, this increase did not include the provision later added under Amendment 32 that if there is a recreational overage, the bag limit would be reduced to three red grouper within the four-grouper aggregate bag limit in the subsequent season. A subsequent overage would result in the bag limit being further reduced to two red grouper within the four-grouper aggregate bag limit.

A December 2012 **framework action** established the 2013 gag recreational fishing season to open on July 1 and remain open until the recreational ACT is projected to be taken. The framework action also eliminated the February 1 through March 31 recreational shallow-water grouper closed season shoreward of 20 fathoms (except for gag). However, the closed season remains in effect beyond 20 fathoms to protect spawning aggregations of gag and other species that spawn offshore during that time.

A December 2014 **framework action**, implemented in May 2015, reduced the bag limit from four fish per person per day to two fish per person per day and eliminated the bag limit reduction AM in 50 CFR 622.41(e)(2)(ii).

A January 2016 **framework action**, implemented in May 2016, increased the minimum size limit for recreationally caught gag and black grouper to 24 inches TL, and changed the gag recreational fishing season to June 1 through December 31, unless closed sooner due to the recreational ACL being reached.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 – Type of Allocation-based Management Program

Alternative 1: No Action. Do not adopt an allocation-based management approach. Continue to manage reef fish landed by federally permitted charter vessels using current recreational seasons, size limits, and bag limits.⁷

Preferred Alternative 2: Establish a fishing quota program that provides participants with shares and annual allocation.

Option 2a: Individual Fishing Quota (IFQ) program.

Preferred Option 2b: Permit Fishing Quota (PFQ) program.

Discussion:

A primary decision point in the development of a charter vessel management plan is the type of management approach selected by the Gulf of Mexico Fishery Management Council (Council).

Alternative 1 (No Action) would continue to manage federally permitted charter vessels, referring to vessels possessing a federal Gulf of Mexico (Gulf) Charter/Headboat permit for Reef Fish (for-hire permit), under existing management measures. If the Council were to select **Alternative 1**, the Council could pursue modifying current management measures for charter vessels through its framework procedure.

Preferred Alternative 2 proposes allocation-based management approaches in which a specified portion of the selected reef fish species recreational annual catch limit (ACL) would be distributed among program participants. Allocation-based management approaches distribute fishing privileges to each participant at the beginning of the fishing year, and typically provide more flexibility to participants in terms of when and how they use their assigned portion of the allocated quota. Added flexibility would be determined by the amount of quota each participant receives and the transferability provisions provided. These types of programs are generally more effective in ensuring that harvest does not exceed a pre-determined amount of allowable catch (e.g., the amount of the recreational sector quota assigned to the program) than using traditional management tools alone (Johnston et al. 2007).

Existing allocation-based programs have primarily been developed to address overcapacity, and thus, to increase economic efficiency in commercial fisheries (Libecap 2007, Hannesson 1996). In the United States, IFQ-type programs only exist for commercial fisheries. Currently, there are no known allocation-based programs operating in a recreational fishery, although there is discussion of how to develop rights-based approaches for the for-hire component, termed “commercial recreational fisheries” (Abbott et al. 2009).

The proposed allocation-based programs would distribute *shares*, which are a set percentage of the quota that are assigned to an entity or permit (**Preferred Alternative 2**) at the start of the

⁷ The current regulations are provided in Appendix F.

program. Shares sum to 100% for all participants and the amount of an individual's shareholdings typically changes through transfers, if transferability is allowed in the program. If a participant holds shares, each year they would receive the amount of pounds representing the percentage of the quota held, which is their **allocation**. The total allocation amount changes if the quota changes, but the total amount of shares remains the same. Allocation-based approaches can be structured such that shares and allocation are assigned to participants (IFQ, **Option 2a**) or to permits (PFQ, **Preferred Option 2b**). The method of initial distribution could be accomplished in a variety of ways (Action 6), and transfer of shares or allocation could be restricted (Actions 8 and 10).

Participants could choose when to use allocation within the parameters of any additional provisions adopted through the actions in this amendment. In the case of charter vessels, each program participant would need to have allocation to account for harvest by the passengers on each trip for the species managed by this program (Action 2). Timely reporting is a key element of allocation-based programs; as fish are harvested, the allocation used is subtracted from the annual allocation of the participant. When each participant has used all of their allocation for a given species, that species may no longer be retained, or the participant must obtain more allocation (if allowed by the program).

The primary difference between IFQs (**Option 2a**) and PFQs (**Preferred Option 2b**) concerns whether shares are independent from or attached to the permit. IFQ shares (**Option 2a**) would be distributed to the owner of a for-hire permit at the time of initial apportionment, which could be an individual, a business, or multiple individuals and/or businesses. An IFQ participant could transfer shares, in whole or in part, independently of the permit, depending on transferability options chosen in Action 8. In the event the permit is transferred, IFQ shares would remain with the original recipient of the shares (the shareholder), unless also transferred by the shareholder. However, other program restrictions may determine if the IFQ participant could hold shares without a permit (Action 9). In contrast, PFQ shares (**Preferred Option 2b**) would be attached to the permit, not the permit holder. Shares could not be transferred independently of the permit, and should the permit be transferred, the PFQ shares associated with the permit would be transferred as well.

An IFQ or PFQ program for charter vessels could provide the flexibility to operate when customers are most abundant, which may differ by region. The programs could also promote safety at sea, by allowing permit holders to wait for calm weather. However, under any of these allocation-based approaches, it should not be assumed that all charter vessel permit holders would receive a quantity of allocation they feel is sufficient to meet their clients' needs.

Compliance and Monitoring

The ability to enforce and monitor program compliance is a key component of an allocation-based program. During the headboat collaborative (HBC) pilot program, trip declarations (hail-outs) and pre-landing notifications (hail-ins) allowed enforcement and biological collection agents (port agents) to meet vessels to validate catch and prioritize sampling. The Council has approved an amendment requiring hail-outs, electronic reporting of catch, and position recording equipment; that amendment is expected to be implemented by National Marine Fisheries Service

(NMFS) by the time an allocation-based program established in the amendment would be implemented.

Hail-outs made before leaving the dock would include vessel name/identification, return destination, and estimated date/time of return. These declarations would aid enforcement officers/agents and port agents in scheduling their activities for the day so they could meet a vessel when it returns to the dock to validate catch and prioritize sampling. For the commercial IFQ system, hail-outs are made through the vessel monitoring system (VMS) unit or a VMS voice mail service; for the headboat collaborative (HBC) pilot program, declarations were made through the VMS. Neither program required the return destination or estimated time of return in the hail-out; that information was contained in a hail-in. Methods that would have near real-time distribution to enforcement and port agents could include a direct entry in the online system, entry through a VMS unit, or a 24-hour call service that enters the information in the online system. The regulations implementing the for-hire reporting amendment approved by the Council would require federally permitted for-hire vessels in the Gulf to hail out before leaving on a trip. Information transmitted would include type of trip (e.g., for-hire or other trip), the expected return time, and landing location. In addition, the proposed regulations would require that federally permitted for-hire vessels possess a global positioning system (GPS) attached to the vessel that is capable, at a minimum, of archiving GPS locations. This requirement would not preclude the use of GPS devices that provide real-time location data, such as VMS.

Hail-ins would aid in validation and auditing programs. For the commercial IFQ program, notifications need to be submitted 3 to 24 hours in advance of landing and can be submitted through three different methods (online, VMS, or Catch Share call service). For the HBC pilot program, pre-landing notifications were only submitted through the VMS, 1 to 24 hours in advance of landing. The hail-ins for the charter vessel program could contain information on the vessel, landing location, date and time of landing, and species landed with estimated pounds or actual numbers of fish being landed. In the HBC pilot program, the advance knowledge of the number fish on board allowed port agents to ensure they had sufficient supplies for biological sampling available and allowed enforcement to immediately identify a discrepancy between the actual count and the count in the notification. Many of the agents felt that the declarations and notifications improved sampling efficiency and reporting accuracy. The proposed for-hire reporting requirements would require for-hire operators to report catch and effort data prior offloading fish at the end of a trip, but not prior to arriving at the dock.

In addition, the commercial IFQ programs, the HBC pilot program, and the proposed for-hire reporting regulations require landing sites that are pre-approved by NMFS Office of Law Enforcement. The landings locations need to be pre-approved by law enforcement to ensure that the site exists, both law enforcement and port agents can access the site (e.g., no fences or free animals), and the landing locations can be identified in pre-landing notifications. It would be more likely for landing locations of charter vessels to be publicly accessible because the vessel must meet the customers and return to the same location.

The NMFS Southeast Regional Office (SERO) online Catch Shares Program system contains the Gulf commercial Red Snapper and Grouper-Tilefish IFQ programs, the Highly Migratory Species Bluefin Tuna Individual Bycatch Quota program, and the HBC Pilot Program (2014-

2015). These programs are managed and accessed through an online accounting system, where all transactions are completed through the SERO Catch Share Programs website.⁸ A charter vessel IFQ or PFQ program could be incorporated into the current online system, which is explained in detail below, assuming there are no radically different structural design changes. Entities would hold shares and/or allocation in accounts within the IFQ/PFQ system, and distribution, usage, and transfers would all be tracked by NMFS. Regardless of the program type, participants at a minimum would need a computer and access to the internet.

A referendum among participants would be required to approve a fishing quota program (**Preferred Alternative 2**). The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) states, “the Gulf Council may not submit, and the Secretary may not approve or implement, a fishery management plan or amendment that creates an individual fishing quota program...unless such a system, as ultimately developed, has been approved by...a majority of those voting in the referendum among eligible permit holders with respect to the Gulf Council. For multispecies permits in the Gulf of Mexico, only those participants who have substantially fished the species proposed in to be included in the individual fishing quota program shall be eligible to vote in such a referendum.”

Further, the Magnuson-Stevens Act prohibits any person from participating in a limited access privilege program that is not a U.S. citizen, corporation, partnership, or other entity established under the laws of the United States or any state, or a permanent resident alien (hereafter, referred to in this amendment as a permanent resident). It also requires participants to meet the eligibility and participation requirements established by the program. For purposes of this amendment, all charter vessels, i.e., vessels with a for-hire permit that do not participate in the Southeast Region Headboat Survey (SRHS), would be eligible to participate in the selected program if they are a U.S. citizen or permanent resident. The rest of the program requirements would be developed through additional actions in this amendment.

⁸ <https://portal.southeast.fisheries.noaa.gov/cs/>

IFQ/PFQ System Structure

An IFQ/PFQ program for charter vessels in the Gulf would involve shareholder accounts that hold shares and/or allocation. The shareholder account structure would follow the structure used with NMFS SERO permits, in which permit holders can be an individual, a business, or multiple individuals and/or businesses. In the IFQ/PFQ system, each permit holder would have an account. An individual or business may be part of more than one account (e.g., John Smith is part of the John and Jane Smith account as well as the John Smith account). Shares would initially be distributed to each account (based on the alternative selected in Action 6). Those shares would represent a percentage of the quota assigned to the program. Each year, NMFS would distribute allocation to the accounts holding shares; allocation would be determined by multiplying the account's share percentage by the program's quota.

Shares are a percentage of the quota. Shares are associated with the shareholder or permit holder.

Allocation is the amount of pounds represented by the shares (percentage of the quota) held. Unused allocation expires at the end of each year. Depending on options selected by Council, allocation in pounds may be translated to numbers of fish.

The allocation amount distributed each year changes if the quota changes, while the amount of shares (as a percentage of the quota) remains the same. All participant shares sum to 100%.

In an IFQ program, after the initial distribution, shares would be associated with the shareholder account at the time of initial apportionment, but not associated with the permit itself. Therefore, shares could be transferred, in whole or in part, separately from the permit, in accordance with any restrictions in the program. In an adaptive IFQ program (Action 7), while shares are still associated with the shareholder account, a portion of shares are reclaimed and redistributed each cycle. However, if the Council chooses to require a permit to retain shares (Action 9), should the shareholder transfer his permit or not renew the permit, he would be required to divest of his shares within a specified time period.

In a PFQ system, the shares would still represent a percentage of the quota for the program, and allocation would be distributed to the shareholder account associated with the permit at the start of each year. However, the shares are permanently assigned to the permit and are not transferrable separate from the permit. If the permit is transferred, the shares would transfer with the permit and now be associated with the new permit holder's shareholder account. If the shareholder does not renew the permit and it terminates, the shares associated with the permit would revert to NMFS for redistribution. In an adaptive PFQ program (Action 7), while shares are still associated with the permit, a portion of shares are reclaimed by NMFS and redistributed each cycle. These shares would go to the account associated with the permit at the time of redistribution, not the original permit holder. PFQ programs have some additional potential consequences due to the shares being attached to the permit. Currently, there are no restrictions on permit transfers. With a PFQ, a permit transfer may be denied because the transfer of that permit with its associated shares may result in the receiving permit holder exceeding a share cap (Action 11). Assigning shares to permits may create different tiers of permits: those with little or no shares versus those with a large amount of shares, which may affect the permit purchase price. Because permits are utilized for other species outside of those listed in this document, there may be unintended consequences for those not participating in the program, such as changes in permit price or availability.

A charter IFQ/PFQ system would be a two-level system, with a shareholder account for each unique permit holder and a related vessel account for each vessel held by the unique permit holder (see inset). Shareholder accounts would be created for each unique permit holder eligible to participate in the program. Shareholder accounts are assigned shares, receive annual allocation, and are used to transfer allocation or shares (if permitted). The SERO Permits Office will collect additional information for business entities (e.g. corporations, trusts) about the individual-level ownership (e.g. shareholders, trustees, beneficiaries, and percentage ownership) of that business. This ownership level is used to calculate the share cap exposure for each unique permit holder, as well as each business, individual, or other entity. A permit must be linked to an account before harvest of IFQ/PFQ species can occur.

Entity: An individual or organization that includes, but is not limited to, businesses, partnerships, companies, trusts, and non-profit groups.

Unique Permit Holder: The unique set of entities listed on the permit.

Shareholder Account: An IFQ/PFQ account assigned to a unique permit holder. This account holds shares and receives annual allocation. This type of account includes accounts that only hold allocation.

Vessel Account: An account related to an individual vessel that is used to hold allocation and complete a landing transaction. All vessel accounts are related to a shareholder account through the permit and unique permit holder.

Vessel accounts are directly linked to shareholder accounts through the unique permit holder. A vessel account would be created for each vessel that is associated with a valid permit to harvest IFQ/PFQ species. There may be multiple vessel accounts associated with one shareholder account, if the unique permit holder is the same for each vessel. For example, in Figure 2.1.1,

John Smith and Jane Doe are listed as the permit holders for Permits 101 and 102, associated with Vessels A and B, respectively. John Smith and Jane Doe together is the unique permit holder for those two permits, and will have shareholder account JSJD1234. Shareholder account JSJD1234 would be linked with two vessels accounts (Figure 2.1.1 A). The company Smith, LLC is owned by John Smith and Jane Doe and the company holds Permit 103 associated with Vessel C. Smith, LLC is a unique permit holder and has shareholder account SMIT5678. SMIT5678 has one vessel account (Figure 2.1.1 B). While the individual-level entities (John Smith and Jane Doe) on both Smith LLC and John Smith/Jane Doe are the same, the unique permit holders are different (individuals vs company); therefore, two shareholder accounts are created.

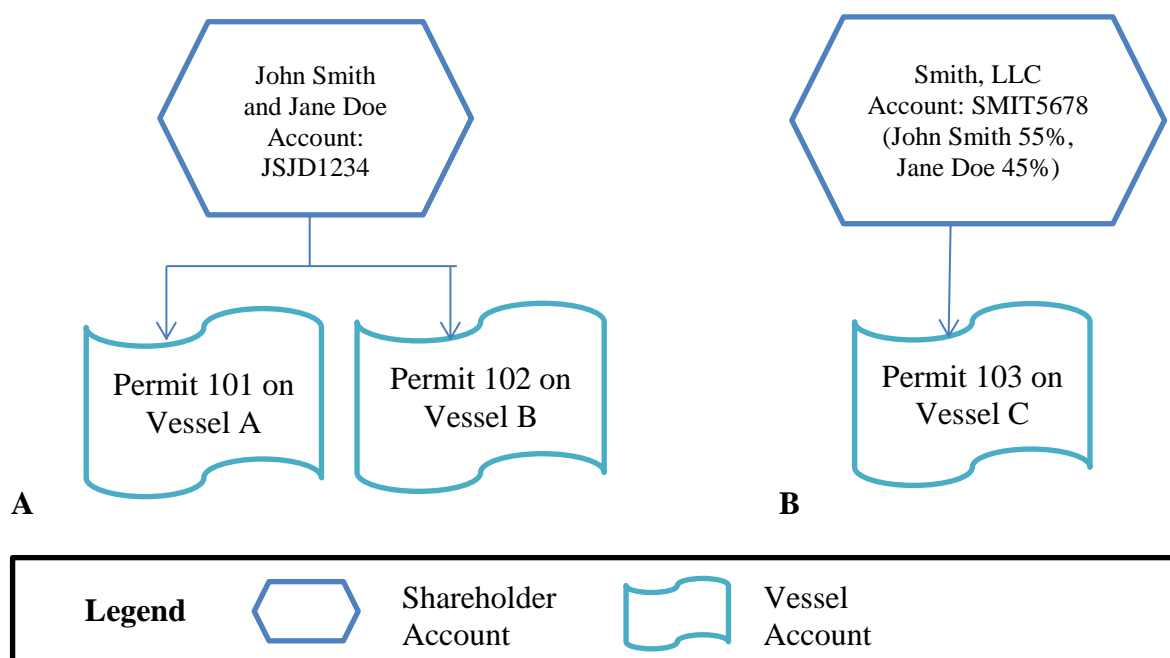


Figure 2.1.1. Example of shareholder and vessel accounts. A) The unique permit-holder is composed of two individuals jointly owning two permits/vessels, each with a separate vessel account. B) The unique permit-holder is a company with one permit/vessel associated with one vessel account. Account name and individual-level ownership information for the company is shown below the company name.

Note: Except for Action 1, the No Action alternatives (Alternative 1) in the remaining actions assume that an allocation-based management program would be developed and are worded accordingly. This allows for a more meaningful analysis among the alternatives to better inform decision-makers, stakeholders, and the public about the likely results of taking action versus not taking action. In actuality, the true No Action is the federal regulations that are currently in place that govern the for-hire operators in the Gulf (Appendix F).

2.2 Action 2 – Species to Include in the Charter For-Hire Management Program

Alternative 1: No Action. Do not define reef fish species to include in the management program.

Preferred Alternative 2: Include the following species in the management program:

Preferred Option 2a: Red snapper

Preferred Option 2b: Greater amberjack

Preferred Option 2c: Gray triggerfish

Option 2d: Gag

Option 2e: Red grouper

*Note: More than one option under **Alternative 2** may be selected.*

Discussion

For each reef fish species included in this action, the development of management measures specific to an allocation-based management program would initially require the allocation of a portion of the recreational ACL to the program. Once the reef fish species are selected for inclusion in the program, the allocation of each species' recreational ACL for the program would be determined through Action 4 in this amendment or in Amendment 42.

In January 2017, a joint meeting of the Ad Hoc Reef Fish Headboat and Red Snapper Charter Advisory Panels (joint AP) discussed the inclusion of species into the charter vessel management program. The joint AP recommended including five reef fish species. The joint AP prioritized the five species (from highest priority to lowest priority) as follows: 1) red snapper, 2) greater amberjack, 3) gray triggerfish, 4) gag, and 5) red grouper. The reasons these five reef fish species are being considered by the Council are that they have separate recreational and commercial sector ACLs and that they have had shorter fishing seasons in recent years. In addition, some of the proposed species are overfished, under a rebuilding plan, and/or undergoing overfishing (Table 2.2.1). Changes to management for these species could extend seasons and increase fishing opportunities while protecting the stock.

Table 2.2.1. Overfished and overfishing status of Gulf stocks considered for Amendment 41.

Species	Status of the Gulf Stock		
	Overfished	Rebuilding	Overfishing
Red Snapper	N	Y	N
Greater Amberjack	Y	Y	Y
Gray Triggerfish	N	Y	N
Gag	N	N	N
Red Grouper	N	N	N

Alternative 1 would not specify reef fish species to include in the charter vessel management program. Therefore, **Alternative 1** would not allow further development of an allocation-based management program for charter vessels.

Alternative 2 allows the selection of species to be included in the program. The Council may select one or more species for inclusion. **Preferred Option 2a** would include red snapper in the program. Currently, the recreational ACL for red snapper, established in Reef Fish Amendment 40 (GMFMC 2014a), is divided into a federal for-hire component quota (42.3%) and a private angling component quota (57.7%). While Amendment 40 included a 3-year sunset provision on the separation of the recreational sector into distinct components, Amendment 45 (GMFMC 2016) extended the separate management of the federal for-hire and private angling components for an additional 5 years through the 2022 red snapper fishing season. Red snapper is not overfished or undergoing overfishing, but is under a rebuilding plan. The recreational sector experienced quota overages for many years recently, and shorter seasons recently, as well. Although the recreational quota has increased in recent years, the season length has decreased, in part because the average size of the fish harvested has increased (i.e., it takes fewer fish to fill the quota).

The Council is considering including greater amberjack (**Preferred Option 2b**), gray triggerfish (**Preferred Option 2c**), gag (**Option 2d**), and red grouper (**Option 2e**) in the program. Gray triggerfish and greater amberjack are both under rebuilding plans, and greater amberjack is undergoing overfishing (SEDAR 33 2016). Greater amberjack landings exceeded the ACL in 2013, and the season closed early each year from 2014-2017. The gray triggerfish season has closed before the end of each year since 2012, and the gray triggerfish season did not open at all in 2017. Gag recreational landings have been below the ACL since 2012. Although a stock assessment for gag, completed in 2014 (SEDAR 33 2014), indicated the gag stock was no longer overfished or undergoing overfishing, anecdotal information from fishermen suggests the stock assessment could be overestimating the current population level. Red grouper is considered neither overfished nor undergoing overfishing. However, the red grouper ACL was exceeded in 2013 and the season closed early in 2014; the Council reduced the bag limit for 2015 to try to extend the season, but it still closed early. In 2016, the quota was increased substantially and the season remained open for all of 2016 and 2017 with a 2-fish bag limit.

The establishment of an allocation-based management program that includes red snapper would not exempt the program from section 407(d) of the Magnuson-Stevens Act which requires that the recreational harvest of red snapper be halted once the total recreational quota is caught. Some participants in the selected program may have to forgo the use of remaining annual allocation of red snapper and lose fishing opportunities after the red snapper recreational ACL is caught as further harvest would be prohibited. During the HBC pilot program, the total recreational ACL was not reached for red snapper, and HBC vessels were able to fish throughout the year. This provision does not affect fishing for other species that might be included in the program.

2.3 Action 3 – Charter Vessel Endorsement or Permit

Alternative 1. No Action. Charter vessel program participants are required to have a Gulf reef fish for-hire permit.

Alternative 2. Establish an endorsement to the Gulf charter/headboat permit for reef fish to identify charter vessels participating in the charter vessel program. Charter vessel program participants are required to have a charter vessel endorsement in addition to their Gulf reef fish for-hire permit. Endorsements will be issued to qualifying charter vessel program participants at the time of implementation of the charter vessel program. With a PFQ program, the shares will be attached to the endorsement. Charter vessel endorsements are transferrable to any vessel with a Gulf reef fish for-hire permit that does not hold a Landings History Vessel (LHV) endorsement (if established in Amendment 42). At no time may a charter vessel hold both a charter endorsement and a LHV endorsement.

Alternative 3. Establish a Gulf reef fish charter vessel permit to identify charter vessels participating in the charter vessel program. Charter vessel program participants are required to have a Gulf reef fish charter vessel permit. Gulf reef fish for-hire permits held by qualifying charter vessel program participants at the time of implementation of the charter vessel program will be converted to Gulf reef fish charter vessel permits. With a PFQ program, the shares will be attached to the charter vessel permit. Gulf reef fish charter vessel permits are transferrable to any qualifying vessel that does not hold a Gulf reef fish LHV permit (if established in Amendment 42). At no time may a vessel hold both a charter permit and a LHV permit.

Discussion

Currently, one federal reef fish permit covers all types of for-hire vessels and does not distinguish between the two types of for-hire vessels included in Amendments 41 and 42 (charter vessels and LHV, respectfully). **Alternative 1** would continue the use of the single permit and rely on the definition in this amendment to distinguish charter vessels from LHVs. This would be the simplest alternative as it would require no action, but may create difficulties for enforcement to distinguish under which program the vessel is managed, and thus which regulations a specific vessel should be following. This may also create difficulties in electronically implementing the program, as the system will need to determine which vessels are eligible to participate in the charter vessel program versus the LHV program

An endorsement or permit would distinguish which vessels are in the charter vessel program versus the LVH program. This distinction is needed for enforcement of the program and to connect the permit system with the charter program online system. If the Council chooses to establish an endorsement or permit, it should consider the interaction between the charter vessel program to be established in this amendment and the LHV program being developed in Amendment 42. First, the same type of document (endorsement or permit) must be selected as preferred in both amendments. Also, if both programs are developed, a vessel may only have one reef fish for-hire endorsement or permit at any point in time, thereby preventing a vessel from participating in both programs and fishing off their respective quotas, at the same time.

Alternative 2 would establish a charter vessel endorsement to the Gulf reef fish for-hire permit for only those vessels that are in the charter vessel program developed through this amendment. If a similar endorsement is established in Amendment 42, two separate but mutually exclusive endorsements would apply to the same federal Gulf reef fish for-hire permit. An endorsement would help clarify who is eligible to participate in the charter vessel program, aiding monitoring and enforcement of an IFQ or PFQ program, as only those vessels with the endorsement could fish with allocation from a charter vessel quota. Endorsements may add complexity to the permit process and the IFQ/PFQ system. Managing both permits and endorsements requires consideration of the interactions between them, including the implications if the permit expires or terminates but the endorsement is still valid. These issues could create an increasingly complex system, which would be both onerous for NMFS to manage and be a source of confusion for constituents. In addition, renewing an endorsement would cost the permit holder an additional \$10 each year.

Endorsements add an additional challenge in relation to permit and endorsement transfer rules. A vessel owner would be able to transfer his/her endorsement independently from Gulf reef fish for-hire permit. The transferability of the endorsement would allow new vessels to participate by obtaining both a reef fish permit and a charter endorsement. However, there are currently some permit holders that transfer their for-hire reef fish permit between one of their vessels that participates in the SRHS program (and would be included in the LHV program) and one that does not (and would be included in the charter vessel program). In essence, these permit holders are sharing one permit between two vessels, and each could belong to separate programs if both Amendment 41 and Amendment 42 are implemented. Depending on the transferability rules for the endorsements, this may create an additional burden to the permit holder if they wish to continue to ‘share’ a permit between vessels in separate programs.

Alternative 3 would split the Gulf for-hire reef fish permit into two mutually exclusive permits: one for charter vessels and one for LHV (if a similar permit is established by Amendment 42), and the current Gulf for-hire reef fish permit would disappear. Like **Alternative 2**, this alternative would help clarify who is eligible to participate in the charter vessel program. However, **Alternative 3** would be less administratively burdensome than **Alternative 2** because only the new permit would be required, rather than a permit and an endorsement. Like the current for-hire reef fish permit, this new permit would allow for harvest of all federally managed reef fish species, not just those species included in the charter vessel program. Precedent for this is set with the commercial reef fish permit; the permit covers all federally managed reef fish species even though only some species are included in the commercial IFQ programs. For any species in the charter vessel program, if a PFQ is selected, the shares would be associated with the permit for those species covered by the program.

The new charter vessel permits would be fully transferable, as are the current reef fish for-hire permits, except that a vessel could not have both a charter vessel permit and an LHV permit at the same time. Currently, a permit holder may ‘share’ his permit among his vessels, including those that would be in the LHV program. If the for-hire reef fish permit was split into two mutually exclusive permits, which of the new permits he would receive would depend on the classification (charter vessel or LHV) of the vessel with the permit at the time of the conversion. If the second vessel is not in the same program, that vessel would need a new permit. However,

if the second vessel is in the same program, the permit holder could continue to ‘share’ the permit between the two vessels.

2.4 Action 4 – Allocation of Annual Catch Limit to Charter Vessels

(Although options are provided for all reef fish species considered in Action 2, this action would only establish a charter vessel quota for the reef fish species selected as preferred in Action 2.)

Alternative 1: No Action. Do not allocate a percentage of the recreational ACL to the charter vessels.

Alternative 2: Allocate a percentage of the recreational ACL for each species to the charter vessels based on average landings from 2011-2015.

Option a: Exclude 2014

Option b: Exclude 2014-2015

	Alt 2	Option a	Option b
Red Snapper (% of for-hire*)	62.1%	69.5%	68.3%
(% of total)	16.2%	19.0%	17.5%
Greater Amberjack	49.5%	51.1%	49.5%
Gray Triggerfish	20.7%	21.7%	27.0%
Gag	18.2%	19.8%	20.7%
Red Grouper	34.3%	35.7%	32.3%

*Allocation is percent of for-hire quota until 2022; afterwards, it is percent of total recreational quota. Note that total pounds would remain the same if the ACL does not change.

Alternative 3: Allocate a percentage of the recreational ACL for each species to the charter vessels based on average landings from 2004-2015.

Option a: Exclude 2010

Option b: Exclude 2014

Option c: Exclude 2014-2015

	Alt 3	Option a	Option b	Option c	Opt a&b	Opt a&c
Red Snapper (% of for-hire*)	68.1%	69.7%	71.3%	71.2%	73.0%	73.5%
(% of total)	26.7%	27.7%	28.7%	28.9%	29.9%	30.3%
Greater Amberjack	46.2%	47.1%	46.5%	45.5%	47.5%	46.6%
Gray Triggerfish	29.0%	29.0%	30.2%	32.6%	30.3%	33.0%
Gag	21.4%	21.0%	22.3%	22.8%	21.9%	22.4%
Red Grouper	29.2%	28.5%	29.2%	27.6%	28.5%	26.6%

*Allocation is percent of for-hire quota until 2022; afterwards, it is percent of total recreational quota. Note that total pounds would remain the same if the ACL does not change.

Alternative 4: Allocate a percentage of the recreational ACL for each species to the charter vessels based on 50% average landings from 2011-2015 and 50% average landings from 2004-2015.

Option a: Exclude 2010

Option b: Exclude 2014

Option c: Exclude 2014-2015

	Alt 4	Option a	Option b	Option c	Opt a&b	Opt a&c
Red Snapper (% of for-hire*)	69.7%	70.5%	71.2%	72.3%	72.3%	73.5%
(% of total)	27.7%	28.2%	28.8%	29.4%	29.4%	30.1%
Greater Amberjack	47.8%	48.3%	48.8%	47.5%	49.3%	48.1%
Gray Triggerfish	24.9%	24.9%	26.0%	29.8%	26.0%	30.0%
Gag	19.8%	19.6%	21.0%	21.7%	20.8%	21.5%
Red Grouper	31.8%	31.4%	32.4%	29.9%	32.1%	29.4%

*Allocation is percent of for-hire quota until 2022; afterwards, it is percent of total recreational quota. Note that total pounds would remain the same if the ACL does not change.

Alternative 5: Allocate a percentage of the recreational ACL for each species to the charter vessels based on 50% average landings from 1986-2013 (2010 excluded) and 50% average landings from 2006-2013 (2010 excluded). (Time series of the Preferred Alternative from Amendment 40)

Red Snapper (% of for-hire*)	68.7%
(% of total)	35.9%
Greater Amberjack	51.4%
Gray Triggerfish	46.5%
Gag	21.7%
Red Grouper	19.2%

*Allocation is percent of for-hire quota until 2022; afterwards, it is percent of total recreational quota. Note that total pounds would remain the same if the ACL does not change.

Discussion

The percentage of recreational ACL allocated to each component of the recreational sector, by species, is provided in Appendix I. For each reef fish species selected in Action 2 for inclusion in this management plan, a percentage of the corresponding recreational ACL must be allocated to the charter vessel component prior to the development of management measures tailored to the specific needs of charter vessels. Therefore, **Alternative 1** would not allow development of an IFQ or PFQ program for charter vessels.

Alternatives 2-5 consider different time periods of landings to calculate the percent of the recreational ACL for each species selected in Action 2 that would be allocated to charter vessels, and the time periods correspond with those under consideration in Action 6 of Amendment 42. Each species would have its own quota for charter vessels that would be allotted to participants according to the formula determined in Action 6 (Distributing the Charter Quota) and Action 11 (Share Caps). Table 2.4.1 provides percentages of the recreational landings harvested by charter vessels since 1986 for greater amberjack, gray triggerfish, gag, and red grouper.

Table 2.4.1. Landings by charter vessels as a percentage of total landings.

Year	Greater Amberjack	Gray Triggerfish	Gag Grouper	Red Grouper
1986	58%	83%	25%	8%
1987	69%	65%	28%	13%
1988	53%	56%	13%	6%
1989	37%	40%	9%	5%
1990	30%	63%	15%	25%
1991	91%	79%	5%	3%
1992	65%	45%	21%	10%
1993	65%	58%	26%	8%
1994	66%	67%	17%	8%
1995	31%	64%	26%	19%
1996	49%	53%	23%	14%
1997	61%	55%	28%	25%
1998	55%	41%	33%	20%
1999	51%	37%	25%	17%
2000	58%	35%	24%	35%
2001	39%	48%	25%	25%
2002	53%	40%	20%	17%
2003	37%	30%	22%	20%
2004	47%	36%	21%	15%
2005	27%	45%	27%	34%
2006	59%	36%	26%	21%
2007	56%	34%	16%	16%
2008	37%	43%	24%	34%
2009	45%	21%	25%	22%
2010	36%	29%	26%	37%
2011	63%	41%	13%	37%
2012	46%	20%	38%	28%
2013	39%	20%	11%	31%
2014*	43%	17%	12%	29%
2015*	56%	6%	17%	46%

Data source: The SEFSC ACL database updated as of 1/5/17. Greater amberjack, gag, and red grouper utilized landings based on the Marine Recreational Information Program (MRIP) dataset. Gray triggerfish utilized landings based on Marine Recreational Fisheries Statistics Survey (MRFSS) dataset.

Red snapper is unique among reef fish in that it is the only species with a recreational ACL that has been further divided into private angling and for-hire component ACLs. Because charter vessels are part of the for-hire component, the allocation to charter vessels would come from the for-hire ACL, and the percentage of the for-hire landings attributed to charter vessels would be used to determine the allocation of the for-hire ACL between charter vessels and headboats (Table 2.4.1). However, the separate red snapper component quotas are scheduled to sunset after 2022; i.e., the ACL would no longer be divided into private angling and for-hire ACLs. Table

2.4.2 provides percentages of the for-hire and total recreational landings for red snapper harvested by charter vessels. While separate components are in place, the charter vessel ACL would be allocated from the for-hire ACL; if the separate component ACLs end after 2022, the charter vessel ACL would be allocated from the total recreational ACL.

Table 2.4.2. Percentage of the red snapper for-hire and total recreational landings harvested by charter vessels.

Year	% of For-Hire Landings	% of Recreational Landings
1986	62.7%	7.9%
1987	67.4%	13.4%
1988	63.5%	6.5%
1989	51.8%	4.9%
1990	77.4%	24.7%
1991	52.1%	3.2%
1992	86.4%	10.4%
1993	71.7%	7.8%
1994	77.6%	8.2%
1995	82.4%	19.4%
1996	64.6%	14.4%
1997	87.0%	24.7%
1998	88.0%	19.9%
1999	82.6%	16.8%
2000	94.7%	34.5%
2001	92.8%	24.9%
2002	93.4%	17.3%
2003	88.9%	20.3%
2004	89.5%	14.8%
2005	87.2%	34.5%
2006	91.7%	21.4%
2007	87.2%	15.6%
2008	89.1%	34.3%
2009	87.7%	21.6%
2010	91.9%	36.6%
2011	86.7%	37.2%
2012	86.1%	28.3%
2013	91.5%	31.3%
2014*	92.0%	29.0%
2015*	94.8%	45.8%

Source: SRHS, MRIP, MRFSS, LA Creel, TX Headboat Survey.

2014 and 2015 include LA Creel data, which has not been calibrated to MRIP data.

Alternative 2 would use only the five years of landings from 2011-2015. Some vessels move in and out of the survey, and the recent years would capture landings by most of the vessels currently in the program.

Alternative 3 would use a 12-year time period from 2004-2015, which would allow for a longer time series than **Alternative 2** and includes all years when landings were recorded through the SRHS by vessel.

Alternative 4 would calculate the percent of the recreational ACL to allocate to charter vessels using 50% of landings from the recent 5-year time period of 2011-2015 (**Alternative 2**) and 50% of landings from the longer time period of 2004-2015 (**Alternative 3**). This would give a greater weight to the more recent 5-year time period (because it is included in both time periods), but still include the longer time period.

The options under **Alternatives 2-4** allow the Council to choose certain years to exclude from the calculation of allocation for charter vessels. If no option is selected, then all years listed in the respective alternative will be used. This may be the appropriate choice if the conditions in any year did not differentially affect for-hire vessels versus other recreational fishing. **Option a** of **Alternatives 3-4** would exclude 2010, when the Deepwater Horizon MC 252 oil spill affected fishing in the Gulf. **Alternatives 2-4** include options to exclude 2014 (**Option b**) as well as 2014-2015 (**Option c**). Some headboats operated under an exempted fishing permit in 2014-2015, which affected the relative landings of headboats with other components of the recreational fishing sector, and therefore would affect this division of quota between the two components. See the ‘Data Issues’ section below for more details.

Alternative 5 would use the same time period chosen by the Council in Amendment 40, which established the separation of the for-hire and private angler components of the red snapper recreational quota. **Alternative 5** only uses landings through 2013 and, therefore, ignores landings from more recent years. However, the Council could change the time periods in the alternative to extend through more recent years.

Data Issues

Recreational landings in the Gulf are obtained through multiple sources. The SRHS started in 1986 and covers headboats in the Gulf and South Atlantic regions. The Marine Recreational Information Program (MRIP), implemented in 2012, provides private angler and charter vessel landings and effort data for Gulf states other than Texas. Texas Parks and Wildlife Department (TPWD) began its own sampling program in 1986 and provides recreational landings, except for headboat landings, from Texas. MRIP replaced the Marine Recreational Fishery Statistics Survey (MRFSS), which collected data beginning in 1979. MRFSS landings data from 2004-2011 were calibrated to MRIP landings. In 2013, MRIP implemented new angler catch survey procedures, which improved the sampling program. However, changes in methods require calibration of data collected with the previous methods versus the current methods, and these calibrations have only been completed for red snapper; therefore, the landings provided in this amendment have not been calibrated for the 2013 change in MRIP methods. Also in 2013, Louisiana began a sampling program in tandem with MRIP, called Louisiana Recreational Creel Survey (LA Creel), to sample fish landed in that state. In 2014, MRIP was discontinued in Louisiana, and only LA Creel surveyed recreational landings. In 2015, MRIP re-entered Louisiana but did not collect all data for charter vessels. LA Creel has recently been certified by MRIP and will be used for Louisiana recreational landings in the future.

The HBC pilot program, conducted under an exempted fishing permit, was in effect in 2014 and 2015. This pilot program worked much like the proposed IFQ/PFQ program in this amendment. The collaborative was granted a proportion of the recreational red snapper and gag quotas based on 2011 landings of those species by participating vessels. Landings data from HBC vessels were still collected through the SRHS. Because their quota was based on previous gag and red snapper landings, the landings in 2014 and 2015 should not have differed markedly from years before the pilot program. However, in 2014 the regular red snapper recreational fishing season was reduced to only nine days, substantially reducing red snapper landings for charter vessels and non-HBC headboats (Table 2.4.3); HBC headboats were not constrained by this short season and consequently landed a higher percentage of the red snapper for that year.

Table 2.4.3. Recreational red snapper landings (in pounds whole weight) harvested by the for-hire component of the recreational sector.

Year	For-Hire Season Length (Days)	Charter Vessel	Headboat	Total For-Hire	Charter Vessel %
2011	48	1,212,177	630,562	6,734,107	65.8%
2012	46	1,515,243	724,078	7,524,241	67.7%
2013	42	1,111,709	445,276	9,702,902	71.4%
2014	9	184,589	382,289	3,835,436	32.6%
2015	44	1,573,451	580,226	5,960,151	73.1%
2016	46	1,616,241	526,575	7,442,127	75.4%

Source: mrcat_rsnap81_13_01Dec14_APAISadjustedRedSnapper.

2.5 Action 5 – Units of Measure for Quota Distribution and Reporting

Alternative 1. No Action. The charter vessel quotas are distributed and reported in pounds.

Alternative 2. The charter vessel quotas are distributed and reported in numbers of fish.

Alternative 3. The charter vessel quotas are distributed in pounds and reported in numbers of fish.

Discussion

Quotas for all federally managed species are set in pounds. Recreational data collection programs such as MRIP and the SRHS estimate recreational harvests both in number of fish caught and in pounds. For the management measures considered in this amendment, the distribution of the quota allotted to the charter vessel component and among vessels in the charter vessel component could be based either on pounds or number of fish.

Reporting landings in pounds (**Alternative 1**) would be more burdensome to vessel operators because they would need to weigh each fish. **Alternative 1** would also be more burdensome to enforcement for the same reason. However, because ACLs and quotas are set in pounds, no conversion would be needed to compare landings to the quotas.

Alternative 2 would require the conversion of the charter vessel quota from pounds to number of fish before distribution to participants. This would require an estimation of an average weight per fish, which can vary throughout the year and throughout the Gulf. The commercial programs in the Gulf distribute annual allocations in pounds of fish. However, recreational anglers and for-hire operators are less concerned with weight of fish and more concerned with numbers because bag limits have historically been expressed in numbers of fish. In the HBC pilot program, port samplers and law enforcement agents found that numbers of fish were quick and easy to validate against the pre-landing notifications.

Alternative 3 mimics the distribution and reporting methods for the HBC pilot program. The HBC pilot program distributed allocation in pounds of fish, but participants reported in numbers of fish (for full details, see NMFS 2015). Each HBC vessel's individual amount of allocation in pounds was calculated by taking the vessel's percentage of the HBC aggregate landings and applying this to the HBC quotas. The pounds for each species were then converted to numbers of fish within the vessel accounts by using the average pre-season regional weight as determined through SRHS for the area in which they were fishing. Because the average weight varied by region and time, the amount of fish resulting from a set poundage varied as well. For example, 10,000 lbs in region A that had an average fish weight of 5 lbs would result in 2,000 fish, while 10,000 lbs in region B that had an average fish weight of 8 lbs would result in 1,250 fish.

In the HBC pilot program, landings reported in numbers were converted back to pounds to compare against the quota using both pre-season average weights (used to originally convert pounds to fish) and in-season average weights (based on the most recent weights collected during the year). In-season weights were based on species-specific regional and monthly average values. During the first year of the program, the in-season and pre-season weights were similar

for both species (<5% difference). In the second year of the program, the in-season weights were greater for both red snapper and gag (up to 23% difference). The difference in weights between years (Table 2.5.1, particularly with gag, suggests that in-season weights should be monitored closely if allocation and landings are in numbers of fish.

Table 2.5.1. Minimum and maximum monthly average in-season fish weights (in pounds) for the HBC pilot program.

	Minimum fish weight	Maximum fish weight
Red Snapper 2014	2.16	9.91
Red Snapper 2015	2.67	9.46
Gag 2014	6.14	14.57
Gag 2015	6.47	23.69

Source: NMFS SERO Neptune database

Due to temporal and spatial fluctuations in average weights, weights might have to be monitored during the year. For example, in the HBC pilot program, NMFS compared the pre-season average weight to the actual average weight during the season and made adjustments if warranted. Port-side sampling is crucial for these calculations and may need to be increased to accurately track average weights per region. Fish tags could also be used to validate landings in numbers.

2.6 Action 6 – Distributing the Charter Quota to Charter Vessels

Alternative 1: No Action. Do not specify a method for distributing the charter quota to charter vessels.

Alternative 2: Distribute charter quota based on tiers of permit passenger capacity of charter vessels. Tiers are defined such that each:

Option 2a: Vessel with a permit passenger capacity of 6 receives 1 unit;
Vessel with a permit passenger capacity of 7 or greater receives 2 units.

Option 2b: Vessel with a permit passenger capacity of 6 receives 1 unit;
Vessel with a permit passenger capacity of 7-24 receives 2 units;
Vessel with a permit passenger capacity >24 receives 3 units.

Alternative 3: Distribute charter quota based on average historical landings of charter vessels in each region using:

Option 3a: Average historical landings for years 2003 to 2013, excluding landings from 2010.

Option 3b: 50% of the average percentages landed between 1986 and 2013 (2010 excluded) and 50% of the average percentages landed between 2006 and 2013 (2010 excluded).

Alternative 4: Distribute charter quota based on equal distribution, passenger capacity, and historical landings by region using one of the following:

	Option 4a	Option 4b	Option 4c	Option 4d
Equal distribution	33.3%	50%	25%	25%
Passenger capacity	33.3%	25%	50%	25%
Historical landings by region	33.3%	25%	25%	50%

Alternative 5: Distribute the charter quota by auction. All eligible participants are allowed to place bids.

Alternative 6: Distribute a portion of the charter quota by auction and the remainder based on equal distribution; passenger capacity; and historical landings by region (**Options 6a-6c**). The 3 metrics will be weighted by selecting one of **Options 6d-6g**.

Select one:	Option	Auction	Equal distribution; passenger capacity; historical landings by region	
	6a	25%	75%	
	6b	50%	50%	
	6c	75%	25%	
Select one:		Equal	Pass. Capacity	Historical Landings
	6d	33.3%	33.3%	33.3%
	6e	50%	25%	25%
	6f	25%	50%	25%
	6g	25%	25%	50%

*Note: If **Alternative 4** or **6** is selected as preferred, an option must be selected under **Alternative 3** to specify the time period of historical landings by region.*

Discussion:

This action addresses how to divide the charter vessel program quota among charter vessels for the program selected in Action 1 through the initial apportionment of shares. Subsequently, annual allocation would be distributed based on the amount of shares held by a participant.

The Magnuson-Stevens Act section 303A(c)(5)(A) states that in developing a limited access privilege program, the Council shall “establish procedures to ensure fair and equitable initial allocations, including consideration of current and historical harvests; employment in the harvesting and processing sectors; investments in, and dependence upon, the fishery; and the current and historical participation of fishing communities.”

Detailed landings histories are available for vessels participating in the SRHS, but such information does not exist for charter vessels. As a result, individual vessels’ catch histories cannot be used to apportion fishing privileges among participants. This action considers alternate approaches for distributing shares among charter vessels that may serve as proxies for individual landing histories. The shares could be distributed equally among all charter vessels (*equal distribution*), using the permit passenger capacity, based on *historical landings by region*, by auction, or using a combination of these approaches.

Alternative 1 would not specify a method for distributing charter quota among charter vessels. Therefore, **Alternative 1** would not allow further development of an allocation-based management program for charter vessels.

Alternatives 2, 4, and 6 include using passenger capacity to distribute the charter quota. Section 1.1 discusses the two types of passenger capacity, for the permit and the vessel. Each charter vessel has a permit passenger capacity based on its for-hire permit, and a vessel passenger capacity, based on the vessel’s certificate of inspection (COI), or lack thereof.

The *permit* passenger capacity will be used to distribute the charter quota for an IFQ or PFQ program. In most cases, the permit and vessel passenger capacities are the same. The majority of charter vessels have a permit passenger capacity of six. Vessels are not required to have a COI, but vessels without a COI are limited to six paying passengers. However, as explained in more detail in Chapter 1, there are cases where the permit’s passenger capacity is greater than the vessel’s passenger capacity, and vice versa.

Alternative 2 apportions the quota using “tiers” of permit passenger capacity. Under **Option 2a**, all charter vessels with a passenger capacity of 6 receive one unit of quota each; charter vessels with a passenger capacity greater than 6 receive two units of quota. The number of units is summed to arrive at a total number of quota units. The amount of the charter quota in pounds is then divided by the number of units, producing a number of pounds per unit. Vessels with a passenger capacity of 6 receive that quantity of pounds of quota, while vessels with a passenger capacity greater than 6 receive two times that quantity, representing two units.

Option 2b divides the permit passenger capacities into an additional tier, such that vessels with a passenger capacity greater than 24 receive 3 units of quota. Again, the number of units are summed to provide a total number of quota units. The amount of the charter quota in pounds is then divided by the number of units, producing a number of pounds per unit. Vessels with a passenger capacity of 6 receive that quantity of pounds of quota, vessels with a passenger capacity of 7 – 24 receive two times that amount, and those vessels with passenger capacities greater than 24 receive three times the number of pounds per unit.

Alternative 3 provides two options to distribute quota based on historical landings by region. When available, the recreational landings data will be provided for Alabama, Mississippi, Louisiana, and Texas, and for three regions of Florida - the Keys, the west Florida peninsula, and the Panhandle - for the selected reef fish species (Action 2). These species are not landed uniformly by charter vessels around the Gulf.

Very little red snapper is reported as landed in the Florida Keys and Mississippi, while charter vessels in the Florida Panhandle and Alabama land the majority of red snapper. The recreational landings of gag, red grouper, and gray triggerfish mainly occur in Florida and Alabama. The recreational landings for greater amberjack are mostly in Florida, but also occur throughout the Gulf. For the purpose of distributing charter quota based on historical landings by region, Alabama and Mississippi could be considered one region to protect confidential data.

Two options are provided for the years on which to base the allocation. **Option 3a** would distribute the quota based on the average historical landings by region for the years 2003 through 2013, excluding 2010 landings. The for-hire permit moratorium began in 2003. **Option 3b** would distribute the charter quota using 50% of the average historical landings by region from 1986 – 2013, and 50% of the average percentage of landings by region from 2006 – 2013, excluding landings from 2010. This was the formula used to apportion the recreational red snapper ACL between the federal for-hire and private angling components in Amendment 40 (GMFMC 2014a). Both options would exclude landings from 2010, the year of the Deepwater Horizon MC252 oil spill.

Due to changes in data collection and fishing seasons, the terminal year provided for the historical landings options is 2013. In 2013, the Louisiana Department of Wildlife and Fisheries began to use its own survey, the LA Creel, which ran alongside the MRIP that year. In 2014, Louisiana withdrew from MRIP and landings estimates in 2014 are only available from LA Creel; there are no 2014 MRIP landings estimates for Louisiana, which includes the MRIP for-hire survey. In 2015, MRIP resumed in Louisiana alongside LA Creel in an attempt to validate and certify LA Creel, but did not collect all data for charter vessels. Also in 2014, the recreational fishing season for red snapper in federal waters was only nine days long, which severely restricted the ability of for-hire vessels to land red snapper. The establishment of separate for-hire and private angling fishing seasons for red snapper began in 2015, and the for-hire component's fishing season was 44 days long. For these reasons, landings data after 2013 was not consistent among regions.

For-hire permit holders are required to annually renew the charter permit and complete the permit application form. To ensure accurate homeport, it may be necessary to emphasize the need for accurate updated information. If the homeport information is not updated and accurate, selecting a distribution method that relies on historical landings by region (**Alternatives 3, 4, and 6**) could assign a vessel to an incorrect region. As discussed in Section 1 (Table 1.1.1), some of the current vessel homeports are in non-Gulf States which could affect the accuracy of the allocation distribution. Furthermore, permit renewals are processed throughout the year and expiration dates are determined by the primary permit holder's birth month or the business' month of incorporation.

Alternative 4 provides options to combine the allocation approaches of equal distribution, passenger capacity, and historical landings by region. **Option 4a** would give equal weight to the three approaches, and the remaining options give greater weight to one approach, and equivalent weight to the remaining two approaches. The Council can choose which method should have the most consideration when allocating shares.

Alternative 5 would distribute the quota using an auction. In the event a limited access privilege program (LAPP) is developed, the Magnuson-Stevens Act requires that the Council consider, and may provide, if appropriate, an auction system or other program to collect royalties for the initial, or any subsequent, distribution of allocations in a LAPP (Section 303A(d)).

Alternative 6 provides options to combine an auction with the allocation approaches of equal distribution, permit passenger capacity, and historical landings by region. **Options 6a-6c** specify how to weight the distribution of charter quota by auction and the remainder by some combined weighting of equal distribution, passenger capacity, and historical landings by region. **Options 6d-6g** mirror **Options 4a-4d**, as they provide the same weighting for each of the provided allocation approaches. Thus, to select **Alternative 6** as preferred, two options must also be selected: one option must be selected from among **Options 6a-6c** to specify how much of the charter quota to distribute by auction, and one option from among **Options 6d-6g**, to specify the weighting of equal distribution, passenger capacity, and historical landings by region.

In the Gulf's commercial IFQ programs, annual IFQ allocation is distributed and accounted for in pounds of fish. The Council may decide to distribute annual allocations for each species in pounds of fish or in number of fish, based on an average weight of that particular species landed by the recreational sector. If number of fish are used, landings would need to be monitored to ensure that the weight of all landed fish does not exceed the quota. The HBC pilot study distributed allocation in numbers of fish rather than pounds of fish using pre-season regional average weights (vessels in different regions had a different conversion factor). NMFS monitored the weight of landed fish during the season, and monthly in-season average regional weights were compiled every 2 – 4 weeks and compared to the pre-season weights. The HBC also distributed and used harvest tags for validation, but this was done by participants in the HBC and outside of any NMFS oversight.

Appeals

In accordance with Section 303A(c)(I) of the Magnuson-Stevens Act, an appeals process will be established to provide a procedure for resolving disputes regarding initial distribution of shares.

A small percentage of the quota will be set aside at the beginning of the program to cover potential successful appeals. Items subject to appeal are eligibility to participate and homeport of vessel based on the preferred alternative and option in Action 5. Appeals based on hardship factors will not be considered.

Data for appeals would be based on records submitted to and received by the Southeast Region Permits Office during permit renewal, transfer, or other update. NMFS records of federal reef fish charter/headboat permits constitute the sole basis for determining ownership of such permits.

Appeals will be processed by the NMFS National Appeals Office and will be governed by the regulations and policy of the National Appeals Office at 15 CFR Part 906. Appeals must be submitted to the National Appeals Office no later than 90 days after the date the initial determination is issued. Appeals must contain documentation supporting the basis for the appeal. The Regional Administrator will review, evaluate, and render final decision on appeals. NMFS will notify potential participants of the appeals dates and process when initial distribution is determined.

2.7 Action 7 – Adaptive Catch Share Management

Action 7 is divided into four sub-actions. The alternatives under each sub-action would combine to make an adaptive management process. If the Council selects the no-action alternative for any one of these sub-actions, it would be the same as choosing not to implement an adaptive management process. The adaptive catch share process outlined here is intended to account for permits whose owners do not land the species included in this amendment but receive shares, allow a method for new participants to gain shares, and help achieve optimum yield in the fishery.

Adaptive Catch Share Process

An adaptive catch share program begins with the initial distribution of shares (as determined in Action 6). Fish are landed during a pre-determined cycle length (one or more years) using annual allocation. It is expected that some shareholders will harvest all of the allocation associated with their shares each year, while others will not. At the end of the first cycle, a portion of shares are reclaimed equally from all accounts. Shares are redistributed near the start of the next cycle only to participants who landed fish.

The minimum time for a cycle is one fishing season (typically one year), but could be longer. During the cycle, fishing proceeds as it would during a non-adaptive catch share program, with harvest and transferability of allocation or shares allowed as set by the program's regulations. Cycles may be for a set length of time (e.g., one year in perpetuity) or progressively lengthened over time until a constant cycle length is achieved (Figure 2.7.1). At the end of each cycle, the reclamation and redistribution processes begin. Possible impacts of cycle length and the effect on the fishery should be considered when setting a cycle length.

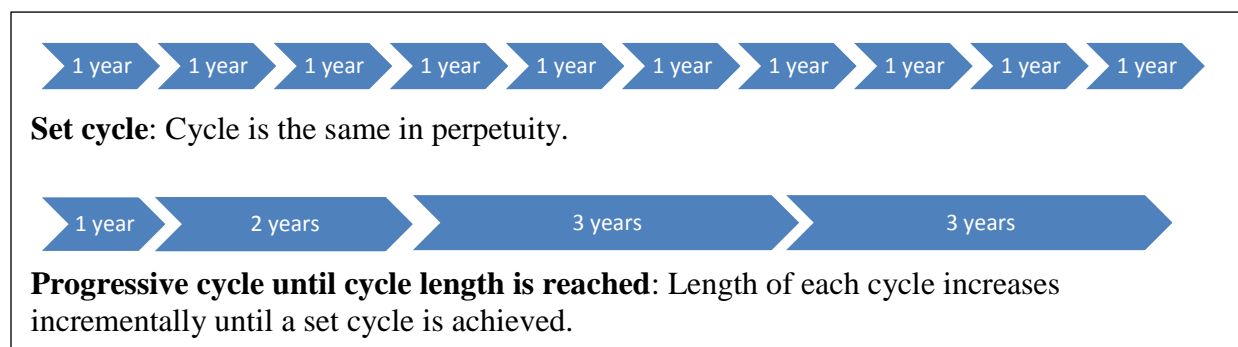


Figure 2.7.1. Comparison of set and progressive cycle timetables.

The reclamation process of an adaptive catch share program reclaims a percentage of shares from all shareholders. While shares are reclaimed from all shareholders, each shareholder has an opportunity to have a greater, smaller, or equal percentage of shares returned to them through the redistribution process. Reclaiming only a portion of the shares is intended to allow for the participants to form a business plan based on a known minimum amount of shares they would have for the next fishing year. The proportion of shares reclaimed each cycle can be set or progressive (Figure 2.7.2).

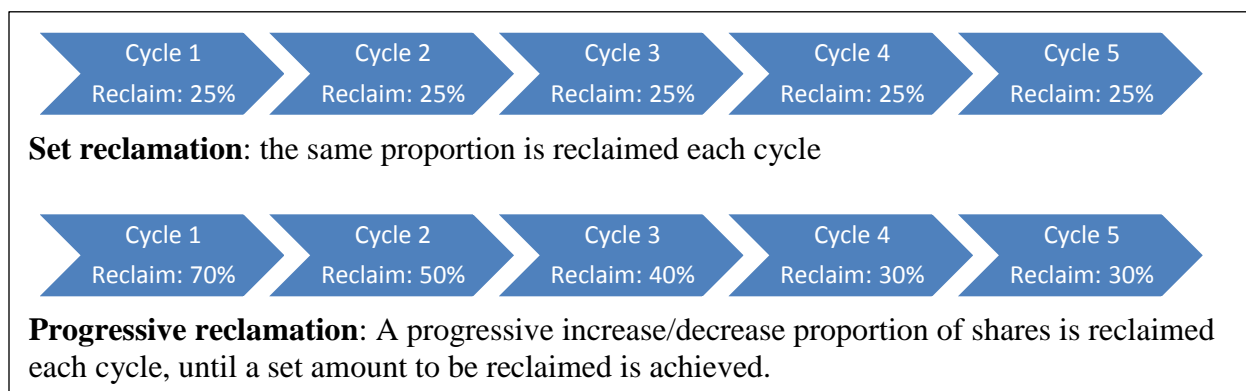


Figure 2.7.2. Comparison of set and progressive reclamations.

During the redistribution process, the reclaimed shares are distributed to those accounts that landed fish during the cycle. Reclamation and redistribution would be processed separately for each species, not for the program as a whole. Shares can be redistributed equally or proportionally among those participants with landings. Redistributing shares proportionally based on landings would result in those participants who landed a greater amount of fish receiving a greater amount of redistributed shares than those who landed less fish. A comparison of these two methods is shown in the example below.

In this example, 100 accounts have shares, and in this particular cycle, only 80 of those accounts had landings. The quota in this particular cycle is 100,000 lbs, and 98,000 lbs were landed. 10% of each account’s shares are reclaimed at the end of the cycle.

Number of accounts with shares: 100
Number of accounts with landings: 80
Quota for the cycle: 100,000 lbs
Total amount landed during the cycle: 98,000 lbs
Reclamation percentage (RP): 10% *RP*

This example examines three accounts (Accounts A, B, and C) with varying levels of harvest. Account A landed 1,000 lbs; Account B landed 5,000 lbs; Account C had no landings. With equal redistribution, Accounts A and B both receive back an additional 0.125% in shares that were reclaimed. Account C receives no shares back, due to the lack of landings.

Account	Landings	Equal Redistribution
		$\frac{\% RP}{\# \text{ accounts}} = \% \text{ redistributed}$
A	1,000 lbs	$\frac{10\% RP}{80 \text{ accounts}} = 0.125\%$
B	5,000 lbs	$\frac{10\% RP}{80 \text{ accounts}} = 0.125\%$
C	0 lbs	0%

With proportional redistribution, Account A receives 0.102% back in shares that were reclaimed, while Account B receives back 0.510% in shares. Account B receives a greater amount in shares because it had a higher proportion of the industry landings in that cycle, compared to Account A. Account C still receives no shares back, due to the lack of landings.

Account	Landings	Proportional Redistribution $\frac{\text{account landings}}{\text{total landings}} * 100 = \text{account \%}$
$\text{account \%} * \% RP = \% \text{ redistributed}$		
A	1,000 lbs	$\frac{1,000 \text{ lb}}{98,000 \text{ lb}} * 100 = 1.02\%$
$1.02\% * 10\% RP = 0.102\%$		
B	5,000 lbs	$\frac{5,000 \text{ lb}}{98,000 \text{ lb}} * 100 = 5.10\%$
$5.10\% * 10\% RP = 0.510\%$		
C	0 lbs	0%

Due to how landings are taken into consideration, in this example Account A would receive fewer shares back under proportional redistribution than under equal redistribution; Account B would receive more shares back under proportional redistribution; Account C would receive no shares back under both types of redistribution. The amount of shares received back by each account under proportional redistribution will vary based on the total amount of fish landed and the amount landed per account. For example, if Vessel A landed 1,225 lbs, it would receive the same amount under proportional distribution as equal distribution.

Account	Starting Shares	Reclaimed Shares	Remaining Shares	Equal		Proportional	
				Redistributed	Final	Redistributed	Final
A	1%	0.1%	0.9%	0.125%	1.025%	0.102%	1.002%
B	5%	0.5%	4.5%	0.125%	4.625%	0.510%	5.01%
C	3%	0.3%	2.7%	0%	2.7%	0%	2.7%

If adaptive management is applied to a system where shares are not independent of the permit (e.g., PFQ), there is an increased potential of unintended consequences to permit holders. A PFQ program creates different classes of permits based on the shares associated with the permit. In an adaptive program, this may be magnified as the adaptive nature will increase shares on some permits while reducing shares on other permits. After multiple cycles, there may be permits that have zero shares in any share category. As already mentioned, a PFQ may restrict or deny a permit transfer, if the permit holder would exceed one or more share caps. Furthermore, the adaptive process will need to account for share caps when redistributing shares. This may be further complicated if a permit holder holds multiple permits that affect the share cap as well as if there is joint ownership of permits. The following example demonstrates this issue.

This example considers four permits (P1-P4) owned by various combinations of four entities (A-D) in an adaptive PFQ program. A 5% share cap is set, and the shareholdings for each entity must remain below the share cap. Note that the share cap applies to each entity, as well as across permits. This example only uses entities that are individuals and does not incorporate businesses, which would add further complications. For example, if the entity owning the permit is a business, the assignment of shares would be based on the percent ownership each entity has in the business.

After reclamation, the account for each permit will hold some portion of its original shares, dependent on the share percentage chosen for reclamation.

Permit (P)	P1	P2	P3	P4
Entities owning the permit	A	A & B	B & C & D	B & D
Shares associated with the permit after reclamation	0.5%	3%	3%	2%

Shares are assigned equally among the owners of each permit for purposes of calculating the share cap exposure.

Permit (P)	P1	P2	P3	P4
Entities	A	A & B	B & C & D	B & D
Shares after reclamation	0.5%	3%	3%	2%
Shares assigned to each entity	0.5%	1.5% each	1% each	1% each

When shares are redistributed, they are added to the shares in the account associated with the permit.

Permit (P)	P1	P2	P3	P4
Entities	A	A & B	B & C & D	B & D
Shares after reclamation	0.5%	3%	3%	2%
Shares from redistribution to permit	0.25%	2%	2%	3%
Total shares to permit after redistribution	0.75%	5%	5%	5%

Again, shares are assigned equally among the owners of each permit for purposes of calculating the share cap exposure.

Permit (P)	P1	P2	P3	P4
Entities	A	A & B	B & C & D	B & D
Total shares to permit	0.75%	5%	5%	5%
Proportion assigned to each entity	0.75%	2.5% each	1.66% each	2.5% each

Finally, the shareholdings for each entity are added together from each account.

Entity	Shares Held by Individual Entity	Exceed 5% share cap?
A	0.75% (P1) + 2.5% (P2) = 3.25%	No
B	2.5% (P2) + 1.66% (P3) + 2.5% (P4) = 6.66%	YES
C	1.66% (P3)	No
D	1.66% (P3) + 2.5% (P4) = 4.16%	No

In this example, no permit exceeds a share cap, but Entity B exceeds the share cap, because that entity is listed on three permits and, therefore, is involved in three accounts. For Entity B not to exceed the share cap, a reduced amount of shares must be redistributed to that entity. Since the shares redistributed are redistributed by permit, any change to the redistributed shares for those permits also affects the other entities involved in the permits. In other words, if the redistribution for Entity B must be reduced, Entities A, C, and D will be affected because they own permits with Entity B. In addition, Entity B is prohibited from obtaining any more permits with shares. Likewise, the other entities cannot obtain additional permits if the shares on those permits added to their current permits will exceed the share cap.

NMFS will need a set of rules to determine which account does not receive the full redistributed shares earned or if all accounts receive a lesser proportion of shares. While a similar situation may occur in an IFQ program, the individual entities in an IFQ program can transfer shares out of the account(s) to keep within the share cap, allowing the participants, not NMFS, to determine how to adjust their shares in relation to the cap.

Outcomes of an adaptive catch share management program, regardless of cycle duration, reclamation amount, or redistribution process, may be influenced by other aspects of the catch share program. At a minimum, for an adaptive catch share program to be beneficial to new or replacement fishermen, allocation transfers among participants would be necessary; otherwise, new or replacement fishermen would not be able to obtain allocation and receive reclaimed shares. This would similarly affect smaller participants that would like to grow their businesses. If shares are redistributed proportionally based on landings, allocation transfers may also decrease the amount of time until the share distribution becomes representative of the current fishery. For example, a current participant may obtain allocation from another participant during

the cycle. If that current participant has increased landings during the cycle as a result of the purchased allocation, they will receive a greater proportion of the redistributed shares.

With an IFQ program, share transfers might also reduce the amount of time until the share distribution is representative of the current fishery. For example, a participant with a small amount of shares may obtain additional shares by purchasing them from other shareholders. The allocation associated with these shares in subsequent years within the cycle, might allow the participant to increase landings. If shares are redistributed proportionally based on landings, this participant will have the opportunity to earn an increased amount of shares in addition to the purchased shares transferred into the account.

Action 7.1: Adaptive Management Cycle

Alternative 1: No Action. Do not set an adaptive management cycle.

Alternative 2: The cycles for adaptive management will occur on a set cycle of every:

Option 2a: 1 year

Option 2b: 2 year

Option 2c: X years

Preferred Alternative 3: The cycles for adaptive management will increase progressively, starting at X year(s) and incrementing until Y years. Thereafter, cycles will be Y years in length.

Preferred Option 3a: 1 year incrementing by 1 year till reaching 3 years (cycle 1 = 1 year, cycle 2 = 2 years, cycle 3+ = 3 years)

Option 3b: 2 years incrementing by 1 year till reaching 4 years (cycle 1 = 2 years, cycle 2 = 3 years, cycle 3+ = 4 years)

Option 3c: 1 year incrementing after 3 years by 1 year until reaching 3 years (cycle 1 = 1 year, cycle 2 = 1 year, cycle 3 = 1 year, cycle 4 = 2 years, cycle 5+ = 3 years)

Discussion:

Alternative 1 (No Action) would use a non-adaptive catch share management system; therefore, none of the sub-actions under Action 7 would be needed. A non-adaptive system would distribute shares only once when the program begins. Each participant's shareholdings could only change through transfers with an IFQ program or by buying a different permit with a PFQ program.

Alternative 2 and **Preferred Alternative 3** would allow for an adaptive approach to the catch share program. The impacts of the cycle duration should be considered when choosing a set or progressive cycle management. Cycle durations would impact how quickly the shares are redistributed to represent the current fishery, the stability of the market for shares and allocation, and the ability and timeliness for new or replacement entrants to acquire shares (Table 2.7.1.1). Effects of the duration of a cycle may be magnified by localized events (e.g., red tides, hurricanes) and personal events (e.g., health or vessel problems). Short durations are beneficial when there is a need for rapid adaptive management, such as to address an initial distribution that may not have been representative of the current fishery. A shorter duration of the cycle would allow changes in the distribution of shares to occur more frequently. The need for rapid adaptive management should be balanced with any expected negative consequences that could result because of short cycle durations. Longer cycle durations provide for more stability in business planning and may minimize localized effects. Conversely, a longer cycle duration may have a negative impact on new or replacement entrants, because it will take longer to receive shares through redistribution. There may also be a disproportional effect to participants who harvested the entire cycle length versus those that harvested for only a portion of a cycle's length.

Table 2.7.1.1. Comparison of effects of an adaptive catch share for set and progressive intervals

Effects	Set Intervals (Alt 2)		Progressive Intervals (Alt 3)
	Short	Long	Short to long
Representative distribution (e.g., moving shares from latent fishermen or those who encounter a species less often to those who land and encounter the species more often)	Faster time to move shares to active fishermen	Slower time to move shares to active fishermen	Intermediate time to move shares to active fishermen
Stability in industry (e.g., ability to predict future shares and business practices)	Less stable	More stable	Movement towards stability
New entrants (e.g., timeline for new entrants to earn shares in the program)	Faster time to earn shares	Longer time to earn shares	Initially faster time to earn shares, then longer

The Magnuson-Stevens Act requires a review of a limited access privilege program (IFQ or PFQ) after the first 5 years, and every 5 to 7 years thereafter. For a complete analysis of the progress and success of the program, it would be best to have more than one cycle completed and not be mid-cycle at the time of the review (e.g., end of the first 5 years).

Alternative 2 would use a set duration for each cycle. The set duration would provide a degree of stability within the program, as participants can easily track when the adaptive actions will occur. This would allow for better business planning and known time periods of uncertainty. This type of duration cycle may be most appropriate when the industry is stable in relation to the number of participants and the distribution of shares. **Options a-c** would encompass the effects of shorter and longer cycle times as outlined in Table 2.7.1.1.

Preferred Alternative 3 would use progressively increasing cycle durations, where the cycle duration would be incrementally increased until a constant duration is achieved. This would allow for shorter time periods initially, and longer durations once the fishery is considered stable in relation to participants and distribution of shares. This management approach would be best when initial distribution is expected to be skewed and not representative of the current participation in the fishery. **Options a-c** would encompass the effects of shorter and longer cycle times as outlined in Table 2.7.1.1.

Action 7.2: Reclamation of Shares

Alternative 1: No Action. Do not reclaim shares.

Alternative 2: Reclaim a set percentage of shares of each share category from all shareholder accounts.

Option 2a: 10%

Option 2b: 25%

Option 2c: X%

Alternative 3: Reclaim a progressively decreasing amount of shares of each share category from all shareholder accounts.

Option 3a: Cycle 1: 40%, Cycle 2: 20%, Cycle 3+: 10%

Option 3b: Cycle 1: 50%, Cycle 2: 40%, Cycle 3: 40%; Cycle 4+: 25%

Discussion:

Alternative 1 (No Action) would use a non-adaptive catch share management system; therefore, none of the sub-actions under Action 7 would be needed.

Alternatives 2 and 3 would set the amount of shares reclaimed from every account at the end of a cycle. The redistribution of reclaimed shares is covered in Action 7.3. If the program has multiple share categories, reclamation would occur for each share category individually. Reclamation is a purposeful method to redistribute shares for programs where initial shares are not expected to be representative of the current participation in the fishery and latent permits are unknown (e.g., because landings history was not known). Reclamation with redistribution (Action 7.3) also provides a way for new or replacement entrants to earn shares through participation. The percentages of shares to be reclaimed can be set from 0% (i.e., functions like a non-adaptive program) to 100% (i.e., full redistribution each cycle). The goal is to determine what reclamation percentages will best accomplish the program's goals (e.g., a representative share distribution, aids to new or replacement entrants), without creating a barrier to business practices (e.g., the ability to predict allocation available for future trips).

Impacts from different reclaimed share percentages should be considered when designing such a program. In the for-hire industry, some participants might schedule trips with clients many months if not a year in advance of the actual trip. The participants would need to retain enough shares within their accounts to continue with this business practice. Although reclaiming a high percentage of reclaimed shares each cycle would allow the program to move more rapidly towards representative distribution, it might also create instability in trip planning. Conversely, reclaiming a low percentage of shares each cycle may provide stability but may not redistribute enough shares to address the program's goals in a reasonable time frame.

Alternative 2 would use a set reclamation percentage for every cycle. A constant reclamation percentage may provide the greatest stability and may be an optimum method if there is more concern for providing access for new or replacement entrants than with using adaptive management to quickly achieve a representative distribution of shares. This type of reclamation

may work well as existing fishermen slowly exit the fishery (e.g., decrease their activity), while new or replacement entrants slowly enter the industry.

Alternative 3 would use a progressive reclamation percentage that decreases each cycle. A progressive reclamation percentage may be most suitable when it is expected that initial share distributions will not be reflective of actual industry participation. In a progressive reclamation, the first cycle claims a high percentage of shares. This would be used to rapidly redistribute the shares after the first cycle. As the cycles continue, the percentage of shares reclaimed decreases as the redistribution moves shares to shareholders actively fishing.

With both **Alternatives 2 and 3**, the reclamation percentage (**Options 2a-2c and 3a-3b**) should be considered in conjunction with the cycle duration because these two elements interact. For example, reclaiming a high percentage of shares through short cycle durations would have a different effect on the industry than a high reclaiming a high percentage of shares through a long cycle duration.

Action 7.3: Redistribution of Reclaimed Shares

Alternative 1: No Action. Do not redistribute reclaimed shares.

Alternative 2: Redistribute reclaimed shares by share category equally among all participants that harvested species in that share category.

Preferred Alternative 3: Redistribute reclaimed shares by share category proportionally among all participants that harvested species in that share category. Proportional redistribution is based on a participant's landings for a species in a given share category divided by the total landings for that share category within the cycle.

Discussion:

Alternative 1 (No Action) would use a non-adaptive catch share management system; therefore, none of the sub-actions under Action 7 would be needed.

Alternatives 2 and 3 would use adaptive management to redistribute the reclaimed shares to accounts that landed species within that share category. Distributing reclaimed shares to only those participants who landed within the share category allows adaptive management to work towards representative distribution. Distributing shares to those who have no landings within that share category would be counterproductive to the goals of adaptive management. Both **Alternative 2** and **Preferred Alternative 3** would be mechanisms for new or replacement entrants to obtain shares through landings. Allocation transfers must be allowed for this adaptive management program to work for new or replacement entrants. The new or replacement entrants would obtain allocation through transfers and land species within a cycle. Once these participants have harvested within a share category, they would be eligible to receive reclaimed shares in the next cycle, and the annual allocation that is associated with those shares. While the allocation associated with these redistributed shares may not initially be sufficient to support their business practices, it would reduce the amount of allocation to be obtained and result in a reduction in cost.

Alternative 2 considers distribution of reclaimed shares equally to all who have landings within that share category. This would provide participants who landed one pound within a share category the same proportion of reclaimed shares as participants who landed greater quantities. Under this alternative, new or replacement fishermen may gain access to shares more quickly. Conversely, those who rarely encounter a species but have landings, may obtain more shares than needed to maintain their business.

Preferred Alternative 3 considers proportional distribution of reclaimed shares to all who have landed within the share category. Under this alternative, a greater proportion of reclaimed shares would go to those with greater landings. For example, in a multi-share category program, a participant who does not target a share category, but incidentally catches species in that category, would receive fewer reclaimed shares than a participant who targets the species in the share category. Since species are not evenly distributed across the Gulf, and fishermen have different

species of interest, proportional distribution would increase shares for those who encounter and land the species in the share category.

With both **Alternative 2** and **3**, if an individual's permit expires, the permit holder has one year to renew the permit. In a PFQ system, if the permit is not renewed, it will be terminated and shares associated with that permit will be added to the reclaimed shares that are redistributed in the next cycle. In an IFQ program, if a permit is required to maintain shares (Action 9) and an individual's permit expires, the permit holder has one year to renew the permit or divest of their shares (i.e., transfer the shares). If the permit is not renewed, it will be terminated, and any shares that have not been transferred will be added to the reclaimed shares that are redistributed in the next cycle.

Action 7.4: Reclamation of Latent Shares

Alternative 1: No Action. Reclamation and redistribution will continue for each shareholder account indefinitely, regardless of level of landings.

Alternative 2: After the first three years, and then after each subsequent cycle, shares will be declared latent if the following conditions are met for a shareholder account:

- the percentage of shares in a share category is less than X%, and
- no fish were landed during that time period/cycle in that share category.

Latent shares from shareholder accounts will be reclaimed at the end of the time period/cycle.

Option 2a: X=0.000001%

Option 2b: X=lowest percent during initial distribution

Alternative 3: After the first three years, and then after each subsequent cycle, shares will be declared latent if a shareholder account does not have landed fish in a species category. All shares in that species category from that shareholder account will be reclaimed at the end of the time period/cycle.

Note: The percentages in Alternative 2 apply to each share category separately and will be the same for each share category.

Discussion:

Alternative 1 (No Action) would allow individuals to hold shares even if they do not fish, although the amount of shares would decrease with each distribution cycle. During reclamation, a fisherman with no landings would always retain some portion of their shares, as determined in Action 7.2, which has no option to reclaim 100% of shares from fishermen each cycle. Allowing inactive fishermen to indefinitely retain shares would not meet the need of achieving OY nor the Council's stated desire to keep shares active. Also, at some point, the share level could decrease below the level that could be tracked by the catch shares online system. A declaration of latency would not occur regardless of how low the share value gets or how long the fisherman does not fish.

Alternative 2 would set an end point for retention of unused shares by inactive fishermen by declaring those shares latent if two conditions exist. First, the amount of shares would need to be lower than a minimum amount that the Council considers reasonable. For **Option 2a**, that amount would be the lowest value accounted for by the catch shares online system (0.000001%). The number of pounds this share represents depends on the quota, but would equal less than two pounds for all the current quotas, and less than one pound for some, meaning not enough for even one fish. For **Option 2b**, that amount would be the lowest percentage given to a shareholder during initial distribution. Although we cannot determine that amount yet, it would presumably be greater than the amount in **Option 2a**. The second condition to be met would be that the fisherman did not land any fish during the previous time period (during the first three years, or during the previous cycle thereafter). This second condition would ensure that the fisherman is truly inactive and not a new participant trying to earn shares by leasing.

Alternative 3 is similar to **Alternative 2**, but only declares shares latent based on lack of landings.

The declaration of latency in **Alternatives 2** and **3** would not begin initially until after three years to allow time for the adaptive management process to begin balancing shares. The delay would also account for fishermen who might miss a year of fishing due to illness, vessel repairs, or other reasons. However, the 3-year initial time period would work differently depending on the preferred alternative in Action 7.1, which sets the number of years for each cycle. A 3-year period would end at the end of a cycle with Preferred Alternative 3a and Alternative 3c in Action 7.1, but would end in the middle of a cycle with Alternative 3b in Action 7.1. If shares are declared latent in the middle of a cycle, those shares would be reclaimed and held by NMFS until the end of the cycle when they could be redistributed, preventing them from being used to harvest fish until then.

2.8 Action 8 – Transferability of IFQ Shares

Alternative 1: No Action. Do not allow the transfer of shares.

Alternative 2: An account holder must have an associated Charter/Headboat Permit for Reef Fish to receive transferred shares. Shares can only be transferred to United States citizens or permanent residents.

Alternative 3: Shares can be transferred to any United States citizen or permanent resident.

Discussion:

If an IFQ program is selected in Action 1, this action determines how the IFQ shares can be transferred after the initial distribution of the shares. This action does not address the transferability of shares under a PFQ program, as the shares must be transferred with the permit.

If transfer is allowed, transfer of shares would be permanent (non-adaptive catch share) or semi-permanent (adaptive catch share) and the recipient of the shares would receive the allocation in subsequent years. In an IFQ program, the shares are not attached to a permit but belong to the entities associated with the account and can be transferred in part or in whole; in a PFQ program, the shares are attached to the permit and must be transferred as a whole with the permit. For both the IFQ and PFQ programs, the annual allocation associated with the shares would be distributed to the account holding the shares at the time of distribution.

The commercial IFQ programs do not currently have a permit requirement for receiving transferred shares; the only requirements are that a recipient must be a U.S. citizen or permanent resident and that the received shares do not exceed the share cap. During the first 5 years of each commercial program, one could only enter the program if one had a permit, and shares and allocation could only be transferred to permit holders. In those first 5 years, shares could be maintained without a permit. As of 2012 for the red snapper IFQ program and 2015 for the grouper tilefish IFQ program, anyone meeting the citizenship requirement can open an IFQ account and receive transferred shares or allocation; however, a the vessel must be permitted to harvest allocation.

Alternative 1 would be the most restrictive of the alternatives and not allow the transfer of shares. In this case, the initial distribution of IFQ shares would be permanently assigned to the account entity that is the initial recipient. The account entity would retain the shares even if the permit is transferred or allowed to expire. Prohibiting the transfer of shares may prevent an entity from obtaining an excessive amount of shares, although share caps ultimately constrain the amount of shares held by an entity (Action 11). Restrictions on the transfer of shares in an IFQ program could have unforeseen consequences as participants exit the fishery and are unable to transfer their shares to participants in the IFQ program. If a permit was transferred, the shares would stay with the original shareholder and could not be transferred to the new shareholder. Even if a permit was terminated, the original permit holder would retain the shares and over time, fewer and fewer shares would be available to active fishermen. Prohibiting the transfer of

shares may also have a negative effect on new entrants or replacement fishermen, as they would not be allowed to obtain shares in the system.

Alternative 2 would only allow the transfer of shares between accounts that are associated with a valid for-hire permit. In Amendment 42, the Council is considering whether to separate the for-hire permits into separate charter and headboat permits, or add an endorsement to the for-hire permit for headboats. This decision could impact the transferability of the shares. If the for-hire permits are separated, then the shares under these alternatives would likely be transferable to only charter permits due to the program restrictions. However, if an endorsement is added to the for-hire permit for headboats or the for-hire permit is not split by the programs, then any entity with a for-hire permit could receive shares unless additional restrictions were implemented, such as eligibility requirements to obtain a shareholder account. The Council would need to discuss whether the shares could be transferred between the programs and if someone could use the same vessel in the same year in both programs. Since the IFQ program would be a LAPP, participants would also be required to meet the U.S. citizenship or permanent resident requirement for this alternative.

Alternative 3 would be the least restrictive and allow any United States citizen or permanent resident to obtain shares, similar to Gulf commercial IFQ programs. While shares could be transferred to a person or entity without a for-hire permit, the fish could not be legally harvested without procuring a for-hire permit, or transferring the allocation to a permit holder. Under this alternative, any United States citizen or permanent resident could enter the program as a shareholder, including new fishermen, investors, or fishermen in another fishery or sector. However, fishing communities and active charter operators may react negatively to absentee ownership of shares. Full public participation would also allow the transfer of shares to entities who may not use the IFQ allocation associated with the shares to participate in the charter fishing industry because a permit is required to harvest fish. If adaptive management options are chosen, this may decrease the impact of absentee ownership of shares.

Alternatives 2 and 3 would require a protocol to be developed to handle the transfer of shares.

Alternative 2 would require the account holder to maintain a valid for-hire permit to receive the shares. This restriction would contribute to maintaining IFQ shares in the hands of for-hire operators. The moratorium restricts the number of for-hire permits in the Gulf, and these permits can only be obtained from current for-hire permit holders. Thus the number of potential IFQ accounts would be limited to the number of permits if **Alternative 2** is selected, but may increase if **Alternative 3** is selected, as account holders could maintain their shares after transferring a permit. The new permit holder would create a new account, thereby allowing the number of IFQ accounts to be greater than the number of for-hire permits. **Alternative 3** would also allow for fishermen to separate their assets, by creating a new account that is not directly linked to their permit, as is often done in the commercial IFQ program.

2.9 Action 9 – Maintenance of IFQ Shares

Alternative 1: No Action. Shares can be held by any United States citizen or permanent resident.

Alternative 2: A participant must have a Charter/Headboat Permit for Reef Fish to maintain shares. Shares can only be held by United States citizens or permanent residents. If a participant transfers their permit, then the owner must divest of their shares or obtain another permit within 60 days of the completion of the transfer; if the permit/endorsement expires, then the owner must renew the permit or divest of their shares before the permit terminates or the shares will revert to NMFS.

Discussion:

If an IFQ program is selected in Action 1, this action determines the criteria for maintaining shares. This action does not address the maintenance of shares under a PFQ program, as the shares remain with the for-hire permit. In an IFQ program, the shares are not attached to a permit and belong to the entities associated with the account and can be transferred in part or in whole, if transferability is selected by the Council in Action 8.

Alternative 1 would be the least restrictive and allow any United States citizen or permanent resident to maintain shares. While shares could be maintained by a person or entity without a for-hire permit, the fish could not be legally harvested without procuring a for-hire permit, or transferring the allocation to a permit holder. Under this alternative, any United States citizen or permanent resident could participate in the program as a shareholder, including new or replacement fishermen, investors, or fishermen in another fishery or sector.

Alternative 2 would only allow shares in accounts that hold a valid Charter/Headboat Permit for Reef Fish. This restriction would contribute to maintaining IFQ shares in the hands of for-hire operators. The moratorium restricts the number of for-hire permits in the Gulf, and these permits can only be obtained from current for-hire permit holders. Thus, the number of potential IFQ accounts would be limited to the number of permits if **Alternative 2** is selected.

In Amendment 42, the Council is considering whether to separate the for-hire permits or add an endorsement to the permit for headboat operation. This decision could impact the maintenance of the shares. If the permits are separated, then the shares under these alternatives would only be held by participants with a charter permit due to the program restrictions. However, if an endorsement is added to the permit for headboats or the permit is not split by the programs, then anyone with a for-hire permit could hold shares unless additional restrictions were implemented.

If an individual's permit expires, the permit holder has one year to renew the permit or divest of their shares (i.e., transfer the shares). If the permit is not renewed, it will be terminated, and any shares that have not been transferred will be redistributed along with reclaimed shares under the adaptive management process in Action 7; if adaptive management is not selected, another method of returning shares would need to be developed. If a permit is transferred, the

shareholder will have 60 days to divest of those shares or obtain another permit. Permit applications/transfers are generally processed by NMFS within 60 days.

2.10 Action 10 – Transferability of Annual Allocation

Alternative 1: No Action. Do not allow the transfer of allocation among participants.

Preferred Alternative 2: An account must have a Charter/Headboat permit for Reef Fish to receive transferred allocation. Annual allocation can only be transferred to United States citizens or permanent residents.

Alternative 3: There are no restrictions on the transfer of allocation. Annual allocation can only be transferred to United States citizens or permanent residents.

Alternative 4: Annual allocation may be transferred by surrendering it to a NMFS allocation bank from which other program participants may obtain the allocation by:

Option 4a: lottery.

Option 4b: auction.

Note: Alternative 4 may be selected as a preferred alternative alone or paired with either Alternative 2 or Alternative 3 as an additional preferred alternative.

Discussion:

Transferring allocation refers to the movement of allocation, which is the amount of fish that someone is ensured the opportunity to possess or land in the fishing year, between accounts. Allocation transfers can be for a monetary value, a gift, or part of a package deal, which may include other aspects such as the transfer of the permit, vessel, and/or shares. Allocation would be distributed to accounts at the beginning of the fishing year, or at any time throughout the year when there is a quota increase, for either an IFQ or PFQ system based on the shares held by that account/permit. This action does not require provisions for divestment of allocation due to a transferred or expired permit because allocation expires at the end of each year. A for-hire permit would still be required to legally harvest selected reef fish (Action 2).

Alternative 1 would be the most restrictive of the alternatives. Allocation would be distributed to accounts at the beginning of the fishing year or after any in-season quota increase, and no transfers of allocation would be allowed. Therefore, no account could obtain any additional allocation. Obtaining extra allocation during the year is often desirable if a participant uses all of their allocation before the end of the year. At any time, if an account does not have sufficient allocation, any selected species (Action 2) caught would need to be discarded, resulting in potential increased discards and discard mortality. Fishermen that had received small portions of the quota may have higher discard and discard mortality rates than if allowed to account for caught fish through allocation transfers. Restricting the transfer of allocation may also inhibit the achievement of optimum yield, if those pounds that may have been harvested by a different account holder would go unused. For example, allocation belonging to an account holder whose permit expires mid-year or whose vessel is in dry dock would remain unused for the year. Under an adaptive management program, this alternative would not allow entities without shares to develop a landings history, which is required to receive redistributed shares.

Preferred Alternative 2 and **Alternative 3** would require protocols to be developed to handle the transfer of allocation. Allowing the transfer of allocation would be beneficial for participants who use all of their allocation before the end of the year to enable them to accommodate additional trips to harvest selected reef fish (Action 2).

Preferred Alternative 2 would require a participant receiving allocation to have a Charter/Headboat Permit for Reef Fish. This restriction would contribute to maintaining allocation in the control of charter vessel operators. The moratorium restricts the number of for-hire permits in the Gulf, and these permits can only be obtained from current permit holders. With a permit requirement, all allocation would be held by participants with the ability to use that allocation to fish.

With **Alternative 3**, any account could receive allocation even without a for-hire permit. **Alternative 3** would be the least restrictive allowing any United States citizen or permanent resident to obtain an account and receive allocation. While allocation could be transferred to an account without a for-hire permit, the fish could not be legally harvested without procuring a for-hire permit. This is similar to the provision in the commercial IFQ programs that allows any United States citizen or permanent resident to obtain and transfer shares and allocation, although a commercial reef fish permit is still required to harvest and land IFQ allocation.

Alternative 4 would allow charter operators that do not intend to use allocation during a year to surrender the allocation to NMFS. The surrendered allocation would be transferred to a NMFS allocation bank, and two options for redistribution are provided. Other program participants could obtain the allocation by lottery (**Option 4a**) or auction (**Option 4b**). Participation in the lottery (**Option 4a**) or auction (**Option 4b**) would be restricted to participants with a Charter/Headboat Permit for Reef Fish. The Council may choose to use an auction to redistribute transferred allocation even if an auction is not selected as the preferred method of initially distributing shares to charter vessels in Action 6. Because allocation is annual, the redistribution would occur prior to the end of the year. Aspects of the redistribution that would need to be addressed and developed include the following: a date by which participants would need to surrender allocation, at what point in the year redistribution occurs, such that other participants would have time to use the allocation; how often in the year redistribution occurs; and potential limits for redistribution, such as how much one entity could receive or how often one entity could receive redistributed allocation. Revenues from either a lottery (**Option 4a**) or auction (**Option 4b**) would not constitute cost recovery fees and thus would not offset additional administrative costs for this redistribution program.

In wildlife management, lotteries (**Option 4a**) have been used to distribute hunting tags when the demand for the resource exceeds sustainable harvest. Johnston et al. (2007) suggest that some hunting lotteries use “limited harvest with enhanced lottery rationing” to enhance the likelihood that repeat applicants who may have been unsuccessful in prior lotteries will be/could be rewarded with tags in the future. For example, some states that use lottery systems for wildlife management set up a point system for lottery applicants. This process increases the probability that lottery applicants that have not previously received harvest tags will have a greater probability of receiving them in the future, ensuring that tag allocation is equitable (Johnston et

al. 2007). While this literature pertains to harvest tags, the concepts are relevant to IFQ and PFQ programs.

Auctions (**Option 4b**) often represent market or price-based sales based on the highest bidder's willingness to pay. Johnston et al. (2007) state auctioning of hunting rights in wildlife management typically helps states generate revenue; however, due to equity concerns some states may only hold a portion of all available tags for auction. If the Council moves forward with **Option 4b** for redistributing surrendered allocation, only that portion that is surrendered would be available for an auction. Nevertheless, auctions favor those with the ability to pay the most.

2.11 Action 11 – Share Caps

Alternative 1: No Action. Do not cap the amount of shares for a given species that one participant can hold.

Alternative 2: No participant may hold shares for a given species equaling more than the maximum amount of shares issued for that species during initial apportionment for a participant (as defined in Action 6).

Alternative 3: No participant shall hold shares for a given species which comprise more than x% of the total charter vessel quota for that species.

Discussion:

Section 303A(c)(5)(D) of Magnuson-Stevens Act requires that LAPPs include provisions to prevent privilege holders from acquiring an excessive share of the total limited access privileges in the program. National Standard 4 of the Magnuson-Stevens Act similarly requires that an allocation of fishing privileges be carried out in such a manner to prevent a particular participant from acquiring an excessive share. To comply with these mandates, an IFQ or PFQ program must set a cap on share ownership. No entity, including a person, a business, or other entity (e.g., a trust), may individually or collectively hold shares in excess of the amount determined in this action. For the purposes of considering the share cap, an entity's share is determined by adding the applicable shares held by the entity for all accounts associated with that entity. If an entity is involved with a business, the percentage of ownership in that business is applied to that entity's share cap.

Share caps with a PFQ program may prevent the transfer of a permit if the recipient already has one or more permits and the combined shares/allocation of the permits exceeds the share cap for one or more of the permit holders. For example, if the transfer of the permit would put the permit holder over any of the share caps for the selected species, then the permit would transfer would be disallowed. Because caps are at the entity level, a participant may not be aware that they would exceed the cap until the permit transfer is not approved. The permit transfer may also be delayed as Permit staff work with Catch Share staff to determine the share cap for each entity. Currently, 6% of permit holders hold more than one permit.

Alternative 1 would not meet the requirements of the Magnuson-Stevens Act as it would not constrain a participant from acquiring an excessive amount of shares. Without a share cap, accumulation of excessive shares could not be prevented, shares could become concentrated among only a few participants, and those participants could gain excessive market power. If IFQ/PFQ shares accumulate with only a few participants, it may affect the structure of the fleet and its relationship to communities could be disrupted.

Alternative 2 would cap the shares of a participant to the maximum amount initially distributed to an entity, individually and collectively, which accounts for entities that have multiple permits. A cap set in this method has a higher likelihood of maintaining the current makeup of the participants by size of operation and community structure. However, the region may have a high

amount, but because the cap would be set through the entities, someone with multiple permits in another region may be the cap setter. For reference, the red snapper commercial IFQ program has a cap of 6.0203% based on the maximum share holdings of a single entity who owned multiple permits at the initial calculation of shares. Because there are no landings history for the charter fleet, there is not an estimate of how many permits are latent for the entire fishery or for any individual species selected for this program. Therefore, initial shares must be distributed assuming all participants are actively fishing all species. This may lead to an unrealistically low share cap, if there is a high degree of unfished permits. Setting the cap equal to the maximum initial distribution could prevent an entity from expanding their business, particularly the initial cap setter. The efficiency of the fleet could be impaired, and the fleet may decrease over time due to the limited access permit. The cap could also restrict the fleet's ability to harvest the full quota.

Alternative 3 would set an appropriate maximum percentage for the share cap. In an adaptive catch share program, if this value is less than the total amount a participant is calculated to hold after redistribution, NMFS will have to determine a methodology to redistribute the excess amount to other participants, ensuring that no one participant goes over the share cap. The appropriate percentage and subsequent options can be determined after further decisions and data analysis are available regarding the landings and distribution methods, and transferability of shares or allocation. Caps should not be set so high that any entity can accumulate excessive shares; conversely, if caps are set too low, they may reduce potential gains in economic efficiency by preventing mutually beneficial transfers from occurring. Often in allocation-based programs, the greater the number of participants the smaller the share cap percentage. For example, in the Gulf commercial IFQ program the two share categories with the highest share caps (deep-water grouper at 14.04321% and tilefish at 12.212356%) has the smaller number of vessels participating, 187 and 79 respectively. In the South Atlantic Wreckfish Individual Transferable Quota (ITQ) program, which has only 6 shareholders, the share cap is set unusually high at 49%.

Figure 2.11.1 provides an example for calculating the cap on shares for an IFQ and PFQ program for entities belonging to multiple businesses. These examples include partial ownership of permits for the calculation.

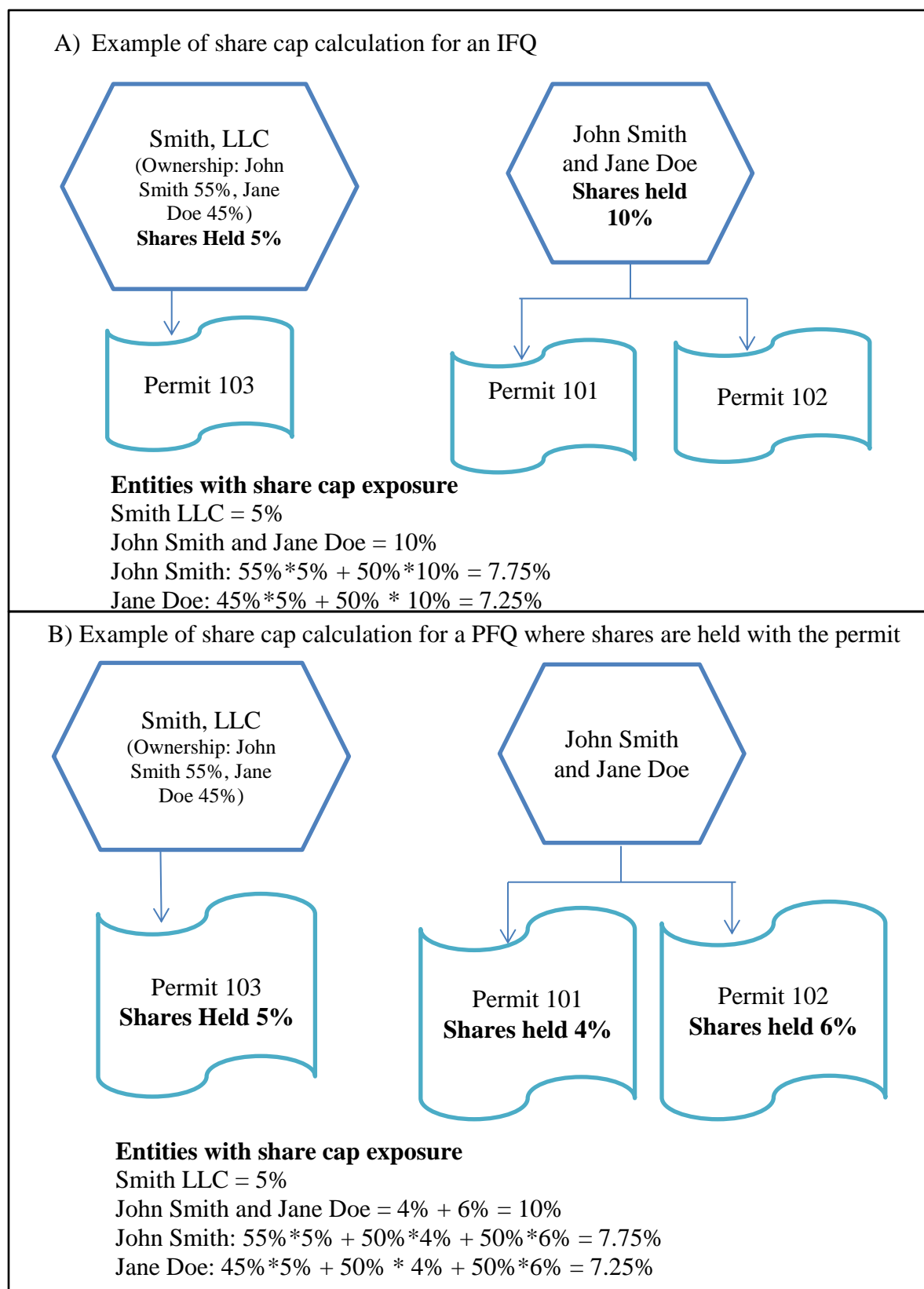


Figure 2.11.1. Examples of share cap calculations.

2.12 Action 12 – Cap on Allocation Usage

Note: Allocation usage is defined as the amount of landings year-to-date in an account plus the remaining allocation in that account on the same day.

Alternative 1: No Action. Do not establish a limit on allocation usage.

Alternative 2: Limit allocation usage to x percent above the allocation equal to the share cap for each species.

Option 2a: Per vessel account

Option 2b: Per shareholder account (unique permit holder)

Alternative 3: Limit allocation usage to the allocation equal to the share cap for each species.

Option 3a: Per vessel account

Option 3b: Per shareholder account (unique permit holder)

Discussion:

Allocation usage is defined as the amount of landings year-to-date in an account plus the remaining allocation in that account at that point in time. **Alternative 1** would not establish a limitation on allocation usage. This alternative would not be consistent with the provisions of the Magnuson-Stevens Act. Magnuson-Stevens Act 303(A)(c)(5)(D) requires that in developing a LAPP the Council ensure that participants do not acquire an excessive share of the total limited access privileges in the program by establishing a maximum share, expressed as a percentage of the total limited access privilege that a participant can hold, acquire, or use. National Standard 4 similarly requires that an allocation of fishing privileges be carried out in such a manner to prevent a particular participant from acquiring an excessive share of such privileges. The Magnuson-Stevens Act does not define the magnitude of an “excessive share” of harvest privileges.

Alternative 2 would restrict a vessel account (**Option 2a**) or unique permit holder (**Option 2b**) from landing more of a selected reef fish species (Action 2) than x percent more than the allocation equal to the share cap for that particular species. Options for a range of x percent may be considered to set an appropriate usage limit. This would allow a vessel account or account holder to still accumulate additional allocation above the share cap. However, while the additional allocation may be transferred (e.g, sold, “leased”, bartered, gifted, etc.), the vessel account or account holder would not be able to land fish in excess of the usage limit. The usage cap would be based on the cumulative landings (year-to-date) and the allocation balance in the account each day. For example, if the allocation equal to the share cap was 1,000 lbs, and the percentage allowed over was 10%, then each vessel account or account holder could have the potential to land 1,100 lbs. The vessel account or account holder may acquire more than that amount throughout the year by transfers in and out as long as the current holdings plus landings do not exceed 1,100 lbs. In the commercial IFQ program, allocation is frequently transferred multiple times, resulting in a total transfer of allocation in pounds that exceeds the quota. For the commercial red snapper IFQ program, the allocation transfers have exceeded the quota by up to 114% from 2011 onward, and in recent years in the GT-IFQ program, some share categories

have had allocation transfer exceed the quota by more than 200%. Allowing more annual allocation to be landed than is equivalent to the share cap allows businesses to temporarily grow their business and allows other businesses to benefit through the transfer of allocation. This alternative works to ensure that as much of the quota is harvested as possible.

Alternative 3 would restrict a vessel account (**Option 3a**) or unique permit holder (**Option 3b**) from using (landing plus holding) more of a selected reef fish species (Action 2) than is equal to the share cap for that particular species. For example, if the share cap equates to 1,000 lbs, then no vessel account or account holder could land more than 1,000 lbs in a given fishing year. The usage cap would be based on the cumulative landings (year-to-date) and the balance of allocation in the account each day. Contrary to **Alternative 2**, **Alternative 3** would set the usage limit relative to the share cap on the program as a whole, rather than the ability to obtain and land allocation greater than the share cap. Under **Alternative 3**, the full quota may not be harvested as the landings usage cap may restrict the transfer of allocation from vessels unable to harvest (e.g., in dry dock) to vessels that can harvest. If there is a high degree of latency at the time of initial distribution which determines the share cap, this may result in a considerable portion of the quota that is unable to be fished due to allocation caps.

Options a and b in **Alternatives 2 and 3** restrict allocation usage at different levels (Figure 2.12.1). **Option a** would restrict usage in a vessel account, effectively limiting usage by permit. No one vessel could cumulatively land plus have holdings greater than the allocation usage cap. However, if the permit was transferred to a new owner, the share cap would ‘reset’. **Option b** would restrict usage in a shareholder account (unique permit holder). Each shareholder account could have multiple vessel accounts; thus, **Option b** would be more restrictive than **Option a** for accounts with multiple vessels.

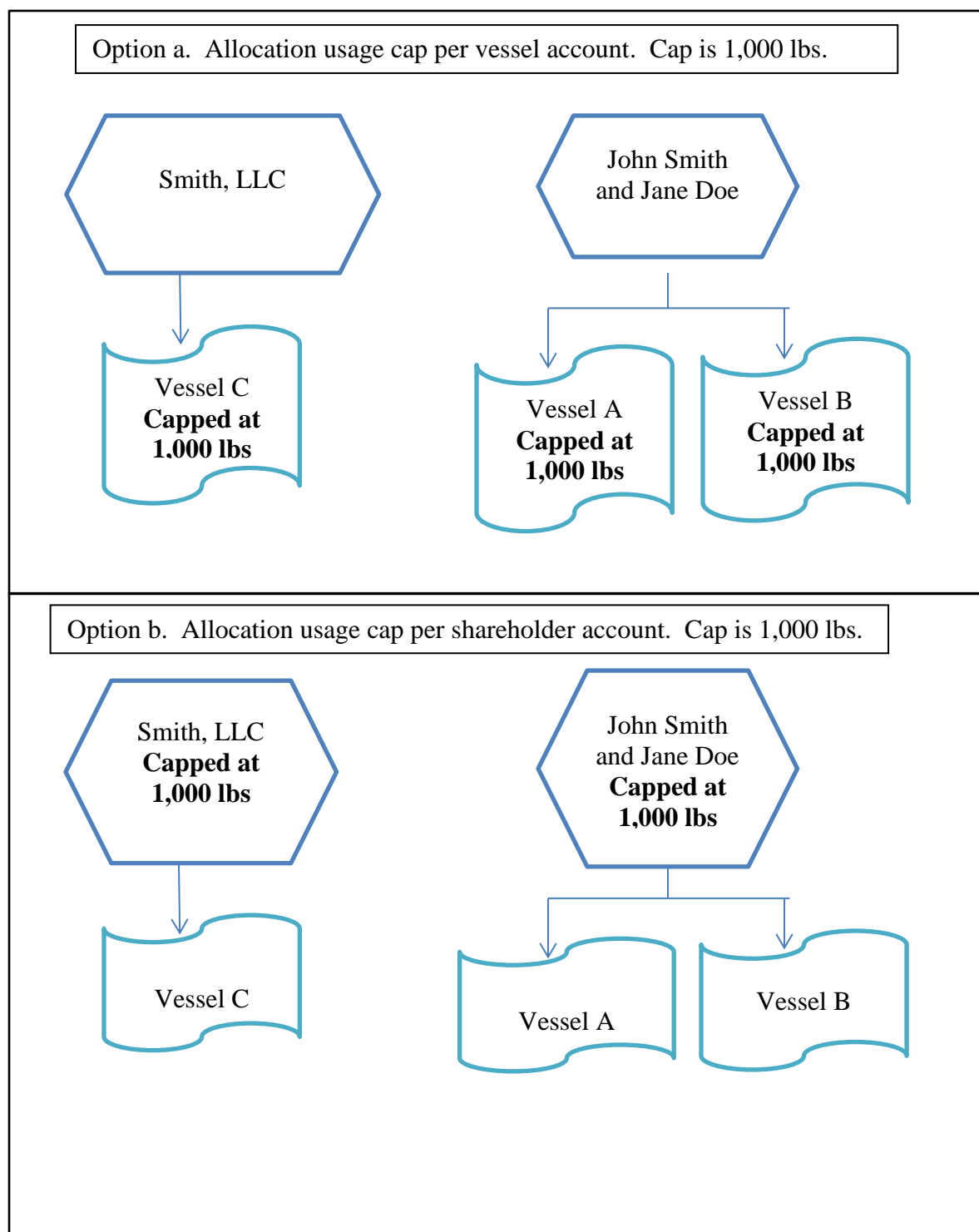


Figure 2.12.1. Example of **Options a** and **b** for **Alternatives 2** and **3**. An example cap of 1,000 lbs is used for demonstration purposes only.

2.13 Action 13 – Retaining Annual Allocation before a Quota Reduction

Alternative 1. No Action. Distribute 100% of annual allocation to IFQ shareholders on January 1 of each year.

Alternative 2. If the quota for a species is anticipated to decrease after January 1, the Regional Administrator has the authority to retain the anticipated amount of decrease during distribution of allocation for that species at the beginning of the year. The amount retained will be distributed as soon as possible if the decrease does not occur by the following set date:

Option 2a: June 1

Option 2b: August 1

Discussion

This action addresses a decrease in the charter vessel ACL and quota that may happen after the first of the year. After allocation is distributed to shareholders on January 1, taking any back would be impossible if participants have landed all or some of their allocation or have transferred allocation to another participant. Only two alternatives are presented for this action because the decision is to either retain the anticipated reduction or not. Under **Alternative 1**, NMFS would not be able to implement a quota decrease for the recreational sector until the following fishing year, unless the Council determines to withhold annual allocation through a framework action and there is sufficient time to implement the action. Quota decreases are usually implemented in response to stock assessment result showing the stock needs additional protection.

Under **Alternative 2**, NMFS would hold back the anticipated amount that may be subtracted from the total charter quota before distributing allocation to each shareholder at the beginning of the year. If the anticipated decrease did not occur or was less than expected, NMFS would distribute the hold back amount proportionally to shareholders. Should IFQ shares or PFQ permits be transferred between participants during a year in which some portion of annual allocation was withheld and later distributed, the holdback amount will be distributed according to the current shareholder at the time the holdback amount is released. NMFS would only exercise this authority if the Council has approved an action that would decrease the quota, but the rule implementing the action could not be in place until after the start of the year.

Distributing IFQ/PFQ allocation late in the year can affect program participants in unintended ways. Subsequent to the retention of a portion of annual allocation at the beginning of the calendar year, it is possible that an expected quota reduction would not occur. For example, the Secretary of Commerce could delay or disapprove the regulatory action, and the ACL reduction would not occur under the anticipated timeline. Should this happen, NMFS would release the withheld annual allocation right away. Nevertheless, if the Council selects **Alternative 2**, and an expected ACL reduction has not occurred, **Option a** and **Option b** would provide a date by which any withheld allocation would be distributed to shareholders if the effective date of the final rule implementing the ACL reduction has not occurred. An earlier release date (**Option 2a**) would provide IFQ/PFQ program participants more time to utilize the quota and would be less disruptive to their business, while selecting a later release date (**Option 2b**) would provide NMFS with additional time to complete the regulatory process, should an issue or delay arise.

Regardless of the option selected, or if no option is selected, the Regional Administrator would retain the authority to distribute withheld quota at any time it becomes known that an expected ACL reduction is not going to occur during the year in which allocation was withheld. Should shares be transferred between participants during a year in which some portion of annual allocation was withheld and later distributed, the allocation would be distributed according to the shareholder at the time the allocation is released.

2.14 Action 14 – Cost Recovery Fees

Alternative 1: No Action. Cost recovery fees will not be collected.

Alternative 2: For each participant, cost recovery fees will be collected. The total value will be the **standard price** per pound (or per fish) of a given species multiplied by the number of pounds (or fish) harvested by the shareholder (unique permit holder) during the specified time period. The cost recovery fee will be up to 3% of the total value. The **standard price** will be equal to:

Option a: the commercial ex-vessel price

Option b: the average price of annual allocation

Alternative 3. For each participant, cost recovery fees will be collected. Total fees paid per trip and total pounds (or number of fish) of all species harvested must be reported. The total fees will be divided by the total pounds (or number of fish) of all species harvested to achieve a price per pound (or per fish). The price per pound (or per fish) will be multiplied by the pounds (or number of fish) of covered species (species in the program) harvested to achieve the total value. The cost recovery fee will be up to 3% of the total value.

Discussion

Alternative 1 would not conform to Magnuson-Stevens Act cost recovery provisions. The Magnuson-Stevens Act requires that LAPPs include provisions to recover the incremental costs of management, monitoring, data collection and analysis, and enforcement. This includes the cost of computer systems necessary to manage the disbursement and tracking of annual harvest privileges, as well as observer and enforcement programs.

The Magnuson-Stevens Act limits cost recovery fees to 3% of the value of the fish harvested under the program. The exact percentage to collect will be determined by NMFS based on reasonable estimates of incremental costs incurred to administer the program. The percentage withheld would be adjusted as the costs estimates are refined. Fees collected must be in addition to any other fees charged under the Magnuson-Stevens Act and must be deposited in the Limited Access System Administration Fund established under Section 305(h)(5)(B) of the Magnuson-Stevens Act. In the commercial IFQ programs, the fees are calculated during sale, deducted from the seller's check, and submitted by the dealer to NMFS on a quarterly basis. Because charter vessels do not sell fish, the program participants would be responsible for submitting the fees directly to NMFS.

Alternative 2 would require the specification of standard prices. NMFS would publish, at regular intervals, standard prices (per pound or per fish) by species to be used for cost recovery purposes. These standard prices would be determined based on commercial ex-vessel prices (**Option a**) or average prices of annual allocations transferred within the IFQ/PFQ system (**Option b**). For **Option b**, if annual allocation prices for species categories in the charter vessel program are not available, an average annual allocation price derived from commercial IFQ programs could be used as a temporary proxy. For each species included in the charter vessel program, cost recovery fees to be submitted by a participant cannot exceed 3% of the total dollar

amount calculated by multiplying the standard price by the pounds (or numbers) of fish harvested by the participant's vessel(s) during the specified time interval.

Alternative 3 would use the actual fees paid by passengers and the amount of fish harvested as the price basis. The fees for each trip would need to be reported, as well as the amount of all fish caught of all species. For **Alternative 3**, actual weights or the number of fish harvested would be needed. Dividing the total fees by the total number or weight of all retained fish would give a price per unit (pound or fish). These prices would be based on all fish harvested, even if they are not species in the catch share program, because those fish have value to the fishermen as well. However, the 3% cost recovery fee would only be assessed on species in the catch share program. Compared to **Alternative 2**, **Alternative 3** may lead some vessel operators to underreport the passenger fees collected to minimize their cost recovery burden; **Alternative 3** may also incentivize operators to increase retention of other species in order to drive down the price per unit of catch share species. Also, Headboat AP members have expressed a desire not to report fees as they feel this is a private business matter, and charter vessel operators may feel similarly. Numerical examples illustrating **Alternative 3** (for pounds and number of fish) are provided below.

Alternative 3 Example (pounds of fish):

Total passenger fees = \$5,000
Total pounds of all species harvested = 1,000 lbs
Price per pound = $\$5,000 / 1,000 \text{ lbs} = \$5/\text{lb}$
Total pounds of catch share program species harvested = 500 lbs
Value of catch share program species = $\$5/\text{lb} \times 500 \text{ lbs} = \$2,500$
Cost recovery fee = $\$2,500 \times 0.03 = \75

Alternative 3 Example (number of fish):

Total passenger fees = \$5,000
Total number of all species harvested = 100 fish
Price per fish = $\$5,000 / 100 \text{ fish} = \$50/\text{fish}$
Total catch share program species harvested = 50 fish
Value of catch share program species = $\$50/\text{fish} \times 50 \text{ fish} = \$2,500$
Cost recovery fee = $\$2,500 \times 0.03 = \75

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Fishery

Detailed descriptions of the reef fish fishery have been provided in many management actions and many focus on fishing for particular species, such as Amendment 31 (GMFMC 2009), Amendment 32 (GMFMC 2011b), Amendment 35 (GMFMC 2012c), Amendment 38 (GMFMC 2012d), Amendment 46 (GMFMC 2017a) and are incorporated here by reference. Additionally, Sections 3.4 and 3.5 also provide information on the respective economic and social environments of the fishery.

Management of the commercial and recreational sectors fishing for reef fish in federal waters began in 1984 with the implementation of the Fishery Management Plan for the Reef Fish Resources in the Gulf of Mexico (FMP). This FMP has been continuously amended through plan amendments and framework actions (also known as regulatory amendments). Resultant regulatory measures are codified at 50 CFR 622. A summary of reef fish management actions can be found on The Gulf of Mexico Fishery Management Council's (Council) web page at <http://gulfcouncil.org/fishery-management/>. Presently, the FMP contains 31 species.

Each of the species included in this amendment has separate annual catch limits (ACL) for the commercial and recreational sectors based on allocations determined by the Gulf of Mexico Fishery Management Council (Council) based on historical landings (Table 3.1.1). Further, the red snapper recreational ACL is allocated 57.7% to private anglers and 42.3% to for-hire vessels.

Table 3.1.1. Allocations of five species of reef fish between sectors.

Stock	Recreational Allocation	Commercial Allocation
Gag	61%	39%
Red grouper	24%	76%
Red snapper	49%	51%
Gray triggerfish	79%	21%
Greater amberjack	73%	27%

3.1.1 Commercial Sector

The commercial sector fishing for reef fish in the Gulf of Mexico (Gulf) is managed through, but not limited to, ACLs, annual catch targets, accountability measures, size limits, trip limits, individual fishing quota programs, seasonal closures, time and area/gear restrictions, and gear requirements. Table 3.1.2 summarizes the current minimum size limits, trip limits, and seasons for the five species addressed by this amendment. Gag, red grouper, and red snapper are managed under individual fishing quota (IFQ) programs administered through the Southeast Regional Office (SERO) of the National Marine Fisheries Service (NMFS). Primary commercial gear types in the fishery are vertical lines (handlines and bandit gear) and bottom longlines.

Table 3.1.2. Commercial minimum size limits, trip limits, and seasons for five species of reef fish in the Gulf of Mexico.

Stock	Minimum size	Trip limit	Season
Gag	22 inches TL	Managed under IFQ	January 1-December 31*
Red grouper	18 inches TL	Managed under IFQ	January 1-December 31*
Red snapper	13 inches TL	Managed under IFQ	January 1-December 31*
Gray triggerfish	14 inches FL	12 fish per day	Closed June 1-July 31**
Greater amberjack	36 inches FL	None	Closed March 1-May 31**

*These species are managed under an individual fishing quota (IFQ) program and so the season is open for a fisherman as long as he/she has allocation available for harvesting gag, red grouper, or red snapper.

**Season closures can occur prior to December 31 if a species annual catch limit is caught or is projected to be caught.

With regard to commercial operators harvesting reef fish from the Gulf exclusive economic zone (EEZ), their fishing vessels must have a Gulf reef fish permit, which is a limited access permit. As of November 13, 2017, a total of 844 vessels have the permit. Only vessels with a valid Gulf reef fish permit can harvest reef fish in the Gulf EEZ, and those that use bottom longline gear in the Gulf EEZ east of 85°30' W. long must also have a valid Eastern Gulf longline endorsement. As of November 13, 2017, 62 of the permit holders have the longline endorsement, and all but one of the endorsement holders have a mailing address in Florida. In addition to these restrictions, operators of reef fish fishing vessels who want to harvest red snapper or grouper and tilefish species, must participate in the red snapper or grouper-tilefish IFQ programs. To harvest IFQ species, a vessel permit must be linked to an IFQ account and possess sufficient allocation for the species to be harvested. IFQ accounts can be opened and valid permits can be linked to IFQ accounts at any time during the year. Eligible vessels can receive allocation from other IFQ participants.

This amendment is restricted to the recreational sector; therefore, no additional description of the commercial sector is included.

3.1.2 Recreational Sector

The recreational sector is currently managed through, but not limited to, ACLs, annual catch targets, accountability measures, size limits, bag limits, seasonal closures, time and area/gear restrictions, and gear requirements. Table 3.1.3 summarizes the management measures for the five species considered in this amendment. State regulations are different than federal regulations in some cases. In those circumstances (e.g., red snapper seasons), fishermen must obey the regulations for the waters they are fishing in. For federal waters, if landings meet or are projected to meet the species' ACL, then the season will be closed (Table 3.6.2.1). The primary gear type in the fishery is vertical line gear (rod-and-reel).

Table 3.1.3. Recreational minimum size limits, bag limits, and seasons for five species of reef fish in the Gulf of Mexico. Season closures can occur prior to the end of the fishing season if a species quota is caught or is projected to be caught.

Stock	Minimum size	Daily bag limit	Season
Gag	24 inches TL	2 per person within 4 grouper aggregate bag limit	June 1-December 31
Red grouper	20 inches TL	2 per person with 4 grouper aggregate bag limit	February 1-March 31 when fishing beyond 20 fathom break
Red snapper	16 inches TL	2 per person	Open June 1, close when ACT is projected to be met
Gray triggerfish	14 inches FL	2 per person within 20 reef fish aggregate bag limit	January 1-July 31
Greater amberjack	34 inches FL	1 per person	June 1-July 31*

* The Gulf Council has approved a framework action that would change the fishing season to August 1-July 31.

Private recreational fishing vessels are not required to have a federal permit to harvest individual species or species complexes in the reef fish fishery from the Gulf EEZ. However, anglers aboard these vessels must either be federally registered or licensed in states that have a system to provide complete information on the states' saltwater anglers to the national registry.

Any for-hire fishing vessel that takes anglers into the Gulf EEZ where anglers harvest species or complexes in the reef fish fishery must have a limited-access charter vessel/headboat (for-hire) permit for reef fish that is specifically assigned to that vessel. As of July 6, 2017, there were 1,311 vessels with a valid (non-expired) or renewable for-hire reef fish permit (including historical captain permits). Approximately 58% of the for-hire vessel reef fish permits have mailing recipients in Florida. Texas recipients hold the second highest number of permits, with 17% (see Table 1.1.1). Since 2003, there has been a moratorium on the issuance of new federal reef fish for-hire permits. This means that participation in the federal for-hire component is capped; no additional federal permits are available.

Although the for-hire permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel, and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the Southeast Fishery Science Center (SEFSC) that the vessel primarily operates as a headboat. For purposes here, charter vessels are those vessels not participating in the SRHS. As of July 6, 2017, there were 1,245 charter vessels with valid or renewable for-hire permits (including historical captain permits) and 1,129 unique permit holders associated with those permits.⁹

Charter Vessels

Savolainen et al. (2012) surveyed the charter and headboat fleets in the Gulf. They found that most charter vessel trips occurred in the exclusive economic zone (68%) and targeted rig-reef

⁹ Source: NMFS-SERO permit office database accessed July 6, 2017.

species (64%; snappers and groupers). Pelagic (mackerel and cobia) trips accounted for 19% of trips. If examined by state, more trips targeted rig-reef species with the exception of Louisiana where rig-reef species and pelagic species had almost the same proportion of trips. In a similar survey conducted in 1998, Holland et al. (1999) found species targeted by Florida charter boat operators were king mackerel (41%), grouper (~37%), snapper (~34%), cobia (25%), and Spanish mackerel (20%). For the rest of the Gulf, Sutton et al. (1999) using the same survey reported that the majority of charter boats targeted snapper (91%), king mackerel (89%), cobia (76%), and tuna (55%).

Long-term recreational landings for the five reef fish species considered in this amendment can be found in Section 2.2. Table 3.1.4 shows recent charter vessel landings for each species.

Table 3.1.4. Recent charter vessel landings (in pounds) for five species of reef fish.

Species	Year	Landings	Species	Year	Landings
Red Snapper	2012	1,515,243	Gag	2012	386,935
	2013	1,111,709		2013	165,327
	2014	184,589		2014	110,067
	2015	1,573,451		2015	142,425
	2016	1,616,241		2016	151,336
Greater Amberjack	2012	654,564	Red Grouper	2012	515,818
	2013	640,962		2013	831,906
	2014	515,791		2014	522,126
	2015	822,126		2015	914,374
	2016	603,536		2016	435,625
Gray Triggerfish	2012	56,101			
	2013	90,606			
	2014	36,176			
	2015	5,549			
	2016	175,726			

Source: Source: MRIP APAIS Adjusted SEFSC Recreational ACL Data (1986-2012), mrcat_rsnap81_13_01Dec14_APAISadjustedRedSnapper, MRIPACLspec_rec81_17wv4_22Nov17_w14and16LACreel, MRFSSassess_rec81_17wv4_22Nov17\MRFSSassess_rec81_17wv4_22Nov17_w14to16LACreel.xlsx.

Red snapper landings decreased substantially in 2014 because the federal recreational fishing season was only 9 days (Table 3.1.5). In 2015, the for-hire component was given a separate quota from the private angling component (GMFMC 2014a); consequently, the length of the for-hire fishing season increased in 2015 and 2016 similar to the length of the fishing seasons during 2011-2013.

-0=

Table 3.1.5. Length of state and federal red snapper recreational seasons in days. Separate seasons were set for private and for-hire vessels beginning in 2014.

Year	State Seasons					Federal Season		
	FL	AL	MS	LA	TX	Rec	Private	For-hire
2012	46	46	46	46	365	46		
2013	58	42	42	113	365	42		
2014	52	21	36	286	365	9		
2015	70	41	118	215	365		10	44
2016	85	66	102	279	365		11	46

Fluctuations in greater amberjack landings are the result of accountability measures. In 2013, landings exceeded the ACL; therefore, the 2014 ACL was reduced by the amount of the overage. In 2015, the ACL went back to the original amount, and once again landings exceeded the ACL requiring an ACL reduction in 2016.

In 2013, an overage adjustment for gray triggerfish was implemented. The result was decreasing quotas for subsequent years, leading to decreasing landings. The overage in 2016 was large enough to keep triggerfish recreational fishing closed for all of 2017 in federal waters.

Gag landings have decreased in recent years and have reached 50% or less of the recreational ACL for the past three years. A stock assessment update in 2016 indicated the Gulf gag stock is not overfished.

Red grouper landings have fluctuated in the past 5 years; however, landings have remained at or below the ACL, and no overage adjustment has been necessary during that time.

3.2 Description of the Physical Environment

The Gulf has a total area of approximately 600,000 square miles (1.5 million km²), 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 3.2.1). 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 Feckhelm 2005). Gulf water temperatures range from 54° F to 84° F (12° C to 29° C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73 ° F through 83° F (23-28° C) including bays and bayous (Figure 3.1.1) between 1982 and 2009, according to satellite-derived measurements (NODC 2011¹⁰). In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

The physical environment for Gulf reef fish is also detailed in the final environmental impact statements (EIS) for the Generic Essential Fish Habitat (EFH) Amendment, the Generic Annual

¹⁰ <http://accession.nodc.noaa.gov/0072888>

Catch Limits/Accountability Measures (ACL/AM) Amendment, and Reef Fish Amendment 40 (refer to GMFMC 2004; GMFMC 2011a; GMFMC 2014a) and are incorporated by reference and further summarized below. In general, reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. A planktonic larval stage 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, juvenile red snapper are common on mud bottoms in the northern Gulf, particularly off Texas through Alabama. Also, some grouper (e.g., goliath, red, gag, and yellowfin groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems.

With respect to the National Register of Historic Places, there is one site listed in the Gulf. This is the wreck of the *U.S.S. Hatteras*, located in federal waters off Texas. Historical research indicates that over 2,000 ships have sunk on the Federal Outer Continental Shelf in the Gulf 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.¹¹

¹¹ Further information can be found at: <http://www.boem.gov/Environmental-Stewardship/Archaeology/Shipwrecks.aspx>.

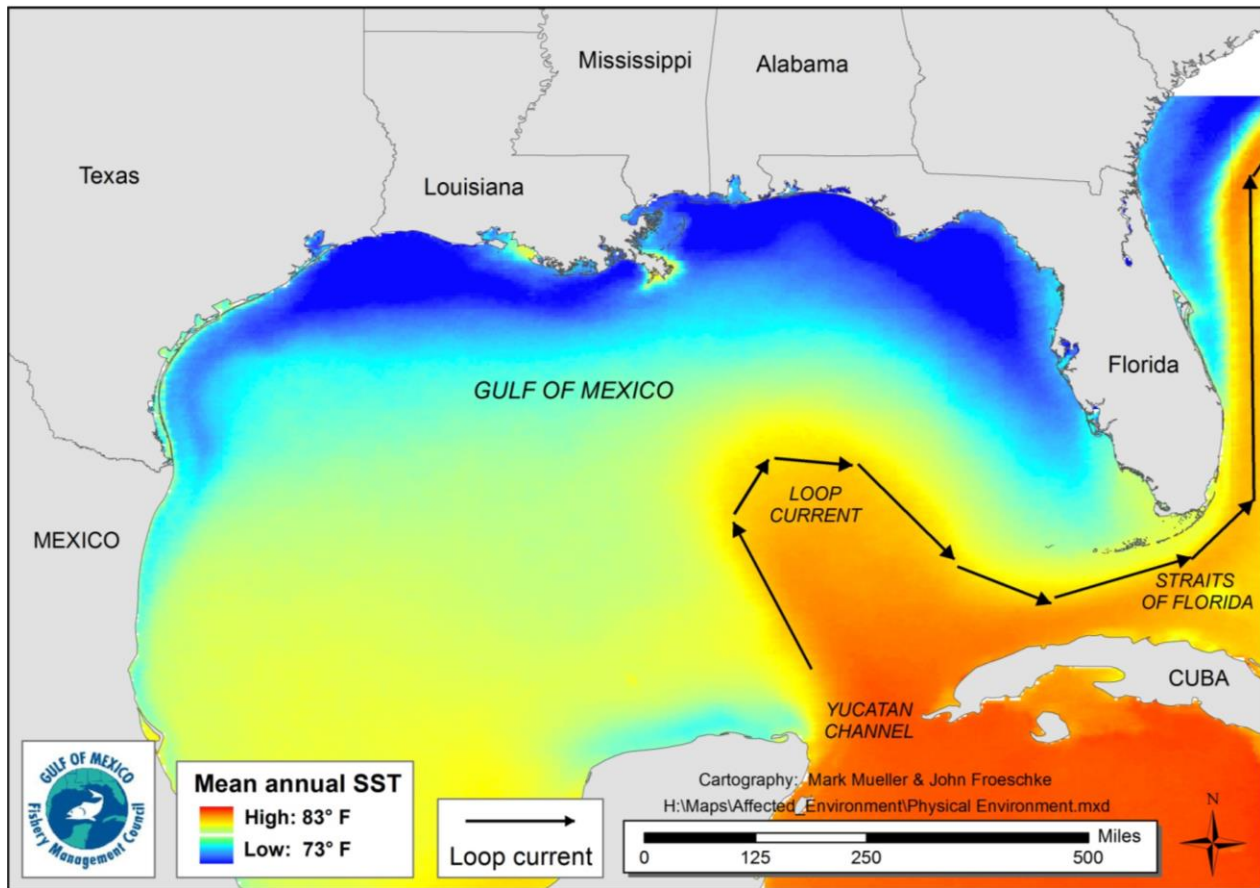


Figure 3.2.1. Physical environment of the Gulf, including major feature names and mean annual sea surface temperature as derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (<http://accession.nodc.noaa.gov/0072888>)

3.3 Description of the Biological Environment

3.3.1 Information on Reef Fish Species

Reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. Habitat types and life history stages can be found in more detail in Amendment 23 (GMFMC 2004c). In general, both eggs and larval stages are planktonic. Larval fish feed on zooplankton and phytoplankton. Gray triggerfish and gray snapper are exceptions, to this generalization as gray triggerfish lay their eggs in nests on the sandy bottom (Simmons and Szedlmayer 2012) and gray snapper larvae are found around submerged aquatic vegetation. Juvenile and adult reef fish are typically demersal, and are usually associated with bottom topographies on the continental shelf (less than 328 feet; 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. Juvenile red snapper are common on mud bottoms in the northern Gulf, particularly from Texas to Alabama. Also, some juvenile snappers (e.g., mutton, gray, red, dog, lane, and yellowtail snappers) and groupers (e.g., goliath grouper, red, gag, and yellowfin

groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems (GMFMC 1981). More detail on hard bottom substrate and coral can be found in the FMP for Corals and Coral Reefs (GMFMC and SAFMC 1982).

Status of Reef Fish Stocks

The Reef Fish FMP currently encompasses 31 species (Table 3.3.1). Eleven other species were removed from the FMP in 2012 through the Generic ACL/AM Amendment (GMFMC 2011a). The NMFS Office of Sustainable Fisheries updates its Status of U.S. Fisheries Report to Congress¹² on a quarterly basis utilizing the most current stock assessment information. Stock assessments and status determinations have been conducted and designated for 12 stocks and can be found on the Council¹³ and Southeast Data, Assessment, and Review (SEDAR)¹⁴ websites (Table 3.3.2). Of the 12 stocks for which stock assessments have been conducted, the fourth quarter report of the 2017 Status of U.S. Fisheries classifies one as overfished (greater amberjack) and two as undergoing overfishing (greater amberjack and gray triggerfish).

A stock assessment for Atlantic goliath grouper has been conducted, but upon review by the Scientific and Statistical Committee (SSC), the assessment was deemed not suitable for stock status and management advice (Table 3.3.3). Stock assessments were conducted for seven stocks using the Data Limited Methods Toolkit (DLMTToolkit) although only lane snapper was able to have overfishing limit (OFL) and annual biological catch (ABC) limits set based on the limited data (Table 3.3.4).

The status of both assessed and unassessed stocks, as of the writing of this report is provided in Table 3.3.1. However, it should be noted that greater amberjack, gray triggerfish, and red snapper are under rebuilding plans. Reef fish Amendment 44 (GMFMC 2017b), implemented December 21, 2017 modified the minimum stock size threshold for seven species in the FMP. Based on the fourth quarter report of the 2017 Status of U.S. Fisheries, red snapper and gray triggerfish are not overfished but rebuilding, because the biomass for the stock is currently estimated to be greater than 50% of B_{MSY} . The greater amberjack stock will remain classified as overfished.

¹² <https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates>

¹³ www.gulfcouncil.org

¹⁴ <http://sedarweb.org/>

Table 3.3.1. Status of species in the Reef Fish FMP grouped by family.

Common Name	Scientific Name	Stock Status
Family Balistidae – Triggerfishes		
gray triggerfish	<i>Balistes capriscus</i>	Not overfished, overfishing
Family Carangidae – Jacks		
greater amberjack	<i>Seriola dumerili</i>	Overfished, overfishing
lesser amberjack	<i>Seriola fasciata</i>	Unknown if overfished, no overfishing
almaco jack	<i>Seriola rivoliana</i>	Unknown if overfished, no overfishing
banded rudderfish	<i>Seriola zonata</i>	Unknown
Family Labridae – Wrasses		
*hogfish	<i>Lachnolaimus maximus</i>	Not overfished, no overfishing
Family Malacanthidae – Tilefishes		
tilefish (golden)	<i>Lopholatilus chamaeleonticeps</i>	Not overfished, no overfishing
blueline tilefish	<i>Caulolatilus microps</i>	Unknown
goldface tilefish	<i>Caulolatilus chrysops</i>	Unknown
Family Serranidae – Groupers		
gag	<i>Mycteroperca microlepis</i>	Not overfished, no overfishing
red grouper	<i>Epinephelus morio</i>	Not overfished, no overfishing
scamp	<i>Mycteroperca phenax</i>	Unknown
black grouper	<i>Mycteroperca bonaci</i>	Not overfished, no overfishing
yellowedge grouper	** <i>Hyporthodus flavolimbatus</i>	Unknown if overfished, no overfishing
snowy grouper	** <i>Hyporthodus niveatus</i>	Unknown if overfished, no overfishing
speckled hind	<i>Epinephelus drummondhayi</i>	Unknown if overfished, no overfishing
yellowmouth grouper	<i>Mycteroperca interstitialis</i>	Unknown if overfished, no overfishing
yellowfin grouper	<i>Mycteroperca venenosa</i>	Unknown
warsaw grouper	** <i>Hyporthodus nigrilus</i>	Unknown if overfished, no overfishing
***Atlantic goliath grouper	<i>Epinephelus itajara</i>	Unknown if overfished, no overfishing
Family Lutjanidae – Snappers		
queen snapper	<i>Etelis oculatus</i>	Unknown if overfished, no overfishing
mutton snapper	<i>Lutjanus analis</i>	Not overfished, no overfishing
blackfin snapper	<i>Lutjanus buccanella</i>	Unknown if overfished, no overfishing
red snapper	<i>Lutjanus campechanus</i>	Not overfished, no overfishing
cubera snapper	<i>Lutjanus cyanopterus</i>	Unknown if overfished, no overfishing
gray snapper	<i>Lutjanus griseus</i>	Unknown if overfished, no overfishing
lane snapper	<i>Lutjanus synagris</i>	Unknown if overfished, no overfishing
silk snapper	<i>Lutjanus vivanus</i>	Unknown
yellowtail snapper	<i>Ocyurus chrysurus</i>	Not overfished, no overfishing
vermilion snapper	<i>Rhomboplites aurorubens</i>	Not overfished, no overfishing
wenchman	<i>Pristipomoides aquilonaris</i>	Unknown if overfished, no overfishing

Notes: *The East Florida/Florida Keys hogfish stock is considered overfished and undergoing overfishing.

**In 2013 the genus for yellowedge grouper, snowy grouper, and warsaw grouper was changed by the American Fisheries Society from *Epinephelus* to *Hyporthodus* (American Fisheries Society 2013).

***Atlantic goliath grouper is a protected grouper and benchmarks do not reflect appropriate stock dynamics. In 2013 the common name was changed from goliath grouper to Atlantic goliath grouper by the American Fisheries Society to differentiate from the Pacific goliath grouper, a newly named species (American Fisheries Society 2013).

Table 3.3.2. Reef fish stock that have assessments and accepted status determinations.

Stock	Stock Status		Most Recent SSC Determination	Most Recent Stock Assessment
	Overfishing	Overfished		
black grouper	N	N	Mar 2010	SEDAR 19 2010
yellowedge grouper	N	N	May 2011	SEDAR 22 2011b
tilefish (golden)	N	N	May 2011	SEDAR 22 2011a
yellowtail snapper	N	N	Oct 2012	SEDAR 27A 2012
red snapper	N	N	Jan 2015	SEDAR 31 Update 2015
hogfish	N	N	Oct 2014	SEDAR 37 2013
mutton snapper	N	N	May 2015	SEDAR 15A Update 2015
gray triggerfish	Y	N	Jan 2016	SEDAR 43 2015
red grouper	N	N	Jan 2016	SEDAR 42 2015
vermillion snapper	N	N	Jun 2016	SEDAR 45 2016
gag	N	N	Jan 2017	SEDAR 33 Update 2016b
greater amberjack	Y	Y	Mar 2017	SEDAR 33 Update 2016a

A stock assessment has been conducted for Atlantic Goliath grouper (Table 3.3.3). The Council's SSC accepted the assessment's general findings that the stock was not overfished nor experiencing overfishing. The Atlantic Goliath grouper assessment was deemed not suitable for stock status and management advice but was determined to not be experiencing overfishing based on annual harvest remaining below the OFL. There has been no assessment-based status determination.

Table 3.3.3. Reef fish stocks deemed unsuitable by the SSC for stock status and management advice.

Stock	Stock Status		Most Recent SSC Determination	Most Recent Stock Assessment
	Overfishing	Overfished		
Atlantic goliath grouper	N	unknown	Sep 2016	SEDAR 47 2016

For SEDAR 49, data limited methods were attempted for seven reef fish stocks listed in Table 3.3.4. This method allows the setting of OFL and ABC based on limited data and life history information, but does not provide assessment-based status determinations. Data were requested for the following stocks but it was determined not enough information was available to complete an assessment even using the DLMToolkit. These stocks are not experiencing overfishing based on annual harvest remaining below the OFL, but no overfished status determination has been made (Table 3.3.4). Lane snapper was the only stock with adequate data to be assessed using the DLMToolkit methods resulting in OFL and ABC recommendations by the SSC.

Table 3.3.4. Data limited assessments were attempted for the seven reef fish stock below, but no stock status determinations were made.

Stock	Stock Status		Most Recent SSC Determination	Most Recent SSC Workshop
	Overfishing	Overfished		
lane snapper	N	unknown	Mar 2017	SEDAR 49 2016
wenchman	N	unknown	Mar 2017	SEDAR 49 2016
almaco jack	N	unknown	Mar 2017	SEDAR 49 2016
lesser amberjack	N	unknown	Mar 2017	SEDAR 49 2016
speckled hind	N	unknown	Mar 2017	SEDAR 49 2016
snowy grouper	N	unknown	Mar 2017	SEDAR 49 2016
yellowmouth grouper	N	unknown	Mar 2017	SEDAR 49 2016

Red Snapper Life History and Biology

Red snapper demonstrate the typical reef fish life history pattern. Eggs and larvae are pelagic while juveniles are found associated with bottom features or over barren bottom. Spawning occurs over firm sand bottom with little relief away from reefs during the summer and fall. Females mature as early as 2 years and most are mature by 4 years (Schirripa and Legault 1999). Red snapper have been aged up to 57 years. Until 2013, most red snapper caught by the directed fishery were 2 to 4 years old, but the SEDAR 31 benchmark stock assessment suggested that the age and size of red snapper in the directed fishery has increased (SEDAR 31 2013). A more complete description of red snapper life history can be found in the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2004).

Status of the Red Snapper Stock

SEDAR 31 Benchmark Stock Assessment

Commercial harvest of red snapper from the Gulf began in the mid-1800s (Shipp and Bortone 2009). In the 1930s, party boats built exclusively for recreational fishing began to appear (Chester 2001). The first stock assessment conducted by NMFS in 1986 suggested that the stock was in decline (Parrack and McLellan 1986) and since 1988, the stock biomass has been below threshold levels (Goodyear 1988).

The most recent benchmark red snapper stock assessment was completed in 2013 (SEDAR 31 2013). The primary assessment model selected for the Gulf red snapper stock assessment was Stock Synthesis (Methot 2010). Stock Synthesis is an integrated statistical catch-at-age model which is widely used for stock assessments in the United States and throughout the world. Commercial landings data included commercial handline and longline landings from the accumulated landings system (ALS) from 1964 through 2011. For landings between 1880 and 1963, previously constructed historical landings were used. Total annual landings from the commercial IFQ program for years 2007-2011 were used to reapportion 2007-2011 ALS data across strata. Recreational landings data included the Marine Recreational Information Program (MRIP)/Marine Recreational Fishery Statistics Survey from 1981-2011, SRHS for 1981-2011, and Texas Parks and Wildlife Department (TPWD) survey. For the years 2004-2011, MRIP landings are available. For earlier years, Marine Recreational Fishery Statistics Survey data

were calibrated to MRIP estimates using a standardized approach for calculating average weight that accounts for species, region, year, state, mode, wave, and area.

Standardized indices of relative abundance from both fishery dependent and independent data sources were included in the model. The fishery dependent indices came from the commercial handline fleet, recreational headboats, and recreational private angling/federal for-hire components. Fishery independent indices came from the Southeast Area Monitoring and Assessment Program (SEAMAP) bottom trawl survey, SEAMAP reef fish video survey, NMFS bottom longline survey, and the SEAMAP plankton survey.

Red snapper discards in the Gulf were calculated from data collected by the self-reported commercial logbook data and the NMFS Gulf reef fish observer program. In addition to these directed fisheries discards, estimates of red snapper bycatch from the commercial shrimp fleet were also included.

The results of the SEDAR 31 assessment, including an assessment addendum that was prepared after a review of the SEDAR Assessment Panel Report by the SEDAR Review Panel, was presented to the SSC in May 2013. Under the base model, it was estimated that the red snapper stock has been overfished since the 1960s.

Recent stock status was estimated relative to two possible proxies for F_{MSY} : $F_{SPR26\%}$ (i.e., the fishing mortality rate that would produce an equilibrium spawning potential ratio [SPR] of 26%) and F_{MAX} , which corresponded to $F_{SPR20.4\%}$ (i.e., the fishing mortality rate that would produce an equilibrium SPR 20.4%). A proxy of $F_{SPR26\%}$ was previously used as the overfishing and F_{MSY} proxy in SEDAR 7 (2005) and the SEDAR 7 update assessment (2009). F_{MAX} was evaluated as an alternative proxy because at spawner-recruit steepness values near 1.0, such as the value of 0.99 fixed in the red snapper assessment, F_{MAX} approximates the actual estimate of F_{MSY} . However, the actual estimate of F_{MSY} is sensitive to the parameters of the spawner-recruit relationship. The SSC did not have confidence in using the direct F_{MSY} estimate because the spawner-recruit function is poorly estimated and data exist for a very limited range of potential spawning stock biomass (SSB) values for the stock. In addition, the SSC felt that the equivalent SPR for F_{MAX} (20.4%) was inappropriately low for species with life history parameters similar to red snapper. The SSC felt that the $F_{SPR26\%}$ proxy, while still somewhat low for species with life history parameters similar to red snapper, was more realistic than the 20.4% SPR associated with F_{MAX} . Furthermore, the $F_{SPR26\%}$ proxy is consistent with the current fishery management plan (FMP) and rebuilding plan for red snapper.

SSB was estimated to remain below both the minimum stock size threshold (MSST) and the spawning stock size associated with maximum sustainable yield ($SSB_{MSY\text{ proxy}}$) using either proxy described above. Therefore, the SSC concluded that the stock remains overfished. With respect to overfishing, the current fishing mortality rate (geometric mean of 2009-2011) was estimated to be below both F_{MSY} proxies. Therefore, the SSC estimated the stock was not experiencing overfishing as of 2011.

SEDAR 31 Update Assessment

In January 2015, NMFS presented an update of the SEDAR 31 assessment to the SSC (GMFMC 2015). The methods used were the same as SEDAR 31, except for instances when the assessment team was responding to specific terms of reference from the Council. The SEDAR 31 red snapper base model was used with data updated through 2013. Recreational catch data was adjusted using methods from the September 2014 MRIP Calibration workshop and the rescaled MRIP landings were used. A selectivity block (2011-2013) was applied on all recreational fleets to accommodate recent changes in fishing behavior that indicated a shift in selectivity to older (heavier) fish in recent years. The revised recreational landings were generally 10% to 20% higher than in SEDAR 31, but the revised discards also showed proportionately higher rates than in SEDAR 31. The results of the update assessment indicated that Gulf-wide, the stock biomass estimates are continuing to increase, but remain below the management target of 26% SPR. Stock biomass is continuing to increase in the western Gulf, but in the eastern Gulf, stock biomass estimates have shown a slight downward trend in recent years, which resulted from strong year-classes exiting the stock, as well as recent low recruitment estimates.

The combined east and west stock biomass estimates, while increasing, remain below the MSST, indicating that the stock remains in an overfished condition. However, estimated fishing mortality remains below the maximum fishing mortality threshold, indicating that overfishing was not occurring as of 2013.

Greater Amberjack Life History and Biology

Seasonal Aspects of Reproduction

Studies conducted in the Gulf have estimated that peak spawning occurs during the months of March and April (Wells and Rooker 2002; Murie and Parkyn 2008). There is also evidence for separate and limited connectivity of the greater amberjack population structure within the Gulf, where the northern Gulf population does not appear to mix often with the Florida Keys population (Gold and Richardson 1998, Murie et al. 2011).

Early studies on greater amberjack conducted in south Florida indicated that maximum gonad development occurred in the spring months (Burch 1979) although larvae and small juveniles were reported year round in the entire Gulf (Aprieto 1974). Harris et al. (2007) provided information on reproduction in the southeastern U.S. Atlantic using fishery-dependent and fishery-independent samples from 2000 - 2004. Greater amberjack in spawning condition were captured from North Carolina to the Florida Keys; however, spawning was concentrated in areas off south Florida and the Florida Keys. Harris et al. (2007) documented evidence of spawning from January - June with peak spawning during April and May within this area. They estimated a spawning season of approximately 73 days off south Florida, with a spawning period of 5 days, and that an individual female could spawn as frequently as 14 times during the season. Wells and Rooker (2002) conducted studies in the northwestern Gulf on larval and juvenile fish associated with floating *Sargassum* spp. Based on the size and season when larvae and juvenile greater amberjack were captured, they suggested peak spawning season occurred in March and

April although they did find that peak spawning began as early as February off Texas. Murie and Parkyn (2008) provided updated information on reproduction of greater amberjack throughout the Gulf using fishery-dependent as well as fishery-independent data from 1989-2008 (it is important to note that fishery-dependent sampling has not been year round). They reported peak spawning occurring during March and April, and by May, they documented low gonad weights indicating spawning was ending.

Status of the Greater Amberjack Stock

Secretarial Amendment 2 (GMFMC 2002) to the Reef Fish FMP established a rebuilding plan for Gulf greater amberjack (*Seriola dumerili*) based on a stock assessment conducted in 2000 (Turner et al. 2000). The Turner et al. (2000) assessment determined the greater amberjack stock to be overfished and undergoing overfishing as of 1998. Management measures were implemented in January 1997 to reduce the recreational bag limit from three fish to one fish per person per day. In January 1998, a March through May commercial season closure was implemented; however, this closure was not incorporated into the 2000 stock assessment. The projected effects of these management measures were expected to eliminate overfishing; therefore, no new management measures to further restrict effort were implemented. This rebuilding plan was implemented in 2002, and the management measures were expected to rebuild the greater amberjack stock within 7 years (by 2009), well within the maximum time frame of 10 years (by 2012) as specified by the Magnuson-Stevens Act.

In 2006, a SEDAR update stock assessment was completed that determined the greater amberjack stock was not recovering at the rate previously projected. The stock continued to be overfished and was experiencing overfishing (SEDAR 9 2006b). The Council and NMFS developed and implemented Amendment 30A in 2008 in response to the stock assessment results and the requirement to end overfishing and rebuild the stock by 2012 (GMFMC 2008a). The minimum reduction required to rebuild the stock by 2012 was 40% of current fishing mortality. The total allowable catch (TAC) implemented by the final rule for Amendment 30A was 1,871,000 lbs whole weight (ww) for 2008 through 2010 (GMFMC 2008a). Amendment 30A also established quotas for the recreational and commercial sectors equal to 1,368,000 and 503,000 lbs ww, respectively. Amendment 30A also required sector-specific accountability measures (AMs) such that if either sector exceeded its allocated portion of the TAC, the Regional Administrator (RA) would close that sector for the remainder of the year. Additionally, if a sector's landings exceed that sector's share of the TAC, the RA would reduce the fishing season by the amount of time necessary to account for the overage in the following fishing year.

A 2010 update stock assessment also determined that the stock remained overfished and was continuing to experience overfishing. In December 2012, Amendment 35 (GMFMC 2012c) set the ACLs equal to the acceptable biological catch (ABC) and reduced the commercial ACLs, (previously called the TAC), to 1,780,000 lbs ww in an effort to end overfishing and rebuild the stock. The recreational ACL was set at 1,299,000 lbs ww, and a commercial ACL was set at 481,000 lbs ww, based on the sector allocation (73% recreational, 27% commercial) established in Amendment 30A (GMFMC 2008a). Annual catch targets (ACTs) (equivalent to quotas for greater amberjack) were established at 1,130,000 lbs ww for the recreational sector and 409,000 lbs ww for the commercial sector.

A greater amberjack stock assessment (SEDAR 33 2014) was completed and reviewed by the Council's SSC at its June 2014 meeting. The SSC used the ABC Control Rule to recommend the following ABCs for a time period of four years, beginning in 2015, equivalent to 75% of maximum fishing mortality threshold (MFMT), to end overfishing and rebuild the stock.

In 2015, the Council developed a framework action to reduce the ACL from 1,780,000 lbs ww to the SSC's ABC recommendation of 1,720,000 lbs ww, from 2015 through 2018. These new catch levels were implemented in a final rule that was effective on January 4, 2016. However, the most recent ABC recommendation from the SSC exceeds the current OFL established in the 2016 framework action and requires modification to end overfishing and rebuild the stock.

In 2016, the greater amberjack stock assessment update to SEDAR 33 was completed and reviewed by the SSC at its March 2017 meeting. The SSC accepted the greater amberjack update assessment as the best scientific information available and concluded that greater amberjack was still overfished and undergoing overfishing and the stock would not be rebuilt by 2019 as previously projected. The SSC provided new annual OFLs and ABCs for a period of three years, beginning in 2018, equivalent to yield at 75% of the MFMT, based on the results of the update assessment. The results also indicated that Gulf greater amberjack had been overfished in all years since 1987 and has been undergoing overfishing since 1985. These results are generally consistent with the SEDAR 33 benchmark assessment. However, the update assessment produced lower estimates of spawning stock biomass and higher estimates of fishing mortality in the most recent years.

Gray Triggerfish Life History and Biology

There have been relatively few age and growth studies on gray triggerfish; however, this species is estimated to live up to 11 years, with 16 being the maximum age recorded (Hood and Johnson 1997; Wilson et al. 1995; Ingram 2001; Panama City National Marine Fisheries Service (NMFS) Database, accessed 2012). Gray triggerfish is estimated to grow rapidly within the first year of life then growth slows for both sexes combined (Hood and Johnson 1997; Ingram 2001; Wilson et al. 1995; SEDAR 9 2006a). The maximum length of gray triggerfish recorded was 27-28 inches fork length (697-725 mm FL) by Hood and Johnson (1997) and samples processed from 2003 through 2010 at the Panama City Laboratory from both fishery-dependent and fishery-independent samples in the Gulf. The maximum weight documented from the Panama City NMFS Database, accessed in 2012, was 13.8 lbs gutted weight (6.26 kg gw). Male gray triggerfish reach significantly larger sizes than females (Hood and Johnson 1997; Ingram 2001; Simmons and Szedlmayer 2012).

Gray triggerfish spawn as early as May and as late as August, with peak spawning in June and July in the Gulf and South Atlantic Bight (Wilson et al. 1995; Hood and Johnson 1997; Ingram 2001; Moore 2001; Simmons and Szedlmayer 2012). Both sexes are reproductively mature by age-2, 10 inches FL (250 mm FL). At this size (~10-inches FL), some males are age-1 and all females are age-2 (Wilson et al. 1995; Ingram 2001). Male and female gray triggerfish have a combination of atypical spawning behaviors compared to most marine fishes (i.e., pelagic broadcast spawners) managed by the Council. Male gray triggerfish establish territories, build

demersal nests, and form harems (one male and several females) during the spawning season (Simmons and Szedlmayer 2012). Gray triggerfish form harems 50% of the time at sites with active nests, a mean sex ratio of 1:4.2 male to females on the reef, while at other reefs without spawning (lack of active nests) the mean sex ratio is 1:1.3 male to females. After fertilization of the eggs, female gray triggerfish provide parental care of the eggs (Figure 3.1.1), while the male defends his territory and courts other female gray triggerfish on the reef (Simmons and Szedlmayer 2012).

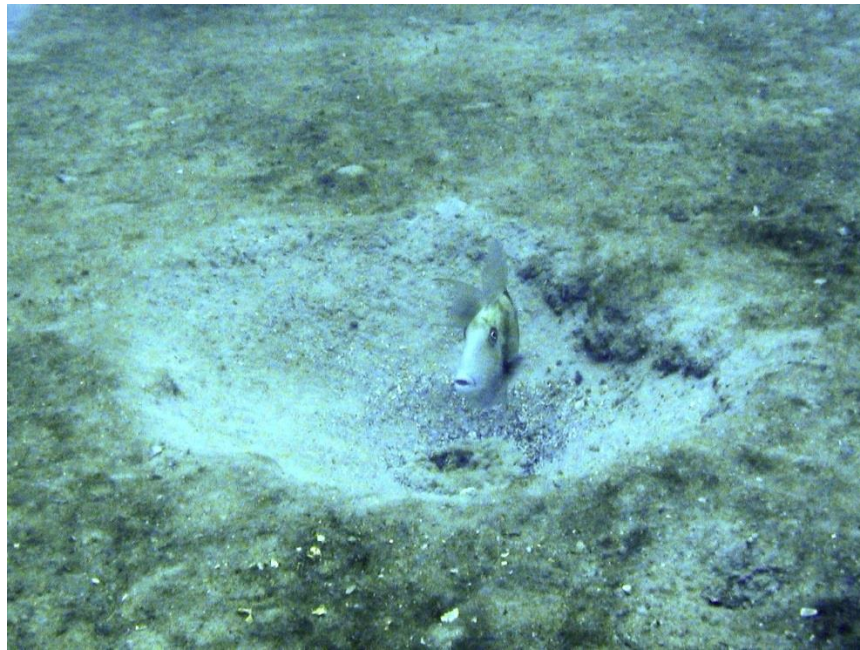


Figure 3.3.1. Underwater photograph of a female gray triggerfish guarding eggs in a nest in the northern Gulf of Mexico.

Source: Simmons and Szedlmayer 2012.

The eggs are small average size (0.62 mm) and laid in a gelatinous matrix in the bottom of the nest. Eggs hatch 24 to 48 hours after fertilization and gray triggerfish larvae move up into the water column (Simmons and Szedlmayer 2013). Large numbers of larval and juvenile gray triggerfish are found associated with *Sargassum* spp. mats in late summer and fall (Dooley 1972; Fahay 1975; Bortone et al. 1977; Wells and Rooker 2004). After 4 to 7 months in the pelagic zone, juvenile gray triggerfish recruit to benthic substrate (Simmons and Szedlmayer 2011). Adult gray triggerfish are closely associated with both natural and artificial reefs (Johnson and Saloman 1984; Frazer and Lindberg 1994; Vose and Nelson 1994; Kurz 1995; Ingram 2001; Lingo and Szedlmayer 2006; Simmons and Szedlmayer 2011). Diet studies on juvenile and adult gray triggerfish, after recruitment to benthic structure, determined they consume a wide variety of invertebrates such as: barnacles, bivalves, polychaetes, crustaceans, echinoderms, and isopods (Vose and Nelson 1994; Kurz 1995). Adult gray triggerfish (mean size tagged = 13.6 inches FL (347 mm FL)) are estimated to have high site fidelity (Ingram and Patterson 2001). In a mark-recapture study completed in the northern Gulf, 28 out of the 42 recaptures were made at the site of release (n = 206 tagged gray triggerfish; Ingram and Patterson 2001). Herbig and Szedlmayer (2016) recently completed an internal transmitter tagging paper on gray triggerfish and found that adult gray triggerfish have 64% site fidelity, staying close to the reef ((35.9 m

(108 ft); n=13)) and have high reef residency (greater than 57 weeks). Core area movements were reduced in the winter (January through May) and increase in June at the start of the spawning season; however, the greatest movement was documented during the months after spawning from September through November (Herbig and Szedlmayer 2016). This daytime movement may be due to foraging and then resting at night in the reef, potentially for protection from predators. (Herbig and Szedlmayer 2016). This behavior has been documented for other species of Balistidae.

Stock Status Gray Triggerfish

A standard assessment (SEDAR 43 2015) of Gulf gray triggerfish was completed and reviewed by the SSC in October 2015. The assessment indicated that gray triggerfish was no longer undergoing overfishing, but remains overfished. On November 2, 2015, NMFS notified the Council that the gray triggerfish stock was not making adequate progress toward rebuilding. Within 2 years of this notification, the Council must prepare and implement a plan amendment or proposed regulations for a plan to rebuild the stock as quickly as possible, but not to exceed 10 years. The Council developed a rebuilding plan in 2017 and it is slated for implementation in January 16, 2018.

A benchmark stock assessment was conducted in October 2006 for the Gulf gray triggerfish stock (SEDAR 9 2006a). The assessment used the two scenarios of a Stock Production Model Incorporating Covariates and the State-Space Age-Structured Production Model (SSASPM). The assessment results indicated the stock was both overfished and experiencing overfishing (SEDAR 9 2006a). In October 2006, NMFS notified the Council that the gray triggerfish stock was overfished and experiencing overfishing. This required that the Council take action to end overfishing and develop a rebuilding plan.

In response, the Council submitted Reef Fish Amendment 30A (GMFMC 2008a) that established a stock rebuilding plan beginning in 2008 as required by the Magnuson-Stevens Act.

An update stock assessment was conducted for Gulf gray triggerfish in 2011 (SEDAR 9 Update 2011b). The SSASPM from the 2006 gray triggerfish benchmark assessment (SEDAR 9 2006a) was applied and three scenarios were explored: 1) re-run the same model but with updated landings, catch-per-unit-effort series including 2010, and updated indices of abundance; 2) additional updated age-length information; and 3) updated shrimp trawl bycatch and effort data.

The Council's SSC reviewed the 2011 update assessment and accepted the second and third model scenarios listed above that used the updated age and length data, and the shrimp trawl bycatch and effort data. At that time the status determination criteria and the estimated rebuilding timeframes were based on future recruitment adhering to the MSY proxy. The MSY proxy is defined as the fishing mortality rate at 30% spawning potential ratio ($F_{30\% SPR}$). Future yields are normally based on recruitment projections that depend in part on the spawner-recruit curve developed in the assessment. At the time the update assessment was completed, gray triggerfish recruitment had been at low levels relative to the spawner-recruit curve (SEDAR 9 Update 2011b). The reason for low recruitment was unknown. Further, it was unknown whether recruitment in the near future will remain at these low levels or revert back to the levels

projected by the spawner-recruit curve. At that time, the SSC set the ABC based on a low recruitment time period (i.e., 2005 through 2009) for 2012 and 2013 of 305,300 lbs ww¹⁵. The corresponding OFL defined by the SSC was the yield at $F_{30\%SPR}$, equal to 401,600 lbs ww for these years. Results from the update assessment showed that the gray triggerfish stock was continuing to experience overfishing and the stock was overfished. In a March 2012 letter, NMFS informed the Council that the gray triggerfish stock was continuing to experience overfishing and was not making adequate progress to recover within the specified rebuilding period (NMFS 2012). In response to this letter, the Council requested an interim rule for gray triggerfish be prepared for its April 2012 meeting that would reduce the recreational ACL to 241,200 lbs ww and the recreational ACT to 217,100 lbs ww. The commercial ACL was reduced to 64,100 lbs ww and the commercial ACT (quota) was reduced to 60,900 lbs ww. The interim rule also established in-season closure authority for the recreational sector based on the ACT. Therefore, if the recreational gray triggerfish ACT is reached or projected to be reached within a fishing year, the Assistant Administrator for Fisheries can close the recreational sector from harvesting gray triggerfish for the rest of the year (78 FR 27084). Amendment 30A (GMFMC 2008a) had already established in-season closure authority for the commercial sector based on the ACT (quota). Following implementation of the interim rule in May 2012, the recreational sector was closed on June 11 and the commercial sector was closed on July 1. The interim rule reduced fishing levels until long-term management measures were implemented through Amendment 37. On June 10, 2013, NMFS implemented Amendment 37 (GMFMC 2012a).

Red Grouper Life History and Biology

In the Gulf, red grouper are commonly caught from Panama City, Florida, to the Florida Keys along the inner to mid-continental shelf in depths ranging from 2 to over 120 m (Moe 1969). Based on reported commercial landings, the Southeast Fishery Science Center's (SEFSC) Headboat Survey, and the Marine Recreational Fisheries Statistics Survey (MRFSS), red grouper are infrequently caught in the western Gulf. The species inhabits flat rock perforated with solution holes, caverns and crevices of limestone reef, and hard bottom areas (Moe 1969; Bullock and Smith 1991). Juveniles live in shallow water nearshore reefs until reaching approximately 16 inches (40 cm), when they become sexually mature and move offshore (Moe 1969). Red grouper reach a maximum length and weight of 43 inches (110 cm total length) and 50.7 pounds (23 kg) (Robins et al. 1986). Maximum age of red grouper in the Gulf of Mexico has been estimated at 25 years (SEDAR 12 2007). Clear determinations of size and age of maturity have been difficult for red grouper (Fitzhugh et al. 2006 and references cited therein). Fitzhugh et al. (2006) determined the size and age where 50% of individuals attained maturity was approximately 11 inches (28 cm total length) at age 2. Although previous estimates indicated that 50% of red grouper were mature by 5 years of age and 15-20 inches total length (40-50 cm total length) (Moe 1969; Collins et al. 2002). Red grouper are protogynous hermaphrodites, transitioning from females to males at older ages, and form harems for spawning (Dormeier and Colin 1997). Age and size at sexual transition is approximately 10.5 years and 30 inches total length (TL) (76.5 cm TL) (Fitzhugh et al. 2006). Red grouper spawn from February until mid-July with peak spawning occurring in the eastern Gulf of Mexico during

¹⁵ http://gulfcouncil.org/resources/SSC_Reports.php

March through May (Fitzhugh et al. 2006). Over the last 25-30 years, there has been little change in the sex ratio of red grouper, likely because they do not aggregate (Coleman et al. 1996).

Status of the Red Grouper Stock

The most recent benchmark stock assessment for red grouper (SEDAR 12 2007) was completed in early February 2007. The assessment used the Age-Structured Assessment Program model (ASAP) (Legault and Restrepo 1999) that was the basis for the 2002 assessment and included data from 1986 through 2005. Approximately 99% of the landings were from the west coast of Florida and the rest were from Alabama. The minimum stock size threshold and maximum fishing mortality threshold were defined for red grouper in Secretarial Amendment 1 as $(1-M)*SS_{MSY}$ and F_{MSY} , respectively. The red grouper stock assessment concluded that spawning stock size exceeded SS_{MSY} starting in 1999. This compares reasonably well with the results of the 2002 assessment which estimated the stock would be rebuilt by 2003 using a stock–recruit steepness relationship of 0.8, which is similar to the 0.84 estimated by the 2007 assessment. Recovery of the red grouper stock accelerated between 2001 and 2005 as a result of another very strong recruitment year class that occurred in 2000. Additionally, changes in the treatment of natural mortality during the SEDAR 12 assessment resulted in slightly more optimistic results when compared to the 2002 stock assessment. Fishing mortality on red grouper declined below maximum fishing mortality threshold starting in 1995 and has fluctuated but remained below maximum fishing mortality threshold with little trend through 2005. In 2005, fishing mortality was just below the target fishing mortality level of F_{OY} .

The 2009 update stock assessment of the red grouper stock in the Gulf of Mexico (SEDAR 9 2009a) was conducted using the same model as the 2007 assessment, but with catch data and indices of abundance updated through 2008. After reviewing several model runs with varied parameter inputs, the SSC accepted the model run titled “Red Tide Model with Constant Catchability”. This model run allowed the natural mortality rate for 2005, a year when there was an extensive red tide event along the West Florida Shelf, to adjust above the base natural mortality rate. The best-fit result indicated that an additional mortality for red grouper corresponding to approximately 20% of the stock occurred in 2005.¹⁶ The stock was found to be neither overfished or undergoing overfishing. However, the stock has declined since 2005, much of which was attributed to an episodic mortality event in 2005 (most likely associated with red tide). The 2010 OFL or the yield associated with F_{MSY} for this model was estimated at 6.43 million pounds and the optimum yield (OY), calculated from the Council’s default definition as the yield at 75% of F_{MSY} , was estimated at 4.913 for 2010.

The SSC reviewed the 2009 assessment update in June 2009. The model projection used actual catches through 2008, and assumed that the entire total allowable catch (TAC) would be filled in

¹⁶ E-mail from Clay Porch (NMFS Southeast Fisheries Science Center) to Steven Atran (Gulf Council staff) dated June 24, 2009. There is confusion among some members of the public that the assessment claimed that 30% of the grouper were killed due to red tide. Dr. Porch’s e-mail states that “the estimate of the instantaneous episodic natural mortality rate was 0.3, and that this translates roughly to something like 30% of the stock being killed (I emphasized at the time that it wasn’t exactly 30%). Later during the meeting John (Walter) calculated the actual percentage for red grouper and it was a little over 20% (which I relayed to the AP, and I think the SSC, later on Tuesday)”.

2009. However, given that the TAC had not been filled in recent years, and that a longline emergency rule that restricted bottom longlines in order to protect sea turtles was in effect in 2009, the SSC felt that it was unlikely that the TAC would be filled in 2009. As a result, the SSC asked that projections of the red grouper and gag yield streams be rerun using updated landings estimates for 2009. These reruns were presented to the SSC in March 2010. The requested red grouper scenarios used the “Red Tide Model with Constant Catchability”, used updated landings estimates for 2009 data, and either set the 2010 harvest level equal to the current TAC or equal to 2009 estimated landings (NMFS 2010). For red grouper, projections were provided for fishing at F_{MSY} and F_{OY} . Given that the 2010 landings, to date, appeared to better match 2009 harvest levels than in previous years, the SSC selected the model runs where the 2010 projected harvest was equal to the estimated 2009 harvest. Thus, the SSC recommended the 2011 overfishing level be set consistent with the Councils current definition of the yield associated with fishing at F_{MSY} , or 7.42 million pounds gutted weight (mp gw). Because the revised projections (NMFS 2010) did not provide probabilities of overfishing based on the different landing projection scenarios, the SSC selected a 2011 acceptable biological catch of 6.31 mp gw. This level is equal to 85% of the yield at F_{MSY} and was felt by the SSC to reduce the probability that overfishing might occur in 2011.

The yield projections were again rerun in late 2010 to incorporate new information on red grouper harvest, with the results presented to the SSC in January 2011 and again in March 2011. This new rerun used revised estimates of historical discards in the commercial sector that were based on newly available observer estimates from 2006 through 2008. Previous discard estimates were based on logbook records of bycatch, area fished, and fishery independent catch-at-depth mortality analyses. The new rerun also accounted for a reduction in the commercial minimum size limit from 20 inches to 18 inches that was implemented in 2009 (Walter 2011). Give these changes, the January 2011 projection rerun indicated that the total allowable catch in the near term could be increased substantially. Based on the January rerun, the SSC recommended that the overfishing limit for red grouper be set at 7.93 mp gw (the equilibrium yield at the fishing mortality rate associated with harvesting at the equilibrium MSY , and the ABC be set at 7.93 mp gw (the equilibrium yield at the fishing mortality rate associated with harvesting at the equilibrium optimum sustainable yield [OSY]). Since the red grouper stock is not overfished, these equilibrium harvest levels are in effect for all years, until a new stock assessment is conducted.

In October 2015, the SEDAR 42 stock assessment for red grouper was completed using the Stock Synthesis model. SEDAR 42 found the red grouper stock was not undergoing overfishing and was not overfished. In order to develop ABC projections, the SSC determined P^* using the ABC control rule Tier 1 spreadsheet. The P^* analysis for red grouper resulted in a P^* of 0.427, which the SSC rounded off to 0.43. Given that the red grouper stock is neither overfished nor experiencing overfishing (as of 2013), SSC members felt it was appropriate to provide OFL and ABC recommendations for a 5-year period beginning in 2016. However, a decision was needed on how to handle landings for the years 2014-2015, which are not in the assessment. For 2014, final landings are available and will be used. For 2015 the SSC recommended that the assessment group use landings estimates based on the current quotas and ACLs.

Gag Life History and Biology

Gag is primarily caught on the west coast of Florida from Tampa Bay to the northern extent of the state (Schirripa and Goodyear 1994). Newly settled juveniles are estuarine-dependent, occurring in shallow seagrass beds during late spring and summer (Koenig and Coleman 1998; Strelcheck et al. 2003). At the onset of the first winter, juvenile gag migrate offshore, although some juvenile gag may remain in inshore waters during winter (Heinisch and Fable 1999). As gag mature, they move to deeper, offshore waters to spawn. Gag is a protogynous hermaphrodite, transitioning from females to males at older ages. Age and size at 50% sexual transition is approximately 11 years and 42-43 inches (108.5 - 110 cm) total length (SEDAR 10 2006). Maximum age is 31 years (Lombardi-Carlson et al 2006) and females are mature by 3.7 years of age and 23 inches (58.5 cm) total length (Fitzhugh et al 2006b). They form spawning aggregations at depths ranging from 160-400 feet (Coleman et al. 1996). In the eastern Gulf the spawning season is estimated to extend from late January to mid-April (with a peak in March) (Fitzhugh et al 2006b). Often immature female gag are found with spawning aggregations (Coleman et al. 1996). Gag can reach a maximum length of 54 inches (138 cm) total length and weight of 68 pounds (31 kg) (Lombardi et al 2006).

Oil from the Deepwater Horizon MC252 incident has affected at least one-third of the Gulf area at its maximum extent from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico. However, at this point the affected areas are outside west Florida Shelf where gag are primarily found. Some surface oil may have occurred over the west Florida shelf in offshore waters, however, juvenile and adults are demersal and so likely were not affected. In addition, the oil would not have been present during the January to April spawning period when pelagic eggs and larvae could be susceptible to oil at the surface. Therefore, the effects of the oil on gag populations and gag essential fish habitat would likely be minimal.

Status of the Gag Stock

In 2009, a gag update assessment under the SEDAR program (SEDAR 10 Update 2009) indicated the gag stock size had declined since 2005. A large part of the decline was attributed to an episodic mortality event in 2005 (most likely associated with red tide) that resulted in 18% of the gag stock being killed in addition to the normal natural and fishing mortalities. The update assessment indicated the Gulf gag stock was both overfished and undergoing overfishing, and the Council was informed of this status determination in August 2009. In response, an interim rule was implemented on January 1, 2009 to reduce overfishing of gag, followed by permanent rules under Amendment 30B (GMFMC 2008b). Amendment 32 (GMFMC 2011b) subsequently established a formal rebuilding plan for gag not to exceed 10 years.

A benchmark assessment for gag completed in 2014 (SEDAR 33 2014a) indicated that the gag stock was no longer overfished or undergoing overfishing, and had rebuilt to above its MSY level. However, in 2014 a major red tide event occurred off of the Florida west coast in the region of greatest gag abundance. Due to uncertainty about the impact of this red tide event on the gag stock, the SSC recommended an ABC that assumed the 2014 red tide event would have the same impact on the gag stock as the 2005 event. The Council requested that the SSC reevaluate its ABC recommendation, and in January 2015 the SSC received an analysis of the

red tide event from the Florida Fish and Wildlife Research Institute which indicated that the impact of the 2014 red tide event was only 4% to 7% of the 2005 event. With this new information, the SSC revised its recommended ABCs based on a projection scenario that assumed no significant impact from the 2014 red tide event.

3.3.2 Bycatch

Many of the reef fish species co-occur 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 2015), grouper (GMFMC 2008a, GMFMC 2010, GMFMC 2011b, GMFMC 2012c), vermilion snapper (GMFMC 2004c), greater amberjack (GMFMC 2008a, GMFMC 2012c, GMFMC 2017b), gray triggerfish (GMFMC 2012a), 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 to managed species 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.

3.3.3 Protected Species

The Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) provides special protections to some species that occur in the Gulf. A very brief summary of these two laws and more information is available on NMFS Office of Protected Resources website.⁴ All 22 marine mammals in the Gulf are protected under the MMPA. Two marine mammals (sperm whales and manatees) are also protected under the ESA. Other species protected under the ESA that occur in the Gulf include sea turtles (Kemp's ridley, loggerhead (Northwest Atlantic Ocean distinct population segment [DPS]), green (South Atlantic and North Atlantic DPSs), leatherback, and hawksbill), three fish (Gulf sturgeon, smalltooth sawfish, and Nassau grouper), and seven corals (elkhorn, staghorn, pillar, rough cactus, lobed star, mountainous star, and boulder star). Critical habitat designated under the ESA for smalltooth sawfish, Gulf sturgeon, and the Northwest Atlantic Ocean DPS of loggerhead sea turtles also occur in the Gulf, though only loggerhead critical habitat occurs in federal waters.

The most recent biological opinion (Bi Op) on the Reef Fish FMP was completed on September 30, 2011. The Bi Op determined the continued authorization of the Gulf reef fish fishery managed under the Reef Fish FMP is not likely to affect ESA-listed marine mammals or corals, and is not likely to jeopardize the continued existence of sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback), or smalltooth sawfish. An incidental take statement was provided. Since issuing the Bi Op, 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 four species of newly listed corals (rough cactus, lobed star, mountainous star, and boulder star) or critical habitat for the Northwest Atlantic Ocean loggerhead sea turtle DPS.

On April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule (81 FR 2007) 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, effective May 6, 2016. Two of the green sea turtle DPSs, the North Atlantic DPS and the South Atlantic DPS, occur in the Gulf and are 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 Reef Fish FMP to address the listing of green sea turtle DPSs and Nassau grouper and determined that allowing fishing under the Reef Fish FMP to continue during the reinitiation period is not likely to jeopardize the continued existence of these DPSs or Nassau grouper¹⁷.

The following sections provide a brief overview of the marine mammals, sea turtles, and fish that may be present in or near areas where Gulf reef fish fishing occurs and their general life history characteristics. Since none of the listed corals or designated critical habitats in the Gulf are likely to be adversely affected by the Gulf reef fish fishery, they are not discussed further.

Marine Mammals

The 22 species of marine mammals in the Gulf include one sirenian species (a manatee), which is under U.S. Fish and Wildlife Service jurisdiction, and 21 cetacean species (dolphins and whales), all under NMFS' jurisdiction. Manatees primarily inhabit rivers, bays, canals, estuaries, and coastal waters rich in seagrass and other vegetation off Florida, but can occasionally be found in seagrass habitats as far west as Texas. Although most of the cetacean species reside in the oceanic habitat (depth greater than or equal to 200 m), the Atlantic spotted dolphin is found in waters over the continental shelf (20-200 m), and the common bottlenose dolphin (hereafter referred to as bottlenose dolphins) is found throughout the Gulf, including within bays, sounds, and estuaries; coastal waters over the continental shelf; and in deeper oceanic waters.

Sperm whales are one of the cetacean species found in offshore waters of the Gulf (greater than 200 m) and are listed endangered under the ESA. Sperm whales are the largest toothed whales and are found year-round in the northern Gulf along the continental slope and in oceanic waters (Waring et al. 2013). There are several areas between Mississippi Canyon and De Soto Canyon where sperm whales congregate at high densities, likely because of localized, highly productive habitats (Biggs et al. 2005; Jochens et al. 2008). There is a resident population of female sperm whales, and whales with calves frequently sighted there.

Bryde's whales are the only resident baleen whales in the Gulf and are currently being evaluated to determine if listing under the ESA is warranted. Bryde's whales (pronounced "BREW-days") in the Gulf are currently restricted to a small area in the northeastern Gulf near De Soto Canyon in waters between 100 – 400 m depth along the continental shelf break, though information in the southern Gulf is sparse (Waring et al. 2013). On September 18, 2014, NMFS received a revised petition from the Natural Resource Defense Council to list the Gulf Bryde's whale as an endangered DPS. On April 6, 2015, NMFS found the petitioned action may be warranted and convened a Status Review Team to prepare a status review report. On December 8, 2016, NMFS

¹⁷ <http://www.nmfs.noaa.gov/pr/laws/>

published a proposed rule to list the Gulf Bryde's whale as endangered under the ESA (81 FR 88639). NMFS solicited public comments on the proposed rule and is developing a final rule.

Although they are all the same species, **bottlenose dolphins** in the Gulf can be separated into demographically independent populations called stocks. Bottlenose dolphins are currently identified by NMFS as 36 distinct stocks within the Gulf. These include 31 bay, sound and estuary stocks, three coastal stocks, one continental shelf stock, and one oceanic stock (Waring et al. 2013). Additional climatic and oceanographic boundaries delineate the three coastal stocks such that the Gulf Eastern Coastal Stock ranges from 84°W to Key West, FL, the Northern Coastal Stock ranges from 84°W to the Mississippi River Delta, and the Gulf Western Coastal stock ranges from the Mississippi River Delta to the Texas/Mexico border. Marine Mammal Stock Assessment Reports and additional information on these species in the Gulf are available on the NMFS Office of Protected Species website¹⁸.

The MMPA requires that each commercial fishery be classified by the number of marine mammals they seriously injure or kill. NMFS's List of Fisheries classifies U.S. commercial fisheries into three categories based on the number of incidental mortality or serious injury they cause to marine mammals. More information can be found on the website for the List of Fisheries and the classification process¹⁹.

NMFS classifies reef fish bottom longline/hook-and-line gear in the MMPA proposed 2018 List of Fisheries as a Category III fishery (82 FR 47424). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any 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. Dolphins are the only species documented as interacting with these fisheries. Bottlenose dolphins are a common predator around reef fish vessels. They prey upon bait, catch, and/or released discards of fish from the reef fish fishery.

Sea Turtles

Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory and travel widely throughout the Gulf and other open ocean waters. Several volumes exist that cover the biology and ecology of these species (Lutz and Musick 1997; Lutz et al. 2003; Wynekan et al. 2013).

Green sea turtles are the largest of the hardshell marine turtles, growing to a weight of 350 lbs (159 kg) with a straight carapace length of greater than 3.3 ft (1 m). Hatchlings are thought to occupy pelagic areas of the open ocean and are often associated with Sargassum rafts (Carr 1987; Walker 1994). At approximately 20 to 25 cm carapace length, juveniles migrate from pelagic habitats to benthic foraging areas in nearshore tropical and subtropical waters (Bjorndal 1997). As juveniles move into benthic foraging areas a diet shift towards herbivory occurs. They consume primarily seagrasses and algae, but are also known to consume jellyfish, salps,

¹⁸ <http://www.nmfs.noaa.gov/pr/sspecies/>

¹⁹ <http://www.nmfs.noaa.gov/pr/interactions/fisheries/lof.html>

and sponges (Bjorndal 1980, 1997; Paredes 1969; Mortimer 1981, 1982). The diving abilities of all sea turtles species vary by their life stages. The maximum diving depth of green sea turtles is estimated at 110 m (360 ft) (Frick 1976), but they are most frequently making dives of less than 20 m (65 ft) (Walker 1994). The time of these dives also varies by life stage. The maximum dive length is estimated at 66 minutes with most dives lasting from 9 to 23 minutes (Walker 1994).

Hawksbill sea turtles are small-to medium-sized (99-150 lbs on average [45-68 kg]) although females nesting in the Caribbean are known to weigh up to 176 lbs (80 kg) (Pritchard et al. 1983). Hatchlings have a pelagic stage that lasts from the time they leave the nesting beach until they are approximately 22-25 cm in straight carapace length (Meylan 1988; Meylan and Donnelly 1999). The pelagic stage is followed by residency in developmental habitats (foraging areas where juveniles reside and grow) in coastal waters. Hawksbill sea turtles have a circumtropical distribution and usually occur between latitudes 30°N and 30°S in the Atlantic, Pacific, and Indian Oceans. In the western Atlantic, hawksbills are widely distributed and can be found off the coasts of Florida and Texas in the continental U.S. Little is known about the diet of pelagic stage hawksbills. Adult foraging typically occurs over coral reefs, although other hardbottom communities and mangrove-fringed areas are occupied occasionally. Hawksbills show fidelity to their foraging areas over several years (van Dam and Diéz 1998). The hawksbill's diet is highly specialized and consists primarily of sponges (Meylan 1988). Gravid females have been noted ingesting coralline substrate (Meylan 1984) and calcareous algae (Anderes Alvarez and Uchida 1994), which are believed to be possible sources of calcium to aid in eggshell production. The maximum diving depths of these animals are not known, but the maximum length of dives is estimated at 73.5 minutes. More routinely, dives last about 56 minutes (Hughes 1974).

Kemp's ridley are the smallest of all sea turtles. Adults generally weigh less than 100 lbs (45 kg) and have a carapace length of around 2.1 ft (65 cm). The primary range of Kemp's ridley sea turtles is within the Gulf basin, though they also occur in coastal and offshore waters of the U.S. Atlantic Ocean. Hatchlings are pelagic during the early stages of life and feed in surface waters (Carr 1987; Ogren 1989). After the juveniles reach approximately 20 cm carapace length they move to relatively shallow (less than 50 m) benthic foraging habitat over unconsolidated substrates (Márquez-M. 1994). They have also been observed transiting long distances between foraging habitats (Ogren 1989). Kemp's ridley sea turtles feeding in these nearshore areas primarily prey on crabs, though they are also known to ingest mollusks, fish, jellyfish, marine vegetation, and shrimp (Shaver 1991). The fish and shrimp Kemp's ridley sea turtles ingest are not thought to be a primary prey item but instead may be scavenged opportunistically from bycatch discards or discarded bait (Shaver 1991). Given their preference for shallower water, Kemp's ridley sea turtles most routinely make dives of 50 m or less (Soma 1985; Byles 1988). Their maximum diving range is unknown. Depending on the life stage a Kemp's ridley sea turtles may be able to stay submerged anywhere from 167 minutes to 300 minutes, though dives of 12.7 minutes to 16.7 minutes are much more common (Soma 1985; Mendonca and Pritchard 1986; Byles 1988). Kemp's ridley sea turtles may also spend as much as 96% of their time underwater (Soma 1985; Byles 1988).

Leatherbacks are the largest, most pelagic, and most vulnerable to entanglement in fishing gear of all ESA-listed sea turtles. They spend most of their time in the open ocean although they will enter coastal waters and are seen over the continental shelf on a seasonal basis to feed in areas where jellyfish are concentrated (Heppell et al. 2003). Curved carapace length often exceeds 5 ft (150 cm) and front flippers that can span almost 9 ft (270 cm) (NMFS and USFWS 1998). Mature males and females can reach lengths of over 6 ft (2 m) and weigh close to 2,000 lbs (900 kg). Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Unlike other sea turtles, leatherbacks' diets do not shift during their life cycles. Because leatherbacks' ability to capture and eat jellyfish is not constrained by size or age, they continue to feed on these species regardless of life stage (Bjorndal 1997). Leatherbacks are the deepest diving of all sea turtles. It is estimated that these species can dive in excess of a half-mile (Eckert et al. 1989) but more frequently dive to depths of 50 m to 84 m (Eckert et al. 1986). Dive times range from a maximum of 37 minutes to more routine dives of 4 to 14.5 minutes (Standora et al. 1984; Eckert et al. 1986; Eckert et al. 1989; Keinath and Musick 1993). Leatherbacks may spend 74% to 91% of their time submerged (Standora et al. 1984).

Loggerhead sea turtles inhabit continental shelf and estuarine environments throughout the U.S. Atlantic, Gulf, and Caribbean Sea. (Dodd Jr. 1988). Hatchlings forage in the open ocean and are often associated with Sargassum rafts (Hughes 1974; Carr 1987; Walker 1994; Bolten and Balazs 1995). The pelagic stage of these sea turtles are known to eat a wide range of things including salps, jellyfish, amphipods, crabs, syngnathid fish, squid, and pelagic snails (Brongersma 1972). Stranding records indicate that when pelagic immature loggerheads reach 40-60 cm straight carapace length (SCL), they begin to live in coastal inshore and nearshore waters of the continental shelf throughout the U.S. Atlantic (Witzell 2002). Here they forage over hard and soft-bottom habitats for crabs, mollusks, jellyfish, and vegetation (Carr 1986; Dodd Jr. 1988). Adults in the southeast U.S. average about 3 ft (92 cm) long SCL and weigh approximately 255 lbs (116 kg) (Ehrhart and Yoder 1978). Adult loggerheads eat a variety of invertebrates with crabs and mollusks being an important prey source (Burke et al. 1993). Estimates of the maximum diving depths of loggerheads range from 211 m to 233 m (692-764 ft.) (Thayer et al. 1984; Limpus and Nichols 1988). The lengths of loggerhead dives are frequently between 17 and 30 minutes (Thayer et al. 1984, Limpus and Nichols 1988; Limpus and Nichols 1994; Lanyon et al. 1989) and they may spend anywhere from 80 to 94% of their time submerged (Limpus and Nichols 1994; Lanyon et al. 1989).

All of the above sea turtles are adversely affected by the Gulf reef fish fishery. Incidental captures are infrequent, but occur in all commercial and recreational hook-and-line and longline components of the reef fish fishery. Observer data indicate that the bottom longline component of the fishery interacts solely with loggerhead sea turtles. Captured loggerhead sea turtles can be released alive or can be found dead upon retrieval of bottom longline gear as a result of forced submergence. Sea turtles caught during other reef fish fishing with other gear types are believed to all be released alive due to shorter gear soak times. All sea turtles released alive may later succumb to injuries sustained at the time of capture or from exacerbated trauma from fishing hooks or lines that were ingested, entangled, or otherwise still attached when they were released. Sea turtle release gear and handling protocols are required in the commercial sector and charter/headboat component of the reef fish fisheries to minimize post-release mortality.

Protected Fish

The **Nassau grouper's** confirmed distribution currently includes Bermuda and Florida (USA), throughout the Bahamas and Caribbean Sea (Heemstra and Randall 1993). The Nassau grouper has been documented in the Gulf at Arrecife Alacranes (north of Progreso) to the northwest off the Yucatan Peninsula, Mexico (Hildebrand et al. 1964). Nassau grouper is generally replaced ecologically in the eastern Gulf by red grouper (*E. morio*) in areas north of Key West or the Tortugas (Smith 1971). They are considered a rare or transient species off Texas in the northwestern Gulf (Gunter and Knapp 1951 in Hoese and Moore 1998).

The Nassau grouper is primarily a shallow-water, insular fish species that has long been valued as a major fish resource throughout the wider Caribbean, South Florida, Bermuda, and the Bahamas (Carter et al. 1994). As larvae, Nassau grouper are planktonic. After an average of 35-40 days and at an average size of 32 millimeters total length (TL), larvae recruit from an oceanic environment into demersal habitats (Colin 1992; Eggleston 1995). Juvenile Nassau grouper (12-15 centimeters TL) are relatively solitary and remain in specific areas associated with macroalgae, and both natural and artificial reef structure) for months (Bardach 1958). As juveniles grow, they move progressively to deeper areas and offshore reefs (Tucker et al. 1993; Colin et al. 1997). Smaller juveniles occur in shallower inshore waters (3.7-16.5m) and larger juveniles are more common near deeper (18.3-54.9 m) offshore banks (Bardach 1958; Cervigón 1966; Silva Lee 1974; Radakov et al. 1975; Thompson and Munro 1978). Adult Nassau grouper also tend to be relatively sedentary and are commonly associated with high-relief coral reefs or rocky substrate in clear waters to depths of 130 m. Generally, adults are most common at depths less than 100 m (Hill and Sadovy de Mitcheson 2013) except when at spawning aggregations where they are known to descend to depths of 255 m (Starr et al. 2007). Nassau grouper form spawning aggregations at predictable locations around the winter full moons, or between full and new moons (Smith 1971; Colin 1992; Tucker et al. 1993; Aguilar-Perera 1994; Carter et al. 1994; Tucker and Woodward 1994).

The most serious threats to the status of Nassau grouper today are fishing of spawning aggregations and inadequate law enforcement protecting spawning aggregations in many foreign nations. These threats are currently affecting the status of Nassau grouper, putting it at a heightened risk of extinction.

Historically the **smalltooth sawfish** in the U.S. ranged from New York to the Mexico border. Their current range is poorly understood but believed to have contracted from these historical areas. Smalltooth sawfish primarily occur in the Gulf off peninsular Florida and are most common off Southwest Florida and the Florida Keys. Historical accounts and recent encounter data suggest that immature individuals are most common in shallow coastal waters less than 25 m (Bigelow and Schroeder 1953; Adams and Wilson 1995), while mature animals occur in waters in excess of 100 m. Smalltooth sawfish feed primarily on fish. Mullet, jacks, and ladyfish are believed to be their primary food resources (Simpfendorfer 2001). Smalltooth sawfish also prey on crustaceans (mostly shrimp and crabs) by disturbing bottom sediment with their saw (Norman and Fraser 1938; Bigelow and Schroeder 1953).

Smalltooth sawfish are also adversely affected by the Gulf reef fish fishery, but are interacted with at a much lesser extent than sea turtles. Although the long, toothed rostrum of the smalltooth sawfish causes this species to be particularly vulnerable to entanglement in fishing gear, incidental captures in the commercial and recreational hook-and-line components of the reef fish fishery are rare events. Only eight smalltooth sawfish are anticipated to be incidentally caught every 3 years in the entire reef fish fishery, and none of these captures are expected to result in mortality (NMFS 2011). Fishermen in this fishery are required to follow smalltooth sawfish safe handling and release guidelines.

3.3.4 Northern Gulf of Mexico Hypoxic Zone

Every summer in the northern Gulf, a large hypoxic zone forms. It is the result of allochthonous materials and runoff from agricultural lands by rivers to the Gulf, increasing nutrient inputs from the Mississippi River, and a seasonal layering of waters in the Gulf.²⁰ The layering of the water is temperature and salinity dependent and prevents the mixing of higher oxygen content surface water with oxygen-poor bottom water. For 2014, the extent of the hypoxic area was estimated to be 5,052 square miles and is similar to the running average for over the past five years of 5,543 square miles Gulf.²¹

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). However, more mobile macroinvertebrates and demersal fishes (e.g., red snapper) are able to detect lower dissolved oxygen levels and move away from hypoxic conditions. Therefore, although not directly affected, these organisms are indirectly affected by limited prey availability and constrained available habitat (Baustian and Rabalais 2009; Craig 2012). For red snapper, Courtney et al. (2013) have hypothesized that the hypoxic zone could have an indirect positive effect on red snapper populations in the western Gulf. They posit that increased nutrient loading may be working in ‘synergy’ with abundant red snapper artificial habitats (oil platforms). Nutrient loading likely increases forage species biomass and productivity providing ample prey for red snapper residing on the oil rigs, thus increasing red snapper productivity. Grouper and tilefish are less common in the northern Gulf, so the northern Gulf hypoxic zone influences these stocks less.

3.3.5 Climate Change

Climate change projections show 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 (IPCC)²². 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 change could bring about temperature changes in coastal and marine ecosystems that, in turn, can influence organism metabolism; alter ecological processes, such as productivity and species

²⁰ <http://www.gulfhypoxia.net/>

²¹ <http://www.gulfhypoxia.net/>

²² <http://www.ipcc.ch/>

interactions; change precipitation patterns and cause a rise in sea level that could change the water balance of coastal ecosystems; alter patterns of wind and water circulation in the ocean environment; and influence the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs. National Oceanic and Atmospheric Administration's (NOAA) Climate Change Web Portal²³ indicates that the average sea surface temperature in the Gulf will increase by 1.2-1.4°C for 2006-2055 compared to the average over the years 1956-2005. For reef fishes, Burton (2008) speculated that climate change could cause shifts in spawning seasons, changes in migration patterns, and changes to basic life history parameters such as growth rates. The OceanAdapt model²⁴ shows distributional trends both in latitude and depth over the time period 1985-1013. For some species such as the smooth puffer, there has been a distributional trend to the north in the Gulf. For other species such as red snapper and the dwarf sand perch, there has been a distributional trend towards deeper waters. Finally, for other species such as the dwarf goatfish, there has been a distributional trend both to the north and to deeper waters. These changes in distributions have been hypothesized as a response to environmental factors such as increases in temperature.

The distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Hollowed et al. (2013) provided a review of projected effects of climate change on the marine fisheries and dependent communities. Integrating the potential effects of climate change into the fisheries assessment is currently difficult due to the time scale differences (Hollowed et al. 2013). The fisheries stock assessments rarely project through a time span that would include detectable climate change effects.

Greenhouse gases

The IPCC has indicated greenhouse gas emissions are among the most important drivers of recent changes in climate. Wilson et al. (2017) inventoried the sources of greenhouse gases in the Gulf from sources associated with oil platforms and those associated with other activities such as fishing. A summary of the results of the inventory are shown in Table 3.3.6 with respect to total emissions and from fishing. Commercial fishing and recreational vessels make up a small percentage of the total estimated greenhouse gas emissions from the Gulf (2.04% and 1.67%, respectively).

²³ <http://www.esrl.noaa.gov/psd/ipcc/ocn/>

²⁴ http://oceanadapt.rutgers.edu/regional_data/

Table 3.3.6. Total Gulf greenhouse gas 2014 emissions estimates (tons per year [tpy]) from oil platform and non-oil platform sources, commercial fishing, and percent greenhouse gas emissions from commercial fishing vessels of the total emissions*.

Emission source	CO ₂	Greenhouse CH ₄	Gas N ₂ O	Total CO _{2e} **
Oil platform	5,940,330	225,667	98	11,611,272
Non-platform	14,017,962	1,999	2,646	14,856,307
Total	19,958,292	227,665	2,743	26,467,578
Commercial fishing	531,190	3	25	538,842
Recreational fishing	435,327	3	21	441,559
Percent commercial fishing	2.66%	>0.01%	0.91%	2.04%
Percent recreational fishing	2.18%	>0.01%	0.77%	1.67%

*Compiled from Tables 6-11, 6-12, and 6-13 in Wilson et al. (2017). **The CO₂ equivalent (CO_{2e}) emission estimates represent the number of tons of CO₂ emissions with the same global warming potential as one ton of another greenhouse gas (e.g., CH₄ and N₂O). Conversion factors to CO_{2e} are 21 for CH₄ and 310 for N₂O.

3.3.6 Deepwater Horizon MC252 Oil Spill

General Impacts on Fishery Resources

The presence of polyaromatic hydrocarbons (PAH) in marine environments can have detrimental impacts on marine finfish, especially during the more vulnerable larval stage of development (Whitehead et al. 2011). When exposed to toxic levels of PAHs (1–15 µg/L), greater amberjack (*Seriola dumerili*) larvae develop cardiac abnormalities and physiological defects (Incardona et al. 2014). The future reproductive success of long-lived species, including red drum (*Sciaenops ocellatus*) and many reef fish species, may be negatively affected by episodic events resulting in high-mortality years or low recruitment. These episodic events could leave gaps in the age structure of the population, thereby affecting future reproductive output (Mendelssohn et al. 2012). Other studies have described the vulnerabilities of various marine finfish species, with morphological and/or life history characteristics similar to species found in the Gulf, to oil spills and dispersants (Hose et al. 1996; Carls et al. 1999; Heintz et al. 1999; Short 2003).

An increase in histopathological lesions were found in red snapper (*Lutjanus campechanus*) in the area affected by the oil, but Murawski et al. (2014) found that the incidence of lesions had declined between 2011 and 2012. The occurrence of such lesions in marine fish is not uncommon (Sindermann 1979; Haensly et al. 1982; Solangi and Overstreet 1982; Khan and Kiceniuk 1984, 1988; Kiceniuk and Khan 1987; Khan 1990). Red snapper diet was also affected after the spill. A decrease in zooplankton consumed, especially by adults (greater than 400 mm

TL) over natural and artificial substrates may have contributed to an increase in the consumption of fish and invertebrate prey- more so at artificial reefs than natural reefs (Tarnecki and Patterson 2015).

The effect of oil, dispersants, and the combination of oil and dispersants on fishes of the Gulf remains an area of concern. Marine fish species typically concentrate PAHs in the digestive tract, making stomach bile an appropriate testing medium. A study by Synder et al. (2015) assessed bile samples from golden tilefish (*Lopholatilus chamaeleonticeps*), king snake eel (*Ophichthus rex*), and red snapper for PAH accumulation over time and reported concentrations were highest in golden tilefish during the same time period when compared to king snake eel and red snapper. These results suggest that the more highly associated an organism is with the sediment in an oil spill area, the higher the likelihood of toxic PAH accumulation. Twenty-first century dispersant applications are thought to be less harmful than their predecessors. However, the combination of oil and dispersants has proven to be more toxic to marine fishes than either dispersants or crude oil alone. Marine fish which are more active (e.g., a pelagic species versus a demersal species) appear to be more susceptible to negative effects from interactions with weathered oil/dispersant emulsions. These effects can include mobility impairment and inhibited respiration (Swedmark et al. 1973). Another study found that while Corexit 9500A® and oil are similar in their toxicity, when Corexit 9500A® and oil were mixed in lab tests, toxicity to microscopic rotifers increased up to 52-fold (Rico-Martínez et al. 2013). These studies suggest that the toxicity of the oil and dispersant combined may be greater than anticipated.

As reported by NOAA's Office of Response and Restoration (NOAA 2010), the oil from the *Deepwater Horizon MC252* spill is relatively high in alkanes, which can readily be used by microorganisms as a food source (Figure 3.3.2). As a result, the oil from this spill is likely to biodegrade more readily than crude oil in general. The *Deepwater Horizon MC252* oil is also relatively much lower in PAHs, which are highly toxic chemicals that tend to persist in the environment for long periods of time, especially if the spilled oil penetrates into the substrate on beaches or shorelines. Like all crude oils, MC252 oil contains VOCs such as benzene, toluene, and xylene. Some VOCs are acutely toxic but because they evaporate readily, they are generally a concern only when oil is fresh.²⁵

²⁵ Source: http://sero.nmfs.noaa.gov/deepwater_horizon/documents/pdfs/fact_sheets/oil_characteristics.pdf

3.4 Description of the Economic Environment

3.4.1 Commercial Sector

This proposed action would only apply to a portion of the recreational sector (charter vessels). As a result, a description of the economic environment for the commercial sector is not provided.

3.4.2 Recreational Sector

This proposed action would only apply to charter vessels. As a result, a description of the economic environment for the headboat and private angler portions of the recreational sector is not provided.

Angler Effort

Recreational effort derived from the MRIP database can be characterized in terms of the number of trips as follows:

- Target trips - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species, or a species in the species group, was targeted as either the first or the second primary target for the trip. The species did not have to be caught.
- Catch trips - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.
- Total recreational trips - The total estimated number of recreational trips in the Gulf of Mexico (Gulf), regardless of target intent or catch success.

Other measures of effort are available as well, such as directed trips (the number of individual angler trips that either targeted or caught a particular species).

Amendment 41 considers five species for inclusion in the allocation-based management program: red snapper, gray triggerfish, greater amberjack, gag, and red grouper. Table 3.4.1 and Table 3.4.2 present estimates of target and catch trips on charter vessels associated with any of these species from 2012 through 2016²⁷. The majority of these target and catch trips were recorded in Florida. In 2014, there was a precipitous drop in Gulf charter trips that targeted the species considered in Amendment 41. This was likely due in part to the short 9-day federal recreational red snapper season. Estimated charter trips that targeted any of the aforementioned species rebounded in subsequent years. This increase coincided with Reef Fish Amendment 40 and the implementation of sector separation for the recreational harvest of red snapper.²⁸

²⁷ The most recent five years are used for the purpose of describing the current affected human environment, rather than presenting data for allocation purposes.

²⁸ Estimates for additional years, individual species, and other measures of directed effort, are available at <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>.

Table 3.4.1. Gulf recreational charter trips that targeted red snapper, gray triggerfish, greater amberjack, gag, or red grouper, or any combination thereof, by state.*

	Alabama	Florida	Louisiana**	Mississippi	Total
2012	16,937	92,864	9,235	74	119,110
2013	25,837	103,278	7,242	38	136,395
2014	12,613	57,319	N/A	0	69,932
2015	26,192	123,961	N/A	366	150,520
2016	34,849	118,808	N/A	1,287	154,945
Average	23,286	99,246	8,239	353	126,180

Source: MRIP database, SERO, NMFS.

*Target species information is not collected for Texas angler trips.

**MRIP estimates for Louisiana are not available after 2013. The average for Louisiana excludes 2014 through 2016.

Table 3.4.2. Gulf recreational charter trips that caught red snapper, gray triggerfish, greater amberjack, gag, or red grouper, or any combination thereof, by state.

	Alabama	Florida	Louisiana*	Mississippi	Texas	Total
2012	26,740	268,100	13,949	74	2,653	311,516
2013	53,937	294,284	14,838	38	2,340	365,437
2014	43,943	250,056	N/A	0	3,308	297,307
2015	51,506	299,093	N/A	366	3,783	354,748
2016	58,870	298,297	N/A	1,525	4,555	363,247
Average	46,999	281,966	14,394	401	3,328	338,451

Source: MRIP database, SERO, NMFS for all states except Texas. Texas estimates are from Texas Parks and Wildlife Department.

*MRIP estimates for Louisiana are not available after 2013. The average for Louisiana excludes 2014 through 2016.

Economic Value

With regard to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, net operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. The average charter angler trip is estimated to generate \$155 (2016 dollars²⁹) in NOR (C. Liese, NMFS SEFSC, pers. comm.). Estimates of NOR associated with trips that targeted red snapper, gray triggerfish, greater amberjack, gag, or red grouper, or any combination thereof, are not available.

²⁹ Converted to 2016 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus (CS). The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips. For example, the estimated value of the CS for catching and keeping a second red snapper on an angler trip is approximately \$81 (values updated to 2016 dollars), and decreases thereafter (approximately \$54 for a third red snapper, \$40 for a fourth red snapper, and \$31 for a fifth red snapper) (Carter and Liese 2012). In comparison, the estimated value of the CS for catching and keeping a grouper is approximately \$103 for the second fish, \$69 for the third fish, \$51 for the fourth fish, and \$40 for the fifth fish (Carter and Liese 2012).

The foregoing estimates of economic value should not be confused with economic impacts associated with recreational fishing expenditures. Although expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost) or the change in value associated with a change in the fishing experience.

Business Activity

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be clearly noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services, and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

Estimates of the business activity (economic impacts) associated with recreational angling for Gulf red snapper on charter vessels were calculated using average trip-level impact coefficients derived from the 2015 Fisheries Economics of the U.S. report (NMFS 2017) and underlying data provided by the NOAA Office of Science and Technology. Economic impact estimates in 2015 dollars were adjusted to 2016 dollars using the annual, not seasonally adjusted, gross domestic product (GDP) implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Business activity (economic impacts) for the recreational sector is characterized in the form of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts (difference between the value of goods or services and the cost of inputs used to produce them). Estimates of the average annual economic impacts (2012-2016) resulting from Gulf recreational charter trips that targeted red snapper, gray triggerfish, greater amberjack, gag, or red grouper, or any combination thereof, are provided in Table 3.4.3. The average impact coefficients, or multipliers, used in the model are invariant to the 'type' of effort and can therefore be directly used to measure the impact of other effort measures such as charter catch trips. To calculate the multipliers from Table 3.4.3, simply

divide the desired impact measure (sales impact, value-added impact, income impact or employment) associated with a given state by the number of target trips for that state.

The estimates provided in Table 3.4.3 only apply at the state-level. Addition of the state-level estimates to produce a regional (or national) total may underestimate the actual amount of total business activity because state-level impact multipliers do not account for interstate and interregional trading.

Table 3.4.3. Estimated annual average economic impacts (2012-2016) from Gulf recreational charter trips that targeted red snapper, gray triggerfish, greater amberjack, gag, or red grouper, or any combination thereof, by state, using state-level multipliers.* All monetary estimates are in 2016 dollars (in thousands).

	FL	AL	MS	LA**
Target Trips	99,246	23,286	353	8,239
Value Added Impacts	\$35,675	\$7,375	\$79	\$2,562
Sales Impacts	\$64,660	\$14,125	\$160	\$4,440
Income Impacts	\$23,288	\$5,036	\$55	\$1,724
Employment (Jobs)	517	119	1	30

Source: effort data from MRIP; economic impact results calculated by NMFS SERO using NMFS (2017) and underlying data provided by the NOAA Office of Science and Technology.

*Target effort data and trip-level economic impacts multipliers for Texas are unavailable.

**Average annual target trips and economic impacts for LA are based only on 2012 and 2013, because MRIP target effort estimates are unavailable for LA after 2013.

3.5 Description of the Social Environment

This amendment affects the recreational management of reef fish in the Gulf. Descriptions of the top recreational fishing communities based on engagement and reliance are included.

Community-level data are presented in order to meet the requirements of National Standard 8 of the Magnuson-Stevens Act, which requires the consideration of the importance of fishery resources to human communities when changes to fishing regulations are considered.

3.5.1 Recreational Fishing Communities

Reef fish landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for reef fish. Because limited data are available concerning how recreational fishing communities are engaged and reliant on specific species or species groups, indices were created using secondary data from permit and infrastructure information for the southeast recreational fishing sector at the community level (Jepson and Colburn 2013). Recreational fishing engagement is represented by the number of recreational permits and vessels designated as “recreational” by homeport and

owners address with a count of recreational infrastructure within the community. Fishing reliance includes the same variables as fishing engagement, divided by population.

Figure 3.5.1.1 identifies the top Gulf communities that are engaged and reliant upon recreational fishing in general. Factor scores of both engagement and reliance were plotted along with two thresholds of one and one-half standard deviation above the mean to help determine a threshold for significance. Communities are presented in ranked order by fishing engagement and all 20 included communities demonstrate high levels of recreational engagement, although this is not specific to fishing for reef fish. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach, Florida had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the top 20 list suggesting a greater importance for recreational fishing in that area. Grand Isle, Louisiana demonstrates a high reliance upon recreational fishing as the community's population is smaller than most of the highly engaged communities. With both a high engagement and reliance, Grand Isle may depend upon recreational fishing as a strong component of its local economy. Other communities that have high engagement and reliance are Port Aransas, Texas; Islamorada, Marathon, and Destin, Florida; and Orange Beach, Alabama.

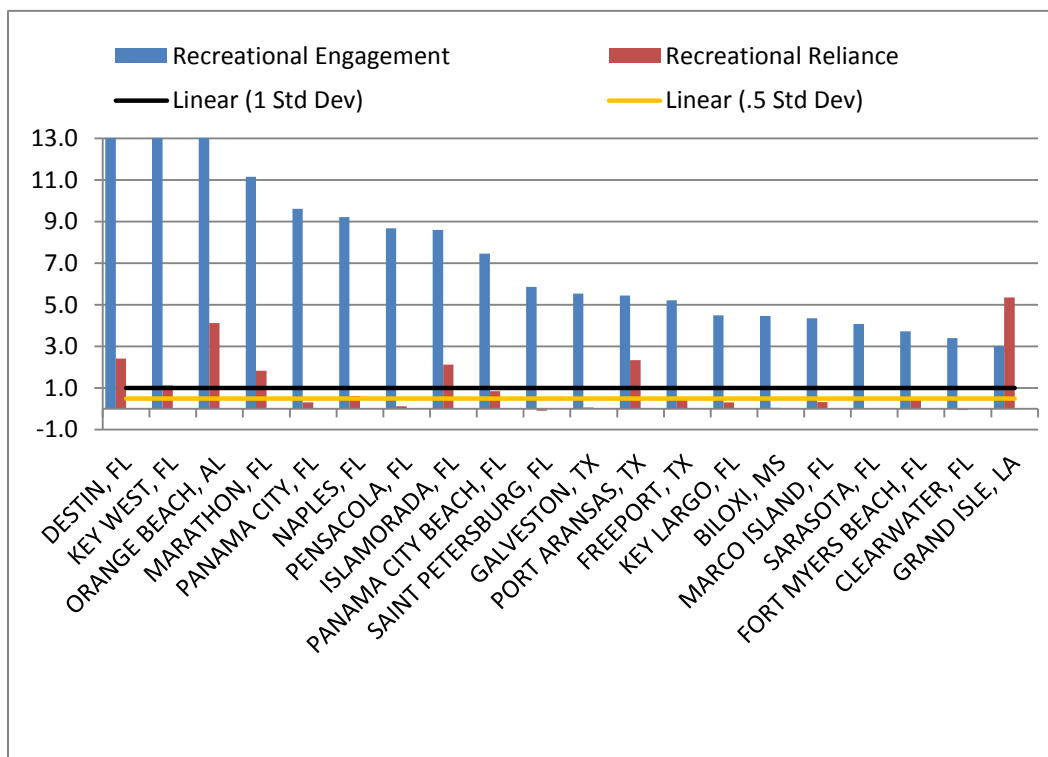


Figure 3.5.1.1 Top 20 recreational fishing communities' engagement and reliance.

Source: SERO, Community Social Vulnerability Indicators Database 2014.

Charter Boats by Community

In order to present information about the charter vessels that are engaged in the recreational reef fish fishery, all vessels with a federal for-hire permit for reef fish, including historical captain permits are included in following analysis. The majority of federal for-hire permits for reef fish are held by operators in Florida (59% in 2016), followed by Texas (17.6%), Alabama (10.2%), Louisiana (9%), Mississippi (2.7%), and other states (1.4%; Table 3.5.1.1).

Table 3.5.1.1 Number of federal for-hire permits for Gulf reef fish including historical captain permits, by state and by year.

State	2012	2013	2014	2015	2016
AL	157	159	153	143	134
FL	812	803	787	778	776
LA	123	120	117	121	119
MS	48	47	42	38	35
TX	221	219	230	232	232
Other	17	15	16	16	19
Total	1378	1363	1345	1328	1315

Source: NMFS Southeast Regional Office permit office, SERO Access database.
Includes valid and renewable permits.

The distribution of permits by state has followed a similar pattern throughout the last five years. These data may deviate from the numbers included elsewhere in the document because of the date on which data were gathered. Data included in Table 3.5.1.1 are based on the number of permits throughout the year, rather than from a specific date, and include permits that were valid or renewable sometime during the year. However, if the permit was sold, then only the most current permit has been counted. Federal for-hire permits are held by those with mailing addresses in a total of 348 communities, located in 21 states (SERO permit office, October 25, 2017).

When Gulf reef fish for-hire vessels are separated into charter boats or headboats, the majority of vessels are charter boats (95% of for-hire vessels as of September 20, 2016) and a smaller proportion are headboats (approximately 5%, NMFS Southeast Regional Office permit office).

Figure 3.5.2 shows the spatial distribution of charter boats with federal for-hire permits around the Gulf as of September 20, 2016.

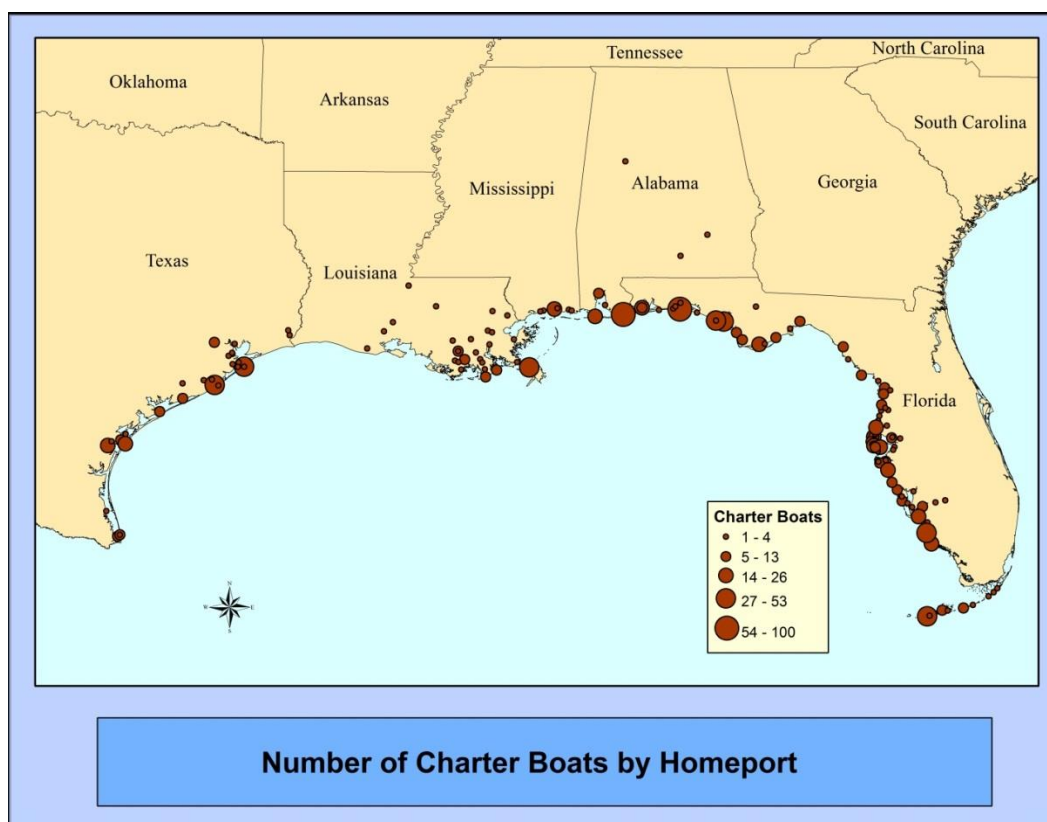


Figure 3.5.1.2. Distribution of charter boats with federal for-hire permits for Gulf reef fish in Gulf states by community.

Source: NMFS Southeast Regional Office permits office, September 20, 2016.

Charter boats are distributed throughout the Gulf coast with large clusters in Florida communities along the Panhandle, along the mid-Florida and southwest Florida coast, and in the Keys; in Alabama (Orange Beach and Dauphin Island); in Texas (Galveston, Freeport, Corpus Christi, Port Aransas, Port O'Connor, and Matagorda); Mississippi (Biloxi); and in Louisiana (Venice, Chauvin, and Grand Isle) as depicted in Figure 3.5.1.2.

The top 20 communities with the most charter permits for reef fish are listed in Table 3.5.1.2. These data may deviate from the numbers included elsewhere in the document because of the date on which data were gathered. Data included in Table 3.5.1.2 are based on the number of permits throughout the year, rather than from a specific date, and include permits that were valid or renewable sometime during the year. However, if the permit was sold, then only the most current permit has been counted

Table 3.5.1.2. Top ranking communities based on the number of federal for-hire permits for Gulf reef fish, including historical captain permits, in descending order.

State	Community	Permits
FL	Destin	100
AL	Orange Beach	92
FL	Key West	53
LA	Venice	47
FL	Panama City	46
TX	Galveston	46
FL	Naples	42
TX	Freeport	41
FL	Panama City Beach	33
TX	Corpus Christi	26
FL	Pensacola	25
FL	Saint Petersburg	23
TX	Port Aransas	22
FL	Clearwater	21
MS	Biloxi	20
FL	Marco Island	19
FL	Sarasota	18
FL	Madeira Beach	17
FL	Apalachicola	16

The top 5 communities within each state with the most charter permits for reef fish are listed in Table 3.5.1.3 which provides some indication of the distribution of charter vessels within particular states and those communities with the most for-hire permits. In Alabama and Mississippi, after the top ranked communities, there is a considerable drop off in terms of the number of permitted vessels within a community. The states of Florida, Louisiana and Texas see some drop off, but the other communities rounding out the top 5 do maintain a number of permitted vessels.

Table 3.5.1.3. Top 5 communities by state based on the number of federal for-hire permits for Gulf reef fish by homeport, including historical captain permits, in descending order.

STATE	COMMUNITY	Permits
AL	Orange Beach	92
AL	Dauphin Island	15
AL	Mobile	6
AL	Fort Morgan	4
AL	Gulf Shores	3
FL	Destin	100
FL	Key West	53
FL	Panama City	46
FL	Naples	42
FL	Panama City Beach	33
LA	Venice	47
LA	Chauvin	12
LA	Grand Isle	11
LA	Houma	8
LA	Port Fourchon	5
MS	Biloxi	20
MS	Gulfport	4
MS	Long Beach	2
MS	Ocean Springs	2
MS	Pascagoula	2
TX	Galveston	46
TX	Freeport	41
TX	Corpus Christi	26
TX	Port Aransas	22
TX	Port O'Connor	13

3.5.2 Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider “the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories...” This executive order is generally referred to as environmental justice (EJ).

Recreational fishermen and associated industries could be impacted by the proposed actions. However, information on the race and income status for groups at the different participation levels is not available. Although information is available concerning communities overall status with regard to minorities and poverty (e.g., census data), such information is not available specific to fishermen and those involved in the industries and activities, themselves. To help assess whether any EJ concerns arise from the actions in this amendment, a suite of indices were created to examine the social vulnerability of coastal communities. The three indices are poverty, population composition, and personal disruptions. 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. Indicators such as increased poverty rates for different groups, more single female-headed households and households with children under the age of five, disruptions such as higher separation rates, higher crime rates, and unemployment all 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 3.5.2.1 and 3.5.2.2 provide the social vulnerability of the top 5 ranked communities by state based on the number of federal for-hire permits for Gulf reef fish. One community exceeds the threshold of one standard deviation above the mean for all three indices, Freeport, Texas. Several communities exceed the threshold of one-half standard deviation above the mean for more than one index (Mobile Alabama; Panama City, Florida; Grand Isle and Houma, Louisiana; Biloxi, Gulfport and Pascagoula, Mississippi; and Galveston, Texas). These communities would be the most likely to exhibit vulnerabilities if there were negative social or economic disruption due to regulatory change.

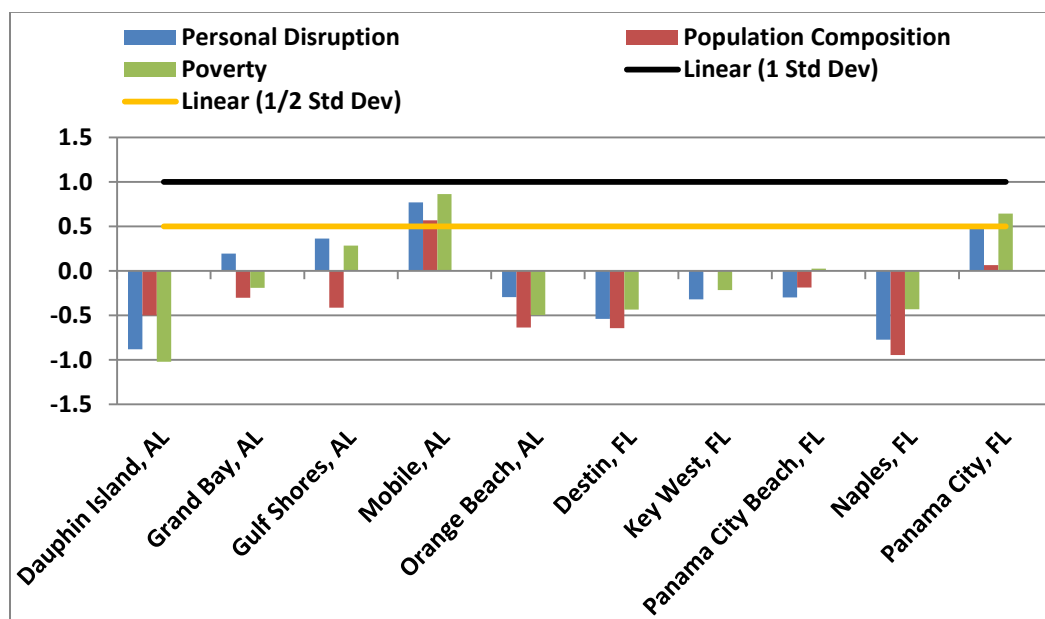


Figure 3.5.2.1. Social vulnerability indices for recreational fishing communities.

Source: SERO, Community Social Vulnerability Indicators Database 2014 (ACS 2010-2014).

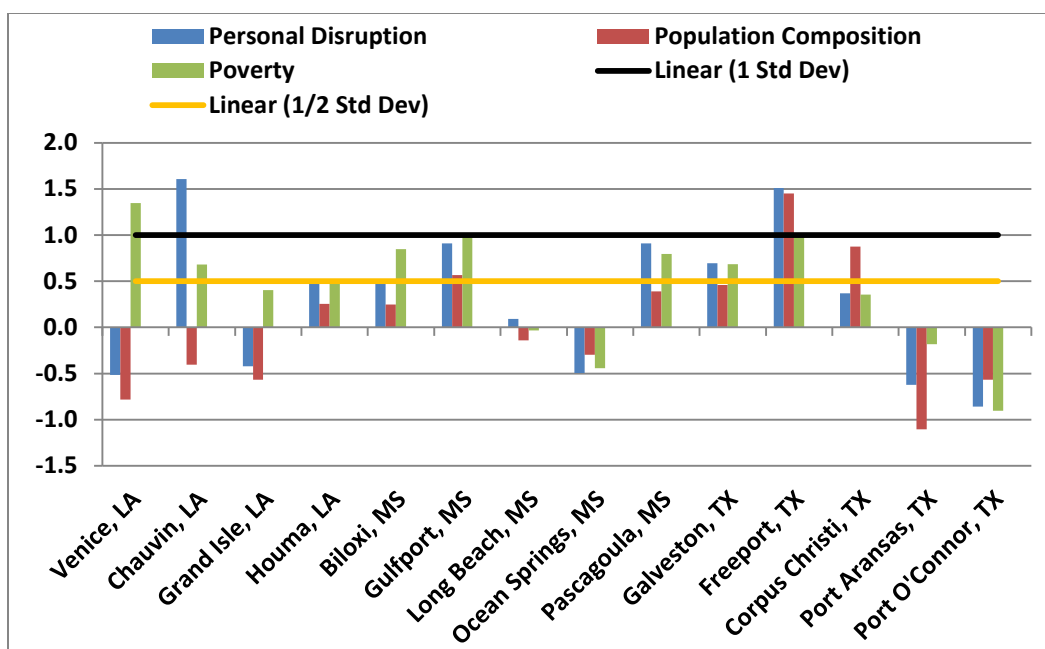


Figure 3.5.2.2. Social vulnerability indices for recreational fishing communities continued.
Source: SERO, Community Social Vulnerability Indicators Database 2014 (ACS 2010-2014).

People in these communities may be affected by fishing regulations in two ways: participation and employment. Although these communities may have the greatest potential for EJ concerns, no data are available on the race and income status for those involved in the local fishing industry (employment), or for their dependence on reef fish specifically (participation). However, the implementation of the proposed actions of this amendment would not discriminate against any group based on their race, ethnicity, or income status because the proposed actions would be applied to all participants in the fishery. Further, there is no known subsistence fishing for reef fish. Thus, the actions of this amendment are not expected to result in adverse or disproportionate environmental or public health impacts to EJ populations. Although no EJ issues have been identified, the absence of potential EJ concerns cannot be assumed.

3.6 Description of the Administrative Environment

3.6.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Act (16 U.S.C. 1801 *et seq.*), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the exclusive economic zone, an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the exclusive economic zone.

Responsibility for federal fishery management is shared by the Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for promulgating regulations to implement proposed plans and amendments after ensuring management measures are consistent with the Magnuson-Stevens Act and with other applicable laws summarized in Appendix B. In most cases, the Secretary has delegated this authority to NMFS.

The Council is responsible for fishery resources in federal waters of the Gulf. These waters extend to 200 nautical miles offshore from the seaward boundaries of the Gulf states of Alabama, Florida, Louisiana, Mississippi, and Texas, as those boundaries have been defined by law. The length of the Gulf coastline is approximately 1,631 miles. Florida has the longest coastline of 770 miles along its Gulf coast, followed by Louisiana (397 miles), Texas (361 miles), Alabama (53 miles), and Mississippi (44 miles).

The Council consists of seventeen voting members: 11 public members appointed by the Secretary; one each from the fishery agencies of Texas, Louisiana, Mississippi, Alabama, and Florida; and one from NMFS. The public is also involved in the fishery management process through participation on advisory panels and through Council meetings that, with few exceptions for discussing personnel matters, are open to the public. The regulatory process is also in accordance with the Administrative Procedures Act, in the form of ‘notice and comment’ rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

Regulations contained within FMPs are enforced through actions of the NOAA Office of Law Enforcement, the United States Coast Guard, and various state authorities. To better coordinate enforcement activities, federal and state enforcement agencies have developed cooperative agreements to enforce the Magnuson-Stevens Act. These activities are being coordinated by the Council’s Law Enforcement Advisory Panel and the Gulf States Marine Fisheries Commission’s Law Enforcement Committee, which have developed joint enforcement agreements and cooperative enforcement programs.³⁰

Reef fish stocks are assessed through the SEDAR process. As species are assessed, stock condition and ABCs are evaluated. As a result, periodic adjustments to stock ACLs and other management measures are deemed needed to prevent overfishing. Management measures are implemented through plan or regulatory amendments.

3.6.2 State Fishery Management

The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments of Texas, Louisiana, Mississippi, Alabama, and Florida have the authority to manage their respective state fisheries. Each of the five Gulf

³⁰ www.gsmfc.org

states exercises legislative and regulatory authority over their respective state's natural resources through discrete administrative units. Although each agency is the primary administrative body with respect to the states' natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources. A more detailed description of each state's primary regulatory agency for marine resources is provided on their respective web pages (Table 3.6.2.1).

Table 3.6.2.1. Gulf of Mexico state marine resource agencies and web pages.

State marine resource agency	Web page
Alabama Marine Resources Division	http://www.outdooralabama.com/
Florida Fish and Wildlife Conservation Commission	http://myfwc.com/
Louisiana Department of Wildlife and Fisheries	http://www.wlf.louisiana.gov/
Mississippi Department of Marine Resources	http://www.dmr.ms.gov/
Texas Parks and Wildlife Department	http://tpwd.texas.gov/

CHAPTER 4. REFERENCES

- Abbott, J., V. Maharaj, and J.E. Wilen. 2009. Designing ITQ programs for commercial recreational fishing. *Marine Policy* 22:766-774.
- Adams, W. F. and C. Wilson. 1995. The status of the smalltooth sawfish, *Pristis pectinata* Latham 1794 (Pristiformes: Pristidae) in the United States. *Chondros* 6:1-5.
- Aguilar-Perera, A. 1994. Preliminary observations of the spawning aggregation of Nassau grouper, *Epinephelus striatus*, at Majahual, Quintana Roo, Mexico. *Proceedings of the Gulf and Caribbean Fisheries Institute* 43:112-122.
- Anderes Alvarez, B. L., and I. Uchida. 1994. Study of hawksbill turtle (*Eretmochelys imbricata*) stomach content in Cuban waters. Pages 27- 40 in *Study of the Hawksbill Turtle in Cuba (I)*. Ministry of Fishing Industry, Cuba.
- Anderson, L.G. and M.C. Holliday. 2007. The Design and Use of Limited Access Privilege Programs. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-F/SPO-86, 65 p.
- Aprieto, V.L. 1974. Early development of five carangid fishes of the Gulf of Mexico and the south Atlantic coast of the United States. *Fishery Bulletin* 72:415-443.
- Bardach, J.E. 1958. On the movements of certain Bermuda reef fishes. *Ecology* 39(1):139-146.
- 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.
- Bigelow, H.B. and W.G. Schroeder. 1953. Fishes of the Gulf of Maine. U.S. Fish and Wildlife Service Fishery Bulletin 74. 577 p. <https://archive.org/details/fishesofgulfofma1953bigel>
- Biggs, D.C., Jochens, A.E., Howard, M.K., DiMarco, S.F., Mullin, K.D., Leben, R.R., Muller-Karger, F.E., & Hu, C. (2005). Eddy forced variations in on- and off-margin summertime circulation along the 1000-m isobath of the northern Gulf of Mexico, 2000–2003, and links with sperm whale distributions along the middle slope. In: W. Sturges & A. Lugo-Fernandez (Eds.), *Circulation in the Gulf of Mexico: Observations and models*. (Vol. 161). Washington, D.C.: American Geophysical Union.
- Bjorndal, K. A. 1997. Foraging ecology and nutrition of sea turtles. P. L. Lutz, and J. A. Musick, editors. *The Biology of Sea Turtles*. CRC Press, Boca Raton, FL.
- Bjorndal, K. A. 1980. Nutrition and grazing behavior of the green turtle, *Chelonia mydas*. *Marine Biology* 56:147-154.
- Bolten, A. B., and G. H. Balazs. 1995. Biology of the early pelagic stage - the 'lost year'. Pages 579-581 in K. A. Bjorndal, editor. *Biology and Conservation of Sea Turtles*. Smithsonian Institution Press, Washington, DC.

Bortone, S. A., P. A. Hastings, and S.B. Collard. 1977. The Pelagic-*Sargassum* ichthyofauna of the Eastern Gulf of Mexico. *Northeast Gulf Science* 1(2): 60-67.

Brongersma, L. D. 1972. European Atlantic turtles. *Zoologische Verhandelingen* 121:1-318.

Bullock, L. H. and G.B. Smith. 1991. Seabasses (Pisces:Serranidae). *Memoirs of the Hourglass Cruises* 8(2).

Burch, R. K. 1979. The greater amberjack, *Seriola dumerili*: its biology and fishery off Southeastern Florida. Master's Thesis. University of Miami. Miami, FL, 113pp.

Burke, V. J., S. J. Morreale, and A. G. J. Rhodin. 1993. *Lepidochelys kempii* (Kemp's ridley sea turtle) and *Caretta* (loggerhead sea turtle): diet. *Herpetological Review* 24(1):31-32.

Byles, R. 1988. Satellite Telemetry of Kemp's Ridley Sea Turtle, *Lepidochelys kempi*, in the Gulf of Mexico. Report to the National Fish and Wildlife Foundation:40 pp.

Carls, M.G., S.D. Rice, and J.E. Hose. 1999. Sensitivity of fish embryos to weathered crude oil: Part I. Low-level exposure during incubation causes malformations, genetic damage, and mortality in larval Pacific herring (*Clupea pallasii*). *Environmental Toxicology and Chemistry* 18(3):481-493.

Carr, A. 1987. New perspectives on the pelagic stage of sea turtle development. *Conservation Biology* 1(2):103-121.

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. <http://dx.doi.org/10.1080/02755947.2012.675943>

Carter, J., G.J. Marrow, and V. Pryor. 1994. Aspects of the ecology and reproduction of Nassau grouper, *Epinephelus striatus*, off the coast of Belize, Central America. *Proceedings of the Gulf and Caribbean Fisheries Institute* 43:65-111.

Cervigón, F. 1966. Los Peces Marinas de Venezuela. Vols. I and II. Fund. La Salle. Ciencia Naturales.

Chester, W. 2001. Full box! One hundred years of fishing and boat building in Bay County. Fire in the Water Publishing Company, Southport, Florida.

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.

Colin, P.L. 1992. Reproduction of the Nassau grouper, *Epinephelus striatus* (Pisces: Serranidae) and its relationship to environmental conditions. *Environmental. Biology of Fishes* 34:357-377.

- Collins, L. A., G. R. Fitzhugh, L. A. Lombardi-Carlson, H. M. Lyon, W. T. Walling, and D. W. Oliver. 2002. Characterization of red grouper (*Serranidae: Epinephelus morio*) reproduction from the eastern Gulf of Mexico: 1992-2001. NMFS SEFSC Panama City Lab Contrib. Sero 2002-07. 10 p + 4 tables + 6 figures.
- Courtney, J. M., A. C. Courtney, and M. W. Courtney. 2013. Nutrient loading increases red snapper production in the Gulf of Mexico. *Hypotheses in the Life Sciences*, 3:7-14.
- 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.
- Dodd, C.K., Jr. 1988. Synopsis of the biological data on the loggerhead sea turtle *Caretta caretta* (Linnaeus 1758). U.S. Fish and Wildlife Service, Biological Report 88(14). 110 pages.
- Domeier, M.L., and P.L. Colin. 1997. Tropical reef fish spawning aggregations: defined and reviewed. *Bulletin of Marine Science* 60: 698-726.
- Dooley, J. K. 1972. Fishes associated with the pelagic sargassum complex, with a discussion of the sargassum community. *Contributions in Marine Science* 16:1-32.
- Eckert, S. A., K. L. Eckert, P. Ponganis, and G. L. Kooyman. 1989. Diving and foraging behavior of leatherback sea turtles (*Dermochelys coriacea*). *Canadian Journal of Zoology* 67(11):2834-2840.
- Eckert, S. A., D. W. Nellis, K. L. Eckert, and G. L. Kooyman. 1986. Diving patterns of two leatherback sea turtles (*Dermochelys coriacea*) during internesting intervals at Sandy Point, St. Croix, U.S. Virgin Islands. *Herpetologica* 42(3):381-388.
- Eggleston D.B. 1995. Recruitment in Nassau grouper *Epinephelus striatus*: post-settlement abundance, microhabitat features and ontogenetic habitat shifts. *Marine Ecology Progress Series*. 124:9-22.
- Ehrhart, L.M. and R.G. Yoder. 1978. Marine turtles of Merritt Island National Wildlife Refuge, Kennedy Space Center, Florida. Pages 25–30 in Henderson, G.E. (editor). *Proceedings of the Florida and Interregional Conference on Sea Turtles*. Florida Marine Research Publications Number 33.
- Fahay, MP. 1975. An annotated list of larval and juvenile fishes captured with surface-towed meter net in the South Atlantic Bight during four RV Dolphin Cruises between May 1967 and February 1968. NOAA Technical Report NMFS SSRF-685:1-39.
- 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. 19pgs.

Frazer, T. K., and W. J., Lindberg. 1994. Refuge spacing similarly affects reef-associated species from three phyla. *Bulletin of Marine Science* 55:388-400.

GMFMC. 1981. Environmental impact statement and fishery management plan for the reef fish resources of the Gulf of Mexico and environmental impact statement. Gulf of Mexico Fishery Management Council, Tampa, Florida. 328 pp.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20FMP%20and%20EIS%201981-08.pdf>

GMFMC. 2002. Secretarial Amendment 2 to the Reef Fish Fishery Management Plan to set greater amberjack sustainable fisheries act targets and thresholds and to set a rebuilding plan includes environmental assessment and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida. 105 pp.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Secretarial-Amendment-2-RF.pdf>

GMFMC. 2003. Corrected amendment for a charter/vessel headboat permit moratorium amending the fishery management plans for: reef fish (Amendment 20) and coastal migratory pelagics (Amendment 14) including environmental assessment, regulatory impact review, and initial regulatory flexibility act. Gulf of Mexico Fishery Management Council. Tampa, Florida.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/CBAmdendmentFINAL-corrected.pdf>

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 and South Atlantic. Gulf of Mexico Fishery Management Council. Tampa, Florida.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20EFH%20EIS.pdf>

GMFMC. 2004b. Amendment 22 to the fishery management plan for the reef fish fishery of the Gulf of Mexico, U.S. waters, with supplemental environmental impact statement, regulatory impact review, initial regulatory flexibility analysis, and social impact assessment. Gulf of Mexico Fishery Management Council. Tampa, Florida. 291 pp.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend%2022%20Final%2070204.pdf>

GMFMC. 2004c. Final amendment 23 to the reef fish fishery management plan to set vermilion snapper sustainable fisheries act targets and thresholds and to establish a plan to end overfishing and rebuild the stock, including a final supplemental environmental impact statement and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida. 296 pp.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/VS%2023%20Oct%20Final%2010-21-04%20with%20Appendix%20E.pdf>

GMFMC. 2005. 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.

http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/FINAL3_EFH_Amendment.pdf

GMFMC. 2006. Reef fish amendment 25 and coastal migratory pelagics amendment 17 for extending the charter vessel/headboat permit moratorium. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://gulfcouncil.org/Beta/GMFMCWeb/downloads/CHBAmend%2062305%20AS.pdf>

GMFMC. 2007. Final Amendment 27 to the reef fish fishery management plan and amendment 14 to the shrimp fishery management plan including supplemental environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20RF%20Amend%2027-%20Shrimp%20Amend%2014.pdf>

GMFMC. 2008a. Final reef fish amendment 30A: greater amberjack – revised rebuilding plan, accountability measures; gray triggerfish – establish rebuilding plan, end overfishing, accountability measures, regional management, management thresholds and benchmarks including supplemental environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/docs/amendments/Amend-30A-Final%20208.pdf>

GMFMC. 2008b. Final Amendment 30B: gag – end overfishing and set management thresholds and targets. Red grouper – set optimum yield, TAC, and management measures, time/area closures, and federal regulatory compliance including environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida. 427 pp.

http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Amendment%2030B%2010_10_08.pdf

GMFMC. 2009. Final Amendment 31 to the fishery management plan for reef fish resources in the Gulf of Mexico addresses bycatch of sea turtles in the bottom longline component of the Gulf of Mexico reef fish fishery, includes draft environmental impact statement and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida. 261 pp with appendices.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Draft%20RF%20Amend%2031%206-11-09.pdf>

GMFMC. 2010. Final regulatory amendment the reef fish fishery management plan to set total allowable catch for red snapper including revised environmental assessment, regulatory impact review, and regulatory flexibility analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/docs/amendments/Final%20Red%20Snapper%20Regulatory%20Amendment%203_26_10.pdf

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. GMFMC. Tampa, Florida.

http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf

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. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/docs/amendments/Final%20RF32_EIS_October_21_2011%5b2%5d.pdf

GMFMC. 2012a. Final reef fish Amendment 37: Modifications to the gray triggerfish rebuilding plan including adjustments to the annual catch limits and annual catch targets for the commercial and recreational sectors including environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

[http://gulfcouncil.org/docs/amendments/Final_Reef_Fish_Amend_37_Gray_Triggerfish_12_06_12\[1\].pdf](http://gulfcouncil.org/docs/amendments/Final_Reef_Fish_Amend_37_Gray_Triggerfish_12_06_12[1].pdf)

GMFMC. 2012b. Final regulatory amendment to the fishery management plan for the reef fish resources of the Gulf of Mexico – revise fall recreational fixed closed season and set 2012 and 2013 quotas for red snapper. Gulf of Mexico Fishery Management Council, Tampa, Florida. 62 pp.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Red%20Snapper%20Fall%20Season%20and%20Quota%20RegAmend%20-%2003-20-2012.pdf>

GMFMC. 2012c. Final amendment 35 to the reef fish fishery management plan for the reef fish resources of the Gulf of Mexico – modifications to the greater amberjack rebuilding plan and adjustments to the recreational and commercial management measures, including an environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final_Amendment_35_Greater_Amberjack_Rebuilding_8_May_2012.pdf

GMFMC. 2012d. Modifications to the shallow-water grouper accountability measures. Amendment 38 to the fishery management plan for the reef fish resources of the Gulf of Mexico including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://gulfcouncil.org/docs/amendments/Final%20Amendment%2038%2009-12-2012.pdf>

GMFMC. 2013a Framework action to set the annual catch limit and bag limit for vermilion snapper, set annual catch limit for yellowtail snapper, and modify the venting tool requirement. Gulf of Mexico Fishery Management Council, Tampa, Florida. 171 p.

<http://gulfcouncil.org/docs/amendments/2013%20Vermilion-Yellowtail-Venting%20Tool%20Framework%20Action.pdf>

GMFMC. 2013b. Framework action to set the 2013 red snapper commercial and recreational quotas and modify the recreational bag limit. Gulf of Mexico Fishery Management Council, Tampa, Florida. 81 p.

<http://www.gulfcouncil.org/docs/amendments/Red%20Snapper%20Framework%20Action%20to%20Set%202013%20Quotas.pdf>

GMFMC. 2014a. Final amendment 40 to the reef fish fishery management plan for the reef fish resources of the Gulf of Mexico – recreational red snapper sector separation. Gulf of Mexico Fishery Management Council, Tampa, Florida. 274 p.

<http://www.gulfcouncil.org/docs/amendments/RF%2040%20-%20Final%2012-17-2014.pdf>

GMFMC. 2014b. Recreational Accountability Measures for Red snapper, including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Framework action to the fishery management plan for the reef fish resources of the Gulf of Mexico. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/docs/amendments/Final%20Recreational%20AMs%20for%20Red%20Snapper%2010-6-2014.pdf>

GMFMC. 2015. Final amendment 28 to the reef fish fishery management plan for the reef fish resources of the Gulf of Mexico – red snapper allocation. Gulf of Mexico Fishery Management Council. Tampa, Florida. 302 p.

<http://gulfcouncil.org/docs/amendments/Final%20Red%20Snapper%20Allocation%20-RF%20Amendment%2028.pdf>

GMFMC. 2016. Final amendment 45 to the fishery management plan for the reef fish resources of the Gulf of Mexico: Revision of the red snapper recreational sector separation sunset provision. Gulf of Mexico Fishery Management Council. Tampa, FL. 161pp.

<http://archive.gulfcouncil.org/docs//amendments/RF%2045%20Final.pdf>

GMFMC. 2017a. Final amendment 46 to the fishery management plan for the reef fish resources of the Gulf of Mexico: Gray triggerfish rebuilding plan. Gulf of Mexico Fishery Management Council. Tampa, FL. 218p.

http://gulfcouncil.org/wp-content/uploads/Final-Draft-Amend-46_Gray-Triggerfish-Rebuilding-Plan_-05_05_2017-1.pdf

GMFMC. 2017b. Minimum stock size threshold (MSST) revision for reef fish stocks with existing status determination criteria final Amendment 44 (revised) to the reef fish resources of the Gulf of Mexico, including environmental assessment, and fishery impact statement. Gulf of Mexico Fishery Management Council. Tampa, Florida. 124 pp.

GMFMC and SAFMC. 1982. Fishery management plan final environmental impact statement for coral and coral reefs. Gulf of Mexico Fishery Management Council. Tampa, Florida. and South Atlantic Fishery Management Council. Charleston, South Carolina. 247 pp.
<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/spiny%20lobster%20fmp/SPL%20FMP%20Final%201982-03.pdf>

Gold, J. R., and Richardson, L. R. 1998. Population structure in greater amberjack, *Seriola dumerili*, from the Gulf of Mexico and the western Atlantic Ocean. *Fishery bulletin* 96(4): 767-778.

Goodyear, C. P. 1988. The Gulf of Mexico fishery for reef fish species, a descriptive profile. National Marine Fisheries Service, Southeast Fisheries Center, Miami Laboratory, CRD 87/88-19.

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

Gunter, G., and L. Knapp. 1951. Fishes, new, rare or seldom recorded from the Texas coast. *Texas Journal of Science*, 3(1): 134-138.

Haensly, W.E., J.M. Neff, J.R. Sharp, A.C. Morris, M.F. Bedgood, and P.D. Beom 1982. Histopathology of *Pleuronectes platessa* from Aber Wrac'h and Aber Benoit, Brittany, France: long-term effects of the Amoco Cadiz crude oil spill. *Journal of Fish Disease* 5:365-391.

Hannesson, R. 1996. On ITQs: an essay for the Special Issue of Reviews in Fish Biology and Fisheries. *Reviews in Fish Biology and Fisheries* 6:91-96.

Harris, P. J., D. M. Wyanski, D. B. White, P. P. Mikell, and P. B. Eyo. 2007. Age, growth, and reproduction of greater amberjack off the southeastern U.S. Atlantic Coast. *Transactions of American Fisheries Society* 136(6):1534-1545.

Heemstra, P.C., and J.E. Randall. 1993. Vol. 16. Groupers of the world (Family Serranidae, Subfamily Epinephelinae). An annotated and illustrated catalogue of the grouper, rockcod, hind, coral grouper and lyretail species known to date. FAO Fisheries Synopsis, FAO species catalogue. 125(16) Rome.

Heintz, R.A., J.W. Short, and S.D. Rice. 1999. Sensitivity of fish embryos to weathered crude oil: Part II. Increased mortality of pink salmon (*Oncorhynchus gorbuscha*) embryos incubating downstream from weathered Exxon Valdez crude oil. *Environmental Toxicology and Chemistry* 18(3):494-503.

Herbig, J.L., and S.T. Szedlmayer. 2016. Movement patterns of gray triggerfish, *Balistes capriscus*, around artificial reefs in the northern Gulf of Mexico. *Fisheries Management and Ecology* 23:418-417.

Hildebrand, H. 1954. A study of the fauna of the brown shrimp (*Penaeus aztecus* Ives) grounds in the western Gulf of Mexico. *Publications of the Institute of Marine Science*. 3:233-366.

Hoese, H.D., and R.H. Moore. 1998. *Fishes of the Gulf of Mexico: Texas, Louisiana, and adjacent waters*. Texas A&M University Press, College Station, TX. 422 pp.

Hollowed, A. B., Barange, M., Beamish, R., Brander, K., Cochrane, K., Drinkwater, K., Foreman, M., Hare, J., Holt, J., Ito, S-I., Kim, S., King, J., Loeng, H., MacKenzie, B., Mueter, F., Okey, T., Peck, M. A., Radchenko, V., Rice, J., Schirripa, M., Yatsu, A., and Yamanaka, Y. 2013. Projected impacts of climate change on marine fish and fisheries. *ICES Journal of Marine Science*, 70(5):1023–1037.

Hood, P. B. and A. K. Johnson. 1997. A study of the age structure, growth, maturity schedules and fecundity of gray triggerfish (*Balistes capriscus*), red porgy (*Pagrus pagrus*), and vermillion snapper (*Rhomboplites aurorubens*) from the eastern Gulf of Mexico. MARFIN Final Report F0499-95-F.NMFS, St. Petersburg, FL.

Hood, P.B., A.J. Strelcheck, and P. Steele. 2007. A history of red snapper management in the Gulf of Mexico. Pages 267-284 in W.F. Patterson, III, J.H. Cowan, G.R. Fitzhugh, and D.L. Nieland, editors. *Red snapper ecology and fisheries in the U.S. Gulf of Mexico*. American Fisheries Society Symposium 60. Bethesda, MD.

Hose, J.E., M.D. McGurk, G.D. Marty, D.E. Hinton, E.D Brown, and T.T. Baker. 1996. Sublethal effects of the (Exxon Valdez) oil spill on herring embryos and larvae: morphological, cytogenetic, and histopathological assessments, 1989–1991. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 2355-2365.

Hughes, G.R. 1974. *The sea turtles of south-east Africa. I. Status, morphology and distribution*. Oceanographic Research Institute. Durban, South Africa. 144 pp.

Ingram, G. W. Jr. 2001. Stock structure of gray triggerfish, *Balistes capriscus*, on multiple spatial scales in the Gulf of Mexico. Doctoral dissertation. University of South Alabama, Mobile, Alabama.

Ingram, G. W. Jr., and W. F. Patterson. 2001. Movement patterns of red snapper (*Lutjanus campechanus*), greater amberjack (*Seriola dumerili*), and gray triggerfish (*Balistes capriscus*) in the Gulf of Mexico and the utility of marine reserves as management tools. *Proceedings of the 52nd Gulf and Caribbean Fisheries Institute* 686-699.

Jepson, M. and L.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.

Jochens, A., Biggs, D., Benoit-Bird, K., Engelhaupt, D., Gordon, J., Hu, C., Jaquet, N., Johnson, M., Leben, R., Mate, B., Miller, P., Ortega-Ortiz, J., Thode, A., Tyack, P., & Würsig, B. (2008). Sperm whale seismic study in the Gulf of Mexico: Synthesis report. (OCS Study MMS 2008-006). New Orleans, LA: U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region.

Jochens, A.E. and D.C. Biggs, eds. 2006. Sperm whale seismic study in the Gulf of Mexico, Annual report years 3 and 4. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2006-067. 95 pp

Johnson, A. G. and Saloman, C. H. 1984. Age, growth and mortality of gray triggerfish, *Balistes capriscus*, from the northeastern Gulf of Mexico. *U.S. National Marine Fisheries Service Fishery Bulletin*, 82: 485–492.

Johnston, R.J., D.S. Holland, V. Maharaj, and T.W. Campson. 2007. Fish harvest tags: an alternative management approach for recreational fisheries in the US Gulf of Mexico. *Marine Policy* 33(4).

Keinath, J. A., and J. A. Musick. 1993. Movements and diving behavior of a leatherback turtle, *Dermochelys coriacea*. *Copeia* 1993(4):1010-1017.

Kennedy, V. S., R. R. Twilley, J. A. Kleypas, J. H. Cowan, and S. R. Hare. 2002. Coastal and marine ecosystems & global climate change. Report prepared for the Pew Center on Global Climate Change. 52pp.

https://www.c2es.org/site/assets/uploads/2002/08/marine_ecosystems.pdf

Khan, R.A. and J.W. Kiceniuk. 1984. Histopathological effects of crude oil on Atlantic cod following chronic exposure. *Canadian Journal of Zoology* 62: 2038-2043.

Khan R.A. and J.W. Kiceniuk. 1988. Effect of petroleum aromatic hydrocarbons on monogeneids parasitizing Atlantic cod, *Gadus morhua*. *Bulletin of Environmental Contamination and Toxicology* 41: 94-100.

Khan, R.A. 1990. Parasitism in Marine Fish after Chronic Exposure to Petroleum Hydrocarbons in the Laboratory and to the Exxon Valdez Oil Spill. *Bulletin of Environmental Contamination and Toxicology* 44: 759-763.

Kiceniuk J.W. and R.A. Khan. 1987. Effect of petroleum hydrocarbons on Atlantic cod, *Gadus morhua*, following chronic exposure. *Canadian Journal of Zoology* 65: 490-494.

Kurz, R. C. 1995. Predator-prey interactions between gray triggerfish, *Balistes caprisкус* (Gmelin), and a guild of sand dollars around artificial reefs in the northeastern Gulf of Mexico. *Bulletin of Marine Science* 56:150-160.

Lanyon, J.M., C.J. Limpus, and H., Marsh. 1989. Dugongs and turtles: grazers in the seagrass system. *in*: Larkum, A.W.D, A.J., McComb and S.A., Shepard (eds.) *Biology of seagrasses with special reference to the Australian region*. Elsevier, Amsterdam.

Legault C. M., Restrepo V. R. 1999. A flexible forward age-structured assessment program. *ICCAT Collective Volume of Scientific Papers* 49:246–253.

Libecap, G.D. 2007. Assigning Property Rights in the Common Pool: Implications of the Prevalence of First-Possession Rules for ITQs in Fisheries. *Marine Resource Economics* 22:407-423.

Limpus, C.J., and N., Nichols. 1988. The southern oscillation regulates the annual numbers of green turtles (*Chelonia mydas*) breeding around northern Australia. *Australian Journal of Wildlife Research* 15:157.

Lingo, M. E., and S. T. Szedlmayer. 2006. The influence of habitat complexity on reef fish communities in the northeastern Gulf of Mexico. *Environmental Biology of Fishes* 76(1):71-80.

Lutz, P.L., and J.A. Musick, editors. 1997. *The biology of sea turtles*. CRC Press, Boca Raton, Florida.

Lutz, P.L., J.A. Musick, and J. Wyneken. 2003. *The Biology of Sea Turtles. Volume II*. CRC Press, Inc., Washington, D.C.

Márquez-M, R. 1994. Synopsis of biological data on the Kemp's ridley turtle, *Lepidochelys kempii* (Garman 1880). U. S. Dept. of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, Florida.

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

Mendelssohn, I.A., G.L. Andersen, D.M. Baltz, R.H. Caffey, K.R. Carman, J.W. Fleeger, S.B. Joye, Q. Lin, E. Maltby, E.B. Overton, and L.P. Rozas. 2012. Oil Impacts on Coastal Wetlands: Implications for the Mississippi River Delta Ecosystem after the *Deepwater Horizon* Oil Spill. *BioScience* 62: 562–574.

Mendonca, M. T., and P. C. H. Pritchard. 1986. Offshore movements of post-nesting Kemp's ridley sea turtles (*Lepidochelys kempii*). *Herpetologica* 42:373-380.

Methot, R. D. 2010. User manual for stock synthesis, model version 3.10b. Seattle, Washington <http://nft.nefsc.noaa.gov/Download.html> .

- Meylan, A. 1984. Feeding ecology of the hawksbill turtle *Eretmochelys imbricata*: Spongivory as a feeding niche in the coral reef community. Unpublished Ph.D. Dissertation. University of Florida; Gainesville, Florida.
- Meylan, A. 1988. Spongivory in hawksbill turtles: a diet of glass. *Science* 239:393-395.
- Meylan, A. B., and M. Donnelly. 1999. Status justification for listing the hawksbill turtle (*Eretmochelys imbricata*) as critically endangered on the 1996 IUCN Red List of Threatened Animals. *Chelonian Conservation and Biology* 3(2):200-204.
- Moe, M.A. 1969. Biology of the red grouper *Epinephelus morio* (Valenciennes) from the eastern Gulf of Mexico. Professional Papers Series Number Ten. Florida Department of Natural Resources, Marine Research Laboratory, St. Petersburg, Florida. 95 pp.
- Moore, J. L. 2001. Age, growth and reproductive biology of the gray triggerfish (*Balistes capriscus*) from the southeastern United States, 1992-1997. Master's thesis, University of Charleston, Charleston, South Carolina. 99 pp.
- Mortimer, J. A. 1981. The feeding ecology of the west Caribbean green turtle (*Chelonia mydas*) in Nicaragua. *Biotropica* 13(1):49-58.
- Mortimer, J. A. 1982. Feeding ecology of sea turtles. Pages 103-109 in K. A. Bjorndal, editor. *Biology and Conservation of Sea Turtles*. Smithsonian Institution Press, Washington D.C.
- Murawski, S, A., W. T. Hogarth, E. B. Peebles, and L. Barbeiri. 2014. Prevalence of External Skin Lesions and Polycyclic Aromatic Hydrocarbon Concentrations in Gulf of Mexico Fishes, Post-Deepwater Horizon. *Transactions of the American Fisheries Society* 143(4):1084-1097.
- Murie, D. J., and D. C. Parkyn. 2008. Age, growth and sex maturity of greater amberjack (*Seriola dumerili*) in the Gulf of Mexico. MARFIN Final Report NA05NMF4331071.
- Murie, D.J., D.C. Parkyn and J. Austin. 2011. Seasonal movement and mixing rates of greater amberjack in the Gulf of Mexico and assessment of exchange with the South Atlantic spawning stock. *SEDAR33-DW12*: 46.
- National Marine Fisheries Service and U.S. Fish and Wildlife Service. 2008. Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (*Caretta caretta*), Second Revision. National Marine Fisheries Service, Silver Spring, Maryland.
- NMFS. 2010. 2010 Recreational Red Snapper Quota Closure Analysis – Fall Reopening. SERO-LAPP-2010-04. Southeast Regional Office, National Marine Fisheries Service. St. Petersburg, Florida.
- http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/red_snapper/documents/pdfs/gulf_rs_quota_closure_analysis_2010_2.pdf

- NOAA. 2010. Deepwater Horizon Oil: Characteristics and Concerns. NOAA Office of Response and Restoration, Emergency Response Division. 2 p.
http://sero.nmfs.noaa.gov/deepwater_horizon/documents/pdfs/fact_sheets/oil_characteristics.pdf
- NODC. 2011. National Oceanographic Data Center (NODC), K. S. Casey, E. J. Kearns, V. Halliwell, and R. Evans, NOAA and University of Miami, Rosenstiel School of Marine and Atmospheric Science. NODC/RSMAS AVHRR Pathfinder Version 5 Seasonal and Annual Day-Night Sea Surface Temperature Climatologies for 1982-2009 for the Gulf of Mexico. NODC Accession 0072888. <http://www.nodc.noaa.gov/cgi-bin/OAS/prd/accession/download/0072888>
- NMFS. 2012. Draft environmental assessment and regulatory impact review for a proposed interim rule to the fishery management plan for the reef fish resources of the Gulf of Mexico; 2012 Gulf of Mexico gray triggerfish annual catch limits & annual catch targets for the commercial & recreational sectors; and in-season accountability measures for the recreational sector. Under consideration at the April 2012 Gulf Council meeting, Tab B, No. 5(a).
- NMFS. 2017. Fisheries Economics of the United States, 2015. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-170, 247p.
- Norman, J.R. and F.C. Fraser, 1938. Giant fishes, whales and dolphins. Illustrated by W. P. C. Tenison. W.W. Norton, New York. 361 pp.
- Ogren, L. H. 1989. Distribution of juvenile and subadult Kemp's ridley sea turtles: preliminary results from 1984-1987 surveys. Pages 116-123 in C. W. Caillouet Jr., and J. A.M. Landry, editors. Proceedings of the First International Symposium on Kemp's Ridley Sea Turtle Biology, Conservation, and Management. Texas A&M University Sea Grant College, Galveston, Texas.
- 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 Tech. Memo. NMFS-F/SPO-89, 118 pp.
- Parrack, N.C. and D.B. McClellan. 1986. Trends in Gulf of Mexico red snapper population dynamics, 1979-85. National Marine Fisheries Service, Southeast Fisheries Center, Miami, Florida. Coastal Resources Division Contribution No. CRD-86/87-4. 116 pp.
- Paredes, R.P. 1969. Introduccion al Estudio Biologico de *Chelonia mydas agassizi* en el Perfil de Pisco, Master's thesis, Universidad Nacional Federico Villareal, Lima, Peru.
- Radakov, D. V., A.D. Motchek, Y.N. Sbikin, R. Claro Madruga, and A. Silva Lee. 1975. Acerca de la longitud de los peces comerciales en capturas de la zona noroccidental de Cuba. Serie Oceanologica. No. 28. Academia de Ciencias de Cuba. Instituto de Oceanologia. Habana. Cuba, 9 pp.
- Rico-Martínez, R., T.W. Snell, and T.L. Shearer. 2013. Synergistic toxicity of Macondo crude oil and dispersant Corexit 9500A® to the *Brachionus plicatilis* species complex (Rotifera). Environmental Pollution 173:5-10.

Robins, C.R., G.C. Ray, and J. Douglass. 1986. Peterson field guides: Atlantic coast fishes. Houghton Mifflin Company, Boston.

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 p. Available at: <http://www.laseagrant.org/wp-content/uploads/Gulf-RFH-Survey-Final-Report-2012.pdf>

Schirripa, M. J. and C. M. Legault. 1999. Status of the red snapper in U.S. waters of the Gulf of Mexico updated through 1998. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, Florida. Sustainable Fisheries Division Contribution SFD-99/00-75. <http://www.gulfcouncil.org/Beta/GMFMWeb/downloads/RSAssess99.pdf>

SEDAR 7. 2005. Stock assessment report of SEDAR 7 Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org/docs/sar/S7SAR_FINAL-redsnapper.pdf

SEDAR 7 Update. 2009. Update stock assessment report of SEDAR 7 Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. <http://sedarweb.org/docs/suar/Gulf%20Red%20Snapper%20Update%202009%205.0.pdf>

SEDAR 12. 2007. SEDAR12-Complete Stock Assessment Report 1: Gulf of Mexico Red Grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. <http://sedarweb.org/docs/sar/S12SAR1%20Gulf%20Red%20Grouper%20Completev2.pdf>

SEDAR 31. 2013. Stock assessment report Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 1103 pp. http://sedarweb.org/docs/sar/SEDAR%2031%20SAR-%20Gulf%20Red%20Snapper_sizedreduced.pdf

SEDAR 33. 2014a. Stock assessment report Gulf of Mexico greater amberjack. Southeast Data, Assessment, and Review. North Charleston, South Carolina. <http://www.sefsc.noaa.gov/sedar/>.

SEDAR 9. 2006a. Stock assessment report 1 of SEDAR 9: Gulf of Mexico gray triggerfish. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org/docs/sar/SEDAR9_SAR1%20GOM%20Gray%20Triggerfish.pdf

SEDAR 9. 2006b. Stock assessment report 2 of SEDAR 9: Gulf of Mexico greater amberjack. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://sedarweb.org/docs/sar/SEDAR9_SAR2%20GOM%20GreaterAmberjack.pdf

- SEDAR 9 Update. 2011b. An alternative SSASPM stock assessment of Gulf of Mexico vermilion snapper that incorporates the recent decline in shrimp effort (December revision). Southeast Fisheries Science Center, Miami, FL. 87 pp.
<http://sedarweb.org/docs/suar/Final%20Vermilion%20Snapper%20Update%20with%20addendum.pdf>
- SEDAR 43. 2015. Stock assessment report Gulf of Mexico gray triggerfish. Southeast Data, Assessment, and Review. North Charleston, South Carolina. 193 pp.
http://sedarweb.org/docs/sar/S43_SAR_FINAL.pdf
- Shaver, D. J. 1991. Feeding Ecology of Wild and Head-Started Kemp's Ridley Sea Turtles in South Texas Waters. *Journal of Herpetology* 25(3):327-334.
- Shipp, R.L. and S.A. Bortone. 2009. A perspective of the importance of artificial habitat on the management of red snapper in the Gulf of Mexico. *Reviews in Fisheries Science*. 17(1):41-47.
http://sedarweb.org/docs/wsups/SEDAR24-RD39_Shipp2009.pdf
- Short, J. 2003. Long-term effects of crude oil on developing fish: Lessons from the Exxon Valdez oil spill. *Energy Sources* 25(6): 509-517.
- Silva Lee, A.F. 1974. Hábitos alimentarios de la cherna criolla *Epinephelus striatus* Bloch y algunos datos sobre su biología. *Serie Oceanologica Academia de Ciencias de Cuba* 25:3-14.
- Simmons, C. M., and S. T. Szedlmayer. 2011. Recruitment of age-0 gray triggerfish to benthic structured habitat in the northern Gulf of Mexico. *Transactions of the American Fisheries Society* 140(1):14-20.
http://sedarweb.org/docs/wsups/S42_RD01_Simmons%26Szedlmayer%202011%20Recruitment%20of%20Age-0%20gray%20triggerfish%20to%20benthic%20structure.pdf
- Simpfendorfer, C.A. 2001. Essential habitat of smalltooth sawfish (*Pristis peetinata*). Mote Marine Laboratory Technical Report 786. 21 pp.
<https://dspace.mote.org/dspace/handle/2075/2960>
- Sindermann, C.J. 1979. Pollution-associated diseases and abnormalities of fish and shellfish: a review. *Fisheries Bulletin* 76: 717-749.
- Smith, C.L. 1971. A revision of American groupers: *Epinephelus* and allied genera. *Bulletin of the American Museum of Natural History*. 146: 67-242.
- Snyder, Susan M., E.L. Pulster, D.L. Wetzel, and S.A. Murawski. 2015. PAH exposure in Gulf of Mexico demersal fishes, post-Deepwater Horizon. *Environmental Science and Technology*. 49(14): 8786–8795. DOI: 10.1021/acs.est.5b01870
<https://gulfseagrant.files.wordpress.com/2015/09/oil-spill-seminar-gulf-seafood-snyder.pdf>
- Solangi, M.A. and R.M. Overstreet. 1982. Histopathological changes in two estuarine fishes, *Menidia beryllina* (Cope) and *Trinectes maculatus* (Bloch and Schneider), exposed to crude oil and its water-soluble fractions. *Journal of Fish Disease* 5(1): 13-35.

- Soma, M. 1985. Radio biotelemetry system applied to migratory study of turtle. Journal of the Faculty of Marine Science and Technology, Tokai, University, Japan. 21:47.
- Standora, E. A., J. R. Spotila, J. A. Keinath, and C. R. Shoop. 1984. Body temperatures, diving cycles, and movement of a subadult leatherback turtle, *Dermochelys coriacea*. Herpetologica 40:169-176.
- Starr, R.M., E. Sala, E. Ballesteros, and M. Zabala. 2007. Spatial dynamics of the Nassau grouper *Epinephelus striatus* in a Caribbean atoll. Marine Ecology Progress Series, 343:239-249.
- Sutton, S.G., R.B. Ditton, J.R. Stoll, and J.W. Milon. 1999. A cross-sectional study and longitudinal perspective on the social and economic characteristics of the charter and party boat fishing industry of Alabama, Mississippi, Louisiana, and Texas. Report by the Human Dimensions of Recreational Fisheries Research Laboratory, Texas A&M University, MARFIN program grant number NA77FF0551.
- Swedmark, M., A. Granmo, and S. Kollberg. 1973. Effects of oil dispersants and oil emulsions on marine animals. Water Research 7(11): 1649-1672.
- Tarnecki, J.H. and W.F. Patterson III. 2015. Changes in Red Snapper Diet and Trophic Ecology. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 7: 135–147.
- Thayer, G.W., K.A., Bjorndal, J.C., Ogden, S.L., Williams, and J.C., Zieman. 1984. Role of large herbivores in seagrass communities. Estuaries 7:351.
- Thompson, R., and J.L. Munro. 1978. Aspects of the biology and ecology of Caribbean reef fishes: Serranidae (hinds and groupers). Journal of Fish Biology, 12:115-146.
- Tucker, J.W., P.G. Bush, and S.T. Slaybaugh. 1993. Reproductive patterns of Cayman Islands Nassau grouper (*Epinephelus striatus*) populations. Bulletin of Marine Science. 52(3):961–969.
- Tucker, J.W., Jr., and P.N. Woodward. 1994. Growth and development of domestic juvenile Nassau groupers. Proceedings of the Gulf and Caribbean Fisheries Institute. 43: 389-391.
- Turner, S. C., N. J. Cummings, and C. P. Porch. 2000. Stock assessment of Gulf of Mexico greater amberjack using data through 1998. SFD-99/00-100. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida. 27 pp.
http://sedarweb.org/docs/wsupp/S9RD06_GAJassessGulf.pdf
- van Dam, R. P., and C. E. Díez. 1998. Home range of immature hawksbill turtles (*Eretmochelys imbricata* [Linnaeus]) at two Caribbean islands. Journal of Experimental Marine Biology and Ecology 220(1):15-24.

Vose, F. E., and W. G. Nelson. 1994. Gray triggerfish (*Balistes capriscus* Gmelin) feeding from artificial and natural substrate in shallow Atlantic waters of Florida. *Bulletin of Marine Science* 55:1316-1323.

Walker, T. 1994. Post-hatchling dispersal of sea turtles. *Proceedings of the Australian Marine Turtle Conservation Workshop* 1994:79-94.

Waring, G.T., E. Josephson, K. Maze-Foley, and P.E. Rosel. 2013. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments-2012, Volume 1. 425 pp.

Wells, R. J. D., and J. R. Rooker. 2002. Distribution, age, and growth of young-of-the-year greater amberjack (*Seriola dumerili*) associated with pelagic *Sargassum*. *Fishery Bulletin* 102:545-554.

Wells, R. J. D., and J. R. Rooker. 2004. Spatial and temporal patterns of habitat use by fishes associated with *Sargassum* mats in the northwestern Gulf of Mexico. *Bulletin of Marine Science* 74(1):81–99.

Whitehead A, Dubansky B, Bodinier C, Garcia TI, Miles S et al 2011 Genomic and physiological footprint of the Deepwater Horizon oil spill on resident marsh fishes. *Proceedings of the National Academy of Science*. 109(50):20298–20302

Wilson C. A., D. L. Nieland, and A. L. Stanley. 1995. Age, growth, and reproductive biology of gray triggerfish, *Balistes capriscus*, from the Northern Gulf of Mexico commercial harvest. MARFIN Final Report. Louisiana State University. Baton Rouge, Louisiana.

Wilson, D., R. Billings, R. Chang, S. Enoch, B. Do, H. Perez, and J. Sellers. 2017. Year 2014 Gulf wide emissions inventory study. US Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study BOEM 2017-044, 275 pp.

Witzell, W. N. 2002. Immature Atlantic loggerhead turtles (*Caretta caretta*): suggested changes to the life history model. *Herpetological Review* 33(4):266-269.

Wyneken, J., K.J. Lohmann, and J.A. Musick. 2013. The Biology of Sea Turtles, Volume III. CRC Marine Biology Series (Book 14). CRC Press. Boca Raton, FL.

APPENDIX A. CONSIDERED BUT REJECTED ALTERNATIVES

- At its **April 2016 meeting**, the Council moved Action 1, Alternative 3 and the corresponding Section C (including Actions 7-9) to the considered but rejected section. They determined that too much power would be given to other fishermen to make decisions, which had the potential for misuse, and that difficulty could exist in organizing the large numbers of charter operators into cooperatives.

Action 1 – Alternative 3: Establish a fishing cooperative program (Section C) that provides the cooperatives with annual allocation.

Section C – Fishing Cooperative Program

Action 7 – Cooperatives: Formation and Membership

Alternative 1: No Action. Do not specify how cooperatives are established.

Alternative 2: All charter vessels will be placed in one cooperative.

Alternative 3: All charter vessels will initially be placed in one cooperative. Program participants can voluntarily create new cooperatives with a minimum membership of three vessels, none of which are owned by the other two persons in the cooperative.

Option 3a: Members can only change cooperative membership before the beginning of each fishing season, during a declaration period designated by NMFS. After the close of the declaration period, participants cannot change membership until the next year.

Option 3b: Members can only change cooperative membership before the beginning of every second fishing season, during a declaration period designated by NMFS. After the close of the declaration period, vessels cannot change membership until the next declaration period.

Action 8 – Cooperatives: Transferability of Vessel Allocation

Alternative 1: No Action. Do not allow vessel allocation to be transferred.

Alternative 2: Vessel allocation may be transferred among members within the same cooperative.

Alternative 3: Vessel allocation may be transferred between members of different cooperatives.

Alternative 4: Do not establish restrictions on transferring vessel allocation.

Action 9 – Cooperatives: Caps on Vessel Allocation

Alternative 1: No Action. There is no cap on the amount of vessel allocation that a participant can hold and/or use.

Alternative 2: No participant may hold more than x% of the total charter vessel quota at any point in time.

Alternative 3: No participant may hold and/or use more than x% of the total charter vessel quota cumulatively throughout a calendar year.

- At its **August 2016 meeting**, the Council moved Action 1 – Alternative 3, and corresponding Section C (including Actions 7 and 8) to the considered but rejected section. They discussed that such a program would be impractical and unworkable unless the annual allocation was calculated at 5-year intervals or longer and noted that there was still another allocation-based program, harvest tags, under consideration.

Action 1 – Alternative 3: Establish a Permit Fishing Allocation (PFA) program (Section C) that provides annual allocation only. Annual allocation will be calculated

Option 3a: each year.

Option 3b: every 3 years.

Option 3c: every 5 years.

Action 7 – PFA: Transferability of Allocation

Alternative 1: No Action. Do not allow the transfer of allocation among participants.

Alternative 2: An account must have a Charter/Headboat permit for Reef Fish and endorsement (Action 2) to receive transferred allocation.

Alternative 3: There are no restrictions on the transfer of allocation.

Action 8 – PFA: Caps on Use of Allocation

Alternative 1: No Action. Do not cap the amount of allocation that one participant can hold.

Alternative 2: No participant may have allocation equaling more than the maximum allocation issued during initial apportionment for a participant (as defined in Action 3).

Alternative 3: No participant may have allocation equaling more than x% of the total charter vessel quota.

- At its **August 2016 meeting**, the Council moved Action 2 – Alternative 2, Option 2b [*Only Option 2b was removed; the alternative and other options remain.*] to the considered but rejected section. They discussed that having the opportunity to opt-out every year was unworkable, administratively. They also noted that, if transferability is allowed, a fisherman would simply sell and then be out of the program as a result.

Action 2 – Alternative 2: Establish a voluntary red snapper management program for charter vessels. The program would include only charter vessels with a valid or renewable Gulf Charter/Headboat permit for Reef Fish that did not opt-out of the red snapper management program for charter vessels. An endorsement to the federal for-hire permit for reef fish would be issued to those for-hire permit holders who did not opt-out of the red snapper management program for charter vessels. Any charter vessel that opts out of the red snapper management program will not be able to harvest red snapper. Opportunities to opt-out from the red snapper management program for charter vessels are offered:

Option 2b: every year.

- At its **August 2016 meeting**, the Council moved Action 3 – Alternatives 2 and 3 to the considered but rejected section. They noted that another alternative exists that would have weighted percentages for different methods of distribution, including equal distribution and distribution based on passenger capacity, which would likely be the best approach rather than a single method of distribution.

Action 3 – Alternative 2: Distribute quota equally among charter permit holders.

Action 3 – Alternative 3: Distribute quota based on the passenger capacity of charter vessels.

- At its **June 2017 meeting**, the Council moved Action 2 to the considered but rejected section. They discussed that it would be almost unworkable to have the program as voluntary if adaptive management was in place.

Action 2 – Program Participation

Alternative 1: No Action. Do not establish a voluntary red snapper management program for charter vessels. The red snapper management program applies to all charter vessels with a valid or renewable Gulf Charter/Headboat permit for Reef Fish.

Alternative 2: Establish a voluntary red snapper management program for charter vessels. The program would include only charter vessels with a valid or renewable Gulf Charter/Headboat permit for Reef Fish that did not opt-out of the red snapper management program for charter vessels. An endorsement to the federal for-hire permit for reef fish would be issued to those for-hire permit holders who did not opt-out of the red snapper management program for charter vessels. Any charter vessel that opts out of the red snapper management program will not be able to harvest red snapper. Opportunities to opt-out from the red snapper management program for charter vessels are offered:

Option 2a: once, at the implementation of the program.

Option 2b: every 3 years.

Option 2c: every 5 years.

- At its **October 2017 meeting**, the Council moved Action 1 – Alternative 3 and Action 10.2 (Harvest Tags), while retaining Action 10.1 (IFQs/PFQs), to the considered but rejected section. They determined that no interest had been shown in a harvest tag program by the Advisory Panel or by the public and that a reasonable range of alternatives, with IFQs and PFQs, would still be in place.

Action 1 - Alternative 3: Establish a harvest tag program that provides participants with annual allocation distributed in the form of harvest tags. Annual allocation will be calculated

Option 3a: every 3 years.

Option 3b: every 5 years.

Action 10 – Cap on Usage of Allocation for IFQs/PFQs and Harvest Tags

Action 10.2 - Harvest Tags

Alternative 1: No Action. There is no cap on the amount of harvest tags that a participant can hold.

Alternative 2: No participant may hold more harvest tags than represented by x% of the total charter vessel quota at any point in time.

Alternative 3: No participant may hold and/or use more than x% of the total charter vessel quota cumulatively throughout a calendar year.

Alternative 4: No participant may hold harvest tags equaling more than the maximum number of tags issued to any one participant during the quota apportionment (as defined in Action 3).

APPENDIX B. OTHER APPLICABLE LAW

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the Exclusive Economic Zone. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making include the Endangered Species Act (Section 3.3.3), E.O. 12866 (Regulatory Planning and Review, Chapter 5) and E.O. 12898 (Environmental Justice, Section 3.5.2). Other applicable laws are summarized below.

Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. 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 waiting period from the time a final rule is published until it takes effect. Proposed and final rules will be published before implementing the actions in this amendment.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state’s coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 CF.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state’s coastal zone, NMFS is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary, NMFS will determine if this plan amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. The determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

Data Quality Act (DQA)

The DQA (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 OMB on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the Magnuson-Stevens Act, FMPs and amendments must be based on the best 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 presented in this amendment has undergone quality control prior to being used by the agency and will be subject to a pre-dissemination review.

National Historic Preservation Act (NHPA)

The 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 from 1625 to 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, 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.

Executive Orders

E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a

Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 13089: Coral Reef Protection

The Executive Order 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, which established additional HAPCs and gear restrictions to protect corals throughout the Gulf of Mexico. There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too). No Federalism issues have been identified relative to the action proposed in this amendment. Therefore, consultation with state officials under Executive Order 12612 is not necessary.

APPENDIX C. SCOPING WORKSHOP SUMMARIES

Scoping Workshop Summaries

Scoping Workshops were held jointly for Reef Fish Amendment 41: Red Snapper Management for Charter Vessels, and Reef Fish Amendment 42: Reef Fish Management for Headboats. The summaries from discussions pertaining to Amendment 41 are provided here.

Scoping Workshops were held in the following locations:

Mon, October 19, 2015

Courtyard Marriott Gulfport Beachfront
1600 East Beach Blvd.
Gulfport, MS 39501

Thurs, October 22, 2015

Hilton Galveston Island
5400 Seawall Blvd.
Galveston, TX 77551

Wed, October 21, 2015

Adult Activity Center
26251 Canal Road
Orange Beach, AL

Mon, October 26, 2015

Marriott Clearwater Beach Sand Key
1201 Gulf Blvd.
Clearwater Beach, FL 33767

Thurs, October 22, 2015

Embassy Suites
570 Scenic Gulf Drive
Destin, FL 332550

Thurs, October 29, 2015

Webinar

Tues, November 3, 2015

Courtyard Marriott
142 Library Drive
Houma, LA 70360

Summaries of Scoping Workshops

Gulfport, Mississippi October 19, 2015

Council/Staff

Joe Jewell / Kelly Lucas
Ed Swindell
Ava Lasseter
Bernadine Roy

22 Members of the public attended

Tom Becker	Glenn Bremen Kemp
Diane Castoro	Skip Roberts
Mike Foto	Bob Brown
Brandon Morano	Tom Steber
Kenny Barhanovian	Dustin Trochesset
Dick Wilson	Pat Grannan

Chuck Guilford
Frank Becker
Kenny Bellais
Bill Des Jardins
Lauren Nelson
Doug Nelson
Clarence Seymour

Scoping Questions

- 1. Should the Council consider traditional management measures (bag limit, size limit, season)?**
 - Yes, traditional management is more in line with the natural order. Allocation-based approaches would not allow the charter operators to stay in business. The season is too short.
 - We've "done done" that. Let's try something new.
 - No, need more flexibility.
 - Would like to fish in the spring or fall.
- 2. Should the Council consider allocation-based measures (group or individual based)?**
 - Allocation-based offers more flexibility as long as you have good accountability measures. Allows one to fish when best for the business and customers.
 - There is no season if harvest tags are used.
 - Yes, if allocation is based on fair and equitable data.
- 3. What is your preferred management approach (traditional methods or allocation-based)?**
 - Tags assigned to a permit.
 - Allocation that best benefits the for-hire industry.
- 4. If the Council allocates red snapper to charter vessels, should the allocation consider the passenger capacity of charter vessels or regional differences between homeports?**
 - Equal allocation per permit holder. All 6-packs would get the same allocation.
 - Totally opposed to allocating among for-hire vessels.
 - Allocation-based approaches will reduce the number of fishing days.
 - Under a tagging program, when out of tags season is over.
 - Allows each individual to fish when they want, because you can use tags when you want.
 - Prefers distribution of shares based on a tiered passenger capacity.
 - Allow vessels to opt in/out of an allocation based program, annually.
- 5. Should the Council consider additional management measures that were not mentioned?**
 - Should eliminate a lot of latent permits. Require proof of charter income.
 - Concern that latent permit holders will receive allocation to sell to active charters resulting in unfair profits.
 - Does not support trading or selling of allocation. If you don't use it, you lose it.
 - Supports VMS as optional and require electronic logbooks. Would prefer an app instead of a satellite tracker.
 - VMS is the gold star for accountability. NMFS knows when you go fishing. VMS will identify latent permits.

- Don't want to further reduce access by eliminating permits, but want to identify latent permits for program participation.
- Shouldn't negate access due to unforeseen circumstances. Don't define a latent permit as one not used in a single year. Need an appeals process to protect permit holders.
- In a well-designed program there will not be latent permits because they will have value and get used.

**Orange Beach, Alabama
October 21, 2015**

Council/Staff

Kevin Anson
Chris Blankenship
Ava Lasseter
Bernadine Roy

24 members of the public attended

Larry Kelley	Dennis McKay	Bill Jeffries
Lane Sarrold	Robert Wasilausky	Robert Stuart
Gordon Burdette	Randy Boggs	Steve Johnson
Michael Choron	Josh South	Joe Nash
Mike Rowell	John Hollingshorn	Tom Steber
Gary Bryant	Blakeley Ellis	Denny Kearley
David Adams	Brian Swindle	
Don McPherson	Phillip West	
Troy Frady	Dale Woodruff	

Scoping Questions

1. Charter vessels are currently managed using a traditional approach. In what ways does the current approach work or not work?

- It doesn't work. The for-hire industry desperately needs flexibility. Need to manage our own business. Want to fish when we want to fish.
- With the set season and set catch limits, they have no flexibility.
- Leads to derby fishing.
- Leads to regional/localized depletion, because all recreational vessels are fishing in a short time period.
- Creates targeting of red snapper instead of fishing for other fish. Red snapper becomes a bycatch fishery. Meeting the bag limit defines a successful trip.
- Decreases access for recreational fishermen because they can only fish during a set time.
- The uncertainty of exceeding the catch limit still exists.
- Does not provide accurate landings data.
- Necessitates that charter operators do multiple trips per day during the short season.

2. If the Council selects to continue using a traditional approach to management, what measures (size limit, bag limit, fishing season) should be adjusted and how?

- Reduce bag limit to one fish.
- Adopt a split season, such that both May and October are open.
- Charter for-hire needs a June/July season because of stable weather and reliable tourism numbers at that time.
- Short continuous seasons do not work because of the possibility of bad weather.

3. In what ways might an allocation-based management approach benefit/hinder charter operators and their passenger anglers?

- Would increase flexibility. Can fish when you want to or need to, and could do other trips. Would stabilize the charter fisherman's business by allowing his customers to choose when to fish.
- Would reduce discards.
- Would increase the area for fishing if able to take fewer but longer trips and be able to access waters farther from shore.
- Distributing allocation would decrease uncertainty by fixing the amount of harvest up front. Could reduce discard mortality with available quota and by modifying fishing practices.
- It further establishes a privileged fishery.
- If harvest tags are used, use for recreational sector as a whole and allocate to the angler who could then fish on charter or private boats. Supports recreational sector management as a whole.
- No, it would not hinder anglers.
- The success of a charter management plan could encourage private anglers to create a management plan, too.

4. If the Council selects an allocation-based management approach which one is most appropriate and why?

- Allocation-based, but without ownership of shares.
- Does not support IFQs. Wants a voluntary opt-in/out program if going to fish for red snapper. Provide allocation to vessels that are catching red snapper.
- Harvest tags for enforcement and validation.
- Electronic log books for real-time data collection.
- If there are permits that aren't being used and an allocation-based program is adopted, could have an inequitable distribution of allocation. Recommends a use-it or lose-it provision.
- Supports modeling charter management similar to the headboat collaborative program, including VMS, logbooks, and tags.

5. Other comments:

- Explore every avenue for allocation approaches to ensure fairness and equity.
- Use tags for the entire recreational sector.

**Destin, Florida
October 22, 2015**

Council/Staff

Martha Bademan
Pam Dana
Ava Lasseter
Ryan Rindone
Karen Hoak
Bernadine Roy

23 members of the public attended

Jeff Shoults	Casey Weldon	Chris Couvillion
Dean Cox	Ed Greene	E.A. Hipsty, Jr.
Pam Anderson	Aaron Smith	Jennifer Bobo
Charlie Saleen	Jason Mikel	Eric Thrasher
Kirk Pristas	Sean Kelley	Mary Beth Barrows
Candy Hansard	Dennis Reed	Britton Corbin
Lee Rogers	Stan Phillips	Michelle Sempstrott
Dennis McKay	Gary Hickman	

Scoping Questions

- 1. Charter vessels are currently managed using a traditional approach. In what ways does the current approach work or not work?**
 - Want to get away from everyone being lumped together. Likes individual boats being accountable for their individual anglers.
 - There are issues with processing the data already collected. Why increase reporting requirements if the data cannot yet be used?
- 2. If the Council selects to continue using a traditional approach to management, what measures (size limit, bag limit, fishing season) should be adjusted and how?**
 - No issue with size limit.
 - Increase in fishing days (as a result of sector separation) was good. Happy with more access.
- 3. In what ways might an allocation-based management approach benefit/hinder charter operators and their passenger anglers?**
 - Accountability could be improved. Not be limited to a set season. Allow more flexibility by not being limited to a timeframe.
 - Derby style fishing is not as safe.
 - Current season is during spawning season. May be good to not have fishing pressure during spawning season.

4. If the Council selects an allocation-based management approach which one is most appropriate and why?

- Based on vessel permit. Run the system to collect catch data from two years, or base allocation on passenger capacity.

5. Other comments on Amendment 41:

- If can't accomplish allocation-based management, emphasize accountability of catches.

**Galveston, Texas
October 22, 2015**

Council/Staff

Doug Boyd
Emily Muehlstein
Charlotte Schiaffo

11 Members of the public attended

Serena Etie	Taylor Borel
Shane Cantrell	Matt Etie
Mike Jennings	Greg Ball
Darrel Hingle	Travis Eifert

Mike Nugent
Daniel Willard
Sam Miller

Scoping Questions

1. Charter vessels are currently managed using a traditional approach. In what ways does the current approach work or not work?

- The sudden announcement of season openings or closures does not give businesses enough time to plan trips.
- Traditional management has failed historically to constrain fishing within the quota.
- The one-size-fits-all season does not take into account regional needs of the fishery.
- Traditional management creates effort shifting when seasons close. Additionally, in some seasons, when multiple species are closed, it's difficult to find a fish to target.
- Under traditional management red snapper is still a derby fishery because the season is so short. Fishermen can be put in harm's way by trying to fish in bad weather.
- Rebuilding is working under traditional management. The snapper population is robust and they're hard to avoid.
- Catching fish outside of season promotes dead discards and inside of the season it promotes high grading.
- Limited seasons constrain tourism and economies for destination fishing.
- Current season and bag limits fail the charter industry because it's hard to run a business under traditional management.

2. If the Council selects to continue using a traditional approach to management, what measures (size limit, bag limit, fishing season) should be adjusted and how?

- The Council has already tried to change each parameter and nothing has improved.
- The concept of split seasons should be considered if the Council decides to continue with traditional management approaches.
- People should be allowed to choose when to fish. Potentially, consider a days-at-sea type program. If the season can be open for 9 days allow individuals to select the days they want to fish.

3. In what ways might an allocation-based management approach benefit or hinder charter operators and their passenger anglers?

- A well thought-out system could do away with buffers that are caused by management uncertainty, and that would increase the amount of fish that can actually be harvested.
- Allocation based management would allow charter boat operators and customers the ability to pick and choose when to fish.
- Under an allocation system some people could be forced out of the sector if everyone is not equal within the program. It will hurt charter boats if smaller operators are pushed out.
- The allocation system can be designed to meet the exact needs of the program.
- Allocation-based management will allow customers to decide what kind of trip they want to take.

4. If the Council selects an allocation-based management approach, which one is most appropriate and why?

- An allocation-based approach should not include fleet reduction.
- The Council should use a permit-based fishing quota program where quota is distributed evenly across permits. This will add certainty in the fishery and it will level the playing field by making the program equal for everybody.
- If there is even distribution there will be permit holders that aren't interested in the snapper. In that case, you could use unclaimed fish as a buffer or roll them back into next year's distribution. Either way, do not set up a system that cuts people out of the fishery.
- Group allocation instead of individual allocation would require data collection for a number of years.
- If the Council uses group-based allocation there will already be people with multiple permits that automatically become more powerful within a co-op.
- Everyone must be equal in a permit-based system so no one benefits more than anyone else. A permit-based allocation with even distribution across permits would accomplish that.
- At beginning of each year everyone with a permit will need to declare their intent to fish and opt into the program.
- Allocation needs to stay with a single permit and it cannot be sold or traded.
- Use a tiered approach to distribution - equal allocation across permits based on permit capacity groupings where they naturally break.
- Permit and vessel capacity need to be linked.
- In an allocation-based system, a referendum would be required.
- Under an allocation-based system the Council should still set a bag limit to evenly distribute the amount of trips taken and ease the burden on law enforcement.

Supplementary Questions:

1. How has MRIP system helped or hurt traditional management?

- If you don't have fish to start with, it doesn't matter.
- The data is 6-9 months behind.
- A good system can't be created with outdated information and State systems are in conflict with each other so, they are not significantly different from MRIP.
- A deadline for data should be created so anglers will know when the season will be made.
- Data collection has been flawed, which has artificially shortened seasons. States are overly liberal, federal data is overly restrictive.
- Numbers can be steered in any way state or federal agency wants it to go to.
- The charter industry needs electronic reporting.
- The MRIP system was never supposed to be used for management. The system has been acknowledged to be inaccurate.

2. Should there be restraint on whether snapper could be sold? Should Council regulate whether prices go up or down?

- Charter boats currently change their pricing structure during red snapper season. Under an allocation-based system the same thing would happen. If a customer wants to take a red snapper trip, or a blue water trip, or an inshore trip, the pricing structure could change accordingly.

**Clearwater, Florida
October 26, 2015**

Council/Staff

Roy Williams
Ava Lasseter
Assane Diagne

13 members of the public attended

R.W. Keys
Eric Mahoney
Robert Kirn
Alexandra White
Paul Matthews
Paul R. Matthews
Heyward Mathews

Jeff Antous
Richard Nicajevsky
Chad Haggert
Brad Gorst
Helen Nicajevsky
Mike Colby

Scoping Questions

1. Charter vessels are currently managed using a traditional approach. In what ways does the current approach work or not work?

- Derby fishing does not work, particularly for charter fishermen. There is a mismatch between when the season is and when the customers are here. Derby seasons are also hard on all species, particularly red snapper.
- Different areas have different tourist seasons and the traditional approach does not account for regional differences.
- Release mortality is an issue for red snapper during gag season.
- Bag limits and size limits could be used alongside some other management approach.
- Bag and size limits do not lead to a derby fishery. So alongside appropriate management measures, these traditional approaches work. Mix and match approaches may work (permit-based coupled with bag and/or size limits).
- Size limits work. Reducing the minimum size limit from 16" to 15" would ease discard mortality.
- June is not a particularly good month for anglers in Clearwater. They can catch many other species then and don't really need red snapper, even though gag is closed in June. Even if the season began earlier or later, the derby is a hindrance. The best thing for charters is to be able to determine the best time to go catch fish.

2. If the Council selects to continue using a traditional approach to management, what measures (size limit, bag limit, fishing season) should be adjusted and how?

- Keep the first fish to avoid high-grading, but that would be hard to police.
- High-grading is predominant in the fishery. Captains would have to enforce it and they would if it could lead to more fishing opportunities.
- Minimum size limit becomes a moot point when fishers know there are much larger fish out there. Traditional approaches like this don't work, because smaller fish will be thrown back for larger ones. We need to get away from traditional approaches and find new ways of doing things.

3. In what ways might an allocation-based management approach benefit/hinder charter operators and their passenger anglers?

- Would give flexibility to fish when they or their customers want to fish.
- If each vessel is given allocation, could potentially adopt the first fish caught rule.
- Can reduce management uncertainty because you have a limited number of charter vessels (permits), so you know the universe. With that limited number of vessels, could move towards a census of landings, versus estimates of landings.
- Allocation-based management must be crafted well and be understandable to operators to be successful. If not, it won't work.
- Under an allocation-based approach that distributes a number of fish rather than pounds, the average weight of the fish could be greater than the number of fish distributed. To avoid exceeding the quota, a set-aside or buffer could be used to account for the difference in estimated weight versus actual weight of fish caught.

4. If the Council selects an allocation-based management approach, which one is most appropriate and why?

- Support for a permit fishing quota, because that is how you get business value. It would add equity. If the permit becomes valuable, then the vessel and the business become valuable. This makes the business look more viable if the allocation is tied to the permit.
- A cooperative would be too complicated for the number of permits in Pinellas County.
- A yearly opt-in or opt-out provision would be good for latent permits and for people who don't fish red snapper. Those who don't want to go out that distance or don't want to deal with logbooks or VMS can opt out, increasing the allocation to those who opt in.

5. Are there additional management measures for charter vessels that should be considered?

- Include transferability provisions for latent permit holders. This would be more effective if the range of species were broadened. For example, if you included gag in the amendment, could transfer gag for red snapper.
- Doesn't want fish to not be used under a latent permit. So, let the fish that would go to those who opt out be distributed to those who opt in. They want the larger quota to go to the active permits.
- Include more species than red snapper; west Florida is a multi-species fishery. A permit is not latent just because the vessel doesn't land red snapper. Charters in this area must travel far offshore to catch them. The two-year electronic logbook program was specifically multi-species for these reasons.
- If allocation was tied to all the permits, then even latent permits would have some value. So if someone buys a permit in the future, it may have some value attached to it.

**Webinar
October 29, 2015**

Council/Staff

Charlene Ponce
Emily Muehlstein

6 members of the public attended

Bruce Buckson
Chad Hanson

TJ Marshall
George McKinney

Michael Miglini
Kellie Ralston

Scoping Questions

1. Charter vessels are currently managed using a traditional approach. In what ways does the current approach work or not work?

- Traditional management doesn't work because it constrains the fishing season and days for the charter fleet.
- Traditional management does work because it constrains catch.
- Traditional management limits flexibility in the days charter boats can choose to fish.

- Traditional management is not working because it doesn't allow a system where boats in different areas can have different seasons and use their fishing mortality when it's best for them.
 - Current management fails because it forces boats to discard dead fish. A system that would allow the retention of dead fish would be good for the charter industry.
- 2. If the Council selects to continue using a traditional approach to management, what measures (size limit, bag limit, fishing season) should be adjusted and how?**
- The question is hard to answer because we don't know how one option will affect the other. For example, how will changing the size limit impact the fishing season?
 - Allow the charter industry to get together and decide on their own regional seasons and bag limits (regional management).
- 3. In what ways might an allocation-based management approach benefit/hinder charter operators and their passenger anglers?**
- Allocation-based management could benefit charter operators by allowing them and their angler passengers to benefit from a rebuilt fishery and have increased allocations as things get better without being constrained to a one-size-fits all season.
 - Have the opportunity to reduce discard mortality and to be able to take anglers fishing when they want to instead of when the Council says the season is open or closed.
 - Improve safety at sea.
- 4. If the Council selects an allocation-based management approach which one is most appropriate and why?**
- A system that allocates according to the permit capacity for charter boats and passenger capacity or landings for the headboats.
 - It would be important for charter and headboat operators to come up with an allocation-based solution for themselves.
 - An allocation-based program would need a data collection element.
 - Distribution of shares and allocation should be even.
 - An electronic tag system should be considered.
 - The Council will need to consider similar management options for the private angling component.

**Houma, Louisiana
November 3, 2015**

Council/Staff

Camp Matens
Emily Muehlstein
Karen Hoak

17 members of the public attended

John Dupont	Brian Rushing	George Huye
Gerald Ellewider	Julie Hebert	Ed Landgraf
David Cresson	Ryan Richard	Ben Weber
Rad Trascher	Jerome Zeringue	Danny Hebert
Joshua Ellender	Douglas Waitz	
Jean Marmande	Chris Lapeyre	

Scoping Questions

- 1. Charter vessels are currently managed using a traditional approach (bag limit, size limit, fishing season). In what ways does the current approach work or not work?**
 - Traditional management does not work at all because sector separation has privatized about half of the allocation.
 - Current management experiences undue pressure by environmental groups which do not have the interests of the recreational fishers in mind.
 - Regional management would solve a lot of the problems. Gulf-wide management does not work and gives an unfair advantage to some areas and disadvantages others.
 - Some charter operators appreciated the 45-day season under traditional management.
 - The current data collection program does not work for traditional management measures.
 - Current management does not allow for flexibility in the season.
- 2. If the Council selects to continue using a traditional approach to management, what measures (bag limit, fishing season) should be adjusted and how?**
 - The Council should get rid of minimum sizes.
 - Regional management should be implemented.
 - There should be some way to have flexible seasons.
- 3. In what ways might an allocation-based management approach benefit or hinder charter operators and their passenger anglers?**
 - Allocation-based management puts a value on the catch.
 - Allocation-based management will shrink the for-hire fleet.
 - It will potentially cause inequity (i.e. newcomers may receive less allocation)
 - It may cause an incestuous approach to new entry where the right to charter is handed down from generation to generation.

- Allocation-based management could cause the commercial sector to buy/sell recreational allocation.
- It privatizes a public resource.
- It would force participation or sale of ones permit if a fisherman did not want to participate in the program.

4. If the Council selects an allocation-based management approach, which one is most appropriate and why?

- Any allocation-based management approach used should allow freedom to choose when to fish.
- Do not reduce the fleet. Anyone that has a permit should be able to keep it with this program.
- Do not consider allowing non-fishermen to own allocation.
- Make allocation equitable across the board.

5. Are there additional management measures for charter vessels that should be considered?

- Regional management.
- 30B should be removed.

APPENDIX D. DEFINITIONS OF CHARTER VESSELS AND HEADBOATS IN THE FEDERAL REGULATIONS

Federal regulations (§ 622.2) define charter and headboat vessels as follows:

“*Charter vessel* means a vessel less than 100 gross tons (90.8 mt) that is subject to the requirements of the United States Coast Guard (USCG) to carry six or fewer passengers for hire and that engages in charter fishing at any time during the calendar year. A charter vessel with a commercial permit, as required under § 622.4(a)(2), is considered to be operating as a charter vessel when it carries a passenger who pays a fee or when there are more than three persons aboard, including operator and crew. However, a charter vessel that has a charter vessel permit for Gulf reef fish, a commercial vessel permit for Gulf reef fish, and a valid Certificate of Inspection (COI) issued by the USCG to carry passengers for hire will not be considered to be operating as a charter vessel provided—

- (1) It is not carrying a passenger who pays a fee; and (2) When underway for more than 12 hours, that vessel meets, but does not exceed the minimum manning requirements outlined in its COI for vessels underway over 12 hours; or when underway for not more than 12 hours, that vessel meets the minimum manning requirements outlined in its COI for vessels underway for not more than 12-hours (if any), and does not exceed the minimum manning requirements outlined in its COI for vessels that are underway for more than 12 hours.”

“*Headboat* means a vessel that holds a valid Certificate of Inspection (COI) issued by the USCG to carry more than six passengers for hire.

- (1) A headboat with a commercial vessel permit, as required under § 622.4(a)(2), is considered to be operating as a headboat when it carries a passenger who pays a fee or—
 - (i) In the case of persons aboard fishing for or possessing South Atlantic snapper-grouper, when there are more persons aboard than the number of crew specified in the vessel's COI; or (ii) In the case of persons aboard fishing for or possessing coastal migratory pelagic fish, when there are more than three persons aboard, including operator and crew.”

APPENDIX E. REPORTS FROM THE AD HOC RED SNAPPER CHARTER FOR-HIRE ADVISORY PANEL

The summary reports from the May 13, 2015, March 8-9, 2016, September 26-27, 2016, January 9-10, 2017, and September 19, 2017 Ad Hoc Red Snapper Charter For-Hire Advisory Panel's meetings are provided below.

Ad Hoc Red Snapper Charter For-Hire Advisory Panel Summary

May 13, 2015

**Gulf Council Conference Room
Tampa, Florida**

AP members present:

Jim Green, Chair
Tom Steber, Jr., V Chair
Gary Bryant
Shane Cantrell
Mike Eller
Troy Frady
Chuck Guilford
Gary Jarvis
Mark Kelley
Tom Marvel, Jr.
Mike Nugent
Rene Rice
Scott Robson
Ed Walker
Troy Williamson, II

Council Member & Staff:

Johnny Greene
Ava Lasseter
Karen Hoak
Bernie Roy
Assane Diagne
Carrie Simmons
Doug Gregory

Others:

Steve Branstetter
Andy Strelcheck
Jessica Stephen
Cynthia Meyer
Bob and Cathy Gill
Kristen McConnell
Tom Wheatley
Jeff Barger
Betty H. Guilford

The Ad Hoc Red Snapper Charter For-Hire Advisory Panel (AP) meeting was convened at 8:30 a.m. on Wednesday, May 13, 2015. Jim Green was elected Chair, and Tom Steber was elected Vice Chair.

Staff reviewed the charge to the AP, which was to make recommendations to the Council relative to the design and implementation of flexible measures for the management of red snapper for the for-hire sector. AP members began discussing data collection for the charter fleet including the status of the Joint Generic Charter Vessel Reporting Amendment and passed the following motions:

- **To recommend that the Council review the current data collection programs. If current data collection methods are not sufficient to support a flexible and accountable system, we urge the Council to develop data collection and monitoring needs for these programs to be successful.**
- **Ask the Council to implement electronic log books for the Gulf charter for-hire reef fish permit holders, including validation tools, no later than June 2016.**
- **To recommend that the Council do a feasibility study for the gulf charter-for-hire reef fish permit holders to see about the practicality of incorporating the for-hire data collection into the headboat program.**

Panel members noted the work they are doing to develop a management plan for the charter fleet at this meeting, and they expressed the need for more time to develop, implement, and then evaluate the effects of any new management plan. They want to provide recreational anglers the opportunity to experience a new management plan before the sunset occurs, too. The AP passed the following motions:

- **To recommend that the Council extend the sunset of Amendment 40 for two years.**
- **Recommend the Council remove the charter for-hire component from Amendment 39.**

AP members discussed management approaches and focused on allocation-based management. The concept of permit fishing quotas, or PFQs, was introduced and discussed. In contrast with individual fishing quotas (IFQs), the quota under PFQs would be attached to the federal permit and could not be transferred in any way from the permit. AP members noted that the transferability of IFQ shares and allocation in the commercial red snapper program was not a desirable program feature for allocation-based management of the charter fleet. AP members expressed opposition to the transferability of any kind of quota under an allocation-based management approach.

Tags were discussed as a desirable tool to help the charter fleet remain within its quota and aid in enforcement. AP members stated the tags should not be able to be separated from the charter permit and vessel. That is, tags could be used, or not used, by the permitted vessel to which they were assigned, but they could not be “leased” or sold. AP members then passed the following motions:

- **To recommend the Council develop a plan for allocation-based management for the charter-for-hire component that can include but not be limited to such items as PFQs (permit fishing quotas), tags, cooperatives, and AMOs (angler management organizations).**
- **To define PFQs (permit fishing quotas) as presented to the Council:**
 - **Reef fish permit-based allotment that remains attached to the permit not the individual**
 - **No transferability, leasing, or selling of the allocation**

- **Fish must be landed by the vessel that the permit is attached to**
- **Annual opt-in to participate in the federal red snapper fishery**

Jessica Stephen noted that PFQs are used in the Pacific bluefin tuna longline fleet. The quotas are assigned to a permit based on its vessel landings history, and are permanently attached to the permit. The allocation can be transferred under some conditions.

The AP discussed the potential progress of their recommended management plan, and staff noted that the Council has initiated development of Amendment 41 to address red snapper management for the charter for-hire component. AP members then passed the following motion:

- **To recommend that the Council specify that Amendment 41 be reviewed five years after implementation to assess the extent to which it is meeting its goals.**

Speaking to the accountability measure that set a 20% buffer on the red snapper quota, AP members expressed that if the fleet could adopt a management plan that enables them to demonstrate the ability to remain within the quota, the 20% buffer could potentially be decreased or even eliminated. A member noted that a goal for the fleet was to have the possibility of a year round fishery that is totally accountable. The AP then passed the following motion.

- **To recommend to the Council that the purpose of Amendment 41 is to increase flexibility for permit holders, to decrease management uncertainty, and increase accountability to catch limits. A long term goal to have a year round fishery that is totally accountable.**

AP members began to discuss qualifications for participating in a new charter for-hire management plan. AP members discussed a series of participation qualifiers, by which vessels intending to participate in the charter red snapper management plan could be identified and separated out from latent charter permits, and from vessels in regions where red snapper are infrequently encountered. AP members passed the following motions:

- **To recommend that the management plan be open to all federal charter-for-hire reef fish permit holders.**
- **To recommend to the Council that the plan be structured so that permit holders who intend to participate in an allocation-based management plan, annually opt-in to the program for the purpose of identifying the user group for that year.**
- **To recommend the Council consider how the cost of any new program will be shared between the charter for-hire industry and NMFS, under an opt-in scenario.**

The use of tags by participating vessels was discussed as a way to validate all fish caught under the management plan. AP members noted how tags are used in the Headboat Collaborative program. A Collaborative participant stated that tags helped identify that the fish were caught legally. For example, if headboat passengers take their red snapper catch to cleaning stations in public places, law enforcement would be able to determine easily that the fish were caught

legally. Concerns about the use of tags included how they would be distributed, or allocated, and the physical properties of tags so as to avoid tampering. The AP then passed the following motion:

- **To recommend all participating vessels in the management plan use carcass tags that could be validated for law enforcement which will be distributed at the beginning of the year. Tags will expire at the end of the year, to validate all fish harvested under this plan.**

There was discussion concerning the use of an independent body such as the Harte Institute for administration of the chosen plan. However, AP members and NMFS staff noted the additional complexity, as such administration would still require NMFS to be involved, in addition to requiring a federal contract, which would increase costs compared with in-house administration by NMFS.

Next, AP members discussed options for distributing allocation fairly among federal charter for-hire permit holders and noted their intent not to exclude anyone. They noted that defining fair and equitable depends on where you are in the Gulf and it can be defined in different ways. Without vessel catch histories, one member noted that dividing the quota up evenly was the only way to be fair, while another member questioned this method as red snapper is not accessible to charter vessels in all areas of the Gulf. Further discussion addressed the use of electronic logbooks. The AP passed the following motions.

- **To recommend the Council pursue allocation options that include all federal charter-for-hire reef fish permit holders.**
- **To recommend to the Council that all participants in the management plan report using electronic log books with dockside validation.**

Continuing the discussion on landings validation, an AP member noted that currently, a charter captain can refuse to participate in dockside intercept surveys and this should not be permitted in a new management plan. The AP members want enforcement measures to require compliance with the new charter management plan, including modifying NOAA law enforcements' penalty schedule, if at all possible, and requiring charter operators to participate in dockside intercept surveys. The AP then passed the following motion:

- **To recommend to the Council that opt-in participants are subject to dockside intercepts and validated landings by local or federal law enforcement at any time. Any vessel found in violation would be subject to NOAA law enforcement sanctions.**

AP members further discussed potential qualifiers for participation in the charter for-hire red snapper management plan. The idea of qualifiers was proposed as a way to identify active versus latent permits, and vessels that actively fish for red snapper versus those charter vessels that do not. For example, a federally permitted vessel that does not have the corresponding state licenses to be actively charter fishing, could be considered inactive in red snapper fishing. However, it was noted that the Gulf States have different requirements for federally permitted

charter vessels, which could complicate identifying latent permits Gulf-wide. AP members passed the following motion:

- **As a qualifier to participate, the participant must meet all licensing requirements for his/her state of operation.**

The AP discussed the use of quota on dual-permitted (charter and commercial) vessels under an allocation-based management plan, and passed the following motions:

- **After implementation of the plan, that there be no inter-sector (commercial and recreational) trading permitted.**
- **That any allocation granted to a permitted vessel may only be used during charter-for-hire trips.**

Next, the AP discussed allocating quota among charter vessels and passed the following motions:

- **To recommend that the allocation tier level be based on permit capacity but no greater than approved passenger capacity.**
- **To recommend that the Council consider the following allocation scenario to divide the quota among participating vessels:**
 - **6 passenger vessels = 1 allocation/share**
 - **Multi passenger COI vessels with permit capacity of 7 to 24 = 2 allocations/shares**
 - **Multi passenger COI vessels with permit capacity of 25 or more = 3 allocations/shares**
- **To recommend to the Council that for apportioning the quota between charterboats and headboats, to use the time frame formula from Amendment 40 (50% 1986-2013 + 50% 2006-2013 excluding landings from 2010).**

AP members expressed their preference not to hold an AP meeting from June through August 20, due to the busy fishing season, and passed the following motion.

- **To recommend that the Council reconvene this panel to provide further advice on charter-for-hire program development as soon as possible.**

The AP returned to discuss other allocation-based management approaches including AMOs and cooperatives. One member liked AMOs because they would involve management at a more local level, while another expressed concern with having an individual manager of each AMO decide how quota should be divided up. AP members reiterated support for tags and PFQs, and passed the following motion:

- **To recommend to the Council to adopt as the preferred management plan the use of PFQs with tags.**

AP members discussed the issue of “stacking” or “marrying” reef fish permits as undesirable for the charter management program. They also discussed that not all charter operators who opt-in may want or be able to use the amount of quota that may be allocated to their vessel, especially if the vessel is homeported in an area without abundant red snapper. The AP passed the following motions:

- **To recommend the Council not allow stacking or consolidating of reef fish permits.**
 - **Stacking of charter permits is defined as putting multiple permits on one vessel**
 - **Consolidation of charter permits is defined as consolidating two or more permits to one permit which contains the catch history of both permits**
- **To recommend to the Council, to allow the participant in the program to opt-in at the level of allocation the participant chooses, up to the maximum amount of the participant’s allocation.**

Following review of their recommendations, the AP meeting was adjourned at 3:00 pm.

Failed motions:

Motion: To recommend the Council consider using an independent body, such as the Harte Institute for administration of the chosen plan.

Motion failed with one in support.

Ad Hoc Red Snapper Charter For-Hire Advisory Panel Summary

March 8-9, 2016

Gulf Council Conference Room

Tampa, Florida

AP members present:

Jim Green, Chair
Tom Steber, Jr., V Chair
Gary Bryant
Shane Cantrell
Mike Eller
Troy Frady
Gary Jarvis
Mark Kelley
Mike Nugent
Rene Rice
Scott Robson
Sonny Schindler
Frank (Skipper) Thierry, Jr
Ed Walker

Council & Staff:

Pam Dana
Ava Lasseter
Karen Hoak
Carrie Simmons

Others:

Steve Branstetter
Andy Strelcheck
Sue Gerhart
Jessica Stephen
Cynthia Meyer
Sean Meehan
Robert Jones
Sharon McBreen
Brad Gorst
Martin Fisher

The Ad Hoc Red Snapper Charter For-Hire Advisory Panel (AP) meeting was convened at 8:30 a.m. on Tuesday, March 8, 2016. Staff provided an overview of draft Amendment 41 and discussed how the identification of program goals and objectives should lead to the design features of a management program for charter vessels.

Following the presentation, AP members began discussion on the sunset provision on sector separation. AP members expressed their interest to continue development of a red snapper management plan for charter vessels through Amendment 41 and passed the following motion:

- **To support the initiation and approval of a Plan Amendment to remove the sunset provision for sector separation that is approved in Reef Fish Amendment 40.**

Motion carried 11 to 1 with one abstention.

Next, AP members discussed the purpose and need. One AP member suggested a modification to the wording of the purpose and need and the AP accepted the following motion that recommended modifications to the current purpose:

- **To modify the existing purpose statement in Amendment 41 to read: (From Section 1.3 Purpose and Need pg. 8 with proposed revisions underlined.) The purpose of this action is to develop a management approach for federally permitted charter vessels that provides increased flexibility; reduces management uncertainty; improves economic**

stability; enhances sustainability of the red snapper population; and maximizes fishing opportunities for anglers fishing on federally permitted charter vessels.

Motion carried unanimously.

AP members began discussing goals for a red snapper management program for charter vessels, followed by supporting objectives for each goal. It was noted that parts of the goals and objectives overlap with the benefits that may be realized from adopting electronic reporting. AP members passed the following motions:

- **The overall goals for Amendment 41:**
 1. **To increase fishing opportunities for anglers who use the federally managed charter for-hire fishing fleet**
 2. **Reduce management uncertainty through improved catch and discard accounting**
 3. **Fair and equitable allocation for all participating permit holders**
 4. **The program should promote fleet stability**
 5. **Enhances sustainability by improving catch monitoring, adhering to quotas, and reducing dead discards.**

Motion carried unanimously.

- **For the goal -To increase fishing opportunities for anglers who use the federally managed charter for-hire fishing fleet, have the objective(s) be one or more of the following:**
 - **To provide year round angling fishing opportunities for using the red snapper charter for-hire fishery;**
 - **Increase number of fishing days or trips, ability to select fishing days within a specified season, to eliminate overages and extend fishing opportunities, while staying within the ACL.**

Motion passed unanimously.

- **For the goal-Reduce management uncertainty through improved catch and discard accounting, decrease management uncertainty by one or more of the following:**
 - **Landings by the charter for-hire fleet remain under its prescribed ACL and not exceed ACT**
 - **The ability to decrease the management buffer (ACT) from ACL through improved accountability and decreased management uncertainty**
 - **The ability to readily identify active permit holders (participants) in the red snapper for-hire fishery**
 - **For the for-hire industry to become fully accountable by use of ELBs, tags and/or other management tools.**

Motion carried with no opposition.

In discussing the following motion, AP members expressed different opinions concerning the meaning of a fair and equitable allocation. Some felt that all charter operators should start off on equal terms as far as allocation and be provided access, while others felt that not all charter vessels are currently landing red snapper and questioned whether such vessels should receive allocation.

- **For the goal-Fair and equitable allocation for all participating permit holders**
- **Utilize the annual charter for-hire allocation for red snapper by the participants.**

Motion carried 11 to 2

- **Improve fleet stability for the for-hire fishery as determined by socio-economic analysis by:**
 - a. **Ability to select fishing days**
 - b. **Increasing angling opportunity through an allocation based system**
 - c. **Maximizing marketing opportunities**
 - d. **Surveying fishery participants.**

Motion carried 8 to 5.

The AP referenced electronic logbooks in their goals and objectives. Electronic reporting for charter vessels is currently being evaluated in a separate document and is outside the scope of Amendment 41. An AP member felt that electronic reporting would be in place before Amendment 41 goes final, while another expressed concern to not lose momentum in developing Amendment 41 by waiting for electronic reporting. Another AP member contributed that they did not want to use electronic logbooks to develop a catch history for use in Amendment 41. No motions were proposed or passed regarding electronic logbooks.

Next, the AP discussed the allocation-based management approaches. AP members noted concerns with fishing cooperatives, including that there was too much room for misuse and that too much power could potentially be held in one person's hands. Also, in contrast to the Headboat Collaborative which had less than 20 participants, AP members felt it may be difficult to organize the much larger number of charter operators into cooperatives. The AP passed the following motion:

- **To eliminate cooperatives from Amendment 41.**

Motion carried with no opposition.

AP members discussed their preferred management approach. A member said that permit fishing quotas (PFQs) are preferable to individual fishing quotas (IFQs) because allocation is tied to the permit, and if his boat is bought, the allocation goes with it; PFQs will add value to the permit. Some AP members said they did not want allocation to be transferable among vessels, as this creates financial winners and losers. Other AP members expressed concerns to avoid the criticisms of the commercial program in terms of "leasing" IFQs. Avoiding fleet consolidation was also noted as an important goal as this program is developed.

- **In action 1, to select alternative 2(b) as the panel's preferred alternative.**

Alternative 2: Establish a fishing quota program (Section B) that provides participants with shares and annual allocation. The fishing quota program would be:

Option 2b: a Permit Fishing Quota program (PFQ).

Motion passed with no opposition.

AP members discussed harvest tags and their usefulness for program enforcement. AP members who participated in the Headboat Collaborative noted they did not like the tags at first, but soon

found them extremely useful for helping to keep the amount of fish straight on the headboat for their customers. Whereas, another member felt that a harvest tag program would leave fish unused, but that this would not happen under a PFQ program. The AP passed the following motions.

- **As part of implementing PFQs, use fish harvest tags solely as an enforcement and validation tool for the PFQ program, not as an allocation tool as part of Alternative 4 in Action 1.**

Motion carried with no opposition.

- **In Action 1, to move Alternative 4 to the considered but rejected appendix.**

Motion carried with no opposition.

AP members discussed the alternatives under *Action 3, Distribution of Quota to Charter Vessels*. AP members did not support the use of an auction to distribute quota, and passed the following motion pertaining to the two alternatives that include auctioning quota.

- **In Action 3, to recommend to the Council that the Advisory Panel does not support consideration of Alternatives 6 and 7 because it does not coincide with the fair and equitable goal of Amendment 41.**

Motion carried with no opposition.

Some AP members did not support the regional approach to allocation, while other AP members did, noting that regional landings identify where red snapper are landed by charter vessels. The AP discussed the proposed new Action 2, which was requested by the Council at its January 2016 meeting to address voluntary participation in an allocation-based charter vessel management program. The proposed action would allow charter operators to opt-in and participate in an allocation-based program, or to opt-out and continue to fish for red snapper under a red snapper fishing season in federal waters for non-participating charter vessels. However, AP members did not support the option for some charter operators to continue to fish for red snapper if they did not participate in the allocation-based program. That is, if charter vessels opt-out of participating in the management program developed under Amendment 41, they should not be able to red snapper fish at all. To express this intent, the AP passed the following motions.

- **To recommend to the Council that the permit fishing quota (PFQ) program be the only access to red snapper by federally permitted charter for-hire vessels, and do not allow non-participating vessels to use allocation to harvest red snapper in an alternative federal waters season.**

Motion carried 12 to 1.

In discussion on the following motion, one member felt this would allow for identification of participants in the fishery. Another member noted that no one would opt-out, and without transferability, the rest of the fleet would not get those fish.

- **In Action 2, to create a new Alternative 5, and make it the Panel's preferred.**

Alternative 5: Establish a red snapper management program for charter vessels. The program would include only charter vessels with a valid or renewable federal for-hire permit for reef fish who elected to join the red snapper management program for charter vessels. An endorsement to the federal for-hire permit for reef fish would be issued to those charter operators who elected to join the red snapper management program for charter vessels. Opportunities to opt in to the red snapper management program for charter vessels are offered every year.

Motion carried 12 to 0 with one abstention

Additional discussion pertained to the distinction between opting-in (requiring operators to take action to participate) versus opting-out (assumes full participation unless operators take action to remove themselves). Some AP members felt charter operators should be required to opt-in to participate, which could be used to ensure that other program requirements are met by the participant, such as VMS, if required. On the other hand, NMFS staff expressed concerns with requiring operators to take action within a specified timeframe, and expressed a preference that charter operators opt-out if they did not intend to participate, instead.

AP members continued discussing the distribution of quota. A member noted that after shares are distributed, vessels could opt-in each year if they wanted to fish the allocation associated with their shares. He added that after a baseline of shares is established one time, each permit would get that much fish. After three years, the baseline could be reestablished among vessels for another period of time. Another member said that allocation should be calculated and distributed each year, and that charter operators should not hold shares. The comments then focused on support for charter vessels receiving annual allocation only, and reasons shares should not be held by charter operators including that shares were seen as a management tool that leads to reduced capacity in the fishery. There was concern that the distribution of quota among charter vessels should be able to reflect changes in the composition and characteristics of the fleet, such as a vessel changing homeport. A one-time distribution of (permanent) shares would not be flexible to changes in the fleet, and was contrary to the AP's goals for the program. The AP's intent for keeping shares with the permit (i.e., PFQs), is to avoid problems that may arise with transferability, if used in the program.

Next, AP members discussed passenger capacity as a metric for determining vessel allocation, addressing the pros and cons of using the passenger capacity according to the federal permit or that of the vessel's COI (or lack thereof) to determine how to distribute the quota among charter vessels. The AP passed a final recommendation before recessing for the meeting's first day.

- **The AP requests that the Council consider that we reconvene the charter for hire AP panel after the April meeting in Austin to continue to work on preferred alternatives on Amendment 41, and prior to the June meeting.**

Motion carried with no opposition

AP discussion returned to the issue of distributing quota among charter vessels, and specifically the alternatives concerning passenger capacity. AP members proposed new approaches for the distribution of quota among charter vessels, combining the existing alternatives into options that

use mixed approaches to the distribution of quota. The proposals included support for using the lower of the permit or vessel's passenger capacity. The AP passed the following motions.

- **In Action 3, to recommend a new alternative that would distribute quota using these 3 components:**
 - **Distribute quota equally among charter permit holders (Alt 2)**
 - **Based on the lesser of the COI of the vessel or permit capacity (Alt 3)**
 - **Distribute quota based on historical/regional landings (Alt 5)**

Motion carried 11 to 0 with 2 abstentions.

- **To create options for the previous motion's new alternative:**

Option A

25% for everyone (Alt 2)

50% regional history (Alt 5)

25% COI/permit capacity (Alt 3)

Option B

20% for everyone

50% regional history

30% COI/permit capacity

Option C

30% for everyone

40% regional history

30% COI/permit capacity

Option D

40% for everyone

30% regional history

30% COI/permit capacity

Option E

75% for everyone

12.5% regional history

12.5% COI/permit capacity

Motion carried with no opposition.

AP members discussed defining qualifiers which must be met for charter operators to participate in the allocation-based management program. AP members felt that the qualifiers would help identify the active permits and those who would participate in the program. Other members expressed concern that the qualifiers would cause fleet consolidation, or restrict participation. AP members held conflicting views on the use of VMS, with some in support and others opposed. After specifying the qualifiers, the AP passed the following motion:

- **To recommend to the Council to include, as a pre-qualifier for opt-in vessels, a VMS unit or another acceptable electronic validation tool, a federal charter for-hire reef fish permit and a state charter fishing license, and payment of the cost recovery fee associated with the allocation based system.**

Motion carried with no opposition.

In discussing the alternative to distribute quota based on regional landings, the AP recommended two additional options to the provided time series, and recommended their preference among the time series options. The AP passed the following motions.

- **In Action 3, Alternative 5, to create a new option using average landings for years 2003 to 2012, excluding landings in 2010.**

Motion carried 9 to 3 with one abstention.

- **To establish a new option under Action 3, Alternative 5 (Option 5e), to establish a timeline as found in Amendment 40.**

Motion passed 12 to 1.

- **To recommend to the Council that in Action 3, that the Panel's preferred allocation timeline to be used is (Option 5e):**

50% 1986-2013

50% 2006-2013 excluding landings from 2010.

Motion carried without opposition.

The AP returned to discuss PFQs as their preferred allocation-based management approach. A previous motion expressed the AP's preference for a PFQ program that uses shares and allocation. However, following additional discussion, AP members said they did not want a system that uses shares and allocation, but instead, want to use annual estimated and distributed allocation based on the number of participants that opt-in to the program for that year. Currently, PFQs and IFQs are structured to use both shares and allocation, while cooperatives and harvest tags use annual allocation, only. An AP member noted that with PFQs, transferability could be added in the future, but he believes that would not be possible under a harvest tag program. Another member supported PFQs rather than harvest tags, as he believes PFQs would require a referendum, while harvest tags would not; he felt a referendum was important to ensure the industry supports the resulting program design. The AP passed the following motion.

- **To recommend to the Council that a PFQ program be developed without shares, but to use annual allocation.**

Motion carried 11 to 0 with one abstention and one absent.

The meeting adjourned at noon on March 9.

Failed and withdrawn motions:

Action 3: Distribution of Quota to Charter Vessels

Alternative 5: Distribute quota based on average landings of charter vessels in each geographic region...

Motion: In Action 3, to recommend to the Council that the Advisory Panel does not support Alternative 5 because it does not coincide with the fair and equitable goal of Amendment 41.

Motion failed 2 to 8 with 3 abstentions.

Proposed New Action 2: Charter Vessel Program Participation

Motion: In Action 2, the Panel's preferred alternative is Alternative 3

Alternative 3: Establish a voluntary red snapper management program for charter vessels. The program would include only charter vessels with a valid or renewable federal for-hire permit for reef fish who elected to join the red snapper

management program for charter vessels. An endorsement to the federal for-hire permit for reef fish would be issued to those charter operators who elected to join the red snapper management program for charter vessels.

Opportunities to join or to opt out from the red snapper management program for charter vessels are offered every year.

Motion withdrawn.

Motion: In Action 3, to make alternative 4, option (b) the Panel's preferred

Alternative 4: Distribute quota based on tiers of the passenger capacity of charter vessels. Tiers are defined such that each:

Option 4b: Vessel with a passenger capacity of 6 receives 1 unit;

Vessel with a passenger capacity of 7-24 receives 2 units;

Vessel with a passenger capacity >24 receives 3 units.

Motion failed 3 to 8 with 3 abstentions.

Motion: To establish a bycatch and discard/bycatch allocation pool, based on staff recommendation, to account for opt-out vessels and vessels without allocation.

Motion withdrawn.

Motion: Among the options in Alternative 5, the Panel's preferred option is this new option. In Action 3, Alternative 5, to create a new option (5d) using average landings for years 2003 to 2012, excluding landings in 2010.

Motion withdrawn.

Motion to Reconsider: That the Panel bring back for reconsideration this prior motion:

Motion: In Action 1, to move Alternative 4 to the considered but rejected appendix.

Motion failed 2 to 9 with one absent.

Summary for the Ad Hoc Red Snapper Charter For-Hire Advisory Panel
Kenner, Louisiana
September 26-27, 2016

Council and Staff

Pamella Dana
Ava Lasseter
Matthew Freeman
Karen Hoak
Jessica Matos

Panel Attendance

Gary Bryant
Shane Cantrell
Daryl Carpenter

Troy Frady
Jim Green, III
Gary Jarvis
Mark Kelley
Tom Marvel, Jr.
Mike Nugent
Rene Rice
Scott Robson
Harvey Schindler
Tom Steber, Jr.
Troy Williamson

Attendance - Others

Ed Swindell
Myron Fischer
Katie Semon
Sue Gerhart
Jeff Barger
Richard Fischer
Scott Hickman
Sharon McBreen

The Ad Hoc Red Snapper Charter For-Hire Advisory Panel (AP) meeting was convened at 1:00 p.m. on Monday, September 26, 2016. The AP approved both the adoption of the agenda and the March 8-9, 2016 meeting summary. The following summary generally follows the meeting discussion chronologically; however, some motions addressing the same topic (e.g., program qualifiers) have been grouped together to facilitate review of the AP's recommendations.

Proposed Program to Distribute Harvest Tags to Anglers for Use on Charter Vessels

Staff reviewed the Council's request for the AP to evaluate a harvest tag program that provides recreational participants with annual allocation distributed in the form of harvest tags to be used on a charter vessel of their choice. AP members discussed the program. It was noted that if the private angling component moves toward using harvest tags, there should not be separate tags for charter vessels and private boats. Rather, harvest tags should be made available for any type of vessel from which an angler intends to fish.

Other AP members identified the following issues as drawbacks to such a program:

- It would be logistically difficult if anglers bring tags to use on a charter vessel in regions where red snapper are only found far from shore.
- This would be a de facto reallocation to the private angling component of the recreational sector. It takes fish away from the charter sub-component and gives them to the angler.
- Individuals could purchase tags with the intent to not use them, which would be a negative for the charter industry.
- Requiring charter passengers to obtain tags themselves for a charter trip is an additional burden on the passengers, especially for those who come from out-of-state. It could disadvantage those who do not live on the coast, as they may be less knowledgeable about the process to obtain tags. Charter operators provide a service and this should be part of that service.

- This would not provide stability to the charter industry and does not support Amendment 41's purpose and need.

One member noted that, as a positive, since red snapper is a public resource, the public should be able to obtain the tags since they are the ones that are actually using the resource. It was also noted that there are tag programs in place for other resources, and people who are interested in such resources are capable of understanding the distribution process. Another suggestion was for part of the quota to be distributed to charter vessels and some to anglers who would choose which boat to use. Following the discussion, the AP passed the following motion:

To recommend that the Council, regarding distribution of tags to anglers, that this AP does not recommend any further action or movement on this issue.

Motion carried 10 to 3.

Draft Amendment 41 – Red Snapper Management for Federally Permitted Charter Vessels

Staff provided an overview and status update on Amendment 41. For Action 1, AP members discussed the Council's removal of a permit fishing allocation (PFA) program. Some AP members were not aware the Council had done this at its August 2016 meeting. For the remaining management options, some AP members expressed continued support for an allocation-only type program and others expressed support for a share-based program. AP members discussed whether harvest tags should continue to be considered by the Council. Some members felt that they still wanted the harvest tag program retained for future consideration as it may be a favorable option for the Council. Another member noted that any allocation-based program developed will have to pass a referendum regardless if tags are used and that an allocation-only program has more appeal to some members than one that uses shares that are permanent. One member did not like the 3 or 5 year recalculation of annual allocation from the standpoint that it could undermine the ability of operators to plan ahead. Following discussion, the AP passed the following motion:

That the Council move Action 1 Alternative 3 to considered but rejected.

Alternative 3: Establish a harvest tag program that provides participants with annual allocation distributed in the form of harvest tags. Annual allocation will be calculated

Option 3a: every 3 years.

Option 3b: every 5 years.

Motion carried 7 to 6.

Action 2 addresses program participation, which would allow charter operators to opt-out of the program being developed. AP members noted the unlikelihood of a charter operator taking the action to opt-out of receiving quota that would be worth something, and that the requirement did not address what the AP intended. The AP then passed the following motion:

To recommend to the Council that in Action 2 to make Alternative 1 the preferred alternative.

Alternative 1: No Action. Do not establish a voluntary red snapper management program for charter vessels. The red snapper management program applies to all charter vessels with a valid or renewable Gulf Charter/Headboat permit for Reef Fish.

Motion carried 11 to 2.

Instead of requiring charter operators to opt-out, AP members discussed possible qualifiers to participate in the program. These qualifiers are intended to eliminate inactive permits from the distribution of quota, as holders of inactive permits would not be likely to meet the qualifiers. The AP reviewed the program qualifiers they have recommended during a previous meeting and discussed the pros and cons of various qualifiers. The AP then passed the following motions:

To recommend to the Council to be in a federally permitted program, you need to have a federal permit, applicable state charter fishing license, electronic logbook or other data collection system approved by NMFS, and an income qualifier.

Motion carried 8 to 4.

As a program qualifier, require that vessels must meet all safety requirements and passenger requirements for their passenger capacity COI.

Motion carries 10 to 2.

In the development of a PFQ management system, the AP recommends that the Council take into consideration the use of mandatory ELB reporting of red snapper landings in the charter for-hire, federally permitted sector as one of the requirements to qualify in the initial allocation of shares.

Motion carried unanimously.

Action 3 addresses the distribution of quota among charter vessels. In discussing the use of an auction, many members viewed auctions negatively. The stated reasons included that an auction would pit charter operators against each other in a bidding war, that it would cause fleet reduction due to the financial position of some operators at the time of an auction, that it would not create a fair distribution, and that an auction would not likely pass a referendum among charter operators. Members also noted that because the auction funds would not come back to fund local fishery management, they would not be achieving their goals and objectives. One AP member supported the use of an auction as a way to recover resource rent from the fishery. The AP passed the following motion:

That Alternative 5 and Alternative 6 that contains a provision for an auction of allocation in the charter for hire sector be moved to considered but rejected.

Alternative 5: Distribute the charter quota by auction. All eligible participants are allowed to place bids.

Alternative 6: Distribute a portion of the charter quota by auction and the remainder based on equal distribution; passenger capacity; and historical landings by region (**Options 6a-6c**).

The 3 metrics will be weighted by selecting one of **Options 6d-6g**.

Motion carried 12 to 1.

The AP discussed using tiers of passenger capacity to distribute quota. It was noted that a vessel with a passenger capacity of 7 would get twice as much quota as a vessel that may carry only one fewer passenger, while receiving the same quota as a vessel that can carry 24 or more; AP members noted this would be unfair. The AP then passed the following motion:

That Action 3 Alternative 2 be considered but rejected.

Alternative 2: Distribute charter quota based on tiers of passenger capacity of charter vessels. Tiers are defined such that each:

Option 2a: Vessel with a passenger capacity of 6 receives 1 unit;
Vessel with a passenger capacity of 7 or greater receives 2 units.

Option 2b: Vessel with a passenger capacity of 6 receives 1 unit;
Vessel with a passenger capacity of 7-24 receives 2 units;
Vessel with a passenger capacity >24 receives 3 units.

Motion carried 11 to 0 with 1 abstention.

The AP continued the discussion of passenger capacity. Staff noted that the Council intends to use the permit's passenger capacity for a share-based program, and the lower of the permit or vessel's COI capacity for an allocation-only program. Some members stated that for an initial share distribution, it did not seem fair to give shares based on a permit that may carry 100 passengers if that permit is on a six-pack vessel with no COI, as that vessel would receive an amount of quota that is greater than its participation in the fishery. Other members stated that holders of large capacity permits had likely invested more money into obtaining that permit, and that investment would be lost even if the permit is not currently being used. Also, there may be operators that had intended to use a 100 passenger permit on a vessel with a matching vessel COI, but for various reasons, may have been unable to at this time. The AP passed the following motion:

In the initial allocation of shares in a PFQ system, the distribution using passenger capacity will be by the permit capacity or the US Coast Guard charter vessel capacity, whichever is less.

Motion carried 8 to 3 with 2 abstentions.

Staff inquired if the AP had a recommendation on whether passenger capacity in Alternative 4 should be based on a tier system or on individual vessel capacity. The AP was unsure about making a recommendation until they are able to see the calculations for both options, and passed the following motion:

To request that NMFS add information on passenger capacity by individual vessel to the decision tool, for the purpose of Alternative 4, to compare with passenger capacity by tiers.

Motion carried unanimously.

The AP discussed the differences in biomass and effort between the eastern and western Gulf regions and the potential for inclusion as an additional metric for allocation. The AP passed the following motion:

In addition to passenger capacity and regional landing history, to ask the Council to also use the western Gulf/eastern Gulf biomass and the western Gulf/eastern Gulf effort to help apportion the charter quota.

Motion carried 10 to 3.

NMFS staff provided some preliminary calculations of the resulting charter vessel allocations for the Action 3 alternatives. Following discussion of the decision tool, the AP passed the following motions:

To add an additional option to Action 3 Alternative 4(e), passenger capacity 25% and historical landings by region 75%.

Motion carried 12 to 1.

That in the decision tool, for Action 3 Alternative 3, use the allocation for the for-hire industry as a whole and not sub-allocated between headboats and charter vessels.

Motion carried 11 to 0 with 1 abstention.

Action 4 addresses the transferability of shares, and Action 5 addresses the maintenance of shares. As written, these actions would apply to an IFQ program, only, because shares in a PFQ program by definition would be attached to the permit. Several AP members expressed support for shares remaining with a permit, but felt that the shares needed to be transferable among permits so that other permit holders who needed more shares could have the opportunity to obtain them. The AP passed the following motions:

To expand Action 4 to include transferability of PFQ shares between permits.

Motion carried 6 to 4 with 3 abstentions.

To expand Action 5 to include maintenance of PFQ shares between permits.

Motion carried 10 to 0 with 2 abstentions.

The AP discussed the need to ensure that only operators actively providing access to the resource for the public would be able to retain shares. The AP passed the following motion:

Explore a use-it or lose-it requirement to maintain shares over a to-be-determined time period with an appeals process.

Motion carried 12 to 0 with 1 abstention.

In the event that a permit holder would be required to divest of shares, such as under a use-it or lose-it provision, the AP noted that the shares would need to be redistributed. To accomplish this, the AP passed the following motion:

To explore establishment of a process of redistribution of divested shares by the agency with three options: 1. Equal distribution across permits. 2. Proportional distribution to the permits according to the initial allocation formula. 3. Additional formulas that staff would recommend.

Motion carried 12 to 0 with 1 abstention.

The AP discussed Amendment 41 in relation to Amendment 42. One concern raised was the potential for headboat operators to opt-out of Amendment 42 and be classified as a charter vessel under Amendment 41 to receive allocation. Given that the headboat survey vessels that fall under Amendment 42 have large permit capacities, those that opt to participate under the charter vessel program would likely qualify for a large allocation. This could dilute the amount of allocation available to the charter vessels that would participate in the program developed through Amendment 41. In addition, the AP recommends that the Council reconsider the time series to use for allocating the for-hire component's quota between participants of Amendments 41 and 42. The AP passed the following motions:

That the Council prohibit, as they develop future amendments, vessels that have participated in the headboat fishery or received shares under Amendment 42 from participating in the charter for-hire sector under Amendment 41 by having a permit from each program on the same vessel.

Motion carried 11 to 0 with 1 abstention.

That Action 5 Alternative 5 of Amendment 42 be the Preferred Alternative, the same allocation used in Amendment 40.

Alternative 5: Allocate a portion of the recreational ACL *for red snapper only* to the LHV Program based on 50% average from 1986-2013 (2010 excluded) and 50% average landings from 2006-2013 (2010 excluded). (Preferred Alternative from Amendment 40)

Motion carried 12 to 0 with 1 abstention.

Modifications to Charter Vessel and Headboat Reporting Requirements Generic Amendment

Staff presented the amendment's actions that affect charter vessels. Action 1 addresses the frequency of electronic reporting by charter vessels. Some AP members felt it would be difficult to electronically report the catches of their passengers before reaching the dock. Other AP members noted the difficulty to accurately recall landings information following the day of a trip. Action 3 would require charter vessels to notify NMFS of the departure (hail-out) and return (hail-in) of each charter trip. The hail-out would likely be accomplished by VMS, and an AP member noted his objection to the required use of VMS. The AP then passed the following motions:

In Action 1, to support Alternative 4 as the AP's Preferred Alternative.

Preferred Alternative 4. Require that federally permitted charter vessels submit fishing records to NMFS for each trip via electronically reporting (via NMFS approved hardware/software) prior to arriving at the dock.

Motion carried 7 to 3 with 1 abstention.

In Action 3, to support Alternatives 2 and 3 as the AP's Preferred Alternatives.

Motion carried 9 to 2 with 1 abstention.

Action 4 addresses the hardware/software requirements for submitting fishing records and providing location. The AP discussed Alternative 3 as preferred over Alternative 4, as some AP members did not feel that the equipment should have to be permanently affixed to the vessel. Other AP members raised the point that while catch, effort, and spatial information is needed, that information was not needed to be in real-time. Further, the collection of real-time vessel location data would be more expensive than the archived GPS capabilities under Alternative 2. The AP then passed the following motion:

Substitute Motion: In Action 4, to select Alternative 2 as the AP's Preferred Alternative.

Motion carried unanimously.

By consensus, the AP also requests that the Council reconvene the AP following the October Council meeting at its earliest convenience. The meeting adjourned at 5:00 p.m. on September 27.

The following is a list of failed and withdrawn motions.

Amendment 41

Action 1: Type of Allocation-based Management Program

Motion: To create and analyze a series of options as Alternative 4 that would establish a harvest tag program that provides both recreational participants and for-hire captains with annual allocation distributed in the form of harvest tags to be used with federally permitted charter vessels.

Motion failed 11 to 2.

Action 3: Apportioning the Charter Quota to Charter Vessels

Motion: In the initial allocation of shares in a PFQ system, the distribution will be by the permit capacity or the US Coast Guard charter vessel capacity, whichever is less.

Motion withdrawn.

Action 3: Apportioning the Charter Quota to Charter Vessels

Motion: Recommend to Council that vessels be allowed to have initial allocation under only one Amendment 41 or 42.

Motion withdrawn.

Action 3: Apportioning the Charter Quota to Charter Vessels

Motion: To recommend to the Council that the following additional qualifiers be considered for eligibility for the program: Legal business requirements for your operation area.

Motion withdrawn.

Action 4: Transferability of Shares

Motion: Action 4 to add in a new Alternative that only active and/or eligible permit holders can participate in the transfer of shares.

Motion withdrawn.

Action 7: Share Caps

Motion: In Action 7, Alternative 3 shall read “no one entity shall own shares which comprise more than 1% of the total charter vessel quota.”

Motion withdrawn.

Modifications to Charter Vessel and Headboat Reporting Requirements

Motion: In Action 4, to select Alternative 3 as the AP’s Preferred Alternative.

Substitute motion carried unanimously.

**Summary for the Joint Meeting of the Ad Hoc Reef Fish Headboat
and Ad Hoc Red Snapper Charter Advisory Panels**

New Orleans, Louisiana

January 9-10, 2017

**Council, Staff,
NMFS, and Facilitator**

Patrick Banks
Doug Boyd
Roy Crabtree
Myron Fischer
Johnny Green
Camp Matens
John Sanchez
Ed Swindell
Assane Diagne
Matt Freeman
Sue Gerhart
Karen Hoak
Emily Muehlstein
Carrie Simmons
Betty Staugler
Jessica Stephen

Headboat Panel Attendance

Frank (Skipper) Thierry*
Pam Anderson

Randy Boggs
Clifton Cos
Jim Green*
Chad Haggert
Mark Hubbard
Kelly Owens
Charlie Paprocki
Eric Schmidt
Tom Steber*

**Charter Boat
Panel Attendance**

Gary Bryant
Shane Cantrell
Daryl Carpenter
Mike Eller
Troy Frady
Charles Guilford
Gary Jarvis
Mark Kelley
Mike Nugent
Rene Rice

Scott Robson
Sonny Schindler
Ed Walker

Attendance - Others

Jeff Barger
Bill Butler
Dylan Butler
Katie Chapiesky
Richard Fischer
Betty Harder
Pamela Jarvis
Robert Jones
Jason Klosterman
Sharon McBreen
Randy Pausina
Elizabeth Silleck
Bill Staff
Ben Weber
Daniel Willard
Scott Hickman
Ken Anderson

* Denotes a member serving on both Advisory Panels.

The Ad Hoc Reef Fish Headboat and Ad Hoc Red Snapper Charter Advisory Panels (APs) convened a joint meeting at 9:00 a.m. on Monday, January 9, 2017. Betty Staugler, from Florida Sea Grant, and Council staff Emily Muehlstein facilitated the meeting. The facilitators provided an agenda, overview presentation, and a question guide (see Appendix at the end of this Summary) to direct the discussion and work towards a consensus. The following summary generally follows the meeting discussion chronologically; however, as the APs returned to some portions of the question guide for further discussion, these comments have been grouped together to facilitate review of the APs' consensus statements.

Overview of the For-Hire Sector and Summary of Current Reef Fish Amendments 41 and 42

Council staff and NMFS presented a brief overview of the for-hire sector, focusing on the geographic distribution of permits, red snapper landings distribution both between charter and headboat as well as regionally, and distribution of passenger capacity. After reviewing the Purpose of the joint meeting, which is to provide an opportunity to build consensus between the charter and headboat components of the recreational sector and recommend to the Council management approaches suitable to the specificities and needs of both components, the facilitators invited AP members to contribute to the rationale for the meeting. Members voiced that the rationale included arriving at recommendations to the Council on whether to move forward with a single or separate amendments for the for-hire sub-sectors, how to address latent permits, and address the issue of landings history for the for-hire sector. Then, staff presented an overview of information on the for-hire permits, species considered, and potential timeline status for Reef Fish Amendments 41 and 42.

Decisions on For-Hire Management Programs

Staff gave a two-part presentation related to decisions for for-hire management programs. The first part focused on type of management, timing and number of for-hire programs, and species to include. AP members then discussed each of those topics, as noted below. The second part focused on division of for-hire quota, adjustments to individual allocations, participation, and other decisions. Following that part of the presentation, AP members again discussed each of those topics as noted below.

Preferred Management Approach for the For-Hire Fleet

The AP members discussed traditional management and allocation based management with regards to benefits and drawbacks of each. AP members pointed out benefits of traditional management include the following: can be applied across the for-hire sector through seasonal closures as well as bag and size limits; involves simple management. It was noted that a drawback to traditional management is that it can lead to derby fishing. AP members listed benefits of allocation based management include the following: offers opportunities for year-round fishing; reduces pressure on fish in a certain period of time. Some AP members spoke against inter-sector trade as a potential design element of allocation based management. An AP member also raised the concern that if the poundage to be allocated is too low, then operators would not be able to sustain their operations and remain in the industry.

Consensus statement: The APs are willing to consider and will try to design an allocation based system.

Preferred Avenue with Separate Amendments or Single Amendment

The AP members discussed whether they should recommend to the Council pursuing separate amendments or a single amendment for management of the for-hire sector. It was noted that the Council's decision on electronic reporting for the for-hire sector at the January meeting might affect the ease of managing headboats and charter vessels together. One member stated that a single amendment would be less chaotic for both the Council and the communities affected but that having separate amendments would address the needs and specificities of both the headboats and charter boats. AP members pointed out that headboats already have a landings history and that merging into a single amendment could be seen as penalizing them.

Consensus statement: Move forward with two amendments, and neither will move forward without the other. Both go to referendum at the same time. If one referendum fails, then they both stop.

Timeframe for Implementation

AP members next discussed the timeframe for implementing the amendments. Some AP members expressed a desire for implementation as soon as possible. Other members noted that taking time to work out all the details, such as latent permits and development of landing history, would be more equitable for everyone; however, it was addressed that some individuals needing to build a catch history may attempt to pad their landings numbers going forward. One member stated that the cyclical redistribution presented by NMFS staff seemed like a viable option and could be put into place sooner. After some discussion, most AP members did not show interest in prolonging implementation by the time period necessary to gather landings history for the charter vessels. While AP members were split between moving forward with landings proxies and using cyclical redistribution, with a potential implementation date of 2019, and moving forward with gathering one year of data with electronic logbooks (ELBs) to remove latent permits and using cyclical redistribution, with a potential implementation date of 2020, members were able to reach a consensus statement.

Consensus statement: The charter and headboat programs are implemented at the same time.

Species Included in the Management Approach

The AP members then discussed prioritizing five species (red snapper, greater amberjack, triggerfish, gag, and red grouper) and their recommendation for how many of those species should be included. One member noted that if ELBs were to be used for the for-hire sector, then it would be preferable for all five species to be included in the management approach. Another member expressed that fish allocated to the for-hire sector is caught by the public, and so

developing a fishery management plan that included five species would improve the fishery for the public.

The APs prioritized the five species (from highest priority to lowest priority) as follows:

- 1) Red snapper
- 2) Greater amberjack
- 3) Triggerfish
- 4) Gag
- 5) Red grouper

When asked how they would perceive a management program that included fewer than five species, AP members responded that they already considered five species to be a compromise.

Consensus statement: We want all five species included in the management program.

Quota Apportionment between the Charter and Headboat Components

The AP members discussed how to apportion quota between the charter vessels and headboats, should the Council decide to proceed with two separate amendments.

Consensus statement: The landings histories for the Beaufort survey vessels should be brought into the program(s). For vessels with high passenger capacity that were or were not previously included in the survey, the survey vessels will set aside allocation with future cyclical redistribution for those vessels that are operational. For those additional vessels that would be added to the program, a portion of what would have been allocated for charter vessels will be transferred to the headboat vessels.

Conducting Initial Individual Apportionments

The AP members discussed how to conduct initial individual apportionments. Since not all vessels in the for-hire sector have an established catch history, they discussed the potential role of cyclical redistribution, based on a presentation by NMFS staff, as a way of not having to rely solely on trading in order for shares to go to vessels that are actively fishing.

Consensus statement: That headboats be those vessels that are included in the Beaufort study, those that have established catch histories.

The APs also request that the Council reconvene the APs following the January Council meeting at the earliest convenience. The meeting adjourned at 5:00 p.m. on January 10.

Appendix – Question Guide

1. What is the preferred management approach for the for-hire fleet?

- What are the benefits of traditional management?
- What are the deal breakers for traditional management?
- What are the benefits of allocation based management?
- What are the deal breakers for using allocation based management?
- Consensus statement:

2. Would a separate amendment or a single amendment be the preferred avenue?

- What are the benefits of separate programs?
- What are the deal breakers for using separate programs?
- What are the benefits of a single program?
- What are the deal breakers for using a single program?
- Consensus statement:

3. What is the timeframe for implementation?

- What are the benefits of waiting for electronic reporting?
- What are the deal breakers of waiting for electronic reporting?
- What are the benefits of moving forward without electronic reporting?
- What are the deal breakers of moving forward without electronic reporting?
- Consensus statement:

4. What species should be included in the management approach?

- Priority order of species to include:
- Number of species that must be included to move forward:
- Consensus statement:

5. How should quotas be apportioned between the charter and headboat components?

- Why should we use the headboat landings histories?
- Why shouldn't we use the headboat landings histories?
- Why should we use proxies?
- Why shouldn't we use proxies?
- Which proxies would be most appropriate to use?
- What are the deal breakers?
- Consensus statement:

6. How should initial individual apportionments be conducted?

- Why should we use the headboat landings histories?

- Why shouldn't we use the headboat landings histories?
- Why should we use proxies?
- Why shouldn't we use proxies?
- Which proxies would be most appropriate to use?
- What are the deal breakers?
- Consensus statement:

7. Should adjustments to individual allocations be considered following the initial apportionments?

- How often should these be adjusted?

8. Should the management program(s) be mandatory or provide opt-out opportunity?

9. Should the management program(s) be phased-in or implemented at once?

Summary for the Ad Hoc Red Snapper Charter For-Hire Advisory Panel
Tampa, Florida
September 19, 2017

Council and Staff

John Sanchez
Roy Crabtree
Matthew Freeman
Carrie Simmons
Jessica Matos
Camilla Shireman

Panel Attendance

Jim Green
Rene Rice
Tom Steber
Mike Eller
Ed Walker
Troy Frady
Gary Jarvis
Gary Bryant
Shane Cantrell
Mark Kelley
Chuck Guilford

Attendance – Others

Susan Gerhart
Jessica Stephen
Cynthia Meyer
Jeff Barger
Elizabeth Silleck
Betty Harder
Tom Wheatley
Steve Papen
Chad Haggert
Randy Boggs

The Ad Hoc Red Snapper Charter For-Hire Advisory Panel (AP) meeting was convened at 8:30am on Tuesday, September 19, 2017. The AP approved the agenda. The following summary generally follows the meeting discussion chronologically; however, some motions addressing the same topic (e.g., particular amendment action) have been grouped together to facilitate review of the AP's recommendations.

Amendment 41

Staff reviewed the consensus statements from the January 2017 Joint Meeting of the Ad Hoc Reef Fish Headboat and Ad Hoc Red Snapper Charter Advisory Panels and then provided an overview of the actions contained within Amendment 41. Following the overview of the actions, AP members discussed each action individually.

AP members discussed Action 1, which addresses types of allocation-based management programs. An AP member stated that harvest tags lacked durable shares, created more uncertainty in business planning, and does not offer the same flexibility as a PFQ program. NMFS staff then discussed differences and similarities across IFQ and PFQ programs, with and without adaptive management. Council staff noted that the Council had selected a preferred alternative for a PFQ program. The AP discussed how adaptive management could address issues with initial distribution through a PFQ program, due to lack of vessel specific landings history. Following a discussion, the AP passed the following motions:

To recommend to the Council that in Action 1 to move Alternative 3 to considered but rejected.

Alternative 3: Establish a harvest tag program that provides participants with annual allocation distributed in the form of harvest tags. Annual allocation will be calculated

Option 3a: every 3 years.

Option 3b: every 5 years.

Motion carried unanimously.

To accept the Council preferred Alternative 2, Option 2b as the preferred alternative.

Preferred Alternative 2: Establish a fishing quota program that provides participants with shares and annual allocation.

Preferred Option 2b: a Permit Fishing Quota (PFQ) program.

Motion carried 10 to 0 with 1 abstention.

AP members then discussed Action 2, which addresses species to include in the charter for-hire management program. Council staff noted that the Council had selected a preferred alternative with options to include red snapper, greater amberjack, and gray triggerfish. An AP member inquired as to why gag and red grouper would potentially not be included. AP members discussed how geographical distribution of gag and red grouper was more skewed than for the other three species and that, even with adaptive management, more time would be required to get shares back to the fishermen that actually use them. Following a discussion, the AP passed the following motions:

In Action 2 to adopt the Council preferred alternative.

Preferred Alternative 2. Include the following species in the management program:

Preferred Option 2a: Red snapper

Preferred Option 2b: Greater amberjack

Preferred Option 2c: Gray triggerfish

Motion carried 6 to 5.

AP members then discussed Action 3, which addresses allocation of the annual catch limit to charter vessels. AP members pointed out that there were tradeoffs in the annual catch limits for the considered species, when comparing other alternatives to Alternative 5. AP members noted that Alternative 5 was the time series of the preferred alternative from Amendment 40.

Following discussion, the AP passed the following motion:

In Action 3 to make Alternative 5 the preferred alternative.

Alternative 5: Allocate a percentage of the recreational ACL for each species to the charter vessels based on 50% average landings from 1986-2013 (2010 excluded) and 50% average landings from 2006-2013 (2010 excluded). (Time series of the Preferred Alternative from Amendment 40).

Motion carried unanimously.

AP members then discussed Action 4, which addresses distributing the charter quota to charter vessels. An AP member noted that auction of initial distribution can create instability, especially if some of that initial distribution gets reclaimed with adaptive management. Following discussion, the AP passed the following motion:

In Action 4 to recommend Alternative 5 and 6 to be moved to considered but rejected.

Alternative 5: Distribute the charter quota by auction. All eligible participants are allowed to place bids.

Alternative 6: Distribute a portion of the charter quota by auction and the remainder based on equal distribution; passenger capacity; and historical landings by region (**Options 6a-6c**). The 3 metrics will be weighted by selecting one of **Options 6d-6g**.

Select one:	Option	Auction	Equal distribution; passenger capacity; historical landings by region	
	6a	25%	75%	
	6b	50%	50%	
	6c	75%	25%	
Select one:		Equal	Pass. Capacity	Historical Landings
	6d	33.3%	33.3%	33.3%
	6e	50%	25%	25%
	6f	25%	50%	25%
	6g	25%	25%	50%

Motion carried 9 to 2.

AP members then discussed that using one metric alone is not best for industry, with regards to Alternatives 2 and 3a. Because it uses the same timeframes as Amendment 40, the AP discussed retaining Alternative 3b; because it uses multiple metrics, the AP discussed retaining Alternative 4. Following discussion, the AP passed the following motion:

In Action 4 to recommend Alternatives 2 and 3a to be moved to considered but rejected.

Alternative 2: Distribute charter quota based on tiers of passenger capacity of charter vessels. Tiers are defined such that each:

Option 2a: Vessel with a passenger capacity of 6 receives 1 unit;
Vessel with a passenger capacity of 7 or greater receives 2 units.

Option 2b: Vessel with a passenger capacity of 6 receives 1 unit;
Vessel with a passenger capacity of 7-24 receives 2 units;
Vessel with a passenger capacity >24 receives 3 units.

Alternative 3: Distribute charter quota based on average historical landings of charter vessels in each region using:

Option 3a: Average historical landings for years 2003 to 2013, excluding landings from 2010.

Motion carried 8 to 3.

AP members again conferred that using multiple metrics would be best for industry. NMFS staff presented the decision tool for red snapper, and AP members examined what the distribution would be under the different options for Alternative 4, as well as with additional percentages not included in Options 4a-4d. Following discussion, the AP passed the following motion:

In Action 4 to make Alternative 4, Option 4d the preferred alternative.

Alternative 4: Distribute charter quota based on equal distribution, passenger capacity, and historical landings by region using one of the following:

	Option 4a	Option 4b	Option 4c	Option 4d
Equal distribution	33.3%	50%	25%	25%
Passenger capacity	33.3%	25%	50%	25%
Historical landings by region	33.3%	25%	25%	50%

Motion carried 8 to 3.

The AP then discussed Action 5.1, which addresses the length of cycles for adaptive management. AP members noted that under Alternative 3, later cycles would occur after longer periods of time, which would better address any issues with initial distribution. AP members pointed out that they would like additional cycles to have concluded prior a 5-year program review, than what would occur under Alternative 3. Following discussion, the AP passed the following motions:

In Action 5.1 Alternative 3 add an Option 3d to allow for 1 year cycle for first 3 years then incremental increases (by 1 year) to X years and routinely following every X years. Cycle 1=1 year, cycle 2= 1 year, cycle 3=1 year, cycle 4 = 2 years, then cycle 5+ = 3 years.

Motion carried unanimously.

In Action 5.1 to make Alternative 3, Option 3d as the preferred alternative.

Motion carried unanimously.

The AP then discussed Action 5.1, which addresses reclamation of shares. Some AP members mentioned that an aggressively higher percentage of shares that gets reclaimed initially would more quickly get shares from latent permits to permit holders that would use them. Some AP members then mentioned that using too high of a reclaim percentage, particularly in the first year, means that permit holders would have greater uncertainty for the following year (e.g., year 2), making it more difficult to operate their business. . Following discussion, the AP passed the following motions:

In Action 5.2 to make Alternative 3 Option 3b: cycle 1 = 50%, cycle 2 = 40%, cycle 3 = 40%, cycle 4+ = 25%.

Alternative 3: Reclaim a progressively decreasing amount of shares of each share category from all shareholder accounts.

Option 3b: Cycle 1: X%, Cycle 2: Y%, Cycle 3+: Z%

Motion carried unanimously.

In Action 5.2 to make Alternative 3, Option 3b the preferred alternative: cycle 1 = 50%, cycle 2 = 40%, cycle 3 = 40%, cycle 4+ = 25%.

Motion carried unanimously.

The AP then discussed Action 5.3, which addresses redistribution of reclaimed shares. AP members noted that reclaimed shares should be redistributed among participants that had actually harvested the species, rather than equally. Following discussion, the AP passed the following motion:

In Action 5.3 to make Alternative 3 the preferred alternative.

Alternative 3: Redistribute reclaimed shares by share category proportionally among all participants that harvested species in that share category. Proportional redistribution is based on a participant's landings for a species in a given share category divided by the total landings for that share category within the cycle.

Motion carried unanimously.

The AP then discussed Action 6, which addresses transferability of shares. AP members stated that only permit holders should be allowed to receive transferred shares. Following discussion, the AP passed the following motion:

In Action 6 to make Alternative 2 the preferred alternative.

Alternative 2: An account holder must have an associated Charter/Headboat permit for Reef Fish to receive transferred shares. Shares can only be transferred to United States citizens or permanent residents.

Motion carried 8 to 2 with 1 abstention.

After the last motion passed, an AP member noted that Action 6 only applies to an IFQ program, which was not the AP's preferred alternative in Action 1. Following this, the AP passed the following motions:

To reconsider Action 6.

Motion carried unanimously.

In Action 6, to make Alternative 1 the preferred alternative.

Alternative 1: No Action. Do not allow the transfer of shares.

Motion carried unanimously.

The AP then discussed Action 7, which addresses maintenance of shares. AP members noted that only permit holders should be allowed to maintain shares. Following discussion, the AP passed the following motion:

In Action 7 to make Alternative 2 the preferred alternative.

Alternative 2: Require a Charter/Headboat permit for Reef Fish to maintain shares. Shares can only be held by United States citizens or legal residents. If a participant transfers their permit/endorsement or the permit/endorsement expires, the owner must divest of their shares.

Motion carried 9 to 1 with 1 abstention.

The AP then discussed Action 8, which addresses transferability of annual allocation. Several AP members stated that they wanted a restriction on transfer of allocation to ensure that "fish would be kept in the fishery". Following discussion, the AP passed the following motion:

In Action 8, to make Alternative 2 the preferred alternative.

Alternative 2: An account must have a Charter/Headboat permit for Reef Fish to receive transferred allocation. Annual allocation can only be transferred to United States citizens or permanent residents.

Motion carried 10 to 0 with 1 abstention.

The AP then discussed Action 9, which addresses share caps. An AP member pointed out that Alternative 2 could restrict growth, given the uncertainty with initial allocation and with use of adaptive management. Several AP members stated that they would need additional information before deciding on a percentage with Alternative 3. Following discussion, the AP passed the following motion:

In Action 9 to use Alternative 3 as the preferred and leave the percentage open until there is more information from Council staff regarding each species.

Alternative 3: No participant shall hold shares for a given species which comprise more than x% of the total charter vessel quota for that species.

Motion carried 10 to 1.

The AP then discussed Action 10.1, which addresses a cap on usage of allocation for IFQs and PFQs. One AP member stated that Alternative 2, Option 2a would not penalize folks who have multiple vessels. Another AP member noted that, compared to Alternative 3, Alternative 2 allows more room for harvesting, especially with how landings affect redistribution under adaptive management. An AP member mentioned that, under adaptive management and redistribution, some folks would only temporarily benefit financially by transferring allocation. Following discussion, the AP passed the following motion:

In Action 10.1, to make Alternative 2 Option 2a the preferred alternative with the percentage at 25%.

Note: Usage of allocation is defined as the amount of landings year-to-date in an account plus the remaining allocation in that account on the same day.

Alternative 2: Limit allocation usage to x percent above the allocation equal to the share cap for each species.

Option 2a: Per vessel (permit)

Motion carried unanimously.

The AP then discussed Action 10.2, which addresses a cap on the number of harvest tags held. AP members again stated that harvest tags were not a management program they were interested in pursuing. Following discussion, the AP passed the following motion:

To move Action 10.2 to considered but rejected and removed from the document.

Alternative 1: No Action. There is no cap on the amount of harvest tags that a participant can hold.

Alternative 2: No participant may hold more harvest tags than represented by x% of the total charter vessel quota at any point in time.

Alternative 3: No participant may hold and/or use more than x% of the total charter vessel quota cumulatively throughout a calendar year.

Alternative 4: No participant may hold harvest tags equaling more than the maximum number of tags issued to any one participant during the quota apportionment (as defined in Action 3).

Motion carried 10 to 0 with 1 abstention.

The AP then discussed creation of a new action to limit transferability of the annual allocation per species. One AP member stated that it could help to avoid the sea lord issue. Another AP member noted that it might hinder the adaptive management process. Following discussion, the AP passed the following motion:

To create a new Action 11 for Amendment 41 to limit the transferability of the annual allocation per species to no more than 25% of the allocation from shares to transfer out of your account per permit.

Motion failed 3 to 8.

Referendum Eligibility Requirements

Council staff provided an overview of the referendum eligibility requirements and processes for Amendment 41 and the two options that the Council is currently considering. Several AP members stated that people with multiple permits are less likely to have latent permits (defined as non-active permits) and thus would be voting as active participants in the fishery. One AP member noted that they had bought into the industry through purchasing permits, so similarly to the practice of individuals who hold more shares in a business, those stakeholders should be allowed more votes (i.e., permit holders with more permits should have more votes).

Following discussion, the AP passed the following motion:

To adopt Option 1 as the preferred option with the language: one permit equals one vote.

Option 1: Each permit held on the day that the referendum rulemaking becomes effective would provide the permit holder with one vote in the referendum.

Motion carried unanimously.

Other Business

The AP then discussed the fact that the Council is considering state management plans. Several AP members stated that they were not interested in this course of management. An AP member also brought up the role of Amendment 30B and its role in addressing overages. Following discussion, the AP passed the following motions:

To recommend that the Council not pursue state management of the federally permitted charter for-hire industry.

Motion carried 10 to 1.

To recommend that when the Council is considering further management of the charter for-hire industry that it is done under the confines of the Magnuson-Stevens Act.

Motion carried 10 to 1.

To recommend to the Council the AP's support of Amendment 30B.

Motion carried 10 to 1.

The meeting ended at 3:30 p.m.

APPENDIX F. CURRENT FEDERAL REGULATIONS FOR GULF OF MEXICO RECREATIONAL RED SNAPPER MANAGEMENT

1. § 622.9 Prohibited gear and methods--general.

(e) Use of Gulf reef fish as bait prohibited. Gulf reef fish may not be used as bait in any fishery, except that, when purchased from a fish processor, the filleted carcasses and offal of Gulf reef fish may be used as bait in trap fisheries for blue crab, stone crab, deep-water crab, and spiny lobster.

2. § 622.20 Permits and endorsements

(b) Charter vessel/headboat permits. For a person aboard a vessel that is operating as a charter vessel or headboat to fish for or possess Gulf reef fish, in or from the EEZ, a valid charter vessel/headboat permit for Gulf reef fish must have been issued to the vessel and must be on board.

(1) Limited access system for charter vessel/headboat permits for Gulf reef fish. No applications for additional charter vessel/headboat permits for Gulf reef fish will be accepted. Existing permits may be renewed, are subject to the restrictions on transfer in paragraph (b)(1)(i) of this section, and are subject to the renewal requirements in paragraph (b)(1)(ii) of this section.

(i) Transfer of permits--(A) Permits without a historical captain endorsement. A charter vessel/headboat permit for Gulf coastal migratory pelagic fish or Gulf reef fish that does not have a historical captain endorsement is fully transferable, with or without sale of the permitted vessel, except that no transfer is allowed to a vessel with a greater authorized passenger capacity than that of the vessel to which the moratorium permit was originally issued, as specified on the face of the permit being transferred. An application to transfer a permit to an inspected vessel must include a copy of that vessel's current USCG Certificate of Inspection (COI). A vessel without a valid COI will be considered an uninspected vessel with an authorized passenger capacity restricted to six or fewer passengers.

(B) Permits with a historical captain endorsement. A charter vessel/headboat permit for Gulf coastal migratory pelagic fish or Gulf reef fish that has a historical captain endorsement may only be transferred to a vessel operated by the historical captain, cannot be transferred to a vessel with a greater authorized passenger capacity than that of the vessel to which the moratorium permit was originally issued, as specified on the face of the permit being transferred, and is not otherwise transferable.

(C) Procedure for permit transfer. To request that the RA transfer a charter vessel/headboat permit for Gulf reef fish, the owner of the vessel who is transferring the permit and the owner of the vessel that is to receive the transferred permit must complete the transfer information on the reverse side of the permit and return the permit and a completed application for transfer to the RA. See § 622.4(f) for additional transfer-related requirements applicable to all permits issued under this part.

(ii) Renewal. (A) Renewal of a charter vessel/headboat permit for Gulf reef fish is contingent upon the permitted vessel and/or captain, as appropriate, being included in an active

survey frame for, and, if selected to report, providing the information required in one of the approved fishing data surveys. Surveys include, but are not limited to—

(1) NMFS' Marine Recreational Fishing Vessel Directory Telephone Survey (conducted by the Gulf States Marine Fisheries Commission);

(2) NMFS' Southeast Headboat Survey (as required by § 622.26(b)(1));

(3) Texas Parks and Wildlife Marine Recreational Fishing Survey; or

(4) A data collection system that replaces one or more of the surveys in paragraph (b)(1)(ii)(A), (1), (2), or (3) of this section.

(B) A charter vessel/headboat permit for Gulf reef fish that is not renewed or that is revoked will not be reissued. A permit is considered to be not renewed when an application for renewal, as required, is not received by the RA within 1 year of the expiration date of the permit.

(iii) Requirement to display a vessel decal. Upon renewal or transfer of a charter vessel/headboat permit for Gulf reef fish, the RA will issue the owner of the permitted vessel a vessel decal for Gulf reef fish. The vessel decal must be displayed on the port side of the deckhouse or hull and must be maintained so that it is clearly visible.

(2) A charter vessel or headboat may have both a charter vessel/headboat permit and a commercial vessel permit. However, when a vessel is operating as a charter vessel or headboat, a person aboard must adhere to the bag limits. See the definitions of "Charter vessel" and "Headboat" in § 622.2 for an explanation of when vessels are considered to be operating as a charter vessel or headboat, respectively.

(3) If Federal regulations for Gulf reef fish in subparts A or B of this part are more restrictive than state regulations, a person aboard a charter vessel or headboat for which a charter vessel/headboat permit for Gulf reef fish has been issued must comply with such Federal regulations regardless of where the fish are harvested.

3. § 622.26 Recordkeeping and reporting.

(b) Charter vessel/headboat owners and operators—(1) Reporting requirement. The owner or operator of a vessel for which a charter vessel/headboat permit for Gulf reef fish has been issued, as required under § 622.20(b), or whose vessel fishes for or lands such reef fish in or from state waters adjoining the Gulf EEZ, who is selected to report by the SRD must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD and must submit such record as specified in paragraph (b)(2) of this section.

(2) Reporting deadlines--(i) Charter vessels. Completed fishing records required by paragraph (b)(1) of this section for charter vessels must be submitted to the SRD weekly, postmarked not later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.

(ii) Headboats. Completed fishing records required by paragraph (b)(1) of this section for headboats must be submitted to the SRD monthly and must either be made available to an authorized statistical reporting agent or be postmarked not later than 7 days after the end of each month. Information to be reported is indicated on the form and its accompanying instructions.

4. § 622.27 At-sea observer coverage.

(a) Required coverage. A vessel for which a Federal commercial vessel permit for Gulf reef fish or a charter vessel/headboat permit for Gulf reef fish has been issued must carry a NMFS-approved observer, if the vessel's trip is selected by the SRD for observer coverage. Vessel permit renewal is contingent upon compliance with this paragraph (a).

(b) Notification to the SRD. When observer coverage is required, an owner or operator must advise the SRD in writing not less than 5 days in advance of each trip of the following:

(1) Departure information (port, dock, date, and time).

(2) Expected landing information (port, dock, and date).

(c) Observer accommodations and access. An owner or operator of a vessel on which a NMFS-approved observer is embarked must:

(1) Provide accommodations and food that are equivalent to those provided to the crew.

(2) Allow the observer access to and use of the vessel's communications equipment and personnel upon request for the transmission and receipt of messages related to the observer's duties.

(3) Allow the observer access to and use of the vessel's navigation equipment and personnel upon request to determine the vessel's position.

(4) Allow the observer free and unobstructed access to the vessel's bridge, working decks, holding bins, weight scales, holds, and any other space used to hold, process, weigh, or store fish.

(5) Allow the observer to inspect and copy the vessel's log, communications logs, and any records associated with the catch and distribution of fish for that trip.

5. § 622.29 Conservation measures for protected resources.

(a) Gulf reef fish commercial vessels and charter vessels/headboats--(1) Sea turtle conservation measures. (i) The owner or operator of a vessel for which a commercial vessel permit for Gulf reef fish or a charter vessel/headboat permit for Gulf reef fish has been issued, as required under

§§ 622.20(a)(1) and 622.20(b), respectively, must post inside the wheelhouse, or within a waterproof case if no wheelhouse, a copy of the document provided by NMFS titled, "Careful Release Protocols for Sea Turtle Release With Minimal Injury," and must post inside the wheelhouse, or in an easily viewable area if no wheelhouse, the sea turtle handling and release guidelines provided by NMFS.

(ii) Such owner or operator must also comply with the sea turtle bycatch mitigation measures, including gear requirements and sea turtle handling requirements, specified in §§ 635.21(c)(5)(i) and (ii) of this chapter, respectively.

(iii) Those permitted vessels with a freeboard height of 4 ft (1.2 m) or less must have on board a dipnet, tire, short-handled dehooker, long-nose or needle-nose pliers, bolt cutters, monofilament line cutters, and at least two types of mouth openers/mouth gags. This equipment must meet the specifications described in §§ 635.21(c)(5)(i)(E) through (L) of this chapter with the following modifications: the dipnet handle can be of variable length, only one NMFS-approved short-handled dehooker is required (i.e., § 635.21(c)(5)(i)(G) or (H) of this chapter); and life rings, seat cushions, life jackets, and life vests or any other comparable, cushioned, elevated surface that allows boated sea turtles to be immobilized, may be used as alternatives to

tires for cushioned surfaces as specified in § 635.21(c)(5)(i)(F) of this chapter. Those permitted vessels with a freeboard height of greater than 4 ft (1.2 m) must have on board a dipnet, tire, long-handled line clipper, a short-handled and a long-handled dehooker, a long-handled device to pull an inverted "V", long-nose or needle-nose pliers, bolt cutters, monofilament line cutters, and at least two types of mouth openers/mouth gags. This equipment must meet the specifications described in § 635.21(c)(5)(i)(A) through (L) of this chapter with the following modifications: only one NMFS-approved long-handled dehooker (§ 635.21(c)(5)(i)(B) or (C)) of this chapter and one NMFS-approved short-handled dehooker (§ 635.21(c)(5)(i)(G) or (H) of this chapter) are required; and life rings, seat cushions, life jackets, and life vests, or any other comparable, cushioned, elevated surface that allows boated sea turtles to be immobilized, may be used as alternatives for cushioned surfaces as specified in § 635.21(c)(5)(i)(F) of this chapter.

(2) Smalltooth sawfish conservation measures. The owner or operator of a vessel for which a commercial vessel permit for Gulf reef fish or a charter vessel/headboat permit for Gulf reef fish has been issued, as required under §§ 622.20(a)(1) and 622.20(b), respectively, that incidentally catches a smalltooth sawfish must--

- (i) Keep the sawfish in the water at all times;
 - (ii) If it can be done safely, untangle the line if it is wrapped around the saw;
 - (iii) Cut the line as close to the hook as possible; and
 - (iv) Not handle the animal or attempt to remove any hooks on the saw, except for with a long-handled dehooker.
- (b) [Reserved]

6. § 622.30 Required fishing gear.

For a person on board a vessel to fish for Gulf reef fish in the Gulf EEZ, the vessel must possess on board and such person must use the gear as specified in paragraphs (a) through (c) of this section.

(a) Non-stainless steel circle hooks. Non-stainless steel circle hooks are required when fishing with natural baits.

(b) Dehooking device. At least one dehooking device is required and must be used to remove hooks embedded in Gulf reef fish with minimum damage. The hook removal device must be constructed to allow the hook to be secured and the barb shielded without re-engaging during the removal process. The dehooking end must be blunt, and all edges rounded. The device must be of a size appropriate to secure the range of hook sizes and styles used in the Gulf reef fish fishery.

(c) Venting tool. At least one venting tool is required and must be used to deflate the abdominal cavities of Gulf reef fish to release the fish with minimum damage. This tool must be a sharpened, hollow instrument, such as a hypodermic syringe with the plunger removed, or a 16-gauge needle fixed to a hollow wooden dowel. A tool such as a knife or an ice-pick may not be used. The venting tool must be inserted into the fish at a 45-degree angle approximately 1 to 2 inches (2.54 to 5.08 cm) from the base of the pectoral fin. The tool must be inserted just deep enough to release the gases, so that the fish may be released with minimum damage.

7. § 622.32 Prohibited gear and methods.

Also see § 622.9 for additional prohibited gear and methods that apply more broadly to multiple fisheries or in some cases all fisheries.

- (a) Poisons. A poison may not be used to take Gulf reef fish in the Gulf EEZ.
- (b) [Reserved]

8. § 622.33 Prohibited species.

(d) Gulf reef fish exhibiting trap rash. Possession of Gulf reef fish in or from the Gulf EEZ that exhibit trap rash is prima facie evidence of illegal trap use and is prohibited. For the purpose of this paragraph, trap rash is defined as physical damage to fish that characteristically results from contact with wire fish traps. Such damage includes, but is not limited to, broken fin spines, fin rays, or teeth; visually obvious loss of scales; and cuts or abrasions on the body of the fish, particularly on the head, snout, or mouth.

9. § 622.34 Seasonal and area closures designed to protect Gulf reef fish.

(a) Closure provisions applicable to the Madison and Swanson sites and Steamboat Lumps, and the Edges-- (1) Descriptions of Areas. (i) The Madison and Swanson sites are bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	29°17'	85°50'
B	29°17'	85°38'
C	29°06'	85°38'
D	29°06'	85°50'
A	29°17'	85°50'

(ii) Steamboat Lumps is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	28°14'	84°48'
B	28°14'	84°37'
C	28°03'	84°37'
D	28°03'	84°48'
A	28°14'	84°48'

(iii) The Edges is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	28°51'	85°16'
B	28°51'	85°04'
C	28°14'	84°42'
D	28°14'	84°54'
A	28°51'	85°16'

(2) Within the Madison and Swanson sites and Steamboat Lumps, possession of Gulf reef fish is prohibited, except for such possession aboard a vessel in transit with fishing gear stowed as specified in paragraph (a)(4) of this section.

(3) Within the Madison and Swanson sites and Steamboat Lumps during November through April, and within the Edges during January through April, all fishing is prohibited, and possession of any fish species is prohibited, except for such possession aboard a vessel in transit with fishing gear stowed as specified in paragraph (a)(4) of this section. The provisions of this paragraph, (a)(3), do not apply to highly migratory species.

(4) For the purpose of paragraph (a) of this section, transit means non-stop progression through the area; fishing gear appropriately stowed means--

(i) A longline may be left on the drum if all gangions and hooks are disconnected and stowed below deck. Hooks cannot be baited. All buoys must be disconnected from the gear; however, buoys may remain on deck.

(ii) A trawl net may remain on deck, but trawl doors must be disconnected from the trawl gear and must be secured.

(iii) A gillnet must be left on the drum. Any additional gillnets not attached to the drum must be stowed below deck.

(iv) A rod and reel must be removed from the rod holder and stowed securely on or below deck. Terminal gear (i.e., hook, leader, sinker, flasher, or bait) must be disconnected and stowed separately from the rod and reel. Sinkers must be disconnected from the down rigger and stowed separately.

(5) Within the Madison and Swanson sites and Steamboat Lumps, during May through October, surface trolling is the only allowable fishing activity. For the purpose of this paragraph (a)(5), surface trolling is defined as fishing with lines trailing behind a vessel which is in constant motion at speeds in excess of four knots with a visible wake. Such trolling may not involve the use of down riggers, wire lines, planers, or similar devices.

(6) For the purpose of this paragraph (a), fish means finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds. Highly migratory species means tuna species, marlin (*Tetrapturus spp.* and *Makaira spp.*), oceanic sharks, sailfishes (*Istiophorus spp.*), and swordfish (*Xiphias gladius*).

10. § 622.35 Gear restricted areas.

(a) Reef fish stressed area. The stressed area is that part of the Gulf EEZ shoreward of rhumb lines connecting, in order, the points listed in Table 2 in Appendix B of this part.

(1) A powerhead may not be used in the stressed area to take Gulf reef fish. Possession of a powerhead and a mutilated Gulf reef fish in the stressed area or after having fished in the stressed area constitutes prima facie evidence that such reef fish was taken with a powerhead in the stressed area. The provisions of this paragraph do not apply to hogfish.

(2) A roller trawl may not be used in the stressed area. Roller trawl means a trawl net equipped with a series of large, solid rollers separated by several smaller spacer rollers on a separate cable or line (sweep) connected to the footrope, which makes it possible to fish the gear over rough bottom, that is, in areas unsuitable for fishing conventional shrimp trawls. Rigid framed trawls adapted for shrimping over uneven bottom, in wide use along the west coast of Florida, and shrimp trawls with hollow plastic rollers for fishing on soft bottoms, are not considered roller trawls.

(b) Seasonal prohibitions applicable to bottom longline fishing for Gulf reef fish. (1) From June through August each year, bottom longlining for Gulf reef fish is prohibited in the portion of the Gulf EEZ east of 85°30' W. long. that is shoreward of rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	28°58.70'	85°30.00'
B	28°59.25'	85°26.70'
C	28°57.00'	85°13.80'
D	28°47.40'	85°3.90'
E	28°19.50'	84°43.00'
F	28°0.80'	84°20.00'
G	26°48.80'	83°40.00'
H	25°17.00'	83°19.00'
I	24°54.00'	83°21.00'
J	24°29.50'	83°12.30'
K	24°26.50'	83°00.00'

(2) Within the prohibited area and time period specified in paragraph (b)(1) of this section, a vessel with bottom longline gear on board may not possess Gulf reef fish unless the bottom longline gear is appropriately stowed, and a vessel that is using bottom longline gear to fish for species other than Gulf reef fish may not possess Gulf reef fish. For the purposes of paragraph (b) of this section, appropriately stowed means that a longline may be left on the drum

if all gangions and hooks are disconnected and stowed below deck; hooks cannot be baited; and all buoys must be disconnected from the gear but may remain on deck.

(3) Within the Gulf EEZ east of 85°30' W. long., a vessel for which a valid eastern Gulf reef fish bottom longline endorsement has been issued that is fishing bottom longline gear or has bottom longline gear on board cannot possess more than a total of 1000 hooks including hooks on board the vessel and hooks being fished and cannot possess more than 750 hooks rigged for fishing at any given time. For the purpose of this paragraph, "hooks rigged for fishing" means hooks attached to a line or other device capable of attaching to the mainline of the longline.

(c) Reef fish longline and buoy gear restricted area. A person aboard a vessel that uses, on any trip, longline or buoy gear in the longline and buoy gear restricted area is limited on that trip to the bag limits for Gulf reef fish specified in § 622.38(b) and, for Gulf reef fish for which no bag limit is specified in § 622.38(b), the vessel is limited to 5%, by weight, of all fish on board or landed. The longline and buoy gear restricted area is that part of the Gulf EEZ shoreward of rhumb lines connecting, in order, the points listed in Table 1 in Appendix B of this part.

(d) Alabama SMZ. The Alabama SMZ consists of artificial reefs and surrounding areas. In the Alabama SMZ, fishing by a vessel that is operating as a charter vessel or headboat, a vessel that does not have a commercial permit for Gulf reef fish, as required under § 622.20(a)(1), or a vessel with such a permit fishing for Gulf reef fish is limited to hook-and-line gear with three or fewer hooks per line and spearfishing gear. A person aboard a vessel that uses on any trip gear other than hook-and-line gear with three or fewer hooks per line and spearfishing gear in the Alabama SMZ is limited on that trip to the bag limits for Gulf reef fish specified in § 622.38(b) and, for Gulf reef fish for which no bag limit is specified in § 622.38(b), the vessel is limited to 5%, by weight, of all fish on board or landed. The Alabama SMZ is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	30°02.5'	88°07.7'
B	30°02.6'	87°59.3'
C	29°55.0'	87°55.5'
D	29°54.5'	88°07.5'
A	30°02.5'	88°07.7'

11. § 622.37 Size limits.

All size limits in this section are minimum size limits unless specified otherwise. A fish not in compliance with its size limit, as specified in this section, in or from the Gulf EEZ, may not be possessed, sold, or purchased. A fish not in compliance with its size limit must be released immediately with a minimum of harm. The operator of a vessel that fishes in the EEZ is responsible for ensuring that fish on board are in compliance with the size limits specified in this section. See § 622.10 regarding requirements for landing fish intact.

(a) Snapper—(1) Red snapper—16 inches (40.6 cm), TL, for a fish taken by a person subject to the bag limit specified in § 622.38 (b)(3) and 13 inches (33.0 cm), TL, for a fish taken by a person not subject to the bag limit.

12. § 622.38 Bag and possession limits.

(a) Additional applicability provisions for Gulf reef fish. (1) Section 622.11(a) provides the general applicability for bag and possession limits. However, § 622.11(a) notwithstanding, bag and possession limits also apply for Gulf reef fish in or from the EEZ to a person aboard a vessel that has on board a commercial permit for Gulf reef fish--

(i) When trawl gear or entangling net gear is on board. A vessel is considered to have trawl gear on board when trawl doors and a net are on board. Removal from the vessel of all trawl doors or all nets constitutes removal of trawl gear.

(ii) When a longline or buoy gear is on board and the vessel is fishing or has fished on a trip in the reef fish longline and buoy gear restricted area specified in § 622.35(c). A vessel is considered to have a longline on board when a power-operated longline hauler, a cable of diameter and length suitable for use in the longline fishery, and gangions are on board. Removal of any one of these three elements, in its entirety, constitutes removal of a longline.

(iii) For a species/species group when its quota has been reached and closure has been effected, provided that no commercial quantities of Gulf reef fish, i.e., Gulf reef fish in excess of applicable bag/possession limits, are on board as specified in paragraph (a)(2) of this section.

(iv) When the vessel has on board or is tending any trap other than a stone crab trap or a spiny lobster trap.

(2) A person aboard a vessel that has a Federal commercial vessel permit for Gulf reef fish and commercial quantities of Gulf reef fish, i.e., Gulf reef fish in excess of applicable bag/possession limits, may not possess Gulf reef fish caught under a bag limit.

(b) Bag limits--

(3) Red snapper--2. However, no red snapper may be retained by the captain or crew of a vessel operating as a charter vessel or headboat. The bag limit for such captain and crew is zero.

13. § 622.39 Quotas.

See § 622.8 for general provisions regarding quota applicability and closure and reopening procedures. This section, provides quotas and specific quota closure restrictions for Gulf reef fish.

(a) Gulf reef fish

(2) *Recreational quotas.* The following quotas apply to persons who fish for Gulf reef fish other than under commercial vessel permits for Gulf reef fish and the applicable commercial quotas specified in paragraph (a)(1) of this section.

(i) *Recreational quota for red snapper—(A) Total recreational quota (Federal charter vessel/headboat and private angling component quotas combined)—*

(1) For fishing year 2015—7.007 million lb (3.178 million kg), round weight.

(2) For fishing year 2016—7.192 million lb (3.262 million kg), round weight.

(3) For fishing year 2017 and subsequent fishing years—7.076 million lb (3.210 million kg), round weight.

(B) *Federal charter vessel/headboat component quota.* The Federal charter vessel/headboat component quota applies to vessels that have been issued a valid Federal charter vessel/headboat permit for Gulf reef fish any time during the fishing year. This component quota is effective for only the 2015, 2016, and 2017 fishing years. For the 2018 and subsequent fishing years, the applicable total recreational quota specified in §622.39(a)(2)(i)(A) will apply to the recreational sector.

(1) For fishing year 2015—2.964 million lb (1.344 million kg), round weight.

(2) For fishing year 2016—3.042 million lb (1.380 million kg), round weight.

(3) For fishing year 2017—2.993 million lb (1.358 million kg), round weight.

(C) *Private angling component quota.* The private angling component quota applies to vessels that fish under the bag limit and have not been issued a Federal charter vessel/headboat permit for Gulf reef fish any time during the fishing year. This component quota is effective for only the 2015, 2016, and 2017 fishing years. For the 2018 and subsequent fishing years, the applicable total recreational quota specified in §622.39(a)(2)(i)(A) will apply to the recreational sector.

(1) For fishing year 2015—4.043 million lb (1.834 million kg), round weight.

(2) For fishing year 2016—4.150 million lb (1.882 million kg), round weight.

(3) For fishing year 2017—4.083 million lb (1.852 million kg), round weight.

14. §622.41 Annual catch limits (ACLs), annual catch targets (ACTs), and accountability measures (AMs).

(q) Red Snapper

(2) *Recreational sector.* (i) The recreational ACL is equal to the total recreational quota specified in §622.39(a)(2)(i)(A). The AA will determine the length of the red snapper recreational fishing season, or recreational fishing seasons for the Federal charter vessel/headboat and private angling components, based on when recreational landings are projected to reach the recreational ACT, or respective recreational component ACT specified in paragraph (q)(2)(iii) of this section, and announce the closure date(s) in the FEDERAL REGISTER. These seasons will serve as in-

season accountability measures. On and after the effective date of the recreational closure or recreational component closure notifications, the bag and possession limit for red snapper or for the respective component is zero. When the recreational sector or Federal charter vessel/headboat component is closed, this bag and possession limit applies in the Gulf on board a vessel for which a valid Federal charter vessel/headboat permit for Gulf reef fish has been issued, without regard to where such species were harvested, *i.e.*, in state or Federal waters.

(ii) In addition to the measures specified in paragraph (q)(2)(i) of this section, if red snapper recreational landings, as estimated by the SRD, exceed the total recreational quota specified in §622.39(a)(2)(i)(A), and red snapper are overfished, based on the most recent Status of U.S. Fisheries Report to Congress, the AA will file a notification with the Office of the Federal Register to reduce the total recreational quota by the amount of the quota overage in the prior fishing year, and reduce the applicable recreational component quota(s) specified in §622.39(a)(2)(i)(B) and (C) and the applicable recreational component ACT(s) specified in paragraph (q)(2)(iii) of this section (based on the buffer between the total recreational ACT and the total recreational quota specified in the FMP), unless NMFS determines based upon the best scientific information available that a greater, lesser, or no overage adjustment is necessary.

(iii) *Recreational ACT for red snapper—(A) Total recreational ACT (Federal charter vessel/headboat and private angling component ACTs combined)—*

- (1) For fishing year 2015—5.606 million lb (2.543 million kg), round weight.
- (2) For fishing year 2016—5.754 million lb (2.610 million kg), round weight.
- (3) For fishing year 2017 and subsequent fishing years—5.661 million lb (2.568 million kg), round weight.

(B) *Federal charter vessel/headboat component ACT.* The Federal charter vessel/headboat component ACT applies to vessels that have been issued a valid Federal charter vessel/headboat permit for Gulf reef fish any time during the fishing year. This component ACT is effective for only the 2015, 2016, and 2017 fishing years. For the 2018 and subsequent fishing years, the applicable total recreational quota specified in §622.39(a)(2)(i)(A) will apply to the recreational sector.

- (1) For fishing year 2015—2.371 million lb (1.075 million kg), round weight.
- (2) For fishing year 2016—2.434 million lb (1.104 million kg), round weight.
- (3) For fishing year 2017—2.395 million lb (1.086 million kg), round weight.

(C) *Private angling component ACT.* The private angling component ACT applies to vessels that fish under the bag limit and have not been issued a Federal charter vessel/headboat permit for Gulf reef fish any time during the fishing year. This component ACT is effective for only the 2015, 2016, and 2017 fishing years. For the 2018 and subsequent fishing years, the applicable total recreational quota specified in §622.39(a)(2)(i)(A) will apply to the recreational sector.

- (1) For fishing year 2015—3.234 million lb (1.467 million kg), round weight.
- (2) For fishing year 2016—3.320 million lb (1.506 million kg), round weight.
- (3) For fishing year 2017—3.266 million lb (1.481 million kg), round weight.

APPENDIX G. HISTORICAL RECREATIONAL LANDINGS TABLES

Table G.1. Landings of Gulf red snapper by private anglers, charter vessels, and headboats in pounds and as a percentage of total recreational landings. Landings are in whole weight.

Year	Private Anglers		Charter Vessels		Headboats	
	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings
1986	998,293	28.7%	2,073,231	59.5%	410,487	11.8%
1987	703,341	33.9%	959,787	46.3%	411,039	19.8%
1988	1,489,226	47.5%	1,031,660	32.9%	614,154	19.6%
1989	1,192,701	40.6%	758,131	25.8%	986,440	33.6%
1990	642,472	39.7%	598,465	37.0%	378,313	23.4%
1991	859,336	29.7%	1,547,479	53.5%	483,673	16.7%
1992	2,366,753	52.0%	1,230,743	27.1%	950,061	20.9%
1993	2,956,690	42.0%	2,703,727	38.4%	1,384,388	19.7%
1994	2,459,439	40.8%	2,043,356	33.9%	1,525,449	25.3%
1995	2,239,101	41.4%	1,812,774	33.5%	1,357,623	25.1%
1996	1,775,334	33.6%	2,102,334	39.8%	1,408,778	26.6%
1997	2,769,613	41.4%	2,615,653	39.1%	1,304,411	19.5%
1998	1,498,601	31.0%	2,204,048	45.7%	1,124,744	23.3%
1999	2,663,289	54.3%	1,542,631	31.5%	698,968	14.3%
2000	2,113,756	44.9%	1,833,279	38.9%	763,287	16.2%
2001	2,846,830	54.3%	1,824,487	34.8%	573,486	10.9%
2002	3,037,152	46.6%	2,659,791	40.8%	824,802	12.6%
2003	2,987,156	49.0%	2,314,989	38.0%	791,897	13.0%
2004	3,198,600	49.5%	2,568,368	39.8%	693,276	10.7%
2005	2,175,730	46.5%	1,973,852	42.2%	526,336	11.3%
2006	1,692,246	41.0%	1,862,648	45.1%	576,238	13.9%
2007	3,142,991	54.1%	2,178,798	37.5%	487,004	8.4%
2008	2,298,321	56.7%	1,349,603	33.3%	407,950	10.1%
2009	3,362,349	60.1%	1,428,615	25.5%	805,893	14.4%
2010	1,784,709	67.4%	433,133	16.4%	429,527	16.2%
2011	4,891,368	72.6%	1,212,177	18.0%	630,562	9.4%
2012	5,284,921	70.2%	1,515,243	20.1%	724,078	9.6%
2013	8,145,917	84.0%	1,111,709	11.5%	445,276	4.6%
2014	3,268,558	85.2%	184,589	4.8%	382,289	10.0%
2015	3,806,474	63.9%	1,573,451	26.4%	580,226	9.7%
2016	5,299,312	71.2%	1,616,241	21.7%	526,575	7.1%

Source: SEFSC ACL database updated as of 11/22/17. Landings based on the Marine Recreational Information Program (MRIP) dataset.

Table G.2. Landings of greater amberjack by private anglers, charter vessels, and headboats in pounds and as a percentage of total recreational landings. Landings are in whole weight.

Year	Private Anglers		Charter Vessels		Headboats	
	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings
1986	1,940,902	30%	3,716,026	58%	750,632	12%
1987	1,420,627	25%	3,953,664	69%	378,888	7%
1988	933,832	39%	1,268,731	53%	173,613	7%
1989	3,784,512	60%	2,318,165	37%	204,289	3%
1990	633,453	63%	298,637	30%	77,654	8%
1991	194,685	6%	2,931,139	91%	102,687	3%
1992	730,845	24%	1,957,427	65%	312,152	10%
1993	709,847	27%	1,716,955	65%	225,868	9%
1994	427,551	23%	1,230,955	66%	213,119	11%
1995	474,687	53%	275,060	31%	143,994	16%
1996	627,325	42%	728,343	49%	139,588	9%
1997	354,634	29%	755,963	61%	125,349	10%
1998	233,220	33%	385,712	55%	88,595	13%
1999	361,220	40%	460,693	51%	73,508	8%
2000	331,053	32%	604,364	58%	100,732	10%
2001	791,315	55%	563,208	39%	89,436	6%
2002	857,969	39%	1,163,645	53%	160,636	7%
2003	1,676,183	56%	1,121,240	37%	199,347	7%
2004	1,214,647	49%	1,150,453	47%	108,769	4%
2005	1,089,981	69%	426,940	27%	61,281	4%
2006	652,668	36%	1,067,544	59%	79,892	4%
2007	429,347	39%	610,073	56%	59,436	5%
2008	821,597	59%	521,032	37%	54,544	4%
2009	723,964	48%	689,056	45%	103,191	7%
2010	891,292	61%	527,159	36%	53,203	4%
2011	303,351	30%	635,457	63%	62,835	6%
2012	654,135	46%	654,564	46%	99,680	7%
2013	949,365	57%	640,962	39%	73,246	4%
2014	635,176	53%	515,791	43%	46,435	4%
2015	593,851	40%	822,126	56%	58,513	4%
2016	1,502,374	71%	603,536	28%	20,210	1%

Data source: The SEFSC ACL database updated as of 11/22/17. Greater amberjack utilized landings based on the Marine Recreational Information Program (MRIP) dataset.

Table G.3. Landings of gray triggerfish by private anglers, charter vessels, and headboats in pounds and as a percentage of total recreational landings. Landings are in whole weight.

Year	Private Anglers		Charter Vessels		Headboats	
	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings
1986	106,872	10%	925,203	83%	89,306	8%
1987	354,711	30%	780,151	65%	63,366	5%
1988	567,226	38%	828,216	56%	90,108	6%
1989	702,209	49%	573,283	40%	151,513	11%
1990	801,975	30%	1,683,008	63%	198,796	7%
1991	291,587	14%	1,668,651	79%	153,049	7%
1992	597,114	43%	621,343	45%	170,053	12%
1993	390,209	28%	796,563	58%	183,066	13%
1994	199,082	17%	779,040	67%	186,036	16%
1995	273,344	22%	793,885	64%	171,741	14%
1996	152,526	26%	316,506	53%	124,892	21%
1997	200,695	29%	384,164	55%	109,031	16%
1998	222,257	42%	218,361	41%	88,623	17%
1999	230,432	48%	175,948	37%	69,481	15%
2000	244,449	52%	161,988	35%	61,995	13%
2001	170,516	37%	219,668	48%	67,528	15%
2002	321,771	47%	278,971	40%	90,952	13%
2003	455,960	57%	241,510	30%	104,409	13%
2004	502,784	53%	343,060	36%	100,066	11%
2005	238,096	41%	261,489	45%	84,130	14%
2006	229,724	51%	164,034	36%	58,178	13%
2007	218,001	51%	147,138	34%	62,685	15%
2008	191,860	46%	178,832	43%	48,584	12%
2009	280,642	70%	85,770	21%	34,615	9%
2010	184,453	62%	86,149	29%	25,756	9%
2011	220,962	48%	190,138	41%	50,449	11%
2012	205,066	73%	56,101	20%	18,706	7%
2013	338,917	74%	90,606	20%	27,119	6%
2014	173,017	79%	36,176	17%	8,693	4%
2015	84,521	90%	5,549	6%	4,112	4%
2016	227,340	53%	175,726	41%	29,576	7%

Data source: The SEFSC ACL database updated as of 11/22/17. Gray triggerfish utilized landings based on Marine Recreational Fisheries Statistics Survey (MRFSS) dataset.

Table G.4. Landings of gag by private anglers, charter vessels, and headboats in pounds and as a percentage of total recreational landings. Landings are in gutted weight.

Year	Private Anglers		Charter Vessels		Headboats	
	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings
1986	2,244,831	66%	845,617	25%	314,929	9%
1987	1,735,365	66%	733,572	28%	173,424	7%
1988	4,122,010	84%	646,650	13%	133,064	3%
1989	2,467,901	83%	282,829	9%	237,736	8%
1990	1,088,456	75%	214,819	15%	140,173	10%
1991	1,728,740	91%	99,372	5%	78,068	4%
1992	1,326,482	75%	365,056	21%	85,233	5%
1993	1,604,335	66%	616,006	26%	193,614	8%
1994	1,506,803	77%	331,220	17%	130,902	7%
1995	1,841,909	69%	699,668	26%	110,269	4%
1996	1,511,647	73%	483,343	23%	84,692	4%
1997	1,891,563	69%	777,962	28%	84,038	3%
1998	2,177,577	62%	1,158,066	33%	197,004	6%
1999	2,622,046	70%	944,661	25%	161,619	4%
2000	3,718,421	72%	1,222,896	24%	194,414	4%
2001	3,058,129	72%	1,056,731	25%	113,393	3%
2002	3,209,056	78%	838,048	20%	77,618	2%
2003	2,707,123	75%	799,659	22%	106,705	3%
2004	4,036,002	76%	1,123,073	21%	164,688	3%
2005	2,668,549	70%	1,012,554	27%	109,305	3%
2006	1,819,859	72%	670,831	26%	47,862	2%
2007	1,799,635	81%	363,440	16%	72,155	3%
2008	2,318,570	74%	761,224	24%	72,718	2%
2009	1,057,665	71%	372,603	25%	65,378	4%
2010	1,146,108	70%	427,972	26%	70,718	4%
2011	604,499	80%	99,474	13%	48,834	6%
2012	587,662	58%	386,935	38%	44,249	4%
2013	1,327,811	87%	165,327	11%	34,117	2%
2014	775,965	84%	110,067	12%	40,728	4%
2015	651,687	79%	142,425	17%	35,546	4%
2016	631,210	78%	151,336	19%	23,246	3%

Data source: The SEFSC ACL database updated as of 11/22/17. Gag utilized landings based on the Marine Recreational Information Program (MRIP) dataset.

Table G.5. Landings of red grouper by private anglers, charter vessels, and headboats in pounds and as a percentage of total recreational landings. Landings are in gutted weight.

Year	Private Anglers		Charter Vessels		Headboats	
	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings	Pounds (ww)	% of Total Landings
1986	2,107,729	87%	189,638	8%	112,910	5%
1987	1,044,429	80%	174,170	13%	84,369	6%
1988	2,384,437	90%	172,268	6%	99,121	4%
1989	2,539,667	90%	138,332	5%	128,851	5%
1990	825,992	68%	299,211	25%	87,319	7%
1991	1,820,531	94%	63,034	3%	57,955	3%
1992	2,694,023	88%	319,511	10%	50,240	2%
1993	2,095,264	89%	183,843	8%	72,633	3%
1994	1,983,169	89%	182,664	8%	52,815	2%
1995	1,657,030	76%	420,841	19%	89,895	4%
1996	795,892	78%	146,846	14%	80,504	8%
1997	465,095	72%	160,646	25%	23,957	4%
1998	633,634	77%	162,972	20%	22,269	3%
1999	1,035,350	80%	217,598	17%	45,810	4%
2000	1,587,178	64%	862,480	35%	48,717	2%
2001	1,154,531	73%	391,873	25%	30,181	2%
2002	1,566,830	82%	331,627	17%	23,508	1%
2003	1,170,023	77%	308,388	20%	38,489	3%
2004	3,127,653	83%	554,380	15%	65,145	2%
2005	891,544	60%	508,847	34%	75,009	5%
2006	1,007,336	77%	280,658	21%	25,479	2%
2007	887,878	82%	168,634	16%	24,674	2%
2008	551,884	61%	307,976	34%	37,604	4%
2009	732,435	75%	210,129	22%	29,583	3%
2010	482,357	60%	293,827	37%	26,064	3%
2011	366,776	57%	238,792	37%	36,697	6%
2012	1,220,598	67%	515,818	28%	83,324	5%
2013	1,747,859	66%	831,906	31%	77,542	3%
2014	1,233,596	69%	522,126	29%	45,107	3%
2015	1,032,362	52%	914,374	46%	50,621	3%
2016	1,011,789	67%	435,625	29%	56,851	4%

Data source: The SEFSC ACL database updated as of 11/22/17. Red grouper utilized landings based on the Marine Recreational Information Program (MRIP) dataset.

APPENDIX H. SUMMARY OF HABITAT UTILIZATION BY LIFE HISTORY STAGE FOR SPECIES IN THE REEF FISH FMP.

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Red Snapper	Pelagic	Pelagic	Hard bottoms, Sand/ shell bottoms, Soft bottoms	Hard bottoms, Sand/ shell bottoms, Soft bottoms	Hard bottoms, Reefs	Sand/ shell bottoms
Queen Snapper	Pelagic	Pelagic	Unknown	Unknown	Hard bottoms	
Mutton Snapper	Reefs	Reefs	Mangroves, Reefs, SAV, Emergent marshes	Mangroves, Reefs, SAV, Emergent marshes	Reefs, SAV	Shoals/ Banks, Shelf edge/slope
Blackfin Snapper	Pelagic		Hard bottoms	Hard bottoms	Hard bottoms, Shelf edge/slope	Hard bottoms, Shelf edge/slope
Cubera Snapper	Pelagic		Mangroves, Emergent marshes, SAV	Mangroves, Emergent marshes, SAV	Mangroves, Reefs	Reefs
Gray Snapper	Pelagic, Reefs	Pelagic, Reefs	Mangroves, Emergent marshes, Seagrasses	Mangroves, Emergent marshes, SAV	Emergent marshes, Hard bottoms, Reefs, Sand/ shell bottoms, Soft bottoms	
Lane Snapper	Pelagic		Mangroves, Reefs, Sand/ shell bottoms, SAV, Soft bottoms	Mangroves, Reefs, Sand/ shell bottoms, SAV, Soft bottoms	Reefs, Sand/ shell bottoms, Shoals/ Banks	Shelf edge/slope
Silk Snapper	Unknown	Unknown	Unknown	Unknown	Shelf edge	
Yellowtail Snapper	Pelagic		Mangroves, SAV, Soft bottoms	Reefs	Hard bottoms, Reefs, Shoals/ Banks	

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Wenchman	Pelagic	Pelagic			Hard bottoms, Shelf edge/slope	Shelf edge/slope
Vermilion Snapper	Pelagic		Hard bottoms, Reefs	Hard bottoms, Reefs	Hard bottoms, Reefs	
Gray Triggerfish	Reefs	Drift algae, <i>Sargassum</i>	Drift algae, <i>Sargassum</i>	Drift algae, Reefs, <i>Sargassum</i>	Reefs, Sand/ shell bottoms	Reefs, Sand/ shell bottoms
Greater Amberjack	Pelagic	Pelagic	Drift algae	Drift algae	Pelagic, Reefs	Pelagic
Lesser Amberjack			Drift algae	Drift algae	Hard bottoms	Hard bottoms
Almaco Jack	Pelagic		Drift algae	Drift algae	Pelagic	Pelagic
Banded Rudderfish		Pelagic	Drift algae	Drift algae	Pelagic	Pelagic
Hogfish			SAV	SAV	Hard bottoms, Reefs	Reefs
Blueline Tilefish	Pelagic	Pelagic			Hard bottoms, Sand/ shell bottoms, Shelf edge/slope, Soft bottoms	
Tilefish (golden)	Pelagic, Shelf edge/ Slope	Pelagic	Hard bottoms, Shelf edge/slope, Soft bottoms	Hard bottoms, Shelf edge/slope, Soft bottoms	Hard bottoms, Shelf edge/slope, Soft bottoms	
Goldface Tilefish	Unknown					
Speckled Hind	Pelagic	Pelagic			Hard bottoms, Reefs	Shelf edge/slope
Yellowedge Grouper	Pelagic	Pelagic		Hard bottoms	Hard bottoms	

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Atlantic Goliath Grouper	Pelagic	Pelagic	Mangroves, Reefs, SAV	Hard bottoms, Mangroves, Reefs, SAV	Hard bottoms, Shoals/ Banks, Reefs	Reefs, Hard bottoms
Red Grouper	Pelagic	Pelagic	Hard bottoms, Reefs, SAV	Hard bottoms, Reefs	Hard bottoms, Reefs	
Warsaw Grouper	Pelagic	Pelagic		Reefs	Hard bottoms, Shelf edge/slope	
Snowy Grouper	Pelagic	Pelagic	Reefs	Reefs	Hard bottoms, Reefs, Shelf edge/slope	
Black Grouper	Pelagic	Pelagic	SAV	Hard bottoms, Reefs	Hard bottoms, Mangroves, Reefs	
Yellowmouth Grouper	Pelagic	Pelagic	Mangroves	Mangroves, Reefs	Hard bottoms, Reefs	
Gag	Pelagic	Pelagic	SAV	Hard bottoms, Reefs, SAV	Hard bottoms, Reefs	
Scamp	Pelagic	Pelagic	Hard bottoms, Mangroves, Reefs	Hard bottoms, Mangroves, Reefs	Hard bottoms, Reefs	Reefs, Shelf edge/slope
Yellowfin Grouper			SAV	Hard bottoms, SAV	Hard bottoms, Reefs	Hard bottoms

Source: Adapted from Table 3.2.7 in the final draft of the EIS from the Generic EFH Amendment (GMFMC 2004a) and consolidated in this document.

APPENDIX I. PERCENTAGE OF RECREATIONAL ACL ALLOCATED TO EACH COMPONENT OF THE RECREATIONAL SECTOR, BY SPECIES

Table I.1. Percent of the red snapper recreational ACL allocated to each component of the recreational sector for each alternative in Action 4.

Alternative	% Charter Vessels	% Headboats	% Private Anglers
2	16.2	8.7	75.1
2a	19.0	8.3	72.7
2b	17.5	7.9	74.6
3	26.7	10.7	62.6
3a	27.7	10.2	62.1
3b	28.7	10.8	60.5
3c	28.9	10.9	60.2
3a&b	29.9	10.2	59.9
3a&c	30.3	10.3	59.4
4	27.7	10.7	61.6
4a	28.2	10.5	61.3
4b	28.8	10.8	60.4
4c	29.4	10.5	60.1
4a&b	29.4	10.5	60.1
4a&c	30.1	10.2	59.7
5	35.9	16.5	47.6

Table I.2. Percent of the greater amberjack recreational ACL allocated to each component of the recreational sector for each alternative in Action 4.

Alternative	% Charter Vessels	% Headboats	% Private Anglers
2	49.5	5.1	45.4
2a	51.1	5.4	43.5
2b	49.5	5.9	44.6
3	46.2	4.8	49.0
3a	47.1	4.9	48.0
3b	46.5	4.9	48.6
3c	45.5	5.0	49.5
3a&b	47.5	5.1	47.5
3a&c	46.6	5.2	48.2
4	47.8	5.0	47.2
4a	48.3	5.0	48.3
4b	48.8	5.2	46.5
4c	47.5	5.5	47.0
4a&b	49.3	5.2	49.3
4a&c	48.1	5.5	46.4
5	51.4	7.5	41.1

Table I.3. Percent of the gray triggerfish recreational ACL allocated to each component of the recreational sector for each alternative in Action 4.

Alternative	% Charter Vessels	% Headboats	% Private Anglers
2	20.7	6.4	72.9
2a	21.7	7.0	71.3
2b	27.0	7.9	65.1
3	29.0	9.4	61.6
3a	29.0	9.5	61.5
3b	30.2	9.9	59.9
3c	32.6	10.5	56.9
3a&b	30.3	10.1	59.6
3a&c	33.0	10.7	56.3
4	24.9	7.9	67.2
4a	24.9	7.9	67.2
4b	26.0	8.5	65.5
4c	29.8	9.2	61.0
4a&b	26.0	8.5	65.5
4a&c	30.0	9.3	61.7
5	46.5	11.8	41.7

Table I.4. Percent of the gag recreational ACL allocated to each component of the recreational sector for each alternative in Action 4.

Alternative	% Charter Vessels	% Headboats	% Private Anglers
2	18.2	4.3	77.5
2a	19.8	4.3	75.9
2b	20.7	4.4	74.9
3	21.4	3.7	74.9
3a	21.0	3.6	75.4
3b	22.3	3.6	74.1
3c	22.8	3.5	73.7
3a&b	21.9	3.5	74.6
3a&c	22.4	3.4	74.2
4	19.8	4.0	76.2
4a	19.6	4.0	76.4
4b	21.0	4.0	75.0
4c	21.7	3.9	74.4
4a&b	20.8	3.9	75.3
4a&c	21.5	3.9	74.6
5	21.7	4.6	73.7

Table I.5. Percent of the red grouper recreational ACL allocated to each component of the recreational sector for each alternative in Action 4.

Alternative	% Charter Vessels	% Headboats	% Private Anglers
2	34.3	3.6	62.1
2a	35.7	3.9	60.4
2b	32.3	4.4	63.3
3	29.2	3.3	67.5
3a	28.5	3.3	68.2
3b	29.2	3.4	67.4
3c	27.6	3.5	68.9
3a&b	28.5	3.4	68.1
3a&c	26.6	3.5	69.9
4	31.8	3.5	64.7
4a	31.4	3.5	65.1
4b	32.4	3.7	63.9
4c	29.9	3.9	66.2
4a&b	32.1	3.7	64.2
4a&c	29.4	4.0	66.6
5	19.2	3.6	77.2

APPENDIX J. AP PREFERRED ALTERNATIVES

(From the Ad Hoc Red Snapper Charter For-Hire AP meeting on September 19, 2017.)

Action 1 – Type of Allocation-based Management Program

Preferred Alternative 2: Establish a fishing quota program that provides participants with shares and annual allocation.

Preferred Option 2b: Permit Fishing Quota (PFQ) program. (**AP Preferred**)

Action 2. Species to Include in the Charter For-Hire Management Program

Preferred Alternative 2: Include the following species in the management program:

Preferred Option 2a: Red snapper*

Preferred Option 2b: Greater amberjack*

Preferred Option 2c: Gray triggerfish*

Preferred Option 2d: Gag*

Preferred Option 2e: Red grouper*

(*AP Preferred)

Action 4. Allocation of Annual Catch Limit to Charter Vessels

Alternative 5: Allocate a percentage of the recreational ACL for each species to the charter vessels based on 50% average landings from 1986-2013 (2010 excluded) and 50% average landings from 2006-2013 (2010 excluded). (Time series of the Preferred Alternative from Amendment 40) (**AP Preferred**)

Red Snapper (% of for-hire*)	68.7%
(% of total)	35.9%
Greater Amberjack	51.4%
Gray Triggerfish	46.5%
Gag	21.7%
Red Grouper	19.2%

*Until 2022

Action 6. Distributing the Charter Quota to Charter Vessels

Alternative 4: Distribute charter quota based on equal distribution, passenger capacity, and historical landings by region using one of the following:

	Option 4a	Option 4b	Option 4c	Option 4d*
Equal distribution	33.3%	50%	25%	25%
Passenger capacity	33.3%	25%	50%	25%
Historical landings by region	33.3%	25%	25%	50%

(*AP Preferred)

Action 7. Adaptive Catch Share Management

Action 7.1. Adaptive Management Cycle

Preferred Alternative 3: The cycles for adaptive management will increase progressively, starting at X year(s) and incrementing until Y years. Thereafter, cycles will be Y years in length.

Option 3c: 1 year incrementing after 3 years by 1 year until reaching 3 years (cycle 1 = 1 year, cycle 2 = 1 year, cycle 3 = 1 year, cycle 4 = 2 years, cycle 5+ = 3 years) **(AP Preferred)**

Action 7.2. Reclamation of Shares

Alternative 3: Reclaim a progressively decreasing amount of shares of each share category from all shareholder accounts.

Option 3b: Cycle 1: 50%, Cycle 2: 40%, Cycle 3: 40%; Cycle 4+: 25% **(AP Preferred)**

Action 7.3 Redistribution of Reclaimed Shares

Preferred Alternative 3: Redistribute reclaimed shares by share category proportionally among all participants that harvested species in that share category. Proportional redistribution is based on a participant's landings for a species in a given share category divided by the total landings for that share category within the cycle. **(AP Preferred)**

Action 8. Transferability of IFQ Shares

Preferred Alternative 1: No Action. Do not allow the transfer of shares. **(AP Preferred)**

Action 9. Maintenance of IFQ Shares

Alternative 2: A participant must have a Charter/Headboat Permit for Reef Fish to maintain shares. Shares can only be held by United States citizens or permanent residents. If a participant transfers their permit, then the owner must divest of their shares or obtain another permit within 60 days of the completion of the transfer; if the permit/endorsement expires, then the owner must renew the permit or divest of their shares before the permit terminates or the shares will revert to NMFS. **(AP Preferred)**

Action 10. Transferability of Annual Allocation

Preferred Alternative 2: An account must have a Charter/Headboat permit for Reef Fish to receive transferred allocation. Annual allocation can only be transferred to United States citizens or permanent residents. **(AP Preferred)**

Action 11. Share Caps

Alternative 3: No participant shall hold shares for a given species which comprise more than x% of the total charter vessel quota for that species. **(AP Preferred)**

Action 12. Cap on Allocation Usage

Note: Allocation usage is defined as the amount of landings year-to-date in an account plus the remaining allocation in that account on the same day.

Alternative 2: Limit allocation usage to x percent above the allocation equal to the share cap for each species.

Option 2a: Per vessel account (**AP Preferred, set “x percent” to “25 percent”**)